NEXUS BETWEEN PERINATAL INTIMATE PARTNER VIOLENCE AND POSTPARTUM CONTRACEPTION AMONG CURRENTLY MARRIED WOMEN IN WOLAITA ZONE, SOUTHERN ETHIOPIA: A MIXED-METHOD STUDY

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DEDICATION

This dissertation is dedicated to all Ethiopian women and women worldwide who lost their lives and are currently suffering from violations of their fundamental human rights due to a lack of gender equality and women empowerment.

LIST OF ORIGINAL PAPERS

This dissertation is primarily based on the following four original papers which are listed hereunder.

I. **Abota** TL, Gashe FE, Kabeta ND. **Postpartum women's lived experiences of perinatal intimate partner violence in Wolaita zone, southern Ethiopia: a phenomenological study approach.** *International journal of women's health*. 2021;13:1103. doi: 10.2147/IJWH.S332545

II. **Abota** TL, Gashe FE, Deyessa N. **Multilevel analysis of factors associated with perinatal intimate partner violence among postpartum population in Southern Ethiopia.** *Scientific Reports*. 2022 Nov 8;12(1):1-2. DOI: 10.1038/s41598-022-23645-4

III. **Abota** TL, Gashe FE, Deyessa N. Perinatal intimate partner violence and postpartum contraceptive adoption among currently married women in Southern Ethiopia: A classical prospective cohort study (Manuscript under review by BMJ Open Journal)

IV. **Abota** TL, Gashe FE, Deyessa N. **Perinatal intimate partner violence and postpartum contraception timing among currently married women in Southern Ethiopia: A Multilevel Weibull Regression Modeling.** *Frontiers in Public Health*. 2022;10. DOI: 10.3389/fpubh.2022.913546

LIST OF ACRONYMS AND ABBREVIATIONS

ANC	Antenatal Care
AOR	Adjusted Odds Ratio
ARRR	Adjusted Relative Risk Ratio
ATR	Adjusted Time Ratio
AIC	Akaike's Information Criteria
COREQ	Consolidated Criteria for Reporting Qualitative Research
CSA	Central Statistics Agency
CDC	Centers for Disease Control and Prevention
CD	Contraceptive Discontinuation
DHS	Demographic and Health Survey
EDHS	Ethiopian Demographic and Health Survey
HSTP	Health Sector Transformation Plan
FP2020	Family Planning 2020
GBV	Gender-based Violence
ICC	Intraclass Correlation
IPV	Intimate Partner Violence
IUD	Intrauterine Device
MCM	Modern Contraceptive Methods
MLA	Multilevel Analysis
MOR	Median Odds Ratio
PCA	Principal Component Analysis
PCV	Proportional Change in Variance
PPFP	Postpartum Family Planning
PIPV	Perinatal Intimate Partner Violence

SDGs	Sustainable Development Goals
SRMA	Systematic Review and Meta-analaysis
SSA	Sub-Saharan Africa
SNNPR	South Nation's, Nationalities and People Region
USA	United States of America
VAW	Violence Against women
WHDA	Women Health Development Army
WHO	World Health Organization
WYCAD	Women, Youth, and Child Affairs Department

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ABSTRACT

Background: Intimate partner violence (IPV) is the most pervasive breach of human rights worldwide and a serious public health concern that affects millions of women, particularly those of reproductive age. Women of all ages may experience IPV, but it is magnified when the victims are pregnant or postpartum because of its detrimental effects on the mother, fetus, and newborn. Violence around the time of pregnancy is critical and is associated with poor physical and psychosocial health, some of which may impact future childbearing and contraceptive use. Women in violent relationships may have difficulty in making contraceptive decisions, which contradicts family planning as a human right. Thus, a deep understanding of the association between IPV during the perinatal period and contraceptive use would help in shaping future plans for women's health and public health in general.

Objectives: The objectives of this dissertation were to explore postpartum women's lived experiences of perinatal intimate partner violence (PIPV), assess the prevalence and associated factors of PIPV, and its effect on postpartum modern contraception in the Wolaita zone, southern Ethiopia.

Method: The study was conducted between October 2019 and January 2021 in the Wolaita Zone, southern Ethiopia. A convergent mixed-methods study design was employed, using both qualitative (phenomenological study design) and quantitative methods (cross-sectional and classical cohort study designs). A total of 1,342 postpartum women identified from 38 clusters ("*Kebeles*") were selected using a multistage-cluster sampling method. A qualitative study was conducted to explore postpartum women's lived experiences of PIPV and the perspectives of healthcare providers as key informants. It was employed with a conveniently selected sample of 22 in-depth interviewees and five health extension workers. Each audio recording was transcribed verbatim, coded and analyzed using thematic content analysis. Structured, interviewer-administered questionnaires were used to collect the quantitative data. Descriptive analysis was performed by computing summary statistics and proportions. Univariate, bivariate, and multivariate analyses were performed based on the objectives of the study. Multilevel regression models were used to identify explanatory variables that affect the outcomes of interest at different levels to estimate the clustering effect. Odds, time, risk ratios, and β-coefficients, along with the 95% CI, were used to show the strengths of associations.

Results: The qualitative results revealed that several of the interviewed women had been subjected to partner violence before, during, and after pregnancy, and frequently talked about the regularity of partner violence during the perinatal period. Multiple interviewees noted that violence during pregnancy was exacerbated and increased during the postpartum period. Additionally, a sizeable proportion of the interviewed women delineated that some partners were a serious threat to their wives and infants during the postpartum period. Participants linked PIPV with suspicion about the paternity of the newborn, male-child preference, partner infidelity and jealousy, contraceptive usage, husband's alcohol consumption, indifference to shortages of household necessities, improper parenting, and financial problems.

The overall prevalence of PIPV was estimated to be 40% (95% CI: 36.9%–44.6%). About 18% of women reported experiencing continuous abuse over the perinatal period. The odds of PIPV was more than two times higher among women living in rural areas (adjusted odds ratio (aOR) = 2.46, 95% CI: 1.21–5.01). Women living in neighborhoods with higher IPV favoring norms (aOR=1.49, 95% CI:1.01-2.20), higher female literacy (aOR = 2.84, 95% CI: 1.62–5.01), higher female autonomy (aOR = 2.06, 95% CI:1.36-3.12), and neighborhoods with lower wealth status (aOR = 1.74, 95% CI: 1.14–2.66) had higher odds of encountering PIPV.

Of the study participants, 62% (95% CI: 59.1%–64.5%) started the first modern contraceptive method within the first year postpartum. The most commonly used modern methods were injectables (44.1%), pills (16.9%), and implants (15.3%). Women who reported PIPV (aRR = 0.69; 95% CI: 0.50-0.97) and women who reported no menstrual resumption (aRR = 0.54; 95% CI: 0.48-0.62) had a lower risk of adopting contraceptive methods after childbirth than their counterparts. The risk of using postpartum modern methods among women who delivered in health facilities was 1.58 times as high as the risk of using postpartum modern methods among those who delivered at home (aRR = 1.58; 95% CI: 1.41–1.78.).

The median survival time to the adoption of the first postpartum modern contraceptive method was six months. Living in a rural area (adjusted time ratio, or aTR, = 1.44, 95% CI: 1.06–1.99), in the middle household wealth quintile (aTR = 1.10, 95% CI: 1.02-1.19), or in a community with a high rate of early marriage (aTR = 1.14, 95% CI: 1.01–1.28) predicted a longer time to adopt modern contraception. Moreover, women with no history of perinatal abuse took less time

than those with a history of abuse to start postpartum contraception (aTR = 0.71, 95% CI: 0.66-0.78).

Conclusion: This study highlights that postpartum women in the study area are experiencing continuous and severe forms of PIPV. The circumstances that lead to PIPV are multifactorial. A considerable proportion of postpartum women reported PIPV, with nearly a fifth experiencing continuous violence before, during, and after pregnancy. The study also found that PIPV victimization was strongly influenced by individual and contextual factors, with significant heterogeneity between clusters. In effect, the complex patterns of interplaying factors operating at different levels could put pregnant or postpartum women at a higher risk of perinatal abuse.

Furthermore, more than half of the women in the study area adopted postpartum contraceptive methods, but those who reported PIPV were less likely to use contraceptives compared to the women who did not experience it. Similarly, being employed, living in a middle-income household, and giving birth in a health facility are predicted to enhance postpartum modern contraceptive adoption, whereas having a husband with a secondary or higher education and reporting no menstrual resumption are thought to lower modern method use after childbirth.

In the study area, women took a long time to adopt modern methods after childbirth. The longer time to start modern postpartum contraception was significantly associated with rural residence, poor household wealth status, a history of perinatal abuse, and a high rate of early marriage in the community.

Thus, strengthening community-based interventions to alleviate women's IPV-favourable norms, improving women's socio-economic and educational status, reducing early marriage, and promoting skilled care utilization in the community, particularly among rural women, are recommended. Moreover, integrating intimate partner violence screening and psychosocial support programs into family planning services in the continuum of care will likely improve postpartum contraceptive use behaviors.

Keywords: postpartum women, perinatal, intimate partner, violence, modern contraception, prospective study, Ethiopia

1. INTRODUCTION

1.1 Background of the study

Violence Against Women—intimate partner violence (IPV)—is the most pervasive breach of human rights worldwide and a serious public health concern that affects millions of women worldwide, particularly those of reproductive age (1). IPV is a "silent epidemic" that often occurs between two people in a close relationship. It is a broad concept that often occurs in many forms, including physical violence, sexual violence, stalking, psychological violence, and economic coercion (2). Physical violence can include scratching, slapping, hitting, kicking, beating, shoving, throwing, grabbing, choking, shaking, hair-pulling, burning, and the use of weapons, which can result in minor to severe injuries. Psychological violence comprises, but is not limited to, insulting, belittling, and constant humiliation, intimidation, verbal threats, and threats to take away children. Sexual violence incorporates rape, forced sexual intercourse, and other forms of sexual coercion (2, 3). Worldwide, 1 in 3 women experience violence in their lifetime from someone they know; mainly from an intimate partner (4). Rates of IPV are unacceptable high in the sub-Saharan region, particularly in Ethiopia (5-7). Approximately half of the women in Ethiopia experience at least one form of IPV in their lifetime (8). According to World Health Organization (WHO) report, Ethiopia ranks first in reporting physical and/or sexual violence against women (4). However, one in three women in Ethiopia did not disclose partner abuse (9).

Violence occurs in all spheres of life, but its extent and severity are particularly pernicious during pregnancy and childbirth (10, 11). Perinatal IPV (PIPV) refers to violence committed by a partner either in the year before or during pregnancy, or/and up to one year after childbirth (12, 13). Richard J. Gelles was the first to report violence during pregnancy and postpartum in 1975 (14). Ballard et.al identified four patterns of perinatal partner violence that measure persistence: violence begins (starts in pregnancy), violence continues (before and during pregnancy), violence ceases (before but not during pregnancy), and no violence (no violence at any stage) (15). Women of all ages may experience IPV, but it is magnified when the victims are pregnant or postpartum because of its detrimental effects on the mother, fetus, and newborn (16). Pregnancy, childbirth, and early parenthood can be stressful periods due to higher demands on individual capacities, couple relationships, household economic resources, reductions in leisure

time and socializing opportunities. When coping with such stressful situations becomes difficult, the risk of psychological and physical aggression increases (12, 17, 18).

Women in violent relationships have poor reproductive control, limiting their ability to use contraception, which contradicts family planning as a human right (19-21). In addition, a multi-county study conducted in sub-Saharan African regions found that IPV is associated with the non-use of modern contraceptive methods (22). Despite this, the link between PIPV and postpartum contraceptive practices has received less attention in developing countries, including Ethiopia. Some studies have highlighted that women's ability to control their reproductive health choices significantly impacts control over pregnancy and pregnancy timing (23, 24). In this regard, effective contraceptive use is an important component for empowering women to achieve their desired fertility and has the potential to prevent unintended pregnancy and short birth intervals (25, 26). However, this distinctive period could make it difficult for women to make family planning decisions, especially if they are in violent relationships. To that end, evidence on the specific effect of women's PIPV victimization on postpartum modern contraception in Ethiopia in general and in the study setting in particular has been much more limited.

1.2 Statement of the problem

Intimate partner violence is a pervasive phenomenon that affects women's lives and health, accounting for 197 per 1,000 deaths in 2013 alone (27). A recent WHO report estimated that over one-third of women (641–753 million) worldwide have experienced IPV at some point in their lifetime, with the highest prevalence observed among women of reproductive age. Of the surveyed women, the majority reported being victimized by a current or former spouse or cohabiting partner. IPV contributes to 38% of all women murders worldwide (1), and kills more pregnant women each year than any other cause (28). In recognition of its multiple effects on physical and psychosocial health, the UN's Sustainable Development Goals (SDGs) have prioritized the elimination of VAW in both public and private spheres, with SDG 5 (Target 5.2) specifically striving to achieve gender equality and empowerment of all women and girls by 2030 (29). Similarly, WHO developed a framework for preventing VAW in 2019 aimed at policymakers (30). Despite international efforts to reduce IPV, it negatively affects people in all spheres of life, including pregnancy and childbirth, and remains a severe threat to attaining the SDGs, particularly those targeting health and well-being, gender equality, peace, and justice (31).

Violence of any type is unacceptable. However, violence around the time of pregnancy has serious implications for public health and the welfare of women and their children (32). PIPV is more common than gestational diabetes, neural tube defects, and preeclampsia (33) and has been linked to adverse neonatal outcomes such as preterm birth, small for gestational age, and low birth weight (34-36). It has also been linked to many reproductive health problems, such as unintended pregnancies, fetal loss, induced abortions, and a higher incidence of infertility (37-40). In low- and middle-income countries (LMICs), including Ethiopia, approximately half of all pregnancies are unintended, yet the effective use of modern contraceptive methods could prevent two-thirds of unintended pregnancies in these countries (41). Similarly, preventing both unintended pregnancies and short birth intervals after childbirth plays a vital role in women's autonomy and health (42, 43). However, PIPV is associated with poor physical and psychosocial health, some of which may impact future childbearing and contraceptive use (35, 44).

The period after childbirth is a critical time to address high unmet modern contraceptive needs and to avoid unintended pregnancy and closed birth intervals (25, 26), which lead to adverse

maternal, perinatal, and infant outcomes (45). Although more than 90% of postpartum women want to avoid or delay pregnancy postpartum, two-thirds do not use modern contraception (46). Women in abusive relationships are at high risk of unintended pregnancy due to limited reproductive health control (34-36). Evidence from 29 LMICs has shown that women's exposure to IPV is significantly associated with short birth intervals and contributes to 30% of unintended pregnancies that result in a live birth (47). Based on the literature, the association between PIPV and postpartum modern contraception is likely complex (48). Some studies from high-income settings have highlighted that PIPV has been linked to lower or non-postpartum contraceptive use (49-52), while other findings (53, 54) have shown that PIPV exposure is associated with increased postpartum contraceptive adoption. However, the interplay between PIPV and postpartum modern contraception has not been adequately researched, especially in low-income settings, including Ethiopia. Even if found, prior studies only assessed the link between physical abuse and postpartum contraception, yet did not address psychological or sexual abuse effects on the adoption of modern methods after childbirth. Most evidence has been obtained from cross-sectional studies (39, 48, 50, 53).

Ethiopia has made significant progress in meeting the FP2020 agenda, but the contraceptive prevalence rate remains low, with a minimum increase from 35% to 41% between 2016 and 2019 (55, 56). Nationally, nearly 30% of all pregnancies are unintended (57), and the unmet need for modern contraception ranges from 27% to 36% among sexually active women of reproductive age, which is higher than the UN standard (58). The WHO recommends that women start modern methods of contraception immediately or within 42 days of childbirth, with the option of continuous contraception or effective switching for the next two years, depending on a woman's desire to space or limit future pregnancies (59, 60). In Ethiopia, approximately 46–66% of women started their contraceptive method within a year after delivery (61-63), of which only 10–30% initiated it within two months postpartum (62, 63), with a median survival time of 7-11 months, far from the WHO recommended time (62, 63). The timing of postpartum method initiation differs according to individual, partner, and relationship characteristics as well as community-level characteristics such as age, place of residence (64, 65), maternal education (62, 65), household wealth status (64), appropriate and timely maternal health care utilization (62, 63), breastfeeding status (64), menstrual and sexual intercourse resumption and spousal communication (66).

A range of socioeconomic and demographic factors have been found to be associated with postpartum contraceptive use behaviours. However, the association between postpartum contraceptive adoption and timing among women experiencing violence during the perinatal period is very limited, particularly in place where the rates of both IPV and the unmet need for modern contraceptive methods are among the highest in the world (4) (58). These extreme gaps may obscure the true nature of the problem that makes women poor contraceptive users and impede the development of new strategies for violent prevention programs. In effect, the recent national FP guidelines of Ethiopia approved in 2019 have principles for counseling women who have experienced extreme violence, but there are no national frameworks for screening perinatal violence in any service setting (67, 68). In recognition of its negative consequences, FP Agenda 2030 aims to reduce psychosocial barriers that prevent women from using life-saving and life-changing modern contraceptives (69). Moreover, exploring how PIPV exposure affects postpartum women's contraceptive use patterns has significant policy and program implications. In addition, the finding will be critical in achieving the national FP program targets set in the Health Sector Transformation Plan-II (contraceptive prevalence rate from 41% in 2019 to 50% in 2025) (70). Therefore, this dissertation aimed to examine the extent of perinatal intimate partner violence and its effect on postpartum modern contraception in Wolaita Zone, Southern Ethiopia.

1.3 Rationale of the study

Violence of wome by intimate partners is an overwhelming social and public health problem that compromises women's physical, sexual, mental, and reproductive health regardless of their backgrounds. It prevents women from taking equal part in social and economic life (7, 71). In patriarchal settings, including Ethiopia, women are expected to raise children, perform all housework, be submissive, and obey their husbands and their families. It is common for husbands and in-laws to restrict women's reproductive autonomy and limit their rights and decision-making powers (72, 73).

In Ethiopia, nearly half of the women experience at least one form of IPV during their lifetime (8). Moreover, one in every three women failed to disclose partner abuse (9). Unfortunately, a limited number of studies have been conducted on the extent and continuity of IPV over the perinatal period (12). Presumably, understanding and identifying risk and protective factors for violence occurring around the time of pregnancy are important steps in developing, implementing, and evaluating prevention and intervention strategies (74, 75). According to the socio-ecological model, studying contextual factors may help to better target interventions for IPV victims and perpetrators (76). Although the nature of violence varies by community, there have been few studies on the community-level influence of perinatal violence (3). Furthermore, existing evidence is based on single-factor theories, does not employ robust statistical analysis, and/or pays insufficient attention to the roles of contextual factors that cause or protect against PIPV. Moreover, previous studies (77-79) have only measured violence during pregnancy, and none have addressed the continuous nature of abuse across three mutually exclusive perinatal periods (before, during, and after pregnancy). Moreover, none of the studies that investigated the extent of PIPV and its impacts on postpartum modern contraception among currently married women, especially prospective follow-up studies, have been conducted. The Ethiopian Federal Ministry of Health developed a national FP guideline in 2019 to support women experiencing extreme violence in FP service programs through the Women's Support and Safety Card (67), but the country's contraceptive prevalence rate remains very low.

As many prior studies suggested, prospective longitudinal studies be conducted to better understand the status and impact of PIPV on modern postpartum contraception (80-82). On this basis, if the level of postpartum contraception and its challenges are unknown in the local context

and in the setting where it is highly populous, the FP program will never meet its targets. Generating local evidence about the extent of PIPV and its association with postpartum modern contraception can help healthcare providers, programmers, and policymakers improve the quality of FP services among women in abusive relationships. Investigating this area of study will inform policymakers on how to develop appropriate screening and psychosocial support guidelines, as well as prevention design and control mechanisms. Likewise, improving the quality of FP services given to women in violent relationships in service settings, including health facilities, will be essential. Moreover, it will be a good source of knowledge for clinicians and support them in screening and supporting abused women, and eventually improving the quality of care. Furthermore, it will be a baseline resource for conducting more studies in academic area.

1.4 Literature review

1.4.1 Overview of perinatal IPV and postpartum contraceptive use

From conception to the elderly, IPV affects individuals in all stages of life and can lead to a life of physical, emotional, and economic issues. According to the Centers for Disease Control and Prevention (CDC), IPV is physical violence, sexual violence, stalking, and psychological aggression by current or former intimate partners. It also incorporates the controlling behaviors of a partner, such as isolating a person from family and friends, monitoring their movements, and restricting access to financial resources, employment, education, or medical care (2). An intimate partner, on the other hand, is a person with whom one has a close relationship that is characterized by emotional connection, regular contact, ongoing physical contact and or sexual behavior, couple identity, and familiarity with and knowledge of each other's lives (83). PIPV is any form of IPV that occurs over the perinatal period: the prepregnancy period (1 year prior to pregnancy), pregnancy period (from the time of the last menstrual period until childbirth), and the postpregnancy period (from childbirth up to 1 year). They contain different milestones; prepregnancy include discussions with the husband regarding a potential pregnancy, the cessation of contraceptive use, and others. Milestones during pregnancy may encompass the first missed menstrual period, confirmation of pregnancy, proof of the gender of the fetus, suspicion of pregnancy, prenatal visits, and others. Milestones during the postpartum period incorporate a postpartum visit to a health facility, the resumption of sexual intercourse, the initiation of contraception, and others (75).

Maternal exposure to abuse over these mutually exclusive periods could interfere with women's reproductive controls, including postpartum contraception (84). Postpartum modern contraceptive adoption refers to using any modern method after the index childbirth, either for spacing or limiting. It plays a crucial role in reducing the unmet need for family planning while helping to lower rates of maternal and child morbidity and mortality (26). To meet women's family planning needs, the ideal time for postpartum contraceptive initiation is within 48 hours of delivery (85).

1.4.2 Epidemiology of intimate partner violence

The prevalence of lifetime intimate partner violence

Despite numerous prevalence studies, IPV estimates vary significantly due to various definitions of violence, population types sampled, study settings, and recruitment approaches (12). IPV affects approximately one-third of women worldwide (7). According to a recent WHO estimate, lifetime IPV rates range from 20% in the Western Pacific, 22% in high-income countries and Europe, and 25% in the Americas to 31% in the Eastern Mediterranean region, 33% in Africa, and 33% in South-East Asia (1). In line with the findings of a multi-country study, the lifetime prevalence of sexual IPV was 15% in Japan and 59% in Ethiopia. The lifetime prevalence of physical or sexual IPV was as high as 71% in Ethiopia and as low as 15% in Japan in the same study, with a most prevalent range of 29-62% (86). Consequently, a recent WHO report of 2021 indicates that a significant proportion of reproductive-age women is at risk of IPV, with lifetime prevalence ranging from 40% to 53% (1). Similarly, IPV is prevalent throughout most Sub-Saharan African countries, with nearly half (45.6%) of women experiencing IPV throughout their lives (87).

In Ethiopia, the high prevalence of IPV has also been documented, propelling the country to the top of the global rankings. For example, a review of ten studies conducted in 2015 found that 20% to 78% of women had experienced lifetime IPV, with the majority of studies reporting estimates ranging from 30% to 76.5% for lifetime physical IPV and 19.2% to 59% for lifetime sexual IPV (88). Similarly, a 2018 review of 36 studies found that 11% to 78.2% of Ethiopian women had reported lifetime IPV, with the highest prevalence observed among ever-married reproductive-age women (8). Also, several pocket studies have been conducted in the country to estimate the lifetime prevalence of IPV among women. According to cross-sectional studies, 64.7%, 76.5%, 78%, and 71% of women in South Ethiopia (2009), West Ethiopia (2011), North West Ethiopia (2011), and South Central Ethiopia (2013) have experienced violence from intimates in their lifetimes, respectively (86, 89-91).

Prevalence of perinatal IPV among postpartum women

Despite the unacceptably high prevalence of IPV in sub-Saharan Africa, few PIPV studies have been conducted, including in Ethiopia. According to longitudinal estimates, PIPV was 47.4% in

Brazil in 2011 and 64.6% in Nicaragua in 2009 (92, 93). The magnitude of PIPV has been estimated in cross-sectional studies to be 43.8% in Nigeria (2010), 51.2% in Brazil (2013), and 64.7% in Iran (94-96). Similarly, estimates from nation-wide cross-sectional studies have ranged from 12.6% in China (2004) to 10.9% in Canada (2012) (32, 97). The prevalence of PIPV is diverse over the entire perinatal period (before, during, and after pregnancy) for the index child. For example, a prospective study conducted in Brazil revealed that 32.4%, 31.0%, and 22.6% of perinatal women had IPV before, during, and after pregnancy, respectively (92). Accordingly, 51.7%, 42.0%, and 53.5% of Iranian women reported IPV before, during, and after pregnancy, respectively (96). PIPV exposure may increase, decrease, or cease over the perinatal period. In Brazil, 9.3% of women experienced new abuse during their postpartum period that they had not previously encountered (92). Similarly, in a prospective cohort study conducted in southwest Sweden (2012-2013), the incidence of IPV during pregnancy increased from 2.5% to 3.3% (98). In contrast, studies from South Africa (2008-2010) and Belgium found no significant change in IPV levels during the entire perinatal period (99, 100).

The tremendous findings reveal that women appear more vulnerable to IPV postpartum than during pregnancy. For example, a study conducted in China (2004) discovered that the overall prevalence of physical and sexual violence that occurred before, during, and after pregnancy was 11.7%, with 3.6% of women experiencing IPV during pregnancy and another 8.5% experiencing IPV in their postpartum period (97). In a study conducted in London, the prevalence of IPV at booking (ANC) was 1.8%, compared to 5.0% at ten days postpartum. According to a study conducted in Belgium (2011–2012), IPV was 14.3% before pregnancy and 10.6% during pregnancy (100, 101). In contrast, a study conducted in Iran (2015) found that 51.7%, 42%, and 53.5% of women were subjected to IPV before, during, and after pregnancy, respectively, and 53.5%, 34.7%, and 26.7% of women experienced emotional, sexual, and physical abuse (96). In a study conducted in Pakistan (in 2004) and Turkey (2005), 23% and 31.7% of postpartum women developed IPV for the index children, respectively (102, 103).

The existing IPV before pregnancy can increase during and/or after pregnancy. According to studies conducted in the United States, Sweden, and Japan, more than two-thirds of pregnant women who reported IPV continued to report IPV after childbirth (104-106). Presumably, IPV incidence and prevalence are likely to have increased during the postpartum period. For example,

the incidence increased from 14 per 1000 women during pregnancy to 17.2 per 1000 women in the postpartum period (98). In contrast, a longitudinal South African study found that IPV during pregnancy decreased from 21.4 to 18% in the postpartum period, while the prevalence of psychological, physical, and sexual violence was 16.63%, 8.76%, and 3.15%, respectively, within four months postpartum, and 17.75%, 14.38%, and 10.56% within four to nine months postpartum (107). Also, a facility-based cross-sectional study conducted in Tanzania revealed that self-reported IPV decreased from 18.8% during pregnancy to 8.2 % nine months post-delivery. In comparison, 31%, 12.4%, and 9% of women reported psychological, physical, and sexual violence during pregnancy, respectively, and 17.8%, 5.2%, and 3.8% of perinatal women experienced psychological, physical, and sexual violence in the postpartum period, respectively (108).

In comparison to other settings, little is known about PIPV in Ethiopia. A recent facility-based cross-sectional study conducted during COVID-19 in Southwest Ethiopia in 2022 showed that 62.4% of postpartum women had been reported to have had IPV either during or after pregnancy (109). However, this study was cross-sectional and didn't examine prepregancy violence experiences of perinatal women. A systematic review and meta-analysis conducted in the country in 2018 found that 20% to 32.3% of pregnant women experienced IPV during pregnancy (110). Similarly, in a recent review of 26 studies conducted in 2022, prevalence estimates of violence during pregnancy ranged from 7% to 78%, with pooled estimates of 37%. In the same study, 27%, 24%, and 21% of pregnant women reported psychological, physical, and sexual violence, respectively (111). In a study conducted in Tigray (Northern Ethiopia) in 2015, 20.6% of women were exposed to IPV during their recent pregnancy, whereas in a study conducted in Western Ethiopia, 44.5% of women were exposed to IPV during their recent pregnancy, and 5% of them were exposed to three types of IPV (112, 113).

1.4.3 Factors linked with perinatal IPV against postpartum women

No single factor that explains why some people are violent toward others, or why violence is more prevalent in some communities than others. It is a complex social problem influenced by the interaction of various factors structured at four levels: individual, relationship, community, and societal levels (3, 114). Factors associated with PIPV victimization are generally similar to those for IPV. In this review, we focused on PIPV-related factors that operate at the individual

(women, partners, and relationships) and community levels. Furthermore, we considered factors significantly related to IPV during the perinatal period (before, during, and/or after pregnancy). In light of these points, a review of pioneering literature was conducted.

Individual-level factors associated with PIPV victimization

Individual-level factors are biological and personal conditions or behaviors of an individual that increase the likelihood of being victimized or experiencing violence. The individual-level factors are further structured into women-, partner-, and relationship-specific factors. Women-level factors included age at childbirth and marriage, education, employment status, number of living children, attitudes towards wife-beating norms, childhood exposure to inter-parental violence, history of violence, women's wealth status, and others. The husband-level factors included education and employment status, having history of alcohol and substance abuse, and wife-controlling behaviors. The relationship-level factors incorporated were women's decision-making autonomy, asset ownership, couple's communication about daily life, and income difference.

Women-level factors associated with PIPV victimization

Maternal age

The research evidence suggests that being young is a risk factor for PIPV victimization. For instance, a population-based study of, 2,648 postpartum women in the United States found that younger women are more likely than older women to be abused during the perinatal period (115). Similarly, a community-based study conducted among 1,324 Pakistani urban women pointed out that young maternal age was associated with higher IPV victimization before and during pregnancy (116). Furthermore, a population-based estimate conducted across 16 states in the United States revealed a higher prevalence of PIPV among young-age mothers (117). Also, an Australian hospital-based cohort study found that younger mothers had a higher risk of encountering IPV during pregnancy and after childbirth (118). The same is true for a 2014 facility-based longitudinal South African study, which found IPV decline during and after pregnancy, with decline increasing with maternal age (107). Presumably, violence in any form affects women of all ages. This is supported by a study conducted in the United States, which

discovered a positive and significant association with physical violence around the time of pregnancy among mothers aged 35 or older (119).

In contrast, some studies have found that maternal age has no significant effect on IPV victimization during perinatal period. For example, a 2010 study in Iran found that maternal age has no association with PIPV victimization (96). Furthermore, a longitudinal study of 10,855 first-time perinatal mothers found no statistically significant longitudinal relationship between PIPV and maternal age (49). In Ethiopia, literature about the study of violence before,during, and after pregnancy is very limited. Recently, an institution-based cross-sectional study of abuse in pregnancy and postpartum conducted among 657 postpartum women in Southwest Ethiopia noted that younger perinatal women were more than five times more likely to be abused in the perinatal period than older women (109). However, this study only focused on violence during and after pregnancy and ignored the milestones of events before pregnancy.

Maternal age at marriage

Several studies conducted in developed and developing countries provide evidence that early marriage increases the likelihood of experiencing IPV victimization during the perinatal period. For instance, a cross-sectional study conducted among 300 Iranian women found that marriage before 18 years increased the risk of IPV over the perinatal period (96). According to a multilevel cross-sectional study conducted among married women in Nepal, women are less likely to be victims of IPV as their age at first marriage increases (120). Consistently, a nationally representative sample study of 3,897 married women in Ethiopia indicated that the odds of lifetime IPV experience were higher among women married before 18 than women married above the legal age (121). Similarly, cross-sectional studies conducted in five Indian states (2010) and six regions of Ethiopia (2013) stated that women who had married at the age of 18 years or more were less likely than women who had married early to report IPV in their marriage life (122, 123). However, the notion of this relationship is not always replicated, as evidenced by a study done in Mumbai slums in India in 2013 (124). Correspondingly, IPV studies during pregnancy are well-addressed in Ethiopia. However, the literature on PIPV is very limited. A cross-sectional study conducted in the shire Endesilassie, Northern Ethiopia identified that early marriage can increase the risk of getting IPV during pregnancy (112).

Education and employment status of women

Several PIPV victimization studies indicate that women's educational status positively or negatively affects PIPV encounters. Lower educational attainment is a crucial risk factor for PIPV encounters. For example, a prospective cohort study from Brazil identified women with a low level of education as being at risk of perinatal partner violence (83). Studies conducted in the USA, Belgium, Brazil, and Pakistan (18, 100, 103, 125) have explored the correlation between PIPV and women's education. These studies' results provide an important implication: victims with less than a high school education were more likely to encounter PIPV victimization in the three mutually exclusive perinatal periods. The same is true for studies conducted in Southeast and Northwest Ethiopia, which found that illiterate women had significantly higher odds of contracting IPV than literate women (126, 127). This could imply that women with a higher level of education have the right to choose their partners, have more ability to marry or not, and can negotiate greater autonomy and control of resources within the marriage.

The research findings on the effects of income and employment on the risk of PIPV are complex. Women's unemployment and reporting violence have a positive relationship. For example, low-income mothers had more PIPV than high-income mothers in a national sample of Canadian women (32). Similarly, an Iranian study found that economically dependent women were four times more likely to contract PIPV than economically independent women (96). In central and northwest Ethiopia, having no or low income predicted increased PIPV (127, 128). This could be because economically dependent women could not escape, had fewer options, and had lower status and power within the marriage to bargain for changes in their partner's behavior. In contrast, a cross-sectional study conducted in the Mumbai Slums of India's urban community in 2013 revealed that employed women were two times more likely to be violated than unemployed women (124). However, the results of this relationship between PIPV and female employment are more mixed and have not been replicated in other studies. An Australian pregnancy cohort study conducted in six public hospitals in Melbourne revealed that women working in jobs with paid maternity leave had reduced odds of reporting PIPV compared with women not working (118).

Women's wealth status

Most researchers agree that lack of household financial and resources constraints, particularly during the perinatal period, can lead to stress, frustration, and conflict in relationships that lead to aggression and violence against women. In addition, it is generally believed that violence occurs among women of all socioeconomic levels. However, the existing literature pointed out higher rates of PIPV among socioeconomically disadvantaged women. Studies set in Mexico, Nepal, and India showed that women in the lowest household quartiles have a higher frequency of abuse over the perinatal period (120, 124, 129). Similarly, a prospective multistate study of women with or at risk of HIV infection in the United States found that violence exposure during and after pregnancy was common among women with low socioeconomic status (130). In contrast, evidence from a longitudinal study with women enrolled during pregnancy and postpartum between 2008 and 2010 at a public hospital in Durban, South Africa, has shown no statistically significant differences in perinatal IPV by household wealth quartiles (107).

Witnessing childhood exposure to inter-parental violence

Children raised in families where problems and conflicts are resolved through violence are more likely to become victims or perpetrators of violence in their later lives. The perpetrators with a history of violence inside and outside the home were more violent partners than their counterparts. A community-based cross-sectional study of domestic violence before, during, and after pregnancy conducted among 12,044 currently married women in 32 districts of China found an affirmative link between a woman's exposure to childhood inter-family violence and being the victim of abuse over the entire perinatal period (97). Presumably, a facility-based cross-sectional study of abuse in the three mutually exclusive periods conducted among 300 Iranian women also revealed that the odds of PIPV victimization were higher for women who witnessed family violence in their childhood than for women who did no (96). Furthermore, empirical investigations into abuse before and during pregnancy conducted in Mexico and Nepal found positive correlates between childhood exposure to inter-parental violence and being a victim of abuse during the perinatal period (131, 132). The same is true for longitudinal cohort studies of violence during pregnancy and the postpartum period conducted in southern Sweden and the United States (18, 106) which confirm that women who report histories of parental violence are more likely to be victims of perinatal violence. These findings demonstrate that IPV is a learned behavior.

History of having perinatal violence

The transition period to parenthood remains complex, making it difficult to determine whether pregnancy and childbirth cause or protect violence against perinatal women. Several studies conducted in developing countries agree that once abuse occurs around the time of pregnancy, its frequency and severity continue throughout the perinatal period. It is one of the most frequently mentioned predictors in previous literature. Abuse in the year preceding the index pregnancy precipitates abuse during pregnancy, and abuse during pregnancy is a predictor of encountering abuse after childbirth. A Brazilian cohort study conducted among 960 reproductive-age women found that violence before and during pregnancy were significant risk factors for experiencing violence during the postpartum period (83). Similarly, violence in the previous period was also a strong predictor of violence in the subsequent period, as evidenced by studies in China, Iran, and South Africa (18, 96, 107).

Justifying wife-beating norms

Violence is more prevalent in cultures and communities where such behavior is considered normal, and men are thought to have the right to physically discipline their wives for any transgressions. Most of the investigators believe that partner abuse rates are higher in settings where women agree that their husbands can abuse their wives under certain conditions. A community-based cohort study conducted from 2000 to 2009 in the Rakai community of Uganda identified thinking that violence is acceptable as a risk factor for IPV victimization (133). Similarly, a cross-sectional study of violence during and after pregnancy done in India in 2013 noted that more than one-third of perinatal women reported wife-beating norms. Again, in the same study, women who justified wife-beating behaviors were more than two times more likely to be violated than women who never justified such attitudes (124). Presumably, a community-based longitudinal study of perinatal women in Nicaragua found that nearly two-thirds of the abuse in their lifetime and during pregnancy ended in the follow-up period, in the context of a shift in women's normative attitudes toward not tolerating violence (93). On the other hand, women who disobeyed their husbands experienced violence during pregnancy, as evidenced by a study conducted at University of Gondar referral hospital, Northwest Ethiopia. Similarly, a cross-sectional study conducted in the Tigray region of northern Ethiopia discovered that women's acceptance of violence predicted experiencing violence during pregnancy (126, 134).

Husband-level factors associated with PIPV Victimization

In the previous literature, the husband's educational and occupational status, wife controlling behavior (jealousy and suspicion of infidelity), alcohol misuse, substance abuse, the intendedness of an index pregnancy, and sex preferences were identified as husband-level factors associated with IPV. These are some of the factors that precipitate or protect violence against perinatal women. With this in mind, the following review will cover these factors comprehensively.

The literature suggests that the lower educational attainment of the partner is associated with increased IPV victimization. For example, a large population-based study conducted in India among 83,627 married women noted that the odds of IPV were higher among wives with uneducated husbands than those of educated husbands (135). Similarly, the study conducted in Iran among 300 postpartum women revealed that women who married a husband with less than a high school education were three times more likely to experience PIPV than women with a husband who attended postsecondary education (96). Studies of abuse further this concept during pregnancy and postpartum conducted in Nepal and Bangladesh which have identified women whose husbands are less-educated are more likely to be victims of PIPV (132, 136). However, the result of this link is not to be maintained. For instance, a cross-sectional study of abuse during and after pregnancy conducted in the urban community of Mumbai city of the India found no correlation between the husband's educational level and PIPV victimization (124). In contrast, a cross-sectional study conducted in the Abay chomen District, western Ethiopia (in 2014) found that illiterate partners were less likely to violent compared to their counterparts (113).

Also, the husband's employment status correlates PIPV victimization. A cross-sectional study of Pakistani women found that women with unemployed husbands were more likely to be victimized by their partners than women with employed husbands (116). In contrast, a facility-based study conducted in Southeast Oromia, Ethiopia, noted that wives of farmer husbands had three times more likely to report PIPV than wives of government employees (126). On the other hand, a cross-sectional study of perinatal abuse conducted in India found no link between husband employment status and the likelihood of reporting perinatal partner abuse (124).

Several studies have also highlighted the significant role of alcohol, and the results have demonstrated that alcohol abuse played an important predisposing role in incidents of perinatal violence. The odds of reporting a PIPV encounter were higher among perinatal women whose husbands were alcohol misuses. For instance, studies conducted in the United States, South Africa and India found spousal alcohol consumption as strong risk factors to experience IPV over the perinatal period (18, 107, 124, 137). The possible reasons could be alcohol abuse by a husband is thought to lower inhibitions, cloud sound judgement, and affect cognitive ability to interpret social cues. Presumably, the health facility-based cross-sectional studies of IPV during pregnancy and postpartum conducted in the USA, Nepal, and India revealed women whose husband drank alcohol were two times more likely to encounter PIPV compared to those whose husband did not drink (138-140). In Ethiopia, several studies conducted in the Shire Endesilassie, Northern Ethiopia (112), in the Awi zone (in Northwest Ethiopia) (91), in the East wellega zone, Western Ethiopia (in 2011) (89) also pointed out that spousal alcohol consumption and hostility as predictors of experiencing IPV among married women. In addition, a systematic review of 2015, and another report in Ethiopia also identified alcohol consumption, and Khat chewing as a predictor of IPV (88, 141). Likely, substance abuse by husband and wife (often times) could also trigger the likelihood of experiencing PIPV. Numerous investigations have demonstrated the positive link between lifetime IPV and reporting substance abuse behaviors. However, there are limited data on whether its association is consistent among perinatal population. In the United States, for example, a longitudinal study conducted in 2013 have shown that partner alcohol misuse was associated with women's severe IPV victimization during pregnancy and postpartum (137).

Similarly, husband use of different illicit drugs including opium significantly predicted the PIPV victimization over the perinatal period, as evidenced by studies conducted in elsewhere in China and Iran (96, 97). A study of physical violence against USA women around the time of pregnancy from 2004-2007 identified being a friend or close to someone having drug as abuse a strong predictor of PIPV encountering (142). In the same country, a study of IPV during pregnancy and 1-Year postpartum noted that women who reported they or their husbands used substances were at high risk of violence both during and after their pregnancy (18).

The wife-controlling behaviors of husbands were one of the essential precipitations for being victims or perpetrators of violence discussed in this review. The bidirectional faithfulness and trustworthiness play an important role in the marriage and family's stability. However, jealousy and unfaithful behavior that occurs in the relationship can lead to aggression and violence. A longitudinal study of abuse during pregnancy and postpartum set in the USA found that women who reported controlling behaviors (jealously and suspicion of infidelity) to their husband more likely experienced PIPV victimization compared women who did not report it (137). In addition, in Nigerian study of 2008 also identified partner-controlling behaviors as precipitating factors for experiencing perinatal physical violence (143).

Further research into the dynamics of PIPV discovered that violence is accompanied by male partners' attempts to limit women's movement outside the home, isolate her from friends and families, jealously protect their contact with other men, and intentionally undermine her independence (144). A study set in southern Ethiopia (in 2009) also identified men's controlling behaviors as a predictor of IPV (90). In the systematic review of 2015, Ethiopia also identified wife-controlling behaviors of partners and chat chewing as predictors of IPV (88, 141)

Husbands' attitude toward pregnancy is also an important factor in predicting PIPV. Most of researchers from developed and developing countries agree on a positive association between PIPV and unintended pregnancy. In Norway, for example, the women who reported as their pregnancy were unintended by their partners were more likely to encounter PIPV than women whose pregnancy was intended by their current husband (145). This evidence is supported by several studies of violence before, during, and after pregnancy that were conducted in the USA, New Zealand, and Nigeria (18, 117, 146-148). Also, in Northern, Eastern, and Northwestern Ethiopia, numerous studies of violence during pregnancy reported that discordant index pregnancy intentions had increased the extent and severity of PIPV over the perinatal period (127, 134, 149). The same is true for experiencing an unwanted pregnancy as a high-rising factor for postpartum IPV (18). However, some existing evidence in Southern Sweeden and Nepal has found contradicting results: unwanted pregnancy has not been associated with experiencing perinatal partner violence (106, 132).

The sex of the index child also predicts IPV encounters before, during, and after pregnancy. In fact, son preferences over daughters shared in patriarchal family systems from East Asia to South

Asia, the Middle East, and North Africa. Sons are preferred in these settings because it is believed that they have a high wage-earning capacity, they continue the family line, and they usually take responsibility for caring for parents in illness and old age (150). For instance, Hesketh and collegues study conducted in the China in 2011 and other Asian countries pointed out that son preferences correlates with aggression and violence (151). Also, a study conducted in India found that masculinist behaviors, including son preferences were linked with increased intimate partner violence against women (152). In the same country, a population-based study conducted in three states of India revealed that husband pressure to have a male child increased IPV in pregnancy (153). A cross-sectional study of 1309 pregnant women in Vietnam found that women whose husbands preferred sons were more likely to be abused than women whose husbands did not prefer sons (154).

Similarly, a hospital-based cross-sectional study in Central Ethiopia pointed out that giving birth toa male child predicted decreased PIPV victimization (128). In addition, the result of qualitative research conducted in Pakistan among married women showned that the inability to give birth to a male child triggered IPV victimization (155). Correspondingly, in Nigeria, a mixed method approach (both qualitative and quantitative) study conducted in 2015 revealed that having a male child found to be protective for violence against perinatal women (156). On the other hand, quantitative studies of perinatal violence in India and Nepal found no significant correlation between reporting PIPV encountering and the sex preferences of index children (124, 132).

Relationship-level factors associated with PIPV Victmization

Relationship- or family-level factors include those that increase risk due to relationships with friends, intimate partners, and family members. Those people in a person's closest social circle who can influence their behavior and range of experiences. The link between these factors and processes that contribute to the occurrence of PIPV remains complex. The following reviews could address some of the relationship-level factors: Marital duration, women’s decision-making autonomy, a couple’s communication about daily life, and interpersonal disparities in education, income, and age

Vulnerablity to the violence not only because of women's fault, but the power imbalance between partners. When two people of ascribed or attained statuses engage in a marital union, tensions may arise, leading to marital dissatisfaction or transgressions (144). A spousal age difference, where the husband is older than the wife indicates a power imbalance in the relationship. In many cultures, the ascribed power associated with age intersects with the power associated with masculinity, so that a wife younger than her husband may be at a comparative disadvantage. Nation-wide studies from the Demographic and Health Survey carried out in Nigeria and Angola indicated that women who lived with a lower spousal age difference were more likely to experience IPV than those with a higher spousal age difference of 15 years and above (157, 158). The meta-analysis of IPV and age disparity in Sub-Saharan Africa also revealed that having an older partner is a protective factor for violence against women (159).

In contrast, women older than their husbands are more likely to report experiencing violence from their partners. In the Dominican Republic, for example, 27% of women married to a younger man report having experienced violence, compared to an average of 18% of women married to someone older than themselves (144). This could imply that the young man is jealous, believing that his spouse is having an affair with someone else. Nonetheless, Fernandez contended that as a woman ages, she often rises in social status, becoming a wife, mother, and possibly more economically productive or socially influential member of her community. As a result, older women are less likely than younger women to report current abuse (160).

Similarly, the educational attainment difference is also associated with IPV victimization. The DHS findings from Malawi in 2010 revealed that education and income disparities among married couples were predictors of the likelihood of contracting IPV. For example, for wives with lower-educated husbands, the possibility of experiencing IPV by their current husband increases with each year of education. However, for wives whose husbands have high levels of education, their likelihood of experiencing IPV decreases with each additional year of education (161).

The length of a marriage can also predict the likelihood of PIPV victimization. The estimates of PIPV can be expected to increase with marital duration because a longer marriage provides more extended period of exposure (144). In Nepal, a health-facility based study of IPV across pregnancy and the first year postpartum among 165 women noted that women with marriage

durations of two to five years were two times more likely to be abused than compared to women with marriage durations of two years or below (132). Likely, a cross-sectional study conducted in Pakistan among 300 postpartum women about lifetime physical abuse and during pregnancy was likely higher among women who have been married for at least five years (103). This notion is also supported by a study conducted in Turkey (162). Conversely, the study done from 2013-2014 in Iran also demonstrates that women who have been married for less than five years are more likely to be victims of abuse during pregnancy (163). Similarly, in India, a facility-based cross-sectional study of violence during pregnancy showed that women with a married life of less than one year were seven times more likely to encounter physical violence than women with a married life greater than one year (164). These correlates are not maintained in some studies conducted elsewhere (165).

The pattern of household decision-making was found to be a strong predictor of violence against perinatal women. The more decision-making domains the men dominate, the more likely they are to be perpetrators of violence. A Nepali study found that women with no decision-making autonomy were at high risk of experiencing violence from their their husbands. The poor and middle-class women were found to be 1.38 and 1.48 times more likely to experience IPV as compared to rich-class women, respectively (120). A study set in Durban, South Africa (2008–2010) pointed out that low decision-making autonomy significantly correlated with experiencing IPV during pregnancy and the postpartum period (107). A 2008 study in Nigeria examined the risk of physical violence for people working in low-status occupations and earning more money than their partners.

Conversely, having decision-making autonomy was found to be protective against physical violence (143). A community-based cross-sectional study conducted among 3015 postpartum women in Eastern Ethiopia found that women with medium household decision-making autonomy were at higher risk of IPV during pregnancy than women with low household decision-making autonomy. In the same study, compared to housewives, women working for cash jobs were more likely to experience violence around the time of an index pregnancy (149). Likely, a study done in Northern Ethiopia pointed out that women with low decision–making autonomy were more than twice as likely to be victims of perinatal abuse than women with high decision-making power in household issues (134). In a study set in Awi Zone, Ethiopia, women

whose husbands were decision-makers on household issues were more likely to be violated than to make a joint decision on household issues (166). In a cross-sectional study conducted in Eastern Wellega, Western Ethiopia (in 2011) was also found that decision-making autonomy in household issues predictor IPV among married women (89). This was also evidenced by a systematic review and EDHS report of 2016, which found that decision-making power in household issues as predictor of experiencing IPV (88, 141).

Poor couple communication was identified as a significant risk factor for IPV victimization over the perinatal period. A nation-wide cross-sectional study of domestic abuse before, during, and after pregnancy conducted among postpartum women in China found that women's report of a poor relationship with a husband was positively associated with PIPV encountering (97). In rural Bangladesh, a study reported that having a poor relationship with a husband was a triggering factor for experiencing perinatal physical violence (136). Another piece of evidence from Pakistan also examined that couple consanguineous relationship predicts PIPV exposure. Women who had a distant relationship were four times more likely to be victims of abuse before and during pregnancy than women who had in close relationship (103). The husband's frequent physical fights with other men also predict perinatal partner violence against women, as evidenced by other studies (156, 167). Similarly, IPV during pregnancy is well-addressed in Ethiopia.

Community-level factors associated with PIPV victimization

Concerning violence against perinatal women, characteristics of the community in which women live are an important aspect of their lives, including areas of residence (dwelling in an urban or rural area), attitudes toward IPV, early marriage status, wealth, and literacy status. In the following reviews, these are considered high-level variables for community characteristics. Several studies have found that women living in rural areas are more likely to be victims of IPV. For instance, a New Zealand study found that 38.8% of rural women had ever experienced IPV, compared to 33.1% of urban women (38.8% vs. 33.1%, P = 0.007) (168). Similarly, one study from Nigeria also found that women who resided in rural areas had increased odds of experiencing physical violence (143). This is also evidenced in the study set in Bangladesh (in 2007). Women living in rural areas suffered more physical and sexual violence than urban dwellers; and 46% of urban women reported physical violence, compared with 50% in rural

areas and 12% of women in rural areas reported sexual violence, compared with 9% in urban areas (169). In Ethiopia, being a rural dweller also increases the risk of maternal exposure to IPV compared to urban dwellers. Place of residence was identified as one of the strongest predictors of experiencing IPV during pregnancy in a study from Northern Tigray. Likely, living in a rural area was found to be a significant risk factor for violence when compared to living in an urban area(112). This is also reported in some studies conducted elsewhere in Ethiopia (88, 89). On the contrary, living in urban areas was also found to increase the risk of PIPV. In a cross-sectional study carried out in Turkey, it was noted that women dwelling in urban areas were more likely to experience PIPV compared to their counterparts (102).

The presence of supportive wife-beating attitudes in the community also predicts PIPV victimization. On the other hand, women who live in communities with a high tolerance for violence have a higher risk of PIPV. A cross-sectional study conducted among 720 pregnant women in Ethiopia noted that women who lived in communities with wife-beating norms had a higher risk of contracting abuse during pregnancy (79). Likely, a nationally representative study of 3,897 reproductive-age women conducted in Ethiopia suggests that women concentrated in communities with IPV-friendly norms are more likely to be victims of PIPV (121). In community where there was no support for victims were positively assocationed with IPV in pregnancy (79).

Also, dwelling in communities with high rates of early marriage is positively and significantly associated with experiencing IPV. The cross-sectional study conducted in Nigeria indicated that women living in communities with a high rate of early marriage had an elevated risk of PIPV victimization (170). A nation-wide survey conducted in Ethiopia among reproductive age-women identified that women married before legal age were more likely to be victims of IPV than women married after 18 years of age (121). Women concentrated in neighborhoods with high women's literacy were less likely to report violence than women concentrated in neighborhoods with a lower women's literacy level. In Ethiopia and India, for example, studies revealed that intimate partner violence was higher in communities with lower proportions of educated women than among women living in communities with high women's literacy levels (121, 135). This could imply that literate women may argue in order to retain reproductive autonomy and challenge husband demands, which can lead to violence and transgressions.

Residing in a community with poor socioeconomic status also predicts violence exposure during the perinatal period. For instance, a multilevel study of IPV during pregnancy conducted among 2,887 pregnant women in the USA revealed that being residents of low-income neighborhoods had elevated risk of PIPV (171). Similarly, a population-based study of spousal violence against reproductive age-women conducted in five transitional countries (Azerbaijan, Moldova, Ukraine, Kyrgyzstan, and Tajikistan) identified community economic deprivations have been linked with IPV encountering (172). The study of abuse before, during and after pregnancy in China revealed that higher rate of the perinatal physical violence among partner residing in low socioeconomic communities. This implies that violence prevention strategies should focus on couple living in low socioeconomic groups (97). Conversely, a cross-sectional study in North India examine that higher socioeconomic status was a protective factor against physical violence against perinatal women (173).

1.4.4 The effect of PIPV on postpartum modern contraceptive adoption

The association between PIPV and postpartum contraceptive adoption

Numerous victimization studies have been carried out to investigate the interplay between intimate partner violence and contraceptive use behaviors. However, a few limited literature that examines the link between PIPV and postpartum contraception, particularly in low-resource settings, including Ethiopia. The existing evidence provides controversial empirical conclusions about its impact on postpartum modern contraceptive adoption. The findings are inconsistent and rely on three relationships. Therefore, these points were kept in mind, while reviewing the existing studies.

First, some studies have found that women who report IPV have lower rates of contraceptive use than those who do not. Women in a violent relationship or exposed to IPV are less likely to use contraception than their counterparts. For example, a 2014 study in India found that 35.9% of women without IPV used immediate postpartum contraception, compared to 25% of women with IPV. Compared to their counterparts, women exposed to IPV (49.2%) used contraception more frequently (47%). A study conducted in Uttar Pradesh, India (1995-1996) found that the adoption of contraception was lower among women who had experienced physical violence, with only 24% of women using contraception during physical violence and 85% using female sterilization

(53). This is supported by studies from the same country (India), which found that women who experienced physical violence from their husband were less likely to use modern methods than those who did not (174, 175). In a study conducted in the United States (2004-2008), women exposed to IPV were less likely to use modern contraception after childbirth, with 6.5% of women exposed to IPV and 15.5% reporting no postpartum contraception (39).

Similarly, in a case-control study from the same country, 17.4% of abused women (cases) reported non-use of contraception as compared to 10.9% of controls (non-abused one) (176). A study in Bolivia (in 2003) also noted that women under Gender-Based Violence were less likely to use family planning than their counterparts (177). The above literature only addresses correlates of lifetime IPV and contraception. Whilst there is limited evidence about PIPV and postpartum modern methods adoption. A study of spousal physical violence against perinatal women in India revealed that women who reported PIPV were likely to adopt male-controlled contraception than no contraception (48). Similarly, a longitudinal study of abuse before, during, and after pregnancy among first-time mothers conducted in the United States revealed that IPV exposure during the perinatal period reduced the adoption of postpartum contraceptive methods (49).

Second, several studies have found that women who experience IPV are more likely to adopt modern contraception methods. It is a protective factor for contraceptive adoption. A cross-sectional study in New Zealand found that the proportion of women who had ever used modern methods was higher among women who had been violated (91% vs. 85.2%). Congruently, family planning-based violence was higher among women who had ever experienced IPV (5.4%) as compared to those who had not-experienced (1.3%) (168). According to a cohort study conducted in the United States, women in violent relationships are more likely to choose female sterilization than those who are not (178). This was also demonstrated in cross-sectional studies conducted in Nigeria (in 2008) and Bangladesh (in 2007), where women with IPV were more likely to use modern contraception than women without IPV (169, 179). Correspondingly, a multi-country study from six Sub-Saharan African countries found that women who had ever experienced IPV were more likely than their counterparts to use modern contraception rather than traditional and folk contraception methods (180). The concept of this link is further supported by several cross-sectional studies conducted elsewhere (176, 181-183). However,

there has been little research into the relationship between PIPV victimization and modern contraceptive method adoption. In Honduras, for example, women who reported physical violence were more likely than women who did not report physical violence to use contraception (54). A likely urban-based cross-sectional study of IPV victimization among postpartum women in India found that women's exposure to PIPV increased their use of modern family planning methods (124). Also, in Kenya, a study of violence among postpartum women revealed that women exposure to any forms of IPV in pregnancy during COVID-19 had been associated with increased access to family planning (184). Aside from that, most of these studies only looked at the relationship between physical violence and postpartum contraception, and ignored the effects of other forms of IPV on the initiation of postpartum methods.

Third, other studies have found no link between IPV and contraceptive use, but the evidence is inconclusive. For example, a study conducted in the Philippines found that women's experience with recent IPV was not associated with the use of modern methods (181). Conversely, a prospective follow-up study conducted in the United States of America found that non-use of modern contraception was higher among women who reported perinatal physical violence than among women who reported no perinatal physical abuse (50). In contrast, a study of postpartum women in the Democratic Republic of the Congo demonstrated that IPV perpetration was never associated with postpartum family planning adoption (185).

Predictors of postpartum modern contraceptive adoption

In 2017, a systematic review and meta-analysis (SRMA) of 35 studies conducted in low and middle-income countries discovered that the prevalence of postpartum contraception was only 41.2% (186). Also, the recent SRMA conducted in low-income sub-Saharan African countries revealed that postpartum family planning estimates were 37.41% (187). Another prior study of prevalence from 2005 to 2015 conducted in Sub-Saharan Africa in 2017 found that only 25.1% of women used modern contraception, compared to 70.7% in the United States of America (188). On the other hand, Ethiopia has made significant progress toward meeting the FP2020 agenda, but the contraceptive prevalence rate remains low (55, 56). According to pocket studies conducted in the country, about 46-66% of women initiated their first methods postpartum (62, 63), whereas only 10–30% of them adopted them within two months post-delivery (62, 63). A systematic review and meta-analysis of 19 studies conducted in 2020 reported that about 46% of

postpartum women had adopted modern contraception in the year post-delivery. Similar, another systematic review and meta-analysis found that 48.11% of women used modern childbirth methods after childbirth. However, several factors have been linked to postpartum contraceptive adoption. For instance, high parity, the educational level of women, and economic status were positively associated with increased adoption of postpartum contraception. The spousal age difference and husband's level of education were negatively associated with subsequent postpartum contraceptive adoption. A greater spousal age difference and a higher husband's education level were associated with a lower likelihood of modern contraceptive adoptions (169, 189, 190). Postpartum contraceptive adoption was found to be longer among Northern Administrations, those with low education, and those in the poorest wealth quantile in Ugandan studies (191, 192). In contrast, a multi-country study (17 countries) discovered that age and marital status did not affect on postpartum contraception adoption except in the Ethiopian context; adolescents were more likely to use postpartum family planning than older women (193, 194).

In an Indian study, previous IPV experience and a lack of desire for a child were identified as negatively associated factors for postpartum contraceptive adoption (195, 196) but place of residence and region were not associated with contraceptive adoption (189, 196). Other findings revealed that contraception awareness, ethnicity, religion, and living region location are all factors associated with modern method adoption (175, 195). For example, in an Indian study, use of modern contraceptives in the postpartum period was initiated earlier among urban women than among rural women (197). However, a study set in Bangladesh pointed out that religion was not a predictor for contraceptive adoption (169). A cross-sectional cohort study conducted in the United States discovered that the risks of delayed adoption of modern methods were more significant among young women, especially women who actively engage in duty and are covered by officers' insurance sponsors (198). However, a multi-country study found that the timing of first contraceptive initiation after birth among young women was too early and faster than that of older women (199). A cross-sectional study conducted in India (2005–2006) reveals that alternative factors such as birth order, household asset ownership, wealth index, women's education, decision-making capacity, husband's education, media exposure, and regions of India are significantly affected by the use of contraception (200). The majority of postpartum women

want to avoid short-interval pregnancy after childbirth, but they do not use postpartum contraception (201).

Most importantly, despite the risk of unintended pregnancy, most women use the resumption of menstruation and sexual intercourse as a marker for starting postpartum contraception (202, 203). On the other hand, after the resumption of menses and sexual activity, nearly half of women did not adopt postpartum contraception (65). Conversely, breastfeeding status and postpartum duration are associated with the initiation of postpartum contraception (204). Correspondingly, a study set in Malawi found that more than 77.6 % of women who had resumed menses and sexual activity adopted postpartum contraception within 6-9 months following birth, while at six months following birth, only 28.4% of women adopted initial modern methods. More surprisingly, at twelve months, 45.8% of women initiated postpartum modern contraception (205). This is also commonly evidenced in many studies conducted in Ethiopia (190, 194). The percentage of women who used modern methods between the immediate and extended postpartum periods can range between 10% and 50% (190, 193). However, it depends on the type of methods. Several findings support it, but there is no common picture (205, 206). Many studies in Ethiopia found that the most popular postpartum method was injectable, followed by pills and implants (190, 194, 207).

In studies, place of delivery and the use of skilled prenatal care was also found to be predictors of postpartum contraceptive adoption. For instance, a study conducted in Uganda and a multi-country study indicate that the risk of adopting postpartum contraception is her among women who delivered at health facility and with minimum recommended antenatal care visits (191, 204). This is also evidenced by several studies conducted elsewhere in Ethiopia. For example, cross-sectional studies in Dabat District, Gondar, and Aksum Town (in Northeast, Northwest, and Northern Ethiopia) noted that ANC care uptake, skilled delivery use, and postnatal care services utilization increased the likelihood of using modern contraception in the extended postpartum period (190, 194, 207)

The association between IPV and contraceptive discontinuation

Some victimization studies have found that women in violent relationships are more likely to discontinue their initial methods than their counterparts. On the other hand, another review found

that women who experienced IPV were more likely to adhere to their initial methods. A few bodies of evidence address this juncture, especially for the developing world. According to a 2014 systematic review, women in violent relationships are less likely to use contraception than those who are not, and women who are exposed to IPV are less likely to report partner-dependent methods than those who are not (182). The relationship between IPV and contraceptive discontinuation remains complex, and inconsistent across studies. A multi-country study found that the odds of contraceptive discontinuation were higher among women who experienced emotional violence in Egypt, Honduras, and Kenya, while it was associated with lower odds of discontinuation in Kyrgyzstan. Furthermore, it has been demonstrated that contraceptive discontinuation was higher among women exposed to sexual and physical violence in Jordan and Egypt, but lower among women in Tajikistan (208). An analysis of a five-year prospective cohort study conducted in the United States (2007-2011) found that, when compared to women who had not experienced intimate partner violence, women who had experienced violence had a higher rate of discontinuation (both long and short-acting methods) (209). This is further buttressed by studies conducted in the United States regarding condom negotiation, which notes that intimate partner violence explicitly affects women's condom negotiating confidence with their partners (183). Type of contraceptive methods used also strongly associated with intimate partner violence. As indicated by a multi-country study, the use of short-acting methods is independently and positively associated with contraceptive discontinuation (210).

In many studies, intimate partner violence has been reported as a result of contraceptive adoption. A study in New Zealand found that contraceptive-based intimate partner violence was more prevalent among women who had experienced violence than their counterparts. For example, 5.4% of women who experienced violence were barred from using contraception, compared to 1.3% of women who did not experience violence (168). The possibility of contracting IPV is also linked to childhood sexual violence exposure. For example, a study conducted in Philadelphia, USA found that 50% of sexually active women exposed to childhood sexual violence used contraception inconsistently in the previous month (211). Another study found that intimate partner violence was not or only weakly associated with contraceptive discontinuation (210). According to a 2011 study conducted in Uganda, intimate partner violence did not predict contraceptive use (212). Intimate partner violence, on the other hand, is

associated with the non-use of contraception. Women who had experienced physical and emotional abuse, for example, were more likely than their counterparts to report not using their preferred method of contraception (176).

1.4.5 Effect of perinatal IPV on postpartum contraception timing

Postpartum contraception allows women to space their births, reducing infant and maternal morbidity and mortality. However, modern contraceptive use is low in the early postpartum period when women become exposed to pregnancy risk (213). In this way, exposure to intimate partner violence may influence women's health-promoting behavours in different ways including delayed contraceptive initiation and interrupted use. Adoption timing of postpartum contraceptive methods continues to be complicated. There is, however, very little empirical evidence on the impact of PIPV on postpartum contraception timing . According to a postpartum contraception timing study conducted in Nepal and Tanzania, only 26.1% of women in Nepal and 30.1% of women in Tanzania used modern contraception in the year (12-24 months) post-delivery (213).

Similarly, a Yam Daabo cluster randomized-controlled trial study of LARC conducted in Burkina Faso and the Democratic Republic of the Congo revealed that the median survival time to method adoption postpartum in Burkina Faso was three months for control groups compared to two months in the intervention group. In contrast, the median survivival time in DR Congo was five months for women in the control group and two and a half months for women in the intervention group (214). In Kenya, approximately 49% of postpartum women adopted the first modern methods by six months post-delivery, and their median survival time to first modern methods adoption was seven months (65). The median survival time from sexual activity resumption to starting modern contraception after childbirth was found to be 19 months in Uganda and 4-13 months in Tanzania (64, 191). In Ethiopia, a national representative sample study revealed that the median survival time from the resumption of sexual intercourse to postpartum method adoption was four months (215). Other small-scale studies carried out in Ethiopia found that the median survival time for contraceptive adoption after childbirth was six months in Gondar City, Northwest Ethiopia, seven months in Dilla town, Southern Ethiopia, and 11 months in West Gojam Zone, Northwest Ethiopia (62, 63, 216).

Several factors have been linked to either delayed or immediate postpartum modern contraception. The timing of postpartum contraceptive adoption varies with an individual, partner, relationship, and community-level characteristics such as age, place of residence, maternal education, household wealth status, appropriate and timely maternal health care utilization, breastfeeding status, menstrual and sexual intercourse resumption, spousal communication or approval of birth control, and having a history of abortion, pregnancy loss, or recent interpersonal violence. Early postpartum contraception was negatively associated with being younger and living in a city. In other words,they were older and predicted delayed initiation of postpartum methods. For instance, a longitudinal study conducted in Kenya among postpartum women revealed that women aged 35–49 had lower odds of adopting modern methods than women aged 15–24 (65).

Similarly, studies among Indian, Kenyan, and Ethiopian (national data) women found that women who lived in the urban area adopted methods more quickly than their counterparts (65, 197, 215). Women's education status is also negatively or positively associated with immediate postpartum contraception uptake. Several studies of postpartum contraception timing conducted in Ethiopia (at the national level and in the southern region), Kenya (in the western part and in Nairobi Urban Slums), and Uganda found that women with incomplete primary or no formal education took longer to begin postpartum methods than women with secondary or higher education (62, 65, 191, 216, 217). Similarly, woman's socioeconomic status of the woman predicts the timing of postpartum contraception. As evidenced by a study conducted elsewhere, women in the poorest wealth quantiles had lower odds of initiating early postpartum methods (191). Correspondingly. a study conducted in Tanzania found that women living in the richest wealthiest quantiles were more likely to use postpartum contraception sooner (64). This correlation, however, has not been replicated in other settings (62). Appropriate and timely maternal health care utilization, such as early initiation of antenatal care, early postnatal checkup, facility-based delivery (62, 63, 217), menstrual and sexual intercourse resumption (63, 217), spousal communication or approval of FP (63, 66), and women's access to media (215), was positively and significantly associated with early initiation of postpartum contraception. On the other hand, postpartum women with a history of abortion (63), pregnancy loss (217), breastfeeding (64, 215), or current interpersonal violence (217) took longer to start postpartum modern methods.

In summary, non- or ineffective use of modern contraceptive methods remains a major public health concern in developing countries due to its impacts on unintended pregnancy, high rates of unsafe abortion, and the transmission of sexually transmitted diseases. In this review, a wide range of socioeconomic and demographic factors have been reported to be associated with postpartum contraceptive use behaviors. However, the impacts of PIPV exposure on postpartum modern contraceptive adoption and timing have not been adequately researched, and results are mixed. Some studies reveal that perinatal women who experience PIPV report lower contraceptive use than women who do not; other findings note that PIPV exposure increases contraceptive use after childbirth; and other studies find no significant correlation between the two. Again, the majority of prior PIPV studies only measured the association between physical abuse and postpartum contraception. In Ethiopia, PIPV studies and its effect on modern methods use after childbirth are very limited. Thus, understanding associations is critical, especially in settings where the rates of both IPV and the unmet need for modern contraceptive methods are the highest in the world.

1.5 Conceptual framework of the study

Based on the reviewed literature, the conceptual framework indicated below was developed. It It is structured into individual and community-level factors to see multilevel factors associated with perinatal intimate partner violence and postpartum contraception. Individual factors are subdivided into woman-, husband-, and relationship-factors. The framework includes forms of IPV over three mutually exclusive perinatal time periods (before, during, and after pregnancy). The time frame is 12 months before or during pregnancy, or in the year postpartum. PIPV is associated with postpartum contraceptive use patterns (adoption, continuation, switching, and discontinuations). The detailed conceptual framework is presented below diagrammatically (Figure 1)

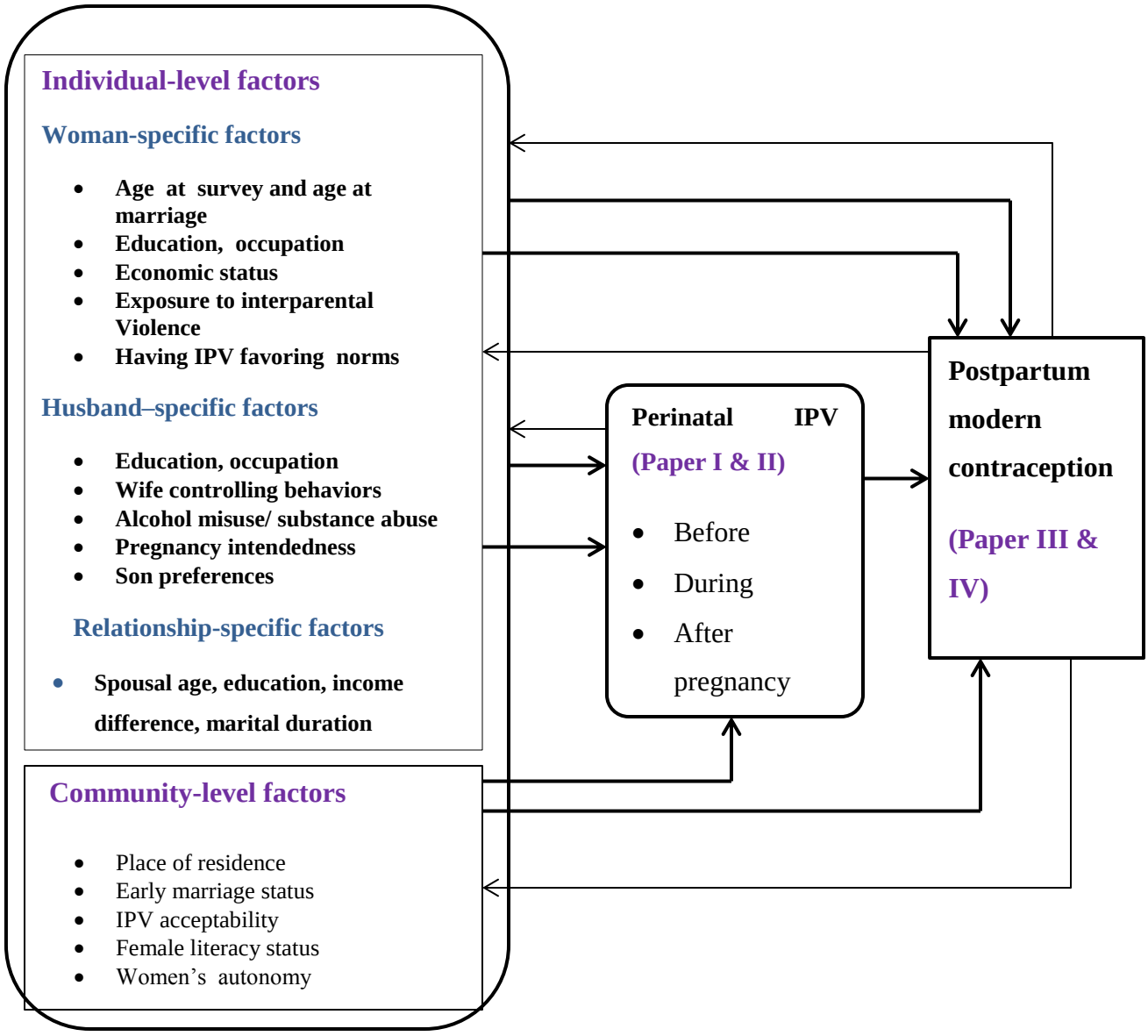


Figure 1: Conceptual framework of the study ,Wolaita zone,Southern Ethiopia,October 2019-January 2021

2. RESEARCH OBJECTIVES AND QUESTIONS

2.1 Research objectives

General objective

The overall objective of this dissertation was to explore postpartum women's lived experiences of perinatal intimate partner violence (PIPV); assess the prevalence and associated factors of PIPV and its effect on postpartum modern contraception in the Wolaita zone, southern Ethiopia.

Specific objectives

1. To explore postpartum women's lived experiences of perinatal intimate partner violence in the Wolaita zone, Ethiopia (Paper I).
2. To determine the prevalence and patterns of perinatal intimate partner violence against postpartum women in the Wolaita zone, Ethiopia (Paper II).
3. To identify associated factors (individual and contextual) of PIPV against postpartum women in Wolaita zone,Ethiopia (Paper II)
4. To investigate the effect of maternal PIPV victimization on postpartum modern contraceptive adoption in Wolaita zone, Ethiopia (Paper III).
5. To determine the rate and predictors of postpartum modern contraception timing among women who reported PIPV and those who did not (Paper IV).

2.2 Research questions

1. What are the postpartum women's lived experiences of perinatal intimate partner violence in the Wolaita Zone?
2. What proportion of postpartum women have experienced perinatal intimate partner violence in the Wolaita Zone?
3. What factors (individual and contextual) are associated with PIPV victimization in the Wolaita Zone?
4. Does maternal PIPV victimization have a significant effect on postpartum modern contraceptive adoption in the Wolaita Zone?
5. What are rates and predictors of postpartum modern contraception timing among women who were or were not experienced to PIPV in the Wolaita zone?

3. METHODS AND MATERIALS

3.1 Study area and period

This study was conducted in the Wolaita zone, in Ethiopia's South Nations, Nationalities, and People's Regions (SNNPR). Wolaita Sodo is its capital town, 330 km south of Addis Ababa, Ethiopia. Administratively, the zone is divided into sixteen rural districts (woredas) and six town administrations. It is bordered on the south by Gamo Gofa, on the west by the Omo River, which divides it from Dawuro, on the northwest by Kembata Tembaro, on the northeast by the Oromia Region, on the east by the Bilate River, which divides it from Sidama, and on the south-east by Lake Abaya, which divides it from the Oromia Region. The highest point in this zone is Mount Damota (2738 meters). The largest ethnic group in this zone is the Wolaita (96.3%); all other ethnic groups make up 3.7% of the population. Protestant Christianity (71.3%) is the dominant religion, followed by Orthodox Christianity (21%), and Catholics (5.6%) (218, 219).

The zone is one of the most densely populated zone in Southern Ethiopia (342 persons living per square kilometer), with an estimated total population of 2.5 million people (according to the 2007 census conducted by the central statistical agency of Ethiopia). The estimated number of women in the reproductive age group is 582,500. Of these women, the estimated postpartum population is 86,500. There are 310,454 households in the zone, with an average household size of 4.84 people (218). There are seven hospitals (five governmental and two private), 68 health centers, and 345 health posts within the zone. On average, two Health Extension Workers (HEWs) are assigned to each health post. The study was conducted between October 2019 and January 2021. The baseline data were collected between October 2019 and January 2020, and the final data were collected between October 2020 and January 2021.

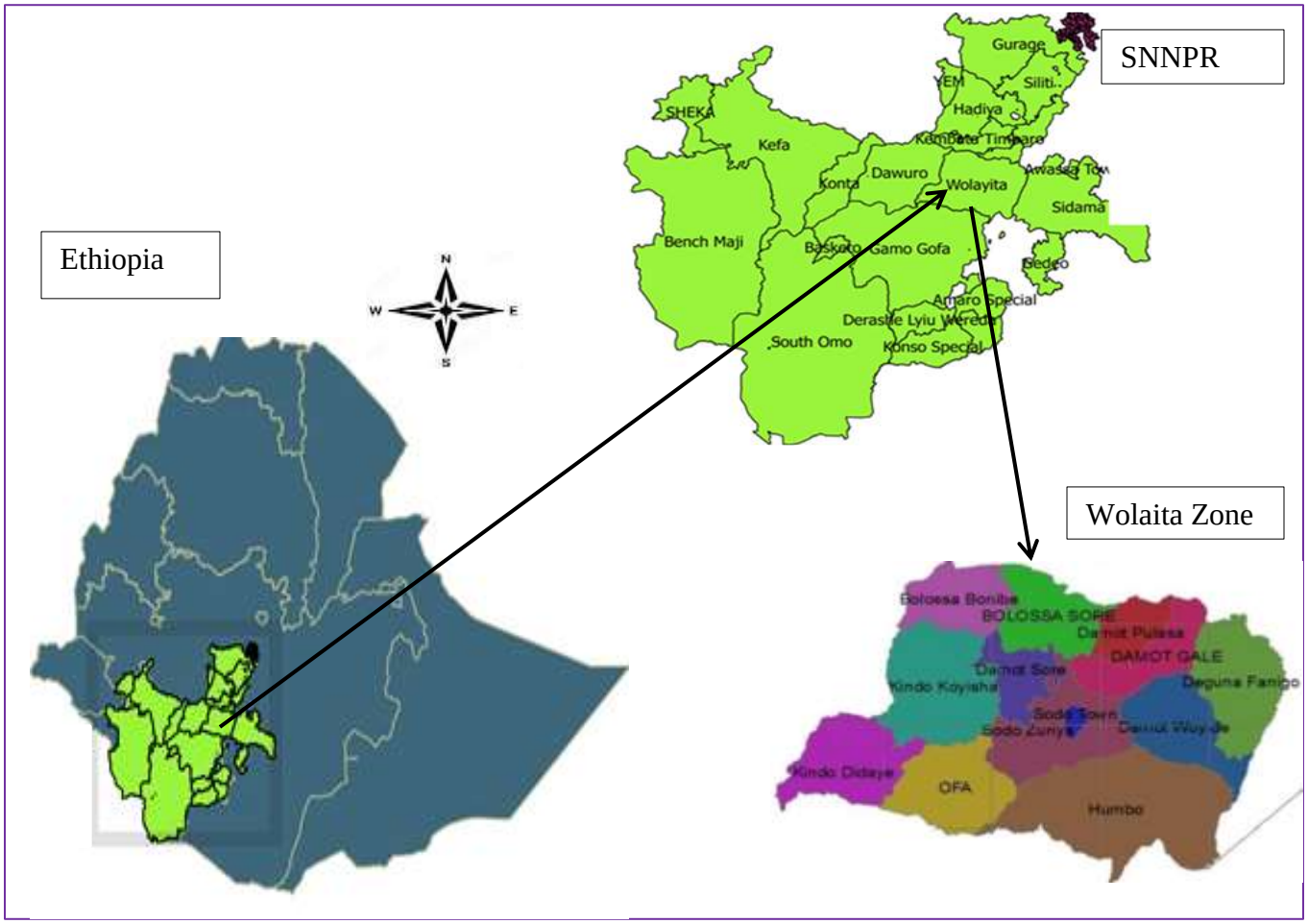


Figure 2: Map of the study area, Wolaita zone, Southern Ethiopia, October 2019-January 2021 (Source: Wolaita Zone Finance and Economic Development Department, 2019).

3.2. Study design

A convergent parallel mixed-method study design (concurrent triangulation approach) was employed for this study. Given that such a study approach is used to confirm, cross-validate, or corroborate findings within a single study (220). For paper I, a phenomenological study was used to explore postpartum women's lived experiences of perinatal intimate partner violence and its leading circumstances. This approach underpins the interpretive ontological and epistemological paradigm, which seeks to understand the lived experience through the eyes of the people experiencing it (221). This approach offers an opportunity to explore postpartum women's lived experience of perinatal abuse. This study allows the investigator to understand not only the

person’s lived experience, but also the conditions surrounding it (221, 222). In this way, phenomenology holds both philosophy and methodology. Furthermore, this approach offers interviewees with numerous opportunities, such as catharsis, self-reflection, healing, empowerment, and a sense of purpose (222).

For paper II, a community-based cross-sectional study design was employed to determine the prevalence of PIPV and identify factors operating at different levels. For paper III-IV, a classical cohort study design was conducted to examine the nexus between PIPV and postpartum modern contraception (adoption and timing). In a classical cohort study, groups are ascertained for the study based on their single putative exposure (risk factor) status (223). In our study, postpartum women were classified as "exposed" when they reported PIPV and "non-exposed" when they did not report PIPV.

3.3 Population

Source population: All postpartum women living in the Wolaita zone during the study period were considered the source population.

3.3.1 For the qualitative part, the study population

Conveniently selected postpartum women to report their violent grievances to police stations, health facilities, and women's, children's, and youth affairs departments as a study population to investigate the lived experiences of PIPV and leading circumstances. Key informants were also selected based on their close relationships with victims and were assumed to be rich resources of information resources on the study topic. So, health extension workers (HEWs) from health posts who interact with women seeking treatment for other conditions (224) were interviewed.

3.3.2 For the quantitative part, the study population

For paper II, the study population consisted of all postpartum women in the zone’s randomly selected districts and town administrations. Paper III and IV, it was follow-up study, all postpartum women enumerated and enrolled for papeer II were considered the study population for paper III and IV, and interviewed at the end of the year.

Sampling and study units: For this study, "Woreda" *(a* district), *'Keble" (a* cluster), and "postpartum women" were considered the primary, secondary, and final sampling units, respectively. The study units, or respondents, were individuals identified at the last sampling unit.

3.4 Study eligibility criteria

Inclusion criteria

For the study aimed to determine the prevalence of PIPV and its associated factors, all currently married postpartum women who have lived at least six months in the study area were included. The inclusion criteria also comprised women of reproductive age who have lived with a current husband for at least one year, were within six weeks postpartum; had no desire to become pregnant for one year and have a child; had a permanent address, and had alive infant. Furthermore, women without psychiatric disorders who volunteered to participate in the study were included.

Exclusion criteria

Postpartum women who were not married, had no intention of limiting or spacing births in the year following the survey, had begun modern contraceptive use, had a hysterectomy or whose husband had vasectomy, or had a history of stillbirths or fetal deaths were excluded from the study. Postpartum women who were not married and foster mothers of deceased or living children were excluded from the study. In addition, study participants who were assumed unable to be interviewed or provide valid information because of mental, hearing, speaking, or other medical problems were excluded.

3.5 Sample size determination

The sample size for paper I

A total of 22 participants who were not part of the quantitative study were recruited from urban and rural settings with the support of HEWs and the head of Women, Children, and Youths Affairs department (WCYAD) to explore postpartum women's lived experiences of PIPV and its contributing conditions. The sampling adequacy was determined by data saturation criteria (220),

and achieved with the 20th interviewee and further data collection stopped after interviewing two participants. The consistency of stories and experiences that emerges from interviewees was focused on realizing data saturation. Similarly, five HEWs from rural health posts were interviewed as key informants.

Sample size determination for paper II-IV

A representative sample ensures sufficient power to detect statistical significance and depends on selecting specific factors and crude estimates. For each paper, alternative sample sizes were calculated considering the single and double population proportion formulas. Then, the largest sample size was taken to increase power and precision. All the sample sizes were computed using the STATCALC application of Epi-info version 7.0 statistical software.

The sample size for paper II

This objective aimed to determine the prevalence of PIPV and its associated factors. Thus, the sample size was calculated by using two options to determine the optimal sample size. The first sample size was determined considering the single population proportion formula based on the following assumptions: The outcome variable was PIPV. As no similar study was conducted in the country to determine the sample size , analysis from other developing countries was used. The proportion of postpartum women who reported PIPV in Nigeria was 43.8 % p = 0.438) (94). A 95% confidence interval, a 4% margin of error, and a design effect of 2 were all considered. Finally, 10% was added for non-responses and missed follow-ups. The final sample was 1301. The following single population proportion formula was used to calculate the sample size.

$$n= \frac{\left(\frac{Z\alpha}{2}\right)^2 * p(1-p)}{d^2} * \text{deff} * \text{1-non-response rate, where}$$

Z=percentile of the standard normal distribution

P=proportion of study population reporting perinatal IPV from the other study

d= the desired precision of the estimate

deff=design effect for the multi-stage nature of the sampling procedure

n=total sample size

The second sample size to identify factors associated with PIPV was determined by considering two sample comparisons of proportions (the double population proportion formula). Based on this, decision-making power on household issues was found to be a vital factor in previous literature (91). The proportion of IPV among married women whose household issues are agreed by husband only was found to be 68.6 %, while proportion of IPV among women whose household issues are decided by jointly was assumed to be 53.6 % by considering 15% risk difference, 95% CI, 80% power with a ratio of 1:4 (r = 4) and design effect of 2. Finally, 10% added for non-responses and the final sample size became 1236.

The following double population proportion formula was used to calculate the sample size.

$$n = \frac{\left(\boldsymbol{Z\alpha_{/2}}\sqrt{\frac{\boldsymbol{P(1-P)}}{\boldsymbol{r}}} + \boldsymbol{Z_{\beta}}\sqrt{\boldsymbol{P_{1(1-P_{1})}} + \frac{\boldsymbol{P_{2(1-P_{2})(1-r)}}}{\boldsymbol{r}}}\right)^{\mathbf{2}}}{\boldsymbol{(P_2 - P_1)^2(1-r)}}$$

The assumptions were that P = pooled proportion ($P1$ + r$P2$)/ (1+r), P_1 = proportion of outcome/exposure among population1, and P_2 = proportion of outcome/exposure among population 2. $Z\alpha/2$ = corresponding z score for a significance level of (1 - α) %, Z_β = corresponding z score for power (1-β), r = ratio of exposed to unexposed to the outcome of interest for the two groups, and P = pooled proportion.

Sample size for paper III

This objective is aimed to examine the effect of PIPV exposure on the first postpartum modern contraceptive adoption. Simultaneously, predictors of the first postpartum modern methods of childbirth adoption were to be identified. As per our review of previous studies at the conception of this study, no similar study was conducted in the country to be used as a base to determine the sample size. Based on this, we have used studies from other countries (Kenya and India). First, the sample size was calculated using a single population proportion formula by considering the following assumptions: 49 % of contraceptive adoption after childbirth (65), a 95% confidence level, a 4% margin of error, and a design effect of 2. Finally, 10% was added for non-responses or missing during the follow-ups. The final sample became 1,320.

Second, the sample size was determined considering the effect of perinatal violence (main exposure variable of interest) on postpartum contraceptive adoption. Based on this, the proportion of immediate postpartum contraceptive initiation among women who reported IPV was found to be 25% (P_1=0.25) and the proportion of postpartum modern contraceptive adoption among women without IPV was assumed to be 35.9% (P_2=0.359) to 10.9% risk difference (53). A 95%; level of confidence with a power of 80%, a ratio of 1:1 (r=1), design effect of 2, and a non-response rate of 10% was considered, giving a final sample size of 1,232.

The sample size for paper IV

The fourth paper aimed to determine the rate and predictors of first postpartum modern contraception timing among married women with and without PIPV. The sample size was computed using STATA Version 16.0. As no similar research was conducted in the country to determine the sample size, a study from another developing country, Uganda (191), was used by taking the 50% survival time among groups (rate of event equal to survival probability rate), 90% power, 5% level of significance, and hazard ratio (1.83). The final sample size was assumed to be 494, considering the design effect of 2 and a 10% non-response rate. The following equations were used to calculate the required sample size. The sample size (n) = [(number of event/probability of event)*deff]/(1-non-response rate). Number of event=$\frac{\left(Z_{\alpha/2+Z_\beta}\right)^2}{pq(\log AHR)^2}$, where α =Threshold probability for rejecting the null hypothesis (Type I error rate), β=probability of failing to reject the null hypothesis under the alternative hypothesis (Type II error rate), p =survival probability rate in group 1 (exposed), q=survival probability rate in group 2 (unexposed), and AHR=Adjusted hazards ratio. The probability of event = Pr (event) = 1- (P S1 (t) + q S2 (t)).

As this study was longitudinal study and required a similar sample size, the maximum sample size of 1,320 was taken for all the objectives. However, 1,342 postpartum women who met inclusion criteria were approached at the time of data collection to increase the power of the study. Taking this as the final sample size will increase the precision and power of the study for the remaining objectives.

3.6 Sampling procedure

Sampling procedure paper I

The recruitment of participants was continued until theoretical saturation was reached, i.e., until no new insights or information emerged from adding more interviewees. Participants in in-depth interviews were enrolled based on the following criteria: being currently married postpartum women aged 18 and older, having index children under the age of twelve months, and reporting violent grievances to either health posts or the WCYAD. A total of twenty-two participants were recruited using the convenience sampling method and consecutively interviewed at each site (225, 226), where informal interviews were conducted prior to sequential questioning (227). There were no interviewees who met the inclusion criteria and were approached for interviews who declined to take part in the study. Similarly, five health extension workers from rural health posts who interact with women seeking treatment for other conditions (224) were also interviewed. The interview included health extension workers who had at least a college diploma in health science and had been working in the health extension program at health posts for more than two years.

Sampling procedure paper II-IV

A multistage cluster sampling technique was used to identify study participants who would be enrolled in this follow-up study. The zone was stratified into rural districts (16 in number) and town administrations (6 in number). As a rule of thumb (~30%), seven out of the twenty-two districts ("Woredas") (four rural districts: Damot Woyde, Offa, Kindo Koysha, and Bolose Sore) and three town administrations: Boddit, Soddo, and Areka) were randomly selected. These districts and towns were further clustered by 'Kebles,' Ethiopia's lowest administrative unit, and stratified into rural and urban Kebles. Then, twenty-four (16 rural, 8 urban) and fourteen (8 urban, 6 rural) kebles were randomly selected from rural district and town administrations, respectively. With this, a total of thirty-eight (twenty-two rural and sixteen urban) Kebles were selected randomly considering the size of Kebles per each district. Each keble's sample size was determined considering probability proportional to the size, and its expected number of postpartum women. Data collectors compiled the household lists with eligible women from a family folder of health extension workers (HEWs) with the guidance of HEWs. When a

household had more than one eligible woman, only one was chosen at random. Finally, 1,342 eligible women who met the eligibility criteria were included in the baseline survey, as these were slightly higher than the calculated sample size of 1,320 versus 1,342.

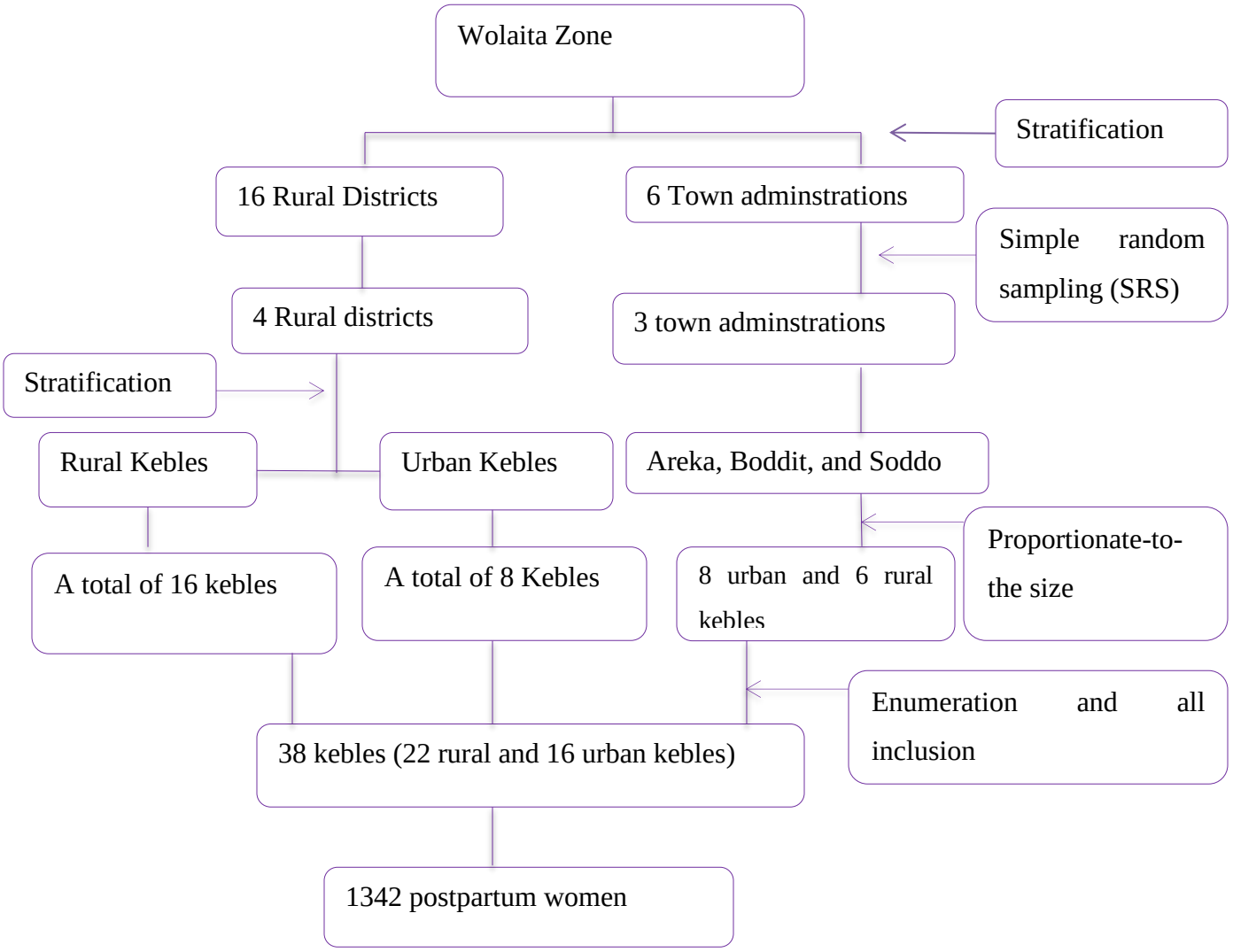


Figure 3: Schematic presentation of sampling procedure in Wolaita zone, Southern Ethiopia, October 2019-January 2021

3.7 Study variables

3.7.1 Dependent variables

- For paper II: Perinatal intimate partner violence
- For paper III: Postpartum modern contraceptive adoption status
- For paper IV: First postpartum modern contraception timing

3.7.2 Independent variables

- **Higher-level (level-2) variables:** The high-level variables are community-level variables represented by individuals living in the same cluster.
- The women's residency was classified as urban or rural based on the Ethiopian Central Statistical Authority's descriptions of the respondent's location. An area with at least 2000 people or more is labelled "urban" and fewer than 2000 are labelled "rural" (228).
- Individual-level characteristics (education, age at first marriage, wealth status, decision-making autonomy, and IPV-favoring norms) were aggregated to construct other community-level variables. Cluster aggregates were computed using means (for normally distributed characteristics) or median (for non-normally distributed characteristics). Finally, high-level variables were recategorized into lower and higher categories.

Individual-level (level-1) variables: Individual-level variables considered in the analysis were women-, partner-, and relationship-specific variables.

- The following women-specific variables were investigated: sociodemographic and socioeconomic factors (age, age at first marriage, education, religion, ethnicity, employment, number of children, witnessing inter-parental violence, attitude toward IPV, wealth status, place of delivery, and so on), and obstetric and reproductive factors (history of abortion, unintended pregnancy, breastfeeding status, postpartum amenorrhea status, sexual activity resumptions, and so on).
- Education, employment, pregnancy intention status, sex preferences, wife-controlling behavior, alcohol consumption, substance abuse status, and other partner-specific variables were included.

- Relationship-specific variables included women's decision-making autonomy, the duration of the marriage, educational, and income differences between the couple, and their communication status on daily life issues.

Table 1:Description of variables and measurements for the study in Wolaita zone, Southern Ethiopia, from October 2019–January 2021

Variables	**Categories/Measurements/Definitions**
Dependent variables	
Perinatal intimate partner violence	The exposure to perinatal partner violence was measured using Section 7 of the WHO standardized questionnaire (4). labelled 'yes' if a woman reported at least one act of perinatal psychological, physical and sexual partner violence, and otherwise"no" for not experiencing it at all (Cronbach's α=0.86).
Perinatal psychological violence	If a woman reported at least one of the following violent acts during her perinatal period, she was labeled "yes": if her husband insulted or made her feel bad, belittled or humiliated her in front of others, intimidated or scared her on purpose, or threatened to hurt her or someone she cares about (Cronbach's = 0.84).
Perinatal physical partner violence	If she reported at least one of the six perinatal acts, such as being slapped or thrown something, shoved, hit with a fist or something, beaten or kicked, choked or burned, or threatened with a knife or gun, she was labeled "yes" (Cronbach's =0.82).
Perinatal sexual violence	The woman was labelled "yes" if she mentioned at least one positive response to questions about whether her husband physically forced her to have sexual intercourse, having intercourse out of fear, or being forced to perform degrading or humiliating types of intercourse without her consent during the perinatal period (Cronbach's =0.79).
Postpartum contraceptive adoption	Women were designated users if they reported using male or female sterilization, implants, the IUD, injectables, pills, male or female condoms, and emergency contraception. All other individuals were considered non-users of modern contraceptive methods.
Postpartum contraception timing	The time length to modern contraceptive use postpartum was recorded in months using a reproductive (contraceptive) calendar (229, 230). The event was coded as "1" when women reported modern contraception adoption and "0" otherwise.
Community-level (level-2) variables	
Place of residence	It is classified as urban or rural based on the Ethiopian Central Statistical Authority descriptions of respondent's location. An area with 2000 people or more is labeled 'urban', and fewer than 2000 is labeled 'rural'(228).
Early marriage	Labelled as low if the proportion of women who married before 18 years of age in the community was 0-50% and labeled as high if the proportion was between 51% and 100%.
Women's literacy level	Labelled as low if the proportion of women who attended formal education in the community was 0-85% and labeled as high if the proportion was between 86% and 100%.
Women's IPV attitude	Labeled as low if the proportion of women who justify IPV favoring attitude in the community was 0-39.9% and labeled as high if the proportion was between 40% and 100%
Women's decision-making autonomy	Labelled as low if the proportion of women's participation in decision making related to the household issues in the community was 0-83.3 % and labeled as high if the proportion was between 83.4% and 100%
Wealth status	Labelled as low if the proportion of women in the community was 0-39.9% and labeled as high if the proportion was between 40% and 100%
Individual-level(level-1) variables	
Women-specific variables	
Age	The women's ages were divided into seven groups based on five-year intervals, which were later recoded into three categories: "24," "25-34," and "35-49."
Age at first marriage	Constructed as < 18 years and ≥ 18 years

Ethnicity	Each ethnicity was entered and later recoded into "Wolaita," 'Amhara', 'Gurage," and "Others." Others were merged because they were too few for logistic regression.
Religion	Each religion was entered and then classified as "Orthodox," "Protestant," or "Other." Others were merged because they were too few for logistic regression.
Education status	The maximum education attained by the women grouped into three levels: illiterate, primary, and Secondary+
Occupation status	The respondent's current employment status was classified as "housewife," "employed in government, nonprofit, or private," "merchant," and "others," and was later reclassified as "employed" and "unemployed."
Wealth quintiles	Using the EDHS questionnaire, household asset ownership (141) was assessed , and computed using principal component analysis. Wealth status was constructed into three terciles: Poor, Middle class, and Rich
Witness inter-parental violence	'Yes' or 'no' based on their answer to the question, "As far as you know, did your father ever hit yourmother?"
IPV favoring attitude	Women's attitude towards wife-beating was categorized into 'Yes' and 'No' and composed from responses to five scenarios: if she goes without telling him, if she neglects the children, if she refuses to have sex with him, if she argues with him, and if she burns the food (Cronbach's α=0.78) (4, 141). A woman favours a wife-beating attitude if she justifies at least one of the listed scenarios.
Number of Living Children	Grouped as $\geq$ 2, 3-4, and $\geq$ 5
Women's decision-making autonomy	It was measured by asking whether women participated in personal health care, daily household purchases, major household purchases, visits family or relatives, husband's and her income (Cronbach's α=0.76)(141). Labelled as *"low autonomy"* if she was involved in three or fewer household issues and*"high autonomy"*if the woman was involved in at least four of the listed household issues.
Husband-specific variables	
Educational status	The highest level of education attained by her husband grouped into three levels: none, primary, secondary and more than secondary
Occupational status	The current employment status of the husband is grouped into 'farmer', 'employed in GO,NGO or in private', 'Merchant', and 'Others' and later recategorized : 'employed' and 'non-employed'
Alcohol consumption status	Classified *'Yes'* if partner drinks alcohol and 'no' otherwise.
Substance abuse	Classified '*Yes*' if respondent drinks alcohol, chews khat or smokes tobacco and 'no' otherwise
Wife controlling behavior	Labelled it "yes" if she reported at least one affirmative answer to the following questions about whether her husband did it or not: tries to keep you from seeing friends? Trying to restrict contact with your family of birth? Insists on knowing where you are at all times? Ignores you and treats you differently? Gets angry if you speak with another man? Is it often suspicious that you are unfaithful? Does he expect you to seek his permission first? (Cronbach's α=0.79) (4)
Intendedness of index pregnancy	Structured into three labelles: 'Wanted the pregnancy', Wanted to delay the pregnancy', and ' Never minded about it'
Sex preferences	Grouped into three labelles: 'Male', 'Female', and 'Never mind it'
Relationship-specific variables	
Years couple lived together	The number of years the woman lived together with her husband was constructed as one to five, six to ten and eleven and more years
Age difference	The age of women compared to husbands is categorized into three groups: Young, The same and Older
Income difference	The relative income of woman to husband constructed into: No income, Earn less , Earn the same and more income
Asset Ownership	Women's status in owning property and assets were recorded as "Yes" if a woman reported she owned land and /or house lonely or jointly and otherwise "No".

3.8 Data collection instruments

The instrument for Paper I: Semi-structured, in-depth interview guides were adapted from a WHO document on researching VAW (87). The two groups were interviewed using different interview guides: postpartum women violence victims and HEWs. The interview guides for postpartum violence victims included main and probing questions about sociodemographic characteristics, marriage history, index pregnancy intention, contraception, and perinatal IPV experiences for index birth. The HEW interview questions probed the reasons for postpartum women visiting the health post, the reporting of IPV, and the types of IPV reported. All of the guides were written in English, and the interviews were conducted in either 'Wolaitagna' or Amharic, depending on the interviewees' language preferences.

The instrument for paper II-IV: For the study of prevalence and associated factors of PIPV, the data collection tool was adapted from section seven of the WHO and EDHS standardized questionnaire (4), designed for the study of violence against women (VAW). The questionnaire included relevant acts related to psychological, physical, and sexual IPV. After women reported their experiences with each act of perinatal abuse, they were asked further whether it occurred either in the year before pregnancy, during pregnancy, or in the postpartum period. For studies of postpartum modern contraceptive use behaviours, a contraceptive calendar was used (229, 230). The event was coded as “1” when women reported any modern contraceptive adoption and “0” otherwise.

Pre-test of the instrument

All the pre-tests of the instruments were conducted in similar urban and rural settings on 10% of the total sample size before actual data collection. According to the pre-test findings, minor and necessary modifications were made to the questionnaire, including the frequency and timing of violence's occurrence in the perinatal period (before, during, and after pregnancy). Finally, the settings included in the pre-test were excluded from the main study.

3.9 Data collection procedure

For paper I: A single, neutral, bilingual interviewer [TL], a male principal investigator with a Master's degree in Reproductive and Maternal Health and experience in qualitative research was conducted the interviews to avoid inter-interviewer differences. The interviewer had no contact with the service centers to ensure that their responses were not influenced. Face-to-face interviews were conducted with participants in a private and quiet environment, either at the health posts or the WCYAD, depending on their personal preferences. The interviews were conducted in both Amharic and Wolaitagna. An empathetic rapport was established with each particiapnts for 5 to 7 minutes. Each interviewee was asked for permission to record the audio and interviewed separately. The average length of the interviews was thirty-five minutes. Field notes were taken to capture key messages as well as nonverbal cues from participants. The interview guide was slightly modified after the first four participants were interviewed to accommodate new ideas.

For paper II-IV: The training manual covered the study's goal and implementation, the fundamentals of violence against women, the composition of a questionnaire, and interviewing techniques. Thirty-eight nurse data collectors (married, female, diploma holders, and fluent in Wolaitagna and Amharic) and eight supervisors (all with a bachelor of science degrees in public health) were recruited and trained intensively for two days. Training was provided separately in each district for administrative purposes. The training focused primarily on the purpose of the study, the contents of the instruments, and how to check the nuances of coding, errors, and consistency of each questionnaire, as well as perform a role-play and pre-test of the instruments. At the baseline interview, eligible women's contact addresses (district, keble, village, or got), name of the women's health development army (WHDA), head of WHDA, house and phone numbers, and name of the head of the household were recorded for relocating and arranging the follow-up interview. The specific identification numbers (codes) were given to all the registered eligible women to avoid confusion and to link the data during the re-interview. The baseline survey included sociodemographic, economic, psychosocial (e.g. perinatal partner violence), reproductive and obstetric characteristics, and risk behaviours.

Finally, data collection were conducted privately in local languages ('*Wolaitagna'* and Amharic) based on the preferences of the study participants. If the interview was interrupted by someone,

the topic of violence was switched to a questionnaire about women's health issues. Then, study participants were on follow-up for a year after the baseline survey whether they adopt the modern methods or not, and data on the reproductive events (e.g. breastfeeding, resumption of menses and sexual activity), PIPV (psychological, physical and sexual violence) exposure status, and contraceptive use patterns (adoption, switching, continuation, and discontinuation) were collected at the final interview.

3.10 Data quality control

For the qualitative part (trustworthiness of the data)

The persons triangulation was made to ensure transferability of the findings (222). In addition, different attempts were made to interview heterogeneous groups of participants to triangulate findings: both urban and rural residents, women living with their abusive husbands, and women who left violent relationships. The verbal transcripts were read to each interviewee, and their feedback was incorporated to ensure the integrity of the collected data. Immediately after the interview, with a fresh mind, all transcriptions and field note extensions were made. All the contents of the transcripts were cross-checked with the audio records. Audio records, field notes, and verbatim transcriptions were saved in a secret and safe place for the cross-checking process, which sustained the consistency of the interpretations. Computer-assisted data reduction (coding and categorization) was conducted using the Open Code software version 4.02 without missing its central idea.

For the quantitative part: Different actions were taken, from designing the tool to the data analysis and interpretations to ensure the quality of the data,. The questionnaires were adapted from a standard and cross-culturally validated WHO multi-country study tool on domestic violence against women and DHS. In addition, the quality of the data was maintained by pretesting, training, and supervision before actual data collection. As the topic of the study was sensitive, questions were customized to local expressions following the study's pre-test to avoid various forms of measurement bias. Both the data collectors and supervisors were recruited, trained, and accustomed to local languages, cultures, and events. Close supervision and daily checking of the questionnaires were made to ensure completeness and consistency. The inter-

item consistency of the indicators to measure each form of PIPV was checked using Cronbach-alpha at 0.7 cut-off of points.

3.11 Data management (processing and analysis)

For paper I

The data was collected from two target groups for triangulation to esure the finding's transferablity (222). All audio recordings were transcribed word by word and translated into English. The transcribed data were audited with each interviewee to ensure trustworthiness and minimize errors. A simultaneous reading of verbatim transcripts alongside each audio-recorded voices was performed to check for errors in all interview transcripts. Final transcripts were also compared with field notes to ensure quality. Computer-assisted coding and categorization were conducted on verbatim transcripts using Open Code software version 4.02. The text was read and re-read several times to become familiar with the data. Line-by-line coding was then conducted by the principal investigator [TL]. The key attributes of each term or narrative were coded and tallied and later used to create categories. The codes were compared based on their similarities and differences, and subsequently grouped into categories. Data were analyzed thematically, using deductive and inductive coding (220) where salient quotes were used to support the themes. The consolidated criteria for reporting qualitative research (COREQ) from a 32-item checklist was used to report the findings (231).

For paper II-IV

The collected quantitative data were coded, entered into Epidata version 3.1, and exported to SPSS for Windows 25 for cleaning, editing, and analysis. Descriptive and summary statistics were computed in numbers and percentages. The socio-economic quantiles were computed using principal component analysis (PCA). The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's test of sphericity were used to indicate variables' adequacy and correlation between items for the household wealth index, respectively. The continuities in PIPV were measured using a post hoc (McNemar's) test that detects statistical evidence of change of violence between pre-pregnancy and pregnancy and or between pregnancy and the postpartum period.

For paper II: The hierarchical data with 1,342 postpartum women nested in 38 clusters (Kebles) was constructed. Kebles were considered as clusters, and keble-level factors were taken as high-level (level-2) variables. The size of each cluster included in this study ranged from 20 to 43. Multilevel logistic regression models were computed to examine the link between PIPV and individual and contextual factors using STATA version 14. This model was preferred to avoid the clustering effects of factors operating at different levels on the outcome variable and violate the assumption of independence in standard logistic regression (232). The measures of association (fixed-effect) were shown as odds ratios at a 95% CI. All significant variables at the p-value < 0.05 in bivariate analysis were considered candidates for multivariate analysis. Four Models were constructed in multivariate analysis. In Model I, a null or unconditional Model with no independent variables was fitted to examine total variation in experiencing PIPV across communities and justify using multilevel analysis. In Model II, individual-level variables were added to the null Model. In Model III, only community-level variables were included in the unconditional model. Finally, the full Model, Model IV was fitted to examine the effect of both individual and community-level factors.

In this study, we computed likelihood ratio test, Intra-class Correlation Coefficient (ICC), Median Odds Ratio (MOR, and Proportional Change in Variance (PCV) to measure variation between clusters. ICC quantifies the degree of variation in PIPV victimization between clusters (the ratio of the between-cluster variance to total variance). ICC(ρ)=$\sigma^2/(\sigma^2 + \pi^2/3)$ (233, 234), but MOR is quantifying heterogeneity in outcomes between clusters (presents the cluster variance in the odds ratio scale) and is defined as the median value of the odds ratio between the enumeration area (EA) with the highest risk of encountering PIPV and EA at the lowest risk when randomly picking out two EA (235).

MOR=exp$\sqrt{2 * \partial 2 * (0.6745)}$ ~MOR=exp(0.95*). The ∂^2 indicates that the total variance

The PCV was also computed for each model concerning the unconditional model to measure the total variation attributed to the individual- and community-level factors in explaining PIPV encounters (236, 237). PCV= $\frac{var(null\ model) - var(full\ model)}{var(null\ model)}$

Variance inflation factor (VIF) were used to test for multicollinearity between the independent variables. A VIF value >10 indicates the presence of collinearity. Wherever multicollinearity existed, one of them was dropped from the model in turn. The model comparison was done based on deviance (the negative 2 log-likelihod (-2LL)) since the models were nested. Akaike's Information Criterion (AIC) was used for model selection, and the model with the lowest deviance and AIC value was considered the best-fitted model and used for data description (238).

For paper III: To determine the effect of PIPV on postpartum modern contraceptive adoption and other predictors, bivariate and multivariable analyses were conducted. A modified Poisson regression model with a robust error variance was used to estimate crude and adjusted relative risk ratios with 95% confidence intervals. This model was an appropriate one for prospective studies with common binary outcomes (incidence of 10% or more) and avoided overestimation of effect size (239, 240). All variables having $p<0.05$ were retained in the final model. Multicollinearity between the exposure variables was checked using variance inflation factors (VIF). The presence of collinearity was declared if the VIF value was >10. Overall, perinatal violence exposure correlated with the types of violence that women experienced. The perinatal sexual violence variable was therefore dropped, while other variables were retained in the model.

For paper IV: The overall time interval to the first postpartum modern contraceptive adoption was estimated using the Kaplan-Meier survival curve and compared using the Wilcoxon log-rank test across different variables. Because of the hierarchical nature of the data collected from 1,292 postpartum women nested in 38 clusters (Kebles), multilevel survival models based on different parametric survival distributions (exponential, Weibull, Gamma, log-logistic, and lognormal) were fitted. Therefore, this violated the ordinary regressions assumptions i.e observations are independent and have equal variance across clusters. The study participants within each cluster ranged from twenty to forty-three. We have checked Proportional Hazard (PH) assumptions using a global schoenfeld residual test and was found to be violated ($p<0.05$). In effect, cox proportional regression model was not an appropriate model for this data. The multilevel parametric survival regression model is one of the best model for the right-censored data and yields unbiased estimates of the risk of the occurrence of the target event (241). As a result, the model accounts for the cluster-specific random effects on survival outcomes (242). The

accelerated failure-time (AFT) model and the PH model are commonly used models to assess the effect of covariates on the baseline hazards function. In the AFT model, the covariate effect is multiplicative on the time scale, whereas it is multiplicative on the hazard scale in the PH models (242, 243). We preferred AFT than the PH model because it directly accounts for the effect of covariates on survival times rather than the hazards rate, as the PH does, and it yields more accurate inference, proper fitting of the model and easy interpretation of the results (244, 245). Then, time ratio (TR) rather than hazard ratio (HR) were used to report time length-to-postpartum contraceptive use. The intraclass correlation coefficient (ICC) for the intercept only model was calculated to determine whether or not the multilevel survival analysis was required. ICC measures the total variation of postpartum contraceptive use timing between clusters without any covariates (244, 246). The model comparison was made using the log-likelihood ratio test, Deviance (-2LL), and Akaike's Information Criterion (AIC) value. The model with the lowest deviance and AIC was selected as the best fitted model and used to describe the data. All variables with a p-value of less than 0.05 in bivariate analysis were considered candidates for multivariable analysis. In the multivariable multilevel analysis, the adjusted time ratios along with the 95% CI were used to show level of significance and strength of association.

3.12 Ethical considerations

The research proposal was reviewed for scientific and ethical integrity and then approved by the Institutional Review Board (IRB) of the College of Health Sciences at Addis Ababa University with a protocol number of 006/19/SPH. Following this, the school of public health wrote a formal letter was written to the zonal administration. Formal permission and consent were obtained from all relevant local administrators at various levels. This study was conducted with the full respect of WHO ethical and safety recommendation guidelines on researching violence against women (247). This was implemented as follows: for the purpose of data collection, the study was framed and introduced to the community, household members and respondents as the study of "women's health and life experiences" to reduce any events of violence inflicted on data collectors as well as study participants for disclosing the problem of violence in the family.

The interview was conducted by married and experienced women in household surveys. Both supervisors and data collectors received specialized training on violence against women, as well as ongoing assistance. The debriefing session was organized to discuss what they are hearing,

their feelings about the situation, and how it influences them in the data collection and oversight processes. The right to withdraw from the data collection process was assured to data collectors. In addition, the interviewers were trained to handle women requesting support during data collection. Each participant provided written informed consent for every phase of the study. Before commencing the interview, participants were informed that they had the complete right to agree or disagree to participate in the study and to withdraw at any time during the interview. All interviews were conducted in complete privacy, except for children aged less than two years. Rescheduling or locating a safe place and time was informed based on their preferences. If the interview was interrupted, the participants were assured that the interview would be terminated and the topic of discussion would be changed to dummy questions such as breastfeeding or family planning related questions. Moreover, study participants were informed to use some games to entertain children during interviews. For respondents aged 15–17 years, assent was obtained from parents or guardians. For in-depth interviews, interviewees were well-informed not to mention a third person's name during audio recordings, including their own respective names. The confidentiality of the collected data was maintained by assigning unique anonymous codes (P-1, P-2, P-3, etc.). All study information was kept secure and confidential with the first author. Audio recordings and transcribed data are not disclosed to third parties without the consent of the participant. This study's benefits and risks were debriefed. The women were informed that there would be no direct benefit to their participation in this study. However, the importance of her experiences to other women was discussed. Again, to minimize harm, we did not inform the wider community that the survey includes questions on violence, and again, the study was framed as being about women's health and their life experiences. After the interview, participants were given the opportunity to visit a psychiatric nurse if they experienced any psychological discomfort.

3.13 Operational definitions

- **Intimate partner**-purpose of this study 'intimate partner' referred as a current husband who lived or living together with respondents
- **Intimate partner violence:** is defined as a mother's self-reported experience with one or more forms of psychological, physical, or sexual violence.

- **Perinatal intimate partner violence:** Any violence committed by the current husband in the year preceding the pregnancy, during the pregnancy, or up to one year after childbirth (12, 13).
- **Psychological intimate partner violence**: If a woman reported at least one of the following violent acts in the year before, during, or after pregnancy: if women were insulted or made to feel bad, belittled or humiliated in front of others, intentionally intimidated or scared, and threatened to hurt her or someone she cares about questionnaire (4).
- **Physical intimate partner violence:** If a woman answered six questions about physical violence during her pregnancy, including "Has your partner ever slapped or thrown something at you that could hurt?"pushed, shoved, or pulled your hair? Hit with a fist or with something else that could hurt? Kicked, dragged, or beaten up? Choked or burnt on purpose? Or threatened to use or actually used a gun, knife, or other weapon against you? If women experienced one or more of these questions since 12 months prior to baseline survey as a loosen measurement; women exposed to physical violence questionnaire (4).
- **Sexual intimate partner violence:** Three questions related to sexual violence, including: did your partner ever physically forced you to have sexual intercourse against your will? Have you ever had sexual intercourse because you were afraid of what your partner might do to you? And have you ever been forced by your partner to do something sexual you found degrading or humiliating? If women experiences one or more of these questions s during perinatal period considered a loosen measurement questionnaire (4).
- **Partner controlling behavior:** If a woman expresses at least one of the following controlling behaviors from her current husband: if he is jealous or angry if she talks to other men; frequently accuses her of being unfaithful; refuses to allow her to meet her female friends; tries to limit her contact with her family; and insists on knowing where she is at all times (4).
- **Postpartum IPV:** Intimate partner violence that occurred after the birth of the index child.
- **Not exposed to an unintended pregnancy:** months of postpartum abstinence for the woman.
- **Risk for unintended pregnancy:** Months of exposure include months when a woman is not amenorrheic and is sexually active.

- **Patriarchy:** A system where men are vested with power, ruling and controlling societal, communal, and family affairs solely and where land and housing rights and family decision-making responsibility ultimately belongs to men.
- **Adoption of postpartum modern contraceptive methods:** any first modern methods used by women in the year following delivery.
- **Postpartum contraception timing**: the time length in months that women delayed to start their first modern methods after childbirth (229, 230).
- **Postpartum contraceptive discontinuation:** stopping use of first-time postpartum modern contraception for at least four weeks in the 12-month postpartum period, while still at risk of getting pregnant (65).

Table 2: Summary table of study objectives and methods for the study of perinatal intimate partner violence and postpartum contraception in Wolaita Zone, October 2019-January 2021

Papers	Study Objectives	Study Design	Study Population	Sampling methods/ study selection	Data collection methods	Sample size	Data Analysis
I.	To explore postpartum women's lived experiences of PIPV and its leading circumstances	Phenomenological study approach	-Currently married postpartum women (15-49) -Health extenstion workers	-Convenience sampling -Interviewed consecutively	Semi-structured, face-to-face in-depth interview	-22 violence victims -5 HEWs	Thematic Content Analysis
II.	To determine prevalence and its associated factors of the PIPV	Community-based cross-sectional	Currently married postpartum women(15-49)	Multistage-clustered sampling	-Interviewer administered questionnaire	1301 1236	Multilevel Logistic regression
III.	To determine effect of PIPV on the postpartum modern contraceptive adoption	Classical prospective cohort study	Currently married postpartum women(15-49)	Multistage-clustered sampling	-Interview administered questionnaire -Phone interview	1320 1232	Modified poison regression with robust error variance
IV.	Rate and predictors of postpartum modern contraception timing	Classical propective cohort study	Currently married postpartum women(15-49) in the follow-up and adopted modern methods	Multistage-clustered sampling	Interview administered questionnaire -Phone interview	494	Multilevel survival analysis

4.RESULTS

4.1 Postpartum women's lived experiences of PIPV (Paper-I)

4.1.1 Background characteristics of the study participants

A total of twenty-two in-depth interviews with postnatal women were conducted. All of the interviewees were married. Almost half of them were living with their husbands at the time of the interview. About two-thirds of the respondents were between 19 and 25 years old. The minimum and maximum ages of the interviewees were 18 and 41 years, respectively. At the time of first marriage, the average age was 18.8 years. Twelve interviewees were from rural areas. Many participants were housewives and daily laborers by occupation. Most interviewees had attended formal education. However, only one had a college diploma. Sixteen of the interviewees had between two and eleven children, with the age of the index child ranging from three to twelve months. Regarding family planning, six participants were using postpartum contraceptives at the time of the interview. The average duration of an abusive relationship ranged from two to twenty-two years. Five key informant interviews with HEWs were conducted in the selected rural health posts. All the key informants were female. Their ages ranged from 29 to 42 years, and all were married. Three had completed a college diploma, and the other two had university-level education. Four of them had at least five years of work experience, and one had three years of experience (Table 3).

The in-depth and key informant interview findings were then combined. Three main themes emerged from the data: " Postpartum women's experience of major forms of perinatal IPV (psychological, physical, and sexual violence)", "Circumstances leading to perinatal IPV ", and " Implications of perinatal IPV on women's health".

Table 3: Background characteristics of qualitative study participants in Wolaita Zone, October 2019-January 2021

Participants Code	Age in Years	Educational status	Place of residence	Religion	Occupational status	Current relationship status	No. of children	Children age in months	Marital duration in Years
P-1	20	Elementary	Urban	Protestant	Housewife	Separated	2	5	3
P-2	24	Elementary	Urban	Protestant	Daily laborer	Separated	2	7	4
P-3	24	Diploma	Urban	Protestant	Housewife	Cohabiting	2	12	3
P-4	30	Elementary	Rural	Protestant	Daily Laborer	Separated	3	12	7
P-5	19	Elementary	Rural	Orthodox	Daily Laborer	Separated	2	7	2
P-6	25	No formal education	Rural	Protestant	Merchant	Cohabiting	4	12	7
P-7	24	Elementary	Urban	Muslim	Housewife	Separated	2	4	6
P-8	20	High school	Rural	Orthodox	Housewife	Separated	1	6	2
P-9	23	Elementary	Urban	Orthodox	Housewife	Separated	2	11	3
P-10	38	Elementary	Rural	Protestant	Housewife	Cohabiting	7	3	22
P-11	27	High school	Rural	Protestant	Housewife	Cohabiting	3	12	7
P-12	25	High school	Urban	Protestant	Daily Laborer	Separated	2	3	8
P-13	35	No formal education	Rural	Protestant	Daily laborer	Cohabiting	11	4	17
P-14	41	No formal education	Rural	Protestant	Daily laborer	Cohabiting	3	6	22
P-15	25	Elementary	Rural	Protestant	Housewife	Separated	3	7	8
P-16	32	Elementary	Urban	Orthodox	Housewife	Cohabiting	6	5	10
P-17	25	No formal education	Rural	Orthodox	Merchant	Cohabiting	3	6	10
P-18	23	Elementary	Rural	Orthodox	Merchant	Cohabiting	1	7	8
P-19	18	Elementary	Rural	Protestant	Housewife	Cohabiting	1	9	2
P-20	20	Elementary	Urban	Orthodox	Housewife	Separated	1	5	2
P-21	21	Elementary	Urban	Muslim	Housewife	Separated	1	3	3
P-22	22	High school	Urban	Orthodox	Housewife	Separated	1	12	2
HEW-1	36	Diploma	Rural	Orthodox	Employed	Married	2	NA	NA
HEW-2	42	Degree	Rural	Protestant	Employed	Married	4	NA	NA
HEW-3	29	Degree	Rural	Protestant	Employed	Married	0	NA	NA
HEW-4	34	Diploma	Rural	Protestant	Employed	Married	5	NA	NA
HEW-5	31	Diploma	Rural	Protestant	Employed	Married	1	NA	NA

NA: Not applicable; 10+3: is congruent to college diploma; separated: not living together at the time of interview

4.1.2 Postpartum women's lived experiences of PIPV

All the interviewees in this study openly shared their experiences of abuse during the perinatal period and disclosed their stories. According to the reports, several of the interviewed women suffered from various forms of perinatal psychological, physical, sexual, and economic violence; controlling behaviors; and deprivation of basic needs such as food, money, clothing, and housing. Their experience of perinatal IPV ranged from mild to severe, and several of the women frequently talked about the recurrence of partner abuse before, during, and after pregnancy. Some interviewees said that violence started at the beginning of their relationship. The interviewees frequently mentioned that violence during pregnancy was exacerbated and increased during the postpartum period (Table 4). Some respondents said the following:

"He forced me [to have sex] within fourteen days of having a child."(P-1)

He keeps saying this: "We will meet after you give a safe delivery." (P-2)

"He just kicked me, but I did not react to him since I was in postpartum." However, he often injured me when I was pregnant. (P-8)

"She came here with a three-day-old infant... Her husband had beaten her very badly. " We all cried about her." (HEW-2)

Perinatal psychological intimate partner violence

The interviewed women explicitly delineated their vulnerability to psychological violence before, during, and after the birth of an index child. Several of the participants had experienced ongoing psychological violence within three distinctive periods. The majority of interviewees narrated that they were verbally abused, including; insulting, humiliating, intimidating, name-calling, belittling, and more. However, the interviewed women had trouble elaborating on how they had been subjected to severe perinatal psychological IPV. In addition, some of the study participants were embarrassed to explain abusive name-calling they encountered. For example, one of the participants explained that:

"He called me a bar lady." How can I tell you about his arrogance? He insults me in all manners. "I saw you here and there... I am very afraid to mention what he said." (P-5)

The subsequent threats to hit, beat, and kill were prominent in the women's responses. In most cases, husbands used body language, otiose words, and beatings to intimidate their wives.

"... but he scares me." I will show you my hidden identity, which you have never known. "I'll discipline you; hmm... I'll give you your punishment." "He raised his hand to hit [showing his action of intent to hit]." (P-3)

Additionally, victims of violence were also abused psychologically by their in-laws and friends. As five of the interviewed women explained, the perinatal verbal assault occurred in the forms of intimidation, mocking, and teasing. Some of the participants had this to say:

"… that woman sent me gangsters to hit me not meet with him [husband] again." (P-2)

"…they made cows consume crops," I explained.Your brothers made me suffer. I was insulted; they harassed me because I told them [brothers-in-law] to keep their cows enclosed'." (P-6)

Perinatal physical intimate partner violence

According to the data, a sizable proportion of postpartum women are at increased risk of perinatal physical IPV. Multiple interviewees experienced subsequent physical partner violence from their husbands before, during, and after pregnancy. Amongst the interviewees, many had experienced physical violence during pregnancy, while almost all of them experienced the abuse during the postpartum period. Several of the participants noted that physical violence was exacerbated and increased during and after childbirth, including slapping, kicking, hitting, beating, strangling, repeated pushing, and punching. Some of the interviewees stated that their husbands had repeatedly beaten or kicked them at the most vulnerable parts of their bodies, including the abdomen during pregnancy. One participant, for example, said the following:

"... He approached from the back and kicked me while cooking dinner." Immediately, I fell toward the fire and got injured. "After I fell to the ground, we went to a traditional birth attendant's house, and she told us I was pregnant." (P-2)

Another interviewee reported:

"… He kicked my abdomen and went out." "At the time, I was three months pregnant." (P-15)

According to the participants' narrations, severe physical attacks were common in the perinatal period, especially being threatened with knives, big sticks, and throwing objects (coffee cups and pots, tea cups, and chairs). Consequently, participants lost their teeth or hearing while others had broken hands and legs. Four of the interviewees for example explained that their husbands continuously attacked them with knives.

"Since our wedding, he has hit me with whatever he could find, including the Kincora [a large knife], to the point where people thought he was insane." I reported him once and had him jailed here in the Keble [the lowest administrative unit in Ethiopia] for using a Kincora." (P-4)

"… then he beat me and broke my hand." (P-5)

"…In this community, many women have been stabbed by their husbands and they never help to get medical treatment after stabbing… This week, a woman came for treatment after being stabbed by her husband, three weeks after childbirth, for trivial reasons." (HEW-4)

In this study, interviewees briefly described the spillover effect of the perinatal violence. The data obtained from the interviewees revealed that some spouses were not only a serious threat to their wives, but they also a danger to the infants during the postpartum period. Some of the interviewees mentioned that their newborns were hit and thrown by their father from a high distance and became unconscious as a result of physical quarreling between partners. One interviewee stated the following:

"He began a fight with me, grabbed the baby, and threw her from a great distance... the baby was unconscious for a long time." (P-1)

Perinatal sexual intimate partner violence

The interviewees experienced various forms of sexual abuse, ranging from sexual misconduct to unwanted sexual encounters without their consent for three mutually exclusive periods. Several of the women openly talked about the regularity of sexual violence before pregnancy, and multiple others reported violence during pregnancy, but some were severely sexually assaulted at the verge of pregnancy. An interviewee shared her experience in the following way:

"…I cried and shed tears until people gathered. The family shouted at him, "Shame on you!" Why did you do that to her? She is powerless. Then, I gave birth at night towards morning hours." (P-5)

Another participant said:

"If I refuse it [sex], he beats me. He pushed me to lie down on the bed when I was pregnant. "It [forceful sex] is exacerbated after childbirth" (P-19).

A considerable proportion of interviewees expressed their experiences on postpartum sexual violence. In the first few weeks of postpartum, some interviewees were exposed to forceful, nonconsensual sex. The women performed unwanted sex because they feared their husbands' frequent battering. Some respondents said the following:

"One night he asked and forced me to have sexual intercourse without my willingness." "Due to a lack of power, I submitted my body to his sexual demands." (P-1)

"I submitted to his sexual demands because I was frightened that he would beat me. What can I do? "You can't equate women's and men's power." (P-4)

"As one woman put it, "I never want him." "I can't tolerate it [forceful sexual intercourse]. She asked for divorce following this issue." (HEW-2)

"Many husbands use excessive forces, including kicks and slaps, to sleep [to have sex] with their wives." (HEW-4)

According to most of participants, sexual libido decreased after childbirth. Many claimed that maternal responsibilities, including; breastfeeding, child care, physical inactivity, and poor nutrition were associated with reduced sexual impulses. About seven of the interviewed women reported a lack of sexual libido. For example, two participants said this regarding sexual desire:

"…To do it [sex], first my body felt burdened; second, I'm breastfeeding; and third, he doesn't worry about my hunger and thirst." "Due to those reasons; I don't want it [sex]." (P-2)

"Previously, it [sex] was very pleasurable to do when our bodies were full, when we drank and ate...We did it as we wanted. Right now, I do not know; I hate it." (P-6)

Table 4:: A summary of postpartum women's lived experiences of perinatal intimate partner violence in Wolaita zone, Southern Ethiopia, October 2019-January 2021

Participants' Code	Before pregnancy	During pregnancy	After pregnancy
P-1	Psychological, Physical and Sexual violence ,Deprivations of basic needs	Psychological, Physical, Sexual, and Economic violence, controlling behaviors, Deprivations of basic needs	Psychological, Physical and Sexual violence ,Deprivations of basic needs
P-2	Psychological, Physical, Sexual and Economic violence, Deprivations of basic needs	Psychological and Physical violence, Deprivations of basic needs	Psychological, Physical, Sexual and Economic violence Deprivations of basic needs
P-3	Psychological and Physical Violence	Psychological and Physical violence	Psychological, Physical, Sexual and Economic violence, Controlling behaviors, Deprivations of basic needs
P-4	Psychological, Physical , Sexual, Economic violence ,Deprivations of basic needs	Psychological, Physical, Sexual and Economic violence, Deprivations of basic needs	Psychological, Physical, Sexual and Economic violence, Deprivations of basic needs
P-5	Psychological, Physical and Sexual violence	Psychological, Physical and Sexual violence, controlling behaviors	Psychological, Physical and Sexual violence, Controlling behaviors
P-6	Psychological, Physical and Sexual violence	Psychological violence, Economic violence	Psychological violence.
P-7	Psychological and Sexual violence	Psychological violence, Deprivations of basic needs	Psychological and Economic violence
P-8	Psychological violence, Deprivations of basic needs	Psychological and Physical violence, Controlling behaviors	Psychological, Physical and Sexual violence, Controlling behaviors
P-9	Psychological violence, Controlling behaviors	Psychological, Physical and Sexual violence	Psychological, Physical and Economic violence
P-10	Psychological, Physical, Sexual and Economic violence, Controlling behaviors, deprivations of basic needs	Psychological, Physical, sexual and Economic violence, controlling behaviors, deprivations of basic needs	Economic violence, Deprivations of basic needs
P-11	Psychological violence, Deprivations of basic needs	Psychological and Physical violence, Deprivations of basic needs	Psychological and Physical violence, Deprivations of basic needs
P-12	Physical violence, Economic violence	Psychological, Physical violence and Economic violence deprivation of basic needs	Psychological, Physical violence and Economic controlling behaviors, deprivation of basic needs
P-13			Psychological and physical violence, Deprivation of basic needs
P-14	Psychological and physical violence, Deprivation of basic needs	Psychological, physical violence, Deprivation of basic needs	Psychological and physical violence, Deprivation of basic needs
P-15	Psychological, physical and sexual violence, Deprivation of basic needs	Psychological, physical and sexual violence, Deprivation of basic needs	Psychological, physical and sexual violence, Deprivation of basic needs
P-16			Deprivation of basic needs
P-17	Psychological, controlling behaviors, Deprivation of basic needs	Psychological, Deprivation of basic needs	Psychological, physical and sexual violence, controlling behaviors, Deprivation of basic needs
P-18	Sexual violence, Deprivation of basic needs	Sexual violence, Deprivation of basic needs	Psychological and physical violence, controlling behaviors, Deprivation of basic

			needs
P-19	Physical violence	Psychological and sexual violence	Psychological, physical and sexual violence
P-20	Physical violence		Psychological violence, Deprivation of basic needs
P-21			Psychological violence, Deprivation of basic needs
P-22			Psychological, physical and economic violence controlling behaviors

4.1.3 Circumstances leading to PIPV

Regarding circumstances leading to perinatal IPV, participants mentioned a number of issues that could be assumed to be trigger of such incidences, including; alcohol consumption, suspicion about the newborn, preference for a male child, partner infidelity and jealousy, use of contraceptives, indifference to shortages of household necessities, a lack of proper parenting, and financial problems.

Excess alcohol consumption: As revealed from the data, excess alcohol consumption often contributed to violent events. Many participants reported that alcohol abuse led to severe marital tension. About one-third of the participants experienced mixed or overlapping forms of perinatal IPV because their husbands were intoxicated. The story of two participants is revealed in the following narratives:

"At times, I was powerless [on the verge of pregnancy]. "Where are you going?" "I will be asked by neighbors," he said, "and he punched me because he was drunk." (P-10)

"When drunk, he insults me very badly. ‘You! The son of a bitch! Eat your mom’s 'Entinaa’ [vagina]" (P-17)

The study participants also narrated that the risk of perinatal violence increased when their husbands abused alcohol. Four women’s narratives show that their husbands displayed out of control behaviors when intoxicated.

"…Because of that, the baby lost her breath for a long time." "Because he was intoxicated and drunk at the time, he was unaware of what he was doing."(P-1)

"After a drinking binge, he beats me when he returns home...He insults me in vain and worthlessness."Drinking is part of his life." (P-11)

Suspicion on the paternity of the newborns: As revealed from the data, husbands are suspicious about babies born younger than nine months. It is known that women may give birth in the short gestational period (premature births) due to different causes. However, the interviewed postpartum women narrated that the suspicion about newborns were the reason for their abuse. According to the reports, some women's husbands had doubts about their newborns. According to the following narratives, two interviewees elaborated on the suspicion of newborns.

"… Immediately after giving birth, I called and informed him about the birth." He said, "No." "It is seven months, not nine months." (P-7)

"… During negotiations with some husbands, they say, "I don't accept the last child as mine." She had gone to her family in the last fight. (HEW-3)

Preference for a male child: The reports from the interviewees indicated that partners' preferences for male children triggered perinatal IPV. Some of the interviewees experienced postpartum violence due to giving birth to female infants. As a result, they were insulted, belittled, kicked, and beaten by their husbands. In some instances, after finding out that the child was female, the husbands injured and tried to kill the newborn. The interviewed women also reported that their abusive husbands wanted to know the sex of the unborn child during antenatal follow-up.

"... He returned after two days and discovered it was a baby girl."Afterwards; he quarreled with me, grabbed the baby from my hands, and threw it from a great distance.He threw the baby because of his evil thoughts."(P-1)

"… I had consecutive births of baby girls. Due to this case, we quarreled before. With the help of God, I delivered a baby boy by this year, and he is good to me now." (P-13)

"…After getting an antenatal checkup for the last pregnancy, he wanted to know the sex of the coming child." (P-7)

Partner jealousy and suspicion of infidelity: Jealousy is another provoking factor that was revealed during the interviews with participants. It is considered as a warning sign of abusive relationships. As delineated from the interview participants, their abusive partners have a pervasive sense of jealousy. Two of the interviewees said the following:

"He pretended to be away from the house and then came home to see if I was home or not."(P-9)

‘’…He didn’t let me go to the market and didn’t allow me to go out." I wouldn’t speak if one of my family members came to our house. "We just couldn’t speak. He was waiting." (P-5)

Similarly, partner infidelity was also reported to lead to IPV between partners. The interviewees reported that partner infidelity was the source of quarrels with their partners.

"…He had a close friendship with a neighboring woman. She is a good person. However; he made her his intimate friend." (P-8)

"…We quarreled after I heard that he was in a relationship with someone." Then I went to my family, and later he called me and said, 'Don’t come into my life' I started my own life. 'You can continue your own life.’ " (P-12)

"…Commonly what we hear here, men are not tolerant. They desire other girls." (HEW-3)

Use of birth controls: Reproductive rights are fundamental to women’s autonomy. However, according to some interviewees; initiation, stopping, and switching of contraceptives are controlled by their husbands. Nearly one-third of the interviewed women indicated that initiating contraceptives triggered perinatal physical and/or psychological IPV experiences. Consequently, interviewees repeatedly stated that they had been coerced, abused, and forced by their husbands to stop birth control.

"…He forbids me, but when I came from our home, I brought the pills." "One day he found birth control pills and secretly hid them." (P-1)

"…He beats me… ‘Remove what you inserted [implanon] in your hand? You are living simply. "You are not worthy without giving me more children," he said. (P-2)

Multiple interviewees demonstrate that they had repeated conflict and fought because of using birth control methods. Further interviewees reported that some husbands were too aggressive for them to use birth control. Some women suffered severe physical violence due to the use of contraceptives.

"I didn't get pregnant because I had been using contraception for two years. 'You stayed for two years due to an injection,' he said. After that, he beat me and broke my hand." (P-5)

"… However, he insisted on stopping using the injection [implanon] and I said no. We engaged in conflict and fought. Then, in front of the people he had gathered, I said that he was not good for me, not even the first child. Due to this case, we quarreled in front of the gathered people" (P-2).

"… Once he dangerously beat me due to it [birth control], and I got sick for four weeks." (P-18)

Family, neighbor, and peer involvement: Interference from third parties may be "cancerous" and shake the foundations of many marriages. According to the study participants, the involvement of family and peers were the main source of their quarrels. Most of the interviewed women reported that families, neighbors, and/or peers' ill involvement was an associated factor for perinatal IPV. Some of the participants had this to say regarding family, neighbors, and peers' ill involvement:

"… He screamed at me. For that matter, the problem was raised by the family. We started fighting because of family issues." (P-2)

"… Many families, friends, and neighbors disrupt marriage foundations." (HEW-2)

Additionally, reports from the participants indicated that some abusive husbands beat, kicked, and threatened their wives with knives because of their neighbor's involvement with their affairs. Two of the respondents experienced violence by their husbands when a dispute occurred in their neighbors:

"Once upon a time, when I was four months pregnant, I was cleaning our house, and my neighbor neglected me. After that, he came from outside and slapped my ear. One ear stopped hearing after he slapped me." (P-1)

"Women from the neighborhood told him that I had visited the women's affairs office… she told him that he should discipline me. After that, he constantly threatened me with a knife. He just became skeptical since he believes that I took someone else's advice." (P-9)

4.1.4 Implications of perinatal IPV on women's health

The stories the study participants narrated show the various effects of perinatal IPV, including unintended pregnancies, repeated miscarriages, elevated blood pressures, and physical injuries. Most of the interviewees experienced unintended pregnancies. Some of the interviewed women stated, losing their teeth or hearing or having broken hands and legs occurred as a result of their partner's physical violence. In addition, some of the victims reported that they remained physically dependent. In some instances, interviewees reported a history of miscarriages. Of these, some others encountered repeated miscarriages. One respondent reported increased blood pressure. Some of the victims shared their experiences and said the following:

"My blood pressure rose unknowingly as we argued and yelled for this and that."(P-3)

"…at nighttime, I lost sleep. I thought I would be killed at night." (P-9)

"… I suffered a lot due to miscarriages, unknowingly. It affected me a lot. I miscarried twice here. It damaged me severely since I had lost a lot of blood." (P-6)

The study participants also reported that repeated and severe violence resulted in mental health problems, like; sleeping disorders, mental trauma, and suicidal thoughts and attempts. Three respondents explained that they developed sleeping disorders. Several of the participants described mental trauma and reported several suicidal attempts. Following violent experiences, three interviewees attempted to throw and kill their newborns. Some of the participants had the following statements:

"Hmm... he was angry and looked weird... with red eyes. I couldn't sleep at night, and I thought he could do something to me." (P-3)

"I thought many times about committing suicide. I attempted to kill my daughter many times." (P-7)

"Like a crazy person, I cried in my house and tried to throw the baby into the pit." (P-20)

4.2 Prevalence of PIPV victimization and associated factors (Paper-II)

4.2.1 Background characteristics of study participants

The minimum sample size required for the study was 1,320 postpartum women. However, due to the cluster sampling nature of the design, a total of 1,342 eligible women were reached and considered for the study. From these, 1,292 (96.27%) were included at baseline analysis after excluding 18 non-responses and 32 incomplete or inconsistent questionnaires. The main reason was the presence of a close relative or spouse during the frequent visits. An incorrect age record or refusal to participate in or complete an interview was another reason considered for non-respondents. We found no statistical difference between respondents and non-respondents in terms of age, occupation, or educational status and that is not related to either exposure of the interest and outcome of the study.

The majority of respondents 738 (57.1%) were 25–34 years old, with a mean age of 28.8 $\pm$ 5.6 years. More than a third of the participants, 462(36%) never attended formal education, while 535 (41%) of their husbands had completed secondary or higher education. Approximately 85% of the participants were unemployed, and 456 (35%) of their husbands had paid jobs. About 18% of postpartum women witnessed inter-parental violence during childhood, and more than a half or 747 (57%) had IPV favoring norms. Before the index pregnancy, 483 (37.4%) of the postpartum women had experienced partner violence. In terms ofcommunity-level characteristics, the majority of the study participants were living in a community with rural residence 727(56.3%), high early marriage 682 (52.3%), high female literacy 720 (55.7%), high IPV favoring norms 687 (53.2%), high women's decision-making autonomy 702(54.3%), and middle wealth status 439 (34.0%) (Table 5).

Table 5: Individual-and community-level characteristics of currently married postpartum women in Wolaita zone, Southern Ethiopia, October 2019-January 2021 (N=1292)

Characteristics	Category	Frequency(N)	Percent (%)
Woman-level characteristics			
Maternal age (years)	≤24	295	22.8
	25-34	738	57.1
	35-49	259	20.1
Maternal age at marriage in years	<18 years	399	30.9
	≥18 years	893	69.1
Religion	Orthodox Christian	319	24.7
	Protestant Christian	915	70.8
	Others*	58	4.5
Maternal education	No formal education	462	35.8
	Primary	401	31.0
	Secondary +	429	33.2
Maternal employment status	Not employed(non-salaried)	1099	85.1
	Employed	193	14.9
Number of living children	1-2	533	41.3
	3-4	465	36.0
	> 5	294	22.8
Sex of index child	Male	659	51.0
	Female	633	49.0
Received bridal price/dowry	No	555	42.9
	Yes	737	57.1
Justify intra-parental violence	No	1050	81.3
	Yes	242	18.7
Violence before the index pregnancy	No	809	62.6
	Yes	483	37.4
Justify wife beating norms	No	545	42.2
	Yes	747	57.8
Household wealth Status	Poor	299	23.1
	Middle	673	52.1
	Rich	320	24.8
Husband characteristics			
Husband occupation	Non-employed	836	64.7
	Employed	456	35.3
Husband education	No education	388	30.0
	Primary	369	28.6
	Secondary +	535	41.4
Husband alcohol misuse	No	894	69.2
	Yes	398	30.8
Husband substance abuse	No	1116	86.4
	Yes	176	13.6
Intention for index pregnancy	Wanted pregnancy	1090	84.4
	Wanted delay	166	12.8
	Never minded it	36	2.8
Sex preferences of the index child	Male	586	45.4
	Female	229	17.7
	Never mind	477	36.9
Partner controlling behavior	No	611	47.3
	Yes	681	52.7
Relationship-level factors			

Years couple lived together	1-5 Years	403	31.2
	6-10 Years	500	38.7
	>=11 Years	389	30.1
Decision-making autonomy	No	724	56.0
	Yes	568	44.0
Asset Ownership(n=764)	No	506	66.2
	Yes	258	33.8
Age difference	Younger than husband	1058	81.9
	The same in age	209	16.2
	Older than husband	25	1.9
Income difference	No income	810	62.7
	Earns less than	330	25.5
	Earns the same	62	4.8
	Earns more than	90	7.0
Community-level factors			
Place of residence	Urban	565	43.7
	Rural	727	56.3
Early marriage	High	682	52.8
	Low	610	47.2
Community- level women literacy	Low	572	44.3
	High	720	55.7
Community norms favoring IPV	Low	605	46.8
	High	687	53.2
Women's decision-making autonomy	Low	590	45.7
	High	702	54.3
Wealth Status	Poor	416	32.2
	Middle	439	34.0
	Rich	437	33.8

**=Others; catholics, muslims, Jevoh witness etc.*

4.2.2 Prevalence of perinatal IPV

The prevalence of perinatal partner violence (psychological, physical, and sexual) occurring before, during, and/or after pregnancy was estimated to be 40% (95%CI : 36.9–44.6), where the most common type was psychological violence (37.6%, 95% CI: 35.0–40.22), followed by physical violence (29.3%, 95% CI:26.8–31.7). The pattern of partner violence changed over time. The overall prevalence of violence before pregnancy was 37.4 % (95% CI 34.6-40.2) where psychological violence highly prevalent (34.2%, 95%CI: 31.7-37.1), and sexual violence low prevalent (20.7%, 95% CI: 18.6-22.9). The rate of violence during pregnancy was 28.3% (95% CI: 25.8-30.8), with psychological violence being the highest (24.8%; 95% CI: 2227.1), followed by physical violence (17.0%; 95% CI: 14.9-19.1) and sexual violence (16.0%; 95CI: 14.0.0-18.1). The overall prevalence of violence in the postpartum period was 22.4% (95%CI: 20.0–24.8), with psychological violence being the most common (22.2%; 95% CI:17.7–22.2),

with physical violence (13.0%; 95% CI: 11.2-14.9) and sexual violence (13.7%; 95% CI: 11.8-15.6) being the least common (Figure 4).

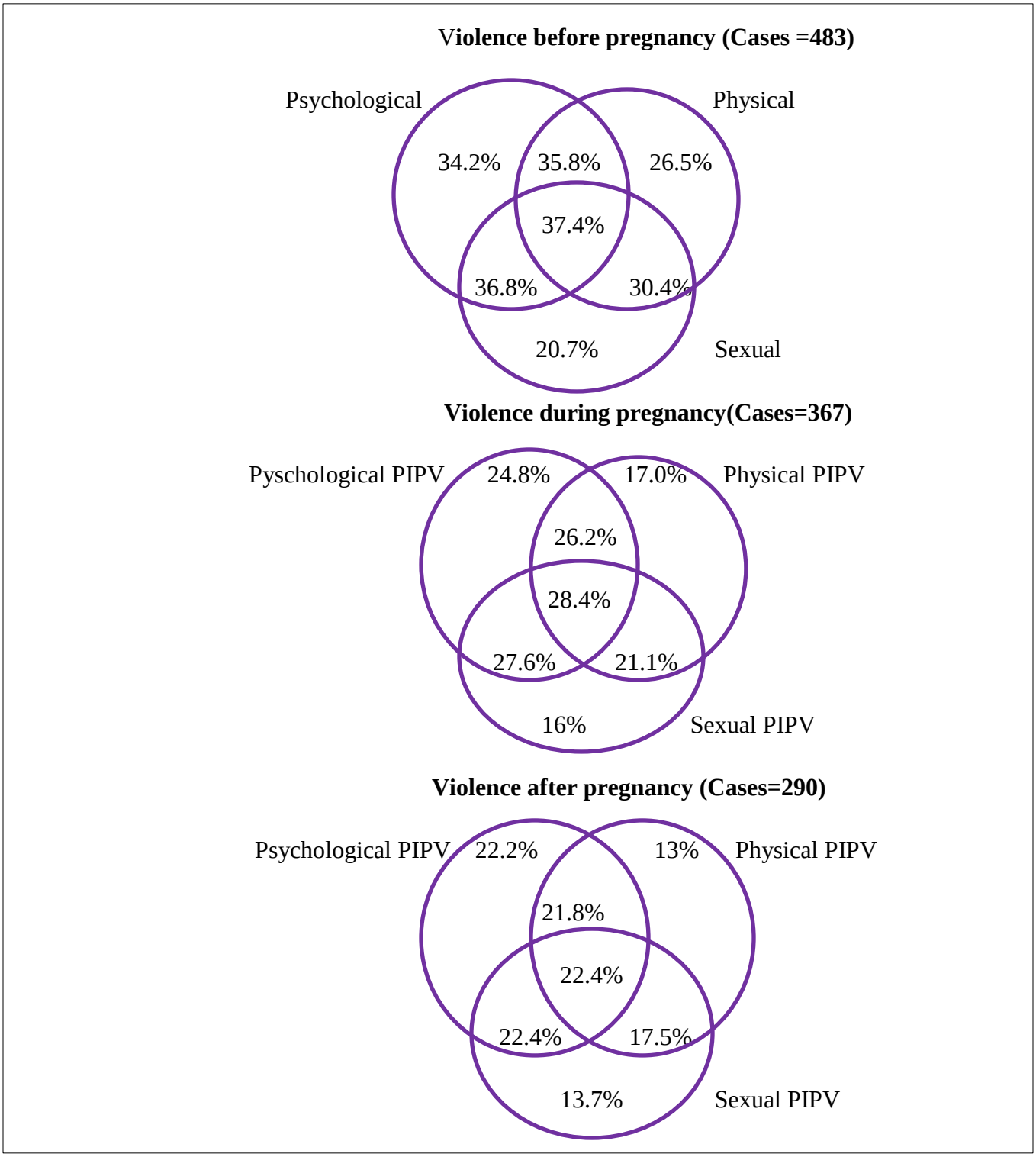


Figure 4: Venn diagram illustrating prevalence of different forms of IPV according to the period of occurrence and its forms in Wolaita zone, 2019-2021

4.2.3 Continuities in perinatal IPV

The continuity of PIPV was observed during the perinatal period (before, during, and after pregnancy). The number of postpartum women "with" and "without" any PIPV during the preceding perinatal period was used to calculate the continuity of perinatal violence. Out of 483 women who reported IPV within a year before pregnancy, 339 (70.2%) of them experienced violence during their pregnancy ($\chi 2$= 76.89, p = < .001). Of 367 postpartum women who experienced IPV during pregnancy (new plus continued abuse), 249 (67.8%) continuously reported it after childbirth ($\chi 2$ = 35.16, p = < .001). Of the women who reported abuse before pregnancy, 271(56%) had experienced PIPV following childbirth ($\chi 2$= 152.00, p = < .001). Of 809 postpartum women who were not abused before pregnancy, 781(96.5%) of them never experienced it during their pregnancy. Among those who experienced PIPV before pregnancy, approximately 70% encountered recurrent abuse during their pregnancy. Of those abused both before and during pregnancy, about 67 % of them also encountered continuous abuse following childbirth. Approximately 18% of the postpartum women experienced violence continuously over the entire perinatal period (before, during, and after pregnancy) (Figure 5).

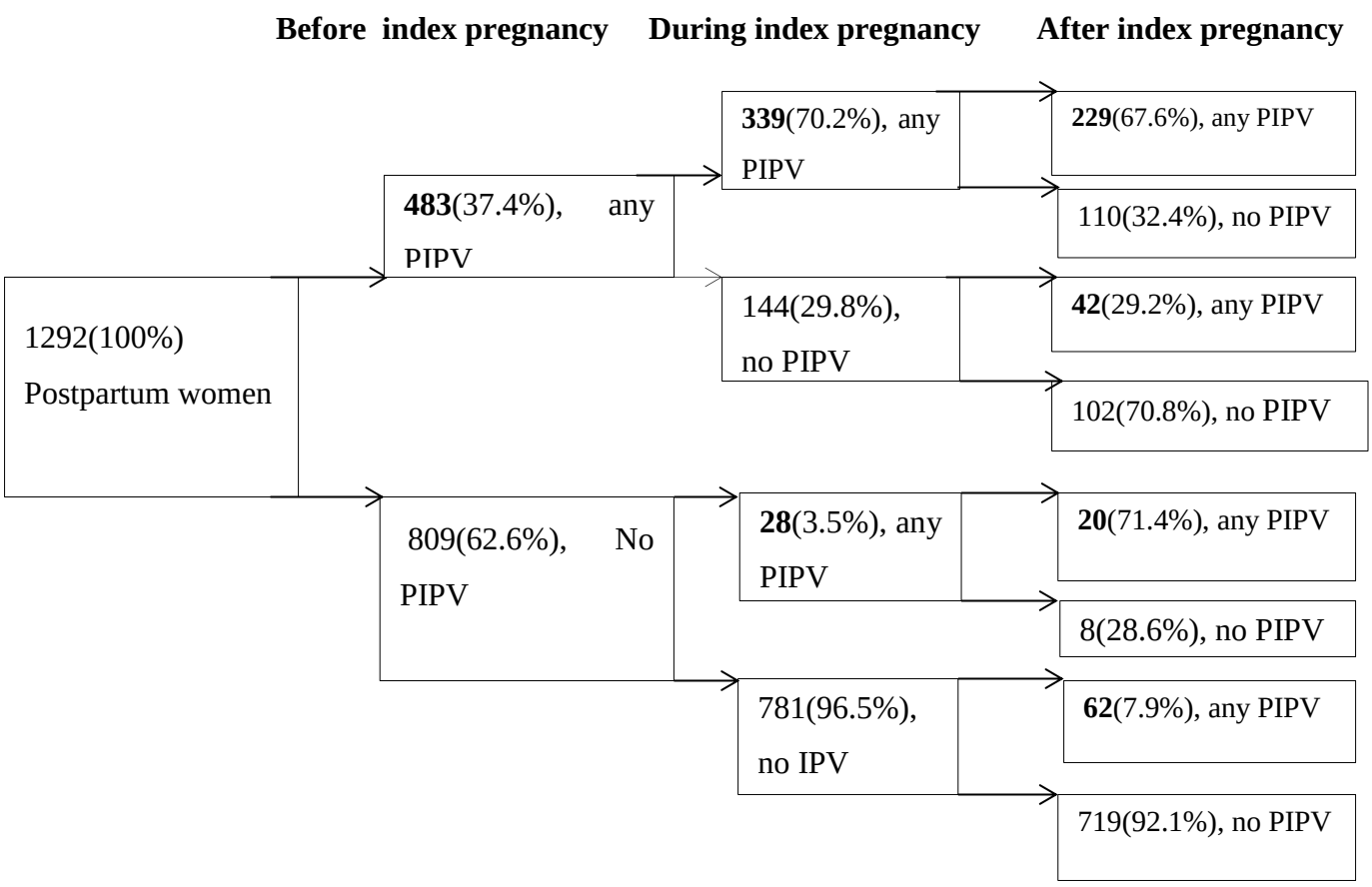


Figure 5: The continuities of intimate partner violence over perinatal period in Wolaita zone,Oct 2019-Jan 2021

4.2.4 Factors associated with perinatal IPV

The factors associated with perinatal partner violence were identified using a multilevel logistic regression model. The heterogeneity in PIPV experiences between communities measured using deviance, ICC, PCV, and MOR. Before computing the full model, ICC was calculated in the null model to verify the suitability of multilevel analysis, and it was found to be 0.113, indicating that 11.3% of the total variability in experiencing PIPV was attributable to variations between clusters. The likelihood ratio test was strongly significant ($p<0.001$) which favors the presence of a clustering effect. Moreover, PCV indicated that individual- and community-level factors attributed to 74% of the variation in experiencing PIPV across communities. Furthermore, MOR revealed the unexplained community variation in experiencing PIPV reduced from 2.12 (the null model) to 1.47 (the full model). This indicates that if we randomly picked two postpartum women from two different clusters, women in the cluster with a higher risk of PIPV had 2.1

times higher odds of encountering PIPV compared with women in the cluster with a lower risk of PIPV victimization (Table 6).

Table 6:The random-effects model and model comparison for study conducted in Wolaita Zone, Oct 2019- Jan 2020

Random effects	Null Model	Full Model
Community-level variance	0.42	0.11
ICC (%)	11.3	3.2
PCV (%)	Reference	73.8%
Median Odds Ratio(MOR)	2.12	1.47
Model fitness statistics(AIC)	1733.624	1120.424
Model fitness statistics(BIC)	1743.952	1311.49
Log likelihood	-864.8122	-523.2121

The effects of community-level variables largely emerged in the final model, but the correlates between PIPV victimization and individual-level factors generally remained similar. After controlling for confounders, the following community-level characteristics were found to have a significant association with experiencing PIPV: place of residence; community-level women's literacy; IPV favoring norms; decision-making autonomy; and wealth status. Compared to women from urban areas, those who reside in rural areas were more than two times (AOR = 2.46; 95% CI: 1.06, 4.45) more likely to encounter PIPV. Similarly, women living in a community with high women's literacy (AOR = 2.84; 95% CI: 1.62, 5.01), high IPV favoring norms (AOR = 1.49; 95% CI: 1.01, 2.20), and high women's decision-making autonomy (AOR = 2.06; 95% CI: 1.36, 3.12), were more likely to experience PIPV. The odds of PIPV victimization increased by 26% (AOR = 1.74; 95% CI: 1.14, 2.66) among women concentrated in neighborhoods with low wealth quantiles compared to those who resided in neighborhoods with the richest wealth quantiles.

Among women and partner-related characteristics considered as level 1 variables, education status, witnessing exposure to inter-parental violence, justifying wife beating norms, husband education status, intendedness of pregnancy, husband alcoholic, and wife controlling behaviors were found to have statistically significant association with PIPV victimization. Women who attended no formal education (AOR=2.22;95%CI:1.31,3.71) and primary education (AOR=1.61;95% CI:1.01,2.58) were higher likelihood of experiencing PIPV than women who attended secondary or higher education. Among postpartum women who reported IPV favoring

attitude, the odds of PIPV were more than three times (AOR=3.35; 95%CI:2.34,4.76) higher than women who did not justify wife-beating attitude. In the same manner, the odds were 2.16 times higher among those who witnessed inter-parental violence during childhood than among those who had not (AOR=2.16;95%CI:1.43,3.28).

The odds of encountering partner abuse among women whose husbands attended primary, secondary, and higher education decreased by 49% (AOR = 0.51; 95% CI: 0.32, 0.82) and 39% (AOR = 0.61; 95% CI: 0.36, 0.89) compared to those whose husbands never attended formal education, respectively. As compared to women whose husband intended to have an index pregnancy, the odds of reporting PIPV victimization were more than three times (AOR = 3.17; 95% CI: 1.95, 5.16) and nearly three times (AOR = 2.98; 95% CI: 1.12, 7.92) higher among women whose husband intended to delay an index pregnancy and never minded an index pregnancy, respectively. Furthermore, women with alcoholic (AOR = 1.71; 95% CI: 1.19, 2.45); and wife-controlling (AOR = 8.38; 95% CI: 5.84, 12.02) husbands were also more likely to have PIPV than those who did not report such behaviors.

Among relationship-related characteristics, marital duration, women's participation in the decision-making process in household issues, and couple age difference found to have statistically significant associations. Postpartum women who had a short marital duration (6–10 years) were more likely to have PIPV than those who had a long marital duration (11+ years) (AOR = 2.15; 95% CI: 1.36, 3.39). The likelihood of reporting PIPV reduced by 65% among autonomous women in the household decision-making process compared to non-autonomous women (AOR = 0.35; 95% CI = 0.22, 0.49). The women whose age was the same as their husbands were (AOR = 0.28; 95% CI = 0.08, 0.85) less likely to experience abuse than those whose age was higher than their husbands (Table 7).

Table 7: Multilevel multivariate logistic regression analysis of factors associated with perinatal intimate partner violence (N=1292),Wolaita zone, Oct 2019- Jan 2021

Characteristics	Category	Exposure to PIPV		Mode II	Model III	Model IV
		No (%)	Yes (%)	AOR (95%CI)	AOR (95% CI)	AOR (95% CI)
Community-level characteristics						
Place of residence	Urban	367(65.0)	198(35.0)	na	ref	ref
	Rural	410(56.4)	317(43.6)	na	2.22(1.40,3.52)***	2.46(1.06,4.45)**
Early marriage	High	346(56.7)	264(43.3)	na	ref	ref
	Low	431(63.2)	251(36.8)	na	1.08(0.79,1.48)	1.22(0.81,1.86)
Community norms favoring IPV	Low	386(56.2)	301(43.8)	na	ref	ref
	High	391(64.6)	214(35.4)	na	0.92(0.69,1.23)	1.49(1.01,2.20)*
Community-level women's literacy	Low	355(62.1)	217(37.9)	na	ref	ref
	High	422(58.6)	298(41.4)	na	1.86(1.28,2.70)***	2.84(1.62,5.01)***
Community-level women autonomy	Low	342(58.0)	248(42.0)	na	ref	ref
	High	432(62.0)	267(38.0)	na	1.09(0.82,1.46)	2.06(1.36,3.12)***
Community-level wealth Status	Poor	259(62.3)	157(37.7)	na	1.01(0.73,1.38)	1.33(0.85,2.11)
	Middle	240(54.7)	199(45.3)	na	1.26(0.94,1.70)	1.74(1.14,2.66)**
	Rich	278(63.6)	159(36.4)	na	ref	ref
Woman-level characteristics						
Woman's age in years	≤24	134(45.4)	161(54.6)	2.04(0.95,4.35)	na	2.07(0.97,4.44)
	25-34	460(62.3)	278(37.7)	1.06(0.64,1.76)	na	1.10(0.66,1.83)
	35-49	183(70.7)	76(29.3)	ref.	na	ref
Maternal age at marriage	<18 years	193(48.4)	206(51.6)	1.15(0.77,1.70)	na	1.2(0.80,1.79)
	≥18 years	584(65.4)	309(34.6)	ref	na	ref
Maternal education	No formal	201(43.5)	261(56.5)	2.23(1.32,3.78)***	na	2.22(1.31,3.71)***
	Primary	251(62.6)	150(37.4)	1.61(1.01,2.60)*	na	1.61(1.01,2.58)*
	Secondary +	325(75.8)	104(24.2)	ref	na	ref
Employment status	Not employed	629(57.2)	470(42.8)	0.68(0.39,1.19)	na	0.72(0.42,1.26)
	Employed	148(76.7)	45(23.3)	ref	na	ref
No. of living children	1-2	309(58.0)	224(42.0)	ref	na	ref
	3-4	269(57.8)	196(42.2)	1.01(0.65,1.54)	na	1.01(0.66,1.54)
	> 5	199(67.7)	93(32.3)	1.12(0.64,1.95)	na	1.14(0.67,1.94)
Sex of index child	Male	434(65.9)	225(34.1)	ref	na	ref
	Female	343(54.2)	290(45.8)	1.29(0.94,1.77)	na	1.22(0.90,1.67)
Exposure to family violence	No	700(66.7)	350(33.3)	ref	na	ref
	Yes	77(31.8)	165(68.2)	2.18(1.43,3.33)***	na	2.16(1.43,3.28)***
Justify wife beating	No	450(82.6)	95(17.4)	ref	na	ref

	Yes	327(43.8)	420(56.2)	3.16(2.22,4.52)***	na	3.35(2.34,4.76)***
Wealth Status	Poor	163(54.5)	136(45.5)	1.11(0.69,1.80)	na	1.06(0.64,1.75)
	Middle	406(60.3)	267(39.7)	0.82(0.53,1.24)	na	0.84(0.55,1.29)
	Rich	208(65.0)	111(35.0)	ref	na	ref
Partner-level characteristics						
Husband occupation	Non-employed	483(57.8)	353(42.2)	0.89(0.60,1.33)	na	0.92(0.62,1.38)
	Employed	294(64.5)	162(35.5)	ref	na	ref
Husband education	No education	174(44.8)	214(55.2)	ref	na	ref
	Primary	231(62.6)	138(37.4)	0.53(0.33,0.85)**	na	0.51(0.32,0.82)**
	Secondary +	372(69.5)	163(30.5)	0.63(0.37,1.04)	na	0.61(0.36,0.89)*
Husband alcoholism	No	612(68.5)	282(31.5)	ref	na	ref
	Yes	165(41.5)	233(58.5)	1.73(1.20,2.48)***	na	1.71(1.19,2.45)**
Husband substance abuse	No	712(63.8)	404(36.2)	ref	na	ref
	Yes	65(36.9)	111(63.1)	1.14(0.69,1.87)	na	1.13(0.69,1.84)
Intention of index pregnancy	Wanted	687(63.0)	403(37.0)	ref	na	ref
	Wanted delay	75(45.2)	91(54.8)	3.56(2.18,5.79)***	na	3.17(1.95,5.16)***
	Never minded	15(41.7)	21(58.3)	3.23(1.22,8.54)*	na	2.98(1.12,7.92)*
Husband's sex preferences	Male	311(53.1)	275(46.9)	0.99(0.68,1.43)	na	0.89(0.62,1.30)
	Female	162(70.7)	67(29.3)	0.63(0.38,1.03)	na	0.62(0.38,1.06)
	Never minded	304(63.7)	173(36.3)	ref	na	ref
Controlling behavior	No	526(86.1)	85(13.9)	ref	na	ref
	Yes	251(36.9)	430(63.1)	8.66(6.02,12.46)***	na	8.38(5.84,12.02)***
Relationship-level characteristics						
Marital duration in years	1-5 Years	232(57.6)	171(42.4)	1.25(0.67,2.35)	na	1.28(0.68,2.40)
	6-10 Years	274(54.8)	226(45.2)	2.12(1.33,3.36)***	na	2.15(1.36,3.39)***
	>=11 Years	271(69.7)	118(30.3)	ref	na	ref
Decision-making autonomy	No	324(44.8)	400(55.2)	ref	na	ref
	Yes	453(79.8)	115(20.2)	0.37(0.26.0.53) ***	na	0.35(0.24,0.49)***
Age difference	Younger than	633(59.8)	425(40.2)	0.42(0.49,1.19)	na	0.39(0.14,1.14)
	The same	133(63.6)	76(36.4)	0.31(0.10,0.94)*	na	0.28(0.08,0.85)*
	Older than	11(44.0)	14(56.0)	ref.	na	ref

Statistically significant at * p-value <0.05, ** p-vale ≤0.01, ***p-value <0.001 Notes: ref=reference group, na=not applicable

4.3 Perinatal IPV and postpartum contraceptive adoption (Paper-III)

4.3.1 Background characteristics of the study participants (n=1,252)

Of the 1,292 study participants recruited at the baseline study, 1,252 participated and completed the interview after one year of follow-up, making a response rate of 96.9%. Eight respondents were not willing to participate, twelve left the study site, thirteen were not contacted after three frequent visits, and seven were involved partially but could not be obtained for complete information. Approximately 58% of the women justified IPV favoring norms. Approximately 37.9%, 29.6%, and 24.1% of women reported perinatal psychological, physical, and sexual violence; respectively. Overall, about 41% of the respondents experienced perinatal partner violence either before or during pregnancy. We also found that the first modern contraceptive adoption after childbirth was significantly different across sociodemographic and psychosocial characteristics. Respondents in the younger age group (<24 years) and with no formal education reported using fewer modern contraceptives. The proportion of modern contraceptive adoptions was lower among women who experienced psychological, physical, and sexual perinatal violence compared to their counterparts. Conversely, a higher percentage of respondents without PIPV adopted the first modern methods as compared to those with PIPV (70.7% vs. 49.3%, P = 0.0001) (Table 8).

Table 8: First postpartum modern contraceptive adoption by baseline characteristics of respondents,Wolaita Zone,Ethiopia Oct 2019-Jan 2021 (N=1252)

		Postpartum contraception adoption status (N=1252)				
Variables	Category	No(n=476)		Yes (n=776)		p-value
		n	%	n	%	
Perinatal psychological violence	No	238	30.6	539	69.4	0.0001
	Yes	238	50.1	237	49.1	
Perinatal physical violence	No	288	32.7	594	67.3	0.001
	Yes	188	50.8	182	49.2	
Perinatal sexual violence	No	317	33.4	633	66.6	0.0001
	Yes	159	52.6	143	47.4	
Perinatal partner violence	No	218	29.3	525	70.7	0.001
	Yes	258	50.7	251	49.3	
Place of residence	Urban	201	36.3	353	63.7	0.26
	Rural	275	39.4	423	60.6	
Religion	Orthodox	103	33.2	207	66.8	0.124
	Protestant	349	39.4	536	60.6	
	Others	24	42.1	33	57.9	

Maternal age (in years)	≤24	143	49.0	149	51.0	0.0001
	25-34	247	34.5	468	65.5	
	35-49	86	351	159	64.9	
Maternal age at marriage	<18 years	158	40.7	230	59.3	0.18
	≥18 years	318	36.8	546	63.2	
Maternal education	Illiterate	192	42.8	257	57.2	0.02
	Primary	146	37.4	244	62.6	
	Secondary/ above	138	33.4	275	66.6	
Maternal employment status	Not employed	427	40.2	636	59.8	0.0001
	Employed	49	25.9	140	74.1	
Number of living children	1-2	207	39.6	316	60.4	0.36
	3-4	172	38.4	276	61.6	
	> 5	97	34.5	184	65.5	
Place of delivery	Facility	225	27.3	598	72.7	0.0001
	Home	251	58.5	178	41.5	
Breastfeeding status	No	312	40.4	460	59.6	0.03
	Yes	164	34.2	316	65.8	
Menstrual resumption	No	262	60.9	168	39.1	0.001
	Yes	214	26.0	608	74.0	
Sexual activity resumption	No	16	51.6	15	48.4	0.11
	Yes	460	37.7	761	62.3	
Justify wife-beating norms	No	165	31.5	359	68.5	0.0001
	Yes	311	42.7	417	57.3	
Wealth Status	Poor	128	43.4	167	56.6	0.09
	Middle	234	36.4	409	63.6	
	Rich	114	36.3	200	63.7	
Partner employment status	Non-employed	319	39.5	489	60.5	0.15
	Employed	157	35.4	287	64.6	
Partner education status	Illiterate	156	41.4	221	58.6	0.25
	Primary	134	37.4	224	62.6	
	Secondary/ above	186	36.0	331	64.0	
Partner alcohol misuse	No	329	38.1	535	61.9	0.98
	Yes	147	37.9	241	62.1	
Partner substance abuse	No	409	38.0	668	62.0	0.94
	Yes	67	38.3	108	61.7	
Partner controlling behavior	No	175	30.0	409	70.0	0.0001
	Yes	301	45.1	367	54.9	
Women'sdecision-making autonomy	No	291	41.2	416	58.8	0.001
	Yes	185	33.9	360	66.1	
Communication about daily life	No	193	46.1	226	54.9	0.0001
	Yes	283	34.0	550	66.0	
Women owned land/houses (n=764)	No	194	40.2	289	59.8	0.20
	Yes	89	35.3	163	64.7	
Couple's relative income difference	No income	313	39.2	475	60.3	0.11
	Earns less	118	37.2	199	62.8	
	Earns same+	45	30.6	102	69.4	

4.3.2 Postpartum women's contraceptive use patterns

Of the 1,252 study participants, about 62% (95% CI: 59.2%, 64.5%) had adopted the first modern method in the extended postpartum period. Out of the modern contraceptive methods, injectables 342 (44.1%), pills 131 (16.9%), and implants 119 (15.3%) were the most commonly mentioned methods. Over one-third, 257 (33.1%) of the women discontinued their first modern method of contraception after childbirth. Of these, 147 (57.6%) did not use any methods after discontinuation. About 112 (43.5%) of women did not discuss it with their husbands before they discontinued the first method. Of these, 120(46.7%) reported that their partner forced them to discontinue. At the time of the survey, more than half (50.6%, 95% CI: 47.8%, 53.4%) of the respondents were using modern contraception. The injectable method was the most preferred 292 (47.2%), followed by implants 159 (25.7%) and IUCD 89 (14.4%). Approximately half (51.3%, 95% CI: 47.3%, 55.2%) of respondents reported side effects from the current method. Most, (27%) of the study participants stated that they intended to discontinue current methods (Table 9).

Table 9: Postpartum women's contraceptive use patterns in Wolaita Zone, Southern Ethiopia, Oct 2019-Jan 2021 (N=1252)

Variables	Category	Number	Percent (95% CI)
Adopted first contraception after childbirth	No	476	38.0 (35.4-40.7)
	Yes	776	61.9 (59.2- 64.5)
Types of the first contraceptives adopted	Tubal litigation	1	0.1 (0.02-0.91)
	IUD	91	11.7 (9.6-14.2)
	Implanol	119	15.3 (12.9-18.1)
	Injectables	342	44.1 (40.6-47.6)
	Pills	131	16.9 (14.4-19.7)
	Condom	34	4.4 (3.1-6.1)
	Emergency contraception	40	5.2 (3.8-6.9)
	Others	18	2.3 (1.4-3.6)
Are you using the first contraception	Yes	519	66.9 (63.5-70.1)
	No	257	33.1 (29.8-36.5)
Used any methods then after discontinuation (n=257)	No	148	57.6 (51.4-63.5)
	Yes	109	42.4 (36.5-48.5)
Talked about discontinuation with your husband	No	112	43.6 (37.6-49.7)
	Yes	145	56.4 (50.3-62.4)
Did your husband force you to discontinue	No	137	53.3 (47.1-59.4)
	Yes	120	46.7 (40.6-52.8)
Who initiated discontinuation	It's me	148	57.6 (51.4-63.5)
	My husband	89	34.6 (29.1-40.7)
	Jointly	20	7.8 (5.1-11.8)

Currently, are you using any methods	No	634	50.6 (47.8-53.4)
	Yes	618	49.4 (46.6-52.1)
Type of current PPMC	Tubal litigation	2	0.3 (0.08-1.3)
	IUD	89	14.4 (11.8-17.4)
	Implanol	159	25.7 (22.4-29.3)
	Injectables	292	47.2 (43.3-51.2)
	Pills	62	10.0 (7.9-12.6)
	Condom	3	0.5 (0.15-1.5)
	EC	5	0.8 (0.3-1.9)
	Others	6	0.9 (0.4-2.1)
Experience side effects with current method	No	301	48.7 (44.8-52.6)
	Yes	317	51.3 (47.3-55.2)
What are you doing for side effects (n=230)	Making home remedies	33	14.3 (10.4-19.5)
	Trying to consult HPs	43	18.7 (14.1-24.3)
	Get advice from friends	9	3.7 (2.1-7.4)
	Get advice from husband	32	13.9 (9.9-19.1)
	Want to change the method	51	22.2 (17.2-28.4)
	Want to stop the method	62	27.0 (21.6-33.1)
Were you told by HP about side effects	No	147	46.4 (40.9-51.9)
	Yes	170	53.6 (48.1-59.1)
Who initiated the use of current methods	It's me	316	51.1(47.2-55.1)
	My husband	76	12.3 (9.9-15.1)
	Jointly	226	36.6 (32.8-40.4)
Reasons for not using the methods (n=634)	Breastfeeding	56	8.8 (6.8-11.3)
	Postpartum abstinence	30	4.7 (3.3-6.7)
	Not resumed menses	96	15.1 (15.6-18.2)
	Advised from HP	17	2.7 (1.7-4.3)
	Husband not wanting	185	29.2 (25.7-32.8)
	Feared side effects	172	27.1(23.8-30.7)
	To be become pregnant	63	9.9 (7.8-12.5)
	Others	15	2.4 (1.4-3.9)

EC: Emergency contraception, PPMC: postpartum modern contraception, HP: health professionals

4.3.3 Predictors of postpartum modern contraceptive adoption

After controlling for other factors, women's violence exposure in the year before or during pregnancy, women's employment status, their husband's educational status, household wealth status, the place of delivery, and menstrual resumption were found to be predictors of modern contraceptive adoption in the extended postpartum period.

Our finding reveals that women who reported perinatal violence had 31% less risk of using postpartum contraception compared to women who did not (aRR = 0.69; 95% CI: 0.50-0.97). Similarly, the socioeconomic status of the women was found to be significantly associated with the risk of using contraceptive methods post-delivery. Employed women were 1.14 times as

likely to adopt postpartum contraceptive methods compared to unemployed women (aRR = 1.14; 95% CI: 1.03–1.28). The risk of using modern methods among women from middle-income households was 1.14 times as high as the risk of using modern methods among women from low-income households (aRR = 1.14; 95% CI: 1.03–1.26). Women whose husbands had secondary or higher education had 13% less risk of adopting modern contraception after childbirth compared to women whose husbands had no formal education (aRR = 0.87; 95% CI: 0.77–0.99).

Women who delivered at a health facility had 1.58 times the risk of using modern methods in the extended postpartum period compared to women who delivered at home (aRR = 1.58; 95% CI: 1.41–1.78). Furthermore, women who reported no menstrual resumption had a 46% reduction in risk of adopting contraceptive methods after childbirth compared to women who reported menstrual resumption (aRR = 0.54; 95% CI: 0.48–0.62) (Table 10).

Table 10: Predictors of first modern contraceptive use after childbirth in the study area Oct 2019-Jan. 2021.

Variables	**Category**	**Unadjusted relative risk ratio (95% CI)**	**Adjusted relative risk ratio (95% CI)**
Perinatal psychological violence	Yes	0.72(0.0.65-0.79)	1.13(0.81-1.56)
	No	1	1
Perinatal physical violence	Yes	0.73(0.65-0.82)	0.99(0.83-1.19)
	No	1	1
Perinatal partner violence	Yes	0.69(0.63-0.77)	0.69(0.50-0.97)*
	No	1	1
Maternal age (years)	≤24	0.78(0.68-0.91)	0.94(0.82-1.09)
	25-34	1.01(0.91-1.12)	1.08(0.97-1.19)
	35-49	1	1
Maternal age at marriage	<18 years	1.07(0.96-1.17)	1.08(0.98-1.18)
	≥18 years	1	1
Maternal education	Illiterate	1	1
	Primary	1.09(0.98-1.22)	0.98(0.87-1.08)
	Secondary or above	1.16(1.05-1.29)	0.96(0.84-1.08)
Maternal employment status	Not employed	1	1
	Employed	1.24(1.12-1.36)	1.14(1.03-1.28)*
Place of delivery	Facility	1.75(1.55-1.97)	1.58(1.41-1.78)**
	Home	1	1
Breastfeeding status	No	0.91(0.83-0.98)	0.94(0.86-1.02)
	Yes	1	1
Menstrual resumption	No	0.53(0.47-0.59)	0.54(0.48-0.62)**
	Yes	1	1
Sexual activity resumption	No	0.77(0.54-1.12)	0.77(0.54-1.11)

	Yes	1	1
Justify wife-beating norms	No	1	1
	Yes	0.84(0.77-0.91)	0.96(0.88-1.05)
Wealth Status	Poor	1	1
	Middle	1.12(1.01-1.26)	1.14(1.03-1.26)*
	Rich	1.13(0.98-1.28)	1.06(0.94-1.12)
Partner employment status	Non-employed	1	1
	Employed	1.07(0.98-1.17)	1.03(0.98-1.13)
Partner education status	Illiterate	1	1
	Primary	1.06(0.95-1.19)	0.96(0.88-1.07)
	Secondary or above	1.09(0.98-1.22)	0.87(0.77-0.99)*
Partner controlling behavior	No	1	1
	Yes	0.78(0.72-0.86)	0.92(0.84-1.01)
Women's decision-making autonomy	No	1	1
	Yes	1.12(1.03-1.22)	0.98(0.90-1.07)
Communication about daily life	No	1	1
	Yes	1.22(1.11-1.35)***	1.02(0.93-1.13)

*p<0.05, **p<0.001

4.4 Perinatal IPV and postpartum modern contraception timing (Paper-V)

4.4.1 Survival analysis for time-to-modern contraception adoption

A total of 1,252 of the study participants had completed the interview. About 3.1% of them were lost before they could be reached and censored for survival analysis. A total of 4,879 woman-months (407 woman-years) after index childbirth were at risk for not using modern contraception. The median survival time for first postpartum contraception was 6 months. At three and six months post-delivery, approximately 12.23% and 44.5% of the respondents had adopted their modern contraceptive methods, respectively. The Kaplan-Meier survival curves with large steps for time-to-postpartum contraceptive adoption start at two months postpartum. This shows that many postpartum women initiated their first modern methods after two months following childbirth (Figure 6).

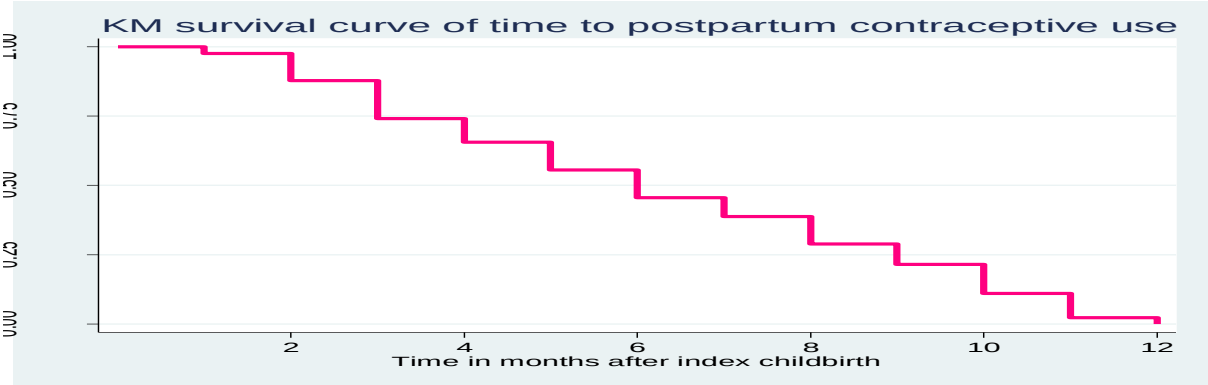
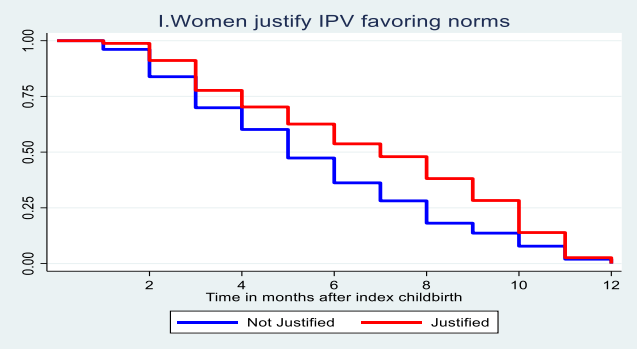


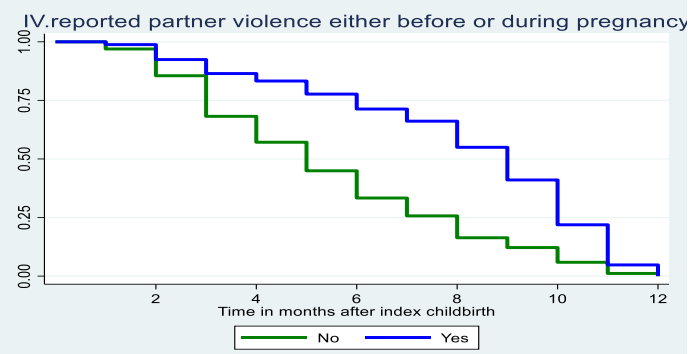
Figure 6: Kaplan-Meier survival function curve for postpartum contraception timing after index childbirth among married women in Wolaita zone, Oct 2019-Jan 2021

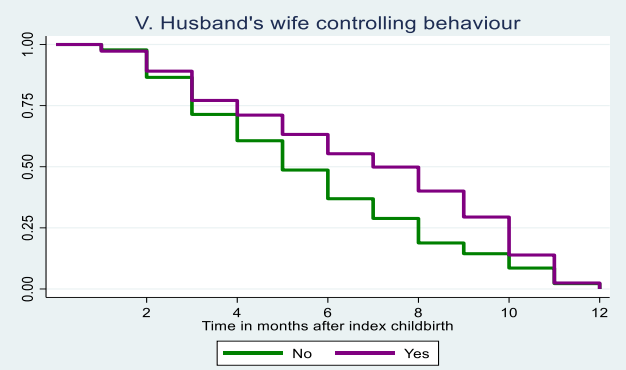
We also computed the Kaplan-Meier survival estimate to examine postpartum modern contraception timing for selected characteristics (**Figure 7**). The Kaplan-Meir survival function shows a significant difference in postpartum contraceptive method adoption between women who had PIPV and women who did not have PIPV. The Kaplan-Meier survival function for women who experienced perinatal violence is consistently higher than for their counterparts, indicating that exposure to violence before or during pregnancy delays adoption of modern methods.

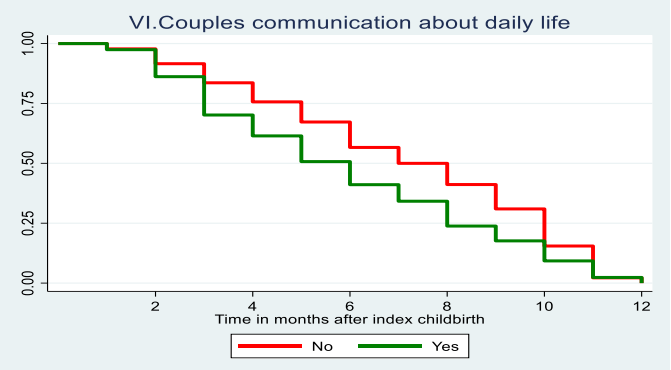

I.Women justify IPV favoring norms
0.00
0.25
0.50
0.75
1.00
2
4
6
8
10
12
Time in months after index childbirth
Not Justified
Justified

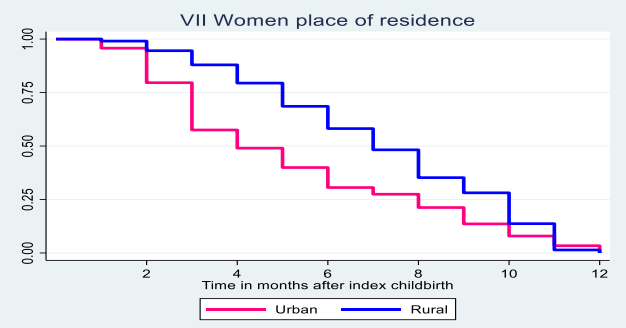

II.Women experienced partner violence before pregnancy
0.00
0.25
0.50
0.75
1.00
2
4
6
8
10
12
Time in months after index childbirth
No
Yes


III.Women experienced partner violence during pregnancy
0.00
0.25
0.50
0.75
1.00
2
4
6
8
10
12
Time in months after index childbirth
No
Yes


IV.reported partner violence either before or during pregnancy
0.00
0.25
0.50
0.75
1.00
2
4
6
8
10
12
Time in months after index childbirth
No
Yes


V. Husband's wife controlling behaviour
0.00
0.25
0.50
0.75
1.00
2
4
6
8
10
12
Time in months after index childbirth
No
Yes


VI.Couples communication about daily life
0.00
0.25
0.50
0.75
1.00
2
4
6
8
10
12
Time in months after index childbirth
No
Yes


VII Women place of residence
0.00
0.25
0.50
0.75
1.00
2
4
6
8
10
12
Time in months after index childbirth
Urban
Rural

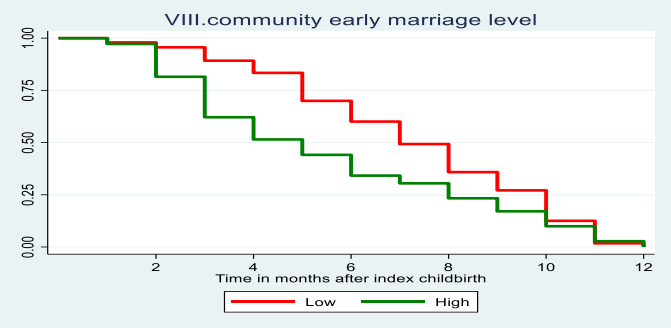

VIII.community early marriage level
0.00
0.25
0.50
0.75
1.00
2
4
6
8
10
12
Time in months after index childbirth
Low
High

Figure 7: Kaplan-Meier estimate curves for postpartum contraception timing between index childbirth and 12 months by selected characteristics among married women in Wolaita zone, Oct 2019-Jan 2021

In addition, Wilcoxon log-rank test has shown a substantial difference in time length to adopt postpartum contraceptive methods at individual and cluster-level characteristics (Table 11).

Table 11: Wilcoxon log-rank test for the length of time-to-postpartum contraception use among married women in Wolaita zone, Oct 2019-Jan 2021

Variables	**$\chi 2$**	**P-value**	**Variables**	**$\chi 2$**	**P-value**
Women's age in years	12.37	< 0.0021	Exposure to PIPV in either periods	103.79	< 0.00001
Women's age at marriage	14.37	< 0.0001	Husband wife controlling behavior	25.13	< 0.00001
Women's education Status	37.55	< 0.0001	Husband's substance abuse	5.09	< 0.0240
Women's attitude towards IPV norms	28.54	< 0.00001	Husband's alcohol misuse	8.83	< 0.0030
Women's decision-making autonomy	4.76	< 0.03	Couple communication about daily life	17.65	< 0.0001
Women's household wealth index	21.39	< 0.00001	Respondent place of residence	42.73	< 0.00001
Exposure to PIPV before pregnancy	104.41	< 0.00001	Community's early marriage level	27.89	< 0.00001
Exposure to PIPV during pregnancy	77.72	< 0.00001	Community's IPV accepting status	15.79	< 0.0001

4.4.4 Model comparison for different parametric regression models based on AIC

For model selection, we fitted different parametric survival models with different survival distributions: Exponential, Weibull, Gamma, Log-logistic, and lognormal. The best-fitting model was found to be the Weibull regression model and used to describe the data. (Table 12).

Table 12:Model comparison parameters for the study Oct 2019-Jan 2021

Parameter	Deviance	AIC	BIC
Exponential regression	4,355.93	4,395.93	4,489.02
Weibull regression	3,711.14	3,755.14	3,857.54
Gamma regression	3,723.96	3,767.965	3,870.35
Lognormal regression	3,767.85	3,811.853	3,914.24
Log-logistic regression	3,754.88	3,798.88	3,901.27

The ICC for the empty model was calculated using the variance of level-1 residuals and variance of level-2 (cluster) to ascertain the need of highlevel analysis. The variance of the level-1 (women) residuals is assumed to be independent and identically distributed, and their distributions depend on the model we are fitting. In the case of the Weibull distribution, the error term (residual) follows Gumbell distribution. We calculated residual variance using equation $\pi^2/$

($6x\rho^2$), where ρ is the ancillary parameter of the Weibull distribution (244). ICC was found to be 0.805 indicates that 80.5% of the time length-to-postpartum contraceptive use can be explained by at cluster-level variance. In addition, the LR test was significant, which favored the multilevel Weibull regression model than standard Weibull model. Based on Akaike's Information Criterion (AIC), the full model was the most appropriate model that yielded the lowest deviance and AIC value, and selected to describe time-to- first postpartum contraceptive adoption (Table 13).

4.4.5 Multilevel survival analysis for time -to- postpartum modern methods adoption

After controlling for other covariates, place of residence, community early marriage status, household economic status, and history of perinatal abuse were found to be predictors for the length of time to the first modern contraceptive adoption. Women from the rural community took 44% longer time than expected to adopt the first postpartum modern contraception compared to women from the urban community (aTR: 1.44; 95%CI: 1.06–1.99). Similarly, women from the community with high early marriage had a 14% lag time to first postpartum modern contraceptive use compared to women from the community with low early marriage (aTR:1.14; 95%CI: 1.01-1.28). Similarly, we have also examined the impact of perinatal partner abuse exposure on the postpartum contraceptive adoption timing. Women who reported no partner abuse before or/and during pregnancy had a 29% lower expected time to start the first postpartum modern contraceptive method than women who experienced PIPV (aTR: 0.71; 95%CI: 0.66-0.78). Women from the middle wealth quantiles also took 1.10 times longer to initiate postpartum contraception compared to women from the richest wealth quantiles (aTR: 1.10; 95%CI: 1.02-1.19) (Table 13).

Table 13: Multivariable multilevel survival analysis of the postpartum contraceptive use timing among married women (n=776) in Wolaita zone,southern Ethiopia, Oct 2019-Jan 2021

Characteristics	Categories	Model I	Model II	Model III	Model IV
		aTR[95%CI]	aTR [95%CI]	aTR[95% CI]	aTR[95% CI]
Community-level predictors					
Early marriage status	Low	na	na	Ref.	Ref.
	High	na	na	1.09(0.98-1.21)	1.14(1.01-1.28)*
Norm that favors IPV	Low	na	na	0.96(0.87-1.06)	0.98(0.88-1.10)

	High	na	na	Ref.	Ref.
Women education Level	Low	na	na	0.96(0.84-1.09)	1.05(0.91-1.21)
	High	na	na	Ref.	Ref.
Place of residence	Urban	na	na	Ref.	Ref.
	Rural	na	na	1.20(1.03-1.38)*	1.44(1.06-1.99)*
Woman-level predictors					
Age at marriage	<18 Years	na	1.05(0.97-1.12)	na	1.04(0.96-1.12)
	≥18Years	na	Ref.	na	Ref.
Maternal education	No formal	na	1.07(0.97-1.18)	na	1.06(0.96-1.17)
	Primary	na	0.98(0.90-1.08)	na	0.98(0.89-1.07)
	Secondary +	na	Ref.	na	Ref
Employment status	Not employed	na	Ref	na	Ref.
	Employed	na	0.95(0.86-1.05)	na	0.97(0.88-1.08)
Justify wife beating	No	na	Ref.	na	Ref
	Yes	na	1.02(0.95-1.09)	na	1.01(0.94-1.08)
Violence in either periods	No	na	0.72(0.66-0.78)***	na	0.71(0.66-0.78)***
	Yes	na	Ref.	na	Ref.
Wealth Status	Poor	na	0.97(0.88-1.07)	na	0.98(0.89-1.08)
	Middle	na	1.10(1.02-1.20)**	na	1.10(1.02-1.19)*
	Rich	na	Ref.	na	Ref.
DM autonomy	No	na	Ref.	na	1.01(0.92-1.11)
	Yes	na	0.93(0.86-0.99)*	na	Ref.
Partner-level predictors					
Husband education	No education	na	0.99(0.91-1.09)	na	0.96(0.87-1.06)
	Primary	na	1.03(0.94-1.12)	na	1.02(0.94-1.11)
	Secondary +	na	Ref.	na	Ref.
Husband alcoholism	No	na	0.98(0.92-1.06)	na	0.99(0.92-1.06)
	Yes	na	Ref.	na	Ref.
Husband substance abuse	No	na	0.98(0.88-1.06)	na	0.97(0.88-1.07)
	Yes	na	Ref.	na	Ref.
Controlling behavior	No	na	Ref.	na	1.06(0.93-1.1.08)
	Yes	na	0.99(0.93-1.07)	na	Ref.
Relationship-level predictors					
Couple communicate DLI	No	na	1.07(0.99-1.15)	na	1.07(0.99-1.15)
	Yes	na	Ref.	na	Ref.
Random effects					
lnp [Ancillary parameter]	-	2.274	0.894	0.803	0.892
Variance	-	0.072	0.126	0.038	0.083
LR-test(chi-square test)	LR test vs. Weibull model	16.03*	41.33*	9.83*	25.62*
Deviance (df.)	-2LL	-	-1860.696(18)	-1920.184(7)	-1855.573(22)
Model statistics	AIC	-	3757.393	3854.368	3755.146
	BIC	-	3841.168	3886.947	3857.537
Heterogeneity level	ICC	0.81	0.31	0.10	0.23

* P-value <0.05, ** p-vale ≤0.01, ***p-value <0.001, aTR; adjusted time ratios, ref; reference group, na; not applicable, DM; decision-making, DL; daily life issues ,LR; likelihood Ratio

Table 14: Summary of the main findings of the dissertation according to the objectives,Wolaita zone, southern Ethiopia,Oct 2019-Jan 2021

Paper	Objectives	Main findings
I	Postpartum women's lived experiences of PIPV	• The majority of postpartum women suffer from mild to severe PIPV, controlling behaviors, and a lack of basic needs such as food, money, clothing, and housing. • They reported recurring violence over the perinatal period.
	Cirumstances leading to PIPV	• Alcohol consumption, suspicion on the paternity of the newborn, preference for a male child, partner infidelity and jealousy, use of contraceptives, indifference to shortages of household necessities, a lack of proper parenting, and financial problems.
II.	Prevalence of PIPV	• 40% (95%CI : 36.9–44.6) • 18% reported continuous PIPV • Overall violence before, during, and after pregnancy was 37.4 % (95% CI 34.6-40.2), 28.3% (95% CI: 25.8-30.8), and 22.4% (95%CI: 20.0–24.8), respectively. • A significant heterogeneity was observed between clusters in PIPV victimization.
	Factors associated with PIPV	• Contextual (high-level) factors: place of residence; Neighborhood-level women's literacy; IPV favoring norms; decision-making autonomy; and wealth status. • Woman- and partner- specific factors: education status, witnessing exposure to inter-parental violence, justifying wife beating norms, husband education status, intendedness of pregnancy, husband alcoholic, and wife controlling behaviors • Relationship-specific factors: duration of marriage, women's participation in the decision-making process in household issues, and couple age difference
III.	Prevalence of postpartum contraceptive adoption	• 62% (95% CI: 59.2%, 64.5%) • Injectables (44.1%), pills (16.9%), and implants (15.3%) • Over one-third (33.1%) discontinued the first method • 57.6% did not use any methods after discontinuation
	Predictors of modern contraceptive adoption after childbirth	• Postpartum women's PIPV exposure, employment status, their husband's educational status, household wealth status, the place of delivery, and menstrual resumption
IV.	Rates and predictors of postpartum modern contraception timing	• Median survival time to start first modern methods was 6 months • 4,879 woman-months (407 woman-years) are at the risk • Place of residence, community early marriage status, household economic status, and history of perinatal abuse are all predicted shorter or longer postpartum modern contraception timing

5. DISCUSSIONS

This dissertation used a mixed-methods study approach to explore postpartum women's lived experiences of PIPV and examined the effect of maternal exposure to PIPV on postpartum modern contraception. Postpartum women's lived experiences of PIPV were explored using a phenomenological study approach, and the prevalence of PIPV and associated factors were quantified using a cross-sectional study design. Correspondingly, the effect of maternal exposure to PIPV on postpartum modern contraception was measured using a classical prospective cohort study design. The qualitative findings complemented the quantitative results and helped to provide a complete understanding of the problem. The mixing could be done at different stages of the research (220).

5.1 Postpartum women's lived experiences of PIPV and its leading circumstances **(Paper I)**

In the present study, women who experienced partner violence either before or during pregnancy continuously reported postpartum violence. This conistent with other studies conducted in elsewhere; women with a history of violence are at risk of future violence (115, 248, 249). Consistent with a study conducted in Australia (248), perinatal IPV increased over time. The possible reason might be that, for some couples, the transition to parenthood can be stressful and demands additional physical, psychological, social, and economic resources. If it is difficult to cope with such relationship stress, it could result in continued abuse. Results show that participants experienced psychological violence in three mutually exclusive periods, accompanied by physical violence. Study results suggest that psychological violence predominantly occurs in physically violent relationships and is a precursor to other forms of partner violence (2). Psychological violence is the most prevalent and severe form of violence (250). Indeed, it is the most under-researched form of violence. This indicates that a single abusive incident could result in many forms of perinatal violence. In the present study, a substantial portion of interviewees experienced perinatal sexual IPV which occurred at its earliest within the first two weeks postpartum. Two postpartum women experienced forcible rape from their husbands, which resulted in reproductive tract bleeding and infections. Similar to other studies (124, 155), violent nonconsensual sex against women is common in consensual

unions. This has far-reaching implications beyond perinatal IPV and could lead to severe comorbidity.

Circumstances leading to perinatal IPV

The conditions that lead to PIPV are multifaceted. Results from this study suggest a link between husbands who abuse alcohol and perinatal violence. Likely, the finding reveals that alcoholism leads to many household problems, including psychological, physical, and sexual violence (137). Compared to women experiencing no violence, those experiencing violence reported that partners chronically abused alcohol (251). However, alcohol misuse is a double burden that is difficult to shoulder in this formative period. In the present study, a suspicion about the newborn also increases the risk of violence. Similar to reports from the United States, the frequency and severity of perinatal IPV increased with doubts about paternal resemblance (252, 253). The reason might be that abusive partners are more likely to be suspicious of their wives' being unfaithful, which could lead to more conflict. It is worth mentioning that one participant in this study experienced violence due to preterm birth. Literature indicates that women in violent relationships are at an increased risk of experiencing preterm birth, but such births do not necessarily trigger violent incidents (254, 255). The possible justification could be a wrong perception about preterm births, i.e. births less than thirty-seven weeks of gestation are assumed to be cheating. Corroborating to studies set in Ethiopia, Nigeria, and the United States (137, 143, 256), partner infidelity and jealousy precipitated husbands' violence in postpartum. A husband's preference for a male child increased incidents of perinatal IPV. Correspondingly, a study conducted in Pakistan found that the inability to give birth to male children is linked to perinatal violence (155). In a patriarchal and hypermasculine society, husbands highly desire sons over daughters (152). The possible reason might be discriminating gender norms: sons can honor their family at a social level unlike daughters.

Additionally, a subsequent birth of a baby girl is considered the woman's fault in a patriarchal society. Societal or cultural beliefs may require creative ways to improve community awareness regarding issues of gender and reproductive health rights. The use of contraceptives without the husband's consent was also a risk factor for perinatal violence. Presumably, ongoing perinatal

IPV was associated with reduced contraceptive use (257). Reproductive coercion, including contraceptive sabotage, was also commonly reported by women experiencing partner violence (258, 259).

Implications of perinatal IPV on women's health

Perinatal IPV tampers with several women's mental and reproductive health. In this study, respondents reported that previous unwanted pregnancies, miscarriages, high blood pressure, reproductive tract infections, and bleeding occurred due to perinatal IPV from their husbands. These findings are consistent with other studies (257, 258). Additionally, women in this study narrated that they had developed perceived stress, fears, sleeping disorders, and other mental illnesses, indicating similarities with several other studies conducted elsewhere (257, 260, 261). Some participants exhibited suicidal thoughts or attempts due to postpartum anguish. Similarly, a report from Brazil indicated that suicidal ideation was common in two-thirds of low-income postpartum women reporting partner violence (262). The effect of continuous partner violence leads to child abuse and neglect (105, 263), as also evidenced by this study.

5.2 Prevalence of PIPV victimization and its associated factors

The current study shows that about 40% (95% CI: 36.9–44.6) of women had experienced intimate partner violence before, during, and/or after pregnancy. This finding is consistent with clinical studies conducted in southern Nigeria (43.8%) and Tanzania (43%) (94, 108), but lower than studies conducted in Brazil (47.4%) and Iran (64.7%) (96, 264). Despite these comparative figures from clinical settings, which yield high prevalence rates, this community-based finding confirms that a significant proportion of postpartum women are at risk for PIPV. The prevalence of PIPV decreased during the perinatal period, with the highest in the year before pregnancy (37.4%) and the lowest after childbirth (one and a half months) (22.4%), which accords with studies conducted elsewhere (105, 264, 265). The lowest incidence of abuse after childbirth can be attributed to the study period's variability, cultural celebrations, and the presence of extended family following successful delivery. Another explanation could be linked to the fear of vulnerability that perinatal women in an abusive relationship may try to protect against harm by using techniques such as hiding and avoidance. In this study, a low prevalence of physical and

sexual violence was observed over the perinatal period. This finding corroborates with other studies that have identified a low incidence of physical and sexual violence during the perinatal period (108, 132). The possible justifications could be the husband's fear of the social stigma associated with wife battering or decreased sexual demands in this formative period. Most importantly, caution should be taken when interpreting the reduction of abuse over perinatal periods. The evidence indicates that existing abuse escalates in frequency and severity in the perinatal periods (101). Our study found that over two-thirds of women who reported IPV before pregnancy also experienced continuous abuse during and after pregnancy. This result confirms that once abuse has been initiated, it will continue during the transition to parenthood.

Factors associated with PIPV victimization

In this study, being a rural resident was associated with high PIPV encountering. This finding is consistent with prior studies (77, 266). In contrast, the urban residency also trigger for PIPV (267). Again, paradoxically to other studies (268-270), being in urban places was found to be a protective factor against PIPV. This might be because living in urban areas may offer women more opportunities to access media outlets, economic resources, institutional supports, and new information, which can help them cope with violence more effectively. Consistent with the social causation theory (271), the current study shows a reciprocal relationship between women's education status and PIPV. Increasing women's education reduces any form of the recent and long-term probabilities of IPV, which is supported by past research conducted in Belgium and the USA (100, 272). In contrast to a study done in India (135), neighborhoods with high women's literacy were linked with an increased risk of PIPV. This might be due to interaction with traditional gender ideology in a patriarchal society that expects women to be submissive in all spheres of marital relationships, which may not work for more educated women and could lead to violence. In this study, women from the community with low wealth terciles were also at increased risk of PIPV as evidenced by studies conducted elsewhere (32, 97). This result may imply that any violence prevention strategies should prioritize women living in neighborhoods with the lowest wealth terciles. At the individual level, postpartum women's decision-making autonomy in household issues was found to be protective for PIPV in the current study. Conversely, women concentrated in the community with high women decision-making

autonomy have a high probability of encountering PIPV. This suggests that as women gain autonomy, they struggle for reproductive autonomy, including fertility control, which can lead to PIPV victimization in traditional societies where men hold primary decision-making power in marriage, as evidenced by other studies (273, 274). Also, the result is consistent with a cohort study conducted in Nepal, which found that the risk of contracting IPV was higher in women who became pregnant and gave birth than in those who did not (275). This implies that ensuring women's decision-making autonomy requires addressing IPV and related constraints.

In agreement with social learning theory, postpartum women's witness to inter-parental abuse during childhood was linked with increased PIPV victimization. Similarly, a study conducted in Brazil reveals that witnessing or being a victim of family violence was associated with being perpetrators or victims of PIPV when becoming adults (276). The possible reason may be that being exposed to family violence can cause many women to become determined not to tolerate violence in their marriage. In the current study, women who endorsed wife-beating norms and lived in communities with high IPV-favoring norms were at an increased risk of PIPV. This implies harmful traditional models play a vital role in the sustainability of violence and need to be cured through social norms intervention. In a replication of previous studies in Malaysia, Brazil, and the USA (83, 137, 277), the husband's alcohol misuse and partner's controlling behavior were associated with high PIPV victimization. In line with a study conducted in the USA (18), unintended index pregnancy was also a triggering factor for PIPV. The association could be explained in different ways. An abusive partner could limit the woman's ability to control her own fertility or because the woman in a violent relationship may neglect to take care of their fertility control needs, which could lead to unintended pregnancies. Inconsistent with a study conducted in Nepal (132), a short time of marriage was a risk for PIPV. A lack of awareness about coping with stress and changes during the childbearing period for couples with a short time of cohabitation could be one of the reasons.

Similarly, a couple's age difference predicts PIPV. Being the same age as a husband protects perinatal abuse as being older. This finding implies interventions that consider and reduce women's high age disparity in the community are needed to reduce the vulnerability of women to PIPV. Contrary to other studies (278, 279), infant gender and son preferences not predicted

PIPV encountering. This finding contradicts the researchers' early results from a qualitative study (280). This requires further investigation.

5.3 Effect of PIPV on postpartum modern contraceptive adoption

In the current study, 62.0% of women started using the first modern contraception in the year postpartum (95%CI: 59.1% -64.5%). This finding is consistent with studies conducted in Ethiopia (59.1%) and Kenya (60.0%) (62, 65). However, this estimate is considerably lower than other study done in Northwest Ethiopia (66.7%) (63) and higher than the nation-wide study done in Tanzania (64) and Ethiopia (215). We speculate that there may be differences in sample population characteristics, study design, and outcome variable measurement. For example, these nation-wide studies measured contraceptive adoption from the resumption of sexual intercourse, whereas our study examines the time length from delivery to the uptake of modern contraception. This study reveals that a signifant proportion of women who reported violence in the year before or during pregnancy do not use postpartum contraception when compared to women who were not abused over the perinatal period. This finding corroborates with studies conducted in India and the United States that have revealed that non-use of postpartum methods was higher among women who reported physical abuse than those who did not report physical abuse during the perinatal period (39, 48, 50). This could imply that women in abusive relationships may have the low bargaining power to initiate postpartum contraception due to the fear of future violence. This prompts us to launch special interventions such as screening for violence and providing abused women with partner unobservable methods. Whilst other studies have found that PIPV exposure is linked to increased postpartum contraceptive use (53, 54). This might be because abused women are suspicious of their marriage's continuation and do not want to have a child with a violent partner, which in turn increases the use of contraception after delivery.

In our study, the positive correlation between health facility deliveries and postpartum contraceptive adoption could be attributed to the effect of immediate post-placental family planning counseling for those who delivered at health facilities. It may also suggest that opportunistic contact with the health care system through maternal services such as childbirth in

facilities improves clients' relationships with health systems and access to postpartum family planning services (62, 85, 193). Our study also observed that employed women were more likely to use contraceptive methods during postpartum than their unemployed counterparts. This was consistent with prior studies conducted in Kenya, Uganda, and the USA (203, 281) which show that compared to low-income women, economically empowered women may not face the same financial constraints related to contraceptive choices and access. Similarly, contraceptive use after childbirth was higher among wealthy women than among the poorest women, which is in line with the findings of some studies (191, 193). This may reflect the fact that women with better household living conditions may compensate for indirect costs such as transportation, which deter them from accessing postpartum contraception even if the services are free in public health facilities. In contrast, evidence from the previous studies has revealed divergent relationships between household wealth status and contraceptive use in the year after birth (62, 282). In this regard, strengthening the provision of postpartum family planning services at their homes through health extension programs could reach and help women with low socioeconomic status in the community. Our results have revealed that women who reported no menstrual resumption were less likely to use contraceptives after delivery as compared to women who reported menstrual resumption. This corroborates with some other studies conducted elsewhere, which revealed that contraceptive adoption after childbirth peaked following the month of the first menstrual cycle (65, 66). In other words, the resumption of menses is a marker for contraceptive adoption, putting women at risk of unintended pregnancy. Besides, studies conducted in northern Ethiopia (283) and other settings (284) show that postpartum women had very little knowledge and practice of lactational amenorrhea as a contraception method This indicates that policymakers and program managers should work diligently to optimize postpartum fertility-reducing behaviors such as the provision of postpartum family planning information and services, including post-placental contraception.

Regarding partner characteristics, only education status predicted postpartum contraceptive use in our study. In contrast to another finding (207), postpartum contraceptive initiation was low among women whose partners had completed more than secondary education compared to women whose partners had no formal education. The possible justification might be that

education by alone does not guarantee postpartum contraceptive acceptance, despite its critical role in determining the overall use of reproductive health, including family planning. Further studies will be required regarding this relationship.

5.4 Effect of PIPV on postpartum modern contraception timing

The current study investigated the individual- and community-level factors that predict the time interval to start modern contraceptive methods after childbirth, taking into account Keble as a cluster-level effect. The study has found statistically significant heterogeneity across clusters in modern contraception timing. This finding suggests that unobserved community-level characteristics have an impact on the timing of method use after childbirth, which is consistent with other studies that have found that a woman's environment influences the timing of method use after childbirth (62). This indicates the implication of leveraging community-level differences in planning interventions for timely modern contraceptive initiation. In present study, median survival time to initiate their first postpartum modern methods was 6 months. This finding is consistent with a study conducted in Northwest Ethiopia (63), but with a time lag of at least five months longer than the WHO recommended time. This implies considerable proportion of study participants would be at risk of unintended pregnancy, as many wait until their menses return to start contraception, and it requires community-based intervention during the perinatal and postpartum periods.

When other variables were controlled, women’s place of residence and their community’s early marriage status predicted time interval-to-contraceptive use after childbirth. As in other studies (215, 285), rural women took longer to adopt modern methods postpartum than their counterparts. Our findings contrast somewhat with several prior studies (62, 64) that have identified no difference in time to modern contraceptive use among rural and urban residents. This might be linked with women from rural area had a limited access to media outlets, education, and health facility infrastructure compared to urban women, which may also be associated with delayed adoption of modern contraception. This study observed a long lag time to starting contraception after childbirth among women from the community with high early marriage. This finding corroborates previous studies (286, 287) that have identified early

marriage is associated with a lower intention for postpartum contraceptive use. According to this study, women from the middle-class wealth quantiles took longer than women from the wealthiest households to begin modern methods postpartum. This finding aligns with studies conducted elsewhere (64, 191) that show a shorter time to method adoption among women in the richest quantiles. The fact that low socioeconomic status is a deterrent to postpartum contraception adoption indicates a strengthening of social and community-based health insurance schemes launched by the government of Ethiopia, which increase health-care utilization among the poor (288). Besides, women empowerment could alleviate indirect costs like transportation for contraceptive use among low-in-come mothers even if contraceptive services are free. Moreover, a quasi-experimental study by Deborah Sitrin et al. reported that integrating postpartum family planning into a health extension program could increase postpartum adoption of modern contraception (289).

There is inconsistent evidence regarding the association between IPV and the time interval-to-postpartum contraceptive initiations. In contrast, our finding confirms that women who had no history of perinatal abuse took less time to adopt modern contraception than those who had a history of abuse. For instance, Marina Plesons' prospective cohort study in Kenya shows a positive correlation between recent partner abuse and time to postpartum contraceptive adoption (217). As such, women's exposure to perinatal abuse may influence postpartum contraception timing in different ways: an abusive partner may restrict access to any form of contraception or prevent women from using the most effective methods in an attempt to get the woman pregnant again (290, 291). Moreover, a woman’s less decisive power and fear of future violence linked with contraceptive initiation could deter the timely adoption of the method after childbirth (280). This would imply that screening IPV should be part of family planning counselling to identify a woman in a violent relationship, which could significantly reduce the likelihood of future reproductive coercion.

6. VALIDITY AND GENERALIZABILITY OF THE STUDY

The validity of any study depends on the study design used, the data collection instruments, and the appropriate methods for handling random and systematic errors. Thus, this dissertation has attempted to use different techniques to increase internal and external validity at the design, data collection, and analysis stages of the study. Qualitative (phenomenological) and quantitative (cross-sectional and classical prospective cohort) study designs were employed to address the dissertation questions. In addition, as an observational study, this dissertation attempted to control the role of bias, chance, and confounding at all stages.

For **Paper I**, the rigor of the qualitative findings was assured using Lincoln and Guba's trustworthiness criteria: credibility, dependability, conformability, and transferability. The credibility of the results was ensured by collecting data from two target groups (PIPV victims and HEWs) for triangulation (212). All audio recordings were transcribed verbatim and translated into English language. Audit trails for the transcribed data were conducted with each interviewee to ensure trustworthiness and minimize errors. All transcripts of the interviews were checked for errors by simultaneously reading the transcripts alongside the audio-recorded voices. The final transcripts were compared with the field notes to ensure quality. Verbatim transcripts were analyzed using the OpenCode software version 4.02 for computer-assisted coding and categorization. The text was read several times to familiarize with the data. Interviewees within one year post-delivery were enrolled to minimize recall bias. All interviews were tape-recorded to ensure dependability of the findings. Similarly, PI transcribed audio data daily to maintain consistency and the context of the discussion. Besides, field notes were expanded immediately after each interview to include nonverbal cues and the researchers' reflections. Furthermore, the conformability of our findings was ensured by including interviewees' direct expressions to avoid bias during the interpretation and analysis of the results. The interviewer had no contact with the service centers to ensure that there was no effect on their responses, and bracketing was used to separate the interviewees' natural words from the researcher's world and inspection. Epathetic rapport was established with each interviewee for five to seven minutes. The findings are also transferable to other postpartum populations in violent relationships in the Wolaita zone

and other parts of the country with similar settings, since we detailed the study context, methods, and participant selection.

In this dissertation, **papers II-IV**, the role of chance (random error) was addressed using a large and representative sample size (1,342 postpartum women nested in 38 clusters), which was estimated considering the necessary assumptions, including power. The representativeness of the sample was further ensured by urban-rural stratification and a probability proportional to its size. Consequently, the largest sample size was used for all objectives to increase the precision and power of the study. Again, the role of chance was checked using appropriate statistical significance tests at the 5% significance level and 95% CI for each measure of association (odds, risks, and time ratio). Selection bias was also minimized by enumerating study participants from all randomly selected clusters and enrolling all eligible postpartum women in the selected clusters. As this dissertation is primarily based on an observational cohort study, selection bias has minimal effect, but it may also occur due to the losses to follow-up. However, the nonresponse rate for this dissertation was 6.86%, which was lower than the estimated rate of 10% during the sample size calculation. On the other hand, using standard data collection instruments, recruiting qualified data collectors and supervisors (public health specialists), intensive training in accordance with WHO guidelines for researching VAW, supervision, and proper data management minimized measurement bias.

To minimize the effects of confounding factors, we considered all important predictors from the existing literature before developing a conceptual framework during the design stage. Again, we tried to control for confounding effects using multivariable analysis. Candidate variables for multivariate analyses were selected based on the strength of association in bivariate analysis and their clinical and practical importance. Multilevel (advanced) logistic and parametric regression models and a modified Poisson regression model with robust variance estimates were used to identify predictors at different levels. Interactions and other conditions that could possibly affect the association were also addressed in multilevel models. This dissertation was conducted in seven districts (four rural districts and three town administrations) of the Wolaita zone in southern Ethiopia, which represents one-third of the districts in the zone. In addition, urban-rural stratification, proportional allocations, and the use of standard and internationally validated

(cross-culturally) data collection instruments were considered. The findings of this dissertation can be reasonably generalized to the zone's postpartum population and a setting with similar attributes. However, the results of this study are unlikely to be replicated in other settings due to existing sociocultural, socioeconomic, maternal, and partner-related attributes, particularly in more developed contexts where women have more expansive agency and opportunities and cultural norms and values tend to prioritize gender equality over male entitlement.

7. STRENGTHS AND LIMITATIONS OF THE STUDY

7.1 Strengths of the study

This dissertation has several strengths. First, to the best of our knowledge, this is the first community-based prospective follow-up study to examine the effect of maternal exposure to PIPV on postpartum modern contraception in Ethiopia in general, and in the study area in particular. Second, this dissertation was based on a large sample size, which increased the power and precision of the study. This may increase the generalizability of the findings. Third, standard and internationally validated data collection instruments (the WHO and DHS modules on the domestic VAW) were also adapted to increase the validity and reliability of the data. Fourth, the study found high responses and disclosures of PIPV and contraception due to intensive training of interviewers and supervisors by the standard WHO guidelines for researching VAW. Correspondingly, this study focused on recent self-reported IPV and may indicate a lower assumption of recall bias. Indeed, a woman never forgets her husband's actions following pregnancy and childbirth; whether he treated her poorly or disrespected her over the perinatal period, it would scar her. Thus, abuse from their husbands is recalled with great clarity. Fifth, advanced statistical models such as multilevel logistic and survival regression models, and a modified Poisson regression model with robust variance estimation, were used to deal with clustering effects and identify predictors operating at various levels. Sixth, the study also employed mixed-methods study design (concurrent triangulation), which helped generate comprehensive evidence for policy and program implications. Seventh, as this dissertation used an observational prospective cohort study design, we can test temporal relationships and assume less recall bias. Last but not least, applying the Weibull AFT model rather than the PH model to estimate the expected survival times between group characteristics in time ratios may be a strength of the study because the estimated regression parameters in AFT models are robust and easy to interpret.

7.2 Limitations of the study

There are some significant limitations to using the dissertation findings. For the qualitative part, study participants were recruited using convenience sampling, which failed to reach hard-to-

reach victims. Similarly, some respondents were traced with the help of HEWs. This could have resulted in selection bias. The sensitive nature of the topic of gender roles because a male interviewer collected the data may prevent women from disclosing the full extent of their experience with IPV.

For the quantitative part, there are limited community-based cluster-level studies to compare with these findings allowing us to compare the results from clinical studies to those of population-based studies. In addition, research on VAW suffers from underreporting. Despite all data supervisors and enumerators being well-trained, this study was not free from this problem. In the baseline study, we excluded women with an unmarried status within the extended postpartum period and those with stillbirth or neonatal death. This may be one of the limitations of this study because violence rates might be high in these groups. Women's IPV experiences were analyzed based on self-reported and retrospective data. Therefore, potential recall bias may not be ignored. The study respondents may not have disclosed their experiences of violence due to stigmatization, fear, and sensitivity. As a result, there is a possibility of underestimating the true prevalence of PIPV. Similarly, we only collected data on the frequency of violence over the perinatal period, which may not reveal the chronicity or severity of the problem. This study also did not assess the quality of the information provided during prenatal family planning counseling, which may positively affect postpartum contraceptive uptake. As this study relied on women's self-reported results for partner characteristics and -controlled contraception, it can be biased and underrepresented. However, a recent study did not address the timing of the contraceptive method mix. Although traditional methods are an important part of avoiding unwanted pregnancy, the scope of this study's identification of traditional method users is limited.

8. CONCLUSIONS

The qualitative findings highlight that postpartum women are experiencing continuous and severe forms of PIPV. The circumstances leading to PIPV are multifactorial. However, IPV and perinatal period complexities and burdens are indicated as an interplaying challenge for postpartum women in the study area.

A considerable proportion of postpartum women reported intimate partner violence over the perinatal period, with nearly a fifth experiencing continuous violence before, during, and after pregnancy. The study showed PIPV encountering among postpartum women were strongly influenced by individual and contextual factors. In terms of contextual factors: rural residence, living in a neighborhood with high female literacy, high IPV acceptability norms, high women's decision-making autonomy, and living in a neighborhood with low wealth status were positively associated with PIPV victimization. Individual-level variables such as maternal and husband education status, childhood witness to inter-parental violence, husband intention to index pregnancy, husband wife-controlling and alcohol misuse behaviors, marital duration, and spousal difference were all significantly associated with PIPV encountering. In effect, the complex patterns of inter-playing factors operating at different levels could put pregnant or postpartum women at a higher risk of perinatal abuse.

Furthermore, more than half of the women in the study area adopted postpartum contraceptive methods, but those who reported PIPV were less likely to adopt modern contraceptive methods compared to the women who did not experience it. Being employed, living in a middle-income household, and giving birth in a health facility all positively predicted postpartum modern contraceptive adoption, whereas having a husband with a secondary or higher education and reporting no menstrual resumption negatively predicted modern method use after childbirth.

In this study, women took a median survival time of six months to adopt modern contraceptive methods. Rural residence, low household wealth status, and high rate of early marriages in the community are thought to take a longer time to start modern methods after childbirth. In addition, a woman who had a history of violence either a year before or during pregnancy took a longer time than her counterparts to adopt postpartum modern contraceptive methods.

9. RECOMMENDATIONS

Based on the study's findings, the following recommendations are forwarded to the relevant bodies.

To the policymakers: Federal Ministry of Health, The Regional Health Bureaus, and Zonal Health Department

- Strengthening and designing more community-level interventions that alleviate women's IPV-favourable norms that promote IPV acceptability and sustainability in the study area.
- Improving gender equality and women's empowerment by harmonizing efforts with individual, community, and local entities could also alleviate contributing factors.
- Appropriate guidelines, strategies, and programs that prioritize and support PIPV victims should be developed, particularly perinatal women and their infants.
- Routine screening programs should be implemented throughout the continuum of care to detect and intervene in the initial or ongoing nature of the IPV.
- Designing strategies and plans to promote healthy, respectful, and nonviolent relationships are needed to enhance couple's communications.
- Integrating violence screening and psychosocial support programs into family planning services will likely to improve postpartum contraceptive use patterns.
- Family planning policy and programs should pay special attention to postpartum women who live in rural areas, and unemployed and economically poor women, and those who have not seen menstruation to improve modern contraceptive use behaviors
- Launching intervention that aimed to reduce the rates of early marriage can improve delayed modern contraceptive adoption
- Strengthening home-to-home visits by HEWs to reach postpartum women who gave birth at home for immediate postpartum contraceptive adoption, despite the fact that home delivery is not promoted.
- Policies and strategies that prioritize the improvement of contextual factors, particularly norms toward IPV and women's empowerment, are likely to be the most effective interventions, involving multidisciplinary and multiagency engagement from health care,

social services, voluntary organizations, victim support services, policymakers, lawmakers, and the criminal justice system.

For researchers and Academia

- Future researchers are recommended to conduct cross-cultural research, particularly qualitative studies, that explore how societal norms and institutions promote or discourage violence behavior in the community.
- Further prospective follow-up study with multiple interview intervals is recommended to capture the extent of PIPV and its effect on postpartum contraceptive use dynamics like switching and discontinuation.

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12. APPENDICES

APPENDIX 1: Published articles and submitted manuscripts

International Journal of Women's Health

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ORIGINAL RESEARCH

Postpartum Women's Lived Experiences of Perinatal Intimate Partner Violence in Wolaita Zone, Southern Ethiopia: A Phenomenological Study Approach

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Objective: Perinatal intimate partner violence affects the health and safety of postpartum women and their infants. However, it has not been well recognized and addressed in the study setting. Hence, this study aimed to explore postpartum women's lived experiences of perinatal intimate partner violence and its contributing factors in Wolaita Zone, Southern Ethiopia.

Methods: A phenomenological study approach was used to explore postpartum women's lived experiences of perinatal partner violence from January to March 2020. A total of twenty-two postnatal women and five health extension workers (HEWs) were interviewed. Interviews were audio-recorded, transcribed verbatim in local languages, and then translated into English. Data were analyzed thematically, using deductive and inductive coding. The consolidated criteria for reporting qualitative research (CORE-Q) checklist was followed to report the findings.

Results: Results indicated that postpartum women had experienced recurrent violence before, during, and after pregnancy from their husbands, with 16 out of 22 women being subjected to perinatal intimate partner violence. A majority of the participants delineated their exposure to perinatal physical violence next to perinatal psychological violence. Many of the interviewed women noted that violence during pregnancy was exacerbated and increased during postpartum. Moreover, the interviewees revealed that some partners were not only a serious threat to their wives, but also their infants during the postpartum period. Four of the participants stated that their newborns were hit and thrown by their father and became unconscious. Participants linked husbands' perinatal violence with suspicion about the newborn, male-child preference, partner infidelity and jealousy, contraceptives usage, alcohol consumptions, indifference to shortages on household necessities, improper parenting, and financial problems.

Conclusion: This study highlights that postpartum women are experiencing continuous and severe forms of perinatal IPV in the study setting. Thus, community-level interventions that minimize perinatal partner violence against postnatal women and their infants are needed.

Keywords: postpartum women, perinatal, violence, phenomenological, Ethiopia

Introduction

Intimate partner violence (IPV) is an invasive social and public health problem, which compromises women's physical, mental, sexual, and reproductive health regardless of age, education, economic status, race, religion, ethnicity, or sexual orientation.[1,2] It is a broad concept and occurs in many forms, including physical violence, sexual violence, stalking, and psychological violence between two people in intimate relationship.[3] Physical violence can include a deliberate use of physical

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force, like; scratching, slapping, hitting, kicking, beating, shoving, throwing, grabbing, choking, shaking, hair-pulling, burning, and use of weapons, which can cause mild to severe injuries. Psychological violence comprises, but is not limited to; insulting, belittling, and constant humiliation, intimidation, verbal threats, and threats to take away children. Sexual violence incorporates rape, forced sexual intercourse, and other forms of sexual coercion.[3,4] From global estimates, one in three women experiences violence in their lifetime from someone they know; mainly from intimate partners.[5] Rates of IPV are unacceptably high in the Sub-Saharan region, particularly in Ethiopia.[2,6,7] Nearly half of Ethiopian women experience at least one form of IPV in their lifetime.[8] According to the World Health Organization (WHO) report, Ethiopia ranks first in reporting physical and/or sexual violence against women.[5] In addition, one in three women do not disclose partner abuse in Ethiopia.[9]

Ballard et al identified four patterns of perinatal partner violence that measure persistence, including: violence begins (starts at pregnancy), violence continues (before and during pregnancy), violence ceases (before but not during pregnancy), and no violence (no violence at any stage).[10] Presumably, IPV has no limits, occurring during reproductive life, but women are more likely to experience violence during pregnancy and postpartum.[11,12] In addition, immense physical and psychosocial changes taking place during the perinatal period poses a great risk of IPV.[13] Due to intensified motherhood role, women are particularly susceptible to poor health immediately following childbirth.[14] The growing evidence demonstrates an increment of existing violence as postpartum develops.[15–17] It is noted that perinatal IPV is an important indicator of severe violence.[18] However, issues regarding perinatal IPV against postpartum women and developing infants has not been adequately researched.[13]

Perinatal IPV has negative impacts on the health and safety of postpartum women and their infants. It is associated with postpartum depression,[19,20] psychological stress, less work satisfaction, inadequate hospitalization of babies, poor breastfeeding behavior, infant mortality, and child malnutrition.[21–23] It is also linked with some postpartum health risks, such as partner imposed fear of condom negotiation and usage, infants sleeping problems, and parental stress.[24] Moreover, there are several risk factors for perinatal IPV like; younger women,[16,25] low education status, low socioeconomic status,[26,27] depression, poor social support[21,28] and lack of agreement on contraceptive use,[29] which may increase the risk of perinatal partner violence. To date, several IPV studies have been conducted in Ethiopia, but only a few explored perinatal IPV for the postpartum population. To understand and provide appropriate assistance and support for postpartum women living in an abusive relationship, it is important to have deep knowledge about their experience. Therefore, this study explores postpartum women's lived experiences of perinatal IPV, particularly the major forms of IPV (psychological, physical, and sexual violence) and its contributing factors using a phenomenological study approach.

Materials and Methods

Study Setting and Period

The study was conducted in Wolaita Zone. Wolaita Zone is located in the Southern Nations, Nationalities, and People's Region. Wolaita Sodo is its capital town which is 330 km south of Addis Ababa, Ethiopia. The zone is administratively divided into sixteen districts (woredas) and six town administrations. It is one of the most densely populated zones with an estimated total population of 2.5 million people. It has a total of 310,454 households with an average household size of 4.84 persons and 297,981 housing units.[30] There are 7 hospitals (5 governmental and 2 private), 68 health centers, and 345 health posts located within zone.[31] On average, two Health Extension Workers (HEWs) are assigned to each health post. The study was conducted in the five rural health posts (Sura Koyoo, Kindo koyoo, Dolla, Bossa Kacha, and Bilbo Bedessa) and one Women, Children and Youth Affairs (WCYA) department (Sodo city) between January to March 2020. In the context of our study, the population of interest was postnatal women who reported any violence grievances, either to health posts in the rural setting or WCYA in the urban setting. These study sites were conveniently selected based on the potential to access victims exposed to partner violence.

Study Design

The phenomenological study approach was employed to explore perinatal IPV experiences lived by postpartum women living in the Wolaita zone. The phenomenological approach underpins the interpretive ontological and epistemological paradigm, which seeks to understand the lived experience through the eyes of the people experiencing it.[32] In this study; the above approach offers an opportunity to

explore the postpartum women's lived experience of perinatal IPV. This approach allows the researcher to understand not only the individual's lived experience but also the condition surrounding it.[32,33] In this process, phenomenology values both philosophy and method. Moreover, this approach also provides many opportunities for interviewees, including catharsis, self-reflection; healing, empowerment, and sense of purpose.[33]

Participant Recruitments

A total of twenty-two participants were recruited from urban and rural settings with the help of HEWs and the head of WCYA. The inclusion criteria included; currently married postpartum women aged 18 years and older with index children aged below twelve months and reporting violent grievances either to health posts or the WCYA Department. Participants were recruited using the convenience sampling method and consecutively interviewed at each site[34,35] where informal interviews were conducted before sequential questioning.[36] No postpartum women who fulfilled the inclusion criteria and were approached for an interview declined to participate in the study. Similarly, five HEWs from different rural health posts who interact with women seeking treatment for other conditions[37] were also interviewed. Health extension workers who had a minimum of a college diploma in health science, and have been working in the health extension program at health posts for more than two years were included in the interview. The data saturation[38] was achieved with the 22nd interviewee and further data collection stopped.

Interviews

Semi-structured, in-depth interview guides were used to gather data from two groups of respondents: postpartum women violence victims and HEWs. Different interview guides were used to interview the two respective groups (Supplementary File 1). The interview guides for postnatal women consisted of main and probing questions such as; socio-demographic characteristics, marriage history, index pregnancy intention, contraception, and perinatal IPV experiences for index birth. For instance, some of the main questions asked to interviewees were:

> Could you please tell me a little about yourself and your husband? How did you come to know him? What is your main reason to visit this institution? When did your problems with your husband start? How does he treat you in front of others in the perinatal period? Could you tell me if your partner has ever inflicted any physical harm on your body in the perinatal period? Could you tell me if your partner harassed you sexually in the perinatal period? How can you explain your husband's feelings about contraceptive use before pregnancy versus now?

The interview questions for HEWs probed reasons for postpartum women visiting the health post, reporting of IPV, and types of IPV reported.

Interviews were conducted face-to-face with participants in a private and quiet environment, which was either at the health posts or WCYA department based on their personal preferences. Participants were interviewed in both Amharic and Wolaita languages. A neutral single bilingual interviewer [TL], a male principal investigator, who had a Master in Reproductive and Maternal Health and was experienced in qualitative research, conducted the interviews to avoid inter-interviewer differences. The interviewer had no contact with the service centers to ensure there was no effect on their responses. An empathetic rapport was made with each interviewee for five to seven minutes. At the beginning of the interview, permission was requested from each interviewee to record the audio. Each participant was interviewed separately. The length of the interviews was thirty-five minutes on average. Field notes were recorded to include key messages and participants' non-verbal cues. After interviewing the first four participants, the interview guide was slightly modified to accommodate new ideas. Two pilot interviews were conducted with HEWs to validate interview guides. However; no changes were required. All study participants were compensated with one hundred Ethiopia birr (about $3) at the end of interviews.

Data Management and Analysis

The transferability of the findings was ensured by collecting data from two target groups for triangulation.[33] All audio recordings were transcribed verbatim and translated to the English language. Audit trails for the transcribed data were done with each interviewee to ensure trustworthiness and to minimize errors. All transcripts of the interviews were checked for errors by the simultaneous readings of the transcripts beside the audio-recorded voices. Final transcripts were also compared with field notes to ensure quality. Verbatim transcripts were analyzed using the OpenCode software version 4.02 for computer-assisted coding and

categorization. The text was read several times to be familiar with the data. Line-by-line coding was then conducted by the principal investigator [TL]. The key attributes of each term or narrates were coded and tallied and later used to create categories. The codes were compared based on their similarities and differences and then subsequently grouped into categories. Data were analyzed thematically, using deductive and inductive coding[38] where salient quotes were used to support the themes. The consolidated criteria for reporting qualitative research (COREQ) from a 32- item checklist was used to report the findings.[39]

Results

Background Characteristics of Study Participants

A total of twenty-two in-depth interviews with postnatal women were conducted. All respondents were married. Almost half of them were living with their husbands at the time of the interview. About two-thirds of the participants were between 19 to 25 years. The minimum and maximum ages of the interviewees were 18 and 41 years, respectively. The average age at first marriage was 18.8 years. More than half (12 of 22), of the participants were from a rural setting. Except few (3 of 22), all participants were housewives and daily laborers by their occupation. A majority had attended formal education. However, only one of them had a college diploma. Two-thirds of the participants had between two to eleven children with the age of the index child ranging from three to twelve months. With respect to family planning, only 6 participants were using postpartum contraceptives at the time of the interview. Duration of stay in abusive relationships ranged from two to twenty-two years. Five key informant interviews with HEWs were also conducted in the selected rural health posts. All of the key informants were females. Their ages ranged from 29 to 42 years, and all were married. Three had completed college diploma, and the other two had university-level education. Four of them had at least five years of work experience, and one had three years of experience. In-depth and key informant interviews findings were combined. Three main themes emerged from data: "women's experience of major forms of perinatal IPV (psychological, physical and sexual violence)", "factors associated with perinatal IPV /m', and " implications of perinatal IPV on women's health" (Supplementary File 2).

Postpartum Women's Lived Experiences of Perinatal IPV

Study participants explicitly shared their hard hit by perinatal IPV. According to the reports, several of the interviewed women suffered from various perinatal psychological, physical, sexual, and economic violence, controlling behaviors, and deprivation of basic needs: food, money, clothing and housing. Their experience of perinatal IPV ranged from mild to severe, in which many (16 of 22) reported recurrent violence occurrence before, during, and after pregnancy. Some of the participants in the interview narrated that violence started at the beginning of their relationship. A majority of the interviewees indicated that violence during pregnancy was exacerbated and increased in the postpartum (Supplementary File 3). Some of the respondents had this to say:

> He forced me [to have sex] within fourteen days of having a child. (P-1)

> He keeps saying this, 'We will meet after your safe birth'. (P-2)

> He just kicked me, but I did not react to him since I was in postpartum. However, he often injured me when I was pregnant. (P-8)

> She came here with a three-day old infant … her husband had beaten her very badly. We all cried about her. (HEW-2)

Perinatal Psychological IPV

The interviewed women explicitly delineated their vulnerability to psychological violence before, during, and after the birth of an index child. Sixteen of the participants had experienced recurrent psychological violence within three distinctive periods. The majority of interviewees narrated that they were verbally abused, including; insulting, humiliation, intimidation, name-calling, belittling, and more. However, the interviewed women had trouble elaborating on how they had been subjected to severe perinatal psychological IPV. In addition, some of the study participants were embarrassed to explain the name-calling they encountered. For example, one of the participants explained that:

> He called me 'a bar lady'. How can I tell you all his insolent? He insults me in all manners. 'I saw you here and there … ' I am very afraid to mention what he said. (P-5)

The subsequent threats to hit, beat and kill were prominent in women's responses. In most cases, husbands used body language, otiose words, and beatings to intimidate their wives.

> … but he scares me. 'I will show you my hidden identity that you have never known. I will discipline you; hmm … I will give your result'. He raised his hand to hit [showing his action of intent to hit]. (P-3)

Additionally, violence victims were also abused psychologically by their in-laws and friends. As five of the interviewed women explained, the perinatal verbal assault occurred in the forms of intimidation, mocking, and teasing. Some of the participants had this to say:

> … that woman sent me gangsters to hit me … not meet with him [husband] again. (P-2)

> … I said, 'they made crops to be eaten. Your brothers made me suffer. I was insulted; they harassed me because I told them [brothers-in-law] to keep their cows enclosed'. (P-6)

Perinatal Physical IPV

As revealed from the data, sizeable proportions of postpartum women are at higher risks of experiencing perinatal physical IPV. Ten participants experienced subsequent physical partner violence from their husbands before, during, and after pregnancy. About 12 participants experienced physical violence during pregnancy while sixteen had it during the postpartum period. A majority of the participants noted that physical violence was exacerbated and increased during and after childbirth, including; slapping, kicking, hitting, beating, strangling, repeated pushing, and punching. Some of the interviewees stated that their husbands had repeatedly beaten them or kicked at vulnerable parts of their body including the abdomen during pregnancy. One participant, for example, said the following:

> … He approached from the back and kicked me when cooking dinner. Immediately, I fell towards the fire and got injured. After I fell to the ground, we went to a traditional birth attendant's house and she told us I was pregnant. (P-2)

Another interviewee reported:

> … He kicked my abdomen and went out. At the time, I was three months pregnant. (P-15)

According to participants' narrations, severe physical attacks were common in the perinatal period, like threats with knives, big sticks, and throwing objects (coffee cups and pots, tea-cups and chairs). Consequently, participants lost their tooth or hearing or had broken hands and legs. As four of the interviewed women explained their husbands continuously attacked them with knives.

> Since our wedding, he has hit me with whatever he found … even by 'Kincora' [big knife] until people called him crazy. I reported him once and had him jailed here in the Keble [lowest administrative unit in Ethiopia] because of using a Kincora. (P-4)

> … then he beat and broke my hand. (P-5)

> … In this community, many women have been stabbed by their husbands and they never help to get medical treatment after stabbing … this week, a woman came for treatment after being stabbed by her husband, three weeks after child-birth for trivial reasons. (HEW-4)

In this study, interviewees briefly described the spillover effect of perinatal violence. The data from the interviewees revealed that some partners were not only a serious threat to their wives, but also the infants during the postpartum period. Four of the participants mentioned that their newborns were hit and thrown by their father from a high distance and became unconscious, as a result of physical quarreling between partners. One interviewee stated the following:

> … He started a conflict with me and grasped the baby and threw her from a high distance … the baby was unconscious for a long time. (P-1)

Perinatal Sexual IPV

The interviewees experienced various forms of sexual abuse, ranging from sexual misconduct to unwanted sexual encounters without their consent in three mutually exclusive periods. Ten participants reported sexual violence before pregnancy while eight reported violence during pregnancy, but some participants were severely sexually assaulted at the verge of pregnancy. An interviewee shared her experience in the following way:

> … I cried and shed tears until people gathered. Family shouted at him," … shame on you! Why did you do that to her. She is powerless'. Then, I gave birth at night towards morning hours. (P-5)

Another participant said:

… If I refuse it [sex], he beats me. He pushed me to lie down on the bed when I was pregnant. It [forceful sex] is exacerbated after childbirth. (P-19)

The majority of interviewees experienced postpartum sexual violence. In the first few weeks of postpartum, some participants were exposed to forceful, nonconsensual sex. The women performed unwanted sex because they feared their husbands' frequent battering. Some respondents said the following:

One night he asked and forced me to have sexual intercourse without my willingness. Due to lack of power; I submitted my body to his sexual demands. (P-1)

… I submitted to his sexual demands because I was frightened that he would beat me. What can I do? You can't equate women's and men's power. (P-4)

… One woman said that," I never want him. I can't tolerate it [forceful sexual intercourse]." She asked for divorce following this issue. (HEW-2)

… Many husbands use excessive forces including kicks and slaps to sleep [to have sex] with their wives. (HEW-4)

According to most of the participants, sexual libido decreased after childbirth. Many claimed that maternal responsibilities, including; breastfeeding, childcare, physical inactivity, and poor nutrition were associated with reduced sexual impulses. About seven of the interviewed women reported a lack of sexual libido. For example, two participants said this regarding sexual desire:

… To do it [sex], first my body felt burdened, second I'm breastfeeding and third, he doesn't worry about my hunger and thirst. Due to those reasons; I don't want it [sex]. (P-2)

… Previously, when our body was full; when we drunk and ate … it [sex] was very pleasing to do it … We did it as we wanted. Right now, I do not know, hate it. (P-6)

Factors Associated with Perinatal IPV

Regarding factors associated with perinatal IPV, participants mentioned several issues that could be assumed to be causes of such incidences, including; alcohol consumptions, suspicion about the newborn, preference for a male child, partner infidelity and jealousy, use of contraceptives, indifference to shortages on household necessities, lack of proper parenting and financial problems.

Excess Alcohol Consumption

As revealed from the data, excess alcohol consumption often contributed to violent events. Many participants reported that alcohol abuse led to severe marital tension. About one-third of the participants experienced mixed or overlapping forms of perinatal IPV because their husbands were intoxicated. The story of two participants is revealed in the following narratives:

… At times; I was powerless [at the verge of pregnancy]. 'Where are you going? I will be asked by neighbors,' he said and he punched me because he was drunk. (P-10)

… When drunk, he insults me very badly … 'You! The son of bitch! Eat your mom's 'Entinaa' [Vagina]. (P-17)

The study participants also narrated that the risk of perinatal violence increased when their husbands abused alcohol. Four women's narratives show that their husbands displayed out-of- control behaviors when intoxicated.

… Because of that, baby lost her breath for a long time. When he did this, he was not aware of it because he was drunk. (P-1)

After drinking spree, he beats me when he comes home as drunk … in worthy and in vain, he insults me. Drinking is part of his life. (P-11)

Suspicion About Newborns

As revealed from the data, husbands are suspicious about babies born less than nine months. It is known that women may give births in a short gestational period (premature births) due to different causes. However, the interviewed postpartum women narrated that the suspicion about newborns were the reason for their abuse. According to the reports, three women's husbands had doubts about their newborns. According to the following narratives, two interviewees elaborated on the suspicion of newborns.

… Immediately after giving birth, I called and informed him about the birth. He said, 'No! It is seven months, not nine months. (P-7)

… During the negotiation with some husbands; they say, 'I don't accept the last child like mine. She had gone to her family in the last fight. (HEW-3)

Preference for a Male Child

The reports from the interviewees indicated that partners' preferences for male children triggered perinatal IPV. Four of the interviewees experienced postpartum violence due

to giving birth to female infants. As a result, they were insulted, belittled, kicked, and beaten by their husbands. In some instances, after finding out that the child was female, the husbands injured and tried to kill the newborn. The interviewed women also reported that their abusive husbands wanted to know the sex of the unborn child during antenatal follow-up.

> … He came after two days and saw it's a baby girl. Afterwards, he quarreled with me, grabbed the baby from my hands and threw from a high distance. From his evil ideas, he threw the baby. (P-1)

> … I had consecutive births of baby girls. Due to this case, we quarreled before. With the help of God, I delivered a baby boy by this year and he is good to me now. (P-13)

> … After getting an antenatal checkup for the last pregnancy, he wanted to know the sex of the coming child. (P-7)

Partner Jealousy and Suspicion of Infidelity

Jealousy is another provoking factor that was revealed during the interviews with participants. It is considered a warning sign of abusive relationships. As delineated from the interview participants, their abusive partners have a pervasive sense of jealousy. Two of the interviewees said the following:

> … He stays away from the house by pretense and suddenly came home to see if I was home or not. (P-9)

> … He didn't let me go to the market and didn't allow me to go out. I wouldn't speak if one of my family members came to our house. We just couldn't speak … he was waiting. (P-5)

Similarly, partner infidelity was also reported to lead to IPV between partners. The interviewees reported that partner infidelity was the source of quarrels with their partners.

> … He had a close friendship with a neighboring woman. She is a good person. However; he made her his intimate friend. (P-8)

> … we quarreled after I heard that he was in a relationship with someone. Then, I went to my family and later he called me and said, 'don't come upon my life. I started my own life. You can continue your own life.' (P-12)

> … Commonly what we hear here; men are not tolerant. They desire other girls. (HEW-3)

Use of Birth Controls

Reproductive rights are fundamental to women's autonomy. However; according to some interviewees; initiation, stopping, and switching of contraceptives is controlled by their husbands. Nearly one-third of the interviewed women delineated that initiating contraceptives triggered perinatal physical and/or psychological IPV experiences. Consequently, interviewees repeatedly stated that they had been coerced, abused, and forced by their husbands to stop birth control.

> … When I came from my family home I have brought the birth control pills, but he forbids me to use. For instance, one day he found the pills from where I put and secretly hid them. (P-1)

> … He beats me … 'Remove what you inserted [implanon] in your hand? You are living simply. You are not worthy without giving me more children,' he said. (P-2)

The majority of interviewees demonstrate that they had repeated conflict and fought because of using birth control methods. Further interviewees reported that some husbands were too aggressive for them to use birth control. Three women suffered severe physical violence due to the use of contraceptives.

> … I didn't get pregnant as I was on contraceptive use for two years. 'You stayed two years due to an injection,' he said. Then he beat and broke my hand. (P-5)

> … However, he insisted to stop using the injection [implanon] and I said no. We engaged in conflict and fought. Then, in front of people he gathered, I said that he was not good for me even the first Child. Due to this case, we quarreled in front of the gathered people. (P-2)

> … Once he dangerously beat me due to it [birth control] and I got sick for four weeks (P-18)

Family, Neighbors, and Peer Involvement

Interference from third parties may be "cancerous" and shake the bases of many marriages. According to study participants, the involvement of family and peers were the main source of their quarrels. Eight of the twenty-two interviewees reported that families, neighbors, and/or peers' ill involvement were an associated factor for perinatal IPV. Some of the participants had this to say regarding family, neighbors and peers' ill involvement:

He screamed at me. For that matter, the problem was raised by the family. We started fighting because of family issues. (P-2)

… There are many families, friends, and neighbors that disturb marriage bases. (HEW-2)

Additionally, reports from the participants indicated that some abusive husbands beat, kicked, and threatened their wives with knives because of their neighbor's involvement with their affairs. Two of the respondents experienced violence by their husbands when a dispute occurred with their neighbors:

Once upon a time when I was four months pregnant, I was cleaning our home and a woman next to our door abused me. As soon as my husband arrived to the home he has slapped me by supporting her. After that, one ear stopped hearing. (P-1)

Women from the neighborhood told him that I had visited women's affairs office … she told him that he should discipline me. After that, he constantly threatened me with a knife. He just became skeptical since he believes that I took someone else's advice. (P-9)

Implications of Perinatal IPV on Women's Health

The stories the study participants narrated show the various effect of perinatal IPV, including unintended pregnancies, repeated miscarriages, elevated blood pressures, and physical injuries. Almost half (12 of 22) of interviewees experienced unintended pregnancies. As five of the interviewed women stated, losing their tooth or hearing or had broken hands and legs occurred as a result of their partner's physical violence. In addition, some of the victims reported that they remained physically dependent. Six out of the twenty-two interviewees reported a history of miscarriages. Of these, two women encountered repeated miscarriages. One respondent reported increased blood pressure. Some of the victims shared their experiences and said the following:

… My blood pressure rose unknowingly as we had quarrels each other and shouted for this and that. (P-3)

… at night time, I lost to sleep. I thought I would be killed at night. (P-9)

… I suffered a lot due to miscarriages, unknowingly. It affected me a lot. I miscarried twice here. It damaged me severely since I had lost a lot of blood. (P-6)

The study participants also reported that repeated and severe violence resulted in mental health problems, like; sleeping disorders, mental trauma, and suicidal thoughts and attempts. Three respondents explained that they developed sleeping disorders. Six of the participants delineated mental trauma. Of these six, two had several suicidal attempts. Following experiences of violence, three interviewees tried to throw and kill their newborns. Some of the participants had the following statement:

hmm … he was angry and looked weird … with red eyes. I couldn't sleep at night and I thought he could do something to me. (P-3)

… I thought many times about committing suicide. I attempted to kill my daughter many times. (P-7)

… Like a crazy person, I cried in my house and tried to throw the baby into the pit. (P-20)

Discussion

The violence of any kind is unacceptable Postpartum women and their infants deserve safety and protection from sexual, physical, psychological, or verbal violence. In the current study, participants who experienced partner violence either before or during pregnancy continuously reported postpartum violence. This concurs with other findings; women with a history of violence are at risk of future violence.[40–43] Consistent with a study conducted in Australia,[40] perinatal IPV increases over time. The possible reason might be, for some couples, the transition to parenthood can be a stressful time and demanding additional physical, psychological, social, and economic needs. If it is difficult to cope up with such relationship stress; it could result in continued abuse. Results show that participants had psychological violence in three mutually exclusive periods accompanied by physical violence. Studies suggest that psychological violence predominantly occurs in physically violent relationships and is a precursor for other forms of partner violence.[3,44,45] Psychological violence is the most prevalent and severe form of violence.[46,47] Indeed, it is the most under-researched form of violence. This indicates that a single abusive incident could result in many forms of perinatal violence. In the present study, a substantial portion of interviewees experienced perinatal sexual IPV which occurred at its earliest within the first two weeks of postpartum. Two postpartum women experienced forcible rape from their husbands, which resulted in reproductive tract bleeding

and infections. Similar to other studies,[48,49] forceful non-consensual sex against women is common in consensual unions. This is a great implication for the fact beyond perinatal IPV and it could result in severe comorbidity.

Results from this study suggest a link between husbands who abuse alcohol and perinatal violence. Likely, the finding reveals that alcoholism leads to many household problems, including; psychological, physical, and sexual violence.[50] Compared to women experiencing no violence, women experiencing violence reported that partners chronically abused alcohol.[51] However, alcohol misuse is a double burden and difficult to shoulder in this formative period. In the present study, suspicion about the newborn also increases the risk of violence. Similar to reports from the United States, the frequency and severity of perinatal IPV increased with doubts about the paternal resemblance.[52,53] The reason might be that abusive partners are more likely to be suspicious of their wives being unfaithful, which could lead to more conflict. It is worth mentioning that one participant in this study experienced violence due to pre-term birth. Literature indicates that women in violent relationships are at increased risk of experiencing pre-term births, but such births do not necessarily trigger violent incidents.[54–56] The possible justification could be a wrong perception about pre-term births ie births less than thirty-seven weeks of gestation are assumed as cheating. Corroborating to studies set in Ethiopia, Nigeria, and the United States,[50,57,58] partner infidelity and jealousy precipitated husbands' violence in postpartum. A husband's preferences for a male child increased incidents of perinatal IPV. Correspondingly, a study conducted in Pakistan found that the inability to give birth to male children is linked to perinatal violence.[49] In a patriarchal and hypermasculine society, husbands highly desire sons over daughters.[59] The possible reason might be discriminating gender norms: sons can honor their family at a social level, unlike daughters. Additionally, the subsequent birth of baby girls is considered the woman's fault in a patriarchal society. Societal or cultural beliefs may require creative ways to improve community awareness regarding issues of gender and reproductive health rights. The use of contraceptives without the husband's consent was also a risk factor for perinatal violence. Presumably, ongoing perinatal IPV was associated with reduced contraceptive use.[24] Reproductive coercion; including contraceptive sabotage was also commonly reported by women experiencing partner violence.[29,60]

Perinatal IPV tampers with several women's mental and reproductive health. In this study, respondents reported that previous unwanted pregnancies, miscarriages, high blood pressure, and reproductive tract infections and bleeding occurred due to perinatal IPV from their husbands. These findings are consistent with other studies.[24,29] Additionally, women in this study narrated that they had developed perceived stress, fears, sleeping disorders, and other mental illnesses, indicating similarities with other several studies conducted elsewhere.[19,24,61] Some participants exhibited suicidal thoughts or attempts due to postpartum anguishes. Similarly, a report from Brazil indicated that suicidal ideation was common in two-thirds of low-income postpartum women reporting partner violence.[62] The effect of continuous partner violence leads to child abuse and neglect,[63,64] as also evidenced by this study.

Strengths and Limitations of the Study

This qualitative evidence provides some insights into the nature of perinatal IPV in the study setting. However, there are significant limitations while using this research finding. Participants were recruited using convenience sampling method, which fails to reach hard-to-reach victims. Some of the participants were traced with the help of health extension workers. This may have introduced selection bias. Moreover, only a male principal investigator [TL] collected data. Due to the sensitive nature of the topic in relation to gender roles, this may have prevented women from disclosing the full extent of their experience of IPV. Despite these limitations, this study has some important implications. To the best of our knowledge, this is the first study to explore postpartum women's lived experience of perinatal IPV in Ethiopia in general and in the study area in particular. Attempts were made to interview different groups of participants to triangulate findings. To ensure the integrity of the collected data, the verbal transcripts were read to each interviewee and feedback was incorporated. Our study included both urban and rural residents, which could represent both communities. In addition, women living with their abusive husbands and women who left violent relationships were also involved in this study. Thus, this study could show the actual nature of the problem in the health and social service settings. However, the future study requires to understand the extent of the problem in the community.

Conclusion

This study highlights that postpartum women are experiencing continuous and severe forms of perinatal IPV in the study setting. The circumstances leading to perinatal IPV are multifactorial. However, intimate partner violence and perinatal period complexities and burdens are indicated as an interplaying challenge. Thus, community-level interventions that minimize perinatal IPV among postpartum women and their infants are needed. Improving gender equality and women empowerment by harmonizing efforts with the individual, community and local authorities could also alleviate contributing factors. Moreover, routine screening programs should be launched in the perinatal period since it offers a great opportunity to recognize and intervene in the initial or continuous violence against women and their infants.

Data Sharing Statement

The data, both audio records and transcripts, analysed during the current study are available from the corresponding author upon reasonable request.

Ethical Approval and Informed Consent

The ethical clearance was obtained from the Institutional Review Board (IRB) of Addis Ababa University College of Health Sciences with a protocol number of 006/19/SPH. The study followed basic ethical principles of Helsinki declaration for medical research involving in human subjects.[65] All of the study participants were briefed about aims and procedure of the research and their right to abstain or withdrawal from the study at any time. Written informed consent was obtained from each participant separately. Participants were well informed not to mention a third person's name during audio recordings including their own respective names. The confidentiality of the collected data was maintained by assigning unique anonymous coding (P-1, P-2, P-3 …). All study information was kept secured and confidential with the first author. All audio recordings and transcribed data was not disclosed to third parties without the consent of the participant. All study participants provided informed consent to have their quotes published. After the interview, participants were given the opportunity to visit a psychiatric nurse if they experienced any psychological discomfort.

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Author Contributions

All authors contributed from the conception of topic to data analysis, drafting or revising the article, have agreed on the journal to which the article will be submitted, gave final approval of the version to be published, and agree to be accountable for all aspects of the work. Specifically, TL was conceptualized the topic of interest, involved in data collection, transcribed and translated data, conducted data analysis and drafted the manuscript. FE was involved in proposal development, planning the fieldwork and result section. ND: was involved in proposal and interview guides' development, data analysis and write up and in critical reviewing of manuscript.

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Disclosure

The authors declare that they have no competing interests.

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Multilevel analysis of factors associated with perinatal intimate partner violence among postpartum population in Southern Ethiopia

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Violence around pregnancy is critical in nature and major public health problem worldwide. Thus, the present study aims to determine the extent of perinatal partner violence and to identify its individual and community-level factors among postpartum women in Southern Ethiopia. A total of 1342 postpartum women nested in 38 'Kebles' (clusters) were enumerated using multistage-clustered sampling techniques for multilevel analysis. Different parameters were computed for model comparison and model fitness. The overall prevalence of intimate partner violence before, during, and/or after pregnancy was estimated to be 39.9% [95% CI 36.9–44.5]. About 18% of women reported continuous abuse over the perinatal period. Postpartum women who live in rural areas [adjusted odds ratio (AOR) = 2.46; 95% CI 1.21–5.01], or in neighborhoods with high IPV favoring norms [AOR = 1.49; 95%CI 1.01–2.20], high female literacy [AOR = 2.84; 95%CI 1.62–5.01], high female autonomy [AOR = 2.06; 95%CI 1.36–3.12], or in neighborhoods with lower wealth status [AOR = 1.74; 95%CI 1.14–2.66] were more likely to encounter PIPV. The complex patterns of interplaying factors operating at different levels could put pregnant or postpartum women at higher risk of IPV victimization. Therefore, policies that prioritize the improvement of contextual factors, particularly norms toward IPV and women's empowerment are likely to be the most effective interventions.

Intimate partner violence (IPV) is a serious public health and human rights issue that affects individuals and families from all backgrounds[1,2]. This gross human rights violation involves physical violence, sexual violence, stalking, and/or psychological aggression to those in a close relationship[3]. Violence of any kind is unacceptable, but it is magnified when victims are pregnant or postpartum because of its detrimental effects on the mother, fetus, and newborns[3]. Perinatal IPV (PIPV) refers to violence committed by a partner before, during, and/or after pregnancy[4,5]. Ballard and colleagues identified four patterns of PIPV including violence begins (starts at pregnancy), violence continues (before and during pregnancy), violence ceases (before but not during pregnancy), and no violence (no violence at any stage)[6]. Although pregnancy, childbirth, and early parenthood are a joyful time for family; it can also be potentially stressful time due to significant changes in physical, psychological, social, and economic needs[4]. This unique period is linked to higher demands on individual capacities, couple relationships, and household economic resources, as well as reduction in a leisure time and opportunities to socialize, which may have a negative impact on emotional wellbeing[7]. When coping with such a stressful situation becomes difficult, the risk of psychological and physical aggression increases[8]. IPV victimization around pregnancy is very critical[9] and can lead to adverse maternal and neonatal outcomes, such as hypertension, gestational diabetes, placental problems, infections, and mood disorders. Poor neonatal outcomes include preterm birth, small for gestational age, and low birth weight[10–12].

In Ethiopia, nearly half of women experience at least one form of IPV in their lifetime[13]. According to the World Health Organization (WHO) report, the country ranks first in the world in terms of reporting violence against women[14]. Besides, one in the every three women fails to disclose partner abuse[15]. Unfortunately, limited number of studies has been conducted on the extent and continuity of IPV over perinatal period[4]. Presumably,

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understanding and identifying risk and protective factors is an important step for developing, implementing, and evaluating prevention and intervention strategies[16,17]. According to the socio-ecological model, studying contextual factors may help in better targeting interventions more appropriately for IPV victims and perpetrators[18]. Despite the fact that the nature of violence varies by community, there have been few studies on the community-level influences of perinatal violence[19]. Also, the existing evidences were based on single-factor theories, used no robust statistical analysis, and/or gave less attention to the roles of contextual factors that trigger or protect PIPV. Moreover, previous studies[20–22] only measured violence during pregnancy and none has addressed the continuous nature of IPV across three mutually exclusive perinatal periods (before, during, and after pregnancy). Therefore, this study aimed to determine the prevalence of PIPV and to identify individual- and community-level factors associated with PIPV among postpartum population in the Wolaita zone, South Ethiopia.

Methods and materials

Study design and setting. This community-based cross-sectional study was conducted in the Wolaita zone of Ethiopia's South Nations, Nationalities, and People's Regions between October 2019 and January 2020. Administratively, the Zone is divided into sixteen rural districts ('*Woredas*') and six town administrations. It is one of the most densely populated areas in the region, with an estimated population of 2.5 million people. The number of women of reproductive age is estimated to be 582,500. The estimated number of postpartum populations among these women is 86,500.

Source and study population with eligibility criteria. All postpartum women living in the Wolaita zone during the study period were considered the source population. The study population consisted of all the postpartum women in the zone's randomly selected districts and towns. The study sample's inclusion criteria were women of reproductive age who had lived with their current husband for at least 1 year, were within 6 weeks postpartum, had a permanent address, and had a current healthy infant. As this study was part of the prospective follow-up study designed to examine the interplay between self-reported PIPV and postpartum modern contraception, women who had not desired to become pregnant for 1 year were included in this study. The postpartum women who were not in a marriage, who had no intention of limiting or spacing births in the year following the survey, had a hysterectomy, or their husbands had a vasectomy, had a history of stillbirths and fetal deaths were excluded from the study.

Sample size determination. The sample size was calculated using Epi-Info Version 7.0 by considering the single population proportion formula based on the following assumptions. The outcome variable was self-reported PIPV. As no similar study was conducted in the country to be used to determine the sample size, analysis from other developing countries was used. The proportion of postpartum women who reported PIPV in Nigeria was found to be 43.8% ($p = 0.438$)[23]. A 95% of confidence interval, a 4% margin of error, and a design effect of 2 were all considered. Finally, 10% was added for non-responses and miss to follow-up. The final sample was 1301. Considering factors associated with self-reported PIPV for double population proportion formula, decision-making power on household issues was found to be a strong factor in previous literatures[24]. The proportion of reported IPV among married women whose household issues are decided by husband only was found to be 68.6%, while proportion of IPV among women whose household issues are decided by jointly was assumed to be 53.6% by considering 15% risk difference, 95% CI, 80% power with a ratio of 1:4 ($r = 4$) and design effect of 2. Finally, 10% added for non-responses and the final sample size become 1236. However, this study was part of the prospective follow-up study designed to investigate the interplay between self-reported PIPV and postpartum family planning. The study had four specific objectives, and the alternative sample size for each objective was determined using both the double and single population proportion formulas. Of these alternative sample sizes, the maximum sample size (1320) was taken for all objectives considering the following assumptions: 95% CI, 4% margin of error, 80% power, proportion of postpartum modern contraceptive use (49%)[25], design effect of 2, and 10% non-response rate. However, 1342 postpartum women who met inclusion criteria were approached at the time of the data collection to increase the power of the study.

Sampling procedure. A multistage-clustered sampling technique was used to identify study participants. First, seven out of twenty-two districts in the zone (four rural districts and three town administrations) were selected using a simple random sampling method. These districts and towns were further clustered by 'Kebles,' Ethiopia's lowest administrative unit, and stratified into rural and urban Kebles. Second, thirty-eight Kebles (twenty-two rural and sixteen urban) Kebles were chosen randomly considering the number Kebles in each district. Then, sample size was allocated for each Keble using probability proportional to the size and the expected number of postpartum women per Keble. The lists of deliveries that took place within 6 weeks before the survey were refined and reconciled by data collectors from family folder of health extension workers (HEWs). In the case of households with more than one eligible woman, only one woman per household was chosen randomly. Finally, 1342 eligible women who met the inclusion criteria were sampled.

Study variables and measurements. Data collection tool used can be found in the supplementary file (see Supplementary Table S1 online). *Dependent variables:* The outcome of the interest was self-reported perinatal partner violence. It was measured using section seven of the WHO standardized questionnaire[14]. A woman who reported at least one act of perinatal psychological, physical and sexual partner violence was coded as "1" for experiencing reported PIPV, and otherwise "0" (Cronbach's $\alpha = 0.86$). *Independent variables:* VAW integrated ecological framework[26,27], followed as a guide to several factors associated with violence operating at different levels. The individual-level factors were specific to women, husbands, and relationship characteristics. The

women-level factors included were women's age at childbirth and marriage, education, employment status, religion, number of children, history of receiving bride-price at the wedding, women's exposure to inter-parental violence, and attitudes that justify wife-beating. The partner-level factors examined were education, employment status, sex preferences, and alcohol/ substance abuse. The relationship-level factors considered for analysis were women's participation in household decision-making, asset ownership, sex of index child, the couple's age, and their income difference.

Women's norms and attitudes towards IPV and a man's control over his wife's behaviors and activities were measured using sections six and seven of the WHO multi-country study on women's health and domestic violence questionnaire[14,28]. Participants' decision-making autonomy in household issues was measured[28] by asking whether women participated in personal health care, daily household purchases, major household purchases, visits family or relatives, husband's and her income (Cronbach's $\alpha = 0.76$). Community-level variables include women's residency, classified as urban or rural based on the Ethiopian Central Statistical Authority descriptions of respondent's location[29]. Other community-level variables were constructed by aggregating individual-level characteristics. The aggregates for clusters were computed using means (for normally distributed) or median (not normally distributed characteristics) in the woman's cluster of residence. Finally, high-level variables were re-categorized into lower and higher categories.

Data collection procedure. Data were collected using a pretested, interviewer-administered questionnaire adapted from other literature, including WHO and demographic and health survey (DHS) standard tools. The questionnaire was prepared in English, then translated to Amharic, and used to collect the data after back translation to English to check its consistency. According to WHO ethical and safety recommendations for research on domestic VAW[30], training comprised of study's aim and implementation, the basics of VAW, composition of questionnaire and interviewing techniques was prepared. Thirty-eight data collectors (married, female, diploma holders, bilingual) with eight supervisors (B.Sc. in Public Health) were recruited, trained, and deployed after receiving 2 days of intensive training. The training was given separately in each district for administrative purposes. All interviews were conducted in a private environment based on participants' preferences. If the interview was interrupted by any person, the conversation about violence was changed to a questionnaire related to women's health issues. At the end of the interview, participants' district, Keble, village or got, name of women's health development army (WHDA), head of WHDA, house and phone numbers, and name of the head of the household were recorded for relocating and arranging the study participants for a follow-up interview.

Data management and analysis. Data were coded, entered into Epidata version 3.1, and exported to the SPSS for Windows 25 for descriptive analyses. The wealth status of participants was computed using principal component analysis (PCA). The hierarchical data with 1320 postpartum women nested in 38 clusters (Kebles) were constructed. The study participants within each cluster ranged from 20 to 43. Multilevel logistic regression models were used to determine associations between PIPV and individual- and community-level factors using STATA version 14. This model was preferred to avoid the clustering effects of factors operating at different levels on the outcome variable and violate the assumption of independence in standard logistic regression[31]. All significant variables at the p-value < 0.05 in bivariate analysis were considered candidates for multivariate analysis. Four Models were constructed in multivariate analysis.

The measures of association (fixed-effect) were shown as odds ratios at a 95% CI. Statistical significance was determined using a p-value < 0.05. In addition, to estimate the extent of variation (random effects) across communities, the models also include ICC, MOR, and PCV. ICC measures the proportion of the total heterogeneity that was attributable to the community level. It represents the ratio of the between-cluster variance to total variance[32,33]. However, MOR presents the cluster variance in the odds ratio scale. The MOR is the median value of the odds ratio between the area at the highest risk and the location at the lowest risk[34]. The PCV was also computed for each model concerning the unconditional model to present the power of the individual- and community-level factors in the models in explaining women's experience of IPV[35,36]. Multicollinearity between the independent variables was checked using variance inflation factors (VIF). VIF value > 10 indicates that the presence of collinearity. Wherever multicollinearity existed, one of them was dropped from the model in turn. Akaike's Information Criterion (AIC) was used for model selection, and the model with the lowest AIC value was considered the best-fitted model and used for description of the data[37].

Ethical considerations. The study was reviewed and approved by the Institutional Review Board of the College of Health Sciences, Addis Ababa University, with a protocol number of 006/19/SPH. The study followed and conducted with full respect of basic ethical principles of Helsinki declaration for medical research involving in human subjects[38]. All the study participants were briefed about the aim and procedures of the research and their right to abstain or withdraw from the study at any time. The informed consent was obtained from each participant separately. The confidentiality of the collected data was maintained by locking in the file cabinet. All study information was kept secured and confidential with the first author. After the interview, participants were allowed to visit a psychiatric nurse if they experienced any psychological discomfort.

Results

Basic background characteristics of currently married postpartum women in Wolaita Zone. Of the 1342 eligible women, 1292 (96.27%) participated in this study. The majority of participants, 57.1% were 25–34 years old with a mean age of 28.8 ± 5.6 years. Approximately 36% of the participants had never attended formal education, while 41% of their husbands had completed secondary or higher education. About 85% of the participants were unemployed and 35% of their husbands were in paid jobs. Approximately

18% of postpartum women witnessed inter-parental violence during childhood, and more than half, 57% had IPV favoring norms. About 37% of the postpartum women exposed to partner violence before index pregnancy. Regarding community-level characteristics, a large proportion of participants were living in a community with rural residence (56.3%), high early marriage (52.3%), high female literacy (55.7%), high IPV favoring norms (53.2%), high women's decision-making autonomy (54.3%), and middle wealth status (34.0%) (Table 1).

Prevalence of self-reported perinatal partner violence against postpartum women in Wolaita zone, Southern Ethiopia (n = 1292). The overall prevalence of self-reported IPV over the perinatal period was 40%, where the most common type was psychological violence (37.6%) followed by physical violence (29.3%). The pattern of partner violence was changed over time. The overall prevalence of self-reported IPV before pregnancy was 37.4%, where psychological violence (34.2%) was high prevalent and sexual violence (20.7%) was low prevalent. The violence during pregnancy was 28.3%, where psychological violence (24.8%) was high, but comparable figures for physical (17.0%) and sexual violence (16.0%). Overall prevalence of violence in the postpartum period was 22.4% where psychological violence (22.2%) was high prevalent and comparative figures for physical violence (13%) and sexual violence (13.7%) (Fig. 1).

Continuities in self-reported perinatal intimate partner violence in Wolaita Zone (n = 1292). The continuity of self-reported PIPV was observed during the perinatal period (before, during, and after pregnancy). The continuity of the perinatal violence was calculated considering the reference point of the numbers of postpartum women "with" and "without" any PIPV during the preceding perinatal period. Out of 483 women who reported IPV within a year before pregnancy, about 70% of them experienced violence during their pregnancy ($\chi^2 = 76.89$, $p \leq 0.001$). Of 367 postpartum women who experienced IPV during pregnancy, about 68% continuously reported after childbirth ($\chi^2 = 35.16$, $p \leq 0.001$). Of the women who reported abuse before pregnancy, about 56% had experienced PIPV following childbirth ($\chi^2 = 152.00$, $p \leq 0.001$). Of 809 postpartum women who were not abused before pregnancy, approximately 97% of them never experienced it during their pregnancy. Among those who experienced PIPV before pregnancy, approximately 70% encountered recurrent abuse during their pregnancy. Of those abused both before and during pregnancy, about 67% of them were also encountered continuous abuse following childbirth. Approximately 18% of the postpartum women experienced violence continuously over the entire perinatal period (Fig. 2).

Community-level variance and model comparison of multilevel logistic regression by factors associated with perinatal violence among postpartum women in Wolaita Zone. *Random effect results.* The heterogeneity in PIPV experience between communities was measured using deviance, ICC, PCV, and MOR. The null model was fitted to verify suitability of multilevel analysis. ICC found to be 0.113, indicating that 11.3% of the total variability in experiencing PIPV was attributable to between cluster variations. The likelihood ratio test was strongly significant ($p < 0.001$) which favors the presence of clustering effect. Moreover, PCV indicated that individual-and community-level factors explained the 74% of the variation in experiencing PIPV across communities. Furthermore, MOR revealed the unexplained community variation in experiencing PIPV reduced from 2.12 (null model) to 1.47 (full model). This shows that if we randomly pick two individuals from two different communities, women in the community with a higher risk of PIPV had 2.1 times higher odds of experiencing PIPV compared with postpartum women in the community with a lower risk of PIPV (Table 2).

Fixed effect results. In the full model, the effects of community-level variables largely emerged, but the association between self-reported PIPV and individual-level factors generally remained similar. Women from rural areas were 2.46 times more likely to encounter PIPV than their urban counterparts. Women from the community with high women literacy levels were 2.84 times more likely to experience PIPV compared to women from community with low literacy levels. The odds of violence were increased by 51% among women who lived in the community with high IPV favoring norms compared to those who lived in a community with low IPV favoring norms. The likelihood of PIPV among women from the community with high women's autonomy was 2.06 times higher than women from the community with low women's autonomy. However, odds of PIPV among women who participated in the decision-making process regarding household issues were decreased by 65% compared to those who did not. Women from the community with middle wealth status were 1.74 times more likely to experience PIPV than those with the richest wealth status. Postpartum women who attended no formal and primary education were 2.22 times and 1.60 times higher likelihood of experiencing PIPV than women who attended secondary or higher education, respectively. The odds of encountering partner abuse among women whose husbands attended primary and secondary and higher education were decreased by 49% and 39% compared to those whose husbands never attended formal education, respectively. Among postpartum women who reported IPV favoring attitude, the odds of PIPV were 3.35 times higher than women who did not justify wife-beating attitude, and the odds were 2.16 times higher among those who witnessed inter-parental violence during childhood than among those who had not. Women with alcoholic and wife controlling husbands were 1.71 times and 8.38 times more likely to experience PIPV than those who did not report such behaviors (Table 3).

Discussion

The current study shows that about 40% (95% CI 36.9–44.6) of women had experienced intimate partner violence before, during, and/or after pregnancy. This finding is consistent with clinical studies conducted in Southern Nigeria (43.8%) and Tanzania(43%)[23,39], but lower than study conducted in Brazil (47.4%) and Iran (64.7%)[40,41]. Despite these comparative figures from clinical settings which yield high prevalence rates, this community-based finding confirms that a significant proportion of postpartum women are at risk for PIPV. The prevalence

Characteristics	Category	Frequency (N)	Percent (%)
Woman-level characteristics			
Maternal age (years)	≤ 24	295	22.8
	25–34	738	57.1
	35–49	259	20.1
Maternal age at marriage (in years)	< 18 years	399	30.9
	≥ 18 years	893	69.1
Religion	Orthodox christian	319	24.7
	Protestant christian	915	70.8
	Others*	58	4.5
Maternal education	No formal education	462	35.8
	Primary	401	31.0
	Secondary+	429	33.2
Maternal employment status	Not employed (non-salaried)	1099	85.1
	Employed	193	14.9
Number of living children	1–2	533	41.3
	3–4	465	36.0
	≥ 5	294	22.8
Sex of index child	Male	659	51.0
	Female	633	49.0
Received bridal price	No	555	42.9
	Yes	737	57.1
Justify intra-parental violence	No	1050	81.3
	Yes	242	18.7
Violence before the index pregnancy	No	810	62.7
	Yes	482	37.3
Justify wife beating norms	No	545	42.2
	Yes	747	57.8
Household wealth status	Poor	299	23.1
	Middle	673	52.1
	Rich	320	24.8
Husband-level characteristics			
Husband occupation	Non-employed	836	64.7
	Employed	456	35.3
Husband education	No education	388	30.0
	Primary	369	28.6
	Secondary+	535	41.4
Husband alcoholism	No	894	69.2
	Yes	398	30.8
Husband substance abuse	No	1116	86.4
	Yes	176	13.6
Intention for index pregnancy	Wanted pregnancy	1090	84.4
	Wanted delay	166	12.8
	Never minded it	36	2.8
Sex preferences of the index child	Male	586	45.4
	Female	229	17.7
	Never mind	477	36.9
Controlling behavior	No	611	47.3
	Yes	681	52.7
Relationship-level factors			
Years couple lived together	1–5 years	403	31.2
	6–10 years	500	38.7
	≥ 11 years	389	30.1
Decision-making autonomy	No	724	56.0
	Yes	568	44.0
Asset ownership (n = 764)	No	506	66.2
	Yes	258	33.8
Continued			

Characteristics	Category	Frequency (N)	Percent (%)
Age difference	Younger than husband	1058	81.9
	The same in age	209	16.2
	Older than husband	25	1.9
Income difference	No income	810	62.7
	Earns less than	330	25.5
	Earns the same	62	4.8
	Earns more than	90	7.0
Community-level factors			
Place of residence	Urban	565	43.7
	Rural	727	56.3
Early marriage	High	682	52.8
	Low	610	47.2
Community-level women literacy	Low	572	44.3
	High	720	55.7
Community norms favoring IPV	Low	605	46.8
	High	687	53.2
Women's decision-making autonomy	Low	590	45.7
	High	702	54.3
Wealth status	Poor	416	32.2
	Middle	439	34.0
	Rich	437	33.8

Table 1. Individual-and community-level characteristics of currently married postpartum women in Wolaita zone, Southern Ethiopia, 2020. *=Others: Catholics, Muslim, Jehovah witness.

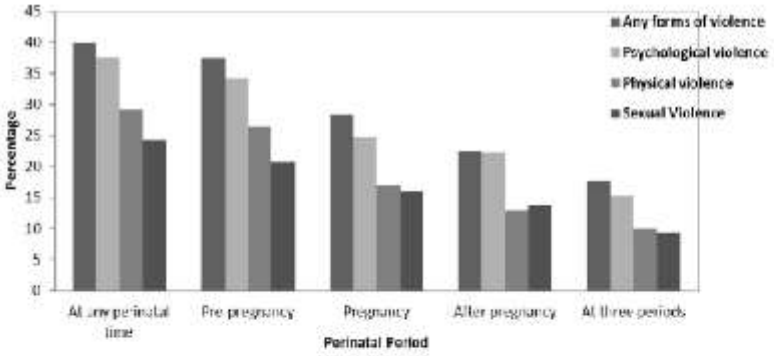

Figure 1. Patterns of self-reported perinatal partner violence according to the period of occurrence and its forms.

of PIPV was decreased over perinatal periods, the highest in the year before pregnancy (37.4%) and lowest after childbirth (one and half months) (22.4%), which accords with studies conducted elsewhere[41–43]. This lowest incidence of abuse after childbirth can be attributed with the study period variability of the postpartum period and cultural celebrations and presence of extended family following successful childbirth. Another explanation could be linked to fear of vulnerability that perinatal women in an abusive relationship may try to protect against being harmed by using techniques such as hiding and avoidance. In this study, low prevalence of physical and sexual violence was observed over the perinatal period. This finding corroborates with other studies that have identified low incidence of physical and sexual violence during the perinatal period[39,42,44]. The possible justifications could be the husband's fear of the social stigma associated with wife battering or decreased sexual demands in this formative period. Most importantly, caution should be taken when interpreting the reduction of abuse over perinatal periods. The evidence indicates that existing abuse escalates in frequency and severity in the perinatal periods[43,45,46]. Our study found that over two-thirds of women who reported IPV before pregnancy

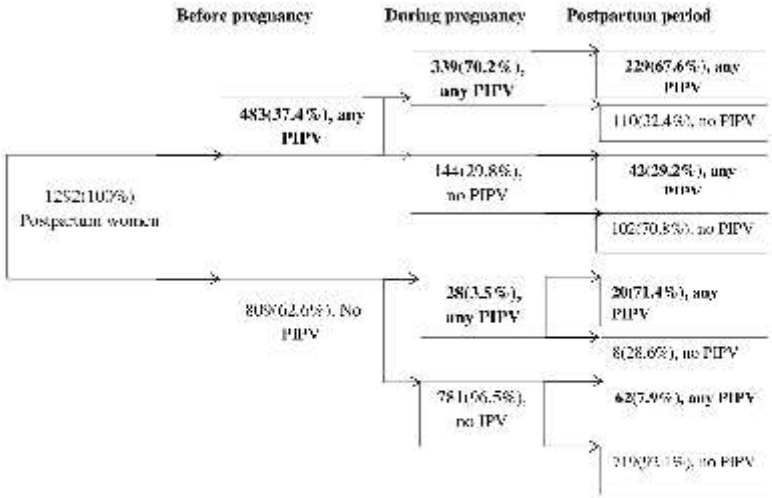

Figure 2. Continuities in perinatal intimate partner violence in Wolaita zone, Southern Ethiopia, 2020.

Random effects	Null model	Full model
Community-level variance	0.42	0.11
ICC (%)	11.3	3.2
PCV (%)	Reference	73.8%
Median odds ratio (MOR)	2.12	1.47
Model fitness statistics (AIC)	1733.624	1120.424
Model fitness statistics (BIC)	1743.952	1311.49
Log likelihood	-864.8122	-523.2121

Table 2. The random-effects model and model comparison.

also experienced continuous abuse during and after pregnancy. This result confirms the fact that once abuse has initiated, it will continue during the transition to parenthood.

In this study, being a rural resident was associated with high PIPV encountering. This finding corroborating with prior studies[20,47]. In contrast, urban residency was also a trigger for PIPV[48]. Again, paradoxically to other studies[49–51], being in urban places was found to be a protective factor against PIPV. This might be because living in urban areas may offer women more opportunities to access media outlets, economic resources, institutional supports, and new information, which can help them cope with violence more effectively. Consistent with the social causation theory[52], the current study shows a reciprocal relationship between women's education status and PIPV. Increasing women's education reduces any form of the recent and long-term probabilities of IPV, which is supported by past research conducted in Pakistan, Belgium, and the USA[53–55]. In contrast to a study done in India[56], neighborhoods with high women's literacy were linked with an increased risk of PIPV. This might be due to interaction with traditional gender ideology in a patriarchal society that expects women to be submissive in all spheres of marital relationships, which may not work for more educated women and could lead to violence. In this study, women from the community with low wealth terciles were also at increased risk of PIPV as evidenced by studies conducted elsewhere[57,58]. This result may imply that any violence prevention strategies should prioritize women living in neighborhoods with the lowest wealth terciles. At individual level, postpartum women's decision-making autonomy in household issues was found to be protective for PIPV in the current study. Conversely, women concentrated in the community with high women decision-making autonomy have a high probability of encountering PIPV. This suggests that as women gain autonomy, they struggle for reproductive autonomy, including fertility control, which can lead to PIPV victimization in traditional societies where men hold primary decision-making power in marriage, as evidenced by other studies[59–61]. Also, the result is consistent with a cohort study conducted in Nepal, which found that the risk of contracting IPV was higher in women who became pregnant and gave birth than in those who did not[62]. This implies that ensuring women's decision-making autonomy requires addressing IPV and related constraints.

Characteristics	Category	Exposure to perinatal IPV		Model II	Model III	Full model
		No	Yes			
		Num. (%)	Num. (%)	AOR (95%CI)	AOR (95% CI)	AOR (95% CI)
Community-level factors						
Place of residence	Urban	367 (65.0)	198 (35.0)	na	ref	ref
	Rural	410 (56.4)	317 (43.6)	na	2.22***	2.46*
Early marriage	High	346 (56.7)	264 (43.3)	na	ref	ref
	Low	431 (63.2)	251 (36.8)	na	1.08	1.22
Community norm favors IPV	Low	386 (56.2)	301 (43.8)	na	ref	ref
	High	391 (64.6)	214 (35.4)	na	0.92	1.49*
Community-level women literacy	Low	355 (62.1)	217 (37.9)	na	ref	ref
	High	422 (58.6)	298 (41.4)	na	1.86***	2.84***
Community-level women's autonomy	Low	342 (58.0)	248 (42.0)	na	ref	ref
	High	432 (62.0)	267 (38.0)	na	1.09	2.06***
Community-level wealth Status	Poor	259 (62.3)	157 (37.7)	na	1.01	1.33
	Middle	240 (54.7)	199 (45.3)	na	1.26	1.74*
	Rich	278 (63.6)	159 (36.4)	na	ref	ref
Woman-level factors						
Woman's age in years	≤ 24	134 (45.4)	161 (54.6)	2.04	na	2.07
	25–34	460 (62.3)	278 (37.7)	1.06	na	1.10
	35–49	183 (70.7)	76 (29.3)	ref	na	ref
Maternal age at marriage	< 18 years	193 (48.4)	206 (51.6)	1.15	na	1.20
	≥ 18 years	584 (65.4)	309 (34.6)	ref	na	ref
Maternal education	No formal	201 (43.5)	261 (56.5)	2.23***	na	2.22***
	Primary	251 (62.6)	150 (37.4)	1.61*	na	1.61*
	Secondary+	325 (75.8)	104 (24.2)	ref	na	ref
Employment status	Not employed	629 (57.2)	470 (42.8)	0.68	na	0.72
	Employed	148 (76.7)	45 (23.3)	ref	na	ref
No. of living children	1–2	309 (58.0)	224 (42.0)	ref	na	ref
	3–4	269 (57.8)	196 (42.2)	1.00	na	1.01
	≥ 5	199 (67.7)	93 (32.3)	1.12	na	1.14
Sex of index child	Male	434 (65.9)	225 (34.1)	ref	na	ref
	Female	343 (54.2)	290 (45.8)	1.29	na	1.22
Exposure to family violence	No	700 (66.7)	350 (33.3)	ref	na	ref
	Yes	77 (31.8)	165 (68.2)	2.18***	na	2.16***
Justify wife beating	No	450 (82.6)	95 (17.4)	ref	na	ref
	Yes	327 (43.8)	420 (56.2)	3.16***	na	3.35***
Wealth status	Poor	163 (54.5)	136 (45.5)	1.12	na	1.06
	Middle	406 (60.3)	267 (39.7)	0.82	na	0.84
	Rich	208 (65.0)	111 (35.0)	ref	na	ref
Partner-level factors						
Husband occupation	Non-employed	483 (57.8)	353 (42.2)	0.91	na	0.92
	Employed	294 (64.5)	162 (35.5)	ref	na	ref
Husband education	No education	174 (44.8)	214 (55.2)	ref	na	ref
	Primary	231 (62.6)	138 (37.4)	0.53**	na	0.51**
	Secondary+	372 (69.5)	163 (30.5)	0.63	na	0.61*
Husband alcoholism	No	612 (68.5)	282 (31.5)	ref	na	ref
	Yes	165 (41.5)	233 (58.5)	1.73***	na	1.71**
Husband substance abuse	No	712 (63.8)	404 (36.2)	ref	na	ref
	Yes	65 (36.9)	111 (63.1)	1.14	na	1.13
Intention of index pregnancy	Intended	687 (63.0)	403 (37.0)	ref	na	ref
	Not Intended	75 (45.2)	91 (54.8)	3.56***	na	3.17***
	Never minded	15 (41.7)	21 (58.3)	3.23*	na	2.98*
Husband's sex preferences	Male	311 (53.1)	275 (46.9)	0.99	na	0.90
	Female	162 (70.7)	67 (29.3)	0.63	na	0.62
	Never minded	304 (63.7)	173 (36.3)	ref	na	ref

Continued

Characteristics	Category	Exposure to perinatal IPV		Model II	Model III	Full model
		No	Yes			
		Num. (%)	Num. (%)	AOR (95%CI)	AOR (95% CI)	AOR (95% CI)
Controlling behavior	No	526 (86.1)	85 (13.9)	ref	na	ref
	Yes	251 (36.9)	430 (63.1)	8.66***	na	8.38***
Relationship-level factors						
Years couple lived together	1–5 years	232 (57.6)	171 (42.4)	1.25	na	1.28
	6–10 years	274 (54.8)	226 (45.2)	2.12***	na	2.15***
	≥ 11 years	271 (69.7)	118 (30.3)	ref	na	ref
Decision-making autonomy	No	324 (44.8)	400 (55.2)	ref	na	ref
	Yes	453 (79.8)	115 (20.2)	0.37***	na	0.35***
Age difference	Younger than	633 (59.8)	425 (40.2)	0.42	na	0.39
	The same	133 (63.6)	76 (36.4)	0.31*	na	0.28*
	Older than	11 (44.0)	14 (56.0)	ref	na	ref

Table 3. Multilevel logistic regression models for individual-, relationship-, and community-level factors associated with self-reported perinatal partner violence in Wolaita Zone (n = 1292). Statistically significant at *p-value < 0.05, **p-vale ≤ 0.01, ***p-value < 0.001, ref = reference group, na = not applicable.

In agreement with social learning theory, postpartum women's witness to inter-parental abuse during childhood was linked with increased PIPV victimization. Similarly, a study conducted in Brazil reveals that witnessing or being a victim of family violence was associated with being perpetrators or victims of PIPV when becoming adults[63]. The possible reason may be exposed to family violence can cause many women to become determined not to tolerate violence in their marriage. In the current study, women who endorsed wife-beating norms and living in the community with high IPV favoring norms were at increased risk of PIPV. This implies harmful traditional models play a vital role in sustainability of violence and need to be cured through social norms intervention. In a replication of previous studies in Malaysia, Brazil, and the USA[64–68], the husband's alcohol misuse and partner controlling behavior were associated with high PIPV victimization. In line with a study conducted in the USA[8], unintended index pregnancy was also a triggering factor for PIPV. The association could be explained in different ways. An abusive partner could limit the woman's ability to control her own fertility or because the woman in a violent relationship may neglect to take care of their fertility control needs, which could lead to unintended pregnancies. Inconsistent with a study conducted in Nepal[44], a short duration of marriage was a risk for PIPV. The possible reason could be a lack of awareness on coping with stress and changes during the childbearing period for couples in the short duration of cohabitation. Similarly, a couple's age difference predicts PIPV. Being the same age as a husband protects perinatal abuse as being older. This finding implies interventions that consider and reduce women's high age disparity in the community are needed to reduce the vulnerability of women to PIPV. Contrary to other studies[69,70], infant gender and son preferences were not predicted PIPV encountering. This finding also contradicts the researchers' early results from a qualitative study[71]. This requires further investigations.

This study has significant limitations while using this research finding. First, we could not establish a causal relationship due to the cross-sectional nature of the study design. Second, there are limited community-based cluster-level studies to compare this finding, which demarcated us to compare results from clinical studies to the population-based studies. Third, as researching violence against women suffers from under-reporting, this study was not free from this problem despite all data supervisors and enumerators being well-trained. Fourth, exclusion of women: unmarried, in the extended postpartum periods, and had a stillbirth or neonatal death was another limitation because violence rates might be high in these groups. Despite these limitations, this study has some important implications. To the best of our knowledge, this is the first community-based study in the country that investigates the community-level variation of self-reported perinatal violence among postpartum women. Relatively, the study was focused on recent self-reported IPV and may indicate the assumption of less recall bias. Indeed, experts in this area suggest that a woman never forgets her husband's action following pregnancy and childbirth, whether treating poorly or disrespecting her over the perinatal period will scar her for life. Thus, any abuse from their husband is recalled with great clarity.

Conclusion

Our study found that about one-fifth (18%) of postpartum women are continuously subjected to partner violence over the perinatal period. A significant heterogeneity was observed between clusters in PIPV victimization. The complex patterns of interplaying factors operating at different levels could put pregnant or postpartum women at higher risk of perinatal abuse. Therefore, policies that prioritize the improvement of contextual factors, particularly norms toward IPV and women's empowerment, are likely to be the most effective interventions with multidisciplinary and intersectoral collaborations. In addition, nationally appropriate guidelines, strategies, and programs should be prepared that prioritize and support perinatal women at risk of IPV. Further, future studies

that investigate the role of social processes and norms that help IPV sustainability among perinatal women are also suggested.

Data availability

The data analyzed during the current study are available from the corresponding author upon reasonable request.

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Author contributions

All authors conceptualized the study. T.L. has conceived the study, developed the proposal, conducted data collection and analysis, and drafted the manuscript. EE. was involved in proposal development, planning the fieldwork, and the result section. N.D.: was involved in the proposal, data analysis and write up and critical reviewing of the manuscript. T.L. and N.D. read and approved the final manuscript.

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Competing interests

The authors declare no competing interests.

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Perinatal intimate partner violence and postpartum contraceptive adoption among married women in Southern Ethiopia: A classical prospective cohort study (Paper III)

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Abstract

Objective

The main aim of this study was to examine the nexus between women's experiences of perinatal partner violence and postpartum modern contraceptive adoption in Southern Ethiopia.

Methods

Design This is a classical prospective cohort study

Settings and participants The study included 1,292 postpartum women from seven randomly selected districts (four rural districts and three town administrations) in Wolaita Zone.

Main outcomes and measurements Women were designated as users if they reported use of the male or female sterilization, implants, the IUD, injectables, pill, the male or female condoms, and emergency contraception. All other individuals were considered as non-users. A modified Poisson regression model with a robust error variance was computed to estimate crude and

adjusted risk ratios with 95% CI. All variables with p-values less than 0.2 were considered for multivariate analysis.

Results: Of the respondents, 62% (95% CI: 59.1-64.5) had started the first modern contraception within the year after childbirth. The relative risk of postpartum contraceptive adoption was reduced by 31% (aRR=0.69; 95%CI: 0.50-0.97) among women who reported perinatal partner violence compared to their counterparts. Compared to home deliveries, the risk of using modern methods in the extended postpartum period was significantly higher for health facility deliveries (aRR=1.58; 95% CI: 1.41-1.78). Furthermore, women who reported no menstrual resumption had a 46 % lower risk of contraceptive methods initiation after childbirth (aRR=0.54; 95% CI: 0.48-0.62) than women who reported menstrual resumption.

Conclusion: In the current study, postpartum modern contraception use was predicted by women's employment and household wealth status, their husband's educational level, place of delivery, and menstrual resumption. A comprehensive approach that integrates violence screening and psychosocial support programs into family planning services may be more effective in improving postpartum contraception uptake. Moreover, strategies to promote healthy, respectful, and non-violent relationships are central to prevention.

Keywords: Perinatal partner violence, postpartum, contraceptive adoption, Ethiopia

Strengthens and Limitations

- This is the first study of its kind in investigating the effect of perinatal partner violence on postpartum contraceptive adoption in Ethiopia, and in Wolaita Zone in particular.
- Relatively, the study was focused on recent partner violence during perinatal period and may indicate the assumption of less recall bias.
- On the other hand, the analysis of women's IPV experiences was based on self-reported and retrospective data. Therefore, the potential recall bias may not be ignored.
- Women often did not disclose their experiences of violence due to stigmatization, fear and sensitivity. As a result, there is a possibility of underestimation of true prevalence of PIPV.
- We only collected data on the frequency of violence over the perinatal period, which may not reveal the chronicity or severity of problem.

Background

Intimate partner violence (IPV) is a major public health and human rights issue that affects millions of women worldwide [1 2], particularly reproductive-age women [3]. It is a "silent epidemic" often occurs between two people in a romantic relationship [4]. Violence against pregnant or postpartum women is a critical concern because of its chronicity to the mother and child [5 6]. It increases in frequency and severity over time and kills more pregnant women each year than any other cause [7]. Perinatal IPV (P-IPV) refers to violence perpetrated by a partner either in the year before or during pregnancy, or/and up to one year after childbirth [8 9]. Although all women deserve to be safe and protected, violence against perinatal women is linked to poor physical and psychosocial health, some of which may impact future childbearing and contraceptive use [10 11]. Based on literature, IPV has been linked to many reproductive health problems such as unintended pregnancies, lower contraceptive use, fetal loss, abortions, and a higher incidence of infertility [12-15]. Women in abusive relationships have limited decision-making power. Studies have highlighted that women's ability to control their reproductive health choices significantly impacts control over pregnancy and pregnancy timing [16 17].

Contraception is a critical component of empowering women to achieve their desired fertility. Contraceptive use during the first year postpartum has the potential to prevent unintended pregnancy and short birth intervals [18 19]. However, this formative period could be a complex time for women to make family planning decisions, especially if they are in a violent relationship. The World Health Organization (WHO) recommends that women wait at least two years before having their next child to reduce the risk of adverse maternal, perinatal and infant outcomes [20]. Although more than 90% of women who want to avoid or delay pregnancies postpartum, two-thirds are not using contraception [21]. Due to limited reproductive health control, women in abusive relationships are at high risk of unintended pregnancy [11 22 23]. As such, violence around the time of pregnancy may interfere with postpartum contraceptive use behaviors. Although numerous studies have been conducted to examine the interplay between violence and contraception [14 24-26] and have yielded diversified results [25], postpartum contraceptive use among women experiencing violence over the perinatal period, especially in low-income settings, has not been adequately researched. Most prior studies were also from middle- and high-income countries and only assessed the link between physical abuse and postpartum contraception. Still they did not examine psychological and sexual abuse effects on methods used after childbirth [14 24 25 27].

Ethiopia has made significant progress toward meeting the FP2020 agenda, but the contraceptive prevalence rate remains low [28 29]. Furthermore, the country ranks first in terms of reporting physical and/or sexual violence against women [30]. This may obscure the true nature of the problem that makes women poor contraceptors and impede the development of new strategies for violent prevention programs. In recognition of its negative consequences, the family planning (FP) agenda 2030 aims to reduce psychosocial barriers that prevent women from using life-saving and life-changing modern contraceptives [31]. Moreover, exploring how PIPV exposure affects postpartum women's contraceptive use patterns has important policy and program implications. Also, the finding will be critical in achieving national family planning program targets set in Health Sector Transformation Plan-II (Contraceptive prevalence rate from

41% in 2019 to 50% in 2025) [32]. Therefore, the present study examines postpartum modern contraception uptake between women with and without PIPV, and identify predictors that influence contraceptive methods use after childbirth in Wolaita zone, South Ethiopia.

Methods and Materials

Study design and setting

This community-based classical prospective cohort study was conducted in the Wolaita zone located in Ethiopian's South Nations, Nationalities, and People's Regions (SNNPR). It is about 328 KM away from Addis Ababa, the capital city of Ethiopia. Administratively, the zone is subdivided into sixteen rural districts ("Woredas") and six town administrations. It is one of the most densely populated zones in the region with an estimated population of 2.5 million people. The estimated number of women in the reproductive age group is 582,500. Of these women, the estimated postpartum population is 86,500. The zone has 310,454 households with an average household size of 4.84 persons [33]. There are seven hospitals (five governmental and two private), 68 health centers, and 345 health posts within the zone [34]. This study took place in randomly selected rural districts (Damot Woyde, Offa, Kindo Koysha, and Boloso Sore) and three town administrations (Soddo, Boditti, and Areka). The baseline interview was carried out between October 2019 and January 2020, and then study participants were interviewed after one year follow-up.

Source and study population with their eligibility criteria

The source population for this study was all postpartum women who had given birth in the Zone between October 2019 and January 2020. The study population consisted of postpartum women who were randomly selected from sample districts and towns within the Zone. As this was part of a prospective follow-up study, participants were all women who had been enrolled in the study at baseline and followed for a year after childbirth. At the baseline interview, the extent of perinatal abuse and associated factors were assessed and documented. The study inclusion criteria were; women of reproductive age, living with a current male partner for the last year, who were interviewed for baseline survey, and had a current healthy infant. The postpartum women who were divorced and widowed after the baseline survey were excluded from the study. The women who experienced miscarriages were also excluded from the final interview.

Sample size determination

First, the sample size was calculated using a single population proportion formula by considering the following assumptions: 49 % of contraceptive adoption after childbirth [35], a 95% confidence level, a 4% margin of error, and a design effect of 2. Finally, 10% was added for non-responses or missing during the follow-ups. The final sample becomes 1320. Second, the sample size was determined considering the effect of perinatal violence (the main exposure variable of interest) on postpartum contraceptive adoption. Based on this, the proportion of immediate postpartum contraceptive initiation among women who reported IPV was found to be 25%(p1=0.25) and the proportion of postpartum modern contraceptive adoption among women without IPV was assumed to be 35.9% (p2=0.359) to 10.9% risk difference [24]. A 95%; level of

confidence with a power of 80%, ratio of 1:1 (r=1), design effect of 2 and non-response rate of 10% was considered giving a final sample size of 1,232. However, to increase the power of the study, 1,342 postpartum women who met inclusion criteria were approached at the baseline interview. After excluding non-response cases, 1,292 women were followed for a year after the baseline survey. As a result, all 1,292 women were included in this study.

Sampling procedure

A multistage-clustered sampling technique was used to identify the cohort of postpartum women to be enrolled in the study follow-up. The zone was stratified into rural districts (16 in number) and town administrations (6 in number). Seven out of the twenty-two districts ("Woredas") (four rural districts and three town administrations) were randomly selected. These districts and towns were further clustered by 'Kebles,' Ethiopia's lowest administrative unit, and stratified into rural and urban Kebles. Second, thirty-eight Kebles (twenty-two rural and sixteen urban) Kebles were chosen randomly taking into account the number of Kebles in each district. The sample size for each Keble was allocated using a probability proportional to the size, and the expected number of postpartum women per Keble. A list of households with eligible women was prepared from a family folder of health extension workers (HEWs) in the respective Kebles. Enumerators compiled the lists with the help of HEWs. When there was more than one eligible woman in a household, only one woman was chosen randomly. Finally, 1,342 eligible women who met the eligibility criteria were included in the baseline survey. However, 1,292 women had been on one- year follow-up for this study.

Variables measurement

The outcome variable was postpartum contraceptive use within the first year after childbirth. The adoption of a modern method was classified as a binary variable (yes/no). Women were designated as users if they reported use of the male or female sterilization, implants, the IUD, injectables, pills, the male or female condoms, and emergency contraception. All other individuals are considered non-users of modern contraceptive methods. The primary predictor variable of interest was violence experience in the 12 months before or during pregnancy, measured using section seven of the WHO standardized questionnaire. A woman who reported at least one act of perinatal psychological, physical and sexual partner violence was coded as "1" for experiencing PIPV, and otherwise"0". Several sociodemographic, psychosocial and behavioral factors associated with contraceptive use in the literature were included as independent variables.

Data collection procedure

A pre-tested interviewer-administered structured questionnaire was adapted from the WHO and DHS standard tools. [30 36]. As this was part of a prospective follow-up study, the data were collected in two phases. At the baseline, socio-demographic, economic, psychosocial, and reproductive characteristics were collected. Then, participants had been on follow-up for a year. Data on the reproductive events (e.g. breastfeeding, resumption of menses and sexual activity), PIPV (psychological, physical and sexual violence) exposure status, and contraceptive use patterns (adoption, switching, continuation, and discontinuation) were collected at the final

interview. Thirty-eight data collectors (married, female, diploma holders) with eight supervisors (BSc in Public Health) were trained and deployed after receiving two days of intensive training. For administrative purposes, the training was given separately in each district. The main focus of the training was on the purpose of the study, the contents of instruments, and nuances of coding, errors, and consistency of each questionnaire. Data quality was maintained by pretest, training, and supervision.

Data management and analysis

Data were checked for completeness, coded, and entered into Epi-data Version 3.1 to minimize logical errors and design skipping patterns and exported to SPSS for windows Version 25.0 for cleaning, editing, and summary statistics. Women's household wealth status was computed using principal component analysis (PCA). Bivariate and multivariable analyses were performed to determine predictors of postpartum modern contraceptive adoption. A modified Poisson regression model with a robust error variance was computed to estimate crude and adjusted risk ratios with 95% CI. This model was appropriate for prospective studies with common binary outcomes (incidence of 10% or more) and avoids overestimation of effect size [37 38]. All variables having $p<0.2$ were retained in the final model. Multicollinearity between the exposure variables was checked using variance inflation factors (VIF). The presence of collinearity was declared if the VIF value >10. Overall perinatal violence exposure was correlated with types of violence that women experienced. The perinatal sexual violence variable was therefore dropped while other variables were retained in the model.

Patient and public involvement "No patient involved"

Results

Background characteristics of study participants by postpartum contraceptive adoption (n=1,252)

Of the 1,292 study participants recruited during the baseline study, 1,252(96.9%) participated and completed the interview in the extended postpartum period. The majority of women were 25 -34 years old (57.1%), followers of Protestantism (70.7%), lived in the rural areas (55.8%) and were married at the age of eighteen and above (69.0%). Approximately 36% of the participants never attended formal education while 41% of their husbands had completed secondary or higher education. About 85% of the participants were unemployed, and 35% of their husbands were in paid jobs. Approximately 58% of the women had justified IPV favoring norms. Approximately 37.9%, 29.6%, and 24.1% of women reported perinatal psychological, physical, and sexual violence; respectively. Overall, about 41% of the respondents experienced perinatal partner violence either before or during pregnancy **(Table 1)**

Table 1 Background characteristics of postpartum women in Wolaita Zone, South Ethiopia

		Postpartum contraception adoption status					
Variables	**Category**	**Yes (n=776)**		**No (n=476)**		**Total (N=1252)**	
		n	***%***	***n***	***%***	***n***	***%***

Perinatal psychological violence	Yes	237	30.5	238	50.0	495	37.9
	No	539	69.5	238	50.0	777	62.1
Perinatal physical violence	Yes	182	23.5	188	39.5	370	29.6
	No	592	76.5	288	60.5	882	70.4
Perinatal sexual violence	Yes	143	18.4	159	33.4	302	24.1
	No	633	81.6	317	66.6	950	75.9
Perinatal partner violence	Yes	251	32.3	258	54.2	509	40.7
	No	525	67.7	218	45.8	743	59.3
Place of residence	Urban	353	45.5	201	42.2	554	44.2
	Rural	423	54.5	275	57.8	698	55.8
Religion	Orthodox	207	26.7	103	21.6	310	24.8
	Protestant	536	69.1	349	73.3	885	70.7
	Others	33	4.2	24	5.1	57	4.5
Maternal age (in years)	≤24	149	19.2	143	30.0	292	23.3
	25-34	468	60.3	247	51.9	715	57.1
	35-49	159	20.5	86	18.1	245	19.6
Maternal age at marriage	<18 years	230	29.6	158	33.2	388	31.0
	≥18 years	546	70.4	318	66.8	864	69.0
Maternal education	Illiterate	257	33.2	192	40.2	449	35.9
	Primary	244	31.4	146	30.7	390	31.1
	Secondary +	275	35.4	138	29.0	413	33.0
Maternal employment status	Not employed	636	82.0	427	89.7	1063	84.9
	Employed	140	18.0	49	10.3	189	15.1
Number of living children	1-2	316	40.7	207	43.5	523	41.8
	3-4	276	35.6	172	36.1	448	35.8
	≥ 5	184	23.7	97	20.4	281	22.4
Place of delivery	Facility	598	77.1	225	47.3	823	65.7
	Home	178	22.9	251	52.7	429	34.3
Breastfeeding status	No	460	59.3	312	65.5	772	61.7
	Yes	316	40.7	164	34.5	480	38.3
Menstrual resumption	No	168	21.6	262	55.0	430	34.3
	Yes	608	78.4	214	45.0	822	65.7
Sexual activity resumption	No	15	1.9	16	3.4	31	2.5
	Yes	761	98.1	460	96.6	1221	97.5
Justify wife-beating norms	No	359	46.3	165	34.7	524	41.9
	Yes	417	53.7	311	65.3	728	58.1
Wealth Status	Poor	167	21.5	128	26.9	295	23.5
	Middle	409	52.7	234	49.2	643	51.4
	Rich	200	25.8	114	23.9	314	25.1
Partner employment status	Non-employed	489	63.0	319	67.0	808	64.5
	Employed	287	37.0	157	33.0	444	35.5
Partner education status	Illiterate	221	28.5	156	32.8	377	30.1
	Primary	224	28.9	134	28.2	358	28.6
	Secondary +	331	42.7	186	39.1	517	41.3
Partner alcohol misuse	No	535	68.9	329	69.1	864	69.0
	Yes	241	31.1	147	30.9	388	31.0
Partner substance abuse	No	668	86.1	409	85.9	1077	86.0
	Yes	108	13.9	67	14.1	175	14.0
Partner controlling behavior	No	409	52.9	175	36.8	584	46.6
	Yes	367	47.3	301	63.2	668	53.4
Women's decision-making autonomy	No	416	53.6	291	61.1	707	56.5

	Yes	360	46.4	185	38.9	545	43.5
Communication about daily life	No	226	29.1	193	40.5	419	33.5
	Yes	550	70.9	283	59.5	833	66.5
Women owned land/houses (n=764)	No	289	63.9	194	68.6	483	65.7
	Yes	163	36.1	89	31.4	252	34.3
Couple's relative income difference	No income	475	61.2	313	65.8	788	62.9
	Earns less	199	25.6	118	24.8	317	25.3
	Earns same+	102	13.1	45	9.50	147	11.7

Postpartum women's contraceptive use dynamics in Wolaita Zone, South Ethiopia

Results on postpartum women's contraceptive use (adoption, continuation, and discontinuation) are presented in Table 9. Of the 1,252 study participants, about 62% (95%CI: 59.2%, 64.5%) had adopted the first modern methods in the extended post-partum period. Out of the modern contraceptive methods, Injectables (44.1%), pills (16.9%), and Implants (15.3%) were predominantly mentioned methods. Over one-third (33.1%) of the women discontinued their first modern contraception after childbirth. Of these, 57.6% did not use any methods after discontinuation. About 44% of women did not discuss with their husband before they discontinuing the first method. Of these, about 47% reported their partner forced them to discontinue. At the time of the survey, nearly half (49.4%) of the respondents were using modern contraception. Injectable method was the most preferred method (47.2%), followed by Implants (25.7%) and IUCD (14.4%), with about half (51.3%) reporting side effects from the current method. Most, (27%) of the study participants stated that they intended to discontinue current methods **(Table 2)**.

Table 2 P**ostpartum women's contraceptive use patterns in Wolaita Zone, Southern Ethiopia, 2021**

Variables	**Category**	***n***	***%***
Adopted first contraception after childbirth	No	476	38.0
	Yes	776	62.0
Types of the first contraceptives adopted	Tubal litigation	1	0.1
	IUD	91	11.7
	Implanol	119	15.3
	Injectables	342	44.1
	Pills	131	16.9
	Condom	34	4.4
	Emergency contraception	40	5.2
	Others	18	2.3
Are you using the first contraception	Yes	519	66.9
	No	257	33.1
Used any methods then after (n=257)	No	148	57.6
	Yes	109	42.4
Talked about discontinuation with your husband	No	112	43.6
	Yes	145	56.4

Did your husband force you to discontinue	No	137	53.3
	Yes	120	46.7
Who initiated discontinuation	It's me	148	57.6
	My husband	89	34.6
	Jointly	20	7.8
Currently, are you using any methods	No	634	50.6
	Yes	618	49.4
Type of current PPMC	Tubal litigation	2	0.3
	IUD	89	14.4
	Implanol	159	25.7
	Injectables	292	47.2
	Pills	62	10.0
	Condom	3	0.5
	EC	5	0.8
	Others	6	0.1
Experience side effects with current method	No	301	48.7
	Yes	317	51.3
What are you doing for side effects (n=230)	Making home remedies	33	14.3
	Trying to consult HPs	43	18.7
	Get advice from friends	9	3.7
	Get advice from husband	32	13.9
	Want to change the method	51	22.2
	Want to stop the method	62	27.0
Were you told by HP about side effects	No	147	46.4
	Yes	170	53.6
Who initiated the use of current methods	It's me	316	51.1
	My husband	76	12.3
	Jointly	226	36.6
Reasons for not using the methods (n=634)	Breastfeeding	56	8.8
	Postpartum abstinence	30	4.7
	Not resumed menses	96	15.1
	Advised from HP	17	2.7
	Husband not wanting	185	29.2
	Feared side effects	172	27.1
	To be become pregnant	63	9.9
	Others	15	2.4

EC: Emergency contraception, PPMC: postpartum modern contraception, HP: health professionals

Predictors of the first modern contraception uptake in the extended postpartum period

After controlling for other factors, women's violence exposure in the year before or during pregnancy, women's employment status, husband's education status, household wealth status, place of delivery, and menstrual resumption found to be predictors of modern contraceptive adoption in the extended postpartum period.

Our finding reveals that the relative risk of using postpartum contraception was reduced by 31% (aRR=0.69; 95%CI: 0.50-0.97) among women who reported perinatal violence compared to those who did not. Similarly, socioeconomic status of the women was found to be significantly associated with risk of using contraceptive methods post-delivery. Employed women were 1.14

times as likely to adopt postpartum contraceptive methods than unemployed women (aRR=1.14; 95%CI: 1.03-1.28). Besides, women from household with middle wealth status were 1.14 times more likely to use modern methods after childbirth than women from the poorest household (aRR=1.14; 95%CI: 1.03-1.26). The risk of using modern contraception after childbirth was reduced by 13% (aRR=0.87; 95% CI: 0.77-0.99) in women whose husbands had secondary or higher education than those whose husbands had no formal education.

Compared to women who delivered at home, the risk of using modern methods in the extended postpartum period was significantly higher (aRR=1.58; 95 percent CI: 1.41-1.78) for women who delivered at a health facility. Furthermore, when women reported no menstrual resumption, their risk of using contraceptives after childbirth was reduced by 46% (aRR=0.54; 95%CI: 0.48-0.62) compared to women who reported menstrual resumption **(Table 10)**.

Table 10 **Predictors of first modern contraceptive use after childbirth among currently married women in Wolaita Zone, Southern Ethiopia**

Variables	**Category**	**Unadjusted relative risk ratio (95% CI)**	**Adjusted relative risk ratio (95% CI)**
Perinatal psychological violence	Yes	0.72(0.0.65-0.79)	1.13(0.81-1.56)
	No	**1**	**1**
Perinatal physical violence	Yes	0.73(0.65-0.82)	0.99(0.83-1.19)
	No	1	1
Perinatal partner violence	Yes	0.69(0.63-0.77)	0.69(0.50-0.97)*
	No	**1**	**1**
Maternal age (years)	≤24	0.78(0.68-0.91)	0.94(0.82-1.09)
	25-34	1.01(0.91-1.12)	1.08(0.97-1.19)
	35-49	**1**	**1**
Maternal age at marriage	<18 years	1.07(0.96-1.17)	1.08(0.98-1.18)
	≥18 years	**1**	**1**
Maternal education	Illiterate	**1**	**1**
	Primary	1.09(0.98-1.22)	0.98(0.87-1.08)
	Secondary +	1.16(1.05-1.29)	0.96(0.84-1.08)
Maternal employment status	Not employed	1	1
	Employed	1.24(1.12-1.36)	1.14(1.03-1.28)*
Place of delivery	Facility	1.75(1.55-1.97)	1.58(1.41-1.78)**
	Home	**1**	**1**
Breastfeeding status	No	0.91(0.83-0.98)	0.94(0.86-1.02)
	Yes	**1**	**1**
Menstrual resumption	No	0.53(0.47-0.59)	0.54(0.48-0.62)**
	Yes	**1**	**1**
Sexual activity resumption	No	0.77(0.54-1.12)	0.77(0.54-1.11)
	Yes	**1**	**1**
Justify wife-beating norms	No	**1**	**1**
	Yes	0.84(0.77-0.91)	0.96(0.88-1.05)
Wealth Status	Poor	**1**	**1**
	Middle	1.12(1.01-1.26)	1.14(1.03-1.26)*
	Rich	1.13(0.98-1.28)	1.06(0.94-1.12)
Partner employment status	Non-employed	**1**	**1**
	Employed	1.07(0.98-1.17)	1.03(0.98-1.13)

Partner education status	Illiterate	**1**	**1**
	Primary	1.06(0.95-1.19)	0.96(0.88-1.07)
	Secondary +	1.09(0.98-1.22)	0.87(0.77-0.99)*
Partner controlling behavior	No	**1**	**1**
	Yes	0.78(0.72-0.86)	0.92(0.84-1.01)
Women's decision-making autonomy	No	**1**	**1**
	Yes	1.12(1.03-1.22)	0.98(0.90-1.07)
Communication about daily life	No	**1**	**1**
	Yes	1.22(1.11-1.35)***	1.02(0.93-1.13)

**p<0.05, **p<0.001*

Discussion

This study highlights that a sizeable proportion of women who reported violence in the year before or during pregnancy do not use postpartum contraception when compared to women who were not abused over the perinatal period. This finding corroborates with studies conducted in India and the United States that have revealed that non-use of postpartum methods was higher among women who reported physical abuse than those who did not report physical abuse during the perinatal period [14 25 27]. This could imply that women in abusive relationships may have low bargaining power to initiate postpartum contraception due to the fear of future violence. This prompts to launch special interventions such as screening for violence and providing partner unobservable methods to abused women. Whilst other studies have found that PIPV exposure is linked to increased postpartum contraceptive use [24 39]. This might be because abused women are suspicious of their marriage's continuation and do not want to have a child with a violent partner, which in turn increases the use of contraception after delivery. In our study, the positive correlation between health facility deliveries and postpartum contraceptive adoption could be attributed to the effect of immediate post-placental family planning counselling for those who delivered at health facilities. It may also suggest that opportunistic contact with the health care system through maternal services such as childbirth in facilities improves clients' relationships with health systems and access to postpartum family planning services [40-42]. Our study also observed that employed women were more likely to use contraceptive methods during postpartum than their unemployed counterparts. This was consistent with prior studies conducted in Kenya, Uganda, and in the USA [43 44] which show that compared to low-income women, economically empowered women may not face the same financial constraints related to contraceptive choices and access. Similarly, contraceptive use after childbirth was higher among wealthy women than poorest women, which is in line with the findings of some studies [42 45]. This may reflect the fact that women with better household living conditions may compensate indirect costs such as transportation, which deter them from accessing postpartum contraception even if the services are provided free of charge in the public health facilities. In contrast, evidence from the previous studies has revealed divergent relationships between household wealth status and contraceptive use in the year after birth [40 46]. In this regard, strengthening the provision of postpartum family planning services at their homes through health extension programs could reach and help women with low socioeconomic status in the community. Our result has revealed that women who reported no menstrual resumption were less likely to use contraceptives after delivery as compared to women who reported menstrual resumption. This corroborates with some other studies conducted elsewhere which revealed that contraceptive

adoption after childbirth peaked following the month of the first menstrual cycle [47] [35]. In other words, resumption of menses has been found to be a marker for contraceptive adoption, putting women at risk of unintended pregnancy. Besides, studies conducted in the northern Ethiopia [48] and other settings [49 50] show that postpartum women had very little knowledge and practice of lactational amenorrhea as a contraception method This indicates that policymakers and program managers should work diligently to optimize postpartum fertility-reducing behaviors, such as provision of postpartum family planning information and services including post-placental contraception.

Regarding partner characteristics, only education status predicted postpartum contraceptive use in our study. In contrast to other findings [51 52], postpartum contraceptive initiation was low among women whose partner had completed more than secondary education compared to women whose partner attended no formal education. The possible justification might be education by itself does not guarantee postpartum contraceptive acceptance, despite it playing a critical role in determining the overall use of reproductive health, including family planning. Further studies will be required regarding this relationship.

Conclusion

In the present study, over half of the respondents used modern contraceptives in the year after childbirth. The finding also reveals that women's exposure to perinatal partner abuse was negatively associated with modern methods use in the year postpartum. Modern contraception use was also predicted by women's employment and household wealth status, their husband's educational level, place of delivery, and menstrual resumption. Thus, it is recommended that a comprehensive approach that integrates violence screening and psychosocial support programs into family planning services, particularly identifying violent marital relationships, may be more effective in improving postpartum contraceptive uptake. Moreover, strategies to promote healthy, respectful, and nonviolent relationships are central to prevention. Furthermore, policies and programs that target unemployed, economically poor women who have given birth at home, and those who have not seen menstruation are more likely to improve postpartum contraceptive use.

Ethics approval and informed consent

Ethical approval was obtained from the Institutional Review Board (IRB) of the College of Health Sciences, Addis Ababa University with a protocol number of 006/19/SPH. The study was conducted with full respect of basic ethical principles of Helsinki declaration for medical research involving human subjects [53] and WHO ethical and safety recommendation guidelines on researching violence against women [54]. All required permissions were secured from local administrations. Written informed consent was obtained from each participant prior to data collection. The confidentiality of the respondents was maintained by removing any identifiers from the questionnaire. All study information was kept secured with the first author. After the interview, participants were allowed to visit a psychiatric nurse if they experienced any psychological discomfort.

Data availability

Data will be available up on request

Funding

There is no fund for this research project

Competing interests

There is no competing interest of this research

Authors' Contributions

TL has conceived the study, developed the proposal, conducted data collection and analysis, and drafted the manuscript. FE was involved in proposal development, fieldwork planning, and the result section. ND: was involved in the proposal, data analysis and writing up and critical reviewing of the manuscript.

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Perinatal intimate partner violence and postpartum contraception timing among currently married women in Southern Ethiopia: A multilevel Weibull regression modeling

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Background: Adopting contraception on time is a critical intervention for postpartum women, but violence exposure around pregnancy may interfere with postpartum contraceptive use behaviors. Hence, this study aimed to investigate the time duration of the first modern contraceptive adoption and its individual-and community-level predictors among postpartum women in the Wolaita zone, South Ethiopia.

Methods: A community-based prospective follow-up study was conducted among 1,292 postpartum women nested in 38 "*Kebles*" (clusters) using multistage-clustered sampling techniques. A multilevel Weibull regression model was employed to investigate predictors of time-to-method initiation after childbirth using STATA Version 14. Kaplan-Meier curve and Wilcoxon log-rank test were used to estimate time-to-modern contraceptive use across different variables. All variables with p-values <0.05 were considered for multivariate analysis. Adjusted time ratios (ATR) with 95 % CI were computed using Weibull accelerated failure time models.

Results: Of the respondents, 62% (95% CI: 59.1–64.5) had started the first modern contraception within a year after childbirth. The restricted mean survival time-to-postpartum modern contraceptive use was 6.28 months. Being a rural dweller (aTR: 1.44; 95% CI: 1.06–1.99) and living in the middle household wealth quintiles (aTR: 1.10; 95% CI: 1.02–1.19) predicted longer time duration to adopt first modern contraception by 44 and 10%, respectively. The women from the community with a high early marriage (aTR: 1.14; 95% CI: 1.01–1.28) took longer time to initiate modern postpartum methods. Furthermore, women who had no history of perinatal abuse took less time than those who had a history of abuse to start postpartum contraception (aTR: 0.71; 95% CI: 0.66–0.78).

Conclusion: Rural residence, poor household wealth status, history of perinatal abuse, and a high rate of early marriage in the community are predicted to lengthen the time duration to start modern postpartum contraception. Thus, community-level women's empowerment, particularly among rural women and integration of intimate partner violence screening into family planning counseling throughout the continuum of care will likely to improve postpartum contraception timing.

KEYWORDS

perinatal, postpartum, contraception, multilevel, survival, Ethiopia

Introduction

Intimate partner violence (IPV) is a global public health and human rights crisis that exacts a high burden of suffering on millions of women and families (1, 2). Violence against pregnant or postpartum women is a critical concern because of its pervasive impacts on several psychological and physical outcomes relevant to mother and child (3, 4). Perinatal IPV (P-IPV) refers to violence perpetrated by a partner either in the year before pregnancy, during pregnancy, or/and up to 1 year after childbirth (5, 6). Although perinatal women deserve safety and protection, violence during this critical period is associated with poor physical and psychosocial health, some of which may impact future childbearing and contraceptive use (7, 8). According to literatures, IPV has been linked to many reproductive health problems such as unintended pregnancies, lower contraceptive use, fetal loss, abortions, and a higher incidence of infertility (9–14). In terms of birth control, women in violent relationships have limited decision-making power. Studies have highlighted that women's ability to control their reproductive health choices significantly impacts greater control over pregnancy and pregnancy timing (15, 16).

Adopting contraception on time is a critical intervention for postpartum women who want to avoid unintended pregnancy and closed birth intervals (17, 18), leading to adverse maternal, perinatal and infant outcomes (19). The World Health Organization (WHO) recommends that women start modern methods immediately or within 42 days after childbirth, with the option of continuous contraception or effective switching for two subsequent years, depending on a woman's desire to space or limit future pregnancies (20, 21). Despite more than 90% of women want to avoid or delay pregnancies postpartum, two-thirds are not using contraception (22). Due to limited reproductive health control, women in abusive relationships are at a significantly higher risk of unintended pregnancy (8, 23, 24). Violence around the time of pregnancy may interfere with postpartum contraceptive use behaviors. The existing evidence reveals a variety of results (25). PIPV has been linked to lower or non-postpartum contraceptive use in some studies (13, 26–28), whilst other findings (29, 30) shows that PIPV exposure is associated with increased postpartum contraceptive adoption.

In recognition of its negative consequences, the family planning (FP) agenda 2030 aims to reduce psychosocial barriers that prevent women from using life-saving and life-changing modern contraceptives (31). Ethiopia has made significant progress toward meeting the FP2020 agenda, but the contraceptive prevalence rate remains low (32, 33). According to studies conducted in the country, about 46–66% of women initiated their first methods postpartum (34–36), whilst only 10–30% of them adopted within 2 months post-delivery (35, 36). Apart from this, the median survival time of the first modern contraceptive initiation was 7–11 months, far from the recommended time (35, 36). The timing of postpartum contraceptive adoption varies with an individual, partner, relationship, and community-level characteristics such as age, place of residence (37, 38), maternal education (35, 38), household wealth status (37), appropriate and timely maternal health care utilization (35, 36), breast feeding status (37), menstrual and sexual intercourse resumption and spousal communication (39). However, little is known about the effects of PIPV on time-to-modern contraceptive adoption among currently married women. Moreover, exploring how PIPV exposure affects postpartum women's contraceptive use patterns has important policy and program implications. Also, the finding will be critical in achieving national family planning program targets set in Health Sector Transformation Plan-II (Contraceptive prevalence rate from 41% in 2019 to 50% in 2025) (40). Therefore, this study investigates time duration-to-modern contraceptive adoption between postpartum women who had the experience of perinatal abuse and whom not, and to identify individual-and community-level predictors that influence postpartum women's method initiation in Wolaita zone, South Ethiopia.

Materials and methods

Study design, setting, and period

A community-based prospective follow-up study was conducted in the Wolaita zone located in Ethiopian's South Nations, Nationalities, and People's Regions (SNNPR). The zone is subdivided into sixteen rural districts (woredas) and six town administrations. It is one of the most densely populated zones in the region with an estimated population of 2.5 million people. The estimated number of women in the reproductive age group is 582,500. Of these women, the estimated postpartum population is 86,500. This zone has 310,454 households with an average household size of 4.84 persons (41). There are seven hospitals (five governmental and two private), 68 health centers, and 345 health posts within the zone (42). This study took place in randomly selected rural districts (Damot Woyde, Ofla, Kindo Koysha, and Boloso Sore) and three town administrations (Soddo, Boditti, and Areka). The study was conducted between October 2019 and January 2021. The baseline data was collected between October 2019 and January 2020, and the final data was collected between October 2020 and January 2021.

Source and study population with their eligibility criteria

All postpartum women living in the zone during the study period were considered the source population. The study population consisted of postpartum women in the zone's randomly selected districts and towns. The study sample's inclusion criteria were women of reproductive age, who lived with a current male partner for the last year, who were interviewed for baseline survey, and had a current healthy infant. The postpartum women who were divorced and widowed after the baseline survey were excluded from the study. The women who experienced miscarriages were also excluded from the final interview.

Sample size determination

The sample size was computed using STATA Version 16.0. As no similar study was conducted in the country to determine the sample size; study from other developing country, Uganda (43) was used by taking 50% median survival time among groups, 90% power, 5% level of significance, and hazard ratio (1.83). By considering the design effect of 2 and 10% non-response rate, the final sample size was assumed to be 494. The following equations were used to calculate the required sample size. The sample size (n) — [(*number of event/probability of event*) * deff]/(1-non-response rate). Number of event — $\frac{\left(Z_{\alpha/2}+Z_{\beta}\right)^2}{pq(\log AHR)^2}$, where α — Threshold probability for rejecting the null hypothesis (Type I error rate), β — probability of failing to reject the null hypothesis under alternative hypothesis (Type II error rate), p — survival probability rate in group 1 (exposed), q — survival probability rate in group 2 (unexposed), and AHR — Adjusted hazards ratio. The probability of event — Pr (event) — 1 − [P S1 (t) + q S2 (t)]. However, this study was part of a large longitudinal study that designed to investigate the interplay between PIPV and postpartum contraception. The study had four specific objectives, and the alternative sample size for each was calculated. Thus, maximum sample size (1320) was taken for all objectives considering the following assumptions: 95% confidence interval, 4% margin of error, 80% power, proportion of postpartum modern contraceptive use (49%) (38), design effect of 2, and 10% non-response rate. The following single population proportion formula was used to calculate the sample size. N — [$(Z\alpha/2)^2 * p\ (1-p)$]/d^2*deff]/ (1-non-response rate), where z — percentile of the standard normal distribution, p — proportion of postpartum modern contraceptive adoption from the other study, d — the desired precision of the estimate, deff — design effect for the multi-stage nature of the sampling procedure. However, to increase the study's power, 1,342 postpartum women who met inclusion criteria were approached at the baseline interview. After excluding non-response cases, 1,292 women had been followed for a year after the baseline survey. As a result, all 1,292 women were included in this study.

Data collection procedure

An interviewer-administered questionnaire was prepared from different literature including WHO and DHS standard tools (44, 45). The pilot study was conducted to test questionnaire's validity and reliability and some modifications were made including frequency and timing of violence occurrence in the perinatal period (before, during and after pregnancy). As this was part of a large longitudinal study, the data were collected in two phases. At the baseline, socio-demographic, economic, psychosocial, and reproductive characteristics were collected. Then, participants had been on follow-up for a year and data on the reproductive events (e.g., breastfeeding, resumption of menses and sexual activity), PIPV exposure status, and contraceptive use dynamics (adoption, switching, continuation, and discontinuation) were collected at the final interview. Thirty-eight data collectors (married, female, diploma holders) with eight supervisors (BSc in Public Health) were trained and deployed after receiving 2 days of intensive training. For administrative purposes, the training was given separately in each district. The main focus of the training was on the purpose of the study, the contents of the instruments, and

how to check the nuances of coding, errors, and consistency of each questionnaire.

Sampling procedure

A multistage-clustered sampling technique was used to identify study participants. The zone is divided into sixteen rural districts and six town administrations. As the rule of thumb (>25%), four rural districts and three town administrations were randomly selected. These districts and towns were further clustered by "Kebles," Ethiopia's lowest administrative unit, and stratified into rural and urban Kebles. In this study, a cluster is a community of people likely to share common values. Then, four rural and two urban Kebles were randomly selected from each rural district. Fourteen Kebles were chosen from town administrations (eight urban and six rural) using a simple random sampling method. With this, thirty-eight (twenty-two rural and sixteen urban) Kebles were drawn from randomly selected districts and towns. The sample size for each Keble was allocated using probability proportional to the size and the expected number of postpartum women per Keble. List of households with eligible women were prepared from a family folder of health extension workers (HEWs) in the respective Kebles. Enumerators compiled the lists with the help of HEWs. When there was more than one eligible woman in a household, only one woman was chosen randomly. Finally, 1,342 eligible women who met the eligibility criteria were included in the baseline survey. However, 1,292 women had been on 1 year follow-up for this study.

Study variables and measurement

The outcome variable was time length-to-modern contraceptive use postpartum. This was recorded in months using a contraceptive calendar (46, 47). The event's occurrence was coded as "1" when women report modern contraception adoption and "0" otherwise. PIPV (psychological, physical, and sexual violence) was the main exposure variable measured using section seven of the WHO standardized questionnaire (44). Overall, the experience of PIPV was classified as a binary variable (yes/no). The women-level predictors included twelve variables that consisted of women's age at childbirth and marriage, education, employment status, number of living children, breastfeeding status, resumption of menses, attitudes toward wife-beating norms, exposure to perinatal violence (before, during pregnancy or either), and women's wealth status. The five husband-level predictors included education and employment status, alcohol and substance abuse history, and wife controlling behavior. The relationship-level predictors incorporated were women's decision-making autonomy, asset ownership, couple's communication about daily life, and income difference. Women's norms and attitudes toward IPV and a man's control over his wife's behaviors and activities were measured using sections six and seven of the WHO multi-country study on women's health and domestic violence questionnaire (44, 45). Participants' decision-making autonomy in household issues was also measured (45) by asking whether women participated in personal health care, daily household purchases, major household purchases, visits family or relatives, husband's and her income.

Community-level variables included were women's residency; classified as urban or rural based on the Ethiopian Central Statistical Authority descriptions of respondent's location (48). Aggregating individual-level characteristics constructed other community-level factors. The aggregates for clusters were computed using means (for normally distributed) or median (not normally distributed) values for each respondent in each category of a given variable. Finally, high-level variables were re-categorized into lower and higher categories.

Data management and analysis

The data were coded, cleaned, and edited using SPSS for Windows version 25.0. Descriptive and summary statistics were computed in number and percentages. Multilevel survival models based on different parametric distributions were fitted because the hierarchical nature of data collected from 1,292 postpartum women nested in 38 clusters (Kebles). The study participants within each cluster ranged from twenty to forty-three. The multilevel survival model is the best model for the right-censored data and yields unbiased estimates of the risk of the occurrence of the target event (49). Consequently, the model handles the cluster-specific random effects on the survival outcomes (50). The effect of covariates on baseline hazards function is measured through two often-used models: the accelerated failure-time (AFT) model and the PH model. The covariate effect is multiplicative on the time scale in the AFT model, while it is multiplicative on the hazard scale in the PH models (50, 51). We preferred AFT to the PH model; hence it accounts for the effect of the covariates directly on the survival times rather than on the hazards rate as in the PH model, and it yields more accurate inference, proper fitting of the model and easy interpretation of the results (52, 53). Then, time ratios rather than hazard ratios were used to report time length-to-postpartum contraceptive use. The intraclass correlation coefficient (ICC) for the intercept only model was calculated to determine whether or not the multilevel survival analysis was required. ICC measures the total variation of postpartum contraceptive use timing between clusters without any covariates (52, 54). The model comparison was made using the log-likelihood ratio test, deviance (-2LL),

and Akaike's Information Criterion (AIC) value. The model with the lowest deviance and AIC was selected as the best fitted model and used to describe the data. All variables with a p-value of <0.05 in bivariate analysis were considered candidates for multivariable analysis. In the multivariable multilevel analysis, the adjusted time ratios along with the 95% CI were used to show level of significance and strength of association.

Ethical consideration

The study was reviewed and approved by the Institutional Review Board of the College of Health Sciences, Addis Ababa University, with a protocol number of 006/19/SPH. The interviews were conducted with full respect for WHO ethical and safety recommendation guidelines (55). All the study participants were briefed about the aim and procedures of the research and their right to abstain or withdraw from the study at any time. The informed verbal consent was obtained from each participant separately. The confidentiality of the collected data was maintained by locking it in the file cabinet. All study information was kept secured and confidential with the first author. After the interview, participants were allowed to visit a psychiatric nurse if they experienced any psychological discomfort.

Results

Individual- and community-level characteristics of study participants

A total of 1,252 of the study participants had completed the interview. About 3.1% of them were lost to be reached and censored for survival analysis (Table 1). The majority of the respondents were aged 25–34 years (57.1%), had no formal education (36%), were married to men with no education (30%), unemployed (85%) and had husbands who work in paid jobs (35%). Approximately 64% of the respondents reported resumption of menstruation, and 95% of them resumed sexual activity in the year postpartum. About 57% of the participants had justified IPV favoring norms, and 38% of the participants reported being exposed to violence in the year before pregnancy with 28% of them experienced it during pregnancy. Approximately 40% of women experienced perinatal partner violence either a year before or during pregnancy. Regarding community-level characteristics, the majority of respondents were living in the community with rural residence (56.3%), low early marriage (52.8%), high female literacy (55.7%), high IPV favoring norms (53.2%), and high women's decision-making autonomy (54.3%).

Postpartum women's contraceptive use dynamics in the Wolaita zone, Southern Ethiopia

Of the study participants, 62%(95% CI: 59.1%, 64.5%) had started the first postpartum modern contraception in the year postpartum (Table 2). Injectables (44.1%), pills (16.9%), and Implant (15.3%) were the most commonly used modern methods. More than one-third (33.1%) of women discontinued their first modern contraception after childbirth, and 57.6% did not use any methods after discontinuation. At the time of the survey, nearly half of the postpartum women were using contraceptives. Injectable was the most preferred method (47.2%), followed by Implants (25.7%) and IUCD (14.4%), with half (51.3%) reporting side effects from the current method, the majority of respondents (27.0%) stated that they intended to discontinue current methods.

Survival analysis result for time interval-to-modern contraception adoption among postpartum women

A total of 4,879 woman-months (407 women-years) were at risk of initiating modern contraception after index childbirth (Figure 1). The restricted mean survival time-to-first postpartum contraception was 6.28 months (95% CI: 6.07–6.51). At the 3 and 6 months postpartum, about 12.23 and 44.5% of the study participants had started their first modern methods, respectively. The Kaplan-Meier survival curves with large steps for time-to-postpartum contraceptive adoption start at 2 months postpartum. This indicates that many of postpartum women had started their first methods after 2 months.

We examined postpartum modern contraception timing for selected characteristics using the Kaplan-Meier survival estimate (Figure 2). Kaplan-Meir survival curve indicates a substantial difference in postpartum contraceptive method adoption between women who experienced PIPV and women who did not experience PIPV. The Kaplan-Meier survival function for women who experienced perinatal violence is consistently higher than their counterparts revealing that violence exposure before or/and during pregnancy lengthens time duration to modern methods adoption. In addition, Wilcoxon log-rank test has shown a significant difference in the length of survival time-to-postpartum

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TABLE 1 Individual (woman, partner and relationship) and community-level characteristics of study participants ($n = 1292$).

Variables	Survival status				
	Category	Failures(contraceptive users) $n = 776$		Censored (nonusers) $n = 516$	
		n	%	n	%
Woman level factors					
Maternal age– (years)	≤24	149	19.2	146	28.3
	25–34	468	60.3	270	52.3
	35–49	159	20.5	100	19.4
Maternal age at marriage	<18 years	230	29.6	169	32.8
	≥18 years	546	70.4	347	67.2
Maternal education	Illiterate	257	33.2	205	39.8
	Primary	244	31.4	157	30.4
	Secondary +	275	35.4	154	29.8
Maternal employment status	Not employed	636	82.0	463	89.7
	Employed	140	18.0	53	10.3
Number of living children	1–2	316	40.7	217	42.1
	3–4	276	35.6	189	36.6
	≥5	184	23.7	110	21.3
Breastfeeding status	No	460	59.3	321	64.6
	Yes	316	40.7	176	35.4
Resumption of menses	No	168	21.6	302	58.5
	Yes	608	78.4	214	41.5
Justify wife-beating norms	No	359	46.3	186	36.0
	Yes	417	53.7	330	64.0
Abuse before the index pregnancy	No	536	69.1	273	52.9
	Yes	240	30.9	243	47.1
Abuse during index pregnancy	No	601	77.4	324	62.8
	Yes	175	22.6	192	37.2
Abuse during or after pregnancy	No	525	67.7	256	49.6
	Yes	251	32.2	260	50.4
Wealth Status	Poor	132	25.6	167	21.5
	Middle	264	51.2	409	52.7
	Rich	120	23.3	200	25.8
Partner level factors					
Employment status	Non-employed	489	63.0	347	67.2
	Employed	287	37.0	167	32.8
Educational Status	Illiterate	221	28.5	167	32.4
	Primary	224	28.9	145	28.1
	Secondary +	331	42.7	204	39.5
Alcohol misuse	No	535	68.9	359	69.6
	Yes	241	31.1	157	30.4
Substance abuse	No	668	86.1	448	86.8
	Yes	108	13.9	68	13.2
partner controlling behavior	No	409	52.7	202	39.1
	Yes	367	47.3	314	60.9
Relationship level factors					

(Continued)

TABLE 1 (Continued)

Variables	Category	Survival status			
		Failures(contraceptive users) $n = 776$		Censored (nonusers) $n = 516$	
		n	%	*n*	%
Decision-making autonomy	No	416	53.6	308	59.7
	Yes	360	46.4	208	40.3
Duration of marriage	1–5 Years	227	29.3	176	34.1
	6–10 Years	307	39.6	193	37.4
	≥11 Years	242	31.1	147	28.5
Couple communicate daily life	No	225	29.1	205	39.7
	Yes	550	70.9	311	60.3
Asset Ownership ($n = 764$)	No	289	63.9	217	69.6
	Yes	163	36.1	95	30.4
Couple income difference	No income	475	61.2	335	64.9
	Earns less	199	25.6	131	25.4
	Earns more	102	13.1	50	9.70
Community-level characteristics					
Place of residence	Urban	253	45.5	212	41.1
	Rural	423	54.5	304	58.9
Early marriage	Low	433	55.8	249	48.3
	High	243	44.2	267	51.7
Community- level women literacy	Low	350	45.1	222	43.0
	High	426	54.9	294	57.0
Community norms favoring IPV	Low	382	49.2	223	43.2
	High	394	50.8	293	56.8
Decision-making autonomy	Low	347	44.7	243	47.1
	High	429	55.3	273	52.9
Place of delivery	Facility	598	77.1	253	49.0
	Home	178	22.9	263	51.0
Wealth Status	Poor	254	32.7	162	31.4
	Middle	258	33.2	181	35.1
	Rich	264	34.1	173	33.5

contraceptive use at individual and cluster-level characteristics (Table 3).

Model comparison for different parametric regression models based on the Akaike information criterion

We fitted different parametric survival models with different survival distribution for model selection: Exponential, Weibull, Gamma, Log-logistic, and lognormal. Weibull regression model was found to be the best-fitted model (Table 4). The ICC for the null model was computed using the variance of level-1 residual and variance of level-2(Keble) to identify the need of multilevel analysis (Table 5). The variance of the level-1(women) residuals is assumed to be independent and identically distributed, and their distributions depend on the model we are fitting. In the case of the Weibull distribution, the error term (residual) follows Gumbell distribution. We calculated residual variance using equation $\pi^2/(6 \times \rho^2)$, where ρ is the ancillary parameter of the Weibull distribution (52). ICC was found to be 0.805 indicates that 80.5% of the time length-to-postpartum contraceptive use can be explained by at cluster-level variance. In addition, the LR test was significant, which favored the multilevel Weibull regression model than standard Weibull model. Based on Akaike's Information Criterion (AIC), the full model was the most appropriate model that yielded the lowest deviance and AIC value, and selected to describe time-to- first postpartum contraceptive adoption.

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TABLE 2 Postpartum women's contraceptive use dynamics among currently married woman in Wolaita zone, South Ethiopia.

Variable	Measurements	n	%
Have you used the first modern methods after childbirth	No	476	38.0
	Yes	776	62.0
Type of modern methods used after childbirth (n = 776)	Tubal litigation	1	0.1
	IUCD	91	11.7
	Implanol	119	15.3
	Injectables	342	44.1
	Pills	131	16.9
	Condom	34	4.4
	Emergency contraception	40	5.2
	Others	18	2.3
Are you currently using first methods	No	257	33.1
	Yes	519	66.9
Have you used any method after discontinuing (n = 257)	No	148	57.6
	Yes	109	42.4
Did you discuss with your husband before discontinued	No	112	43.6
	Yes	145	56.4
Was your husband forced you to discontinue	No	137	53.3
	Yes	120	46.7
Who initiated the methods discontinuation	Women	148	57.6
	Husband	89	34.6
	Third body	20	7.8
Are you currently using any methods	No	634	50.6
	Yes	618	49.4
Type of current methods you have been using	Tubal litigation	2	0.3
	IUCD	89	14.4
	Implanol	159	25.7
	Injectables	292	47.2
	Pills	62	10.0
	Condom	3	0.5
	EC	5	0.8
	Others	6	0.1
Have you been experiencing side effects for the current methods	No	301	48.7
	Yes	317	51.3
What measures are you currently taking for the side effects (n = 230)	Making home remedies	33	14.3
	Trying to consult HCPs	43	18.7
	Get advice from friends	9	3.7
	Get advice from husband	32	13.9
	Want to change the method	51	22.2
	Want to stop the method	62	27.0
Were you told by health professional about the side effects	No	147	46.4
	Yes	170	53.6
Who initiated the current methods	It is me	316	51.1
	It is my husband	76	12.3
	Jointly	226	36.6

(Continued)

TABLE 2 (Continued)

Variable	Measurements	n	%
Reasons for not using the methods currently (n = 634)	Breastfeeding	56	8.8
	Postpartum abstinence	30	4.7
	Not resumed menses	96	15.1
	Advised from HP	17	2.7
	Husband not wanting	185	29.2
	Feared side effects	172	27.1
	To be become pregnant	63	9.9
	Others	15	2.4

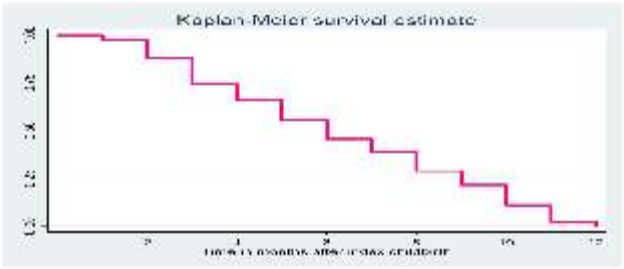

FIGURE 1
Kaplan Meier survival function curve for postpartum contraception timing after index childbirth among married women.

Multivariate multilevel survival analysis for time duration-to-the first modern contraceptive adoption among postpartum women

After controlling for other covariates, place of residence, community early marriage status, household economic status, and history of perinatal abuse were found to be predictors for the length of time-to-first modern contraceptive adoption (Table 5). Women from the rural community took 44% expected longer time to adopt the first postpartum modern contraception compared to women from the urban community (aTR: 1.44; 95% CI: 1.06–1.99). Similarly, women from the community with high early marriage had a 14% lag time to first postpartum modern contraceptive use compared to women from the community with low early marriage (aTR:1.14; 95% CI: 1.01–1.28). Besides, we have also examined the impact of perinatal partner abuse exposure on the postpartum contraceptive adoption. Women who reported no partner abuse before or/and during pregnancy had 29% expected lesser time to start the first postpartum modern contraceptive method than women who experienced PIPV (aTR: 0.71; 95% CI: 0.66–0.78). Women from the middle wealth quintiles were taken 1.10 times longer time to initiate postpartum contraception compared to women from the richest wealth quintiles (aTR: 1.10; 95% CI: 1.02–1.19).

Discussion

This study has examined the individual- and community-level factors that predict the time duration of the first modern contraceptive adoption after childbirth, considering Keble as a cluster-level effect. The study found statistically significant heterogeneity in time interval-to-start modern methods across clusters. This finding indicates the influence of unobserved community-level characteristics, and is consistent with other studies that identified a woman's environment affects the timing of method use after childbirth (35). This implies the importance of leveraging community-level differences in planning intervention for timely modern contraceptive initiation. In the current study, 62.0% of women started using the first modern contraception in the year postpartum [95% CI: 59.1–64.5%]. This finding is consistent with studies conducted in Ethiopia (59.1%) and Kenya (60.0%) (35, 38). However, this estimate is considerably lower than other study done in Northwest Ethiopia (66.7%) (36) and higher than

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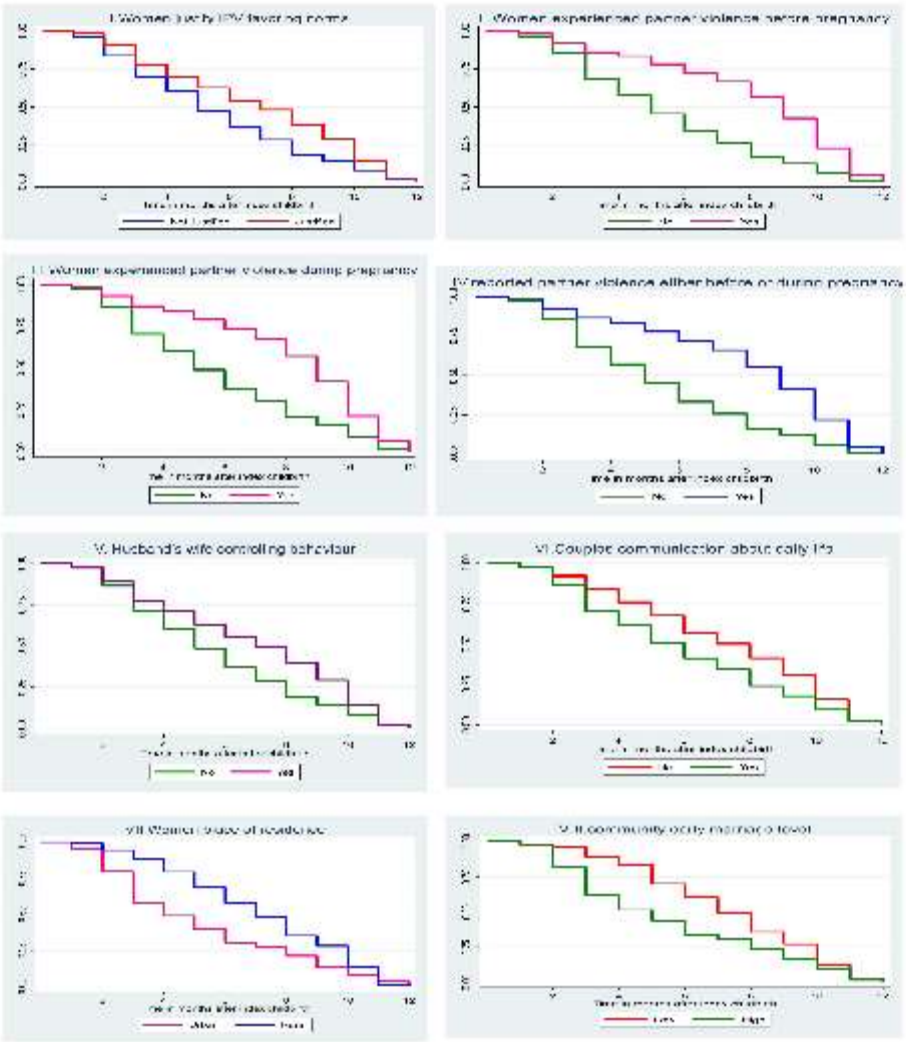

FIGURE 2
Kaplan–Meier estimate curves for postpartum contraception timing between index childbirth and 12 months by selected characteristics among married women.

the nation-wide study done in Tanzania (37) and Ethiopia (56). We speculate that there may be differences in sample population characteristics, study design, and outcome variable measurement. For example, these nation-wide studies measured contraceptive adoption timing from the resumption of sexual intercourse, whereas our study examines the time length from delivery to the uptake of modern contraception. In this study, women's median survival time to start first postpartum modern

TABLE 3 Wilcoxon log-rank test for the length of time-to-postpartum contraception use among married woman.

Variables	χ2	*P*-value	Variables	χ2	*P*-value
Women's age in years	12.37	<0.0021	Exposure to PIPV in either periods	103.79	<0.00001
Women's age at marriage	14.37	<0.0001	Husband wife controlling behavior	25.13	<0.00001
Women's education Status	37.55	<0.0001	Husband's substance abuse	5.09	<0.0240
Women's attitude toward IPV norms	28.54	<0.00001	Husband's alcohol misuse	8.83	<0.0030
Women's decision-making autonomy	4.76	<0.03	Couple communication about daily life	17.65	<0.0001
Women's household wealth index	21.39	<0.00001	Respondent place of residence	42.73	<0.00001
Exposure to PIPV before pregnancy	104.41	<0.00001	Community's early marriage level	27.89	<0.00001
Exposure to PIPV during pregnancy	77.72	<0.00001	Community's IPV accepting status	15.79	<0.0001

contraception was found to be 6.3 months. This finding concurs with a study done in Northwest Ethiopia (36), but with at least 5 months' time lag than the WHO recommended time. This imply a sizeable proportion of postpartum women would be at risk of unintended pregnancy as many marks menses return to start contraception and requires community-based intervention during the perinatal and postpartum period.

Women's place of residence and their community early marriage status were predicted time interval-to-contraceptive use after childbirth when other variables were controlled for. As in other studies (56, 57), rural women took a long time to adopt modern methods postpartum than their counterparts. Our findings contrast somewhat with several prior studies (35, 37) that have identified no difference in time to modern contraceptive use among rural and urban residents. This might be correlated with rural women's limited access to media outlets, education, and health facilities infrastructure compared to urban women, which may also be associated with delayed adoption of modern contraception. This study was observed a long lag time to start contraception after childbirth among women from the community with high early marriage. This finding corroborates previous studies (58–60) that have identified early marriage is associated with a lower intention for postpartum contraceptive use. According to this study, women from middle wealth quantiles took longer time to start methods postpartum than women from the wealthiest households. This finding aligns with studies conducted elsewhere (37, 43) that show a shorter time to methods adoption among women in richest quintiles. The fact that low socioeconomic status is a deterrent to postpartum contraception adoption indicates a strengthening of social and community-based health insurance schemes launched by the government of Ethiopia, which increase health-care utilization among the poor (61). Besides, women empowerment could alleviate indirect costs like transportation for contraceptive use among low-in-come mothers even if contraceptive services are provided free of charge. Moreover, a quasi-experimental study by Deborah Sitrin et al. reported that integrating postpartum family planning into a health extension program could increase postpartum adoption of modern contraception (62).

TABLE 4 Model comparison parameters.

Parameter	Deviance	AIC	BIC
Exponential regression	4,355.93	4,395.93	4,489.02
Weibull regression	3,711.14	3,755.14	3,857.54
Gamma regression	3,723.96	3,767.965	3,870.35
Lognormal regression	3,767.85	3,811.853	3,914.24
Log-logistic regression	3,754.88	3,798.88	3,901.27

There is inconsistency in the evidence regarding the association between intimate partner violence and the time interval-to-postpartum contraceptive initiations. While our finding confirms that women who had no history of perinatal abuse took less time to adopt modern contraception than those who had a history of abuse. For instance, Marina Plesons' prospective cohort study in Kenya shows a positive correlation between recent partner abuse and time to postpartum contraceptive adoption (63). As such, women's exposure to perinatal abuse may influence postpartum contraception timing in different ways: an abusive partner may restrict access to any form of contraception or prevent from using the most effective methods in an attempt to get the woman pregnant again (64, 65). Moreover, woman's less decisive power and fear of future violence linked with contraceptive initiation could deter timely adoption of the method after childbirth (66). This would imply intimate partner violence should be part of family planning counseling to identify a woman in a violent relationship which could significantly reduce the likelihood of future reproductive coercion.

In this community-based prospective study, applying the Weibull AFT model rather than the PH model to estimate expected survival times between group characteristics in time ratios may be the study's strength because estimated regression parameters in AFT models are robust and easy for interpretation of results. In addition to this significant strength, the finding should be interpreted with caution. The study had a limited follow-up period and frequency of interviews, which could be problematic given the persistence of protective factors

TABLE 5 Multivariable multilevel survival analysis of the postpartum contraceptive use timing among married woman (n = 776).

Characteristics	Categories	Model I aTR [95% CI]	Model II aTR [95% CI]	Model III aTR [95% CI]	Model IV aTR [95% CI]
Community-level factors					
Early marriage status	Low	na	na	Ref.	Ref.
	High	na	na	1.09 (0.98–1.21)	1.14 (1.01–1.28)*
Norm that favors IPV	Low	na	na	0.96 (0.87–1.06)	0.98 (0.88–1.10)
	High	na	na	Ref.	Ref.
Women education Level	Low	na	na	0.96 (0.84–1.09)	1.05 (0.91–1.21)
	High	na	na	Ref.	Ref.
Place of residence	Urban	na	na	Ref.	Ref.
	Rural	na	na	1.20 (1.03–1.38)*	1.44 (1.06–1.99)*
Woman-level factors					
Age at marriage	< 18 Years	na	1.05 (0.97–1.12)	na	1.04 (0.96–1.12)
	≥ 18 Years	na	Ref.	na	Ref.
Maternal education	No formal	na	1.07 (0.97–1.18)	na	1.06 (0.96–1.17)
	Primary	na	0.98 (0.90–1.08)	na	0.98 (0.89–1.07)
	Secondary +	na	Ref.	na	Ref
Employment status	Not employed	na	Ref	na	Ref.
	Employed	na	0.95 (0.86–1.05)	na	0.97 (0.88–1.08)
Justify wife beating	No	na	Ref.	na	Ref
	Yes	na	1.02 (0.95–1.09)	na	1.01 (0.94–1.08)
Violence in either periods	No	na	0.72 (0.66–0.78)***	na	0.71 (0.66–0.78)***
	Yes	na	Ref.	na	Ref.
Wealth Status	Poor	na	0.97 (0.88–1.07)	na	0.98 (0.89–1.08)
	Middle	na	1.10 (1.02–1.20)**	na	1.10 (1.02–1.19)*
	Rich	na	Ref.	na	Ref.
DM autonomy	No	na	Ref.	na	1.01 (0.92–1.11)
	Yes	na	0.93 (0.86–0.99)*	na	Ref.
Partner-level factors					
Husband education	No education	na	0.99 (0.91–1.09)	na	0.96 (0.87–1.06)
	Primary	na	1.03 (0.94–1.12)	na	1.02 (0.94–1.11)
	Secondary +	na	Ref.	na	Ref.
Husband alcoholism	No	na	0.98 (0.92–1.06)	na	0.99 (0.92–1.06)
	Yes	na	Ref.	na	Ref.
Husband substance abuse	No	na	0.98 (0.88–1.06)	na	0.97 (0.88–1.07)
	Yes	na	Ref.	na	Ref.
Controlling behavior	No	na	Ref.	na	1.06 (0.93–1.1.08)
	Yes	na	0.99 (0.93–1.07)	na	Ref.
Relationship-level factors					
Couple communicate DLI	No	na	1.07 (0.99–1.15)	na	1.07 (0.99–1.15)
	Yes	na	Ref.	na	Ref.
Random effects					
lnp [Ancillary parameter]	–	2.274	0.894	0.803	0.892
Variance	–	0.072	0.126	0.038	0.083
LR-test(chi-square test)	LR test vs. Weibull model	16.03*	41.33*	9.83*	25.62*
Deviance (df.)	– 2LL	–	– 1860.696 (18)	– 1920.184 (7)	– 1855.573 (22)
Model statistics	AIC	–	3757.393	3854.368	3755.146
	BIC	–	3841.168	3886.947	3857.537
Heterogeneity level	ICC	0.81	0.31	0.10	0.23

*P-value < 0.05, **p-vale ≤ 0.01, ***p-value < 0.001, aTR, adjusted time ratios; ref, reference group; na, not applicable; DM, decision-making; DL, daily life issues; LR, likelihood Ratio.

like postpartum amenorrhea and abstinence. As this study is based on women's self-reported data collection methods, partner-characteristics and -controlled contraception may be underrepresented. A recent study did not address the timing of the contraceptive method mix. Although traditional methods are an important part of the pathways to avoid unwanted pregnancy, the scope of this study is very limited to identify traditional method users.

Conclusion

In conclusion, rural residence, low household wealth status, and a high rate of early marriage in the community are predicted to lengthen the time to start modern contraception methods. In addition, a woman who had a history of violence either a year before or during pregnancy took a longer time than their counterparts to adopt modern contraception after childbirth. Thus, community-level women's empowerment, particularly among rural women and integration of intimate partner violence screening program into family planning counseling throughout the continuum of care will likely to improve postpartum contraception timing.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Institutional Review Board of College of health sciences, Addis Ababa University. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

Author contributions

TA has conceived the study, developed the proposal, conducted data collection and analysis, and drafted the manuscript. PG was involved in proposal development, fieldwork planning, and the result section. ND was involved in the proposal, data analysis and writing up and critical reviewing of the manuscript. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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APPENDIX 2: Data collection tools

Annex 2.1: Data collection for qualitative part (English version)

Annex 2.1.1: In-depth interview guides

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

Informed consent for **In-depth interview** of postpartum women for the study entitled " nexus between perinatal intimate partner violence and postpartum modern contraception among currently married women in the Wolaita zone, Southern Ethiopia''

Study participants: perinatal violence victims

Investigators: Mr.Tafesse Lamaro, Prof. Fikre Enqueselassie Gashe, and Prof. Nigussie Deyessa

Title: Postpartum women's lived experiences of perinatal IPV in Wolaita zone, South Ethiopia: A qualitative study

Part –I: Information sheet .

Introduction

Good day. My name is _____. I am representing School of Public Health, Addis Ababa University. We are conducting in-depth interview with an individuals who are selected conveniently based on their exposure to perinatal IPV and we believe that you have rich source of information concerning this issues.

Purpose of this research: The purpose of this study is to explore the lived experiences of postpartum women about perinatal IPV. You are among those selected to participate in this study. The findings of the study will be used to highlight about women life events among postpartum women and to design interventions for its preventions in the future.

Procedures : You are one of the women selected purposively for this in-depth interview. We are asking for your permission to interview you about your lived experience with regard to life events. The interview will take about 30 minutes. We will talk with a range of issues related to violence that happens to every women like you. So, I request your volunteer participation.

Risk and discomfort : The expected maximum risk of this interview may be a less psychological disturbance. If the interview has any disturbance emotionally, further interview will be stopped and counseling and follow-up care will be given. The interview may take some of your time. However, we try to make it short and to the point and guide you through the interview.

Benefits: There will be no direct benefit to you from participating in this study, but the genuine information that you would provide is paramount important for us. We are asking for your help to ensure that information we collect is accurate. Based on the information you provide us, we will design strategies for prevention of this phenomenon.

Confidentiality: Information from this interview is confidential. We will not record the names of any participant. Your name will not appear on the interview questionnaire, digital recording or any other study document. You will only be identified by a code that has no link to your name or other identifying information. Any information gathered during this interview will not be shared for third bodies and further security; it will be locked in a file cabinet.

Right to refuse or withdraw: This interview is completely voluntary and you can choose not to participate and even if you agree to participate, you may withdraw at any time. There will not be any penalty if you decide not to participate or withdraw from the interview. If you have any questions or concerns related to this, we will give you principal investigator phone numbers Mr. Tafesse Lamaro:**+251-912-922-271** or Prof. Negussie Deyessa: phone number: **+251-911-400-059.** In addition, I will give you IRB contact address of Addis Ababa University, College of Health Science**: Tel: +251-115-538-734**

Part-II: consent form

Based on aforementioned study information, do you agree to proceed?

Yes ☐

I, the undersigned, confirm that, as I give consent to participate in this study. It is with a clear understanding of the objectives and conditions of the study & with recognition of my right to withdraw from the study if I change my mind. I have been given the necessary information about the research. I have also been assured that I can withdraw my consent at any time without penalty or loss of benefits. The main purpose of study has been explained to me in the language I understand.

Participant's signature/finger print_____Date_____

(procced with the interview)

No ☐ (Terminate the interview)

Name of the interviewer_____Sig. _____Date _____

Name of Supervisor_____Sig. _____Date_____

1. Bibliography of study participants

Part. Code	Age	Education	Residence	Occupation	Religion	Age of index child	No.of children	Birth control status

2. Directions: In the following interview stage, I am going to ask you which are common to many women. When two people marry or live together, they usually share both good and bad moments. I would now like to ask you some questions about your recent relationships and how your husband / partner treated you. If anyone interrupts us I will change the topic of conversation. I would again like to assure you that your answers will be kept secret, and that you do not have to answer any questions that you do not want to. May I continue?

No	Main questions	Probing questions
1.	Could you please tell me a little about yourself?	• Where do you live now? • How many children do you have? Male_____, Female_____ • How do you normally spend your days? • What things do you like to do?
2.	Could you please tell me a little about your husband?	• How did you first meet? • When did you get married? • What does he do? • How you explain your partner's feeling (Sad vs Happy) about index birth? • What was a sex preference of your partner about index birth? Why?
3.	What is your main reason to visit this institution?	• When did your current problems with your husband start? • How long has this continued? • Did this happen for you before? When?
4.	When did your problems with your husband start?	• Explain how your husband treats you before you get pregnant for this child? • How he treated you during pregnancy? Would you explain more? • How he treated you after childbirth? • Did he ever make you to continue or terminate pregnancy against your will? When and How?
5.	How does he treat you in front of others in the perinatal period?	• Did your partner use respectful words while talking to you? • How your partner treats in front of your relatives, and friends? • How your partner treats in front of strangers and at your home? Would you explain more? • How it affected your psychological well-being? In what ways? • How has it affected your feelings about yourself?
6.	Could you tell me if your partner has ever inflicted any physical harm on your body in the perinatal period?	• Was he ever hit or hurt you before or during pregnancy following childbirth? When? Where? Why? • Was he used an object or weapon, e.g. a shoe, a knife, a gun, a telephone, a fist? • Has anything been broken or damaged (i.e. phone ripped out of the wall)? • Has anything been thrown directly at you or near you?
7.	Could you tell me if your partner harassed you sexually in the perinatal period? Before or after birth of index child?	• How did you see the sexual relationship with your partner? • How do you resolve sex disagreements? When and how often to have sex with disagreement? • Have you ever gone to bed because you were afraid of him? • Has your partner ever forced you to have a sex by using a weapon, or by physically hurting you? • Have you ever had sex with your partner because they have threatened, pressured, forced, or hurt you? What happened?
8.	How can you explain your husband's feelings about contraceptive use before versus now?"	• How you discuss with your husband about contraceptive methods before pregnancy and after delivery of this child? • Did your husband protect you from using contraception? When and how? • Have you ever stopped or continued using contraception due to abuse from husband? • Did your husband ever restricted (hided, withhold, removed) contraceptives for this pregnancy and birth this child?

That is the end of our interview:

Thank you so much for sharing your thoughts with me!

APPENDIX 2.1.2: KEY INFORMANT INTERVIEW GUIDE (ENGLISH VERSION)

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

Informed consent for **In-depth interview** of key informants for the study entitled " nexus between women's life events and postpartum modern contraception among currently married women in the Wolaita zone, Southern Ethiopia''

Key informants: Health Extension workers

Investigaors: Mr. Tafesse Lamaro, Prof. Fikre Enquesilassie, and Prof. Nigussie Deyessa

Title: Postpartum women's lived experiences of perinatal IPV in Wolaita zone, South Ethiopia: A qualitative study

Part I: Study information sheet

Introduction

Good day. My name is _____. I am representing the School of Public Health, Addis Ababa University. I am a PhD student at this institution. We are conducting a study to generate empirical evidence on perinatal IPV against postpartum women. The objective of the study is to explore the postpartum women's lived experiences of perinatal partner violence for index child and to indicate important prevention strategy on this problem. You are among those selected to participate in this study.

Procedures: We are asking for your permission to interview you about your experience with regard to postpartum women's violence sharing habits. The interview will take about 30 minutes. We will talk with you about a range of issues related to partner violence.

Right to refuse or withdraw: This interview is completely voluntary – you can choose not to participate, and even if you agree to participate, you may withdraw at any time. There will not be any penalty if you decide not to participate or withdraw from the interview. Your decision to participate will not affect your employment at this institution or any other institution in Ethiopia.

Confidentiality: Information from this interview is confidential. We will not record the names of any study participant. Your name will not appear on the interview questionnaire, digital recording, or any other study document. You will only be identified by a code that has no link to your name or other identifying information. Information collected during individual interviews will not be shared directly with other people and will be grouped together with information from other interviews in all reports and presentations.

Benefits and harms: There will be no direct benefit to you from participating in this study but we expect the findings will be good input in the way preventing violence against women in Ethiopia. We are asking for your help to ensure that the information we collect is accurate. I can provide you with the phone number for the research team, Prof. Nigussie Deyessa **(Tel: +251 911 400 059)** if you have any questions or concerns in relation to this assessment.

Part-II: consent form

Based on aforementioned study information, do you agree to proceed?

Yes ☐

I, the undersigned, confirm that, as I give consent to participate in this study. It is with a clear understanding of the objectives and conditions of the study & with recognition of my right to withdraw from the study if I change my mind. I have been given the necessary information about the research. I have also been assured that I can withdraw my consent at any time without penalty or loss of benefits. The main purpose of study has been explained to me in the language I understand.

Participant's signature/finger print_____Date_____

(proceed with the interview)

No ☐ (Terminate the interview)

Name of the interviewer_____Sig. _____Date _____
Name of Supervisor_____Sig. _____Date_____

Directions: Thank you again for agreeing to participate in this interview today. As we discussed, the aim of this study is to explore the postpartum women's lived experiences of intimate partner violence and provide possible recommendations on the prevention strategy of violence against postpartum women in Ethiopia. The ideas and information you will provide are very important to the study and will help us improve performance. However, if there are any questions that make you uncomfortable and you would prefer not to answer, or you would like to stop the interview, please let me know.

Do you have any questions before we begin?

The rest of the questions in this interview will be more like a conversation. I am interested in your thoughts on the topics I'll be asking you. There is no right or wrong answer. I will not write everything you will have to say, but I may take notes some times to make sure we accurately record what you are saying. Our conversations will be audio recorded only to ensure the main massages are captured. If you don't want to answer any part question, you can jump or stop. If you don't want to be audio recorded, I can stop it.

Can we continue? _____

If yes, ask the questions

First I'd like to know about your job in this institution.

	Main questions	Probes

1.	What are your main job responsibilities in this institution? Do you have other job responsibilities in relation to second staff at your organization?	• When did you start this job? • What are your academic qualifications? • How many years' experience does have in this area and trainings?
2.	What are major grievances that make women to visit this institution?	• Can you comment which segment of women mostly visit your institutions? • How these women regularly visit this institution? • Would you explain more? • How about postpartum women?
3.	Did postpartum women with index child aged below twelve months visit your institutions for sake of help/advice seeking?	• What is their main reason to visit this institution? • Is there partner abuse related issues • How you solve these problems? • Would you explain more? • Any story sharing related to this?
4	How do you explain postpartum women habit of reporting partner violence at your locality, community or at your working sites?	• Women's shares their partner abuse for you? • Could you tell when and how often times they shares to your institutions? • Would you explain more?
5.	Could you tell me forms of husbands' abuse women shares for you: Whether it is psychological, physical or sexual violence?	• Did they share different forms of violence separately? • How? When it will occurs more (pre-pregnancy, pregnancy or following child birth)? • Any story sharing?

That is end of our interview

Thank you so much for sharing your thoughts with me.

APPENDIX 2.2. Data collection tool for qualitative part (Amharic version)

አባሪ 2.2.1: የጥልቀት ያለው ቃለ-መጠይቅ መመሪያ (የአማርኛ ቅጂ)

አዲስ አበባ ዩኒቨርስት

ጤና ሳይንስ ኮሌጅ

የህብረተሰብ ጤና ትምህርት ቤት

የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ መረጃ ላይ የተመሠረተ ስምምነት እና ጥልቀት ያለው ቃለ-መጠይቅ ::

የጥናቱ ዋና ተጠርዎች ስም: አቶ ታፈሰ ላማሮ: ፕ/ር ፍቅረ እንኩሥላሠ እና ፕ/ር ንጉሰ ዴየሳ

የጥናት ተሳታፊዎች: በድህረ-ወሊድ ወቅት ያሉ ሴቶች

ክፍል አንድ፡ የጥናት መረጃ ቅፅ

የጥናት ዓላማ:- የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ የህይወት ልምዶቻቸዉን መረዳት ነዉ::

መግቢያ

ጤና ይስጥልኝ:: ስመ _____እባላለው::እኔ የመጣሁት አዲስ አበባ ዩኒቨርስት ወኪየ ነዉ:: በማከናወን ላይ ያለነዉ ጥናት በአሁን ሰዓት የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ ጥልቀት ያለዉ ቃለ-መጠይቅ በማድረግ ተጨባጭ መረጃወችን ለማቅረብ ነዉ:: በዚህ መሰረት እረስዎ በአጋጣም ከተመረጡ ከጥናቱ ተሳታፍ መካከል አንዱ ነዎት::ከእርስዎ የሚናገኛዉ መረጃ ብዙ ከመሆን አንጻር ለጥናታችን በጣም አስፈላግ እና ጠቃም ነዉ::

የጥናቱ ዳራ: የዚህ ጥናቱ ዋናዉ አላማ ድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ ህይወት ተሞክሩዋቸዉን በጥልቀት ለማወቅ ነዉ:: እርስዎ በዚህ ጥናት ውስጥ እንዲሳተፉ ከተመረጡት ውስጥ አንዱ ነዎት::የጥናቱ መጨረሻ ዉጤት የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ ያለዉን ችግር መጠን ለማሳየት እና ለሎች ሴቶች መማረያ መንገድ ለማበጀት ነዉ:: ደግሞ ችግሩን ለመግታት ለሚደረገዉ ስትረታጅ ጥሩ ግባዓት ይሆን ዘንድ ነዉ::

የጥናቱ ህደት: ለዚህ ጥልቀት ያለዉ ቃለ-መጠይቅ ከተመረጡ ሴቶች መካከል እርስዎ አንዱ ነዎት:: የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ የእርስዎን የህይወት ተሞክሮ በጥልቀት ከመጠየቅ በፊት በጥናቱ ዉስጥ ለማሳተፍ የእርስዎን ፍቃደኝነትን እንጠይቃለን::ይህ ቃለ-መጠቅ እስከ ሰላሣ ደቅቃ ልወስድ ይችላል:: እርስዎን ጨምሮ ብዙ ሴቶች

ላይ ከትዳር አጋሮቻቸዉ የሚደርሠዉን ጥቃት በስፋት እንመካከራለን፡፡ ስለዚህ በዚሁ መሠረት በጥናቱ ላይ ለመሳተፍ የእርስዎ በጎ ፍቃደኝነት መጀመርያ እንጠይቃለን፡፡

የጥናቱ ጉዳት/አደጋ እና አለመመቸት: ይህ ጥናት በእርሶዎ ላይ የሚያመጣዉ ብዙ ችግር ባይኖርም፤ ትንሽ የስነ-ልቦና መረበሽ ልደረስቦት ይችላል፡፡ ይህ ደግሞ በቃለ-መጠየቅ ወቅት የሚከሠት ከሆነ ወድያዉ ቃለ-መጠይቅ እንድቋረጥ ይደረጋል፡፡ ቃለ መጠይቁ ወደ 30 ደቂቃዎችን ይወስዳል፡፡ ነገረ ግን ወደ ዋናዉ ነጥብ በመምራት እና በመጠየቅ የጊዜ ማባከን ለመከላከል እንሞክራለን፡፡

የጥናቱ ጥቅም: በዚህ ጥናት ውስጥ በመሳተፍዎ በቀጥታ የሚያገኙት ጥቅም ባይኖርም ግን ከእርሰዎ የምናገኛዉ ታመኝ መረጃ ለጥናታችን በጣም ወሳኝ እና ጠቃሚ ነዉ፡፡ እኛ የምንሰበስባቸው መረጃዎች ትክክለኛ መሆናቸውን እንዲያረጋግጡልን እንጠይቆታለን፡፡ እርስዎ በሚሰጡት መረጃ መሰረት በማድረግ ይህንን ችግር ለመግታት ስትራቴጅ ለመቅረጽ የምያስችል ተግባራትን እንድናገኝ ይረደናል፡፡

የጥናቱ ሚስጢራዊነት: የዚህ ቃለ መጠይቅ መረጃ ሚስጥራዊነት የተጠበቀ ነው፡፡ በማንኛውም ሁኔታ የጥናቱ ተሳታፊ የሆኑ ስም አንመዘግብም ፡፡ ስምዎ በቃለ-መጠይቅ ወረቀቱ፣ ዲጂታል ሪኮርዲንግ/መቅረጸ ድምጽ ወይም በማንኛውም ሌላ የጥናቱ ሰነድ ላይ አይገለጽም፡፡ ከስምዎ ወይም ሌላ የማንነት መለያ መረጃ ጋር ትስስር በሌላቸው መለያ ቁጥሮች ወይም ኮዶች ብቻ እንዲለዩ ይደረጋል፡፡ ከዚህ ቃለ-መጠይቅ የምናገኛዉ መረጃ በማንኛዉ ሁኔታ ለሶስተኛዉ ወገን አሳልፎ አይሰጥም፤ለዘላቅ ጥበቃ ስል፤ ለዚህ ጥናት በተዘጋጀ የመረጃ ሳጥን ዉስጥ ሁሉ መረጃዎች ይቆለፋል ፡፡

ያለመሳተፍ እና መቐረጥ ሙብት: ይህ ጥልቀት ያለዉ ቃለ-መጠይቅ ሙሉ በሙሉ በእርስዎ ፍቃድኝነት ላይ የተመሰረተ ነዉ፡ ፡ እርስዎ ላለመሳተፍ መወሰን የሚችሉ ሲሆን ለመሳተፍ ከወሰኑም በኃላ በማንኛውም ጊዜ ከቃለ-መጠይቁ አቋርጠው መውጣት ይችላሉ፡፡ በዚህ ቃለ መጠይቅ ለመሳተፍ ወይም ላለመሳተፍ የሚሰጡት ውሳኔ በዚህ ወይም በማንኛውም ሁኔታ ላይ ተጽዕኖ አያሳድርም፡፡ ከዚህ ጥናት ጋር በተያያዘ ጥያቄዎች ወይም ጉዳዮች ካልዎት የምርምር ቡድን ዋና ተጠር የሆኑትን አቶ ታፈሰ ላማሮ: የስልክ ቁጥር **0912922271** ወይም ፕ/ር ፍቅረ እንኩሥላሠ፡የስልክ ቁጥር **091259707** እኔ ልሰጥዎ እችላለሁ፡፡በተጨማሪ የአዲስ አበባ ዩኒቨርስቲ ፡ጤና ሳይንስ ኮሌጅ የጥናት መከታታያ ቦሪዲ አደረሻ**(ተሌ ቁጥር:+251115538734)** ልሰጥዎ እችላለሁ፡

ክፍል ሁለት፡የስምምነት ቅፅ

ከላይ በተነሳው የጥናቱ ዓላመ እና ማብራርያ መሰረት ቃለ-መጠይቁን እንድንቀጥል ተስማምተዋል?

አዎ፣ በጥናቱ ውስጥ ለመሳተፍ ተስማምቻለሁ ☐ ***(ቃል_ መጠይቅ ይቀጥሉበት)***

እኔ ከዚህ በታች በፍርማየ ያረጋገጥኩት በጥናቱ ላይ ለመሳተፍ ስል ይህንን በፍቃደኝነት የተመሠረተ ስምምነት እሰጣለዉ፡፡ በዚህ የመረጃ ስምምነት ቅጽ ላይ የሠፈረዉ የጥናቱ ዓላማ እና ሁኔታ ግልጽ ከመሆን ባሻገረ በጥናቱ ላይ ላለመሳተፍ መወሰን

እንደምችልና እንድሁም ለመሳተፍ ከወሰንኩት በኃላ በማንኛውም ጊዜ ከቃለ-መጠይቁ አቋርጠው መውጣትም እንደምቻል አስተዉያለዉ። ለጥናቱ የሰጠሁት መረጃዎች ትክክለኛ መሆናቸውን አረጋግጣለዉ። ጥናቱ ግልጽ እና ለእኔ በምገባ ቋንቃ ነዉ የተገለጸልኝ።

የጥናቱ	ተሣታፊ	ፊርማ	ወይም	የጣት

አይ፣ በዚህ ጥናት ለመሳተፍ አልፈልግም ☐ (*ቃል_ መጠይቁን እዚሁ ያብቁት*)

የመረጃ	ሰብሳቢ	ስምና	ፊርማ_____	ፊርማ

የመረጃ	ተቆጣጣር	ስም_____	ፊርማ

1. የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ አጠቃላይ መረጃ

ልዩ ኮድ	ዕድመ	የትምህርት ደርጃ	መኖርያ መንደር	የመጨረሻዉ ልጅ ዕድመ	ስራ ቦታ	ሐይማኖት	የልጆች ቁጥር	የእርግዝና መከላከያ አጠቃቀም ደረጃ

2. ሁለት ሰዎች በጋብቻ/በጓደኝነት አብረው በሚኖሩበት ጊዜ ክፉና ደግ ነገር በህይወታቸው እንደ ሚያሳልፉ የታወቀ ነው። ይህን በተመለከተ በአሁኑ ጊዜ አብሮዎት ያሉ ባለቤትዎ ቀደም ብሎ ስለነበረው ግንኙነትዎ ጥያቄዎች አቀርብለዎታለሁ። በውይይታችን ጊዜ ሌላ ሰው ከመጣ አርእስቱን እቀይራለሁ። የሚነግሩኝ ነገር ሁሉ በሚስጥር የተያዘ ይሆናል። መልስ መስጠት የፈለጉትንም ጥያቄ ለመመለስ አይገደዱም።አሁን መቀጠል እንችላለን?

ተ.ቁ	ዋና ዋና ጥያቄዎች	ጥልቅ ምርመራ
1.	ስለራሰዋ በተመለከተ እስክ ትንሽ ዘርዘር አድርጎ ይንገሩን?	• የት ነው የምኖሩት? • ለእርስዎ በአሁን ሰዓት ስንት ልጆች አሉት ? ወንድ_____, ሴት_____ • ቀንዎትን ምን ምን በመስራት ያሳልፋሉ? • ምን ምን መስራት ያስደስተዎታል?
2.	እስክ አሁን ስለባለቤትዎ ትንሽ ይንገሩን ወይም ያጫዎቱን?	• ከባለቤትዎ ጋር እንዴት ነው የተዋወቃችሁ ? • መች ነበር ከባለቤትዎ ጋር ጋበቻ የመሰረታችሁ ወይም አብሮ መኖር የጀመራችሁ? • ባለቤትዎ ምን አይነት ስራ እየሰራ ይገኛል ? • የባለቤትዎ መጨረሻ ልጅ የጾታ ምርጫ ምን ነበረ? ለምን? • የመጨረሻ ልጅ ከተወለደ በኃላ ስለልጁ ያለውን ስሜት (ደስተኛ መሆን ወይም አለመሆን ሁኔታ ወይም ግንኙነት በተመለከተ እስክ ዘርዘር አድርጎ ይንገሩን ?
3	ወደዝ ተቋም የመጡበት ዋና ምክንያት እስክ በደምብ ይንገሩን	• መች ነበረ ይህ ያአሁኑ ችግር የተፈጠረው • ምን ያህል ጊዜ ቆይቷል? • ከዚህ በፊት እንደዝህ አጋጥሞሽ ያውቃል?መች
4.	እስክ አሁን በለባለቤትዎ ጋር ያለውን አንዳንድ ነገሮቹን እንወያይ?	• ባለቤትዎ ይህ የመጨረሻ ልጅ ከመወለዱ በፊት በምን ሁኔታ ወይም እንዴት ስንክባክብ ነበረ እስክ በደምብ ያብራሩ? • ባለቤትዎ ይህ የመጨረሻ ልጅ እርግዝና ወቅት በምን ሁኔታ ወይም እንዴት ስንክባክብ ነበረ እስክ በደምብ ያብራሩ? • ባለቤትዎ ይህ የመጨረሻ ልጅ ከተወለደ በኃላ በምን ሁኔታ ወይም እንዴት ስንክባክብ ነበረ እስክ በደምብ

		ያብራሩ? • ባለቤትዎ እርሰዎ እርጉዝ ሆኖ እያሉ እርሰዎ ሳይፈልጉ እርግዝናው በግድ እንድቀጥል ወይም እንዳይቀጥል አድርጎት ያውቃሉ?
5.	እስከ አሁን ደግሞ በእርሰዎ ስነ_አዕምሮ ጤንነት ላይ የደረሰውን ጉዳት በደምብ ይንገሩን?	• ባለቤትዎ ስለራሰዎ መጥፎ ስሜት እንድሰመዎት አድርጎት ያውቃሉ? እንዴት ? መቼ? ለምን? • ባለቤትዎ ስሜትዎን የምጎዱ ወይም የሚያዋርዱ ቃላቶቹን በዘመዶችሽ ወይም በጓደኞሽ ፊት ተናግሮ ወይም ተሳድቦሽ ያውቃሉ?ለምሳሌ? • ባለቤትዎ ስሜትዎን የምጎዱ ወይም የምያዋርዱ ቃላቶቹን በእግዶችሽ ወይም በቤትሽ ተናግሮ ወይም ተሳድቦሽ ያውቃሉ?ለምሳሌ? • በእርሰዎ ስነ_አዕምሮ ጤንነት ላይ የደረሰውን ጉዳት እስከ በደምብ ይንገሩን? ? • ሰለራሰዎ ያለውን ግምት እንዴት እንደጎዳ እስከ በደምብ ያብራሩልን?
6.	ባለቤትዎ በእርስዎ ላይ የደርስበዎትን ማንኛዉም አካላዊ ጉዳት እስከ በደምቢ ያብራሩ??	• ባለቤትዎ እጅ በመሰንዘር (በጥፍ : በቦክስ) ወይም በለላ ነገር በመጠቀም በእርሰዎ ላይ ጉዳት አድርሰዎ ያውቃል? መቼ? የት? ለምን? • ከባለቤትዎ በእርስዎ ላይ ከዚህ በፊትበአጠገብ ያለዉን ማንኛዉም ዕቃ በማንሳት ወይም በመወርወር አካላዊ ጥቃት አድርስበዎት ያዉቃል? ለምሳሌ ጫማ ፤ስልክ፤የሻይ ብርጭቆ በመወርወር፤ • ባለቤትዎ ብለዋ ወይም መሳሪያ በመያዝ አካላዊ ጥቃት አድርስበዎት ያዉቃል? እንዴት ?
7.	በዚህ ድህር-ወልድ ወቅት ጊዜ ወይም ከዛ በፊት ከባለቤትዎ በእርስዎ ላይ የደርስዉን ማንኛዉም ስነ-ወስባዊ አለመግባባት እስከ በደምቢ ያብራሩ?	• ከባለቤትዎ ጋር የግብረስጋ ግንኙነት አለመግባባት እንዴት ትፈታላችሁ? • ከባለቤትዎ ጋር በፍራቻ ግንኙነት ፈጽሞ ያዉቃሉ? እስከ በደምብ ያብራሩ • ባለቤትዎ ብለዋ ወይም ማንኛዉም መሳሪያ በመያዝ ስለአስፈራሩ ግብረስጋ ግንኙነት አድርጎ ያዉቃል? እስከ በደምብ ያብራሩ • ባለቤትዎ ጉልበት ወይም የሀይል እርምጃ ስለወሰደ ግብረስጋ ግኙኝነት ፈጽሞ ያዉቃሉ?
8.	ስለወልድ መከላከያ በተመለከተ ከባለቤትዎ ጋር እንዴት እንደምወያዩ እስከ በደምቢ ያብራሩ?	• ስለወልድ-መከላከያ በተመለከተ ከባለቤትዎ ጋር እንዴት እንድምመካከሩ እስከ ያብራሩ? • ስለወልድ-መከላከያ በተመለከተ ለመጀመርም ሆነ ለማቆም ከባለቤትዎ ጋር ተመካከሮ ያዉቃሉ?እስከ በደምብ ያብራሩ • ባለቤትዎ ወልድ-መከላከያ እንዳይጠቀሙ ወይም እየተጠቀሙ እያሉ አስቁሞቸዉ ያዉቃል?መቼ? ለምን? • ከባለቤትዎ በሚዴርስ አካላዊ፤ስነ-ወስባዊ ጥቃት ምክንያት የወልድ-መከላከያ መጠቀም ወይም እየተጠቀሙ እያሉ አቁሞ ያዉቃሉ?
	ቃለ-መጠይቃችን በዚህ ላይ ያበቃል። ከኛ ጋር ስለቆዩት ጊዜ ሁሉ እናመስግናለን።	

አባሪ 2.2.2: የጥልቀት ያለው ቃለ-መጠይቅ መመሪያ ለወሰኝ መረጃ ሰጭዎች (የአማርኛ ቅጂ)

አዲስ አበባ ዩኒቨርስት

ጤና ሳይንስ ኮሌጅ

የህብረተሰብ ጤና ትምህርት ቤት

የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ መረጃ ላይ የተመሠረተ ስምምነት እና ጥልቀት ያለው ቃለ-መጠይቅ ::

የጥናቱ ዋና ተጠርዎች ስም: አቶ ታፈሰ ላማሮ: ፕ/ር ፍቅረ እንኩሥላሠ እና ፕ/ር ንጉሰ ዴየሳ

የቃል_መጠይቅ ተሳታፊዎች: በጤና ኬላ ላይ ለሚሰሩ ጤና ኤክስተንሽን ሰራተኞች

ክፍል አንድ፡ የጥናት መረጃ ቅፅ

የጥናት ዓላማ:- የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ የህይወት ልምዶቻቸዉን መረዳት ነዉ::

መግቢያ

ጤና ይስጥልኝ:: ስመ _____እባላለው::እኔ የመጣሁት አዲስ አበባ ዩኒቨርስት ወኪየ ነዉ:: በማከናወን ላይ ያለነዉ ጥናት በአሁን ሰዓት የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ ጥልቀት ያለዉ ቃለ-መጠይቅ በማድረግ ተጨባጭ መረጃወችን ለማቅረብ ነዉ:: በዚህ መሰረት እረስዎ በአጋጣም ከተመረጡ ከጥናቱ ተሳታፍ መካከል አንዱ ነዎት::ከእርስዎ የሚናገኛዉ መረጃ ብዙ ከመሆን አንጻር ለጥናታችን በጣም አስፈላግ እና ጠቃም ነዉ::

የጥናቱ ዳራ: የዚህ ጥናቱ ዋናዉ አላማ ድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ ህይወት ተሞክሩዋቸዉን በጥልቀት ለማወቅ ነዉ:: እርስዎ በዚህ ጥናት ውስጥ እንዲሳተፉ ከተመረጡት ውስጥ አንዱ ነዎት::የጥናቱ መጨረሻ ዉጤት የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ ያለዉን ችግር መጠን ለማሳየት እና ለሎች ሴቶች መማረያ መንገድ ለማበጀት ነዉ:: ደግሞ ችግሩን ለመግታት ለሚደረገዉ ስትረታጅ ጥሩ ግባዓት ይሆን ዘንድ ነዉ::

የጥናቱ ህደት: ለዚህ ጥልቀት ያለዉ ቃለ-መጠይቅ ከተመረጡ ጤና ኤክስተንሽን ባለሙያ መካከል እርስዎ አንዱ ነዎት:: የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ የእርስዎን ከስራ ጋር በተገናኘ ያለውን ተሞክሮ በጥልቀት ከመጠየቅ በፊት በጥናቱ ዉስጥ ለማሳተፍ የእርስዎን ፍቃደኝነትን እንጠይቃለን::ይህ ቃለ-መጠቅ እስከ ሰላሣ ደቅቃ ልወስድ ይችላል:: እርስዎን ጨምሮ ብዙ ጤና ኤክስተንሽን ባለሙያ ልማዳቸው በድህረ ወልድ ሴቶች ላይ ከትዳር አጋሮቻቸዉ

የሚደርሠዉን ጥቃት በስፋት እንመካከራለን፡፡ ስለዚህ በዚሁ መሠረት በጥናቱ ላይ ለመሳተፍ የእርስዎ በጎ ፍቃደኝነት መጀመርያ እንጠይቃለን፡፡

የጥናቱ ጉዳት/አደጋ እና አለመመቸት: ይህ ጥናት በእርሶዎ ላይ የሚያመጣዉ ብዙ ችግር ባይኖርም፤ ትንሽ የስነ-ልቦና መረበሽ ልደረስቦት ይችላል፡፡ ይህ ደግሞ በቃለ-መጠየቅ ወቅት የሚከሠት ከሆነ ወድያዉ ቃለ-መጠይቅ እንድቋረጥ ይደረጋል፡፡ ቃለ መጠይቁ ወደ 30 ደቂቃዎችን ይወስዳል፡፡ ነገረ ግን ወደ ዋናዉ ነጥብ በመምራት እና በመጠየቅ የጊዜ ማባከን ለመከላከል እንሞክራለን፡፡

የጥናቱ ጥቅም: በዚህ ጥናት ውስጥ በመሳተፍዎ በቀጥታ የሚያገኙት ጥቅም ባይኖርም ግን ከእርሰዎ የምናገኛዉ ታመኝ መረጃ ለጥናታችን በጣም ወሳኝ እና ጠቃሚ ነዉ፡፡ እኛ የምንሰበስባቸው መረጃዎች ትክክለኛ መሆናቸውን እንዲያረጋግጡልን እንጠይቆታለን፡፡ እርስዎ በሚሰጡት መረጃ መሰረት በማድረግ ይህንን ችግር ለመግታት ስትራቴጅ ለመቅረጽ የምያስችል ተግባራትን እንድናገኝ ይረደናል፡፡

የጥናቱ ሚስጢራዊነት: የዚህ ቃለ መጠይቅ መረጃ ሚስጥራዊነት የተጠበቀ ነው፡፡ በማንኛውም ሁኔታ የጥናቱ ተሳታፊ የሆኑ ስም አንመዘግብም ፡፡ ስምዎ በቃለ-መጠይቅ ወረቀቱ፣ ዲጂታል ሪኮርዲንግ/መቅረጸ ድምጽ ወይም በማንኛውም ሌላ የጥናቱ ሰነድ ላይ አይገለጽም፡፡ ከስምዎ ወይም ሌላ የማንነት መለያ መረጃ ጋር ትስስር በሌላቸው መለያ ቁጥሮች ወይም ኮዶች ብቻ እንዲለዩ ይደረጋል፡፡ ከዚህ ቃለ-መጠይቅ የምናገኛዉ መረጃ በማንኛዉ ሁኔታ ለሶስተኛዉ ወገን አሳልፎ አይሰጥም፤ለዘላቅ ጥበቃ ስል፤ ለዚህ ጥናት በተዘጋጀ የመረጃ ሳጥን ዉስጥ ሁሉ መረጃዎች ይቆለፋል ፡፡

ያለመሳተፍ እና መቐረጥ ሙብት: ይህ ጥልቀት ያለዉ ቃለ-መጠይቅ ሙሉ በሙሉ በእርስዎ ፍቃድኝነት ላይ የተመሰረተ ነዉ፡ ፡ እርስዎ ላለመሳተፍ መወሰን የሚችሉ ሲሆን ለመሳተፍ ከወሰኑም በኃላ በማንኛውም ጊዜ ከቃለ-መጠይቁ አቋርጠው መውጣት ይችላሉ፡፡ በዚህ ቃለ መጠይቅ ለመሳተፍ ወይም ላለመሳተፍ የሚሰጡት ውሳኔ በዚህ ወይም በማንኛውም ሁኔታ ላይ ተጽዕኖ አያሳድርም፡፡ ከዚህ ጥናት ጋር በተያያዘ ጥያቄዎች ወይም ጉዳዮች ካልዎት የምርምር ቡድን ዋና ተጠር የሆኑትን አቶ ታፈሰ ላማሮ: የስልክ ቁጥር **0912922271** ወይም ፕ/ር ፍቅረ እንኩሥላሠ፡የስልክ ቁጥር **091259707** እኔ ልሰጥዎ እችላለሁ፡፡በተጨማሪ የአዲስ አበባ ዩኒቨርስቲ ፡ጤና ሳይንስ ኮሌጅ የጥናት መከታተያ ቦሪዲ አደረሻ**(ተሌ ቁጥር:+251115538734)** ልሰጥዎ እችላለሁ፡

ክፍል ሁለት፡የስምምነት ቅፅ

ከላይ በተነሳው የጥናቱ ዓላመ እና ማብራርያ መሰረት ቃለ-መጠይቁን እንድንቀጥል ተስማምተዋል?

አዎ፣ በጥናቱ ውስጥ ለመሳተፍ ተስማምቻለሁ ☐ ***(ቃለ_መጠይቅ ይቀጥሉበት)***

እኔ ከዚህ በታች በፍርማየ ያረጋገጥኩት በጥናቱ ላይ ለመሳተፍ ስል ይህንን በፍቃደኝነት የተመሠረተ ስምምነት እሰጣለዉ፡፡ በዚህ የመረጃ ስምምነት ቅጽ ላይ የሠፈረዉ የጥናቱ ዓላማ እና ሁኔታ ግልጽ ከመሆን ባሻገረ በጥናቱ ላይ ላለመሳተፍ መወሰን

እንደምችልና እንድሁም ለመሳተፍ ከወሰንኩት በኃላ በማንኛውም ጊዜ ከቃለ-መጠይቁ አቋርጠው መውጣትም እንደምቻል አስተዉያለዉ፡፡ ለጥናቱ የሰጠሁት መረጃዎች ትክክለኛ መሆናቸውን አረጋግጣለዉ፡፡ ጥናቱ ግልጽ እና ለእኔ በምገባ ቋንቃ ነዉ የተገለጸልኝ፡፡

የጥናቱ ተሣታፊ ፊርማ ወይም የጣት

አይ፣ በዚህ ጥናት ለመሳተፍ አልፈልግም ☐ *(ከይቁን እዚሁ ያብቁት)*

የመረጃ ሰብሳቢ ስምና ፊርማ_____ፊርማ

የመረጃ ተቆጣጣር ስም_____ፊርማ

1. የጤና ኤክስተንሽን በተመለከተ አጠቃላይ መረጃ

መ.ቁጥር	ዕድመ(በዓመት)	የትምህርት ደረጃ	የሚኖሩበት ቦታ	ሀይማኖት	የስራ ሆነታ	የአሁኑ የትዳር ሁኔታ	የልጅ ብዛት	የስራ ልምድ በአመት

<u>አቅጣጫዎች፡</u> ዛሬ በዚህ ቃለ መጠይቅ ለመሳተፍ ስለተስማማችሁ በድጋሚ እናመሰግናለን። እንደተነጋገርነው፣ የዚህ ጥናት ዋና አላማ በድህረ ወሊድ ሴቶች ላይ ከቅርብ ትዳር አጋር የሚደርሰውን ጥቃት በተመለከተ የህይወት ተሞክሮ በመዳሰስ በኢትዮጵያ በድህረ ወሊድ ሴቶች ላይ የሚደርሰውን ጥቃት መከላከል ስትራቴጂ ላይ ምክረ ሃሳቦችን ማቅረብ ነው። የሚያቀርቧቸው ሃሳቦች እና መረጃዎች ለጥናቱ በጣም ጠቃሚ ናቸው እና አፈፃፀሙን ለማሻሻል ይረዱናል። ነገር ግን፣ እርስዎን የማይመቹ ጥያቄዎች ካሉ እና ላለመመለስ የሚመርጡ ከሆኑ ወይም ቃለ መጠይቁን ማቆም ከፈለጉ እባክዎን ያሳውቁኝ።

ከመጀመራችን በፊት ጥያቄዎች አሉዎት?

በዚህ ቃለ መጠይቅ ውስጥ ያሉት የቀሩት ጥያቄዎች የበለጠ እንደ ውይይት ይሆናሉ። በሚጠይቃቸው ርዕሶች ላይ ያለዎትን ሀሳብ እፈልጋለሁ። ትክክለኛ ወይም የተሳሳተ መልስ የለም። የምትናገረውን ሁሉ አልጽፍም ነገር ግን የምትናገረውን በትክክል መዝግበን ለማረጋገጥ አንዳንድ ጊዜ ማስታወሻ ልወስድ እችላለሁ። ዋናዎቹ መልዕክት መያዙን ለማረጋገጥ ንግግራችን በድምጽ የሚቀዳ ይሆናል። የትኛውንም ጥያቄ መመለስ ካልፈለግክሽ መዝለል ወይም ማቆም ትችይያለሽ። በድምጽ መቅዳት ካልፈለጉ፣ ማቆም እችላለሁ።

ቃለ_መጠይቅ መቀጠል እንችላለን? _____

አዎ ከሆነ ጥያቄዎቹን ይጠይቁ (ቃለ_መጠየቅ ለሚያደርገው ሰው)

በመጀመሪያ በዚህ ተቋም ውስጥ ስላለው ሥራዎ ማወቅ እፈልጋለሁ.

	ዋና ጥያቅዎች	የጥልቅ ምርመራ ጥያቅዎች
1.	በዚህ ተቋም ውስጥ የእርስዎ ዋና የሥራ ኃላፊነቶች ምንድን ናቸው? በተቋሞ ውስጥ ከሙያ ጋር በተያያዘ ሌላ የሥራ ኃላፊነቶች አሉዎት?	• ይህን ሥራ መቼ ጀመሩ? • የትምህርት ደርጃ በተመለከተ ምን ያህል ነው? • በዚህ ዘርፍ እና ሙያ የስንት አመት የስራ ልምድ አለዎት?
2.	እናቶችን ወይም ሴቶች ይህንን ተቋም እንዲጎበኙ የሚያደርጋቸው ዋና ዋና ቅሬታዎች ምንድን ናቸው?	• ተቋማቶቻችሁን በብዛት የሚጎበኟቸው የትኞቹ የሴቶች ክፍል እንደሆኑ አስተያየት መስጠት ትችላላችሁ? • እነዚህ ሴቶች በየጊዜው ይህንን ተቋም እንዴት ይጎበኛሉ? • የበለጠ ቢያብራሩልን? • ከድህረ ወልድ በኋላ ያሉ ሴቶች በተመለከተ?
3.	ከአስራ ሁለት ወር በታች የሆነ ልጅ ያላቸው የድህረ ወሊድ ሴቶች ለእርዳታ/ለምክር ፍለጋ ወደ ተቋማትዎ ጉበኝተዋል?	• ይህንን ተቋም የጎበኙበት ዋና ምክንያት ምንድን ነው? • ከትዳር አጋሮቻቸው ጋር የተያያዙ ተጥቃት አበቱታዎች አሉ? • እነዚህን ችግሮች እንዴት መፍታት ይቻላል? • የበለጠ ቢያብራሩልን? • ከዚህ ጋር የተያያዘ ልምድ መጋራት ይችላሉ?
4	እስከ ድህረ ወሊድ ሴቶች በተመለከተ በአካባቢዎ፣ በማህበረሰብዎ ወይም በስራ ቦታዎ ላይ ከትዳ አጋር የሚደርሰውን ጥቃትን የማሳወቅ እና የመናገር ልምድ እንዴት ያብራራሉ?	• ሴቶች ከትዳር አጋር የሚደርስባቸውን ጥቃት ይጋራሉ? • መቼ እና ለምን ያህል ጊዜ ለእናንተ ተቋም እንደሚያሳውቁ ማብራራት ትችላላችሁ? • እስከ በደምቢ ቢያብራሩልን?
5.	ከባሎቻቸው የሚደርሰውን የጥቃት አይነት ሴቶች ለእርስዎ የሚጋሩትን ሊነግሩኝ ይችላሉ፡ ማለትም ስነልቦናዊ፣ አካላዊ ወይም ስነወሲባዊ ጥቃት?	• የተለያዩ የጥቃት ዓይነቶችን ? • እንዴት? የበለጠ በሚከሰትበት ጊዜ (ቅድመ እርግዝና, እርግዝና ወይም ልጅ ከወለዱ በኋላ)? • መጋራት የሚትፈልጉት የህይወት ተሞክሮ ካለዎት?

ይህ የቃለ ምልልሳችን መጨረሻ ነው።

ሀሳብህን ስላካፈልከኝ በጣም አመሰግናለሁ።

APPENDIX 2.2: Data collection Tools for quantitative part (English versions)

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

Appendix 2.2.1: Baseline study on postpartum women's health and life events in Wolaita zone,Southern Ethiopia.

Informed consent for respondents participating in the survey entitled with '' Women's health and life events and its intersection with postpartum contraception among currently married women in the Wolaita zone, Southern Ethiopia.''

Investigators: Mr. Tafesse Lamaro, Prof. Fikre Enqueselassie and Prof.Negussie Deyessa

Part I- Stuy Information sheet(SIS)

Introduction

Good morning/afternoon! My name is _____. I represent the research team from Addis Ababa University. We are speaking with postpartum women about their experience of life events and their postpartum contraception pattern in Wolaita Zone. we believe that you have rich source of information concerning this issues.

Purpose of the research : Six in ten women have experienced one forms of IPV in their life time in Ethiopia and majority of postpartum women lately adopt modern contraceptive as well as discontinue sooner than other period. The cause of lately contraceptive intiation and timing is multifactorial while the situation may be the worst for women experiencing IPV from their husband. However, prevalence of PIPV and its intersection with postpartum modern contraception haven't been well assessed. Therefore, this study is aimed to fill this gap by conducting community- based survey in Wolaita Zone.

Procedures :You are among the 1342 postpartum women selected by chance for this study. I will ask you few questions concerning some personal, socio-demographic and economic information. I will also ask you information regarding postpartum women's health and life events, sexuality, and contraceptive use status following birth of the last child. The interview will take about 60 minutes. So, I request your volunteer participation.

Participation : We are asking you to voluntarily participate in this study because you have been recently chosen. For the next one year, we will have additional questionnaires to learn about your experience related to postpartum women's health and life events and contraceptive use pattern. Our study is completely interview based and does not involve any invasive procedure.

Risks and discomfort : The study has no risk for respondent whereas there might be slight discomfort to share some personal information. However, we do not wish this to happen and you may refuse to answer any of the questions if you feel uncomfortable.

Benefits :There will be no direct benefit to you, but based on the information you provide us, we will design strategies to launch the interventions targeted to spousal violence in line with family planning services as to have special attention to postpartum women under poor health. In addition, your participation is very important for us to find the answer to the research question which in turn benefits the society especially women who experience and their families.

Confidentiality: Any information that we collect about you during this research will be kept confidential. Your name will not be written in this form and the information we collect from you will not be shown to anyone. The hard copies will also be kept in a locked cabinet and will not be divulged to anyone, except the investigators. However, if need by ethical may be seen by the researchers; and ethics committees and then, confidentiality remain between them.

Right to refuse or withdraw :You can refuse to answer any question to which you are not comfortable. You may stop participating in the interview at any time if not convenient for you without losing any of your rights as a participant. However, your active participation and genuine responses have paramount importance in the prevention of violence against women and to have qualified family planning services for postpartum women.

Whom to Contact: If you have any questions, you may ask or contact to the persons stated below. You can contact them any time, even after the study has started. If you wish to ask questions later, you may contact the investigator at the following address;

If you have any further question and in case of urgency you can contact

- Professor Fikre Enqueselassie **(0912459707**; E-mail fikreens@yahoo.com)
- Professor.Negussie Deyessa(0911400059;E-mail: negdaysun@gmail.com)
- Mr. Tafesse Lamaro (**0912922271;** E-mail lamaro.tafesse@yahoo.com)
- IRB of Addis Ababa University,College of Health Science.**Tel:+251115538734**

Part II. Consent form

Based on aforementioned information, are you willing to participate in the study?

Yes ☐

I confirm that, as I give consent to participate in the study, it is with a clear understanding of the objectives and conditions of the study & with recognition of my right to withdraw from the study if I change my decision. I have been given the necessary information about the research. I have also been assured that I can withdraw my consent at any time without penalty or loss of benefits. The proposal has been explained to me in the language I understand.

Participant's signature/finger print_____Date_____

(procced with the interview)

No ☐ (Terminate the interview)

Name of the interviewer_____Sig. _____Date _____

Name of Supervisor_____Sig. _____Date_____

Location of study respondents and screening format to participate in the survey

Questions and Filters	Coding category	Address name	Skip
Participant located using Woreda	1. Yes 0. No	_____	
Participant located using Kebles	1.Yes 0. No	_____	
Participant located by Village/block/Got	1.Yes 0. No	_____	
Participant located by household head	1.Yes 0. No	_____	
Participant located by house number	1.Yes 0. No	_____	
Participant located by phone address	1.Yes 0. No	_____	
Is participant postpartum women	1.Yes 0. No	_____	
Is participant meets eligibility criteria	1.Yes 0. No	_____	
Code of questionnaire (follows sample size)_____	Woreda_____Keble____Woman code in each keble_____		
Name of data collector _____sig. _____, Date _____ Name of data Supervisor:_____ sig. _____Date _____ Date of data nterview_____ /_____/_____			

Section-1: Sociodemographic charactersitics of postpartum women under study in the Wolaita zone, Southern Ethiopia			
Sr.No	Questions	Response Category	Skip to Questions
101	Where is your area of residence?	1. Rural 2. Urban	
102	How old were you at your last birthday?	Age in completed years_____	
103	What is your Ethnicity?	1. Wolaita 2. Gurage 3. Amhara 4. Dawuro 5. Others Specify_____	
104	What is your religion?	1. Orthodox Christian 2. Protestant Christian 3. Catholic 4. Others specify_____	
105	Have you ever attended school?	1. Yes 2. No (illiterate)	→Q#107
106	If yes to Q105,what is the highest level of school you attended?	_____Grade 1. Primary (1-8 grade) 2. Secondary(9-12 grade) 3. Technical/vocational (10^{+}3 and above)	

		4. Higher(College and above)	
107	Had your mother ever attended school?	1.Yes 2. No 3. I don't know	
108	If yes to Q107,what is the highest level of school your mother attended:	_____Grade 1. Primary (1-8 grade) 2. Secondary(9-12 grade) 3. Technical/vocational (10+3 and above) 4. Higher(College and above)	
109	What is your current occupation?	1. Housewife/farmer 2. Government employee 3. Private employee 4. NGO employee 5. Merchant 6. Student 7. Others specify _____	
110	In addition to your house work, do you have any other work for which you are paid in cash or in kind?	1. Yes 2. No	If No,→Q #112
111	If yes to Q110,on average how much birr is paid for you per month?	_____ (ET. Birr)	
112	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	1. Through out the Year 2. Seasonally/Part of the Year 3. Once in a while	
113	What was your age when you marry?	_____years	
114	How long since you have married your current husband?	_____years	
115	How much you are younger or older than your partner?	_____Years 1. Younger than spouse 2. The same age as spouse 3. Older than spouse	
116	At time of your marriage ;did you/your family have received any bride groom's family in kind or cash?	1. Yes 2. No 3. I don't Know	
117	How you level the cost of bridal price according to groom and his family economic status?	1. Little bridal price 2. Some bridal price 3. huge bridal price 4. I didn't remember it	
118	What is current occupation of your husband?	1. Farmer 2. Government employee 3. private employee 4. NGO employee 5. Merchant 6. Student 7. Others specify _____	

119	What is approximate monthly income of your husband per month?	_____ (ET. Birr)	
120	How label your earnings when compared to your spouse?	1. Earns less than spouse 2. Earns same as spouse 3. Earn more than spouse 4. Woman has No earning	
121	Have your husband ever attended school?	1. Yes 2.No 3. I don't Know	If No&DK; skip to 224
122	If Yes to Q121, What is the highest level of school your attended?	_____Grade 1. Primary (1-8 grade) 2. Secondary(9-12) 3. Technical/vocational (10^{+3}) 4. Higher(College and above)	
123	How label your educational status when compared to your spouse?	1. Less educated than spouse 2. The same education as spouse 3. More educated than spouse	
124	How many inhabitants residing in this house including you?	_____Inhabitants	
125	Does your household own the following?		
	Electricity?	1. Yes 2. No	
	Radio?	1. Yes 2. No	
	Television?	1. Yes 2. No	
	Computer	1. Yes 2. No	
	Non-moblie telephone functioning?	1. Yes 2. No	
	Refrigerator?	1. Yes 2. No	
	Table?	1. Yes 2. No	
	Chairs?	1. Yes 2. No	
	A bed with cotton/ sponge/ spring mattress?	1. Yes 2. No	
	An electric mitad?	1. Yes 2. No	
	A kerosene lamp/pressure lamp?	1. Yes 2. No	
126	Does any member of your household own the following?		
	Watch?	1. Yes 2. No	
	Mobile phone?	1. Yes 2. No	
	Bicycle?	1. Yes 2. No	
	Motor cycle?	1. Yes 2. No	
	Animal drawn cart?	1. Yes 2. No	
	A car or truck	1. Yes 2. No	

127	Does any member of this household own any agricultural land?	1. Yes 2. No	If No skip to Q 129
128	If Yes to Q126, how many hectares?	_____Hectares	
129	Does this household own any livestock, herds, other farm animals, or poultry?	1. Yes 2. No	If No skip to Q#201
130	If yes to Q128, how many:	_____	
	Cattle?	_____	
	Milk cows or bulls	_____	
	Horses, donkeys or Mules?	_____	
	Goats?	_____	
	Sheep?	_____	
	Chickens?	_____	

Section-2: Obstetric and Reproductive history of postpartum women under study in Wolaita zone

201	Currently; how many children do have now?	Male _____Female_____ Total____	
202	How many pregnancies have you ever had?	_____	
203	Did any of these pregnancies ended in abortion (termination of pregnancy before 28 weeks of gestation)?	1.Yes 2.No	If No skip to Q#205
204	If Yes to Q 203, how many of them ended in abortion?	_____times	
205	How many of your pregnancies were unintended?	_____	
206	What is the name of your index baby? Sex of index baby?	Name:---------- Male……..1 Female……2	
207	In what month and year was your index baby born? Age of index baby?	Date_____Month_____Year_____ Age _____in months	
208	Is your latest pregnancy was intended?(Read the options)	1.Wanted to beome pregnant 2. Wanted to delay pregnancy 3.Unwanted pregnancy 4. I didn't thought about it 5.Don't know	

		6. Not agreed to answer	
209	If your answer is ‘’1’’ for Q208; Have you used anything or tried in any way to delay or avoid getting pregnant?	1. Yes 2. No 3 Don’t know	
210	If yes for Q209,which one of the following contraceptions was used to prevent latest pregnancy?	1. IUCD 2. Implants 3. Injectables 4. Pill 5. Male condom 6. Female condom 7. Emergency contraception 8. Traditional methods 9. Others specify_____	
211	What was the most important reason you stopped using this method?	1. Wanted to become pregnant 2. Became pregnant while using 3. Side effects 4. Health concerns 5. Difficult to use 6. Infrequent sex/husband away 7. Husband/partner disapproved 8. Wanted more effective method 9. Lack of access/too far 10. Costs too much 11. Difficult to get pregnant/menopausal 12. Marital dissolution/separation 13. Missed appointment 14. Method not available 15. Other(Specify)_____ 16. Don’t know	
212	Regarding your latest pregnancy ; what was your husband’s conditions?(Read the options)	1.He wanted to beome pregnant 2. He wanted to stay unpregnant 3.He didn’t want a child now 4. I didn’t mind about it 5.I didn’t know/remember 6. Not agreed to give an answer	
213	Regarding your latest pregnancy ;what was your husband’s sex preferences ?	1. Male 2. Female 3. He didn’t mind it 4. I didn’t know/remember 5. Not agreed to give an answer	
214	Where did you give your last delivery?	1. Hospital 2. Health center 3. Health post 4. Home	

		5. Other (specify) ____	
215	How much longer did you want to wait before you became pregnant for this birth(change into months)?	_____months	
216	Have you used any contraceptive since this birth?	1. Yes 2. No	If No; skip to 221
217	What was your first family planning methods adopted since this birth?**(Multiple responses are possible)**	1. IUCD 2. Implants 3. Injectables 4. Pill 5. Male condom 6. Female condom 7. Emergency contraception 8. Traditional methods 9. Others specify_____	
218	If your answer is ''Yes'' for Q217; when you initiated first methods since this birth?	Date_____ Month_____Year_____	
219	If your answer is ''Yes'' for Q217, up to what month and year have you been using(current methods) without stopping?	Date_____ Month_____Year_____	
220	If Yes for Q217,reasons for contraceptive adoption	1. Spacing 2. Limiting 3. Unknown	
221	If your answer is '' No'' for Q217, reasons for not adopting contraceptions?	1. Breast feeding 2. Postpartum abstinence 3. No resumption of menses 4. counselled by health professionals 5. Partner not wanting 6. Friends not supporting 7. others specify_____	
22	Are you currently breastfeeding?	1. Yes 2. No 3. Don't know	
223	How many times did you breastfeed last night between 6:00p.m. and 6:00a.m.?	Number of night time feedings _____	
224	How many times did you breastfeed yesterday between 6:00a.m. and 6:00p.m.?	Number of day time feedings _____	
225	Average duration of breastfeeding in each episode	_____in minutes!	
226	Has your menstrual period returned	1. Yes 2. No 3. I don't know	If

	since this birth?		No skip to Q#228
227	When your first menses have resumed since this birth?	Date_____ Month_____Year_____	
227B.	For how many months after the birth of index child,did you not have a period?	1. Months_____/_____ 2. Don't know	
228	From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant?	1. Yes 2. No 3. I don't know	
229	If your answer is ''YES'' for Q 228,is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods?	1. Just before her period begins 2. During her period 3. Right after her period has ended 4. Halfway between two periods 5. Other specify _____ 6. I don't know	
230	After the birth of a child, can a woman become pregnant before her menstrual period has resumed?	1. Yes 2. No 3. I don't know	
231	Have you had sexual intercourse since this birth?	1. Yes 2. No	
232	When was your first sexual intercourse since this birth**?(Read options)**	Date_____ Month_____Year_____ 1.Before menses resumes 2.After menses resumes 3.Before contraceptive adoption 4.After contraceptive adoption	
232B.	For how many months after the birth of index child; did you not have sexual intercourse?	Months_____/_____ Don't know	
*Reproductive double column calender will be used to measure postpartum contraceptive adoption			
Section 3: Household's decision making,asset ownerships and women spouses' characterstics			
301	Who usually decides how to spend the money that you earn? You, your husband/partner, both, or someone else?	1. Yourself 2. Your husband 3. Jointly (you and your husband) 4. Someone else	
302	Who usually decides how your husband's earnings will be used: you, your husband, or you and your (husband/partner) jointly?	1. Alone 2. My husband 3. Jointly(you and your husband)	

		4. Someone else	
303	Who usually makes decisions about health care for yourself: you, your (husband/partner), you and your(husband/partner) jointly, or someone else?	1.Alone 2. My husband 3.Jointly(you and your husband) 4.Someone else	
304	Who usually makes decisions about making major household purchases?	1.Yourself 2.Husband 3.Jointly(you and your husband) 4.Someone else	
305	Who usually makes decisions about making daily household expenses?	1.Yourself 2.Husband 3.Jointly(you and your husband) 4.Someone else	
306	Who usually makes decisions to visit family or relative?	1.Yourself 2.Husband 3.Jointly(You and your husband) 4.Someone else	
307	Does your huband help you with household chores like looking after children, cooking,cleaning the house and doing other work around the house?	1.Yes 2.No	If No, skip to 309
308	Does he help you almost every day, at least once a week or rarely?	1. Almost every 2. Atleast once a week 3. Rarely	
309	Do you own this or any other house either alone or jointly with someone else?	1. Alone only 2. Jointly only 3. Both alone and jointly 4. Does not own	If Does not own, Skip to 312
310	Do you have a title deed for any house you own?	1. Yes 2. No 3. Don't know	If No and DK, skip to 312
311	Is your name on the title deed?	1. Yes 2. No 3. Don't know	

312	Do you own any agricultural or non-agricultural land either alone or jointly with someone else?	1. Alone only 2. Jointly only 3. Both alone and jointly 4. Does not own	
313	Is your name on the title deed?	1.Yes 2.No 3.Don't know	
314	Do you have a title deed for any land you own?	1. Yes 2. No 3. Don't know	
315	How you label alcohol (Areke,Teji,Tela,Beer,wine etc.) consumption status of your husband?	1. Does not drink 2. Drinks/never gets drunk 3. Get drunk sometimes 4. Gets drunk very	
316	How your husband chew chat?	1. Daily 2. 1 to 2 times in a week 3. 1 to 3 times in a month 4. Never chew chat 1I don't remember 5. I don't know	
317	Is your partner use tobacco?	1. Yes 2. No 3. Don't Know	
318	Did your husband engaged in any conflicts with anybody since your engaged in this marriage?	1. Yes 2. No 3. Don't know	
319	If yes for Q318,how often did he engage in conflict in last 12 months ?	1.Daily 2. 1 to 2 times 3. 3 to 5 times 4. More than 5 times 5. I don't remember 6. I don't know	
320	Did your current husband has any relationship with other women out of you?	1.Yes 2. No 3.It may be 4.I don't know 5. Not agreed to answer	
321	Did your husband born any children from other women since this marriage?	1.Yes 2. No 3.It may be 4.I don't know 5. Not agreed to answer	

322	Did you have an exposure as a child , whether your current/ex father had ever beaten your mother?	1.Yes 2. No 3.Don't know	
323	Do you think violence from your husband is normal?	1.Yes 2. No 3 Don't Know	
324	In your opinion, is a husband justified in hitting or beating his wife in the following situations: a.) If she goes out without telling him? b.) If she neglects the children? c.) If she argues with him? d.) If she burns the food? e.) If she refuses to have sex with him?	Yes No DK a. Goes out 1 2 3 b. Neglect children 1 2 3 c. Argues 1 2 3 d. Refuses sex 1 2 3 e. Burns food 1 2 3	
325	In your opinion, when a woman can refuse sex with her husband?	Yes No DK a. Not wanted 1 2 3 b. He gets drunk 1 2 3 c. Sick/not in mood 1 2 3 d. Engage in conflict 1 2 3	

Session 4: Perinatal intimate partner violence against postpartum women in the Wolaita zone, Southern Ethiopia.

When two people marry or live together, they usually share both good and bad moments. I would now like to ask you some questions about your current and past relationships and how your husband / partner treat (treated) you. If anyone interrupts us; I will change the topic of conversation. I would again like to assure you that your answers will be kept secret, and that you do not have to answer any questions that you do not want to. May I continue?

401 . With your current husband; did you have any communication in following issues?

	Did you communicate your days with husband?	1. Yes 2. No 3. DK	
	Did your husband communicate his day with you?	1. Yes 2. No 3. DK	
	Did you share daily stressful events with your husband?	1. Yes 2. No 3. DK	
	Did your husband share daily stressful events with you?	1. Yes 2. No 3. DK	

402. How often times you have engage in conflict with your current husband?

Rarely……..1 Some times……2 Alway…..3 I don't know/remember ……4 Refused to answer….1				
403	I am now going to ask you about some situations that are true for many women. Thinking about your former/current husband, would you say it is generally true that he:			
	A. Tries to keep you from seeing your friends?	1. Yes 2. No 3. DK		
	B. Tries to restrict contact with your family of birth?	1. Yes 2. No 3.DK		
	C. Insists on knowing where you are at all times?	1. Yes 2. No 3.DK		
	D. Ignores you and treats you in differently?	1. Yes 2. No 3.DK		
	E. Gets angry if you speak with another man?	1. Yes 2. No 3.DK		
	F. Is often suspicious that you are unfaithful?	1. Yes 2. No 3. DK		
	G. Expects you to ask his permission before seeking	1. Yes 2. No 3.DK		
404	The next questions are about things that happen to many women, and that your current partner may have done to you.	A) a) Has this happened in 12 months before latest pregnancy? If ' Yes'→''b'' If ' No'→''B'' b) Was it happened once, a few times or many times?	B) a) Has this happened during latest pregnancy? If ' Yes'→''b'' If ' No'→''C'' b) Was it happened once, a few times or many times?	C) a) Has this happened following index child birth? If ' Yes'→''b'' If ' No'→''405'' b) Was it happened once, a few times or many times?
	Did you experienced the following events from your current partners in three periods(before,during ad after pregnancy)?	1. Yes 2. No B) ↓ 1.Once 2.Few 3.Many	1. Yes 2. No C) ↓ 1.Once 2.Few 3.Many	1. Yes 2. No ⇒ 405) ↓ 1.Once 2.Few 3.Many
	A. Insulted you or made you feel bad about yourself?	1 2 1 2 3	1 2 1 2 3	1 2 1 2 3

	B. Belittled or humiliated you in front of other people?	1 2 1 2 3	1 2 1 2 3	1 2 1 2 3
	C. Done things to scare or intimidate you on purpose (e.g. by the way he looked at you, by yelling and smashing things)?	1 2 1 2 3	1 2 1 2 3	1 2 1 2 3
	D. Threatened to hurt you or someone you care about?	1 2 1 2 3	1 2 1 2 3	1 2 1 2 3
405	Did you experienced the following events from your current partners in three periods(before,during ad after pregnancy)?	A) a) Has this happened in 12 months before latest pregnancy? If ' Yes'→''b'' If ' No'→''B'' b) Was it happened once, a few times or many times?	B) a) Has this happened during latest pregnancy? If ' Yes'→''b'' If ' No'→''C'' b) Was it happened once, a few times or many times?	C) a) Has this happened following index child birth? If ' Yes'→''b'' If ' No'→''406'' b) Was it happened once, a few times or many times?
		1. Yes 2. No B) ↓ 1.Once 2.Few 3.Many	1. Yes 2. No C) ↓ 1.Once 2.Few 3.Many	1. Yes 2. No ↓ 406) 1.Once 2.Few 3.Many
	A. Slapped you or thrown something at you that could hurt you?	1 2 1 2 3	1 2 1 2 3	1 2 1 2 3
	B. Pushed you or shoved you or pulled your hair?	1 2 1 2 3	1 2 1 2 3	1 2 1 2 3
	C. Hit you with his fist or with something else that could hurt you?	1 2 1 2 3	1 2 1 2 3	1 2 1 2 3
	D. Kicked you, dragged you or beat	1 2	1 2	1 2

	you up?	1 2 3	1 2 3	1 2 3
	E. Choked or burnt you on purpose?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3
	F. Threatened to use or actually used a gun, knife or other weapon against you?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3
406	Did you experienced the following events from your current partners in three periods(before,during ad after pregnancy)?	A) a) Has this happened in 12 months before latest pregnancy? If ' Yes'→''b'' If ' No'→''B'' b) Was it happened once, a few times or many times?	B) a) Has this happened during latest pregnancy? If ' Yes'→''b'' If ' No'→''C'' b) Was it happened once, a few times or many times?	C) a) Has this happened following index child birth? If ' Yes'→''b'' If ' No'→''407'' b) Was it happened once, a few times or many times?
		1. Yes 2. No→B) ↓ 1.Once 2.Few 3.Many	1. Yes 2. No→C) ↓ 1.Once 2.Few3.Many	1. Yes 2. No↓ 407) 1.Once 2.Few 3.Many
	A. Did your current husband ever physically force you to have sexual intercourse when you did not want to?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3
	B. Did you ever have sexual intercourse you did not want to because you were afraid of what your partner or any other partner might do?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3
	C. Did your partner or any other partner ever forced you to do something sexual that you found degrading or humiliating?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3

407	Verify whether answered Yes to any question on Emotional violence,**see question 404**	Emotional violence……..1 No Emotional Violence…….2 ↓ 1. Before pregnancy ‘’ If 1 and 2’’→410 2. During pregnancy 3. After pregnancy‘’ If 2 and 3’’→411
408	Verify whether answered yes to any question on physical violence,**See question 405**	Physical violence……..1 Physical Violence…….2 ↓ 1. Before pregnancy‘’ If 1 and 2’’→410 2. During pregnancy 3. After pregnancy‘’ If 2 and 3’’→411
409	Verify whether answered yes to any question on sexual violence,**see question 406**	Sexual violence……..1 Sexual Violence…….2 ↓ 1. Before pregnancy ‘’ If 1 and 2’’→410 2. During pregnancy 3. After pregnancy ‘’ If 2 and 3’’→411
410	How you level violence occurance during pregnancy as compared to pre-pregnancy period	Increased……1 Remained consistent ……2 Increased……..3 Don’t remember……4 not agreed to answer……5
411	How you level violence occurance during pregnancy and postpartum	Increased……1 Remained consistent ……2 I ncreased……..3 Don’t remember……4 not agreed to answer……5

I have completed my interview thank you very much!

Appendix 2.2.2: Follow-up survey questionnaire for quantitative part (English version)

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

Informed consent for respondents participating in the survey entitled with ‘’ Women’s health and life events and its intersection with postpartum modern contraception among married women in the Wolaita zone, Southern Ethiopia.’’

Investigators' Name: Mr. Tafesse Lamaro, Prof. Fikre Enqueselassie and Prof. Negussie Deyessa

Part II: Information sheet

Introduction

Good morning/afternoon! My name is _____. I represent the research team from Addis Ababa University. We are speaking with you for the second time about their experience of life events and its intersection with postpartum contraception in Wolaita Zone. we believe that you have rich source of information concerning this issues.

Purpose of the research: Six in ten women have experienced one forms of bad life events in their life time in Ethiopia and majority of postpartum women lately adopt modern contraceptive as well as discontinue sooner than other period. It is multifactorial while the situation may be the worst for women experienced bad life events from their husband. However, prevalence of PIPV and its intersection with postpartum modern contraception haven't been well assessed. Therefore, this study is aimed to fill this gap by conducting community- based survey in Wolaita Zone.

Procedures: You are among the 1342 postpartum women selected by chance for this study. I will ask you few questions concerning some personal, socio-demographic and economic information. I will also ask you information regarding the PIPV against women, sexuality, and contraceptive use status following birth of the last child. The interview will take about 30 minutes. So, I request your volunteer participation.

Participation : We are asking you to voluntarily participate in this study because you have been recently chosen. For the next one year, we will have additional questionnaires to learn about your experience related to postpartum experiences of IPV and contraceptive use pattern. Our study is completely interview based and does not involve any invasive procedure.

Risks and discomfort :The study has no risk for respondent whereas there might be slight discomfort to share some personal information. However, we do not wish this to happen and you may refuse to answer any of the questions if you feel uncomfortable.

Benefits :There will be no direct benefit to you, but based on the information you provide us, we will design strategies to launch the interventions targeted to spousal violence in line with family planning services as to have special attention to women under violent relationship. In addition, your participation is very important for us to find the answer to the research question which in turn benefits the society especially women who experience and their families.

Confidentiality : Any information that we collect about you during this research will be kept confidential. Your name will not be written in this form and the information we collect from you will not be shown to anyone. The hard copies will also be kept in a locked cabinet and will not be divulged to anyone, except the investigators. However, if need by ethical may be seen by the researchers; and ethics committees and the confidentiality remain between them.

Right to refuse or withdraw :You can refuse to answer any question to which you are not comfortable. You may stop participating in the interview at any time if not convenient for you without losing any of your rights as a participant. However, your active participation and genuine responses have paramount importance in the prevention of violence against women and to have qualified family planning services for postpartum women.

Whom to Contact

If you have any questions, you may ask or contact to the persons stated below. You can contact them any time, even after the study has started. If you wish to ask questions later, you may contact the investigator at the following address;

If you have any further question and in case of urgency you can contact

- Professor Fikre Enqueselassie (0912459707; E-mail fikreens@yahoo.com)
- Mr. Tafesse Lamaro (0912922271; E-mail lamaro.tafesse@yahoo.com)
- IRB of Addis Ababa University,College of Health Science**.Tel:+251115538734**

Part II. Consent form

Based on aforementioned information, are you willing to participate in the study?

Yes ☐

I confirm that, as I give consent to participate in the study, it is with a clear understanding of the objectives and conditions of the study & with recognition of my right to withdraw from the study if I change my decision. I have been given the necessary information about the research. I have also been assured that I can withdraw my consent at any time without penalty or loss of benefits. The proposal has been explained to me in the language I understand.

Participant's signature/finger print_____Date_____

(procced with the interview)

No ☐ (Terminate the interview)

Name of the interviewer_____Sig. _____Date _____

Name of Supervisor_____Sig. _____Date_____

Location of study respondents and screening format to participate in the survey

Questions and Filters	Coding category	Address name	Skip
Participant located using Woreda	1. Yes 0. No	_____	
Participant located using Kebles	1.Yes 0. No	_____	
Participant located by Village/block/Got	1.Yes 0. No	_____	
Participant located by household head	1.Yes 0. No	_____	
Participant located by house number	1.Yes 0. No	_____	
Participant located by phone address	1.Yes 0. No	_____	
Is participant postpartum women	1.Yes 0. No	_____	
Is participant meets eligibility criteria	1.Yes 0. No	_____	
Code of questionnaire (follows sample size)_____	Woreda_____Keble____Woman code in each keble_____		
Name of data collector _____sig. _____, Date _____			

Name of data Supervisor:_____ sig. _____Date _____
Date of data nterview_____ /_____/_____

Part I: Characterstics related postpartum contraception among postnatal women			
In the last year, we interviewed you about postpartum contraceptive initiation and use patterns. Based on this, we would like to interview you about postpartum contraceptive use patterns in the past twelve months.			
101	When was this last child born?	Month_____ Year_____	
102	Are you currently breastfeeding?	1. Yes 2. No	
103	When was the first postpartum contraception you used after the birth of your last child?	1) Month_____/_____Year__/___/____/_____ 2) I never used it	
104	Have your menses resumed since the birth of this index child?	Yes……1 No……..2	2→106
105	When your first mense have resumed since this birth?	Month____/_____Year_____/_____/_____/_____	
106	Have you had sexual intercourse since this birth?	Yes…….1 No…….2 IDK……3	
107	When was your first sexual intercourse since this birth?	Month_____/_____Year_____/___/_____/___	
108	Are you or your partner currently using contraception to prevent/delay pregnancy?	Yes……1 No……..2	2→123
109	What kind of contraception are you currently using? **(Reminder: more than one answer/option is possible)**	1.Tubal ligation 2. Vasoectomy 3.IUCD 4. Injectables 5. Implants 6. Pill 7. Male condom 8. Female condom 9. Emergency contraception 10.Others specify_____	
110	When did you start using the contraception you are currently using?(compare with contraceptive calender table)	Month_____/_____Year_____/_____/_____/___	
111	Have you noticed any side effects of the birth control you are currently using?	Yes……..1 No…….2	2→119
112	What side effects do you experience? **(more than one answer is possible)**	1. Irregular bleeding spotting 2. Period does not come 3. Too much bleeding 4. Weight gain 5. Weight loss 6. Facial spotting 7. Headaches 8. Abdominal pain 9. Infection(s) 10. Nausea/vomiting 11. Dizziness	

		Other (specify)_____	
113	Is there any information from a health professional or family planning provider regarding this side effect?	Yes……..1 No…….2	
114	Do the side effects interfere with your daily activities?	Yes……..1 No…….2	
115	Do the side effects interfere with your personal relationships with your husband/partner?	Yes……..1 No…….2	
116	How tolerable do you feel the side effects are:	1. Tolerable 2. Somewhat tolerable 3. Not at all tolerable	
117	Do you do, or try to do, anything about the side effects?	1. Yes 2. No	
118	IF YES… What do you do? (Multiple response is possible)	1. Self-medicate/take home remedies 2. Go to clinic/see a health worker 3. Seek advice from friend/family member 4. Seek advice from spouse/partner 5. Plan to switch method 6. Plan to stop using 7. Other(specify)_____	
119	Do you discuss your side effects with the method with anyone?	1. Yes 2. No	2→121
120	IF YES… With whom do you discuss your side effects?**(Multiple response are possible)**	1. Husband/partner 2. Mother/Father 3. Sister(s)/ Brother (s) 4. Mother-in-law 5. friends/neighbors 6. health worker/pharmecologist 7. Other(specify)_____	
121	Why did you choose to use this current method?	1.Used method before 1. Fewer side effects 2. Easy to obtain 3. Convenience 4. Doctor recommended 5. Family/Friends recommended 6. Partner approved 7. Others(Specify)_____	
122	Would you say that the decision to use this current method was made mainly by you, mainly by your husband/partner, or did you make the decision together?	1. Myself 2. Partner/husband 3. Jointly 4. Others	
123	What is the reasons for not using methods at this time?	1.Breast feeding 2.Postpartum abstinence 3.No resumption of menses 4.Counselled by health professionals 5.Partner not wanting 6.Fear of sid effects 7.Others(specify)_____	
124	Did you or your partner use contraception to prevent/delay pregnancy for the first time after the birth of your last child **(use child's name)**?	Yes……1 No…….2	2 →201

125	What type of postpartum contraception were you using for the first time after the birth of your last child **(use child's name)**?	1.Tubal ligation 2. Vasoectomy 3.IUCD 4. Injectables 5. Implants 6. Pill 7. Male condom 8. Female condom 9. Emergency contraception 10.Others specify_____	
126	How many months you delayed after the birth of the last child (use child's name) did you use the first postpartum contraceptive?	Started immediately……..1 Number of months you stayed to initiate.....2	
127	When did you start the first postpartum contraception?	Month_____/_____ Year_____/_____/_____/_____	
128 A)	How long months have you been using the first postpartum contraceptive after the birth of the last child **(use child's name)**?	Number of months_____	
128 B)	When did you discontinue the first postpartum contraceptive you started after the birth of the last child **(use child's name)?**	Month_____/_____ Year_____/_____/_____/_____	
129	How many months have you stayed after discontinueing first postpartum contraception for the first time?	_____ Months	
130	What was the most important reason you stopped using this method?	1. Wanted to become pregnant 2. Became pregnant while using 3. Side effects 4. Health concerns 5. Difficult to use 6. Infrequent sex/husband away 7. Husband/partner disapproved 8. Wanted more effective method 9. Lack of access/too far 10. Costs too much 11. Difficult to get pregnant/menopausal 12. Marital dissolution/separation 13. Missed appointment 14. Method not available 15. Other(Specify)_____ Idon't know	
131	Have you ever used any contraception after you stopped using the first time postpartum contraception?	Yes……..1 No ……..2	
132	Did you discuss it with your partner before stopping the birth control you were using for the first time postpartum?	Yes……..1 No ……..2	2→134
133	If your answer is yes, who was the one who came up with or proposed the idea to stop using contraception for the first time after birth?	1. Myself 2. Partner/husband 3. Jointly 4. Others	

134	Does your husband/partner know that you stopped using the first postpartum contraception?	Yes……1 No……..2 IDK…….3	
135	In general, did your partner/husband push you to discontinue first modern contraception in the last 12 months?	Ye……1 No……..2	2→ 201

Contraceptive Calender

Directions: postpartum contraceptive use, calendar. Column 1 of the contraceptive calendar refers to birth, pregnancy, and contraceptive use. Column 2 lists the reasons for discontinuing contraception. First, find out what month and year the index child was born. In Column 1, write the **"B"** in the month and year that the child was born. Second, ask if she is currently pregnant and fill in the letter **"P"** in Column 1 for the month of the interview. Next, fill in the letter **"T"** in Column 1 with the month and year of the interview if she has terminated the pregnancy. Finally, inquire as to whether she is currently using contraception and how long she has been using it, and then fill in the code assigned to each contraceptive in Column 1 based on the number of months she has used it. Fill in the entire month she used with that code. If she has stopped using contraceptives, fill in the code of the reason for stopping the contraceptive in **Column 2**, identifying why you stopped using it.

	Months	Col. 1	Col. 2	
Column 1 code: Births, Pregnancies and Contraceptive use **B** =Birth **P**=Pregnancy **T**= Termination **0**=No methods **1**=Sterlization **2**= Male sterilization **3**= IUCD **4**= Injectables **5**=Implants **6**= Pills **7**=Male condom **8**= Female condom **9**=Emergency contraception Column 2 code: Reasons for Discontinuation of contraceptive use 0= Infrequent sex/husband away 1= Become pregnant while using	August 12			2 0 1 3 E.C
	July 11			
	June 10			
	May 09			
	April 08			
	March 07			
	February 06			
	January 05			
	December 04			
	November 03			
	October02			
	September01			
	August12			2 0 1 2 E.C
	July 11			
	June 10			
	May 09			
	April 08			
	March 07			
	February 06			
	January 05			

2= Wanted to become pregnant 3= Husband disapproved 4= Wanted more effective method 5= Side effects or Health Concern 6= Lack of access /Too far 7= Cost too much 8= Inconvenient to use F= Up to God/Fatalistic A= Difficult to get pregnant/Menopausal D= Marital dissolution/separation X= Other specify_____ Z= Don't know	December 04			
	November 03			
	October 02			
	September 01			
	August 12			2
	July 11			0
	June 10			1
	May 09			1
	April 08			E.C

Section two: perinatal intimate partner violence against postpartum women under the study in the Wolaita zone, Southern Ethiopia.						
When two people marry or live together, they usually share both good and bad moments. I would now like to ask you some questions about your current relationships and how your husband treated you. If anyone interrupts us; I will change the topic of conversation. I would again like to assure you that your answers will be kept secret, and that you do not have to answer any questions that you do not want to. May I continue?						
201.	I am now going to ask you about some situations that are true for many women. Thinking about your current husband, would you say it is generally true that he:					
	A. Tries to keep you from seeing your friends?	1.Yes	2. No	8. DK		
	B. Tries to restrict contact with your family of birth?	1.Yes	2. No	8. DK		
	C. Insists on knowing where you are at all times?	1.Yes	2. No	8. DK		
	D. Ignores you and treats you in differently?	1.Yes	2. No	8. DK		
	E. Gets angry if you speak with another man?	1.Yes	2. No	8. DK		
	F. Is often suspicious that you are unfaithful?	1.Yes	2. No	8. DK		
	G. Expects you to ask his permission before seeking	1.Yes	2. No	8. DK		
202.	The next questions are about things that happen to many women, and that your current husband may have done to you.	A) **(If YES** continue **with B**. If **NO** skip to next item)	B) Has this happened since the last Interview? **(If yes, ask C only. If NO ask D only)**	C) Since the last Interview; would you say that this has happened once, a few times or many times?		
	Has your current husband….	1. Yes 2. No	1. Yes 2. No	One	Few	Many
	A. Insulted you or made you feel bad about yourself?	1. Yes 2. No	1. Yes 2. No	One	Few	Many
	B. Belittled or humiliated you in front of other people?	1. Yes 2. No	1. Yes 2. No	One	Few	Many
	C. Done things to scare or intimidate you on purpose (e.g. by the way he looked at you, by yelling and	1. Yes 2. No	1. Yes 2. No	One	Few	Many

	smashing things)?					
	D. Threatened to hurt you or someone you care about?	1. Yes 2. No	1. Yes 2. No	One	Few	Many
203	Has your current husband ever _____ since the last interview?					
	A. Slapped you or thrown something at you that could hurt you?	1. Yes 2. No	1. Yes 2. No	One Few		Many
	B. Pushed you or shoved you or pulled your hair?	1. Yes 2. No	1. Yes 2. No	One	Few	Many
	C. Hit you with his fist or with something else that could hurt you?	1. Yes 2. No	1. Yes 2. No	One	Few	Many
	D. Kicked you, dragged you or beat you up?	1. Yes 2. No	1. Yes 2. No	One	Few	Many
	E. Choked or burnt you on purpose?	1. Yes 2. No	1. Yes 2. No	One	Few	Many
	F. Threatened to use or actually used a gun, knife or other weapon against you?	1. Yes 2. No	1. Yes 2. No	One	Few	Many
204	Has your current husband ever _____ since the last interview?					
	A. Did your current husband/partner or any other partner ever physically force you to have sexual intercourse when you did not want to?	1.Yes 2. No	1.Yes 2. No	One	Few	Many
	B. Did you ever have sexual intercourse you did not want to because you were afraid of what your partner or any other Partner might do?	1.Yes 2. No	1.Yes 2. No	One	Few	Many
	C. Did your partner or any other partner ever force you to do something sexual that you found degrading or humiliating?	1.Yes 2. No	1.Yes 2. No	One	Few	Many
205	Verify whether answered Yes to any question on Emotional violence, **see question 202**	Yes- Emotional IPV------1 No- Emotional IPV------- 2				
206	Verify whether answered yes to any question on physical violence, See question 203	Yes- Physical IPV------1 No- Physical IPV------- 2				
207	Verify whether answered yes to any question on sexual violence, see question 204	Yes- Sexual IPV------1 No- Sexual IPV------- 2				

አባሪ 2.2.2: *መርጃ ማስብሰብ ቃለ-መጠይቅ* (የአማርኛ ቅጂ)

አዲስ አበባ ዩኒቨርስት

ጤና ሳይንስ ኮሌጅ

የህብረተሰብ ጤና ትምህርት ቤት

አባሪ 2.2.1፡ የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሯቸዉን እና ከዘመናዊ ድህረ-ወልድ የእርግዝና መከላከያ ጋር ያለዉ ተያያዥነት በተመለከተ በሚደረገዉ መጀመሪያ ደርጃ የጥናቱ መርጃ ማስብሰብ ቃለ -መጠይቅ ፡

በደቡብ ኢትዮጲያ በወላይታ ዞን፤ "የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሯቸዉን እና የድህር-ወልድ ዘመናዊ የእርግዝና መከላከያ ጋር ያለዉ ተያያዥነት" በሚል ሪዕስ በሚደረገዉ ጥናት ላይ የሚሳተፉ የጥናቱ አባላት የግለሰብ የስምምነት ቅፅ፡

የጥናቱ ዋና ተጠርዎች ስም: አቶ ታፈሰ ላማሮ: ፕ/ር ፍቅረ እንኩሥላሠ እና ፕ/ር ንጉሴ ዴያሳ

የጥናቱ ተሳታፊዎች: በድህረ-ወሊድ ወቅት ያሉ ሴቶች

ክፍል አንድ፡ የጥናቱ የመረጃ ቅፅ

መግቢያ

ጤና ይስጥልኝ፡፡ ስመ _____እባላለው፡፡እኔ የመጣሁት አዲስ አበባ ዩኒቨርስት ወኪየ ነዉ፡፡ በማከናወን ላይ ያለነዉ ጥናት በአሁን ሳዓት " የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሯቸዉን እና ከዘመናዊ ድህረ-ወልድ የእርግዝና መከላከያ ጋር ያለዉ ተያያዥነት" በሚል ሪዕስ በሚደረገዉ ጥናት ላይ ቃለ-መጠይቅ በማድረግ ተጨባጭ መረጃወችን ለማቅረብ ነዉ፡፡ በዚህ መሰረት እርስዎ ያለኡድሎ ከተመረጡ ከጥናቱ ተሳታፍ መካከል አንዱ ነዎት፡ ፡ ከእርስዎ የሚናገኛዉ መረጃ ብዙ ከመሆን አንጻር ለጥናታችን በጣም አስፈላግ እና ጠቃም ነዉ፡፡

የጥናቱ አላማ :በኢትዮጵያ ዉስጥ ከአስሩ ሴቶች መካከል ስድስቱ በሕይወት ዘመናቸዉ ከትዳር አጋር ወይም ጓደኛቻቸዉ በሚደርሰዉ ጉዳት የጤና ሠለባ እንደምሆኑ ይነገራል፡፡ እንዲሁም አብዘኛዉም ድህረ-ወልድ ጊዜ ዉስጥ ያሉ ሴቶች የእርግዝና መከላከያ ዘገየት ብሎ ነዉ የሚጀምሩት ብሎም ከለላ ጊዜ ይልቅ በዚሁ ወቅት ወድያዉ ነዉ የሚያቋረጡት፡፡ የዚህ መንስኤ ብዙ ብሆንም በድህረ-ወልድ ጊዜ ዉስጥ ባሉ ሴቶች ላይ የከፋ ልሆን ይችላል፡፡ ነገር ግን ከትዳር አጋሮቻቸዉ የሚደርስ የሴቶች ጉዳት ስርጭት እና ከዘመናዊ ድህር-ወልድ የእርግዝና መከላከያ አጀማመር እና ማቋረጥ ጋር ያለዉ ቁርኝት በደምቢ አልተጠናም፡፡ ስለዚህ የዚህ ጥናቱ ዋና አላማ በማህብረሰብ ዉስጥ ዳሣሣ በማድረግ በዚህ ዙሪያ ያለዉን ክፍተት መሙላት ነዉ፡፡

የጥናቱ ሀደት: ለዚህ ቃለ-መጠይቅ ከተመረጡ አንድ ሺ ሁለት መቶ ስድስት ሴቶች መካከል እርስዎ አንዱ ነዎት፡፡ ከዚህ በመቀጠል ስለግለሰባዊ፤ስነ-ሕዝባዊ እና ስነ-ኢኮኖሚያዊ በተመለከተ ትንሽ መረጃ እንጠይቃለን፡፡ በተጨማሪ እርስዎን ጨምሮ ብዙ ሴቶች ላይ ከትዳር አጋሮቻቸዉ የሚደርሡዉን ጉዳት፤ እንድሁም ዘመናዊ ድህር-ወልድ የእርግዝና መከላከያ በተመለከተ በስፋት እንመካከራለን፡፡ ይህ ቃለ-መጠይቅ እስከ ሳላሣ ደቅቃ ልወስድ ይችላል፡፡ ስለዚህ በዚሁ መሠረት በጥናቱ ላይ ለመሳተፍ የእርስዎ በጎ ፍቃደኝነት መጀመርያ እንጠይቃለን፡፡

ተሳታፊነት: አሁን በዚህ ጥናቱ ላይ ለመሳተፍ ስለተመረጡ የእርስዎ በጎ ፍቃደኝነት መጀመርያ እንጠይቃለን፡፡ የድህር_ወልድ ጤና እና የህይወት ተሞክሯቸዉን ፤ እንድሁም ዘመናዊ ድህር-ወልድ የእርግዝና መከላከያ በተመለከተ ከአስራ ሁለት ወር በኋላ ስላጋጠመዎት ሁኔታ በድጋም እንጠይቆታለን፡፡ የእኛ ጥናቱ በቃለ-መጠይቅ ላይ የተመሰረተ እና በእርስዎት ላይ የሚያመጣዉ ምንም ዓይነት ጉዳት የለዉም፡፡

የጥናቱ ጉዳት/አደጋ እና አለመመቸት: ይህ ጥናት በእርስዎ ላይ የሚያመጣዉ ብዙ ችግር ባይኖርም፤ ትንሽ የስነ-ልቦና መረበሽ ልደረስበዎት ይችላል፡፡ ይህ ደግሞ በቃለ-መጠየቅ ወቅት የሚከሠት ከሆነ ቃለ-መጠይቅ እንድቋረጥ ይደረጋል፡፡ ቃለ-መጠይቅ ወደ 30 ደቂቃዎችን ይወስዳል፡፡ ነገረ ግን ወደ ዋናዉ ነጥብ በመምራት እና በመጠየቅ የጊዜ ማባከን ለማሳጠር እንሞክራለን፡፡

የጥናቱ ጥቅም: በዚህ ጥናት ውስጥ በመሳተፍዎ በቀጥታ የሚያገኙት ጥቅም ባይኖርም ግን ከእርስዎ የምናገኛዉ ታመኝ መረጃ ለጥናታችን በጣም ወሳኝ እና ጠቃሚ ነዉ፡፡ እኛ የምንሰበስባቸው መረጃዎች ትክክለኛ መሆናቸውን እንዲያረጋግጡልን እንጠይቆታለን፡፡ እርስዎ በሚሠጡት መረጃ መሰረት በማድረግ ይህንን ችግር ለመግታት ስትራቴጅ ለመቅረጽ የሚያስችል ተግባራትን እንድናገኝ ይረደናል፡፡

የጥናቱ ሚስጢራዊነት: የዚህ ቃለ መጠይቅ መረጃ ሚስጥራዊነት የተጠበቀ ነው፡፡ የማንኛውንም በጥናቱ ተሳታፊ የሆኑ ግለሰቦችን ስም አንመዘግብም፡፡ ስምዎ በቃለ መጠይቅ ወረቀቱ፣ ዲጂታል ሪኮርዲንግ / መቅረጸ ድምጽ ወይም በማንኛውም ሌላ የጥናቱ ሰነድ ላይ አይገለጽም፡፡ ከስምዎ ወይም ሌላ የማንነት መለያ መረጃ ጋር ትስስር በሌላቸው መለያ ቁጥሮች ወይም ኮዶች ብቻ እንዲለዩ ይደረጋል፡፡ ከዚህ ቃለ-መጠይቅ የምናገኛዉ መረጃ በማንኛዉ ሁኔታ ለሶስተኛዉ ወገን አሳልፎ አይሰጥም፤ለዘላቅ ጥበቃ ስል፤ ለዚህ ጥናት በተዘጋጀ በመረጃ ሳጥን ዉስጥ ሁሉ መረጃዎች ይቆለፋሉ ::

ያለመሳተፍ እና ማቋረጥ መብት: ቃለ-መጠይቅ ሙሉ በሙሉ በእርስዎ ፍቃድኝነት ላይ የተመሰረተ ነዉ፡፡ እርስዎ ላለመሳተፍ መወሰን የሚችሉ ሲሆን ለመሳተፍ ከወሰኑም በኃላ በማንኛውም ጊዜ ከቃለ-መጠይቁ አቋርጠው መውጣት ይችላሉ፡፡ በዚህ ቃለ መጠይቅ ለመሳተፍ ወይም ላለመሳተፍ የሚሰጡት ውሳኔ በዚህ ወይም በማንኛውም ሁኔታ ላይ ተጽዕኖ አያሳድርም፡፡

ለማንኛውም መረጃ : ከዚህ ጥናት ጋር በተያያዘ ማናቸውንም ጥያቄዎች ወይም ጉዳዮች ካልዎት የምርምር ቡድን መሪ የሆኑትን አቶ ታፈሰ ላማሮ**(የስልክ ቁጥር 0912922271)** እና ፕ/ር ፍቅረ እንኩሥላሠ**(የስልክ ቁጥር 091259707)** ስልካቸዉን እኔ ልሰጥዎ እችላለሁ::በማንኛዉም ሰዓት እንዲሁም ጥናቱ ዉስጥ ሆናችሁ መጠየቅ ይቻላል::

በተጨማሪ የአዲስ አበባ ዩኒቨርስ ፡ጤና ሳይንስ ኮሌጅ የጥናት መከታተያ ቦሪዲ አደረሻ **፡ተሌ ቁጥር:+251115538734** ልሰጥዎ እችላለሁ::

ክፍል ሁለት፡የስምምነት ቅፅ

ከላይ በተነሳው የጥናቱ ዓላመ እና ማብራርያ መሰረት ቃለ-መጠይቁን እንድንቀጥል ተስማምተዋል?

አዎ፣ በጥናቱ ውስጥ ለመሳተፍ ተስማምቻለሁ ☐ ***(ቃል_ መጠይቅ ይቀጥሉበት)***

እኔ ከዚህ በታች በፍርማየ ያረጋገጥኩት በጥናቱ ላይ ለመሳተፍ ስል ይህንን በፍቃደኝነት የተመሠረተ ስምምነት እሰጣለዉ:: በዚህ የመረጃ ስምምነት ቅጽ ላይ የሠፈረዉ የጥናቱ ዓላማ እና ሁኔታ ግልጽ ከመሆን ባሻገረ በጥናቱ ላይ ላለመሳተፍ መወሰን እንደምችልና እንድሁም ለመሳተፍ ከወሰንኩት በኃላ በማንኛውም ጊዜ ከቃለ-መጠይቁ አቋርጠው መውጣትም እንደምቻል አስተዉያለዉ:: ለጥናቱ የሰጠሁት መረጃዎች ትክክለኛ መሆናቸውን አረጋግጣለዉ:: ጥናቱ ግልጽ እና ለእኔ በምገባ ቋንቃ ነዉ የተገለጸልኝ::

የጥናቱ ተሣታፊ ፊርማ ወይም የጣት

አይ፣ በዚህ ጥናት ለመሳተፍ አልፈልግም ☐ (***ቃል_ መጠይቁን እዚሁ ያብቁት)***

የመረጃ ሰብሳቢ ስምና ፊርማ_____ፊርማ

የመረጃ ተቆጣጣር ስም_____ፊርማ

የጥናቱ ተሳታፊዎች በተመለከተ ጠቅላላ መረጃ እና ለጥናቱ ብቁ መሆናቸዉን የሚያረጋግጥ የመለያ ፎርም			
ጥያቅዎች	መልስ	የአደርሻ ስም	የመዝለል አመላከች
የጥናቱ ተሳታፊ በወረዳ ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በቀበሌ ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በመንደር ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በአባወራዉ ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በቤት ቁጥር ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በስልክ አደራሽ ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በድህረ ወልድ ላይ ናቸው?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ የጥናቱን መስፈርት ያሚላሉ?	1. አዎ 2. አይ	_____	

የቃለ_መጠይቁ ኮድ_____	ወረዳ_____ቀበሌ_____የጥናቱ ተሳታፊ ኮድ_____
የመረጃ ሰብሳቢ ስም_____ፊርማ _____ቀን_____ የመረጃ ሰብሳቢዎች ተቆጣጣሪ ስም _____ፊርማ _____ቀን_____ ቃለ_መጠይቅ የተደገበት ቀን _____/_____/_____	

ክፍል 1፡በደቡብ ኢትዮጵያ በወላይታ ዞን፤ " የድህር_ወልድ እናቶች ጤና እና የህይወት ተሞክሯቸዉን በተመለከተ እና ዘመናዊ የእርግዝና መከላከያ ጋር ያለዉ ተያያዥነት" በሚል ርዕስ በሚደረገዉ ጥናት ላይ የሚሳተፉ የጥናቱ አባላት በተመለከተ አጠቃላይ ስነ-ሕዝባዊ መረጃ			
ተ.ቁ	ዋና ጥያቄ	መልስ / አማራጭ	የመዝለል አመላከች
101	ከየት ነዉ የመጡት ወይም የምኖሩት? ከከተማ ወይስ ገጠር?	ከተማ……1 ገጠር……2	
102	ዕድመዎት ስንት ነው?(ከተወለዱበት ቀን ጀምሮ)	_____በዓመት	
103	የየትኛው ብሔርሰብ አባል ነዎት?	ወላይታ……..1 ጉራጌ……..2 አማራ……3 ዳዉሮ……..4 ለላ ከሆነ ይጠቀስ_____5	
104	የየትኛው ሐይማኖት ተከታይ ነዎት?	ኦርቶዶክስ ……..1 ፕሮተስታንት……..2 ካቶሊክ……..3 ሙስልም……4 ለላ ከሆነ ይጠቀስ_____5	
105	ከዚህ በፊት ትምህርት ተካታትሎ ወይም ተምሮ ያዉቃሉ?	አዎ……1 አላውቅም……2	2→107
106	ለጥያቄ ቁጥር 105 መልስዎ አዎ ከሆነ፣ከፍተኛዉ የትምህርት ደረጃ ፡	———————ክፍል የመጀመሪያ ደረጃ (1_8 ክፍል) …1 ሁለተኛ ደረጃ (9_12 ክፍል) ….2 ተከንከና ሙያ (10^{+3}) ……..3 ኮለጅ ወይም ዩኒቨርስቲ……..4	
107	የእርሶዎ እናት ትምህርት ተካታትሎ ወይም ተምሮ ያዉቃሉ?	አዎ……1 አላውቅም……2	2→109
108	ለጥያቄ ቁጥር 107 መልስዎ አዎ ከሆነ፣ከፍተኛዉ የትምህርት ደረጃ	_____ክፍል የመጀመሪያ ደረጃ (1_8 ክፍል) …1 ሁለተኛ ደረጃ (9_12 ክፍል) ….2 ተከንከና ሙያ (10^{+3}) ……..3 ኮለጅ ወይም ዩኒቨርስቲ……..4	
109	በአሁኑ ሰዓት የእርስዎ ዋና ስራ ምንድነው?	የቤት እመቤት…….1 መንግስት ሰራተኛ…….2 የግል ሰራተኛ……..3 መንግስታዊ ያልሆነ ድርጅት ሰራተኛ……..4 ነጋዴ……5 ተማሪ……6 ስራ የለኝም……7 ለላ ካለ ይጠቀስ_____8	
110	ከላይ ከተጠቀሰዉ ስራ ዉጭ እየተከፈለለዎት የምትሰሩት ስራ አለ?	አዎ……..1 የለኝም……..2	2→113
111	በአማካይ ተጨማር ወራዊ ገቢዎት ስንት ነዎት?(ብር)	———————ብር	
112	የእርስዎ የስራ ሁኔታ ዓመት ሙሉ ፤ወቅታዊ ወይስ አልፎአልፎ ነዉ?	ዓመት ሙሉ ነዉ……1 ወቅታዊ ነዉ……2 አልፎአልፎ ነዉ……3	
113	የመጀመሪያ ጋብቻ ስፈጽሙ ዕድመዎት ስንት ነበር?	———————ዓመት	
114	አሁን ከባለቤትዎ ጋር አብሮ መኖር ከመጀራችሁ ምን ያህል ዓመት ይሆናል?	———————ዓመት	
115	እርስዎ በምን ያህል አመት ከባለቤትዎ በእድመ ያንሳሉ ወይም ይበልጣሉ?	———————ዓመት ባለቤትዎ በእድመ ያንሳሉ……1 ባለቤትዎ በእድመ ተመሳሳይ……2 ባለቤትዎ በእድመ	

		ይበልጣሉ……3	
116	በጋብቻ ከባለቤትዎ ጋር ከመተሳሰረ በፊት እርሶዎ ወይም የእርሶዎ ቤተሰብ ጥሎሽ ተቀብሏል?	አዎ……1 አልተቀበለንም……..2	
117	ለጥያቄ ቁጥር 116 መልስዎ አዎ ከሆነ፣ከባለቤትዎ ቤተሰብ ኢኮኖም ወይም አቅም አንጻር የጥሎሽ መጠን እንዴት ይገመቱታል?	ጥቅት ነዉ……..……..1 አማካይ ነዉ……2 ትልቅ ነዉ……..……..3 አሁን አላስታዉስም……4	
118	የባለቤትዎ ስራ ምንድ ነዉ?	አርሶአደር……..1 መንግስት ሠራተኛ……2 የግል ሰራተኛ……3 መንግስታዊ ያልሆነ ድርጅት ሰራተኛ…4 ነጋዴ……5 ተማሪ……..6 ስራ የለዉም ……7 ለላ ካለ ይጠቀስ_____**8**	
119	የባለቤትዎ አማካይ ወራዊ ገቢ በግምት ምን ያህል ይሆናል?	_____ብር	
120	የእርሶዎ ገቢ ከባለቤትዎ አማካይ ገቢ ጋር እንዴት ያነጻጹራሉ ?	ከባለቤቴ ያነሰ አገኛለዉ……..1 ከባለቤቴ እኩል አገኛለዉ……..2 ከባለቤቴ የበለጠ አገኛለዉ……3 ምንም ገቢ የለኝም……4	
121	ባለቤትዎ ከዚህ በፊት ትምህርት ተካታትሎ ወይም ተምሮ ያዉቃሉ?	አዎ……1 አያውቅም……..2	2→123
122	ለጥያቄ ቁጥር **121** መልስዎ አዎ ከሆነ፣ከፍተኛዉ የትምህርት ደረጃ የትኛዉ፡	_____ክፍል የመጀመሪያ ደረጃ (1_8 ክፍል**…**1 ሁለተኛ ደረጃ (9_12 ክፍል) **….**2 ተከንከና ሙያ (10^{+3}) **.....**3 ኮለጅ ወይም ዩኒቨርስቲ……..4	
123	የእርሶዎ የትምህርት ደረጃ ከባለቤትዎ ጋር እንዴት ያነጻጽራሉ?	ከባለቤትዎ ያነሰ የትምህርት ደረጃ…….1 ከባለቤትዎ እኩል የትምህርት ደረጃ……2 ከባለቤትዎ የበለጠ የትምህርት ደረጃ….3 ምንም የትምህርት ደረጃ የለኝም……4	
124	እርሶዎን ጨምሮ በቤትዎ ስንት ሰዉ ይኖራል ወይም የቤተሰብ አባላት ስንት ነዉ?	_____በቁጥር	

125	ከዚህ በመቀጠል ያሉ ዝርዝር ነገሮች በቤታችሁ ይገኛሉ		
	ኤልትርክ	1. አዎ 2. አይ	
	ቴሌቭዥን	1. አዎ 2. አይ	
	ረድዮ	1. አዎ 2. አይ	
	ኮምፒዩቴር	1. አዎ 2. አይ	
	ባለገመድ ወይም ገመድአልባ ስልክ	1. አዎ 2. አይ	
	ፍርጅ	1. አዎ 2. አይ	
	ጠርጴዛ	1. አዎ 2. አይ	
	ወንበር	1. አዎ 2. አይ	
	አልጋ ከስፎንጅ ጋር	1. አዎ 2. አይ	
	ኤልትርክ ምታድ	1. አዎ 2. አይ	
	የበንዝን አምፎል ወይም የግፊት አምፎል	1. አዎ 2. አይ	
126	ከዚህ በመቀጠል ያሉ ዝርዝር ነገሮች በያንስ ከቤተሰብ አባላት አንዱ ላይ ይገኛሉ?		
	የእጅ ሳአት	1. አዎ 2. አይ	
	ሞባል	1. አዎ 2. አይ	
	ሳይክል	1. አዎ 2. አይ	
	ሞቶር ሳይክል	1. አዎ 2. አይ	
	የአህያ ወይ ፈረስ ጋሪ	1. አዎ 2. አይ	

	መኪና ወይም የጭነት መኪና	1. አዎ 2. አይ	
127	በቤትዎ ዉስጥ ማንኛዉም የቤተሰብ አባላት የእርሻ መሬት ያለዉ አለ?	1. አዎ……..1 የለም……2	2 → 129
128	በግምት ስንት ሄክታር ይሆናል?	_____ሄክታር	
129	በቤትዎ ዉስጥ እንስሳቶች፤ መንጋዎች ወይም ሌላ አይነት እንስሳቶች ካሉ ይንገሩን?	አዎ……..1 የለንም……2	2 → 201
130	በቁጥር ስንት ነዉ?	_____በቁጥር	
	የቀንድ ከብት	_____በቁጥር	
	የወተት ላም ወይም ኮሪማ	_____በቁጥር	
	ፍረስ፤አህያ ወይም በቅሎ	_____በቁጥር	
	ፍየሎች	_____በቁጥር	
	በጎች	_____በቁጥር	
	የዶሮ ጫጩቶች	_____በቁጥር	

2. በወላይታ ዞን በድህረ -ወልድ ወቅት ያሉ እናቶች የፅንስ እና የሰነ ተዋልዶ ሁኔታ በተመለከተ አጠቃላይ መረጃ

ተ.ቁ	ዋና ጥያቄ	መልስ / አማራጭ
201	በአሁን ሳዓት ስንት ወንድና ሴት ልጆች አሉ?	ወንድ_____ 1 ሴት_____2 ድምር_____
202	ከዚህ በፊት ስንት ጊዜ ነፍስ_ጡር ሆኖ ያዉቃሉ?	_____በቁጥር
203	ከዚ በፊት እርግዝናዎን በፊላጎት አቋርጠዎት ያዉቃሉ?	አዎ……1 አላውቅም……2
204	መልስዎ አዎ ከሆነ ስንት ጊዜ እርግዝናዎን በፊላጎት አቋርጠዎት ያዉቃሉ?	_____በቁጥር
205	ከዚ በፊት ስንት ጊዜ ሳይፈልጉ አርግዘዎት ያዉቃሉ?	_____በቁጥር
206	በመጨረሻ የተወለደዉ ልጅዎ ስም ማነዉ?ወንድ ነዉ/ሴት?	ስም_____ ወንድ……1 ሴት……..2 (የልጅን ስም ሁል ጊዜ ይጠቀሙ)
207	ይህ የእርስዎ የመጨረሻ ልጅ መቼ ነዉ የተወለደዉ ? የመጨረሻ ልጅ ዕድመ ስንት ነዉ_____?	ቀን_____ ወር_____ ዓ.ም 20_____ _____**(በወራት ያስቀምጡ)**

208	የመጨረሻዉ ልጅ ዕርግዝናዎ እርስዎ ፈልጎት ነበረ?**(መልሱ ይነበብ)**	ማርገዜን ፈልጌ ነበር……...1 መቆየት ፈልጌ ነበረ…….2 ሳልፈልግ አረገዝኩ……..3 ብዙም አላሰብኩበትም…….4 አላስታውስም……5 መልስ መስጠት አልፈለጉም…..6
209	የመጨረሻዉ ዕርግዝናዎ በተመለከተ ቆየት ብሎ ለመዉለድ ከሆነ በወቀቱ ዕርግዝናዎ ለማቆየት የቤተሰብ ዕቅድ ተጠቅማችሁት ነበረ ?	አዎ……..1 አይ በፍጹም……2 አላዉቅም……..3
210	መልስዎ ጥያቀ 209 አዎ ከሆነ ምን አይነት የቤተሰብ ዕቅድ ተጠቅማችሁት ነበረ ?	በማህፀን ውስጥ የሚቀመጥ ሉፕ……..1 በክንድ ውስጥ የሚቀበር……..……..2 በክንድ የሚሰጥ መርፌ…….……3 የሚዋጥ እንክብል……..……4 የወንድ ኮንዶም……..5 የሴት ኮንዶም……6 ድንገተኛ የፅንስ መከላከያ…..……..7 በህላዊ የፅንስ መከላከያ……..8 (መታቀብ;ጡት ማጥባት;ቀን መቁጠር:የወንድ ዘር ፈሳሽ ወደ ውጪ ማፍሰስ) ሌላ ካለ ይጠቀስ_____
211	እርስዎ እየተጠቀሙበት የነበረዉን ፅንስ መከላከያ ለማቆም ዋና ምክንያት የሆኑት ምን ምን ነበሩ?	ለማርገዝ ስለፈለኩት……1 እየተጠቀምኩት ስላረገዝኩት**…….2** የጎንዮሽ ጉዳት……..……3 የጤና ዕክል**.....**4 ለመጠቀም ስለማይመች/ስለምከብድ…..…...5 አልፎአልፎ ወሲብ ስለማደርግ……6 ባለቤተ ስላልተስማማ……..7 ሌላ ጥሩ መከላከያ ስለፈለኩት……....8 ስለማይገኝ/በሩቅ ቦታ ስለምገኝ……..…9 ለመግዛት በጣም ዉድ ስለሆነ…….11 እንደገና ለማርገዝ ስለምከብድ/ማረጥ ዉስጥ ስለገባዉ……12 ቀጠሮን ስለረሳዉ……13 ሌላ ካለ_____**14**
212	የመጨረሻዉ ዕርግዝናዎን በተመለከተ የባለቤትዎ ሁኔታ እንዴት ነበር?	ማርገዜን ፈልጐ ነበር……1 መቆየቴን ፈልጐ ነበረ……..2 ልጅ አይፈልግም ነበር……3 ብዙም ግድ አልነበረውም……4 አላውም/አላስታውስም……5 መልስ መስጠት አልፈለጉም……..…6
213	የመጨረሻዉ ዕርግዝናዎ ጊዜ ባለቤትዎ ስለሚወለደዉ ልጅ የፆታ ምርጫቸዉ ምን ነበር?	ወንድ **.....1** ሴት……..2 ግድ አልነበረዉም ……..……..3 አላስታውስም**.....4** መልስ መስጠት አልፈለጉም……..5
214	የመጨረሻ ልጅዎትን የት ነዉ የወለዱት?	ሆስፒታል……..1 ጤና ጣብያ **.....2** ጤና ከላ……..3 ቤት ዉስጥ……4 ለሌ ቦታ_____5
215	ይህን ልጅ ከማርገዝ በፊት ምን ያህል ዓመት ነዉ የቆዩት? (ወደ ወር ቀይሮ ያስቀምጡ)	_____ወር**(በወር ያስቀምጥ)**
216	የመጨረሻ ልጅዎት ከተወለደ በኋላ የፅንስ መከላከያ መንገድ ተጠቅሞ ያዉቃሉ?	አዎ……..1 አይ በፍጹም……2

217	የትኛውን የፅንስ መከላከያ መንገድ ነው የተጠቀሙት?	በማህፀን ውስጥ የሚቀመጥ ሉፕ……..1 በክንድ ውስጥ የሚቀበር……2 በክንድ የሚሰጥ መርፌ…….……3 የሚዋጥ እንክብል……..4 የወንድ ኮንዶም…….…..5 የሴት ኮንዶም……...….6 ድንገተኛ የፅንስ መከላከያ……..…..7 በህላዊ የፅንስ መከላከያ…….….8 (መታቀብ;ጡት ማጥባት;ቀን መቁጠር:የወንድ ዘር ፈሳሽ ወደ ውጪ ማፍሰስ) ሌላ ካለ ይጠቀስ_____9
218	ለጥያቀ ቁ 216 መልስዎ አዎ ከሆነ: መቼ ነዉ የመጨረሻ ልጅዎት ከተወለደ በኋላ የመጀመሪያ የፅንስ መከላከያ የተጠቀሙት?	ቀን_____ወር_____አመት_____
219	የመጨረሻ ልጅዎት ከተወለደ በኋላ የጀመሩት የመጀመሪያ የእርግዝና መከላከያ እስከ መቼ ድርስ ነዉ ሳያቋርጡት የተጠቀሙት ?	ቀን_____ወር_____አመት_____
220	የመጨረሻ ልጅዎት ከተወለደ በኋላ የተጠቀሙት የመጀመሪያ የፅንስ መከላከያ ለምን ነበረ የጀመሩት?	አራሪቆ ለመዉለድ ስለፈለኩ……1 መዉልድ ሙሉ በሙሉ ለማቆም ስለፈለኩ **....2** ላልታወቀ ምክንያት…….3
221	መልስዎ አይ ከሆነ ወደ ጥ.ቁ 216 ‹የመጀመሪያ የፅንስ መከላከያ አለመጀመር ምክንያት ምን ይሁን?	ጡት ማጥባት ላይ ስላለሁት……1 ድህር-ወልድ መታቀብ **…….2** ወርአበባ ዑደት ስላላየሁት **.....3** ጤና ባለሙያተኛ ስላዘዙኝ **.....4** ባለቤተ ስለማይፈልግ……5 ከበተሰብ ወይም ከጓደኛ ስለተመከርኩኝ……6 ሌላ ካለ ይጠቀስ_____7
222	በአሁኑ ሰዓት ጡት እያጠቡት ነዉ?	አዎ .....1 አይ ……2
223	ለባለፈዉ ለልት በአስራ ሁለት ሰዓት ዉስጥ ምን ያህል አጥብቷል?	_____(በቁጥር)
224	ለባለፈዉ ቀን አስራ ሁለት ሰዓት ዉስጥ ምን ያህል አጥብቷል?	_____(በቁጥር)
225	በአማካይ በእያንደአንዱ እጠበት ምን ያህል ደቅቃ ነዉ የሚቆዩት?	_____ ደቅቃ
226	የመጨረሻ ልጅዎት ከተወለደ በኋላ የመጀመሪያዉን የወር አበባ አይተዎት ያዉቃሉ?	አዎ……..1 አይ በፍጹም…….2
227	የመጨረሻ ልጅዎት ከተወለደ በኋላ የመጀመሪያዉን የወር አበባ መቼ ነዉ ያዩት?	1.ቀን___ወር____አመት_____ 2. እስካሁን አልታየም
228	የመጨረሻ ልጅዎት ከተወለደ በኋላ የመጀመሪያዉን የወር አበባ ሳያዩት የቆዩት ምን ያህል ወር ነዉ?	ወር_____በቁጡር
229	የወር አበባ ሳያተይ በፊት አንድ እናት ማርገዝ ትችላለች ብሎ ያስባሉ ?	አዎ **.....1** አይ……2 አላዉቅም/አላስታውስም…….3
230	የመጨረሻ ልጅዎት ከተወለደ በኋላ የመጀመሪያ ግብርስጋ ግንኙነት ፈጽሞት ያዉቃሉ?	አዎ……..1 አይ በፍጹም…….2

231	የመጨረሻ ልጅዎት ከተወለደ በኋላ የመጀመሪያ ግብርስጋ ግንኙነት መቼ ነዉ የፈጸሙት? **(መልስ ይነበብ)**	ቀን_____ወር_____አመት_____ የወር አበባ ዑደት ከመጀመሩ በፊት……1 የወር አበባ ዑደት ከመጀመረ በኋላ…..2 የፅንስ መከላከያ ከመጀመሩ በፊት **.....3** የፅንስ መከላከያ ከመጀመሩ በኋላ…..4
232B.	የመጨረሻ ልጅዎት ከተወለደ በኋላ የመጀመሪያ ግብርስጋ ግንኙነት ሳይፈጽሙ ምን ያህል ወር ነው የቆዩት ?	ወር _____/_____
ማሣሰብያ ፡ የእርግዝና መከላከያ አጀማመር እና መቋረጥ በተመለከተ የስነ-ተዋልዶ መቆጣጠርያ ሰንጠረዥ ይጠቀሙ፡፡ (በመጨረሻ ላይ ያለዉን ይመልከቱ)		
ክፍል ሶስት፡ አጠቃላይ የቤተሰብ ዉሳነ ሰጭነት ;የንብረት ባለቤትነት እና የትዳር አጋሮች ስነ-ባህር በተመለከተ		
301	በቤትዎ ዉስጥ **በእርስዎ ገብ** ላይ የሚወስን ማን ነዉ? እርስዎ ፤እርስዎ ወይም ባለቤትዎ፤ሁለታችን ፤ለላ ሰዉ?	እርስዎ……..……..1 ባለቤትዎ……..2 ሁለታችን (እርስዎ እና ባለቤትዎ)**.....**3 ሌላ ሰዉ……..4
302	በቤትዎ ዉስጥ ባለቤትዎ የሚያገኙት ገብ ላይ የሚወስን ማን ነዉ? እርስዎ ፤እርስዎ ወይም ባለቤትዎ፤ሁለታችን ፤ለላ ሰዉ?	እርስዎ……..……..1 ባለቤትዎ……..2 ሁለታችን (እርስዎ እና ባለቤትዎ)**.....**3 ሌላ ሰዉ……..4
303	በቤትዎ ዉስጥ የእርስዎ ጤና እንክብካቤ በተመለከተ የሚወስን ማን ነዉ? እርስዎ ፤እርስዎ ወይም ባለቤትዎ፤ ሁለታችን ፤ለላ ሰዉ?	እርስዎ……..……..1 ባለቤትዎ……..2 ሁለታችን (እርስዎ እና ባለቤትዎ)**.....**3 ሌላ ሰዉ…….4
304	በቤትዎ ዉስጥ የሚገዙ ትላልቅ ወይም ዋና ዋና ነገሮችን በተመለከተ የሚወስን ማን ነዉ ? እርስዎ ፤እርስዎ ወይም ባለቤትዎ፤ሁለታችን ፤ለላ ሰዉ?	እርስዎ……..……..1 ባለቤትዎ……..2 ሁለታችን (እርስዎ እና ባለቤትዎ)**.....**3 ሌላ ሰዉ…….4
305	በቤትዎ ዉስጥ በየቀኑ የሚገዛዙ ወይም ትናንሽ ወጭዎችን በተመለከተ የሚወስን ማን ነዉ ? እርስዎ ፤እርስዎ ወይም ባለቤትዎ፤ሁለታችን ፤ለላ ሰዉ?	እርስዎ……..1 ባለቤትዎ……..……..2 ሁለታችን (እርስዎ እና ባለቤትዎ)**.....**3 ሌላ ሰዉ…….4
306	በቤትዎ ዉስጥ የእርስዎ ጓዴኛ፤ዘመድ ወይም በተሰብ ለመጎበኘት የሚወስን ማን ነዉ? እርስዎ ፤እርስዎ ወይም ባለቤትዎ፤ሁለታችን ፤ለላ ሰዉ?	እርስዎ……..……..1 ባለቤትዎ……..2 ሁለታችን (እርስዎ እና ባለቤትዎ)**.....**3 ሌላ ሰዉ…….4
307	ባለቤትዎ በቤትዎ ዉስጥ የሚሰሩ ዋና ዋና የቤት ስራዎቹን ለምሣሌ ልጆቹቱን ማንከባከብ፤ማብሰል ፤ቤት መወልወል የመሳሰሉትን እርስዎን አግዞ ያዉቃል?	አዎ……..1 አይ በፍጹም…….2
308	ምን ያህል ጊዜ ነዉ የሚያግዘዎት?	ዘዉትር……1 በሳምንት አንድ ጊዜ **……..**2 በጥቅት **……**3
309	አሁን በምኖሩበት ቤትና ለላ ቤት ጨምሮ፤ በእርስዎ ወይም የጋራ/ህጋዊ አድርጋችሁ ታዉቃላችሁ?	ለየብቻ ……1 ለጋራ ……2 ለጋራም ወይም ለየብቻ……3 አይታወቅም……4 ከራይ ቤት ነው……5
310	በእርስዎ ስም በይዞታ ማረጋገጫ የተመዘገበ ቤት አለ?	አዎ……..1 አይ በፍጹም…….2
311	በይዞታ ማረጋገጫ ላይ የእርስዎ ስም አለ?	አዎ……..1 አይ በፍጹም…….2
312	የምታሬስ ወይም የማይታሬስ መሬት በግለዎት ወይም የጋራ አድርጋችሁ ታዉቃላችሁ?	ለየብቻ……1 ለጋራ……2 ለጋራም ወይም ለየብቻ…….3 አይታወቅም…….4 አይ የለንም……5
313	በእርስዎ ስም የይዞታ ማረጋገጫ የተመዘገበ መሬት አለ?	አዎ……..1 አይ በፍጹም…….2
314	በይዞታ ማረጋገጫ ላይ የእርስዎ ስም አለ?	አዎ……..1 አይ በፍጹም…….2 አላዉቅም/አላስታውስም…….3
315	አሁን ደግሞ የባለቤትዎ ሁኔታ በተመለከተ እጠይቃለዉ:: የባለቤትዎ አረቄ፤ ጠላና ጠጅ የመሳሰሉትን የአልኮል	በፊጹም ጠጥቶት አያዉቅም……..1 ይጠጣል ግን በፊጹም ሰክሮ አያዉቅም…..2 አንዳንደ ሰክሮ ያዉቃል……3 ሁሌ ይሰከራል……..4

	መጠጦችን በመዉሰድ ምን ያህል ጊዜ ሠክረዉ ያዉቃል?	
316	ባለቤትዎ ምን ያህል ጊዜ ጫት ቅሞ ያዉቃሉ?	በየቀኑ……1 በሳምንት 1 ወይም 2 ጊዜ……..2 በወር 1 ና 3 ጊዜ……..3 በወር ከ1 ጊዜ በታች…….4 በጭራሽ አይቅምም……..5 አላውቅም……..6
317	ባለቤትዎ ጋያ፤ስጋራ የመሳሰሉትን አጭሶ ያዉቃል?	አዎ……..1አይ በፍጹም……2 አላዉቅም/አላስታውስም……3
318	ከባለቤትዎ ጋር ከተዋወቃችሁ ጀምሮ ከሰው ጋር ተጣልተው/ተደባድበው ያውቃል?	አዎ……1 አይደለም**……**2 አላዉቅም/አላስታውስም……3 መልስ ለመስጠት አልፈለጉም……4
319	መልሰዎ አዎ ከሆነ ባለፈው **አንድ ዓመት** ውስጥ ምን ያህል ጊዜ ባለቤትዎ ከሰው ጋር ተጣልተው/ተደባድበው ያውቃል?	1 ወይም 2 ጊዜ……1 ከ3 እስከ 5ጊዜ……2 ከ5 ጊዜ በላይ……3 አላዉቅም/አላስታውስም**……..**4 መልስ ለመስጠት አልፈለጉም……5
320	ከባለቤትዎ ከእርሰዎ ውጭ ከለላ ሴት ጋር ግንኙነት አላቸው ብሎ ያስባሉ?	አዎ……..1 አይደለም……..2 ምን አልባት……3 አላዉቅም/አላስታውስም**…..**4 መልስ ለመስጠት አልፈለጉም……..5
321	ከባለቤትዎ ከእርሰዎ ጋር መኖር ከጀመሩ በኋላ ከለላ ሴት ልጅ ወልደዋል?	አዎ……..1 አይደለም……..2 ምን አለባት……3 አላዉቅም/አላስታውስም**……..**4 መልስ ለመስጠት አልፈለጉም……..5
322	ከዚህ በፊት እርሰዎ በቤተሰብ ዉስጥ ከአባትዎ ወይም ከእንጀራ አባትዎ በእናትዎ ላይ ጥቃት ስፈጽም ኣጋጥመዎት ያዉቃል?	አዎ……..1 አይ በፍጹም……2 አላዉቅም/አላስታውስም……3
323	ከባለቤትዎ የሚደረሰዎን ድብደባ ወይም ጠብ እኩይ ተግባር ነዉ ብሎ ያስባሉ?	አዎ……..1 አይ በፍጹም……2
324	በእርስዎ አስተየያየት ባለትዳር ሴትን ባል መምታት የሚችለዉ መቼ ነዉ ብሎ ያስባሉ ?	1. አዎ 2. አይ 3. አላዉቅም a) ሳታስፈቅድ ወደ ለላ ቦታ ከሄደች 1 2 3 b) ልጆቿን ካልጠበቀች 1 2 3 c) ከባሏ ጋር ከተከራከረች 1 2 3 d) ምግብ ከሳረፌች 1 2 3 e) የግብረ ስጋ ግንኙነት እምብ ካለችሁ 1 2 3
325	በእርስዎ አስተየያየት ባለትዳር ሴት ከባሏ ጋር ግብረስጋ ግንኙነት እምቢ ማለት የምትችለው መቼ ነው?	**1. አዎ 2. አይ 3. አላዉቅም** a) እሷ ካልፈገች 1 2 3 b) ባሏከሠከረ 1 2 3 c) እሷን ባመማት ጊዜ 1 2 3 d) ከባሏ ጋር በተጣላች ጊ 1 2 3
ክፍል አራት፡ በደቡብ ኢትዮጳያ ፤በወላይታ ዞን፤ የድህረ-ወልድ ወቅት ባሉ ሴቶች ጤና እና የህይወት ተሞክሮ በተመለከተ አጠቃላይ መረጃ		
ሁለት ሰዎች በጋብቻ/በጓደኝነት አብረው በሚኖሩበት ጊዜ ከፉና ደግ ነገር በህይወታቸው እንደሚያሳልፉ የታወቀ ነው፡፡ ይህን በተመለከተ በአሁኑ ጊዜ አብሮዎት ያሉ ባለቤትዎ ጋር ስለነበረው ግንኙነትዎ ጥያቄዎች አቀርብሎታለሁ፡፡ በውይይታችን ጊዜ ሌላ ሰው ከመጣ የመወያያ ርዕስ እቀይራለሁ፡፡ የሚነግሩኝ ነገር ሁሉ በሚስጥር የተያዘ ይሆናል፡፡ መልስ መስጠት የማይለጉትንም ጥያቄ ለመመለስ አይገደዱም፡፡		
401	በአጠቃላይ እርሰዎና ባለቤትዎ ጋር በሚከተሉት ጉዳዬች ላይ ተነጋግራችሁ ታውቃላችሁ?	አዎ አይደለም አላውቅም (መልስ ይነበብ) a) ባለቤትዎ ስላሳለፉት ቀን 1 2 3 b) እርስዎ ስላሳለፉት ቀን 1 2 3 c) እርሰዎ ስላጋጠመዎት ጭንቀት 1 2 3 d) ባለቤትዎ ስላጋጠማቸው ጭንቀት 1 2 3
402	አሁን ወይም በመጨረሻ አብረዋቸው ካሉት ባለቤትዎ ጋር ምን ያህል ጊዜ ተጨቃጭቃችሁ/ ጠብ ፈጥራችሁ ታውቃላችሁ?	አልፎ አልፎ …….1 አንዳንድ ጊዜ……..2 ብዙ ጊዜ……..3 አላውቅም/ አላስታውስም……3 መልስ መስጠት አልፈልግም……4
403	አሁን የምጠይቆት ጥያቄ ብዙ እናቶች ስለሚያጋጥሟቸው ሁኔታዎች ይሆናል፡፡ አሁን አብሯቸው ያለውን ባለቤትዎ በተመለከተ ከዚህ በታች የተዘረዘሩትን የትኞቹን እንዳይፈፅሙ ይከለክሉዎታል ወይም ይፈፅማሉ ?	

	a) ጓደኞቼን እንዳልጠይቅ b) ከቤተሰቦች ጋር እንዳልገናኝ c) እንቅስቃሴዬን/ማወቅ ይፈልጋል d) ለማደርገው ነገር ሁሉ ግድ የለውም e) ከሌላ ወንድ ጋር ከተነጋገረኩ ይቆጣል/ያኮርፋል f) ሁልጊዜም ታማኝነቴን ይጠራጠራል g) ወደ ህክምና ቦታ ለመሄድ እንዳስፈቅደው ይፈልጋል		**አዎ**	**አይደለም**	**አላውቅም(መልስ ይነበብ)**	
		a) ጓደኞቼን እንዳልጠይቅ	1	2	8	
		b) ከቤተሰቦቼ ጋር እንዳልገናኝ	1	2	8	
		c) እንቅስቃሴዬን /የት እንደዋልኩ ሁሉ ማወቅ ይፈልጋል	1	2	8	
		d) ለማደርገው ነገር ሁሉ ግድ የለውም	1	2	8	
		e) ከሌላ ወንድ ጋር ከተነጋገርኩ ይቆጣል/ያኮርፋል	1	2	8	
		f) ሁል ጊዜም ታማኝነቴን ይጠራጠራል	1	2	8	
		g) ወደ ህክምና ቦታ ለመሄድ እንዳስፈቅደው ይፈልጋል	1	2	8	

404	የሚከተሉትን ሁኔታዎች በብዙ ሴቶች ላይ የሚከሰቱ ናቸው:: ባለቤትዎ የሚከተሉትን ነገሮችን የመጨረሻው ልጅ ከማርገዘው በፊት ሆነ በኋላ በእርስዎ ፈቃመውቦት ያውቃሉ ?	A) a) ባለቤትዎ የመጨረሻው ልጅ ከመረገዝ በፊት 12 ወራት ውስጥ_____? አዎ → b) አይደለም→B) b) ይህ የተከሰተው አንደ፡ጥቅት ወይም ብዙ ጊዜ ነው?	B) a) ባለቤትዎ የመጨረሻው ልጅ ዕርግዝና ወቅት_____? አዎ → b) አይደለም→C) b) ይህ የተከሰተው አንደ፡ጥቅት ወይም ብዙ ጊዜ ነው?	C) a) ባለቤትዎ የመጨረሻው ልጅ ከተወለደ በኋላ _____? አዎ → b) አይደለም→405) b) ይህ የተከሰተው አንደ፡ጥቅት ወይም ብዙ ጊዜ ነው?
		1. አዎ 2. አይደለም→B) ↓ 1.አንደ 2.ጥቅት 3.ብዙ ጊዜ	1. አዎ 2.አይደለም→C) ↓ 1.አንደ 2.ጥቅት 3.ብዙ ጊዜ	1. አዎ 2. አይደለም→405) ↓ 1.አንደ 2.ጥቅት 3.ብዙ ጊዜ
	a) ስድብ ወይም ስለራስዎ መጥፎ ነገር እንዲሰማዎት አድርጎት ያውቃል?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3
	b) በሌሎች ሰዎች ፊት አዋርደዎት ያውቃል?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3
	c) አስፈራርተዎት ገላምጦዎት ወይም ጮሆብዎት ዕቃ ወርውሮብዎት ያውቃል?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3
	d) እርስዎን ወይም የሚወዱትን ለመጉዳት ዝተውብዎት ያውቃል?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3

405	አብሮት ያለው ባለቤትዎ የሚከተሉትን ነገሮች በእርስዎ ፈጽዎበት ያውቃሉ ? **(መልስ ይነበብ)**	A) **a)** ባለቤትዎ የመጨረሻው ልጅ ከመረገዝ በፊት 12 ወራት ውስጥ_____**?** አዎ → b) አይደለም→B) **b)** ይህ የተከሰተው አንደ፡ጥቅት ወይም ብዙ ጊዜ ነው?	B) **a)** ባለቤትዎ የመጨረሻው ልጅ ዕርግዝና ወቅት_____**?** አዎ → b) አይደለም→C) **b)** ይህ የተከሰተው አንደ፡ጥቅት ወይም ብዙ ጊዜ ነው?		C) **a)** ባለቤትዎ የመጨረሻው ልጅ ከተወለደ በኋላ _____**?** አዎ → b) አይደለም→406) **b)** ይህ የተከሰተው አንደ፡ጥቅት ወይም ብዙ ጊዜ ነው?
		1. አዎ 2. አይደለም→B) ↓ 1.አንደ 2.ጥቅት 3.ብዙ ጊዜ	1. አዎ 2.አይደለም→C) ↓ 1.አንደ 2.ጥቅት 3.ብዙ ጊዜ		1. አዎ 2. አይደለም→406) ↓ 1.አንደ 2.ጥቅት 3.ብዙ ጊዜ
	a) በጥፊ መትቶዎት ወይም የሚጎዳ ነገር ወርዉብዎትያዉቃል?	1 2	1 2		1 2
		1 2 3	1 2 3		1 2 3
	b) ገፍትሮዎት ያዉቃል?	2	1 2		1 2
		1 2 3	1 2 3		1 2 3
	c) በቦክስ/በሌላበሚጎዳ ነገር መትቶዎት ያዉቃል?	1 2	1 2		1 2
		1 2 3	1 2 3		1 2 3
	d) ረግጠዎት፤ ጎትቶዎት ወይም ድብድበዎት ያዉቃል?	1 2	1 2		1 2
		1 2 3	1 2 3		1 2 3
	e) አንቀዉ ወይም ሆንብለዉ አቃጥለዎት ያዉቃል?	1 2	1 2		1 2
		1 2 3	1 2 3		1 2 3
	f) በማስፈራራት ሽጉጥ ጩቤ ወይም ሌላ መሣሪያ መዘዉ ያዉቃል?	1 2	1 2		1 2
		1 2 3	1 2 3		1 2 3
406	የሚከተሉትን ሁኔታዎች በብዙ ሴቶች ላይ የሚከሰቱ ናቸው : : አብረዋቸው ያለው ባለቤትዎ የሚከተሉትን ነገሮች በእርስዎ ፈጽመዎበት ያውቃሉ ? (መልስ ይነበብ)	A) **a)** ባለቤትዎ የመጨረሻው ልጅ ከመረገዝ በፊት 12 ወራት ውስጥ_____**?** አዎ → b) አይደለም→B) **b)** ይህ የተከሰተው አንደ፡ጥቅት ወይም ብዙ ጊዜ ነው?	B) **a)** ባለቤትዎ የመጨረሻው ልጅ ዕርግዝና ወቅት_____**?** አዎ → b) አይደለም→C) **b)** ይህ የተከሰተው አንደ፡ጥቅት ወይም ብዙ ጊዜ ነው?		C) **a)** ባለቤትዎ የመጨረሻው ልጅ ከተወለደ በኋላ _____**?** አዎ → b) አይደለም→407) **b)** ይህ የተከሰተው አንደ፡ጥቅት ወይም ብዙ ጊዜ ነው?
	ባለቤትዎ የሚከተሉትን ነገሮችን የመጨረሻው ልጅ እርግናዎ ወቅት በእርስዎ ፈጽመዎበት ያውቃል ?	1. አዎ 2. አይደለም→B) ↓ 1.አንደ 2.ጥቅት 3.ብዙ ጊዜ	1. አዎ 2.አይደለም→C) ↓ 1.አንደ 2.ጥቅት 3.ብዙ ጊዜ		1. አዎ 2. አይደለም→406) ↓ 1.አንደ 2.ጥቅት 3.ብዙ ጊዜ
	a) ጉልበት በመጠቀም ያለእርስዎ ፍቃድ ግብረሥጋ ግንኙነት ለመፈፀም አስገደዶ	1 2	1 2		1 2

	ያውቃል ?	1 2 3	1 2 3	1 2 3
	b) ጉልበት በመጠቀም ያለርስዎ ፍቃድ ግብረሥጋ ግንኙነት ፈጽሞ ያውቃል ?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3
	c) ጉልበት በመጠቀም ከደንብ ዉጪ ግብረሥጋ ግንኙነት በመፈፀም ክብረዎን አዋርዶ ያውቃል ?	1 2	1 2	1 2
		1 2 3	1 2 3	1 2 3
407	ተራ ቁጥር 404ን ይመልከቱ::/አዎ/የሚል መልስ ስንት ጊዜ እንደተሰጠ ያረጋግጡና ይመዝግቡ	/አዎ/ የስነ-ልቦና ጉዳት…… 1 /አይደለም/የስነ-ልቦና ጉዳት..……2		
408	**ተራ ቁጥር 405ን ይመልከቱ::**/አዎ/የሚል መልስ ስንት ጊዜ እንደተሰጠ ያረጋግጡና ይመዝግቡ	/አዎ/ የአካል ጉዳት..……1 /አይደለም/የአካል ጉዳት……2		
409	**ተራ ቁጥር 406ን ይመልከቱ::**/አዎ/የሚል መልስ ስንት ጊዜ እንደተሰጠ ያረጋግጡና ይመዝግቡ	/አዎ/ ያለፍቃድ ግብርሥጋ ግንኙነት ማድረግ..……1 /አይደለም/ያለፍቃድ ግብርሥጋ ግንኙነት ማድረግ…….2		
410	ከማርገዝዎ በፊት የነበረውን ጠብ ባረገዙ ጊዜ ከሚደረገው እንዴት ያውዳድሩታል**?**	ቀንሷል……..1 ያው ነው…….2 ብሷል……..3 አላውቅም/ አላስታውስም **.....**4 መልስ መስጠት አልፈልግም……5		
411	ከማርገዝዎ በኋላ የነበረውን ጠብ ልጅ በወለዱት ጊዜ ከሚደረገው እንዴት ያውዳድሩታል?	ቀንሷል……..1 ያው ነው…….2 ብሷል……..3 አላውቅም/ አላስታውስም **.....**4 መልስ መስጠት አልፈልግም……5		

አባሪ 2.2.2: የተከታታይ መርጃ ማስብሰብ ቃለ-መጠይቅ (የአማርኛ ቅጂ)

አዲስ አበባ ዩኒቨርስት

ጤና ሳይንስ ኮሌጅ

የህበረተሰብ ጤና ትምህርት ቤት

አባሪ 2.2፡ የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሯቸዉን እና ከዘመናዊ ድህረ-ወልድ የእርግዝና መከላከያ ጋር ያለዉ ተያያዥነት በተመለከተበሚደረገዉ መጀመሪያ ደርጃ የጥናቱ መርጃ ማስብሰብ ቃለ-መጠይቅ ::

በደቡብ ኢትዮጲያ በወላይታ ዞን፤ ‘’***የድህር_ወልድ ሴቶች ጤና እና የህይወት ተሞክሯቸዉን እና ከዘመናዊ ድህረ-ወልድ የእርግዝና መከላከያ ጋር ያለዉ ተያያዥነት በተመለከተ***" በሚል ሪዕስ በሚደረገዉ ጥናት ላይ የሚሳተፉ የጥናቱ አባላት የሁለተኛ ጊዜ የግለሰብ የስምምነት ቅፅ፡

የጥናት መሪ ስም: አቶ ታፈሰ ላማሮ: ፕ/ር ፍቅረ እንኩሥላሠ እና ፕ/ር ንጉሴ ዲያሳ

የጥናቱ ተሳታፊዎች: በድህረ-ወሊድ ወቅት ያሉ ሴቶች

ክፍል አንድ፡ የጥናቱ የመረጃ ቅፅ

መግቢያ

ጤና ይስጥልኝ፡፡ ስመ _____እባላለው፡፡እኔ የመጣሁት አዲስ አበባ ዩኒቨርስት ወኪየ ነዉ፡፡ በማከናወን ላይ ያለነዉ ጥናት በአሁን ሳዓት *የድህረ_ወልድ ሴቶች ጤና እና የህይወት ተሞክሯቸዉን እና ከዘመናዊ ድህረ-ወልድ የእርግዝና መከላከያ ጋር ያለዉ ተያያዥነት በተመለከተ*" በሚል ሪዕስ በሚደረገዉ ጥናት ላይ በስምምነዎት መሠረት ሁለተኛ ጊዜ ቃለ-መጠይቅ በማድረግ ተጨባጭ መረጃወችን ለማቅረብ ነዉ፡፡ በዚህ መሰረት አሁንም ብሆን እርስዎ ከጥናቱ ተሳታፍ መካከል አንዱ ነዎት፡፡ ከእርስዎ የሚናገኛዉ መረጃ ብዙ ከመሆን አንጻር ለጥናታችን በጣም አስፈላግ እና ጠቃም ነዉ፡፡

የጥናቱ አላማ: በኢትዮጵያ ዉስጥ ከአስሩ ሴቶች መካከል ስድስቱ በሕይወት ዘመናቸዉ ከትዳር አጋር ወይም ጓደኛቻቸዉ በሚደርሰዉ መጥፎ ሁኔታ/ጽብ ሥለባ እንደምሆኑ ይነገራል፡፡ እንዲሁም አብዘኛዉም ድህረ-ወልድ ጊዜ ዉስጥ ያሉ ሴቶች የእርግዝና መከላከያ ዘገየት ብሎ ነዉ የሚጀምሩት ብሎም ከለላ ጊዜ ይልቅ በዝሁ ጊዜ ወድያዉ ነዉ የሚያቋረጡት፡፡ የዚህ መንስኤ ብዙ ብሆንም በድህረ-ወልድ ጊዜ ዉስጥ ባሉ ሴቶች ላይ የከፋ ልሆን ይችላል፡፡ ነገር ግን ከትዳር አጋሮቻቸዉ የሚደርስ የሴቶች የጤና ችግር ስርጭት እና ከዘመናዊ ድህር-ወልድ የእርግዝና መከላከያ አጀማመር እና አጠቃቀም ጋር ያለዉ ቁርኝት በደምቢ አልተጠናም፡፡ ስለዚህ የዚህ ጥናቱ ዋና አላማ በማህብረሰብ ዉስጥ ዳሣሣ በማድረግ በዚህ ዙሪያ ያለዉን ክፍተት መሙላት ነዉ፡፡

የጥናቱ ህደት: ለዚህ ቃለ-መጠይቅ ከተመረጡ አንድ ሺ ሁለት መቶ ስድስት ሴቶች መካከል እርስዎ አንዱ ነዎት፡፡ ከዚህ በመቀጠል ስለግለሰባዊ፤ስነ-ሕዝባዊ እና ስነ-ኢኮኖሚያዊ በተመለከተ ትንሽ መረጃ እንጠይቃለን፡፡ በተጨማሪ እርስዎን ጨምሮ ብዙ ሴቶች ላይ ከትዳር አጋሮቻቸዉ የሚደርሠዉን የጤና ችግር፤ እንድሁም ዘመናዊ ድህር-ወልድ የእርግዝና መከላከያ በተመለከተ በስፋት እንመካከራለን፡፡ ይህ ቃለ-መጠይቅ እስከ ሳላሣ ደቅቃ ልወስድ ይችላል፡፡ ስለዚህ በዚሁ መሠረት በጥናቱ ላይ ለመሳተፍ የእርስዎ በጎ ፍቃደኝነት መጀመርያ እንጠይቃለን፡፡

ተሳታፊነት: አሁን በዚህ ጥናቱ ላይ ለመሳተፍ ስለተመረጡ የእርስዎ በጎ ፍቃደኝነት መጀመርያ እንጠይቃለን፡፡ ከትዳር አጋሮዎት የሚደርሠዉን የጤና ችግር፤ እንድሁም ዘመናዊ ድህረ-ወልድ የእርግዝና መከላከያ በተመለከተ ከአስራ ሁለት ወር በኋላ ስላጋጠመዎት ሁኔታ በድጋም እንጠይቆታለን፡፡ የእኛ ጥናቱ በቃለ-መጠይቅ ላይ የተመሰረተ እና በእርስዎት ላይ የሚያመጣዉ ምንም ዓይነት ጉዳት የለዉም፡፡

የጥናቱ ጉዳት/አደጋ እና አለመመቸት: ይህ ጥናት በእርሶዎ ላይ የሚያመጣዉ ብዙ ችግር ባይኖርም፤ ትንሽ የስነ-ልቦና መረበሽ ልደረስቦት ይችላል፡፡ ይህ ደግሞ በቃለ-መጠየቅ ወቅት የሚከሠት ከሆነ ቃለ-መጠይቅ እንድቋረጥ በማድረግ የስነ-ልቦና

ምክር እና የጤና እንብካበ ይደርግላቹዋል፡፡ ቃለ መጠይቁ ወደ 30 ደቂቃዎችን ይወስዳል፡፡ ነገረ ግን ወደ ዋናዉ ነጥብ በመምራት እና በመጠየቅ የጊዜ ማባከን ለማሳጠር እንሞክራለን፡፡

የጥናቱ ጥቅም: በዚህ ጥናት ውስጥ በመሳተፍዎ በቀጥታ የሚያገኙት ጥቅም ባይኖርም ግን ከእርሶዎ የምናገኛዉ ታመኝ መረጃ ለጥናታችን በጣም ወሳኝ እና ጠቃሚ ነዉ፡፡ እኛ የምንሰበስባቸው መረጃዎች ትክክለኛ መሆናቸውን እንዲያረጋግጡልን እንጠይቆታለን፡፡ እርስዎ በሚሠጡት መረጃ መሰረት በማድረግ ይህንን ችግር ለመግታት ስትራቴጅ ለመቅረጽ የሚያስችል ተግባራትን እንድናገኝ ይረደናል፡፡

የጥናቱ ምስጢራዊነት: የዚህ ቃለ መጠይቅ መረጃ ሚስጥራዊነት የተጠበቀ ነው፡፡ የማንኛውንም በጥናቱ ተሳታፊ የሆኑ ግለሰቦችን ስም አንመዘግብም፡፡ ስምዎ በቃለ መጠይቅ ወረቀቱ፣ ዲጂታል ሪኮርዲንግ / መቅረጸ ድምጽ ወይም በማንኛውም ሌላ የጥናቱ ሰነድ ላይ አይገለጽም፡፡ ከስምዎ ወይም ሌላ የማንነት መለያ መረጃ ጋር ትስስር በሌላቸው መለያ ቁጥሮች ወይም ኮዶች ብቻ እንዲለዩ ይደረጋል፡፡ ከዚህ ቃለ-መጠይቅ የምናገኛዉ መረጃ በማንኛዉ ሁኔታ ለሶስተኛዉ ወገን አሳልፎ አይሰጥም፤ለዘላቅ ጥበቃ ስል፤ ለዚህ ጥናት በተዘጋጀ በመረጃ ሳጥን ዉስጥ ሁሉ መረጃዎች ይቆለፋሉ ::

ያለመሳተፍ እና መቐረጥ መብት: ይህ ቃለ-መጠይቅ ሙሉ በሙሉ በእርስዎ ፍቃድኝነት ላይ የተመሰረተ ነዉ፡፡ እርስዎ ላለመሳተፍ መወሰን የሚችሉ ሲሆን ለመሳተፍ ከወሰኑም በኃላ በማንኛውም ጊዜ ከቃለ-መጠይቁ አቋርጠው መውጣት ይችላሉ፡፡ በዚህ ቃለ መጠይቅ ለመሳተፍ ወይም ላለመሳተፍ የሚሰጡት ውሳኔ በዚህ ወይም በማንኛውም ሁኔታ ላይ ተጽዕኖ አያሳድርም፡፡

ለማንኛዉም መረጃ: ከዚህ ጥናት ጋር በተያያዘ ማናቸውንም ጥያቄዎች ወይም ጉዳዮች ካልዎት የምርምር ቡድን መሪ የሆኑትን አቶ ታፈሰ ላማሮ**(የስልክ ቁጥር 0912922271)** እና ፕ/ር ፍቅረ እንኩሥላሠ**(የስልክ ቁጥር 091259707)** ስልካቸዉን እኔ ልሰጥዎ እችላለሁ፡፡በማንኛዉም ሰዓት እንዲሁም ጥናቱ ዉስጥ ሆናችሁ መጠየቅ ይቻላል፡: በተጨማሪ የአዲስ አበባ ዩኒቨርስ ፡ጤና ሳይንስ ኮሌጅ የጥናት መከታተያ ቦሪዲ አደረሻ **፡ተሌ ቁጥር:+251115538734** ልሰጥዎ እችላለሁ፡፡

ክፍል ሁለት፡የስምምነት ቅፅ

ከላይ በተነሳው የጥናቱ ዓላመ እና ማብራርያ መሰረት ቃለ-መጠይቁን እንድንቀጥል ተስማምተዋል?

አዎ፣ በጥናቱ ውስጥ ለመሳተፍ ተስማምቻለሁ ☐ ***(ቃል_መጠይቅ ይቀጥሉበት)***

እኔ ከዚህ በታች በፍርማየ ያረጋገጥኩት በጥናቱ ላይ ለመሳተፍ ስል ይህንን በፍቃደኝነት የተመሠረተ ስምምነት እሰጣለዉ፡፡ በዚህ የመረጃ ስምምነት ቅጽ ላይ የሠፈረዉ የጥናቱ ዓላማ እና ሁኔታ ግልጽ ከመሆን ባሻገረ በጥናቱ ላይ ላለመሳተፍ መወሰን እንደምችልና እንድሁም ለመሳተፍ ከወሰንኩት በኃላ በማንኛውም ጊዜ ከቃለ-መጠይቁ አቋርጠው መውጣትም እንደምቻል አስተዉያለዉ፡፡ ለጥናቱ የሰጠሁት መረጃዎች ትክክለኛ መሆናቸውን አረጋግጣለዉ፡፡ ጥናቱ ግልጽ እና ለእኔ በምገባ ቋንቃ ነዉ የተገለጸልኝ፡፡

የጥናቱ ተሣታፊ ፊርማ ወይም የጣት

አይ፣ በዚህ ጥናት ለመሳተፍ አልፈልግም ☐ *(ቃለ_ መጠይቁን እዚሁ ያብቁት)*

የመረጃ ሰብሳቢ ስምና ፊርማ_____ፊርማ

የመረጃ ተቆጣጣር ስም_____ፊርማ

የጥናቱ ተሳታፊዎች በተመለከተ ጠቅላላ መረጃ እና ለጥናቱ ብቁ መሆናቸዉን የሚያረጋግጥ የመለያ ፎርም			
ጥያቄዎች	መልስ	የአደርሻ ስም	የመዝለል አመላከች
የጥናቱ ተሳታፊ በወረዳ ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በቀበሌ ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በመንደር ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በአባወራዉ ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በቤት ቁጥር ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በስልክ አደራሽ ተለይቷል?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ በድህረ ወልድ ላይ ናቸው?	1. አዎ 2. አይ	_____	
የጥናቱ ተሳታፊ የጥናቱን መስፈርት ያሟላሉ?	1. አዎ 2. አይ	_____	
የቃለ_መጠይቁ ኮድ_____	ወረዳ_____ቀበሌ_____የጥናቱ ተሳታፊ ኮድ_____		
የመረጃ ሰብሳቢ ስም_____ፊርማ _____ቀን_____ የመረጃ ሰብሳቢዎች ተቆጣጣሪ ስም _____ፊርማ _____ቀን_____ ቃለ_መጠይቅ የተደገበት ቀን _____/_____/_____			

ክፍል ኣንድ: የድህረ-ወልድ ፅንስ መከላከያ አጀማመር እና መጠነ-ማቋረጥ ጋር በተያያዘ ዝርዝር ሁኔታዎች			
በባለፈዉ ጊዜ የፅንስ መከላከያ አጀማመር እና መጠነ ማቋረጥ በተመለከተ ቃለ-መጠየቅ አድርግነለዎት ነበር፡፡ በዚሁ መሠረት በባለፈዉ አስራ ሁለት ወራት ዉስጥ የፅንስ መከላከያ መጠቀም ወይም አለመጠቀም ጋር በተያያዘ ከዚህ በመቀጠል አንጠይቆታልን፡፡			
101	ይህ የመጨረሻ ልጅ መች ነው የተወለደው ?	ወር_____ ዓ.ም_____	
102	በአሁኑ ሰዓት ጡት እያጠቡ ነዉ ያሉ ?	አዎ……1 አይደለዉም……2	
103	የመጨረሻ ልጅ ከተወለደ በኋላ የመጀመሪያ ድህረ_ወልድ የእርግዝና መከላከያ መች ነበረ የተጠቀማችሁ ?	3) ወር_____/_____ዓ.ም_____/_____/_____/_____ 4) በጭራሽ ኣልተጠቀምኩም	
104	የመጨረሻ ልጅ ከተወለደ በኋላ መጀመሪያ የወራአበባ ዑደት አይተዎት ያዉቃሉ?	አዎ……1 አላዉቅም……..2	
105	መቼ ነዉ መጀመሪያ የወራአበባ ዑደት አይተዎት የሚያዉቁት?	ወር_____/_____ዓ.ም_____/_____/_____/_____	

106	የመጨረሻ ልጅ ከተወለደ በኋላ መጀመሪያ የግብርሥጋ ግንኙነት አድረገዎት ያዉቃሉ?	አዎ……1 አላዉቅም……2	
107	የመጨረሻ ልጅ ከተወለደ በኋላ መቼ ነበረ የመጀመሪያ የግብር-ሥጋ ግንኙነት የፈጸሙት?	ወር_____/_____ ዓ.ም_____/_____/_____/_____	
108	በአሁን ሰዓት እርሰዎ ወይም ባለቤትዎ እርግዝናን ለመከላከል/ለማዘገየት የእርግዝና መከላከያ መንገድ እየተጠቀሙ ነው?	አዎ……1 አይደለም……..…..2	2→123
109	በአሁን ሰዓት ምን አይነት የእርግዝና መከላከያ መንገድ እየተጠቀሙ ይገኛሉ? **(ማሳሰብያ:ከአንድ በላይ መልስ/አማራጭ ይቻላል)**	የማህፀን መቋጠር……1 የወንድ የዘር ፍሬ መተላለፊያ መቁረጥ……..……2 በማህፀን ውስጥ የሚቀመጥ ሉፕ…….……3 በክንድ የሚሰጥ መርፌ……..4 በክንድ ውስጥ የሚቀበር……..……..5 የሚዋጥ እንክብል……..……..6 የወንድ ኮንዶም……..……7 የሴት ኮንዶም……8 ድንገተኛ የፅንስ መከላከያ……..9 ቀን መቁጠር……..……10 ጡት ማጥባት መንገድ……11 የወንድ ዘር ፈሳሽ ወደ ውጪ ማፍሰስ……..…..12 ለላ ዘመናዊ መንገድ……13 ለላ ባህላዊ መንገድ……..14	
110	በአሁን ሰዓት እየተጠቀሙበት ያለዉን የእርግዝና መከላከያ ከመች ጀምሮ ነው መጠቀም የጀመሩት?**(ከፅንስ መከላከያ ሰንጠረዥ ያስተያዩ)**	ወር_____/_____ዓ.ም_____/_____/_____/_____	
111	በአሁን ሰዓት እየተጠቀሙበት ያለዉን የፅንስ መከላከያ በተመለከተ የጎንዮሽ ጉዳት የእያስተዋሉት ነዎት?	አዎ……..1 አይደለም……2	2→119
112	**መንስዎ አዎ** ከሆነ ምን አይነት የጎንዮሽ ጉዳት ኣጋጠመዎት ያዉቃል? (ከአንድ በላይ መልስ ይቻላል)	ጊዜዉን ያልጠበቀ ደም መፈስስ……1 ወርአበባ ስለማይመጣ……2 ብዙደም ስለምፈስ……..……3 ክብደት ስለሚጨምር……..……4 ክብደት ስለምቀንስ…..,……..……..5 በግንባረ ስለሚከብድ……..6 ራስምታት……..……..……7 የሆድ ህመም..……..……..……8 ፅንፈክሸን……..……..……9 ማቅለሽለሽ/ማስመለስ……..……..……...10 ስለሚያዘረት……..……11 ለላ ካለ_____	
113	ይህንን የጎንዮሽ ጉዳት በተመለከተ ከጤና ባለሙያ ወይም የፅንስ መከላከያ ባለሙያ የተነገረ መረጃ አለ?	አዎ……..1 አይደለም…….……2	
114	ይህ የጎንዮሽ ጉዳት ከእርስዎ ዕለት ዕለት ስራዎች/እንቅስቃሰ ጋር አስቸግረዎት ያዉቃል?	አዎ……..1 አይደለም…….……2	
115	ይህ የጎንዮሽ ጉዳት ከእርስዎ እና ከባለቤትዎ ጋር ባለዉ ግንኙነት በተመለከተ ያመጣዉ ተጽኖ አለ?	አዎ……..1 አይደለም……..……2	
116	ይህ የጎንዮሽ ጉዳት ምን ያህል ልቋቋም ይቻላል?	ልቋቋም ይቻላል……..…1 ትንሽ ልቋቋም ይቻላል…….2 በፈጹም ልቋቋም አይቻልም……..……..…3	
117	ይህን የጎንዮሽ ጉዳት በተመለከተ ለመገታት እርስዎ አንዳንድ ነገር እያደረጉ ይገኛሉ?	አዎ……..1 አይደለም……2	
118	**መልስዎ አዎ** ከሆነ ምን አድረጓል? (ከአንድ በላይ መልስ ይቻላል)	ራስ በራስ በማከም/የቤት ዉስጥ ባህላዊ ህክምና በመዉሰድ…….……1 ወደ ጤና ተቋማት በመሄድ/የጤና ባለሙያ በማማከር……..2	

		ከበተሰብ ወይም ከጓደኛ ምክር በማገኘት……..3 ከባለቤትዎ ምክር በማገኘት……4 ፅንስ መከላከያ ለመከየር……..……..……5 ፅንስ መከላከያ ለማቆም……..……..6 ለላ ካሌ_____	
119	የጎንዮሽ ጉዳት በተመለከተ ከለላ ሰዉ ጋር ተነጋግሮ ያዉቃሉ?	አዎ……..1 አይደለም……2	2→121
120	**መልስዎ አዎ** ከሆነ ከማን ጋር ነበር ስለጎንዮሽ ጉዳት የተወያዩት? (ከአንድ በላይ መልስ ይቻላል)	ከባለቤትዎ ጋር……..……1 ከእናት/ከአባት ጋር……..2 ከእህት/ከወንድም ጋር……3 ከሴት አማቾ ጋር…..……..……4 ከጓደኞቾ/ከጎረበቶቾ ጋር……..5 ከጤና ባለሙያ/ከፓራማስስት ጋር…….6 ለላ ካሌ_____	
121	በአሁን ሰዓት እየተቀሙ ያሉትን የፅንስ መከላከያ ለምን ነበረ የመረጡት?	ከዚህ በፊት ስለተጠቀምኩት ……...1 ትንሽ ጎንዮሽ ጉዳት ስላለ……..……2 ለማገኘት ቀላል ስለሆነ…… ……3 ምቾት ስለምሰጠኝ……..…..4 ሀኪም ስላዘዘልኝ…….5 በተሰብ/ጓደኛ ስለመከረኝ……...….6 ባለቤተ ስላረጋገጠ…..……..……7 ለላ ካሌ _____	
122	በእርስዎ እምነት ማንነዉ የአሁኑን የፅንስ መከላከያ ለመጠቀም ያነሳሳዉ? እርስዎ ነዎት?	እርስዎ……1 ባለቤትዎ……2 ቢጋራ……3 ለላ ካሌ_____	
123	በአሁኑ ሰዓት የፅንስ መከላከያ አለመጠቀም ምክንያት ምንድ ነዉ ብሎ ያስባሉ?	ጡት እያጠበዉ ስለሆነ……..1 በድህረ-ወልድ መታቀብ ምክንያት…….2 ወርአበባ ስላላየዉት/ስላልተመለሰ…….3 በጤና ባለሙያ ስለተወከልኩት……..4 ባለቤተ ስለማይፈልግ…….5 ጎንዮሽ ጉዳት ስለፈራዉ……6 ለላ ምክንያት_____	
124	የመጨረሻ ልጅ**(የልጅ ስም ይጠቀሙ)** ከተወለደ በኋላ ለመጀመሪያ ጊዜ እርሰዎ/ባለበትዎ እርግዝናን ለመከላከላ/ለማዘገየት የእርግዝና መከላከያ መንገድ ተጠቅሞ ያዉቃሉ?	አዎ……1 አላዉቅም……2	2→201
125	የመጨረሻ ልጅ**(የልጅ ስም ይጠቀሙ)** ከተወለደ በኋላ ለመጀመርያ ጊዜ ምን አይነት ድህረ-ወልድ ፅንስ መከላከያ እየተጠቀሙ ነበረ?	የማህፀን መቋጠር……1 የወንድ የዘር ፍሬ መተላለፊያ መቁረጥ……..……2 በማህፀን ውስጥ የሚቀመጥ ሉፕ…….……3 በክንድ የሚሰጥ መርፌ……..4 በክንድ ውስጥ የሚቀበር……..……..5 የሚዋጥ እንክብል……..……..6 የወንድ ኮንዶም……..……7 የሴት ኮንዶም…….……8 ድንገተኛ የፅንስ መከላከያ…… ……..9 ቀን መቁጠር……..……10 ጡት ማጥባት መንገድ……..……11 የወንድ ዘር ፈሳሽ ወደ ውጪ ማፍሰስ……...…..12 ለላ ዘመናዊ መንገድ……..13 ለላ ባህላዊ መንገድ……...14	
126	የመጨረሻ ልጅ**(የልጅ ስም ይጠቀሙ)** ከተወለደ ምን ያህል ወር **ከቆዩ በኋላ ነው** የመጀመርያ ድህረ-ወልድ ፅንስ መከላከያ የተጠቀሙት?	ወድያው ነው የጀመርኩት ……..1 ለመጀመር የቆዩበት የወራት ብዛት_____.....2	

127	የመጀመርያ ድህረ-ወልድ ፅንስ መከላከያ **መች ነበር የጀመሩት?**	ወር_____/_____ ዓ.ም_____/_____/_____/_____	
128 A)	የመጨረሻ ልጅ**(የልጅ ስም ይጠቀሙ)** ከተወለደ በኋላ የጀመሩት የመጀመርያ ድህረ-ወልድ ፅንስ መከላከያ ምን ያህል ወራት ነው የተጠቀሙት ?	የተጠቀሙበት የወራት ብዛት_____	
128 B)	የመጨረሻ ልጅ**(የልጅ ስም ይጠቀሙ)** ከተወለደ በኋላ የጀመሩት የመጀመርያ ድህረ-ወልድ ፅንስ መከላከያ መች ነበር ያቆሙት?	ወር_____/_____ ዓ.ም_____/_____/_____/_____	
129	ከድህረ-ወልድ በኋላ ለመጀመሪያ ጊዜ እየተጠቀሙበት የነበረዉን ፅንስ መከላከያ ካቋረጡ በኋላ ምን ያህል ወር ነዉ የቆዩት?	_____ ወራትን	
130	ከድህረ-ወልድ በኋላ ለመጀመሪያ ጊዜ እየተጠቀሙበት የነበረዉን ፅንስ መከላከያ ለማቆም ዋና ምክንያት የሆኑት ምን ምን ነበሩ?	አልፎአልፎ ወስብ ስለምፈጽም/ባለቤተ አሁን ስለሌለ……1 እየተጠቀምኩት ስላረገዝኩት……2 ለማርገዝ ስለፈለኩት……3 ባለቤተ ስላልተስማማ……4 ሌላ ጥሩ መከላከያ ስለፈለኩት……5 የጎንዮሽ ጉዳት/የጤና ዕክል……6 ስለማይገኝ/በሩቅ ቦታ ስለምገኝ……7 በጣም ዉድ ስለሆነ……8 ለመጠቀም ስለማይመች……9 ፈጣር ያዉቃል ብየ/ከባድ ጉዳት አለዉ ብየ……10 እንደገና ለማርገዝ ስለምከብድ/ማረጥ ዉስጥ ስለገባዉ……11 ትዳር ስለፈታዉ/ስለፈረሰ……12 ሌላ ካለ_____ አለዉቅም……13	
131	ከድህረ-ወልድ በኋላ ለመጀመሪያ ጊዜ እየተጠቀሙበት የነበረዉን ፅንስ መከላከያ ካቋረጡ በኋላ ለላ የፅንስ መከላከያ ተጠቅመዎት ያዉቃሉ?**(የመጀመረያዉ የፅንስ መከላከያ ብሆንም)**	አዎ……..1 አላዉቅም ……..2	
132	ከድህረ-ወልድ በኋላ ለመጀመሪያ ጊዜ እየተጠቀሙበት የነበረዉን ፅንስ መከላከያ ከማቆሙ በፊት ከባለቤትዎ ጋር ተወያይቶ ነበረ?	አዎ……..1 አላዉቅም ……..2	2→134
133	**መልስዎ አዎ** ከሆነ ከድህረ-ወልድ በኋላ ለመጀመሪያ ጊዜ እየተጠቀሙበት የነበረዉን የፅንስ መከላከያ ለማቋረጥ ሀሳቡን ያመነጨዉ ወይም ያቀረበዉ ማን ነበረ?	እርስዎ……1 ባለቤትዎ……2 ጓዴኛ/በተሰብ……..3 አላዉቅም……..4	
134	ባለቤትዎ ከድህረ-ወልድ በኋላ ለመጀመሪያ ጊዜ እየተጠቀሙበት የነበረዉን የፅንስ መከላከያ ማቋረጡን ያዉቃሉ?	አዎ……1 አይ በፊጹም አያዉቅም……..2 አላዉቅም……3	
135	ባለቤትዎ ከድህረ-ወልድ በኋላ ለመጀመሪያ ጊዜ እየተጠቀሙበት የነበረዉን የፅንስ መከላከያ በግድ እንድቋረጥ አድርጎት ያዉቃል?	አዎ……1 አይደለም……2	2→114

የእርግዝና መከላከያ ሰንጠረዥ

ማብራርያ: የደህረ_ወልድ የእርግዝና መከላከያ ሰንጠረጅ አጠቃቀም፡፡ የእርግዝና መከላከያ ሰንጠረጅ ስንጠቀም በረድፊ 1(colomn 1) ስለ ዉልደት፤ዕርግዝ እና የእርግዝና መከላከያ አጠቃቀም ያመለክታል። ረድፊ 2(Colomn 2) የሚዳሰሰው ደግሞ የእርግዝና መከላከያ መጠነ ማቋረጥ ምክንያቶች በተመለከተ ነው፡፡ በመጀመርያ የመጨረሻ ልጅ በየተኛው ወር እና በመች ዓ.ም እንደተወለደ ይጠይቁ። በሰንጠረዥ በረድፊ 1 ላይ ልጅ በተወለደበት ወር እና ዓም ላይ **"B"** ይሙሉ። በሁለተኛ በአሁን ሰዓት ነፍሰ ጡር ከሆነች ይጠይቁ እና ቃለ መጠየቅ በሚደረግበት ወር ትዩ/ በረድፊ 1 ላይ

“P” ፊደል ይሙሉ። በመቀጠል እርግዝናን ላቋርጦ ከሆነ እና ቃለ መጠየቅ በሚደርግበት ወር እና ዓ.ም ትዩ/በረድፊ 1 ላይ **“T”** ፊደል ይሙሉ።

በለላ በኩል በአሁን ሰዓት የእርግዝና መከላከያ እየተቀሙ ከሆነ ይጠይቁ እና ከመች ወር እና ዓ.ም ጀምሮ እየተጠቀሙ እንዳሉ በመለየት በረድፊ 1 ላይ ለፅንስ መከላከያ የተመደበውን ኮድ ይሙሉ። የተጠቀሙበት ወር በሙሉ በዛ ኮድ ይሙሉ። የእርግዝና መከላከያ እየተቀሙ ላቋርጦ ከሆነ ለምን እንዳቋረጡ በመለየት በረድፊ 2 ላይ የፅንስ መከላከያ የማቋረጡን ምክንያቱን የያዜ ኮዱን ይሙሉ።

	ወራቶች	ረድፊ 1	ረድፊ 2	
በረድፊ 1 :የዉልደት፤ዕርግዝ እና የእርግዝና መከላከያ አጠቃቀም ይሙሉ። **B** =ከወለደች **P**=ካረገዘች **T**= አርግዞ ካቋረጡ **0**=ምንም መከላከያ ካልወሰዱ **1**=የማህፀን መቋጠር **2**= የወንድ የዘር ፍሬ መተላለፊያ መቁረጥ **3**= በማህፀን ውስጥ የሚቀመጥ ሉፕ **4**= በክንድ የሚሰጥ መርፊ **5**=በክንድ ውስጥ የሚቀበር **6**= የሚዋጥ እንክብል **7**=የወንድ ኮንዶም **8**= የሴት ኮንዶም **9**=የድንገተኛ ዕርግዝና መከላከያ በረድፊ 2: የእርግዝና መከላከያ ማቋረጥ ምክንያቶችን ይሙሉ። 0=አልፎአልፎ ወስብ ስለምፈጽም/ባለቤተ አሁን ስለሌለ 1= እየተጠቀምኩት ስላረገዝኩት 2=ለማርገዝ ስለፈለኩት 3=ባለቤተ ስላልተስማማ 4=ሌላ ጥሩ መከላከያ ስለፈለኩት 5=የጎንዮሽ ጉዳት/የጤና ዕክል 6=ስለማይገኝ/በሩቅ ቦታ ስለምገኝ 7=በጣም ዉድ ስለሆነ 8=ለመጠቀም ስለማይመች F=ፈጣር ያዉቃል ብየ/ከባድ ጉዳት አለዉ ብየ A=እንደገና ለማርገዝ ስለምከብድ/ማረጥ ዉስጥ ስለገባዉ D=ትዳር ስለፈታዉ/ስለፈረሰ X=ሌላ ካለ_____ Z=አለዉቅም	ናሐሴ 12 ሐምሌ 11 ሴነ 10 ግንቦት 09 መያዝያ 08 መጋብት 07 የካቲት 06 ጥር 05 ታህሣስ 04 ህዳር 03 ጥቅምት 02 መስከረም 01			2 0 1 3 ዓ ም
	ናሐሴ 12 ሐምሌ11 ሴነ 10 ግንቦት 09 መያዝያ 08 መጋብት 07 የካቲት 06 ጥር 05 ታህሣስ 04 ህዳር 03 ጥቅምት 02 መስከረም 01			2 0 1 2 ዓ ም
	ናሐሴ 12 ሐምሌ11 ሴነ 10 ግንቦት 09 መያዝያ 08			2 0 1 1 ዓ ም

ክፍል 2፡ በደህረ-ወልድ ወቅት ወይም የመጨረሻ ልጅ ከተወለደ በኃላ ላለፉት ጊዝያት ከትዳር አጋሮቻቸዉ የደረሰዉን ጥቃት በተመለከተ

ሁለት ሰዎች በጋብቻ/በጓደኝነት አብረው በሚኖሩበት ጊዜ ክፉና ደግ ነገር በህይወታቸው እንደ ሚያሳልፉ የታወቀ ነው፡፡ ይህን በተመለከተ በአሁኑ ጊዜ አብሮዎት ያሉ ባለቤትዎ/ ጓደኛዎ ወይም ቀደም ብሎ ስለነበረው ግንኙነትዎ ጥያቄዎች አቀርብሎታለሁ፡፡ በውይይታችን ጊዜ ሌላ ሰው ከመጣ አርእስቱን እቀይራለሁ፡፡ የሚነግሩኝ ነገር ሁሉ በሚስጥር የተያዘ ይሆናል፡፡ መልስ መስጠት የማይለጉትንም ጥያቄ ለመመለስ አይገደዱም፡፡

301. አሁን የምጠይቆት ጥያቄ ብዙ ሴቶች ስለሚያጋጥሟቸው ሁኔታዎች ይሆናል፡፡ አሁን አብሯቸው ያሉትን ወይም በመጨረሻ አብረዋቸው የነበሩትን ባለቤትዎን/ ጓደኛዎን በተመለከተ ከዚህ በታች የተዘረዘሩትን የትኞቹን እንዳይፈፅሙ ይከለክሉዎታል ወይም ይፈፅማሉ ?

a) ጓደኞቼን እንዳልጠይቅ
b) ከቤተሰቦች ጋር እንዳልገናኝ
c) እንቅስቃሴዬን/የት እንደዋልኩ ማወቅ ይፈልጋል
d) ለማደርገው ነገር ሁሉ ግድ የለውም
e) ከሌላ ወንድ ጋር ከተነጋገረኩ ይቆጣል/ያኮርፋል
f) ሁልጊዜም ታማኝነቴን ይጠራጠራል
g) ወደ ህክምና ቦታ ለመሄድ እንዳስፈቅደው ይፈለጋል

	አዎ	አይደለም	አላውቅም
a) ጓደኞቼን እንዳልጠይቅ	1	2	8
b) ከቤተሰቦቼ ጋር እንዳልገናኝ	1	2	8
c) እንቅስቃሴዬን ማወቅ ይፈልጋል	1	2	8
d) ለማደርገው ነገር ሁሉ ግድ የለውም	1	2	8
e) ከሌላ ወንድ ጋር ከተነጋገርኩይቆጣል	1	2	8
f) ሁልጊዜም ታማኝነቴን ይጠራጠራል	1	2	8
g) ወደ ህክምና ቦታ ለመሄድ እንዳስፈቅደው ይፈልጋል	1	2	8

202. የሚከተሉት ሁኔታዎች በብዙ ሴቶች ላይ በድህረ-ወልድ ወቅት የሚከሰቱ ናቸው፡ አብረዎት ያለዉ ባለቤትዎ የሚከተሉትን ነገሮች የመጨረሻ ልጅ ከተወለደ በኃላ በእርስዎ ፈፅመውቦት ያውቃሉ? (መልስ ይነበብ)

	አዎ	አይደለም	አላዉቅም	አንድ ጊዜ	ጥቅት ጊዜ	ብዙ ጊዜ
a) ስድብ ወይም ስለራስዎ መጥፎ ነገር እንዲሰማዎት ማድረግ	1	2	3	1	2	3
b) በሌሎች ሰዎች ፊት አዋርዶዎት ያውቃል?	1	2	3	1	2	3
c) አስፈራርቶዎት ገላምጦዎት ወይም ጮሆብዎት ዕቃ ወርውሮብዎት ያውቃል?	1	2	3	1	2	3
d) እርስዎን ወይም የሚወዱትን ለመጉዳት ዝተውብዎት ያውቃል?	1	2	3	1	2	3

203 የሚከተሉት ሁኔታዎች በብዙ ሴቶች ላይ በድህረ-ወልድ ወቅት የሚከሰቱ ናቸው፡ አብረዎት ያለዉ ባለቤትዎ የሚከተሉትን ነገሮች የመጨረሻ ልጅ ከተወለደ በኃላ በእርስዎ ፈፅመውበዎት ያውቃሉ? (መልስ ይነበብ):: **ባለቤትዎ የመጨረሻ ልጅ ከተወለደ በኃላ ላለፉት ጊዝያት እርስዎን ፡**

	አዎ	አይደለም	አላዉቅም	አንድ ጊዜ	ጥቅት ጊዜ	ብዙ ጊዜ
a) በጥፊ መትቶዎት ወይም የሚጎዳ ነገር ወርዉብዎት	1	2	3	1	2	3
b) ገፍትሮዎት ያዉቃሉ?	1	2	3	1	2	3
c) በቦክስ/በሌላበሚጎዳ ነገር መትቶዎት	1	2	3	1	2	3
d) ረግጦዎት ጎትቶዎት ወይም ድብድበዎት	1	2	3	1	2	3
e) አንቀዉ ወይም ሆንብለዉ አቃጥለዎት ያዉቃሉ?	1	2	3	1	2	3
f) በማስፈራራት ሽጉጥ ጩቤ ወይም ሌላ መሣሪያ መዘዉ	1	2	3	1	2	3

204 የሚከተሉት ሁኔታዎች በብዙ ሴቶች ላይ በድህረ-ወልድ ወቅት የሚከሰቱ ናቸው፡ አብረዎት ያለዉ ባለቤትዎ የሚከተሉትን ነገሮች የመጨረሻ ልጅ ከተወለደ በኃላ በእርስዎ ፈፅመውቦት ያውቃሉ? (መልስ ይነበብ):: ባለቤትዎ የመጨረሻ ልጅ ከተወለደ በኃላ ላለፉት ጊዝያት እርስዎን ፡

	አዎ	አይደለም	አላዉቅም	አንድ ጊዜ	ጥቅት ጊዜ	ብዙ ጊዜ
1 በጉልበት በመጠቀም ያለርስዎ ፍቃድ ግብረሥጋ ግንኙነት ለመፈፀም በማስገደድ	1	2	3	1	2	3
2 በጉልበት በመጠቀም ያለርስዎ ፍቃድ ግብረሥጋ ግንኙነት መፈፀም	1	2	3	1	2	3
3 በጉልበት በመጠቀም ከደንብ ዉጪ ግብረሥጋ ግንኙነት በመፈፀም ክብረዎን ማዋረድ	1	2	3	1	2	3

Study participants registration sheet for identification for the next follow-up study (for quantitative study and filled at the end of baseline interview)

List of selected Interviewee Woreda _____Keble_____Place_____

Sr. No	Name of Interviewee	Women Development Army Name	Head of Women Development Army	Got/Gere	Contact Address
1.					
2.					
3.					
4.					
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32.					

13. APPENDIX III: DECLERATION

Assurance of Principal Investigator

I, the undersigned, declare that this is my original work, has never been presented to this or any other university for fulfillment of any degree, and all resources and materials used for the dissertation have been fully acknowledged.

Name of the PhD student :Tafesse Lamaro

Signature:_____

Date: _____

Place: Addis Ababa,Ethiopia

Date of examination:_____

Approval of the primary Supervisor

This dissertation has been submitted for examination with my approval as a University Supervisor.

Name: Professor Negussie Deyessa (PhD)

Signature: _____

Date: _____