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**Addis Ababa University
College of Development Studies
Center for Population Studies**

**Women Decision Making on Use of Modern Family
Planning Methods and Associated Factors, Evidence
from PMA Ethiopia**

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This is to certify that the thesis prepared by Fitsum Tariku Entitled; “**Women Decision Making on Use of Modern Family Planning Methods and Associated Factors, Evidence from PMA Ethiopia**” and submitted in partial fulfillment of the requirements for the degree of Master of Science in Population Studies (Reproductive Health) complies with the regulations of the university and meets the accepted standards with respect to the originality and quality.

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List of Acronyms and Abbreviations

ANC	Antenatal Care
CSA	Central Statistical Agency
CPR	Contraceptive Prevalence Rate
DHS	Demographic and Health Survey
EAs	Enumeration Areas
EDHS	Ethiopian Demographic and Health Survey
FMoH	Federal Ministry of Health
EHNRI	Ethiopian Health and Nutrition Research Institute
EPHC	Ethiopia Population and Housing Census
FP	Family Planning
FPCs	Family planning clinics
FPDM	Family Planning Decision Making
ICF	Inner City Fund
IIRB	Institutional Review Board
IPV	Intimate Partner Violence
GPS	Global Positioning System
HBM	Health Belief Model
HH	Household
MCH	Maternal and Child Health
MDG	Millennium Development Goals
MMR	Maternal Mortality Ratio
ODK	Open Data Kit
PRB	Population Reference Bureau
PMA	Performance Monitoring for Action
RH	Reproductive Health
SDG	Sustainable Development Goals
SDP	Service Delivery Points
SRH	Sexual and Reproductive Health
TPB	Theory of Planned Behavior
UNFPA	United Nations Population Fund
UNPD	United Nations Population Division
WHO	World Health Organization

Abstract

Family planning decision making is defined as women's ability to choose family planning methods that she wanted to use through the process of informed decision making. Despite the availability and accessibility of family planning methods, the utilization rate is not more than 41% in Ethiopian. Evidences and experts have consistently show that women decisions making ability on family planning method they desired to use is one of the possible reasons for this slow rate of family planning use increment . In consideration with this and further motives family planning use decision making has become one of the top sexual and reproductive health related sustainable development agendas. Hence, this study aimed at determining the level of family planning use decision making among married and identify factors affecting it.

This study was based on Performance monitoring for action (PMA) 2020 cross sectional national survey data. Married women who are currently using or recently used family planning method were included in this study. Frequency was computed to describe the study participants while chi-square statistics was computed to examine the overall association of independent variable with family planning use decision making. To identify predictors of family planning use decision making multinomial logistics regression was employed. Results were presented in the form of percentage and relative risk ratio with 95% CI. Candidate variables were selected using p value of 0.25. Significance was declared at p value 0.05.

This study revealed that one in two women (51.2%; 95% CI: 48.8%-53.6%) decide their family planning use by themselves while 37% (36.8%; 95% CI: 34.5%-39.2%) decide jointly with their husband and/or partner. Women alone family planning use decision making increased significantly 32.8% (95% CI: 29.4%, 36.4%) in 2014 to 51.2% (95% CI: 48.8%, 53.6%) in 2020. It also show variation across regions from scanty in Afar and Somali to 63.6% in Amhara region and 61.5 Addis Ababa. Obtaining desired family planning method was found significantly to improve women alone and joint planning use decision making. Women who have perceive control and feeling if they get pregnant now were found to be positively associated with women alone family planning use decision making. Discussion with husband, his feeling towards family planning were found positively to influence family planning use joint decision making. Moreover, women religion, was found reducing the likelihood of both women alone and joint family planning use decision making while experiencing side effect reduces the likelihood of joint family planning use decision making.

Half of the women independently decide their family planning use which calls up on further improvement. Family planning use decision making ability is expected to be improved by efforts targeted on husbands' approval on wife's family planning use, discussion on family planning use with husband/partner, improving women psychosociological readiness and trust on her own to decide her desired family planning method; informing the possible side effects and what to do when they encountered during their family planning use visit. In addition, influencing women on the use of family planning via religious leader will help much in this regard. Monitoring and evaluating reproductive health policy 2021 to 2025 and addressing bottlenecks which hinder women decision making health service use is hoped to improve women family planning use decision making. Further qualitative study to identify and address factors that contribute for the variation across regions also help much.

Key words : family planning decision making, married women, PMA, Ethiopia

CHAPTER ONE

INTRODUCTION

1.1 Background

Family planning use decision making is the major component of reproductive health service use empowerment. Though there is no agreed up on definition on family planning use decision making and no single measure (B. Alemayehu et al., 2020; Belay, Mengesha, Woldegebriel, & Gelaw, 2016; Bogale, Wondafrash, Tilahun, & Girma, 2011; Dadi, Bogale, Minda, & Megersa, 2020; Eshete & Adissu, 2017), the following definition is commonly and consistently used across similar studies: Decision making on family planning use is defined as women`s ability to independently decide on the family planning method she wanted to use through the process of informed decision making by successfully overcoming unnecessary pressure from significant others around her (Basu, 1992; Osamor & Grady, 2016; Tadele, Tesfay, & Kebede, 2019; Tim Dyson & Mick Moore, 1983). However, defining and measuring decision making on reproductive health service use including family planning is both difficult and challenging (Assefa, Gelaw, Hill, Taye, & Van Damme, 2019; Osamor & Grady, 2016; World Bank, 2009). Similar studies measure family planning use decision making using a single question and or by creating composite variable (Belay et al., 2016; Bogale et al., 2011; Dadi et al., 2020; Eshete & Adissu, 2017; Mare, Aychiluhm, Tadesse, & Abdu, 2022).

Until recently, Family planning use decision making has got inadequate attention because the focus of health policies, program and researches has been on availability, accessibility and utilization along with determinates of health services as manifested by primary health declaration, save mother initiatives in low and middle income countries. To this end, reproductive health services have received global attention in terms of policy articulation, program designing and implementation along with monitoring activities which has guided by researcher (Agunwa et al., 2017; FMOH, 2016, 2021a; Gilano & Hailegebreal, 2021; Habtamu, 2008; Karim, Tamire, Medhanyie, & Betemariam, 2015; Mehari & Wencheke, 2013; Mekonnen, Lerebo, Gebrehiwot, & Abadura, 2015; Teferra & Wondifraw, 2015; Tolossa, Turi, Fetensa, Fekadu, & Kebede, 2020; UNFPA & Hera, 2019; Wondie, Badi, & Tamiru, 2020; Yesuf, Kassa, & Asrese, 2020). Likewise family planning use decision making got little and/or no attention in Ethiopia.

The Ethiopia Ministry of Health has initiated and implemented various programs and activities to make most reproductive health services available and accessible to the community. For instance, the introduction of primary health care with the health extension program, family planning services provision and community level awareness creation, delivering most reproductive health services free of charge (Assefa et al., 2019; FMoH, 2021a), including, maternal and child health services (antenatal care, vaccination, delivery post-natal and family planning services),

These efforts did not make optimal service utilization including family planning and also the increase in the population size in general, as well as, total fertility rate in particular has not been adjusted or reduced. Evidences show that family planning use decision making is one of the several factors for such low rate service utilization and high fertility rate (Amaha Haile & Fikre Enqueselassie, 2006; Bongaarts & health, 2011; Butler, Walker, Pablo, & Bartels, 2021; Hameed et al., 2014). This implies the need to looking bottlenecks which affect services utilization apart from making services accessible and available. Women ability to use services they wanted to use by themselves without the influence of others is found as one of the bottlenecks. Hence, over the past 5 years, both the global and the national community show a paradigm shift in making family planning service use optimal (Butler et al., 2021) with a call for addressing such bottlenecks hindering family planning service utilization. This is manifested by the inclusion of women decision making ability on family planning use as top sub agenda in the women empowerment main agenda, goal 5.6.1 stated (FMoH, 2021b; UN, 2015; UNFPA, Volume I, 2019; UNFPA & Hera, 2019).

In addition, improving family planning use decision making requires identifying and addressing enabling factors. Though factors did not explicitly explored, available quantitative and qualitative studies showed that women decision making on family planning use is influenced by factors related with individual women characteristics, husband characteristics and facility related factors. (Belay et al., 2016; Bogale et al., 2011; Dadi et al., 2020; Dereje, 2018; Eshete & Adissu, 2017; Hameed et al., 2014; Kane et al., 2016; Mare et al., 2022; UNFPA & Hera, 2019).

Therefore this study is aimed at providing information on the level of women family planning use decision making and factors affecting it there by serving as a single millstone in the achievement of the SDG goal 5.6.1.

1.2 Statement of the Problem

Family planning programs provide women with access to and information about contraception. Family planning is also a proven cost effective strategy to improve maternal and newborn outcomes. Such initiatives have been adopted in a number of developing nations to lower high birthrates, minimize maternal and infant mortality, and encourage women's autonomy over the number of children they have. (UN Department of Economic and Social Affairs Population Division, 2020)

The Ethiopian government is committed to achieving the Sustainable Development Goal (SDG) of improving maternal health, with a goal of lowering the maternal mortality ratio (MMR) from 401 to 279 per 100,000 and increase contraceptive prevalence rate (CPR) from 41% to 50% by 2025 by promoting reproductive health services, including family planning (FMoH, 2021a). Even though immense activities conducted the overall fertility rate in particular and optimal service use, including family planning, in particular could not be altered or enhanced in most sub-Saharan countries including Ethiopia. (Addis Ababa University & JHU, 2022; Tesfa et al., 2022; Upadhyay, Karasek, & health, 2012)

Contraceptive Prevalence Rate (CPR) and unmet family planning need does not change significantly in Ethiopia despite the full accessibility and availability in family planning. (Addis Ababa University & JHU, 2022). Recent evidence are showing that women decision making power on reproductive and maternal health services in general and family planning use service in particular is one of the determinantal factor influencing service use, consequently, for the lower rate of contraceptive prevalence rate and high fertility (Addis Ababa University & JHU, 2022; Amaha Haile & Fikre Enqueselassie, 2006; Bongaarts & health, 2011; Dereje, Zewdie Birhanu, Michelle Kaufman, & Bezawit Temesgen, 2015; Hameed et al., 2014; Hana H ALSumri, 2015; Kane et al., 2016; Mosha, Ruben, & Kakoko, 2013; Sougou, Bassoum, Faye, & Leye, 2020). This is one reason why most reproductive, maternal, newborn, child health care, service uptake is not optimal despite the availability, accessibility and affordability of most of those services in Ethiopia ((Abebe Gizaw & Nigatu Regassa, 2011; Addis Ababa University & JHU, 2022; M. Alemayehu et al., 2016; Assefa et al., 2019; Belda, Haile, Melku, & Tololu, 2017; Central Statistical Agency Addis Ababa, ICF, & Rockville, 2017; FMoH, 2016). As a result of this, improving women decision making on contraceptive use was include as one Sustainable Development Strategies (SDG) target thereby improving CPR in

particular and ensure universal access to sexual and reproductive health in general (UNFPA, Volume I, 2019).

Family planning decision making is one of the component of reproductive health empowerment (Beaujoin et al., 2021; Karp et al., 2020). Independent decision-making or decision-making with partner communication on family planning usage contributes significantly to maternal health improvement. Increased women decision on family planning usage is one of the methods to reduce maternal and child mortality and morbidity, according to the 2021-2025 national RH policy (FMoH, 2021b). Unfortunately, in low and middle income countries male dominate in matters that affect the women sexual and reproductive health services use decision making (Dereje et al., 2015; Mosha et al., 2013; Nigatu, Gebremariam, Abera, Setegn, & Deribe, 2014). Hence, Measuring and improving women alone decision making on family planning use and identifying associated factors could greatly help to improve maternal and newborn. To achieve such a goal farther understanding the level and underlying factors associated with decisions to family planning utilization more research is required.

Over the last decade, a handful of studies have tried to measure the effect of women decision making on family planning method use and identify factors affecting it. The level of family planning use decision making (FPDM) ranges from 21.6% to 80% ((B. Alemayehu et al., 2020; Belay et al., 2016; Bogale et al., 2011; Dadi et al., 2020; Demissie, Akalu, Gelagay, Alemnew, & Yeshaw, 2022; Eshete & Adissu, 2017; Guracho et al., 2022; Mare et al., 2022). These studies conducted on family planning use decision making are either on small geographic area (B. Alemayehu et al., 2020; Belay et al., 2016; Bogale et al., 2011; Dadi et al., 2020; Demissie et al., 2022; Eshete & Adissu, 2017; Guracho et al., 2022; Mare et al., 2022) or , measurement inconsistencies: some studies use a single question (Demissie et al., 2022; Mare et al., 2022) while others attempted to create composite variable (B. Alemayehu et al., 2020; Belay et al., 2016; Bogale et al., 2011; Dadi et al., 2020; Eshete & Adissu, 2017; Hinson, Edmeades, Murithi, & Puri, 2019). However, this study used the single approach to be consistent with family planning use decision making measurement used by demographic and health surveys and this study also use a nationally representative robust data.

Those studies showed that respondent age, educational status wealth/economic status, respondent-husband age difference, women attitude towards family planning, women knowledge on family planning methods, marriage duration, age at first marriage, subjective

norm are factors contributing for this variation (B. Alemayehu et al., 2020; Bogale et al., 2011; Dadi et al., 2020; Eshete & Adissu, 2017; Mare et al., 2022).

However, factors were not explicitly explored even these handful studies measure limited and different set variables which merely restricted to sociodemographic/economic, husband characteristics related with fertility preference alone and women related characteristics which are only knowledge and attitude related variables. This study includes additional variables: individual and community level variables including health facility related variables and rarely measured variables such as violence and side effect. Apart from the individual women characteristics, the role of husband attitude/support on family planning use and group level variables irreplaceable (Bogale et al., 2011; Dereje et al., 2015; Kane et al., 2016; Mosha et al., 2013). Hence, women related characteristics such as perceived control; and perceived subjective norm towards family planning use; husband related characteristics related with family planning used and pregnancy, physical and/or sexual violence were included in these study. Moreover, group level variables such as derived: Enumeration area level wealth, proportion of women with secondary education and integral group level variables such distance from the catchment's health facilities and type of nearby facility were measured using the SDP data. Moreover, this was guided by theory of planned behaviours (TPB), no single study employed.

Therefore, this study aimed to determine the level of independent decision making on current family planning use and identifying factors associated with it by using theory of planned behavior (TPB). Documenting the proportion and identifying the factors affecting family planning use decision making helps towards the achievement of the SDG indicator 5.6.1, national CPR improvement and enhancement of women empowerment on sexual and reproductive health services use in general and family planning use in particular by providing actionable evidence for government and partner actors.

1.3 Objective of the Study

1.3.1 General Objective

To determine the level of women decision making on family planning utilization and identify associated factors among married/living with partner women using: PMA-Ethiopia 2020 cross-sectional data.

1.3.2 Specific Objective

- To determine the level of women decision making on family planning utilization among married/ living with partner women using: PMA-Ethiopia 2020 cross-sectional data.
- To assess the overall trend of family planning decision making based on the data available using PMA Ethiopia cross-sectional data, From 2014 to 2020.
- To identify factors associated with women decision making on family planning utilization among married/ living with partner women using: PMA-Ethiopia 2020 cross-sectional data.

1.4 Significance of the study

This study will provide magnitude of women alone and joint family planning use decision making at national level which is the indicator of the SDG target 5.6 (UNFPA, Volume I, 2019). It also helps to identify factors influencing family planning decision making in more in-depth.

It will serve as an input for policy makers, program managers and relevant stakeholders who are working to improve Reproductive Health service provision on the level of family planning decision making thereby enabling them to improve decision making ability family planning use in particular and reproductive and sexual service decision making in general.

In addition to providing evidence on the status of family planning decision making, this paper provides actionable evidence for MOH program managers on the ways how to improve family planning decision making. It also provides intervenable evidence on amenable factors which are hoped to improve women alone and joint family planning use decision making.

For health care service providers, help to understand their influence on family planning use decision making among women. It will add value also in the existing evidence in the area of family planning use decision given its based uses a robust nationally representative data.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Conceptual literature

Fertility is higher and contraceptive use are much lower in Sub-Saharan Africa than elsewhere in the developing world. In all developing nations, women are not equal to men in legal, social, and economic rights. Gender inequalities are abundant in access to and control of resources including inequalities in economic opportunity, political power and decision making (Shalizi, 2003).

Family planning decision making is one aspect of women's reproductive empowerment and women's empowerment is a complex concept for which numerous meanings exist. International Center for Research on Women describe empowerment as “the ability to assert one's opinions, desires and interests in ways that shape discussions and decisions, to make and influence decisions, and to challenge and change individual and community circumstances”(Edmeades, Mejia, Parsons, & Sebany, 2018) and another definition consider reproductive empowerment as “the expansion of choice and strengthening of voice through the transformation of power relations so women and girls have more control over their lives and futures”(Eerdewijk et al., 2017).

Family planning decision making, as one elements of reproductive empowerment, it is the capacity for purposive action, the ability to pursue goals, express voice and influence and make decisions free from violence and retribution (Eerdewijk et al., 2017). And (Russo & Schoemaker, 2015) define decision-making as “the process of making choices by identifying a decision, gathering information, and assessing alternative resolutions, along with participation”.

The concept of decision-making can be categorized in three main ideas, thus, decision making as a right, as a choice and as a process (Darteh, Dickson, & Doku, 2019) and it has been acknowledged in many studies as a reliable indicator of women reproductive empowerment. The capacity of a woman to make a choice about her current or most recent family planning utilization can be defined as her ability to make a decision freely alone or with her partner (Eshete & Adissu, 2017).

2.2 Theories on Family Planning Decision-making

In all developing countries, women are not equal to men in legal, social, and economic rights. Gender inequalities are pervasive in access to and control of resources including inequalities in economic opportunities, political power and decision making (Shalizi, 2003).

Several explanations including the theory of Subjective Expected Utility (SEU) which, has been proposed as a relevant framework for understanding how people make contraceptive decisions and usage. SEU theory implies that people pick one action among a potential set of actions on the basis of their values (perceived costs and benefits) of the possible outcomes of each action. The SEU corresponding to a specific action (e.g., using contraception or not using contraception) is the weighted sum of the values assigned to that action's various outcomes (e.g., getting pregnant or not getting pregnant), where the weights represent the perceived likelihood of each outcome. A rational decision maker chooses the action with the greatest whether to perform a health behavior. The model is suited for complicated prevention SEU value compared to alternative actions (Weisman et al., 1991)

The Health Believe Model (HBM) is a cognitive, interpersonal paradigm that considers individuals as rational creatures that employ a multifaceted approach to decision making and sick-role health behaviors such as contraceptive behavior (Hall, 2012; Katatsky, 1974). Its dimensions are developed from an established corpus of social psychology theory that focuses significantly on cognitive factors directed toward goal achievement. Its constructs emphasize adjustable factors, rather than fixed variables, which allow feasible actions to address public health issues (Rosenstock, 1974)

Successful family planning needs navigation through a complicated series of decisions that are under the impact of sexuality, personal objectives and values, and family and societal expectations. The theory of planned behavior was established to explain the positive and negative consequences of these influences on behavioral intentions. In this approach, three primary domains functions a person's intention to perform a behavior: (a) beliefs and attitudes that performing the behavior will lead to the desired outcome, (b) the influence of major referents who contribute to subjective norms related to the behavior and (c) perception of the ease or difficulty of performing the behavior of interest. (Ajzen, 1991; Kane et al., 2016). Each of the domains outlined impacts on women's decisions to use contraception. Using the theory of planned behavior (TPB) as a guiding conceptual model, the conceptual framework for this

study was constructed which shows the direct and indirect interrelationships that exists between the outcome measurement and the predictors. It was selected for one thing it is one of the better behavioral models which has important constructs pertinent in assessing the research question at hand. Secondly, constructs of this model can be easily derived from variables available in secondary data used in this study.

2.3 Empirical review

2.3.1 Decision-making Level

A study in 47 countries found that only 56 percent of married women using contraception are empowered to make their own decisions on sexual and reproductive health (UNFPA & Hera, 2019). A community-based cross-sectional study which was conducted among married reproductive age women in northwest Ethiopia in 2018 revealed that the decision-making power in family planning level 80% (B. Alemayehu et al., 2020). Similar study conducted in southern Ethiopia 67.2 % of the married women were found to be more autonomous to decide family planning use (Belay et al., 2016). Furthermore studies conducted in southeast, south, Ethiopia showed that the proportion of women who have a decision-making power on modern family planning use ranges from 41% - 67% (Bogale et al., 2011; Dadi et al., 2020; Eshete & Adissu, 2017; Tadele et al., 2019). While another similar study in urban and rural areas in southern Ethiopia showed that urban women are more likely to decide on modern contraceptive than rural women (64%) and (43.1%) respectively (Bogale et al., 2011). A studies on EDHS (Edossa, Debela, & Mizana, 2020; Mare et al., 2022) showed that 21.6 % and 24.3% respectively of women decided by themselves their family planning use and a similar study in Norwest Ethiopian showed the overall level of married women family planning use decision making was 71.0% (Guracho et al., 2022)

The varying level of decision making needs to be consistent which call up clear policy and strategy on improving family planning use decision making in particular and maternal and reproductive health service use decision making in general there by helping the country to achieve the women empowerment in reproductive health care use decision making goal embedded the sustainable development goal.

On the contrary, the above review on the magnitude of family planning use decision making need to be interpreted with the inherent variability in outcome variable measurement based on the empirical evidence available. Hence, stakeholders (policy makers and researchers) need to exert effort in having consistent and reproducible measurement tool.

2.3.2 Factors affecting Family planning use decision making

2.3.2.1 Socio-Demographic and Economic Characteristics

A study conducted in Dinsho woreda (Dadi et al., 2020) showed that younger women tend to have higher odds of decision on family planning use while a study in Mizan Aman town (Belay et al., 2016) showed that older women aged 35 to 44 have lower odds of family planning decision making. Additional three studies conducted in low and middle income countries (Hameed et al., 2014; Sougou et al., 2020) and Ethiopia (Mare et al., 2022) showed that the odds of family planning discission making increased with increasing age.

A study conducted in Gedio Zone showed that women less than four years age difference between the respondent and her husband and/or partner have higher o odds of family planning decision making (Eshete & Adissu, 2017).

Evidence also showed that women educational status was found to improve women family planning decision making. A study conducted in Gedio Zone showed that women who attended secondary education and above have higher odds of family planning use decision making (Eshete & Adissu, 2017).

A study in Mizan Aman town (Belay et al., 2016) showed that older and educated women tend to have higher odds of family planning decision making. Additional three studies conducted in low and middle income countries (Hameed et al., 2014; Sougou et al., 2020) and in Metu district (Tadele et al., 2019), Ethiopia showed that the odds of family planning discission making increased was found to be higher among educated women.

Studies conducted in Basoliben Woreda (B. Alemayehu et al., 2020) and Mizan Aman Town (Belay et al., 2016), in Ethiopia (Mare et al., 2022) showed that women who have with average monthly ranging 700 to 1500 ETB and those who reside in the well to do households were found to have higher odds of family planning decision making. Two studies from developing counties showed well to do women have higher odds of family planning use decision making (Hameed et al., 2014; Sougou et al., 2020)

Studies showed that rural women had lower tendency to discuss family planning issue (Edossa et al., 2020; Kane et al., 2016; Mosha et al., 2013) and have lower odds of family planning use decision making (Mare et al., 2022; Sougou et al., 2020).

One study in Ethiopia (Mare et al., 2022) and another study in south Africa (Osuafor, Maputle, & Ayiga, 2018) showed religion has an influence in family planning decision making particularly Methodist, Pentecostal, Seventh Day Adventist (SDA), followers have lower odds of family planning use decision making.

2.3.2.2 Fertility desire and reproductive health characteristics

Study conducted in Basoliben District, Amhara region found that, desired number of children by a household, desired time for additional child by a household and know any contraceptive method were found to be positively associated with decision-making power on family planning use among married reproductive-aged women (B. Alemayehu et al., 2020).

Parity was not found significant in a studies conducted in Mizan Aman (Belay et al., 2016) and national level study using EDHS data (Mare et al., 2022). A community based study conducted in Gedio zone showed that women with more two children had lower odds of joint family planning use decision making in urban areas while this odds was higher in rural areas (Eshete & Adissu, 2017). Another study on married women decision making autonomy in household, maternal and neonatal health care utilization in northern Ethiopia showed that parity was not found significant (Kebede AA, 2021).

Similar studies showed that (Hameed et al., 2014; Oyediran, Isiugo-Abanihe, & Bankole, 2006) number of children affects family planning use decision making , some of which are qualitative (Dereje, 2018; Dereje et al., 2015) include that the number of children is one of the factors affecting family planning use decision making. Evidences showed that Future fertility desire is one of the factors that contribute for family planning use decision making (Dereje, 2018; Dereje et al., 2015).

A study showed couples who had a history of child death were less likely to be current contraception users than couples who had no history of child death. Except literacy, women's autonomy variables were not found to have a significant effect on couples' contraception use (Amaha Haile & Fikre Enqueselassie, 2006).

Empirical evidences showed that reproductive characteristics such as number of children by the time women first used family planning method; respondent reaction if she get pregnant now, age at first marriage, marriage type and history were found to associated with family planning use decision making. However, it has to be noted that such variables were not

thoroughly and consistently investigated by studies conducted on women family planning use decision making so far.

Age at first marriage was found one factor affecting family planning method use (Abebe Gizaw & Nigatu Regassa, 2011; Addis Ababa University & JHU, 2022; M. Alemayehu et al., 2016) which in turn affects family planning use decision making.

Studies (Adane, Bekele, Melese, Worku, & Netsere, 2020; Addis Ababa University & JHU, 2022) showed that age at first sex was significant factor for women family planning use which by implication affects their decision to use. Marriage type and Marriage history were found to affect family planning use decision (Mare et al., 2022).

age at first family planning method use and number of children at first use were found to affecting family planning use and decision making to use family planning use (Adane et al., 2020; Addis Ababa University & JHU, 2022).

2.3.2.3. Contraceptive use related characteristics

Studies conducted on married women family planning use decision making in Ethiopia namely, Basoliben Woreda, Dawuro Zone Dinsho Woreda and Metu District showed that women who had good knowledge on Family planning methods have higher odds of family planning decision making (B. Alemayehu et al., 2020; Bogale et al., 2011; Dadi et al., 2020; Tadele et al., 2019). Another study conducted in Gedio Zone showed that knowledgeable women had higher odds of family planning use decision making in urban setting while lower odds in rural areas (Eshete & Adissu, 2017). A similar study on married women decision making autonomy in household, maternal and neonatal health care utilization in northern Ethiopia showed that knowledgeable women had higher odds of maternal and neonatal health service use decision making (Kebede et al., 2021). Qualitative studies in rural Ethiopian, South Sudan and Tanzania showed that knowledge on family planning plays an important role in family planning use decision making (Dereje et al., 2015; Kane et al., 2016; Mosha et al., 2013). Similar studies also showed men knowledge on family planning methods exert a positive influence on women's family planning use decision (Dereje et al., 2015; Kane et al., 2016; Mosha et al., 2013).

Qualitative studies (Dereje, 2018; Dereje et al., 2015; *Eshete & Adissu, 2017*; Kane et al., 2016; Mosha et al., 2013) showed that fearing side effect and cost to cover after experiencing side effect related with family planning method use were found to be the major concern of women, their husbands and community members to decide on family planning use.

2.3.2.3 Husband related characteristics

A study conducted in Gedio Zone showed that women who did not discuss family planning methods they used with their husbands have lower odds of family planning use decision making in both urban and rural areas (Eshete & Adissu, 2017). Evidence from qualitative studies (Dereje, 2018; Dereje et al., 2015; Kane et al., 2016; Karp et al., 2020; Mosha et al., 2013) showed that husband and/or partner has greater influence on women family planning method use decision in terms of his approval and his knowledge towards his wife family planning methods used. His influence is extended on his desired number of children that the family have. Studies showed that Sexual and/or physical violence (Do & Kurimoto, 2012; Mare et al., 2022; Yaya, Uthman, Ekholuenetale, & Bishwajit, 2018) is another factor that influence family planning use decision making. A study conducted in Nigeria also showed that married women experiencing physical intimate partner violence (IPV) were more likely than others to use family planning without informing to their husbands (Silverman, Challa, Boyce, Averbach, & Raj, 2020).

An unmatched case-control study on influence of women's autonomy on couple's contraceptive use which was conducted in Jimma town from January to February 2005 showed that fertility and husbands involvement variables were the most important determinants for couple's contraception use and couples who openly discuss about family planning and wives who perceive that their husbands approve of family planning were more likely to be current contraception users than their counterparts (Amaha Haile & Fikre Enqueselassie, 2006).

2.3.2.4 Socio-psychological characteristics (TPB constructs)

Attitude

Qualitative studies from South Sudan and Tanzania showed that women's attitude on family planning contribute for family planning use decision making among women of reproductive age (Kane et al., 2016; Mosha et al., 2013). Studies study conducted in Gedio Zone, rural Dawuro Zone and rural Ethiopian showed that women having a positive attitude towards contraceptive methods have higher odds of family planning use decision making in both urban and rural areas (Bogale et al., 2011; Dereje et al., 2015; Eshete & Adissu, 2017; Schuler, E. Rottach, & Peninah, 2009)

Subjective Norm

Subjective norm meaning women perception how society members feel if they used family planning is found to pose an influence on women family planning use decision making. (Basu, 1992; Beaujoin et al., 2021; Dereje et al., 2015; Kane et al., 2016; Karp et al., 2020; Mosha et al., 2013). Participant of women in the conducted Tanzania associated family planning use and decision making with social risks such being labeled as unfaithful and as promiscuous (Mosha et al., 2013). The study conducted in rural Ethiopian subjective norm affects women family planning use decision making through the influence of relatives and neighbors influence on childbearing and family size (Dereje, 2018). A similar qualitative study on social norm and family planning decisions which was conducted in Sudan showed that participants action on family planning use decision making is markedly influenced by important others around them (Kane et al., 2016).

Perceived Control

Qualitative studies (*Bogale et al., 2011*; Dereje et al., 2015; Kane et al., 2016; Karp et al., 2020; Mosha et al., 2013) have shown that women perceived ability on family planning use played an important role for family planning use decision making. These studies indicate that women's ability (trust and belief on herself) to be able to use the family planning method she desired to is very low or minimal, given husband and/or partner dominate on decision making pertaining to her family use.

2.3.2.5 Physical access and proximity to Health facility

A cross sectional study (Mihiretu Alemayehu, 2017) showed time taken to reach to health facility as proxy of distance to health facility as one of the factors affecting women autonomy in health care use decision making though not significant. A cross-sectional study, conducted in 2005 in California revealed that among older youth a significant inverse relationship emerged between number of family planning clinics (FPCs) within a 1-mile radius and initiating sexual intercourse. But access to FPCs was not associated with condom use (Bersamin, Todd, & Remer, 2011). Another secondary source study conducted in the rural Ethiopia finds percentage of rural married women who use modern contraceptives decreased as distance from the nearest SDP increased; 41.2%, 27.5%, 22.0%, and 22.6% of women living less than 2 kilometers, 2 to 3.9kilometers, 4 to 5.9 kilometers and 6 or more kilometers, respectively and also additionally, women who live close to facilities that offer a wider range of contraceptive methods were

significantly more likely to use modern contraceptives (Ettarh & Kyobutungi, 2012; Shiferaw et al., 2017).

In summary, evidences showed that women decision on family use is influencing by multiplicity of factors related with individual women characteristics, husband characteristics, influence of significant others such as community and facility related factors. Individual women characteristics (both sociodemographic and parity and fertility preference), women knowledge on family planning methods, women attitude towards family planning use, women ability to use the desired method (women perceived control on ability to use family planning) were factor affecting family planning use decision making (B. Alemayehu et al., 2020; Belay et al., 2016; Bogale et al., 2011; Dadi et al., 2020; Tadele et al., 2019). In addition, husband characteristics such attitude on family planning use and discussion on family planning use and subjective norm exert substantial influence on women decision making on family planning use. Health facility level factors such as the average distance from the catchments` s primary level facilities and quality of family planning services are also incriminated as factors that influences women decision making power (B. Alemayehu et al., 2020; Belay et al., 2016; Bogale et al., 2011; Dadi et al., 2020; Kane et al., 2016; Mosha et al., 2013; Tadele et al., 2019). Method stock out was found another facility factor which influence family planning use decision making (Shiferaw et al., 2017).

Some address only women level characteristics while others include the role of significant others on family planning use. The result is not consistent in that some studies found actors to be significant while same factors were not fund significant in some other studies (Bogale et al., 2011; Dadi et al., 2020; Mare et al., 2022; Tadele et al., 2019).

2.4 Conceptual Framework

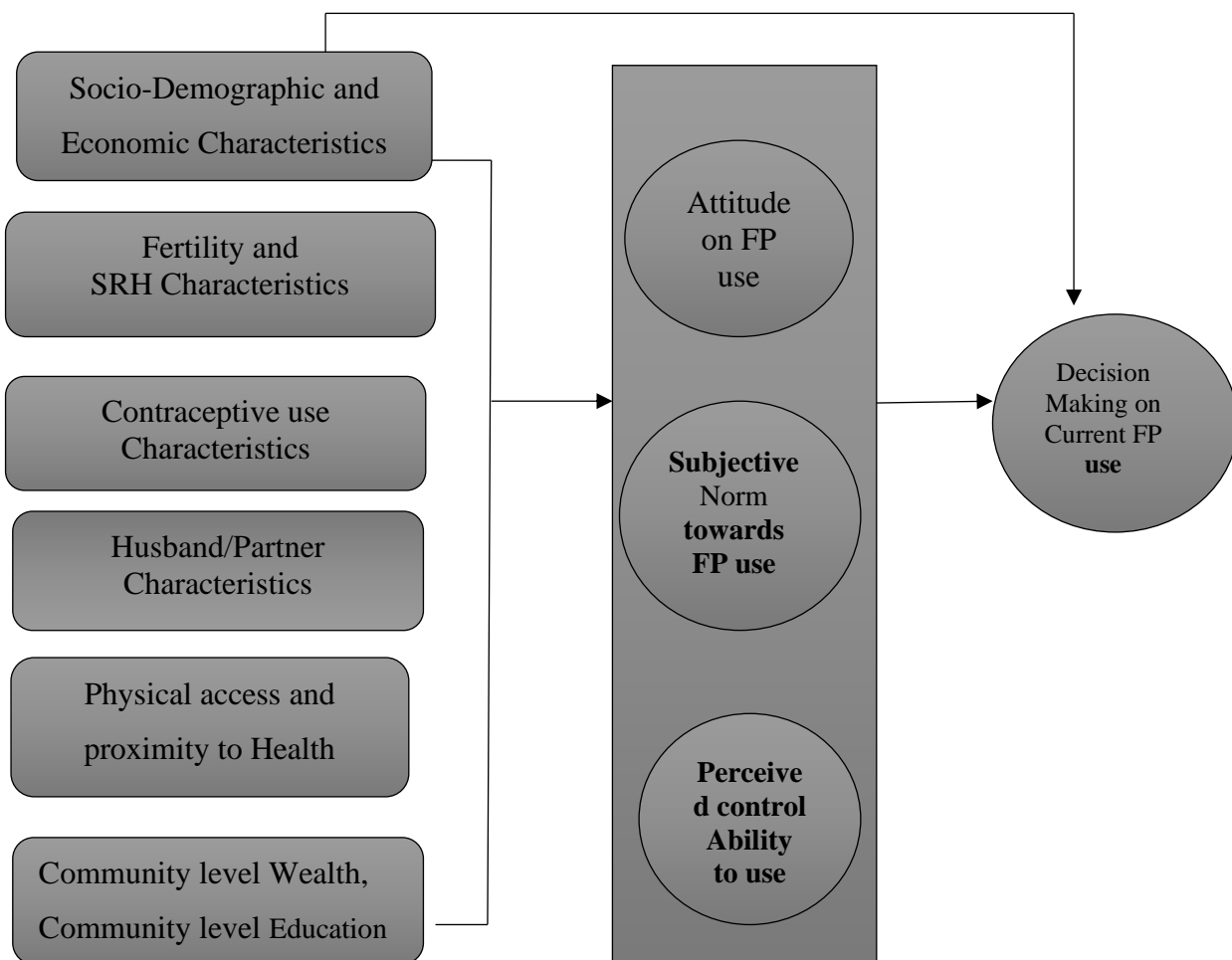


Figure 1. Adapted planned behavior theory (Ajzen, 1991).

The conceptual framework above shows the relationship between family planning use decision making and factors affecting it based on the theory of planned behaviors. Factors affecting family planning use decision making are categorized into the following components: sociodemographic/economic, fertility and SRH, contraceptive use; physical access and proximity to health facility, husband/partner characteristic. The theory of planned behavior components to adopt a certain health behavior include attitude towards family planning use, perceived subjective norm, and women perceived control towards family planning use. The external variables have relationships with each other, such as sociodemographic variables, other categories such as contraceptive use characteristics; parity and fertility etc., which in turn influence the internal categories, components of the theory of planned behavior. This study, however, considers each category of variables as factors in family planning use decision making and confounder variables for at least one of the variables in the external and internal categories.

CHAPTER THREE

METHODS

The methods, design, and techniques employed to carry out the research are the main topics of this chapter. The methods used to prepare the data for analysis and the models that were used are outlined. The methodology for data analysis is also discussed in this chapter, along with the operational definitions of the independent and dependent variables.

3.1 Study Design and approach

This study used cross-sectional data from Performance Monitoring for Action Ethiopia (PMA Ethiopia) 2020 cross-sectional. The hypothesis is tested in this study using a quantitative research methodology by assessing the association between the independent and dependent variables.

3.2 Source and Study Population

3.2.1 Source Population

The source population for this study were women of reproductive age groups who are married and/or cohabited and completed the female respondent questionnaire.

3.2.2 Study Population

The study population for this study was restricted to women who are currently using and/or recently (in the last two years) used modern family planning methods which can be provided and currently married women and/or women living with a partner.

3.3 Study Methods

3.3.1 Sample size and Selection Techniques

A representative sample survey Performance Monitoring for Action (PMA-Ethiopia 2020) was used to provide nationally level reports.

All women between the ages of 15 and 49 who reside in the chosen households were included in the PMA-Ethiopia survey. A two stage stratified cluster sampling method used to select enumeration areas. Complete census was conducted in the selected enumeration areas followed by selection of 35 households per enumeration area using simple random sampling. All reproductive age women were interviewed after the household survey. The PMA-Ethiopia survey offers important data that may be used to track health developments in crucial areas of Ethiopian health system, such as mother and child health including family planning use and decision making, sexual violence, education, service delivery information on family planning

service provision and other relevant newborn, maternal and child health data. Six-round survey as PMA 2020 since 2014 was carried out in Ethiopia, followed by expanded cross sectional and panel survey since 2019. It was executed by Addis Ababa University's School of Public Health in collaborative efforts with the Ethiopian Public Health Association with assistance from the Federal Ministry of Health, Central Statistical Agency, The Foreign, Commonwealth & Development Office (FCDO) (formerly DFID), Bill & Melinda Gates Institute for Population and Reproductive Health (Johns Hopkins Bloomberg School of Public Health), JHSPH, Marie Stopes International Ethiopia Office (MSI Ethiopia), and the source of funding is from FCDO and the Bill & Melinda Gates Foundation.

The main sample units or enumeration areas (EAs) were chosen using the frame to Ethiopia Population and Housing Census (PHC), which was performed in 2019 by the Ethiopia Central Statistical Agency. As a result, the sample data is neither uniform or randomly distributed, and observations are chosen using a process other than simple random sampling., sometimes referred as complex survey sampling, entails a variety of selection probabilities at multiple stages. The likelihood of selection has an inverse relationship with each person's weight. Instead of using a simple random sample weight, estimate uses sampling weights that are included with the survey data. A total of 213 EAs were chosen in the first stage, with independent selection in each sample stratum and a probability proportional to EA size.

Using a random number generator software, 35 HHs per cluster were chosen at random from the freshly generated household listing in the second round of selection. All females between the ages of 15 and 49 who were either long-term residents of the chosen HH or guests who slept there the night before the survey were eligible to participate in the interview. The protocol of PMA Ethiopia (Zimmerman et al., 2020) contains all the details on sample design and selection methods. The protocol of PMA Ethiopia (Zimmerman et al., 2020) contains all the details on sampling design and selection procedures.

The Service Delivery Point (SDP) survey, which covers both public and private facilities that service the designated enumeration areas (EAs) for the HH survey, is another component of the PMA Ethiopia. Following the identification of EAs, a list of all public and private health facilities—including all health posts, health centers, and primary level hospitals in associated districts—was collected from the local district health offices. Information regarding the RMNH services that private facilities provide is also gathered, despite the fact that private health facilities are still relatively uncommon in Ethiopia. The list of all private health facilities in

each kebele, the lowest level administrative unit in Ethiopia that typically contains five EAs, is examined in order to sample private health institutions. Within the kebele limits, a maximum of three private SDPs are chosen at random for an interview (Zimmerman et al., 2020).

For this research, a sample of 2302 married or cohabiting individuals between the ages of 15 and 49 who currently or recently (within two years) used family planning methods and were suitable for our analysis in light of our purpose were chosen.

Those women who were not using family planning methods currently or recently, un-married or not in a union, and traditional family planning methods users were excluded from the analysis. Thus, out of the total 7629 reproductive age women included in the PMA 2020, 4880 women who were not using contraceptives during the survey were dropped at initial step. Following the exclusion of 300 women who were not married or living together at the time of the survey, 147 women who used traditional method were also dropped, leaving an unweighted sample size of 2302 women. We used sampling weight to address the disproportionate sample allocation in the PMA, resulting in a final weighted sample size for this study of 2269 (Figure 2).

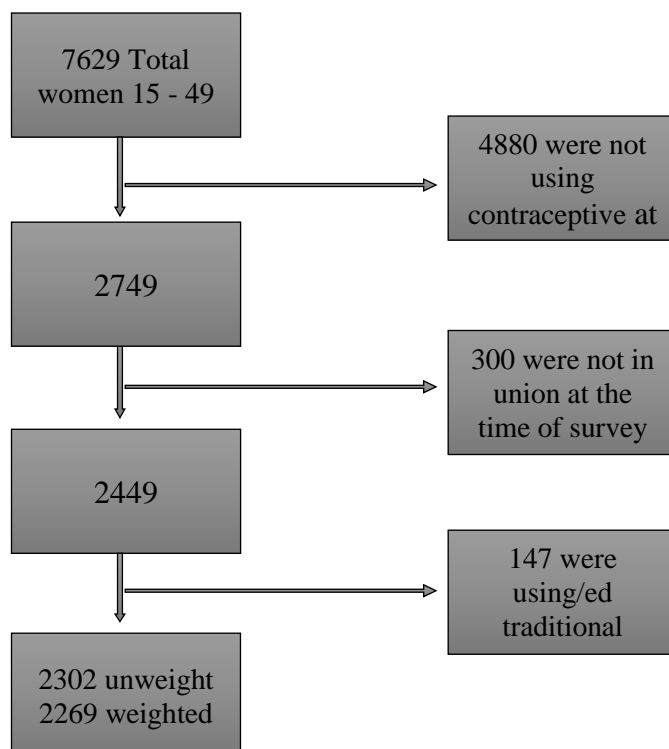


Figure 2: schematic presentation of the women included in this study using the 2020 PMA data

3.3.2 Data Collection Tool and Technique

Women's background characteristics (including age, marital status, and education), birth history, knowledge and use of contraception, experience with and perceptions of its side effects, partner contraception feeling and IPV, contraceptive decision, individual and subjective attitude toward contraception, communications with healthcare providers and facility visit were all obtained using the PMA Ethiopia Females Questionnaire. The data gathered by the household questionnaire will also be used to determine the GPS location of the households, as well as data on the characteristics of the dwelling unit, including the source of water, the type of restrooms, and other characteristics, as well as data on ownership of different durable goods that will be used to calculate the wealth index.

The service delivery point (SDP) survey questioner also will be used to obtain GPS points of the facilities and also capturing additional contraceptive provision and method availability aspects.

3.3.3 Study Variables and Operational Definitions

3.3.3.1 Dependent Variable

"Decision on the utilization of FP" were the study's outcome variable. Measuring decision on reproductive and health commodities and services' is generally challenging, since getting standard set of questions is controversial. Scholars often use various metrics since there is no one "gold standard" for evaluating women's empowerment and decision-making. Although relying on proxies, a scale combining several items, creates a more valid measure the single-question approach also allows alone for direct measurement of decision making (Nanda, 2011).

The dependent variable questioned by 'who made the final decision about what method you got?', with five response categories was dichotomized for analysis purposes into "important others = 0" (for married/cohabitated reproductive age women who reported that the decision on their FP use was made mainly by provider, partner, you and provider, and other) and "you alone = 1" (for married/cohabitated reproductive age women who reported that the decision on their contraceptive use was made only by themselves). Finally, "you and partner = 2" (for married/cohabitated reproductive age women who reported that the decision on their contraceptive use was made by respondent and her husband/partner jointly).

Table 3.1 A: Description of the dependent variable

	Variable	Question & Responses		Categories
		Item	Response	
FP Decision Making	FPDM	who made final decision current method	You alone=1	1= You alone
			Provider =2	0= Important others
			Partner =3	
			You and Provider= 4	
			Other = 96	2= You and partner
You and Partner= 5				

3.3.3.2 Independent Variable

Independent variables were classified into individual-level variables and group-level variables broadly. Individual-level independent variables further categorized into socio-demographic/economic characteristics variables, fertility and SRH characteristics variables, contraceptive use characteristics variables, husband/partner characteristics variables, socio-psychological variables.

Socio-demographic/economic related variables were respondents age, educational status, religion and wealth quantile. Parity, marriage history and type, fertility desire, feeling if got pregnant, age at first FP use, number of children at first FP use, were fertility and SRH related variables. Contraceptive knowledge, media exposure to FP, obtained desired method, informed side effect were included in contraceptive related variables whereas partner discussion before use, partner know FP method used, IPV, husband forced pregnancy, husband FP use feeling were included with husband/partner related variables. Socio-psychological variables which are constructs of TPB were include attitude, subjective norm and perceived control. Group level variables include community wealth, community education, residence, region, SDP proximity and type.

“Region” was grouped into five categories “other regions” include Afar, Somali, Benishangul, and Gambella, Harari, Dire Dawa regions = 0. The remaining regions except Tigray (b/c of the outbreak of the existing war at study period Tigray region were not included in 2020 PMA) were categorized 3= Amhara, 4=Oromia, 7= SNNPRs and 10= Addis Ababa administrative city.

“Contraceptive knowledge” was generated by sum up responses to the nine contraceptive knowledge questions and further categorizes into two groups if 1= ‘poor knowledge’ if

respondent heard of 0-4 contraceptive methods and 2= 'good knowledge' if respondents heard of 5 to 9 contraceptives.

"FP exposure to mass-to-mass media" was formed from the variables (watching tv, listening to radio, and reading the newspaper and social media about FP). As a result, women who watch TV, listen to the radio, or read on social media or newspaper about FP at least once were classified as having exposure to mass media (coded=Yes "1"), whereas those who did not do any of those things were classified as not having exposure to the media (coded=No "0").

"IPV sex physical" was obtained from 'ipv threaten stalk', 'ipv push slap punch kick', 'ipv force pressure sex' variables and further categorized as 0= 'no ipv' if the respondent didn't experience any sexual or physical violence and 1= 'at least one ipv' if the respondent experience at least one sexual or physical violence.

"Husband/Part Preg Force" variable was created by sum up three variables and categorized 0= 'not force' if none and 1= 'forced pregnancy' if whether the respondents reported that her husband/partner forced her by treated by will have a baby with other women, will leave her, and forced her to get pregnant.

Socio-psychological variables provide assessments of perceived control over FP usage, subjective norms, and attitudes generated from the TPB. These constructs are evaluated using respondents' responses on a five point Likert scale, where 1 mark "strongly agree" and 5 marks "strongly disagree," in response to various items. As a result of the reversal of these response scales, greater scores now correspond to increased observed pressure. Attitude is constructed by five Likert scale variables, 'fp aut seek partner', 'fp aut trouble prg', 'fp aut could conflict', 'fp aut abnormal birth', 'fp aut side effects disrupt' and sum up and categorize 0= 'non favorable attitude' if below mean and 1= 'favorable attitude' if above mean. Subjective norm also constructed by summing four variables and categorized 0= 'low subjective nom' if above mean and 1= 'high subjective nom' if below mean. Four variables summed up to construct Perceived control which is categorized to 0='not able to decide' if below mean and 1= 'able to decide' if above mean. See appendix I for the detailed independent variables categorizations and coding.

3.4 Analysis

Four data sets, namely, household, female respondent, service delivery point and GPS coordinate data sets were used for this study. Before the actual analysis the combined household and female data set was merged with the service delivery point (SDP) data.

Stata v16 was used for this analysis. Frequencies and percentages were computed to characterize the study population. Cross tabulations, chi-square test statistics was computed to see the overall association of the independent variables with the three categories of women decision making.

Frequency was run for every variable to check item non response rate and don't know response which were later excluded from the analysis. Following these variables were recode to create biological plausible categories. This is followed by checking distribution of the variable using mean and proportion whenever appropriate categories were merged to make cell sample size adequacy. Composite variable was created for variable such the three components of TPB, family planning methods provide, knowledge on family planning methods etc. (See appendix I). The nearest service delivery points/type that served the respective enumerations areas (EA) was identified by using the household and service delivery point GPS coordinates.

Multicollinearity was checked and no sign of multicollinearity was detected except two EA level and HH level wealth index variables. The correlation coefficient for these two variables was 0.8602, hence EA level wealth excluded from the analysis.

Moreover we have tried to check the consistency of constructs for the main predictors of TBA, namely, women attitude, perceive subjective norm and women perceived control and acceptable Cronbach alpha value, ranging from 0.6 to 0.7.

Multinomial logistics regression was used to identify important predictors of women alone and joint family planning use decision making. At bivariate analysis a p value cut of 0.25 was used to select candidate variable for multinomial multivariable logistics regression analysis (David W. Hosmer & Stanley Lemshow, 2000). Results were presented in the form of percentage, chi square value and relative risk ratio with 95% CI. Significance was declared at a significance level of 0.05. Except the chi square analysis all analysis were based weighted count. `Svyset` command with `weight`, primary sampling using and stratification the considered the survey sample design.

Four models were run; sociodemographic variable and contraceptive related characteristics were entered in the first model; party and fertility and husband related characteristics were entered in the second and third models respectively. Theory of planned behavior related characteristics were entered in the fourth and final model. Model fitness test was checked using the command «mlogitgof» and the result shown that the model is fit meaning that variables included in the final multilevel multinomial logistics regression model explains for the variation in the women decision making on her family planning use. This supported by the model fitness test result; p value = 0.969 with a chi-square statistics of 7.119.

ArcGIS software version 10.4 was also used to visualize the distribution of facilities well as the proximity of households by region and cluster. Note that the geospatial distribution does not show data from Tigray.

3.5 Data Quality Management and Control

In PMA Ethiopia survey, data were collected by well experienced PMA field staff, resident enumerators workers using smart phones Open Data Kit (ODK) system using by real time data generation and timely feedback and also questionnaires appeared in three local languages (Amharic, Afan Oromo, and Tigrigna). Weekly error progress report and response, Close follow up during listing, householder and female questioner data collection. 10% reinterview and random checkups by supervisors conducted. Data was checked for completeness and consistency for all completed questioners, those with complete response were considered for analysis.

Even though PMA Ethiopia data have been cleaned in order to ensure its appropriateness for analysis, data Cleaning and quality before conducting different analyses techniques was employed in this study to exclude the missing values in each variables.

3.6 Ethical Consideration

This study involved a secondary analysis of anonymized data from the PMA Ethiopia. The PMA Ethiopia survey was conducted strictly under the Ethical rules and regulations of world health organization and IIRB of Ethiopian Health and Nutrition Research Institute (EHNRI) and the College of Health Sciences at Addis Ababa University. Informed consent was obtained from respondents during the data collection process of PMA Ethiopia. The researcher was also obtained formal approval to use the data from Addis Ababa university school of public health.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

The three different forms of analysis that were carried out are described in this chapter. Firstly, the descriptive results and are presented; secondly, the result on association of family planning use decision making with independent predictors was presented. Finally, the results from the bivariate and multivariate multinomial logistic regression analysis performed to see the association between family planning decision making and other important variables.

4.1 Descriptive analysis of variables

The Frequency distributions and percentages were used to show the distribution of family planning decision making according to the various categories of the study variables. The frequencies give the first-hand picture of preliminary findings of the study. All explanatory variables are divided into six related characteristics based on the conceptual framework: (i) Socio-demographic and economic characteristics (ii) Fertility and SRH characteristics (iii) Husband or partner characteristics (iv) Contraceptive use related characteristics (v) Proximity to SDP and method related characteristics (vi) socio-psychological characteristics.

A total of 2269 married/cohabitating women aged 15 to 49 who are currently or recently used family planning, provided a complete information. Tables 4.1A-F show descriptive results on the family planning use decision making and various categories explanatory variables.

Table 4.1 A: Distribution of women by socio demographic/economic characteristics, PMA 2020 (weighted, n = 2,269)

Variables	Category	Freq.	Percent
Age	15-19 years	140	6.18
	20-24 years	490	21.58
	25-29 years	590	26.01
	30-34 years	472	20.79
	35-49 years	577	25.43
Education	No Education	773	34.07
	Primary	937	41.29
	Secondary Plus	559	24.63
Residence	URBAN	716	31.56
	RURAL	1553	68.44
Regions	Other Regions	64	2.82
	Amhara	669	29.46
	Oromia	999	44.04
	SNNPR	415	18.27
	Addis Ababa	123	5.41

Variables	Category	Freq.	Percent
Religion*	Orthodox	1164	52.04
	Protestant	629	28.13
	Muslim	444	19.83
	Others*	34	1.51
wealth quintile	Lowest quintile	382	16.82
	Lower quintile	443	19.52
	Middle quintile	444	19.56
	Higher quintile	428	18.87
	Highest quintile	572	25.23

*= Catholic, WakiFeta, traditional, no religion.

The result shows that one fourth 26.01 percent of the women were aged between 25-29 where as 34.07 % out of the total women had no education, while 41.29 percent and 24.63 percent reported that they had primary and secondary or higher education respectively. It was realized that women residing in rural areas (68.44%) exceeded their urban counterparts and the majorities have 4 to 5 household members 40.5 percent. Christian orthodox was the leading religion (52.04%) followed by protestant (28.13%) whereas regarding region of residence, 41 out of 100 women were reside in Oromia region and only 16.8% of women were in the lowest quintile (table 4.1A).

Table 4.1 B: Distribution of women by parity and fertility related characteristics, PMA 2020 (weighted number, n = (2,269))

Variables	Category	Freq.	Percent
Marriage history	Only once	1970	86.84
	More than once	299	13.16
Marriage type	Monogamy	2113	93.31
	Polygamy	151	6.69
Parity	No child	220	9.69
	1 child	534	23.56
	2 Children	461	20.33
	3 children	320	14.11
	4+ children	733	32.32
Fertility Intention (n=2083)	No More Another child	598	28.7
	Intended Have Another child	1485	71.3
Feeling if got pregnant	Happy	708	34.24
	Mixed Happy	352	17.03
	Unhappy	1008	48.73
Age at first use (n=2247)	10 to 20 years	1018	45.31
	21 to 47 years	1229	54.69
Number of children at first use	No child	770	34.25
	1 to 2 children	930	41.39
	More than 3	547	24.36

As show in table 4.1B above, one third had more than four children (32.3%) whilst 9.69 percent had no child. And women who were unhappy if they got pregnant by then constitute half (48.7%) but nearly $\frac{3}{4}$ (71.3%) of women have an intention to have another child. In addition, one-third start sex in the age category 10 to 15 years while 54% start using contraceptive in the in-age group 21 to 47 years and also 34.25 percent of women had no child at the time of starting family planning use,.

Table 4.1 C: Distribution of women by knowledge on Family planning method and Side effect related characteristics, PMA 2020 (weighted number, n =(2,269)

Variables	Category	Freq.	Percent
FP Knowledge	Poor Knowledge	456	20.09
	Good Knowledge	1813	79.91
FP exposure to mass-to-mass media	No media exposure	1342	59.34
	At least one exposure	919	40.66
Fp obtained desired	No	251	11.08
	Yes	2018	88.92
Informed FP side effects (n=2068)	No	1687	74.4
	Yes	581	25.6

Table 4.1C shown 79% of the women were reported that they heard and know more than four methods, while about 60 percent had no information of family planning in the last 12 months. Women who reported that they obtained the FP method they desired and also informed about the possible side effects of this methods were 88.9% and 25.6% respectively.

Table 4.1 D: Distribution of women by husband/partner related characteristics, PMA 2020 (weighted n =2,269)

Variables	Category	Freq.	Percent
Discussion before use	No	477	21.02
	Yes	1792	78.98
Partner know FP use	No	205	9.02
	Yes	2064	90.98
Physical and/or sexual violence (IPV) (n=2239)	No IPV	2060	92
	experience At least one IPV	179	8
Husband forced pregnancy	Not Forced	2119	94.64
	Forced	120	5.36
Husband FP use Feeling	He disapproves it	446	19.66
	He is ok with it	1823	80.34

As shown in table 4.1D above 90.9% and 78.9 % of women reported that their husband and/or partner know about the family planning method they used and discussions made before use respectively. Four percent of the women reported that their husband and/or partner deny their family planning use and also 5.3 % of them forced to get pregnant. The result also showed that 8 % of women had experienced sexual and/or physical violence.

Table 4.1 E: Distribution of women by socio-psychological characteristics, PMA 2020

(weighted, n = 2,269)

Variables	Category	Freq.	Percent
Attitude	Non favorable Attitude	994	43.83
	Favorable Attituded	1275	56.17
Subjective Norm (n=2267)	Negative Subjective norm	797	35.14
	Positive Subjective norm	1470	64.86
Perceive Control	Not Able to Decide	594	26.16
	Able to Decide	1675	73.84

Table 4.1E showed that the distribution of the socio-psychological variables which include attitude, subjective norm and perceived control based on three constructs of theory of planed behavior (TBP). Women who had favorable attitude towards FP constitute 56 % whereas 43.8 % had non favorable attitude. Sixty four percent of women had positive subjective norm whereas 35.1 percent had a negative subjective norm towards family planning use. Women who have a perceived ability constitute 73.0 % while 26.1 % reported they are not able to control.

Table 4.1 F: Distribution of married women by Health facility related characteristics, PMA 2020 (weighted, n =(2,269)

Variables	Category	Freq.	Percent
Km Nearest FP_SDP	0 to 0.99km	1051	46.32
	1 to 1.99 km	596	26.26
	2km and above	622	27.42
Nearest FP SDP Type	Hospital	41	1.80
	Health center	548	24.13
	Health post	1308	57.65
	Health clinic	372	16.41

Table 4.1F showed the distribution of women to the nearest family planning provided service delivery point ad its characteristics. Almost half 46.3 % of the women located around 0 to 1 km distant from family planning providing service delivery point.

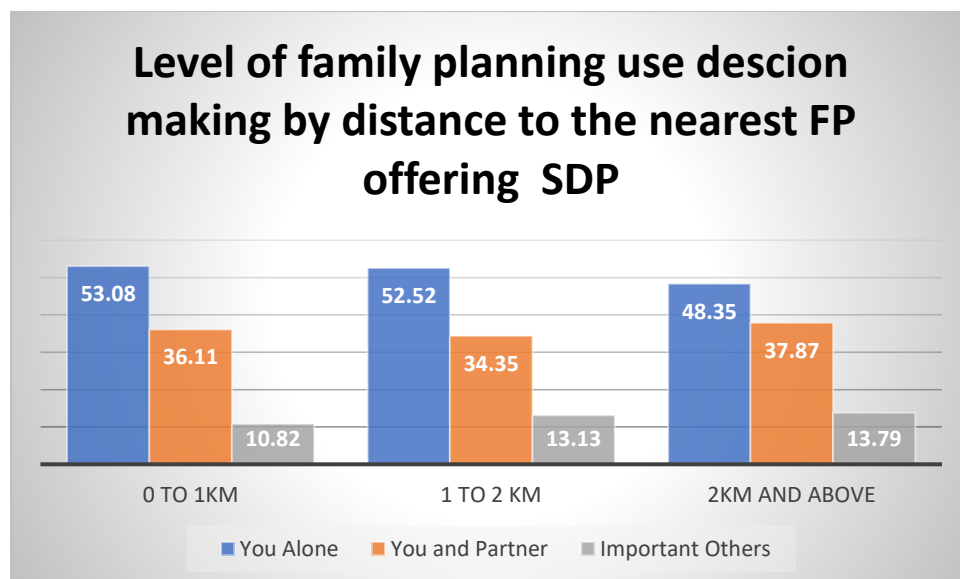


Figure 3: Family planning use decision making by the nearest family planning providing facilities

As shown above in figure 3 women nearly 50% of the women in all the three nearest family planning service delivery distance categories the family planning decision made by women alone. resided with 1 km radius from the nearest service delivery point. Fifty three 53.0%, 36.11% and 10.82% of those women reside with 1 km radius from the nearest service delivery point were women who decided by themselves, who decided jointly with their husband and/partner and whose decision is governed by important others respectively. The tabulation also showed the percentage of married women who use contraceptives and decided by themselves decreased as distance from the SDP increased: 53.08%, 52.5%, and 48.35% for women living less than 1 kilometers, 1 to 2 kilometers, and 2 and more kilometers, respectively.

4.2 Level, Trend and Special distribution of Family planning Decision making

4.2.1 Level of FPDM

Table 4.2 A: proportion of women on Family planning decision making before categorization (n=2269)

Dependent Variable	Freq. (W)	Proportion	[95%_Conf	Interval]
You alone	1162	0.512	0.488	0.536
Provider	95	0.042	0.033	0.053
Partner	59	0.026	0.020	0.034
You and provider	117	0.052	0.042	0.063
You and partner	835	0.368	0.345	0.392
Other	1	0.0005	0.0007	0.0033

Table 4.2 B: proportion of women on Family planning decision making (n=2269)

Dependent Variables	Category	Freq. (W)	Proportion
Family planning decision making (FPDM)	Important	272	0.120
	Others		
	You Alone	1162	0.512
	You and Partner	835	0.368

Table 4.2B above describes the weighted distribution of family planning use decision making. It indicates only for those woman’s who are currently married or living in cohabitation with their partner.

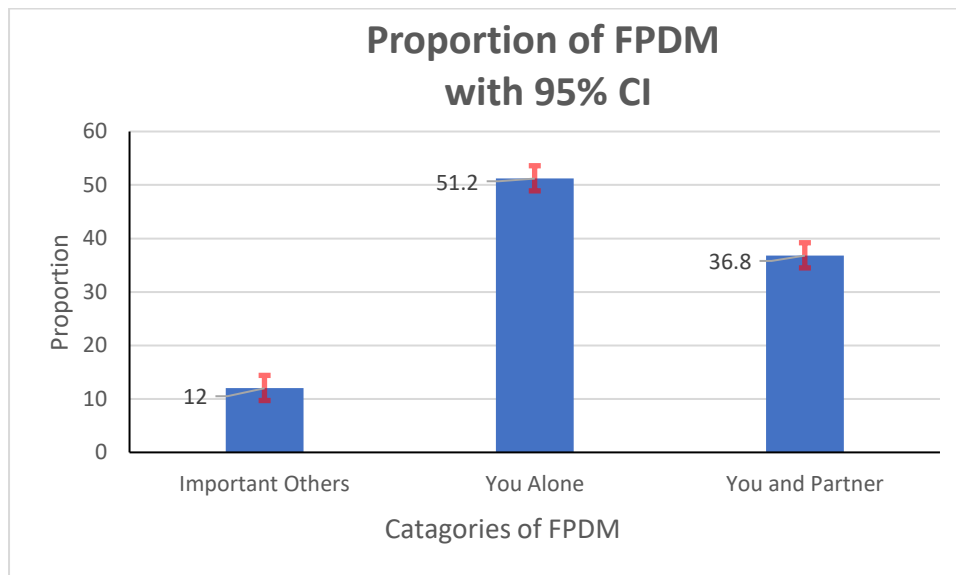


Figure 4 : Proportion of Family Planning Use Decision Making with 95% CI

Figure 4 above showed that weighted proportion of level of family planning use decision making with confidence 95% CI. Half of the women’s made decisions on family planning use by themselves alone 51.22% (95% CI; 48.8% - 53.6%), whereas joint decision making was found to be 36.8% (95% CI; 34.5% - 39.2%).

4.2.2 Trend of Family Planning Use Decision Making

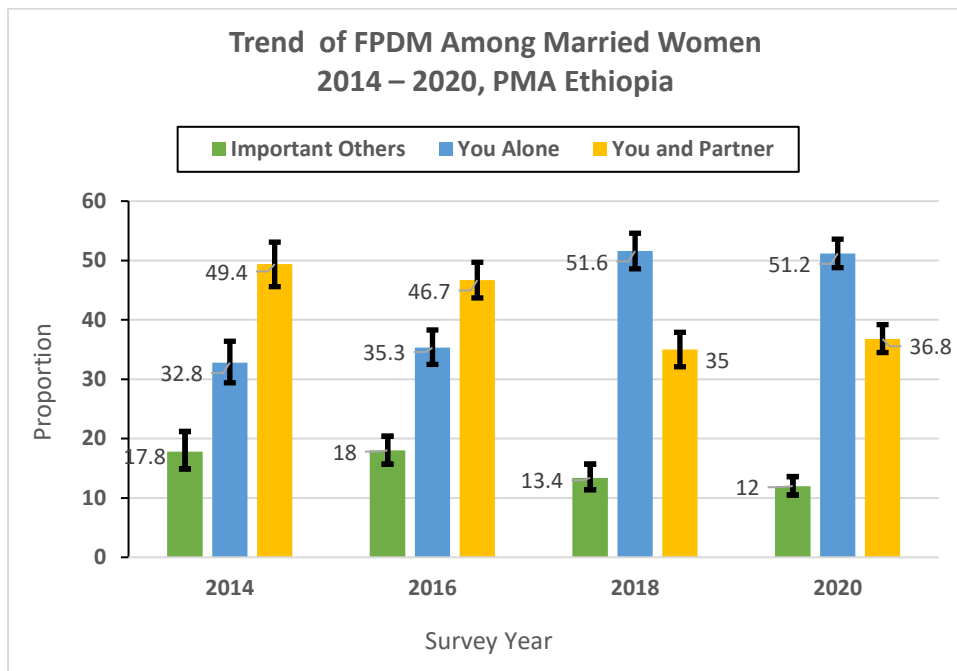


Figure 5: Trend of Family Planning Use Decision Making, 2014 - 2020

As shown in the above figure, the level of FPDM showed statistically significant change from 2014 to 2020. Accordingly, proportion of women who decided by themselves increased 32.8% (95% CI: 29.4%, 36.4%) in 2014 to 51.2% 95% CI: 48.8%, 53.6%) in 2020. Over the same period of time, joint family planning use decision making decreased from 49.4% (95% CI: 45.6%, 53.1%) to 36.8% 95% CI: 34.5%, 39.2%). Move over, the proportion of women who’s current and/or recent family planning method used was decided by important others show decreased from 17.8% (95% CI: 14.9%, 21.2%) to 12.0% 95% CI: 10.5%, 13.6%) Over the same period of time.

4.2.3 Spatial Distribution of Family Planning Use Decision Making

In Ethiopia, a substantial variation in Family planning use decision making is observed across regions. It negligible in the Ethiopian Somali and Afar. Specifically, women alone family planning use decision making ranges from 44.2% in southern nations, nationalities and peoples region to 63.6% in Amhara. As shown in Fig 6 below, there is marked variation in the level family planning decision making: proportion of married women who decide their family planning use by themselves was found 63.6% in the Amhara region followed by Addis Ababa (61.5%).

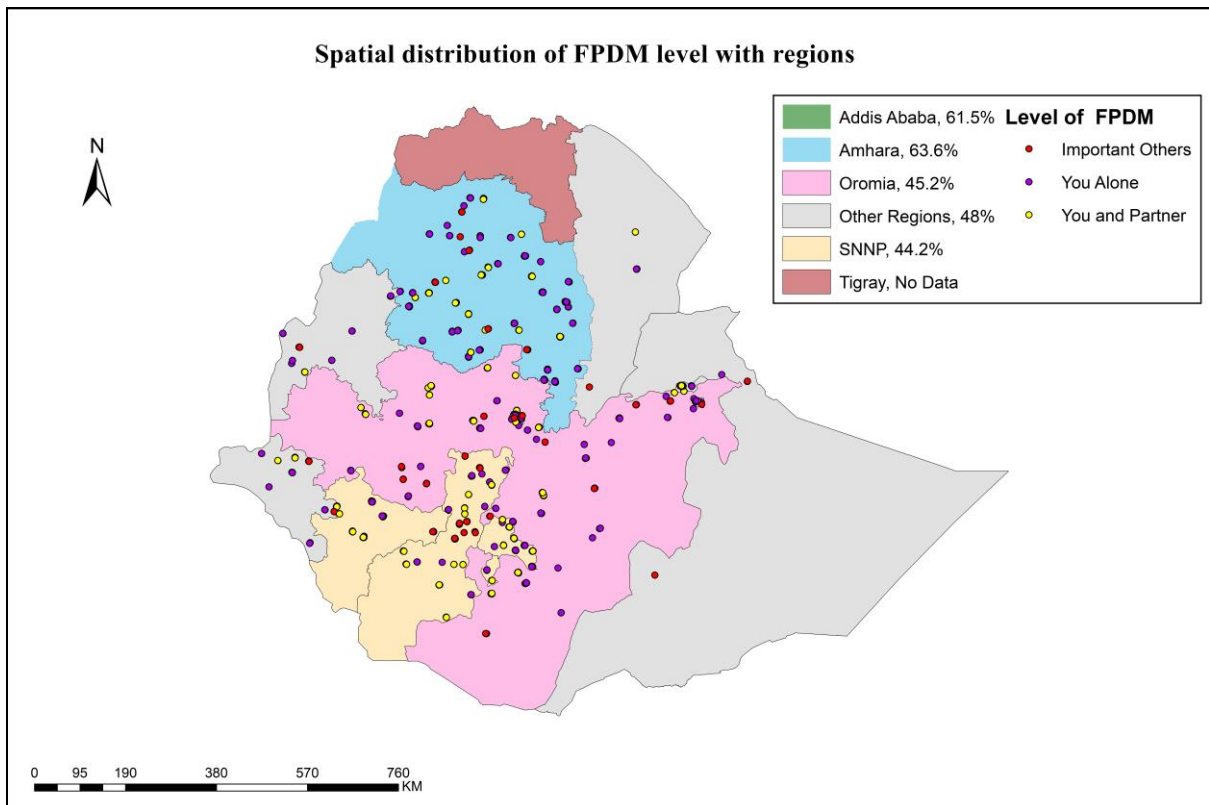


Figure 6 : Geospatial distribution of the level of FPDM by regions

Figure 7 below showed the percentage of married women family planning decision making with the nearest family planning provided service delivery type. For women whose nearest service delivery point was health center, 56.65% of them decided their family planning use by their own, while 44.8% of women whose nearest family planning service delivery was hospital decided their family planning use independently. Strikingly, women decide their family planning use jointly was found to be higher (46.73%) among women who were close to hospital. A little higher than 1/3 of women were found to decide jointly for those women who were closer to health posts (37.22%) and health clinic (37.92).

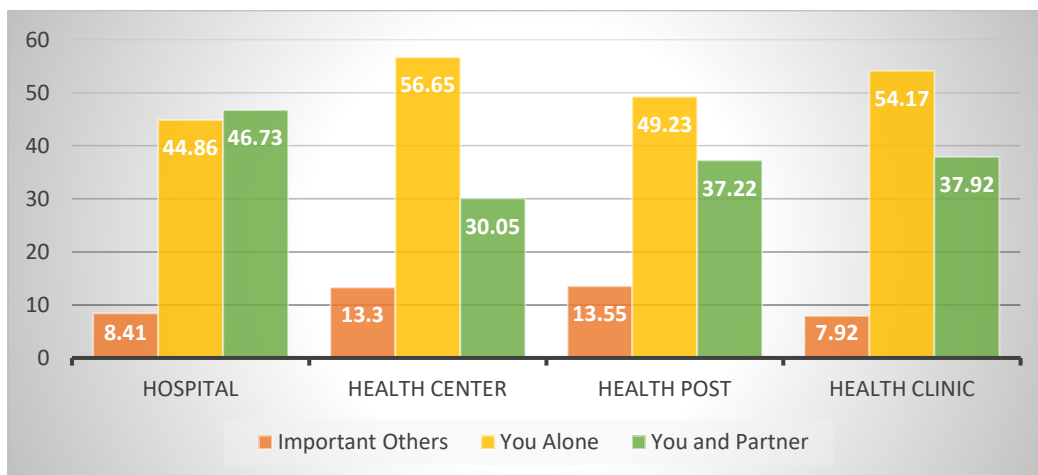


Figure 7: Level of FPDM by Nearest family planning facility type

4.2.4 Association of independent variables with the level of family planning use decision making

Tables 4.3 show the cross-tabulation analysis between the selected socio-demographic/economic characteristics, fertility and SRH characteristics, husband or partner characteristics, contraceptive use related characteristics, Proximity to SDP and method related characteristics, socio-psychological characteristics variables with family planning use decision making. Pearson chi-square test was computed to evaluate the association between each of the independent variables and the dependent variable i.e. family planning use decision making, hence, it showed the preliminary analysis results on association.

Table 4.3 A: Association between independent variables and family planning use decision making in Ethiopia, 2020 (unweighted, n=2302)

Variables	Categories	FP Decision Making			Chi square	P-value
		Important Others (%)	You Alone (%)	You and Partner (%)		
Age	15-19 years	12.9	52.42	34.68	14.78	0.0636
	20-24 years	11.5	49.9	38.6		
	25-29 years	9.35	52.3	38.35		
	30-34 years	12.63	50.52	36.85		
	35-49 years	14.9	53.9	31.2		
Education	No Education	14	53.14	32.86	18.68	0.0009
	primary	13.02	52.53	34.45		
	Secondary Plus	8.77	49.48	41.75		
Residence	URBAN	10.24	53.12	36.64	5.13	0.077
	RURAL	13.36	50.92	35.72		
Religion	Orthodox	10.37	57.58	32.05	57.06	0.00001
	Protestant	11.76	41.49	46.74		
	Muslim	15.82	52.95	31.22		
Regions	Other Regions	13.53	48.07	38.41	66.58	0.00006
	Amhara	9.55	63.65	26.8		
	Oromia	12.48	45.26	42.26		
	SNNPR	14.26	44.23	41.51		
	Addis Ababa	10.33	61.5	28.17		
wealth quintile	Lowest quintile	12.34	51.62	36.04	11.23	0.1888
	Lower quintile	12.97	54.36	32.67		
	Middle quintile	14.64	53.35	32.01		
	Higher quintile	11.95	49.78	38.27		
	Highest quintile	10.16	50.95	38.89		
Marriage history	Only once	12.14	49.65	38.21	32.13	0.0000
	More than once	11.69	65.91	22.40		
Marriage Type	Monogamy	11.92	51.3	36.76	4.50	0.105
	Polygamy	13.79	57.47	28.74		

Variables	Categories	FP Decision Making			Chi square	P-value
		Important Others (%)	You Alone (%)	You and Partner (%)		
Parity	No child	10.27	51.79	37.95	18.07	0.0207
	1 child	10.33	50.61	39.05		
	2 Children	10.66	57.38	31.97		
	3 children	11.21	51.52	37.27		
	4+ children	15.53	49.06	35.41		
Future Fertility Intention	No More Another child	15.21	51.94	32.85	8.96	0.0113
	Intended Have Another child	11.04	51.34	37.62		
Feeling if got pregnant	Happy	13.79	49.34	36.87	4.66	0.3242
	Mixed Happy Unhappy	9.89	54.28	35.83		
	Unhappy	12.10	52.16	35.77		
Age at first use	10 to 20 years	10.6	54.07	35.33	5.78	0.0554
	21 to 47 years	13.24	49.72	37.03		
Number of children at first use	No child	8.29	56.93	34.78	33.81	0.0001
	1 to 2 children	12.03	49.58	38.39		
	3 to 12 Children	18.02	47.29	34.69		
FP Knowledge	Poor Knowledge	15.4	47.43	37.16	6.57	0.0375
	Good Knowledge	11.36	52.77	35.87		
FP exposure to mass-to-mass media	No media exposure	11.56	52.95	35.49	1.55	0.4601
	At least one exposure	12.58	50.43	36.99		
Fp obtained desired	No	37.6	35.54	26.86	166.16	0
	Yes	9.08	53.74	37.18		
Informed FP side effects	No	11.13	52.53	36.34	5.56	0.0619
	Yes	14.76	49.92	35.32		
discussion before use	No	13.59	81.29	5.12	242.78	0.0001
	Yes	11.71	44.68	43.6		
IPV sexual phycl	No IPV	11.75	50.81	37.44	21.17	0.00001
	At least one IPV	15.73	64.04	20.22		
Force pregnancy	Not Force	12.07	50.54	37.39	30.66	0.00002
	Force Preg	11.81	74.02	14.17		
FP Feeling	He disapproved it	16.71	71.93	11.37	140.59	0.00001
	He OK with it	11.01	47.19	41.8		
Attitude	Non favorable Attitude	12.5	49.34	38.16	3.79	0.15
	Favorable Attituded	11.8	53.45	34.75		
Subjective Norm	Negative Subjective norm	13.1	44.87	42.03	24.82	0.00001
	Positive Subjective norm	11.47	55.6	32.93		

Variables	Categories	FP Decision Making			Chi square	P-value
		Important Others (%)	You Alone (%)	You and Partner (%)		
Perceive Control	Not Able to Decide	15.81	47.72	36.47	13.64	0.0011
	Able to Decide	10.58	53.47	35.95		
Km Nearest FP SDP	0 to 0.99km	10.82	53.08	36.11	6.04	0.1963
	1 to 1.99 km	13.13	52.52	34.35		
	2km and above	13.79	48.35	37.87		
Nearest SDP Type	Hospital	8.41	44.86	46.73	26.08	0.00001
	Health center	13.30	56.65	30.05		
	Health post	13.55	49.23	37.22		
	Health clinic	7.92	54.17	37.92		

As shown in table 4.3 above the association between age and joint family planning decision making shows increase as age increases up to 30 -34 years 36.8 percent and decline to 31.2 percent to 35-49 age groups (chi square =14.78 and p-value= 0.063). FPDM by women alone and women's level of education association showed decline ranging from 53.1% percent for women who have no education to 49.4 % for those who have secondary or higher education (chi square =18.68 and p-value= 0.0009)

The association of family planning decision making made by women alone is almost equal or closer result were obtained in both urban and rural residence 53.12 % and 50.92% respectively (chi square =5.13 and p-value= 0.077).

Region is another factor that associated with FPDM, it is higher at Amhara region 61.5 percent whereas the lowest at SNNPR 44.23 (chi square =66.58 and p-value= 0.000) and also the association showed that large household size decline family planning decision made by women alone and increased decision made by important others, 9.81% to 14.86% (chi square =12.5 and p-value= 0.0136). Surprisingly, wealth quintile was not found to be associated with FPDM (chi square =11.23 and p-value= 0.188).

On the other hand, parity (chi square =18.07 and p-value= 0.020) and future fertility intention (chi square =8.96 and p-value= 0.011), showed relatively moderate association with FPDM, whereas, number of children at first use showed higher relationship with (chi square =32.13 and p-value= 0.0008 and chi square =33.81 and p-value= 0.000).

The chi-square test also showed an association between FP use decision-making and FP knowledge, however, exposure to mass media showed no relationship with (chi square =6.57

and p-value= 0.037 and chi square =1.55 and p-value= 0.46.) respectively. Moreover, FP obtained desired found significantly associated with family planning use decision making (chi square =166.1 and p-value= 0.000). Informed FP side effects on the other hand, showed weak association with family planning decision making with association (chi square =5.56 and p-value= 0.061).

With a p-value= 0.000 there observed a coherent association between husband/partner characteristics related variables (discussion before use, IPV Sexual/physical, force pregnancy, and FP feeling) and family planning decision making.

Socio-psychological variables, subjective norm and perceive control, showed an association with family planning decision making (chi square =24.82 and p-value= 0.000 and chi square =13.64 and p-value= 0.001) respectively whereas, attitude with (chi square =3.79 and p-value= 0.15) has inadequate association. In addition, there is no association between nearest FP SDP km and family planning decision making as shown in the association (chi square =6.04 and p-value= 0.19) but nearest SDP type, shown correlation with family planning decision making (chi square =26.08 and p-value= 0.000)

In this study among several variables' religion, regions, obtained desired family planning method, method type used, discussion before use, partner know FP use, sexual and/or physical intimate partner violence (IPV), husband and/or partner forced her for pregnancy, husband and/or partner deny family planning (FP) use, husband and/or partner feeling towards FP use, perceived subjective norm, type and number of FP methods provided and nearest SDP type have strong significance association with family planning use decision making

4.2.5 Multinomial logistic regression analysis of the variables Associated with Family planning use decision making (FPDM)

Multinomial regression results for factors affecting women alone and joint family planning use decision were presented in the following tables.

Table 4.4 A: Multinomial logistic regression analysis of the variables associated with family planning decision making among Married Ethiopian Women

Variables	Categories	You Alone RRR with 95% <i>c</i> Conf Interval		You and Partner RRR & 95% <i>c</i> Conf Interval	
		You Alone (C RRR)	You Alone (A RRR)	You and Partner (C RRR)	You and Partner (A RRR)
Region	Other Regions	1	1	-	-
	Amhara	2.23 (1.15 - 4.32)**	2.351(1.142- 4.84)**		
	Oromia	1.17 (0.599 – 2.33)	0.966 (0.432- 2.162)		
	SNNPR	1.03 (0.50 - 2.11)	0.741 (0.318- 1.73)		
	Addis Ababa	2.00 (0.98 - 4.10) *	0.98 (0.3773- 2.557)		
Religion	Orthodox	-	-	1	1
	Protestant			1.614 (0.829- -3.144)	1.661 (0.741- 3.725)
	Muslim			0.457 (0.249 - 0.837) **	0.387 (0.184- 0.812)**
Feeling if got pregnant	Happy	1	1	-	-
	Mixed Happy and Unhappy	1.536 (0.915 - 2.579)	1.557 (0.872- 2.78)		
	Unhappy	1.265 (0.867 - 1.845)	1.76 (1.121- 2.79) **		
Number of children at first use	No child	1	1	-	-
	1 to 2 children	0.564 (0.401 - 0.791)***	0.544 (0.332- 0.892)**		
	3 to 12 Children	0.402 (0.258 - 0.627)***	0.366 (0.145- 0.926)**		
FP obtained desired	No	1	1	1	1
	Yes	7.621 (4.712 - 12.327) ***	9.969 (5.953- 16.694)***	5.995 (3.098 - 11.601) ***	5.785 (2.929- 11.426)***
Discussion before use	No	1	1	1	1
	Yes	0.609 (0.352 - 1.055)*	0.344 (0.184- 0.642)***	10.363 (4.249 - 25.274)***	6.199 (2.713- 14.164)***
Perceive Control	Not Able to Decide	1	1	-	-
	Able to Decide	1.533 (1.061 - 2.214)**	1.728 (1.13- 2.641)**		
Informed FP side effects	No	-	-	1	1
	Yes			0.793 (0.532 - 1.182)	0.545 (0.33- 0.90)**
IPV sexual, physical	No IPV	-	-	1	1
	At least one IPV			0.37 (0.2 – 0.70)***	0.453 (0.208- 0.986)**
Husband FP Feeling	He disapp_Does not care	-	-	1	1
	He is OK with it			5.579 (3.593 - 8.664)***	2.701 (1.647- 4.429)***

*** $p < .01$ and ** $p < .05$

Number children at first use and discussion before used were found to be inversely and statistically associated with women alone Family planning use decision making (FPDM) (Table 4.4A).

Accordingly, the likelihood of family planning use decision making by women alone among women who had 1 – 2 child/ren at first use was found to be 0.54 (RRR; 95% CI; 0.33 -0.89) less compared with those who didn't have child at first use while the likelihood for those with 3 - 12 children was found to be only 0.42 (RRR; 95% CI; 0.15 -0.93).

Discussion on family planning use before they started using the method reduce the likelihood of family planning use decision making by the women alone by 65%, 0.34 (RRR; 95% CI; 0.18- 0.64). Unlike women alone family planning use decision making; discussion on family planning use with her husband and/or partner before using the method was found to increase the likelihood for joint family planning use decision making, by 6.20 (RRR; 95% CI; 2.73 - 14.16) compared with their counter parts.

On the contrary, region, women reaction and/or feeling if they get pregnant by then, obtaining the method she desired, and women perceived control were found to be statistically significant factors which positively influence women independent family planning use decision making (Table 4.4A).

The likelihood of family planning decision by the women alone and joint decision making were found to be 9.97 (RRR; 95% CI;5.95 -16.69) and 5.79 (RRR; 95% CI; 2.93 -11.43) times higher among those who obtained the method they desired compared with those who did not respectively.

Among the three constructs of theory of planned behavior perceived control was found to improve the likelihood women alone family planning use decision making. Accordingly , women who have perceived control had 1.73 (RRR; 95% CI; 1.13– 2.64) higher likelihood of independent family planning use decision making (FPDM) compared with their counterparts. Another factor found to be significant, namely; women reaction and/or feeling if get pregnant by then was found to positively and significantly affecting family planning use decision making by the women alone. Accordingly, those women who felt unhappy (unhappy and a sort of unhappy) if they get pregnant by then were 1.76 (RRR; 95% CI; 1.12 -2.79) more likely to decide on family planning use by themselves compared with women who reported happy (happy and/or a sort of happy) when asked what they thought of if they get pregnant by then.

Similarly, women who were reside in Amhara region 2.35 (RRR; 95% CI 1.14 – 4.84) times more likely to independently decide their family planning use compared with residents of other regions.

As shown in the above table 4.4A religion, side effect, experiencing violence and nearest SDP type were found to be inversely and statistically associated with joint decision on family planning use (Table 4.4A).

Women with Muslim religion reduce the likelihood of joint family planning use decision making by 61%, 0.37 (RRR; 95% CI; 0.18 -0.81). Similarly women who didn't informed about family planning method related side effect were 0.55 (RRR; 95% CI; 0.33 -0.90) less likely to decide family planning use jointly. Women who were experiencing at least one form of physical and/or sexual violence were found to have lower 0.45 (RRR; 95% CI; 0.21 -0.98) likelihood of joint family planning use decision making compare with those who did not experienced.

On the contrary, obtaining the desired family planning method, discussion before FP used, and her husband's feeling to family planning use were found to be statistically significant factors which positively influence women joint family planning use decision making (Table 4.4A).

Last but not least those women whose husband and/or partner had positive reaction for their family planning use, i.e., was found to be ok on their family planning use have 2.70 (RRR; 95% CI; 1.65 -4.43) more likelihood in deciding jointly on their family planning use.

4.3 Discussion

Family planning use decision making is one of the indicator of sustainable development goal (SDG) agendas, hence, documenting the magnitude of women family planning use decision making level and identifying the factors affecting in greater depth has paramount importance in monitoring the achievement of such burning global agenda. Unfortunately, studies conducted in Ethiopia to measure family planning use decision making are limited in number and geographical scope. Therefore, this study used nationally representative update data to determine the magnitude of women family planning use decision making at national level and identify factors affecting in much more detail using a more advance analysis technique.

Accordingly, nationally half of women were found to able to decide family use by themselves and a bit more than one third (37%) of women decide with their husband and/or partner. A set of factors which both positively and negatively influence women alone and decision with their husband and/or partner on family planning use were identified.

The level of women alone decision making was in line with other studies 53.8 (Bogale et al., 2011) and 52% (Dadi et al., 2020). It's found higher that similar study 22% (Osuafor et al., 2018), 21.6% (Mare et al., 2022) 14.2 % (B. Alemayehu et al., 2020), 1/3 (Dadi et al., 2020). This might be related with outcome variable measurement difference (B. Alemayehu et al., 2020) (Dadi et al., 2020) and time difference and variation in the categories of the output variable where this study includes two additional categories (decision by health care provider alone and decide jointly with the health care provides) (Mare et al., 2022; Osuafor et al., 2018).

In this study family planning use decision making with her husband and/or her partner was found to be 37% which was lower than findings from (Belay et al., 2016; Eshete & Adissu, 2017), 67% and A study conducted in South Africa 45% (Osuafor et al., 2018). The socioeconomic disparities across the nations might be the cause of the discrepancy; for instance, in South Africa, the majority of women make joint decisions. And also it might be due to outcome variable measurement, i.e. this study measure decision making by a single question while the two studies use composite variable to measure women decision making on family planning use.

The level of women alone decision making on their family planning use showed nearly a 20 % incremental change over 7 years which is accompanied by a significant decrease in the joint

decision and decision by important others. This indicates a change in the role played by husbands/partners and significant others around women own decision pertaining their family planning use decision. This might be related with policy related attention for women health. This includes the successful accomplishment of HSTP I and MDG along with the formulation of HSTP-II since 2019/20.

Family planning use decision making showed substantial variation across regions in Ethiopia: from very minimal in Afar and Ethiopia Somali to 63.6 in Amhara region and 61.5% in Addis Ababa and this is in line with (Edossa et al., 2020). This might be related with women and their husband and/or partner's perception towards family planning methods. External factors such as community attitude and religion might contribute their share.

In line with studies (Dereje et al., 2015; Kane et al., 2016; Karp et al., 2020; Mosha et al., 2013) husband and/or partner related characteristics such as discussion on family planning use before they started to use was found negatively related with women alone decision making while in line with (Kane et al., 2016; Osuafor et al., 2018) it was found positively related with decision making with husband and/or partner reflecting male dominant decision.

In the multivariate multinomial logistics regression analysis, among the theory of planned behavior constructs perceived control was found to improve women alone family planning use decision making after controlling potential confounders.. This is line with (Bogale et al., 2011; Dereje et al., 2015; Kane et al., 2016; Karp et al., 2020; Mosha et al., 2013). Such finding is interesting in the midst of male dominant decision making in matters pertaining to household level decision making in general and health care service use decision making in particular (Dereje, 2018).

In line with studies (Dehlendorf, Levy, Kelley, Grumbach, & Steinauer, 2013) obtaining the method they desired positively and statistically improved both women alone family planning use decision making and decision with her husband and/or partner. Similarly, feeling unhappy if they got pregnant by then increases its likelihood. Unlike one study on EDHS (Mare et al., 2022) living in Amhara region was found to increase the likelihood of women alone decision making compared with residents of other regions which is also in line with (Edossa et al., 2020).

On the other hand number of children at first use and discussion with husband before they used were found to reduce the likelihood of women alone family planning use decision

making. In line with studies (Dereje et al., 2015; Kane et al., 2016) having more children at first family planning use reduces the likelihood of women alone family planning use decision making. Those women who discussed with their husband and/or partner before they used the method have reduced their chance of family planning decision making by themselves (Dereje, 2018; Dereje et al., 2015; Eshete & Adissu, 2017). The finding from qualitative studies (Dereje et al., 2015; Kane et al., 2016; Karp et al., 2020; Mosha et al., 2013) perceived control was one of the factors that positively influence women alone family planning use decision making (FPDM)

In line with studies (Dereje, 2018; Dereje et al., 2015; Eshete & Adissu, 2017), husband and/partner related characteristics namely, discussed with her before she used and his positive reaction on her family planning use were found to increase the likelihood of decision making on family planning use with her husband and/or her partner jointly. Similarly with other study (Mare et al., 2022) women with Muslim religion reduce the risk of family planning use decision making with her husband and/or her partner jointly which is also unlike the study conducted in South Africa which finds women's with a religion of Methodist, Pentecostal, Seventh Day Adventist (SDA) were less likely to take part in decision-making to use contraception (Osuafor et al., 2018). Experiencing one form physical and/or sexual violence were found reducing the likelihood for decision making with her husband and/or her partner (Dereje, 2018; Dereje et al., 2015; Kane et al., 2016; Mosha et al., 2013).

In contrary to studies Age, Educational status, residence, wealth (Belay et al., 2016; Dadi et al., 2020; Hameed et al., 2014; Mare et al., 2022) wealth quintile, women, subjective norm attitude, parity, future fertility desire, women knowledge on family planning methods (B. Alemayehu et al., 2020; Bogale et al., 2011; Dadi et al., 2020; Tadele et al., 2019), women place residence (Eshete & Adissu, 2017) were not found to be associated with either women alone and/or joint family planning use decision making. This might be due to the difference in sample design, scope of the study and how the outcome variables are measured (some used composite variables and some single variables). The other possible likely reason is the inclusion of more confounders in this study unlike those cited here in and one study focus on knowledge, attitude and overall awareness related factors that affect women family planning use decision making (Bogale et al., 2011).

Similarly, unlike studies (Dadi et al., 2020; Edossa et al., 2020; Mare et al., 2022) exposure to media significant is even candidate variable for multivariate with p value of 0.7 at bivariate.

Additionally, unlike studies (Bersamin et al., 2011; Shiferaw et al., 2017) distance from the health facility were not significant in this study. Actually, this study studies the effect of distance on family planning use while this study attempted to measure family planning use decision making. if distance affects family planning utilization it will likely to affect family planning use decision making by implication. This might be due to the very nature of the Ethiopian health care tire system, i.e., health facilities at the primary heal care unit mainly health posts very closed to the communities which is also evidenced in this study. In addition, health clinics in urban setting and rural drug vendors along with lower clinics in rural areas are very near to the community which women use as an alternative family palling method sources particularity on market days.

This study is not spared from limitations. First potential limitation of this study is the fact that we used measures of map distance, which are straight line distances between households and the nearest health facilities, and therefore do not take into account access to roads and travel time. However, in the absence of such complete road network information using the maps distances, might be practical.

Second the trend is measured based on cross sectional data and may not show the clear picture. And also variables such as husband desired number of children and timing of additional child, age difference, husband education and employment, women employment were not measured in this study. Last but not least, as a matter of fact PMA Ethiopia did not collected data from Tigray region due to the conflict, therefor any form generalization need to consider this in mind. For example in the geospatial distribution the region is depicted with no data.

As a strength this study address potential confounder variables. That is previous studies assess either limited number of variables or different set variables which merely limited to sociodemographic/economic, husband characteristics related fertility alone. Women related characteristics which rated only knowledge and attitude. This study includes additional variables individual and community level variables including health facility related variables rarely measured variables such violence. Moreover, this was guided by theory of planned behavior (TPB), no single similar study employed.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

One in two women who are using and/or used family planning method were able to decide independently to use the method which actually calls further improvement to make escalate up and maintain near to 100%. Women alone family planning use decision making increased significantly from 2014 to 2020 which is promising. This 20% change in the level of women alone decision making is promising and serve as stepping for subsequent efforts to fully empower women and girls to exercise their retrodictive health right including enabling them to decided their family planning use without the influence their husband/partner and significant others around them. Substantial regional variation was also observed; this increase parallels with a 12.6 % and 5.8% decrease in the proportion of women who decided their family used jointly with their husband/partner decision and those whose decision was influenced by important others respectively.

This study identified factors which positively and negatively related with women alone and joint decision making on family planning use. Accordingly number of children at first use, discussion before used, were found to be inversely and statistically associated with family planning use decision making (FPDM) for the women alone. In contrast, feeling if get pregnant by then , obtaining method desired, residing in Amhara region and perceived control were found to be statistically significant factors which positively influence women independent family planning use decision making.

Family planning use joint decision making was found to be inversely and statistically associated with women religion, not informed FP side effect , experiencing at least one form of physical and/or sexual violence. On the other hand, discussion on family planning method use with her husband and/or partner before starting use, her husband and/or partner feeling on family planning use and obtained the family planning method they desired were found to be statistically significant factors which positively influence women joint family planning use decision making.

5.2 Recommendation

Policies, strategies and interventions that are designed and target to enable every women who intended to use family planning method to independently decide the family planning method she wanted to use are hoped to help women fully decide by themselves without anyone's interference and reduces the effect of others.

Women alone decision making on family planning is likely to be improved by efforts that help women to use family planning method based on detail information on methods available during their family planning use visits. Likewise obtaining the method that women desired was found to positively influence women alone decision making, therefore, activities and efforts that help women to be able to obtain the method she desired to use, improve her physiological readiness and trust on her own to use family methods whenever she wanted to do so; and advices when to get pregnant will also contribute their share in improving women alone decision making. The finding that women who have at least one child at first family planning use were found less likely to decided independently by themselves calls up on creating awareness on reproductive health service availability and where to utilize it including maximizing use youth friendly service unit and empowering young/adolescents girls to use family planning method.

Among the theory of planned behavior constructs women perceived control was found to improve women independent decision making on family planning use, hence, activities that improve women psychological readiness and trust on her own are expected to improve women alone decision own their family use.

Activities and intervention that improve husband and/or partner involvement in his wife's family planning use decision making process such improving his feeling on his wife family planning use, discussion on family planning use before using the method and empowering women to inform him that she is using and/or plan to use family planning method are hoped to improve joint family planning use decision making by the couples.

Activities that encourage women to decide to use family planning via religious leaders mainly Muslim religious leaders, informing the possible side effects and what to do if the women encounter serious side effect during her family planning use visits are hoped to increase joint family planning use decision making from 37%.

Unlike joint decision making, discussion with husband and/or partner on family planning use before using is negative related with women alone decision making. This might be due to the nature and focus of discussion, reflecting husband dominant discussion. Hence, efforts that make such type of discussion balance where the women say is equally entertained will help to mitigate this factor thereby improving women alone decision making on family planning use.

Monitoring and evaluating reproductive health policy 2021 to 2025 and addressing bottlenecks which hinder women decision making health service use is hoped to improve women family planning use decision making and also activities which target in addressing the negative effect of important others around women on their family planning use decision is hoped to further improve women alone family planning use decision making.

Last but not least including missing variable such as husband desired number of children and timing of additional child, age difference, husband education and employment, women employment for future research in general and performance monitoring for action (PMA) survey in particular.

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APPENDICES

APPENDICES I: Description of main predictor variables

Group	Variable	Question & Responses		Categories
		Item	Response	
Attitude on FP	wge_fp_aut_seek_partner	If use FP, husband/partner seek another sexual partner	Strongly agree = 1	0= Non favorable Attitude 1= Favorable Attituded
			Somewhat agree = 2	
			Neither agree nor disagree = 3	
			Somewhat disagree= 4	
			Strongly disagree = 5	
	wge_fp_aut_trouble_preg	If use FP, trouble getting pregnant next time.	Strongly agree = 1	
			Somewhat agree = 2	
			Neither agree nor disagree = 3	
			Somewhat disagree= 4	
			Strongly disagree = 5	
	wge_fp_aut_could_conflict	could be conflict in relationship/marriage if use FP.	Strongly agree = 1	
			Somewhat agree = 2	
			Neither agree nor disagree = 3	
			Somewhat disagree= 4	
			Strongly disagree = 5	
	wge_fp_aut_abnormal_birth	If use FP, children may not be born normal.	Strongly agree = 1	
			Somewhat agree = 2	
			Neither agree nor disagree = 3	
			Somewhat disagree= 4	
			Strongly disagree = 5	
wge_fp_aut_sideeffects_disrupt	If I use FP, body may experience side effects, disrupt relations with husband/partner.	Strongly agree = 1		
		Somewhat agree = 2		
		Neither agree nor disagree = 3		
		Somewhat disagree= 4		
		Strongly disagree = 5		
Subjective Norm on FP	norm_fp_acceptable_before	acceptable for woman to use family planning before has children	Strongly agree = 1	0=Low Subjective norm 1=High Subjective norm
			Somewhat agree = 2	
			Neither agree nor disagree = 3	
			Somewhat disagree= 4	
			Strongly disagree = 5	
	norm_fp_promiscuous	Women use family planning considered promiscuous	Strongly agree = 1	
			Somewhat agree = 2	
			Neither agree nor disagree = 3	
			Somewhat disagree= 4	
			Strongly disagree = 5	
	norm_fp_responsible	Couples use family planning financially responsible	Strongly agree = 1	
			Somewhat agree = 2	
			Neither agree nor disagree = 3	
			Somewhat disagree= 4	
			Strongly disagree = 5	
	norm_fp_women_decide		Strongly agree = 1	
Somewhat agree = 2				
Neither agree nor disagree = 3				

Group	Variable	Question & Responses		Categories
		Item	Response	
		Women should be decide about family planning	Somewhat disagree= 4 Strongly disagree = 5	
Ability to use FP (Perceived control)	WGE 1	Can decide to switch from one FP method to another if want.	Strongly agree = 1	0= Not Able to Decide 1= Able to Decide
			Somewhat agree = 2	
			Neither agree nor disagree = 3	
			Somewhat disagree= 4	
			Strongly disagree = 5	
	WGE 2	feel confident telling my provider what important when selecting FP method	Strongly agree = 1	
			Somewhat agree = 2	
			Neither agree nor disagree = 3	
			Somewhat disagree= 4	
			Strongly disagree = 5	
	WGE 2	feel confident discussing FP with husband/partner.	Strongly agree = 1	
			Somewhat agree = 2	
			Neither agree nor disagree = 3	
			Somewhat disagree= 4	
			Strongly disagree = 5	
	WGE 2	If want to use contraception, can tell husband/partner	Strongly agree = 1	
Somewhat agree = 2				
Neither agree nor disagree = 3				
Somewhat disagree= 4				
Strongly disagree = 5				

Description of control variables

Group	Variable	Question & Responses		Categories
		Item	Response	
Socio-demographic/economic characteristics	Age (FQ_age)	Respondent's completed number of years since birth	Number of completed years since date of birth	1=15-19
				2= 20-24
				3= 25-29
				4= 30-34
				5= 34-49
	Education attainment (Educat)	Respondent's educational attainment level	Never attended =0	No Education = 0
			Primary = 1	Primary=1
			Secondary = 2 Technical & vocational =3 Higher= 4	Secondary Plus = 2
	Region (FQ_Region_new)	Region where respondent live	Amhara = 3	3= Amhara
			Oromia = 4	4= Oromia
			SNNPR = 7	7= SNNPR
			Addis Ababa = 10	10= Addis Ababa
Afar = 2			0= Other Regions	
Somali= 5				
Benishangul = 6				
Gambela = 8				
	Harari = 9, Dire Dawa= 11			

Group	Variable	Question & Responses		Categories
		Item	Response	
	Place of residence	Type of Place where respondent resides	urban =1	1= urban
			rural = 2	2=rural
	Religion (FQreligion)	Respondent's religion	Protestant = 1	1= Christian
			Orthodox = 2	
			Catholic = 4	
			Muslim = 3	2= Muslim (3)
			Traditional = 5	3= Other
			Wakefeta = 6	
			Non-believers = 7	
	Other= 96			
	wealth quintile	Respondent's economic status	Lowest quintile= 1	1.= Lowest quintile
			Lower quintile= 2	2 = Lower quintile
			Middle quintile = 3	3= Middle quintile
			Higher quintile = 4	4= Higher quintile
			Highest quintile= 5	5= Highest quintile
<i>Fertility desire and RH characteristics</i>	Marriage History	Number of marriage respondents have	Only once =1	Only once =1
			More than once = 2	More than once = 2
	Marriage type	Respondent's husband has or has no other wives	Yes =1	1= Polygamy
			No = 0	0= Monogamy
	Parity	Respondent's number of live births	Number of live births she has	0= No child
				1= 1 - 2 children
				2= 3 and above children
	Fertility desire (fp_obtain_desired)	Respondent's desire for more children	Have a/another child = 1	1= Have Another child
			No more/prefer no children= 2	2= No More Another child /Undecided
			Say she can't get pregnant= 3	
			Undecided / Don't know= -88	
	Feeling if got pregnant (preg_now_react)	Respondent react if pregnant now	Very happy = 1	1=happy Sort happy
			Sort of happy = 2	
			Mixed happy and unhappy= 3	2 = Mixed Happy Unhappy
			Somewhat unhappy= 4	
Very unhappy= 5				
Age at first FP use	Respondents age at fist FP use.	Number of completed age at first FP use	1= 10-20	
			2= 21 and above *	
Number of children at first use	Respondents' children at first fp use	Number of children during first FP use	0= no Child	
			1= 1 - 2	
			2 = 3 and above	

Group	Variable	Question & Responses		Categories	
		Item	Response		
<i>husband/partner Characteristics</i>	Partner discussion before use	Respondent partner discussion before started using	Yes= 1	1= Yes	
			No= 0	0= No	
	Partner know	partner know fp method used	Yes= 1	1= Yes	
			No= 0	0= No	
	Partner FP feeling	husband/partner feel about FP	He disapproves of it = 0	0 = Disapproves no care	
			He does not care = 1		
			Don't know = -88		
			He is ok with it = 2	1 = Approve it	
	Husband/Partner Force prevention	Tried to force or pressure to become pregnant	Yes = 1	1= Yes	
			No = 0	0 = No	
		Said would leave you if did not get pregnant	Yes = 1	1= Yes	
			No = 0	0 = No	
		Told would have a baby with someone else if did not get pregnant	Yes = 1	1= Yes	
			No = 0	0 = No	
		Hurt physically because did not get pregnant	Yes = 1	1= Yes	
			No = 0	0 = No	
		IPV Sexual physical	Made respondent to feel afraid by threatening stalking you	Yes= 1	1= Yes
				No= 0	0= No
	Physically hurt, push, slap, punch, or kick respondent		Yes= 1	1= Yes	
			No= 0	0= No	
Physically force or pressure respondent to having sexual intercourse with him	Yes= 1		1= Yes		
	No= 0	0= No			
<i>Contraceptive use Characteristics</i>	Contraceptive Knowledge	Respondent's knowledge on types of contraceptive	Number of contraceptives types the respondent heard	1= 0-4 2= 5-9	
	Informed side effect	Informed contraceptive side effect	Yes= 1	1= Yes	
			No= 0	0= No	
	obtain Family planning desired	Respondent obtain the method wanted	Yes = 1	1 = method obtained desired	
			No = 0	0= method obtained undesired	

Group	Variable	Question & Responses		Categories
		Item	Response	
	FP Exposure to mass-to-mass media	Respondent's media exposer to radio, tv, newspaper and social media on FP	Yes = 1	1= at least one media exposer
			No = 0	0 = no media exposer
<i>Physical access and proximity to Health characteristics</i>	Distance to facility	Nearest distance to Service e delivery point	Km of the nearest distance to Service delivery point	0= 0 - 0.99 km
				1= 1 - 1.99km
				2= 2km and above
	Nearest SDP Type	Type of the nearest SDP type	Hospital =1 Health Center=2 Health post=3 Health clinic=4	1= Hospital 2= Health Center 3= Health post 4= Health clinic

APPENDICES II: Bivariate Multinomial Logistic Regression by the various categories of independent variables with p value <0.25

Table 1 Bivariate Multinomial logistic analysis of the Socio-Demographic and Economic variables associated with FPDM

Variables	Categories	You Alone RRR & 95%c Conf Interval	
		You Alone (C RRR)	You Alone (A RRR)
Important Others (base outcome)			
Age	15-19 years	1	1
	20-24 years	0.973 (0.47 - 2.00)	0.853(0.364- 1.199)
	25-29 years	1.408 (0.473 - 2.003)	1.236 (0.491- 3.113)
	30-34 years	0.993 (0.522 - 1.89)	0.824 (0.287- 2.368)
	35-49 years	0.761 (0.393 - 1.476)	0.673 (0.225- 2.011)
Education	No Education	1	1
	Primary	1.015 (0.686 - 1.503)	0.70 (0.422 - 1.161)
	Secondary Plus	1.559 (0.933 - 2.607) *	0.704 (0.334- 1.485)
Residence	URBAN	1	1
	RURAL	0.682 (0.409- 1.138)	1.603 (0.683- 3.764)
Religion	Orthodox	1	1
	Protestant	0.718 (0.399 - 1.292)	1.183(0.588- 2.378)
	Muslim	0.588 (0.355 - 0.973) **	0.552 (0.296 – 1.029)*
Regions	Other Regions	1	1
	Amhara	2.232 (1.152 - 4.325) **	2.351(1.142- 4.84)**
	Oromia	1.177 (0.595 - 2.331)	0.966 (0.432- 2.162)
	SNNPR	1.03(0.501- 2.115)	0.741 (0.318- 1.73)
	Addis Ababa	2.007 (0.984 - 4.092) *	0.98 (0.3773- 2.557)

Table 2 Bivariate Multinomial logistic regression analysis of the Fertility and SRH Characteristics variables associated with FPDM

Variables	Categories	You Alone RRR & 95%c Conf Interval	
		You Alone (C RRR)	You Alone (A RRR)
Important Others (base outcome)			
Marriage type	Monogamy	1	1
	Polygamy	0.661 (0.361 - 1.211)	1.115 (0.529- 2.35)
marriage history	Only once	1	1
	More than once	1.322 (0.794 - 2.202)	1.142 (0.647- 2.014)
Parity	No child	1	1
	1 to 2 child/ren	0.055 (0.698 - 0.587)	1.824 (0.864- 3.849)
	3 or more Children	0.366 (0.216 - 0.948)	2.462 (0.965- 6.282)*
Future Fertility Intention	No_More_Another_child	1	1
	Intended_Have_Another_child	1.342 (0.953 - 1.891)*	1.092 (0.69- 1.728)
Feeling if got pregnant	Haapy Sort happy	1	1
	Mixed Happy Unhappy	1.536 (0.915 - 2.579)	1.557 (0.872- 2.78)
	Unhappy Sort happy	1.265 (0.867 - 1.845)	1.76 (1.121- 2.79)**
Age at first use	10 to 20 years	1	1
	21 to 47 years	0.736 (0.516 - 1.049)*	1.387 (0.867- 2.21)

Number of children at first use	Nochild	1	1
	1 to 2 children	0.564 (0.401 - 0.791)***	0.544 (0.332- 0.892)**
	More than 3 Children	0.402 (0.258 - 0.627)***	0.366 (0.145- 0.926)**

Table 3. Bivariate Multinomial logistic analysis of the Contraceptive use Characteristics variables associated with FPDM

Variables	Categories	You Alone RRR & 95%c Conf Interval	
		You Alone (C RRR)	You Alone (A RRR)
Important Others (base outcome)			
FP Knowledge	Poor_Knowledge	1	1
	Good_Knowledge	1.236 (0.852 - 1.792)	1.108 (0.658- 1.866)
Fp obtaind desired	No	1	1
	Yes	7.621 (4.712 - 12.327) ***	9.969 (5.953- 16.694)***
FP side effects	No	1	1
	Yes	0.721 (0.496 - 1.049)*	0.674 (0.437- 1.041)*

Table 4. Bivariate Multinomial logistic analysis of the Husband/Partner Characteristics variables associated with FPDM

Variables	Categories	You Alone RRR & 95%c Conf Interval	
		You Alone (C RRR)	You Alone (A RRR)
Important Others (base outcome)			
discussion before use	No	1	1
	Yes	0.609 (0.352 - 1.055)*	0.344 (0.184- 0.642)***
IPV sexul phyicl	No_IPV	1	1
	Atleast_one_IPV	0.945 (0.508 - 1.76)	0.826 (0.387- 1.761)
Force pregnancy	NotForce	1	1
	ForcePreg	1.4 (0.786 - 2.494)	1.247 (0.593- 2.621)
FP Feeling	Hedisapp_Doesnotcare_DNK	1	1
	He_is_OK_withit	1.062 (0.732 - 1.542)	1.074 (0.634- 1.821)

Table 5 Bivariate Multinomial logistic analysis of the Socio-phycological variables associated with FPDM

Variables	Categories	You Alone RRR & 95%c Conf Interval	
		You Alone (C RRR)	You Alone (A RRR)
Important Others (base outcome)			
Attitude	Nonfavorable_Attitude	1	1
	Favorable_Attitudede	0.882 (0.583 - 1.333)	0.979 (0.601- 1.595)
subjective Norm	Low_Perceived subjective norm	1	1
	High_Perceived subjective norm	1.274 (0.93 - 1.746)	1.195 (0.823- 1.737)
Perceive Control	NotAbletoDecide	1	1
	Ableto Decide	1.533 (1.061 - 2.214)**	1.728 (1.13- 2.641)**

Table 6. Bivariate Multinomial logistic analysis of the proximity and method availability variables associated with FPDM

Variables	Categories	You Alone RRR & 95%c Conf Interval	
		You Alone (C RRR)	You Alone (A RRR)
Important Others (base outcome)			
Km Nearest FP_SDP	0 to 0.99km	1	1
	1 to 1.99 km	0.801 (0.476 - 1.349)	0.743 (0.408- 1.354)
	2km and above	0.698 (0.419 - 1.164)	0.588 (0.311- 1.112)
Nearest SDPfacility_type	Hospital	1	1
	Health center	0.744 (0.2 - 2.775)	1.174 (0.468- 2.948)
	Health post	0.58 (0.156 - 2.162)	0.625 (0.256- 1.524)
	Health clinic	1.179 (0.3 - 4.634)	2.285 (0.829- 6.302)

Table 1. Bivariate Multinomial logistic analysis of the Socio-Demographic and Economic variables associated with FPDM

Variables	Categories	You and Partner RRR & 95%c Conf Interval	
		You and Partner (C RRR)	You and Partner (A RRR)
Important Others (base outcome)			
Age	15-19 years	1	1
	20-24 years	1.098 (0.495- 2.435)	0.935 (0.37- 2.367)
	25-29 years	1.563 (0.725 - 3.367)	1.265 (0.488- 3.282)
	30-34 years	1.075 (0.494 - 2.336)	0.811 (0.282- 2.335)
	35-49 years	0.695 (0.319 - 1.514)	0.727 (0.236- 2.238)
Education	No Education	1	1
	primary	1.047 (0.689 - 1.591)	0.668 (0.406- 1.)
	Secondary Plus	2.379 (1.316 - 4.302) ***	0.884 (0.458 - 1.709)
Residence	URBAN	1	1
	RURAL	0.683 (0.349 - 1.335)	1.533 (0.579- 4.057)
Religion	Orthodox	1	1
	Protestant	1.614 (0.829- -3.144)	1.661 (0.741- 3.725)
	Muslim	0.457 (0.249 - 0.837) **	0.387 (0.184- 0.812)**
Regions	Other Regions	1	1
	Amhara	1.133 (0.579 - 2.219)	1.08 (0.439- 2.658)
	Oromia	1.369 (0.6920.692 - 2.711)	1.135 (0.48- 2.683)
	SNNPR	1.222 (0.603- 2.473)	0.544 (0.198- 1.496)
	Addis Ababa	0.966 (0.436 - 2.139)	0.447 (0.132 - 1.513)

Table 2. Bivariate Multinomial logistic analysis of the Fertility and SRH Characteristics variables associated with FPDM

Variables	Categories	You and Partner RRR & 95% ^c Conf Interval	
		You and Partner	You and Partner (C RRR)
Important Others (base outcome)			
Marriage type	Monogamy	1	1
	Polygamy	0.406 (0.238 - 0.692) ***	0.763 (0.352- 1.653)
marriage history	Only once	1	1
	More than once	0.565 (0.323 - 0.99) **	0.865 (0.465- 1.61)
Parity	No child	1	1
	1 to 2 child/ren	0.034 (0.385 - 0.317)	1.28 (0.624- 2.627)
	3 or more Children	0.019 (0.399 - 0.436)	2.087 (0.835- 5.218)
Future_Fertility_Intention	No_More_Another_child	1	1
	Intended_Have_Another_child	1.736 (1.166 - 2.585)*	1.51 (0.926- 2.463)*
Feeling if got pregnant	HaapySorthapy	1	1
	MixedHppyUnhapy	1.266 (0.698 - 2.298)	1.259 (0.662- 2.393)
	UnHaapySorthapy	1.085 (0.686 - 1.717)	1.394 (0.819- 2.373)
Age at first use	10 to 20 years	1	1
	21 to 47 years	1.011 (0.641 - 1.595)	1.35 (0.85- 2.146)
Number of children at first use	Nochild	1	1
	1 to 2 children	0.754 (0.51 - 1.113)	0.701 (0.411- 1.227)
	More than 3 Children	0.489 (0.263 - 0.907)**	0.517 (0.181- 1.477)

Table 3. Bivariate Multinomial logistic analysis of the Contraceptive use Characteristics variables associated with FPDM

Variables	Categories	You and Partner RRR & 95% ^c Conf Interval	
		You and Partner (C RRR)	You and Partner (A RRR)
Important Others (base outcome)			
FP Knowledge	Poor_Knowledge	1	1
	Good_Knowledge	1.062 (0.609 - 1.851)	0.623 (0.315- 1.229)
Fp obtaind desired	No	1	1
	Yes	5.995 (3.098 - 11.601) ***	5.785 (2.929- 11.426)***
FP side effects	No	1	1
	Yes	0.793 (0.532 - 1.182)	0.545 (0.33- 0.90)**

Table 4. Bivariate Multinomial logistic analysis of the Husband/Partner Characteristics variables associated with FPDM

Variables	Categories	You and Partner RRR & 95% ^c Conf Interval	
		You and Partner (C RRR)	You and Partnr (A RRR)
Important Others (base outcome)			
discussion before use	No	1	1
	Yes	10.363 (4.249 - 25.274)***	6.199 (2.713- 14164)***
IPV sexual phycl	No_IPV	1	1
	Atleast_one_IPV	0.373 (0.199 - 0.697)***	0.453 (0.208- 0.986)**
Force pregnancy	NotForce	1	1
	ForcePreg	0.363 (0.174 - 0.755)***	0.678 (0.254- 1.808)
FP Feeling	Hedisapp_Doesnotcare_DNK	1	1
	He_is_OK_withit	5.579 (3.593 - 8.664)***	2.701 (1.647- 4.429)***

Table 5. Bivariate Multinomial logistic analysis of the Socio-psychological variables associated with FPDM

Variables	Categories	You and Partner RRR & 95% ^c Conf Interval	
		You and Partner (C RRR)	You and Partner (A RRR)
Important Others (base outcome)			
Attitude	Nonfavorable_Attitude	1	1
	Favorable_Attitudede	0.642 (0.388 - 1.064)*	0.898 (0.511- 1.58)
subjective Norm	Low_Perceived subjective norm	1	1
	High_Perceived subjective norm	0.703 (0.478 - 1.032)*	0.774 (0.509- 1.177)
Perceive Control	NotAbletoDecide	1	1
	Ableto Decide	1.54 (1.008 - 2.352)**	0.804 (0.49- 1.318)

Table 5. Bivariate Multinomial logistic analysis of the proximity and method availability variables associated with FPDM

Variables	Categories	You and Partner RRR & 95% ^c Conf Interval	
		You and Partner (C RRR)	You and Partner (A RRR)
Important Others (base outcome)			
Km Nearest FP_SDP	0 to 0.99km	1	1
	1 to 1.99 km	0.687 (0.358 - 1.321)	0.65 (0.333- 1.27)
	2km and above	0.75 (0.408 - 1.378)	0.724 (0.346- 1.515)
Nearest SDPfacility_type	Hospital	1	1
	Health center	0.494 (0.12 - 2.039)	0.337 (0.112- 1.017)*
	Health post	0.554 (0.136 - 2.26)	0.351 (0.122- 0.008)*
	Health clinic	1.161 (0.253- 5.32)	1.117 (0.366- 3.405)

*** p<.01, ** p<.05, * p<.1

APPENDICES III: FFQ Core PMA Questionnaire

Section 1 – Respondent’s Background, Marital Status, and Household Characteristics			
<i>Now I would like to ask about your background and socioeconomic conditions.</i>			
FFQ 001	In what month and year were you born? The age in the household roster is [AGE]. <i>If respondent knows the year, but not month select the ‘Does not know month’ checkbox</i> <i>Select the ‘Do not know’ checkbox for month and ‘2030’ for year to indicate ‘No Response’.</i>	Month <input type="text"/> Year <input type="text"/>	M=1
FFQ 002	How old were you at your last birthday? <i>Must be more than 14 and less than 50. Must agree with FFQ001.</i>	Age <input type="text"/>	M=1
FFQ 003a	Are you currently married or living together with a man as if married? <i>Probe: If no, ask whether the respondent is divorced, separated, widowed, or never in union/never married.</i>	Yes, currently married 1 Yes, living with a man..... 2 Not currently in union: Divorced / separated 3 Not currently in union: Widow..... 4 No, never in union 5 No response -99	M=1
FFQ 003b	Have you been married or lived with a man only once or more than once?	Only once 1 More than once..... 2 No response -99	FFQ003a ≠ 5
FFQ 004a	In what month and year did you start living with your FIRST husband / partner? <i>If respondent knows the year, but not month select the ‘Does not know month’ checkbox. Select the ‘Do not know’ checkbox for month and ‘2030’ for year to indicate ‘No Response.’</i>	Month <input type="text"/> Year <input type="text"/>	FFQ003a=1, 2, 3 or 4
FFQ 004b	CHECK: Based on the response you entered in FFQ004a, the respondent was possibly 15 years old or younger at the time of her first marriage. Did you enter FFQ004a correctly?	Yes 1 No 0	FFQ004a age at marriage ≤15
FFQ 005a	Now I would like to ask about when you started living with your CURRENT or MOST RECENT husband / partner. In what month and year was that? <i>Select ‘Do not know’ for month and ‘2030’ for year to indicate ‘No Response’.</i>	Month <input type="text"/> Year <input type="text"/>	FFQ003b =2
FFQ 005b	CHECK: Based on the response you entered in FFQ005a, the respondent was possibly 15 years old or younger at the beginning of her marriage or cohabitation. Did you enter FFQ005a correctly?	Yes 1 No 0	FFQ005a age at marriage ≤15
FFQ 006	Does your husband / partner have other wives or does he live with other women as if married?	Yes 1 No 0 Don’t know -88 No response -99	FFQ003a = 1 or 2
FFQ 007	What is your religion?	Protestant 1 Orthodox 2 Muslim 3 Catholic 4 Traditional 5 Wakefeta 6	M=1

		Non-believers 7 Other..... 96 No response -99	
FFQ 008	What is the highest level of school you attended? <i>Only record formal schooling. Do not record bible or koranic school or short courses.</i>	Never attended 0 Primary 1 Secondary 2 Technical & vocational 3 Higher..... 4 No response -99	M=1
FFQ 009	Can you read or write in any language?	Yes 1 No 0 No response -99	FFQ008=0

Section 4 – Reproduction & Fertility Preferences

Now I would like to ask about all the births you have had during your life.

FFQ 018	Now I would like to ask about all the pregnancies you have had during your life. Have you ever been pregnant?	Yes 1 No 0 No response..... -99	M=1
FFQ 019	How many times have you given birth to a baby that was born alive?	Times: No response..... -99	FFQ018=1
FFQ 020	When was your FIRST birth? <i>If respondent knows the year, but not month select the 'Does not know month' checkbox. Select the 'Do not know' checkbox for month and '2030' for year to indicate 'No Response'</i>	Month <input type="text"/> Year <input type="text"/>	FFQ018=1 & FFQ019>1
FFQ 021	When was your MOST RECENT birth? <i>Please record the date of the MOST RECENT live birth. The date should be found by calculating backwards from memorable events if needed. Select 'Do not know' for month and '2030' for year to indicate 'No Response'.</i> <i>ODK constraint: cannot be in the future</i> <i>Note to RE: use visual aid to record dates of most recent birth</i>	Month <input type="text"/> Year <input type="text"/>	FFQ019=>1

Now I have some questions about the future

FFQ 175a	Would you like to have a/another child or would you prefer not to have any / any more children?	Have a/another child 1 No more/prefer no children 2 Says she can't get pregnant 3 Undecided / Don't know -88 No response..... -99	FFQ025 ≠ 1
FFQ 176a	How long would you like to wait from now before the birth of a/another child? <i>If you select months or years, you will enter a number for x on the next screen.</i> <i>Select "Years" if more than 36 months.</i> <i>Please check that you correctly entered the value for months/years.</i>	Months <input type="text"/> Years <input type="text"/> Soon / now 3 Says she can't get pregnant 4 Other 5 Don't know -88 No response..... -99 Years <input type="text"/>	FFQ175a=1

		Soon / now3 Other5 Don't know-88 No response.....-99	
FFQ 177	If you got pregnant now, how would you feel?	Very happy1 Sort of happy2 Mixed happy and unhappy.....3 Somewhat unhappy4 Very unhappy.....5 Don't know -88 No response..... -99	FFQ025 ≠ 1

Section 5 – Contraception

Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy.

An image will appear on the screen for some methods. If the respondent says that she has not heard of the method or if she hesitates to answer, read the probe aloud and show her the image, if available.

FFQ 178a	Have you ever heard of female sterilization? PROBE: Women can have an operation to avoid having any more children. [NO IMAGE]	Yes 1 No 0 No response.....-99	M=1
FFQ 178b	Have you ever heard of male sterilization? PROBE: Men can have an operation to avoid having any more children. [NO IMAGE]	Yes 1 No 0 No response.....-99	M=1
FFQ 178c	Have you ever heard of the contraceptive implant? PROBE: Women can have one or several small rods placed in their upper arm by a doctor or nurse, which can prevent pregnancy for one or more years. [IMAGE OF METHOD WILL APPEAR ON SCREEN]	Yes 1 No 0 No response.....-99	M=1
FFQ 178d	Have you ever heard of the IUD? PROBE: Women can have a loop or coil placed inside them by a doctor or a nurse. [IMAGE OF METHOD WILL APPEAR ON SCREEN]	Yes 1 No 0 No response.....-99	M=1
FFQ 178e	Have you ever heard of injectables? PROBE: Women can have an injection by a health provider that stops them from becoming pregnant for one or more months. [IMAGE OF METHOD WILL APPEAR ON SCREEN]	Yes 1 No 0 No response.....-99	M=1
FFQ 178f	Have you ever heard of the (birth control) pill? PROBE: Women can take a pill every day to avoid becoming pregnant. [IMAGE OF METHOD WILL APPEAR ON SCREEN]	Yes 1 No 0 No response.....-99	M=1

FFQ 178g	Have you ever heard of emergency contraception? PROBE: As an emergency measure after unprotected sexual intercourse women can take special pills at any time within five days to prevent pregnancy. [NO IMAGE]	Yes 1 No 0 No response.....-99	M=1
FFQ 178h	Have you ever heard of condoms? PROBE: Men can put a rubber sheath on their penis before sexual intercourse. [IMAGE OF METHOD WILL APPEAR ON SCREEN]	Yes 1 No 0 No response.....-99	M=1
FFQ 178i	Have you ever heard of female condoms? PROBE: Women can put a sheath in their vagina before sexual intercourse. [IMAGE OF METHOD WILL APPEAR ON SCREEN]	Yes 1 No 0 No response.....-99	M=1
FFQ 178j	Have you ever heard of the standard days method or Cycle Beads? PROBE: A Woman can use a string of colored beads to know the days she can get pregnant. On the days she can get pregnant, she use a condom or do not have sexual intercourse. [IMAGE OF METHOD WILL APPEAR ON SCREEN]	Yes 1 No 0 No response.....-99	M=1
FFQ 178k	Have you ever heard of the Lactational Amenorrhea Method or LAM? [NO DESCRIPTION; NO IMAGE]	Yes 1 No 0 No response.....-99	M=1
FFQ 178l	Have you ever heard of the rhythm method? PROBE: Women can avoid pregnancy by not having sexual intercourse on the days of the month they think they can get pregnant. [NO IMAGE]	Yes 1 No 0 No response.....-99	M=1
FFQ 178m	Have you ever heard of the withdrawal method? PROBE: Men can be careful and pull out before climax. [NO IMAGE]	Yes 1 No 0 No response.....-99	M=1
FFQ 178n	Have you ever heard of any other ways or methods that women or men can use to avoid pregnancy?	Yes 1 No 0 No response.....-99	M=1
FFQ 179a	Are you or your partner currently doing something or using any family planning to delay or avoid getting pregnant?	Yes 1 No 0 No response.....-99	M=1 and FFQ025=0 or -88 or -99
FFQ 179b	Which method or methods are you using?	Female sterilization 1/0 Male sterilization 1/0	

	<p>Probe: Anything else?</p> <p>Select all methods mentioned. Be sure to scroll to bottom to see all choices.</p>	Implant 1/0 IUD 1/0 Injectables 1/0 Pill 1/0 Emergency Contraception 1/0 Male Condom 1/0 Female Condom 1/0 Std. Days/Cycle beads 1/0 LAM 1/0 Rhythm method 1/0 Withdrawal 1/0 Other traditional methods 1/0 No response -99	FFQ179a = 1
FFQ 180	<p>Since what month and year have you been using [CURRENT METHOD] without stopping?</p> <p>Calculate backwards from memorable events if needed.</p> <p>Most Recent Birth: [mm-yyyy] Current Marriage: [mm-yyyy]</p> <p>Must be before today. Respondent must be at least 10 years old.</p> <p>Select 'Do not know' for month and '2030' for year to indicate 'No Response'.</p> <p>For RE: Mark start date and all months until now as current use on the CALENDAR visual aid</p>	Month <input type="text"/> Year <input type="text"/> Do not know -88 No response -99	FFQ179a = 1 & CALC_CM > 1
FFQ 182	<p>Have you or your partner done anything or used a method to delay or avoid getting pregnant in the last 2 years (since [Label month before interview period] 2018)?</p> <p>Interviewer note: [Since October 2018; use New Year as a reference]</p>	Yes 1 No 0 No response -99	FFQ179a = 0 (not current user) or FFQ025=1 (pregnant)
CS2	<p>For non-current users</p> <p>“Which method did you use most recently?”</p> <p>Probe: anything else?</p> <p>Select most effective method (highest method on list). Scroll to bottom to see all choices.</p> <p>Please swipe forward and select “ADD GROUP” to Start and Stop Dates for this method.</p> <p>Add a new “Contraceptive Methods” Group.</p>	Male sterilization 2 Implant 3 IUD 4 Injectables 5 Pill 7 Emergency Contraception 8 Male Condom 9 Female Condom 10 Std. Days/Cycle beads 13 LAM 14 Rhythm method 30 Withdrawal 31 Other traditional 32 No response -99	FFQ182=1
FFQ 182	<p>When did you stop using your [MOST RECENT METHOD selected in CS2]?</p> <p>Please record the date. Must be before today.</p>	Month <input type="text"/>	FFQ182 = 1

	<p><i>If respondent knows the year, but not month select the 'Does not know month' checkbox. Select the 'Do not know' checkbox for month and '2030' for year to indicate 'No Response'</i></p> <p><i>Do not allow dates in the future</i></p>	<p>Year <input type="text"/></p>	
FFQ 183	<p>When did you start using [MOST RECENT METHOD selected in CS2]?</p> <p>Please indicate the year and month you started using it.</p> <p><i>Calculate backwards from memorable events if needed.</i></p> <p>Most Recent Birth: [mm-yyyy] Current Marriage: [mm-yyyy]</p> <p><i>Must be before today. Respondent must be at least 10 years old.</i></p> <p><i>Select '-88' for month and '2030' for year to indicate 'No Response'.</i></p>	<p>Month <input type="text"/></p> <p>Year <input type="text"/></p>	FFQ182 = 1
CURRENT/RECENT USERS:			
I will ask you a few more questions on the method that you are currently using or the method you used most recently.			
FFQ 200	<p>During that visit, who made the final decision about what method you got?</p>	<p>You alone 1 Provider 2 Partner 3 You and provider 4 You and partner 5 Other 96 Don't know -88 No response -99</p>	<p>FFQ182=1 or FFQ179a=1</p> <p>&</p> <p>CALC_CM =1-14 or CS2=1-13</p>
FFQ 203	<p>Are you/did you experience any of the following changes in your menstrual cycle due to [the current/most recent method]?</p> <p><i>Read all options out loud. Select all that apply.</i></p>	<p>Less bleeding No bleeding 0/1 Heavier bleeding 0/1 Irregular bleeding/spotting 0/1 No change 0/1</p> <p>OTHER 0/1 Don't know -88 No response -99</p>	<p>FFQ182=1 or FFQ179a=1 & CALC_CM =1-8 or CS2=1-8</p>
FFQ 204	<p>How worried are/were you about these changes?</p>	<p>Very worried 1 A little worried 2 Not at all worried 3</p> <p>NO RESPONSE -99</p>	<p>FFQ203=1 to any response except "no change", -88 or -99</p>
FFQ 205	<p><i>For current use, the wording will be:</i></p> <p>Are you experiencing any side effects?</p> <p><i>For past use, the wording will be</i></p> <p>Did you experience any side effects?</p>	<p>Yes 1 No 0 NO RESPONSE -99</p>	<p>FFQ179a=1</p> <p>FFQ182=1</p>
FFQ 206	<p><i>For current use, the wording will be:</i></p> <p>What are the side effects that you are currently experiencing?</p>	<p>Less bleeding or no bleeding .. 1/0 Heavier bleeding 1/0 Irregular bleeding/spotting 1/0 Uterine cramping/ lower abdominal pain 1/0</p>	<p>FFQ205=1 & CALC_CM =1-8</p>

	<p><i>For past use, the wording will be:</i></p> <p>What were the side effects that you EXPERIENCED while using the method?</p> <p>Do not read option choices aloud</p> <p>Multiple select</p>	<p>Gained weight 1/0 Lost weight 1/0 Facial spotting 1/0 Headaches 1/0 Got infection 1/0 Nausea/vomiting 1/0 Increased menstrual cramping 1/0 Lowered sex drive 1/0 Decreased sexual pleasure ... 1/0 Vaginal dryness 1/0 General weakness/pain 1/0 Diarrhea 1/0 Partner feels during sex..... 1/0 Pain at insertion site 1/0 Mood swings 1/0 Backache 1/0</p> <p>OTHER..... 96 DON'T KNOW -88 NO RESPONSE -99</p>	<p>FFQ205=1 & CS2=1</p>
<p>FFQ 207</p>	<p><i>For current use the wording will be:</i></p> <p>Are there any side effects that you are WORRIED ABOUT EXPERIENCING while using this method, but are not actually experiencing?</p> <p><i>For past use the wording will be:</i></p> <p>Were there any side effects that you WERE WORRIED ABOUT EXPERIENCING while using this method, but did not actually experience?</p>	<p>Yes 1 No 0 No response..... -99</p>	<p>FFQ179a=1</p> <p>FFQ182=1</p>
<p>FFQ 208</p>	<p><i>For current use the wording will be:</i></p> <p>What are the side effects that you ARE WORRIED ABOUT EXPERIENCING while using this method, but are not actually experiencing?</p> <p><i>For past use the wording will be:</i></p> <p>What were the side effects that you WERE WORRIED ABOUT EXPERIENCING while using this method, but did not actually experience?</p> <p>Do not read option choices aloud</p> <p>Multiple select</p>	<p>Less bleeding 1/0 No bleeding..... 1/0 Heavier bleeding..... 1/0 Irregular bleeding/spotting 1/0 Uterine cramping/ lower abdominal pain 1/0 Weight change..... 1/0 Facial spotting..... 1/0 Headaches..... 1/0 General weakness/pain 1/0 Pain at insertion site 1/0 Got infection..... 1/0 Method gets lost inside body..... 1/0 Nausea/vomiting 1/0 Lowered sex drive..... 1/0 Decreased sexual pleasure 1/0 Vaginal dryness 1/0 Partner feels during sex 1/0 Infertility/sterility 1/0 Delayed return to fertility..... 1/0 Deformation of babies..... 1/0 Diarrhea 1/0 Cancer/fibroids..... 1/0 Blood build up/impurities..... 1/0</p>	<p>FFQ207=1 & CALC_CM=1</p> <p>FFQ207=1 & CS2=1-3</p>

		Pills accumulate in body 1/0 Increased hair growth 1/0 Mood swings..... 1/0 OTHER 96 DON'T KNOW..... -88 NO RESPONSE -99																
All women in the cross-section																		
FFQ 222	How old were you when you first used a method to delay or avoid getting pregnant? The respondent said she was [AGE] years old at her last birthday. <i>Enter the age in years. Enter -88 if respondent does not know. Enter -99 if there is no response. Cannot be younger than 9.</i>	Age <input type="text"/>	FFQ179a=1 or FFQ182=1 or FFQ217=1															
FFQ 223	How many living children did you have at that time, if any? Note: the respondent said that she gave birth [number of live births] times in FFQ019. <i>Enter -99 for no response</i>	Number <input type="text"/>	Age in FFQ222>9															
FFQ 229	In the last few months have you: a. Heard about family planning on the radio? b. Seen anything about family planning on the television? c. Read about family planning in a newspaper or magazine? d. Received text message about family planning on a mobile phone e. Seen anything on social media about family planning (Facebook, Viber, Twitter, WhatsApp etc)	<table border="1"> <thead> <tr> <th>YES</th> <th>NO</th> <th>NR</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>-99</td> </tr> <tr> <td>1</td> <td>0</td> <td>-99</td> </tr> <tr> <td>1</td> <td>0</td> <td>-99</td> </tr> <tr> <td>1</td> <td>0</td> <td>-99</td> </tr> </tbody> </table>	YES	NO	NR	1	0	-99	1	0	-99	1	0	-99	1	0	-99	M=1
YES	NO	NR																
1	0	-99																
1	0	-99																
1	0	-99																
1	0	-99																
Section 6-Partner <i>Now I would like to ask you some questions about your husband/partner.</i> <i>Block Relevancy M=1</i>																		
FFQ 250	Before you started using [MOST RECENT / CURRENT METHOD], had you discussed the decision to delay or avoid pregnancy with your husband/partner?	Yes 1 No 0 Don't know -88 No response..... -99	CS1=1 or FFQ179a=1															
FFQ 251	How does your husband/partner feel about family planning?	He disapproves of it 0 He does not care 1 He is ok with it..... 2 Don't know -88 No response..... -99	M=1															
FFQ 252	Does/did your husband/partner know that you are/were using [CURRENT/MOST RECENT METHOD]?	Yes 1 No 0 Don't know -88	CS1=1 or FFQ179a=1															

		No Response..... -99	
FFQ 253	Did you talk with your partner about using your [CURRENT/MOST RECENT METHOD] before you started using, after you started using, or you have not talked about it?	Before 1 After 2 No discussion..... 3 No response..... -99	FFQ252=1
FFQ 254	Why have you not discussed your family planning use with your husband/partner? <i>Select all that apply—do not read options aloud</i>	It does not concern him 1/0 There might be negative consequences in telling him..... 1/0 He doesn't know about FP..... 1/0 Other 1/0 No response..... -99	FFQ252=0 or FFQ253=3
Section-7 Empowerment/Norms			
<i>Now I'm going to ask you a series of statements about family planning. For each, please tell me how strongly you agree or disagree with the statement. Some will seem similar but we would like you to consider each one as different.</i>			
<i>We can pause at any time. If you do not feel comfortable answering any of the statements, let me know and I will move onto the next statement.</i>			
<i>Block Relevancy M=1</i>			
FFQ 256	If I use family planning, my husband/partner may seek another sexual partner.	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response..... -99	M=1
FFQ 257	If I use family planning, I may have trouble getting pregnant the next time I want to.	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response..... -99	M=1
FFQ 258	There could be/will be conflict in my relationship/marriage if I use family planning.	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response..... -99	M=1
FFQ 259	If I use family planning, my children may not be born normal.	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response..... -99	M=1
FFQ 260	If I use family planning, my body may experience side effects that will disrupt my relations with my husband/partner.	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response..... -99	M=1
WGE_ 2	I can decide to switch from one family planning method to another if I want to.	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response..... -99	M = 1

WGE_ 3	I feel confident telling my provider what is important for me when selecting a family planning method.	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response.....-99	M = 1												
WGE_ 4	I feel confident discussing family planning with my husband/partner.	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response.....-99	M = 1												
WGE_ 5	If I want to use contraception, I can tell my husband/partner	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response.....-99	M = 1												
FFQ 261	It is acceptable for a woman to use family planning before she has children	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response.....-99	M=1												
FFQ 262	Women who use family planning are considered promiscuous	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response.....-99	M=1												
FFQ 263	Couples who use family planning are financially responsible	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response.....-99	M=1												
FFQ 264	Women should be the ones to decide about family planning	Strongly agree..... 1 Somewhat agree 2 Neither agree nor disagree 3 Somewhat disagree 4 Strongly disagree 5 No response.....-99	M=1												
		_____ months ago _____ years ago													
Section 10. COVID and IPV															
<p><i>We know that relationships can sometimes have conflict and difficulty. These next questions ask about conflicts that you may have had. If you do not feel comfortable answering any of the questions, let me know and I will either move onto the next statement or skip this section entirely. Would you would like to continue? If not, we can end the interview now.</i></p>			FFQ03a=1 or 2												
FFQ 255	In the past 12 months, has your husband/partner:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Yes</td> <td style="width: 25%;">No</td> <td style="width: 25%;">NR</td> <td style="width: 25%;"></td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">-99</td> <td></td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">-99</td> <td></td> </tr> </table>	Yes	No	NR		1	0	-99		1	0	-99		FFQ03a=1 or 2
Yes	No	NR													
1	0	-99													
1	0	-99													

	<p>a. Made you feel bad or treated you badly for wanting to use a family planning method to delay or prevent pregnancy?</p> <p>b. Tried to force or pressure you to become pregnant?</p> <p>c. Said he would leave you if you did not get pregnant?</p> <p>d. Told you he would have a baby with someone else if you did not get pregnant?</p> <p>e. Taken away your family planning or kept you from going to the clinic to get family planning?</p> <p>f. Hurt you physically because you did not get pregnant?</p>	1	0	-99	
		1	0	-99	
		1	0	-99	
COV 45	At any time during the last 12 months, has your husband/partner:				FFQ03a=1 or 2
	A. Made you feel afraid—for example, by threatening you or stalking you?	Yes 1 No 2 I don't know -88 No response -99			FFQ03a=1 or 2
	B. Physically hurt you—for example, push you, slap you, punch you, or kick you?	Yes 1 No 2 I don't know -88 No response -99			FFQ03a=1 or 2
	C. Physically force or pressure you to having sexual intercourse with him?	Yes 1 No 2 I don't know -88 No response -99			FFQ03a=1 or 2
Location					
U	<p>Location</p> <p><i>Take a GPS point near the entrance to the household. Record location when the accuracy is smaller than 6m.</i></p> <p><i>GPS coordinates can only be collected when outside.</i></p>	RECORD LOCATION			Always