ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCE

SCHOOL OF NURSING AND MIDWIFERY

TO ASSESS THE LEVEL AND FACTORS INFLUENCING BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG PREGNANT MILITARY WOMEN AND THEIR FAMILIES AT ARMED FORCES COMPREHENSIVE SPECIALIZED HOSPITAL, ADDIS ABABA, ETHIOPIA,2025.

BY: ANDUALEM CHIFIRAW (BSC IN MW)

Jun, 2025

ADDIS ABABA, ETHIOPIA

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ADVISORS: HAWENI ADUGNA (MSc, ASSISTANT PROF, CANDIDATE OF PhD)

KEREBH ABERE (MSc, Lecturer)

A RESEARCH THESIS SUBMITTED TO ADDIS ABA UNIVERSITY COLLEGE OF HEALTH SCIENCES, SCHOOL OF NURSING AND MIDWIFERY FOR FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER'S IN MATERNITY AND REPRODUCTIVE HEALTH NURSING.

Jun, 2025

ADDIS ABABA, THIOPIA

ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

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Full title of the research project	To Assess the Level and Factors Influencing BPCR Among Pregnant Military Women and Their Families at AFCSH in A.A 2025.
data collection period	March 10/03/205-April 25/04/2025
Study area	AFCSH in Addis Ababa, Ethiopia
Total cost of the proposal	Birr 27,387ETB

APPROVAL BY THE BOARD OF EXAMINATION

ADDS ABABA UNIVERSITY, COLLEGE OF HEALTH SCIENCES, SCHOOL OF NURSING AND MIDWIFERY, DEPARTMENT OF MIDWIFERY.

I hereby certify that I have read and evaluate this Thesis entitled "To assess the level and factors influencing birth preparedness and complication readiness among pregnant military women and their families at Armed Forces Comprehensive Specialized Hospital, Addis Ababa, Ethiopia,2025" I recommend that it is submitted as fulfilling the thesis requirement for the degree of masters in maternity and reproductive health nursing.

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STATEMENT OF DECLARATION

By my signature below, I declare and affirm that this thesis is my work. I have followed all ethical principles of scholarship in the preparation, data collection, data analysis, and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every effort has been made to avoid plagiarism in the preparation of this thesis.

This thesis is submitted to Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery, Department of Pediatrics and Child Health Nursing and Midwifery in partial fulfillment of the requirements for the Master of Science degree in M&RHN. The thesis is deposited in the Addis Ababa University Digital Library and is made available to the local, national, and international scientific community.

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APPROVAL BY THE BOARD OF EXAMINATION

ADDS ABABA UNIVERSITY, COLLEGE OF HEALTH SCIENCES, SCHOOL OF NURSING AND MIDWIFERY, DEPARTMENT OF MIDWIFERY.

I hereby certify that I have read and evaluate this Thesis entitled "To assess the level and factors influencing birth preparedness and complication readiness among pregnant military women and their families at Armed Forces Comprehensive Specialized Hospital, Addis Ababa, Ethiopia,2025" I recommend that it is submitted as fulfilling the thesis requirement for the degree of masters in maternity and reproductive health nursing.

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Submitted by:

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List of Abbreviations

AFCSH- Armed Forces Comprehensive Specialized Hospital

ANC- Ante -Antenatal care

BP/CR- Birth preparedness and complication readiness

EDHS- Ethiopian Demographic and Health Survey

FANC- Focused antenatal care

FMOH- Federal Ministry of Health

HDA- Health Development Army

LAD- Labor and delivery

MHS -Military Health System

MMR- Maternal mortality rate

PNC- Postnatal care

SBA- Skilled birth attendant

SDG- Sustainable Development Goal

SVD- spontaneous vaginal delivery

SPSS- Statistical Package for Social Sciences

USA- United States of America

WHO-World Health Organization

ABSTARCT

Background: The birth preparedness and complication readiness are a critical plan to reduce maternal and neonatal morbidity in promoting timely access to skilled care during childbirth.

Objective: The objective of this study was to assess the level of Birth preparedness and complication readiness and identify the factors influencing it among pregnant military women at the Armed Forces Comprehensive Specialized Hospital in Addis Ababa, 2025.

Methodology: An institutional cross-sectional study took place from March 10 to April 23, 2025, involving a total of 404 female participants. The data was collected using a structured questionnaire that administered structured survey questions. Data were analyzed using SPSS version 25 to determine the associations among dependent and inducement variables. The strength and direction of the association were evaluated using odds ratios (OR) with corresponding 95% confidence intervals (CI), and statistical implication was determined accordingly at a P value of 0.05.

Result: In this study, 41.6% of respondents were well-prepared for birth and its complications. The factors influencing BP/CR included military women, who had a high (AOR = 15.03; 95% 95% CI: 4.32- 51.66) for being prepared and government (AOR =.35; 95% CI: 1.55- 12.19), indicating that occupational stability contributes positively to preparedness. Women with a history of abortion (AOR = 1.91; 95% CI: 1.12–3.26) were more likely to be prepared. Choosing spontaneous delivery was associated with higher preparedness (AOR = 3.05; 95% CI: 1.47- 6.29). Furthermore, gaining information regarding BPCR improved readiness (AOR = 0.45; 95% CI: 0.27-0.75). While living with a partner was less likely preparedness (AOR = 0.46; 95% CI:0.26- 0.83), there was a significant connection with birth preparedness and complication readiness.

Conclusion: The result of this study indicates that a low level of birth preparedness and complication readiness (BPCR), emphasizing the necessity for enhanced awareness and training among healthcare professionals to improve patient outcomes. The level of readiness is influenced by factors such as military profession and maternal recognition of obstetric complications.

Keywords: Birth Preparedness, Complication Readiness, Pregnant Military Women.

INTRODUCTION

1.1. Background

For pregnant military women, thorough birth preparedness and readiness for potential obstetric challenges are essential in safeguarding their health and ensuring a smooth delivery. Misrepresenting the responsibilities of service with the demands of pregnancy requires a proactive approach to minimize obstetrics-related risks. With approximately fourteen million births occurring globally each year, prioritizing comprehensive prenatal care, emergency planning, and access to specialized medical support is critical. By integrating these measures into military healthcare systems, expectant service members can experience safer deliveries while maintaining operational readiness. Supporting pregnant military personnel with well-structured plans ensures both their well-being and their ability to continue serving effectively(1, 2). Comprehensive preparedness is a significant component of safe motherhood programs aimed at reducing maternal mortality. To promote dynamic preparation and decision-making for conveyance by pregnant military women and their families(2, 3).

Preparing for childbirth and being prepared for pregnant individuals in the military involves selecting a competent birth attendant and healthcare facility, organizing transportation for delivery and any potential emergencies, setting aside funds for unforeseen costs, and possibly coordinating for a birth companion. Furthermore, it is essential to recognize signs of danger during pregnancy, labor, postpartum, and the neonatal period(4, 5).In Ethiopia, BPCR is particularly important for pregnant military women and their families who may face unique occupational and logistical challenges(6). In the face of its significance, the proportion of women practicing adequate childbirth remains low, with studies indicating that fewer than 30% of women meet the recommended standards for well-preparedness. Factors contributing to this include limited access to antenatal follow-up, which can disrupt regular healthcare access. Military service demands can also hinder these visits, leading to gaps in education and preparedness(7).

The military health system acknowledges the importance of obstetrics health care, providing comprehensive care and optimizing human performance for all service members, even those who are pregnant. In order to address obstetrics and healthcare service members' performance and other health issues, a system-wide, coordinated solution with a focused provision is required. Comprehensive childbirth counseling, provider access to maternal care, due to obstetrics-related services, and a comprehensive preparation suite will be necessary for the

military community (8-10). The pregnant Military health plans should integrate BP/CR into normal care for servicewomen, utilizing interdisciplinary teams, enhancing data analysis, and encouraging collaboration. Applying a Total Force Fitness framework can progress to readiness and quality of life for service members and their families(11).

1.2. Statement of the Problem

Globally, maternal mortality is still a major public health concern. Low- and middle-income countries, comparable to Ethiopia, bear the brunt of this burden, with an estimated 401 maternal deaths for every 100,000 live births(12, 13). Most maternal deaths are preventable and arise primarily from delays in recognizing the problems, seeking care, and receiving timely interventions during pregnancy and childbirth. Birth preparedness and complication readiness (BPCR) is a proven strategy to reduce these delays by encouraging women and their families to plan for normal delivery and anticipate emergency responses (12, 14-16).

The pregnant military woman's childbirth preparedness container results are ineffective in outcomes for both mothers and newborns, particularly in high-pressure settings, such as military life has always been significantly impacted by pregnancy, particularly as more and more women are being absorbed into various military occupations. Pregnancy rates among military women can be substantial, with in-utero pregnancies being a particular concern for active-duty military women of reproductive age (17, 18). According to the WHO report, 810 women die daily from preventable pregnancy and childbirth causes (19, 20). 95% of maternal deaths globally occur in low- and middle-income countries, with Sub-Saharan Africa bearing the highest burden, accounting for 70% of these deaths, with an MMR of 531 deaths per 100,000 live births(21, 22). In many low- and middle-income countries, the lack of adequate BP/CR contributes significantly to high maternal and neonatal mortality rates(23).

Even though BP/CR is important, many pregnant women do not obtain the services they need. For example, just 35% of pregnant women in a Nigerian research had prepared for childbirth adequately, suggesting a substantial gap in BP/CR practices(24-26). Additionally, according to a United Nations study report, about 300 million women of reproductive age reside in nations with inadequate health systems that find it difficult to deliver emergency obstetric care. Since many women lack a birth plan and are the warning signs of pregnancy, this lack of access to necessary services is a significant obstacle to effective BPCR. (15, 16, 27, 28). The global burden of Maternal mortality remains a significant worldwide health challenge, because of despite efforts to reduce it. The comprehensive maternal mortality ratio (MMR) decreased from 339 to 223 deaths per 100,000 live births between 2000 and 2020, a decrease of coarsely 34%. To achieve the SDG goal of bringing the global MMR down to less than 70 deaths per 100,000 live births by 2030, this decrease is insufficient(14, 29).

Childbirth preparation is a critical issue in many countries, especially in the Ethiopian pregnant military women and their families. This lack of preparedness can significantly impact maternal and neonatal health outcomes(30). Those Military women often face unique challenges, lifestyle demands, and mission stressors related to deployment, relocation, leading to insufficient preparation for childbirth. They often enter labor with little or no formalized plans or knowledge of the necessary steps for a safe delivery. Due to this burden, lacking antenatal care follow-up is vital, particularly for pregnant military women and their male family members who may experience healthcare disruptions. The inadequate focus on birth preparedness among military women and their spouses and insufficient ANC monitoring create a significant gap that needs to be addressed (31-33).

The component of maternal healthcare, birth preparedness, directly lowers maternal anxiety, improves birth outcomes, and lowers maternal mortality rates. Birth preparedness lowers the possibility of emergencies and the expenses related to handling them by making sure that women and their families are ready for childbirth and any complications that may arise. A key component of maternal healthcare, birth preparedness directly lowers maternal anxiety, improves birth outcomes, and lowers maternal mortality rates. Birth preparedness lowers the risk of unexpected events and the expenses related to managing the condition, which is particularly beneficial for families with low incomes. It does this by ensuring that women and their families are ready for childbirth and any complications that may arise. Because healthy mothers are better able to care for their children and engage in economic activities, improved maternal health also translates into increased productivity and well-being for families and communities. These benefits are obvious, but many women still approach childbirth unprepared, especially those in high-risk or underserved populations. This highlights the need for focused interventions that support complication readiness and birth readiness, which is especially beneficial for low-income families. Because healthy mothers are better able to care for their children and engage in economic activities, improved maternal health also translates into increased productivity and well-being for families and communities(9, 10). In military life, pregnant military women face unique compensations and challenges in terms of childbirth. The structure of military service, which includes frequent deployments, relocations, and demanding schedules, can impair access to regular prenatal care and education, even though military facilities frequently offer specialized care and resources that can support birth readiness. The significance of comprehensive care for service members has been acknowledged by the Military Health System, which highlights the necessity of maximizing human performance and

health for both operational readiness and general quality of life. The need for a more coordinated, system-wide strategy that incorporates prevention, education, and customized support for pregnant servicewomen is highlighted by the fact that military populations' current support for BP/CR is still dispersed and reactive(11, 34).

The lack of data on BPCR determinants among military women and their families at the Armed Forces Comprehensive Specialized Hospital in Addis Ababa hampers the development of targeted interventions to improve maternal outcomes in this group. Understanding these factors is essential to inform tailored health policies and programs that address the specific needs of military personnel and their families, ultimately contributing to national goals of reducing maternal mortality and educating about reproductive health. Therefore, this study aims to assess the level of birth preparedness and complication readiness and identify associated factors among pregnant military women and their families at the Armed Forces Comprehensive Specialized Hospital, Addis Ababa, Ethiopia, in 2025. And these few studies did not address all the possible factors.

1.3. Significance of The Study

This study highlights the importance of prompt use of qualified maternal health services in reducing maternal and newborn morbidity and mortality. It identifies major determinants of birth preparedness and complications, enabling targeted interventions to address specific obstacles faced by pregnant military women, improving pregnancy outcomes, and increasing the use of maternal health services.

The obstetrics health care provides valuable insights for practitioners and researchers in childbirth preparation, highlighting the importance of being aware of complications and providing advice during antenatal follow-ups. It also contributes to the understanding of maternal health in pregnant military settings, highlighting the need for more studies to better understand the challenges and resources for birth readiness in military environments. Recognizing these factors, practitioners can better support pregnant military women and reduce the time they need to seek emergency medical attention.

2. LITERATURE REVIEW

2.1. Introduction

The introduction of a literature review to assess the level and factors influencing BP/CR among pregnant military women and pregnant military family women in Addis Ababa, Ethiopia.
The literature review is organized in a way that provides over overview of the Level of experience of Birth Preparedness and Complication Readiness is a dependent variable, the level of experience preparedness items like place of delivery selection, save money obstetrics emergency arrangement, communication, and others on the other hand including independent variable factors of birth preparedness and complication readiness. Like socio-demographic related factors, obstetrics-related and other factors, in this upcoming impression, the variables are presented along with relevant research from both local and global sources.

2.2. Level of experience of Birth Preparedness and Complication Readiness

By encouraging prompt access to maternal health professional care during pregnancy, childbirth, and the puerperium period, birth preparedness and complication readiness, or BPCR, is an essential approach to lower maternal and neonatal morbidity and mortality. Maternal mortality is still a major problem worldwide, with about 810 women dying every day from avoidable pregnancy-related causes, mostly in low- and middle-income nations, particularly in Southern Asia and Sub-Saharan Africa. Despite its significance, BPCR practice is still subpar in many contexts, which hinders the advancement of safer motherhood (35).

Worldwide, studies indicate that the level of BPCR among pregnant women varies considerably but is generally low to moderate. For instance, less than 15% of mothers in some low-resource settings are adequately prepared for delivery and complication readiness(6). Due in large part to insufficient birth and emergency preparedness, Sub-Saharan Africa has the highest global maternal mortality ratio, with an average of 500 deaths per 100,000 live births (35). The reasons such as lack of awareness, social barriers, and limited access to quality antenatal care, contribute to poor BPCR practice globally. The Johns Hopkins Database for Global Instruction in Gynecology and Obstetrics (JHIEGO) things to see BPCR is a comprehensive approach addressing delays in decision-making, reaching care, and receiving appropriate care (59).

In Ethiopia, national lessons disclose similarly low levels of BPCR. A public-based cross-sectional study found that only 21.7% of pregnant women had acceptable childbirth preparation

and complication willingness(6),(30). Furthermore, analysis using the 2016 Ethiopian Demographic and Health Survey data reported that only 56% of women had upright preparedness, and less than 45% were informed about pregnancy complications(36). Information of danger signs during pregnancy, childbirth, and post-delivery remains limited, with many women unaware of critical symptoms such as convulsions, vaginal bleeding, or leaking fluid(36).

The level of BP/CR practices has been studied extensively. In Ethiopia, A recent meta-analysis by Berhe et al. (2018) found that only 32% of pregnant women in Ethiopia were adequately prepared for birth and its complications(37). A community-based cross-sectional study in Thatta district, Sindh, revealed that merely 21.2% of recently delivered mothers were adequately prepared for childbirth and its attendant challenges(38). A study conducted in South Wollo Zone, Northeast Ethiopia, revealed that merely 21.7% of pregnant women exhibited satisfactory BPCR, highlighting a prevalent issue across various regions(39, 40).

Childbirth Pregnant military women aspect to pass through unique challenges, including frequent moves, partner deployment, and strains, which may limit their access to support systems and obstetrics healthcare. Surveys showed advanced stress levels among women with deployed spouses than those with homeland partners (39.6% and 24.2%, respectively) (18, 41). Due to the shortage of maternal healthcare facilities, Ethiopia has high rates of maternal and infant mortality, similar to other low-income country First 20% of women received their early antenatal follow up during the first trimester visit, giving to the 2016 EDHS, which institute 62% of the pregnant women used antenatal follow up (42). The level of experience BP/CR between pregnant military and military family pregnant women is influenced by various factors, including access to healthcare, support systems, and previous experiences with childbirth. Research indicates that military women often have unique challenges due to the demands of military life, such as relocations and deployments, which can disrupt access to consistent prenatal care(43).

The frequency of BPCR also varies within nations and districts. For example, in rural Ghana, only about 14.7% of childbearing women were adequately ready for birth and worried, with very low awareness of obstetric danger signs (4.74%)(35). In contrast, some urban or better-resourced areas report higher BPCR levels, often linked to improved education, health facility access, and male partner involvement. Military or specialized populations have been less

studied but may face exclusive barriers and facilitators, including BPCR, the prominence of the need for context-specific research(36).

Targeted interventions are urgently needed, as evidenced by the consistently low to moderate prevalence of BPCR both nationally and internationally. Leaders should prioritize empowering women via training, increasing the standards and coverage of prenatal care, and enhancing infrastructure like access to health facilities and transportation(36). Health practitioners play a vital role in counseling pregnant women and their families about birth preparedness and danger signs during routine antenatal contacts. In addition to involving male partners in the military, groups can improve support systems and obstetrics decision-making related to maternal health(35).

The pregnant military women influence attitudes towards childbirth and healthcare, disturbing military women's willingness to seek help. Considering these subtleties is crucial for improving BP/CR levels and enhancing military-specific training(44). An education in Ethiopia found that only 44.9% of pregnant women demonstrated well-prepared practices, with factors like municipal placement, knowledge of danger signs, and antenatal care follow-up affecting preparedness(35).

The pregnant military women, due to pregnant women's lack of social support from family and peers, because of life on the front line of the border and living in the camp, can impede civilians' birth preparedness. Military families often experience isolation due to frequent deployments, which can limit their health care access to support in the networks that are vital for emotional and logistical support during pregnancy(45). The challenges faced by pregnant military women and their families in Ethiopia regarding childbirth are multi-layered and complex, accentuating significant gaps in existing research (46).

2.3. The Factors of birth preparedness and complication readiness.

2.3.1. Socio-Demographic Factors

The socio-demographics. Socioeconomic factors, including income and education level, play a significant role in childbirth. The pregnant military Women from complex socioeconomic backgrounds often have better access to healthcare resources and information, leading to higher levels of preparedness compared to those from lower socioeconomic families(47). The comprehensive preparedness is also significantly influenced by age and marital status. Women

who have a higher level of tutoring typically have greater access to obstetrics healthcare evidence and resources, which helps them be better prepared for childbirth. On the other hand, people from lower socioeconomic backgrounds frequently encounter obstacles that make it difficult for them to prepare for childbirth(48).

Military society attitudes towards pregnancy and childbirth can impact preparation, with traditional beliefs and military settings discouragement of discussing pregnancy-related concerns impacting preparedness. Addressing these barriers through targeted education and support programs is crucial (47). Childbirth may be made more difficult by social customs and beliefs. Traditional customs may be at odds with contemporary medical advice in many communities, which makes women reluctant to seek medical attention during pregnancy and labor. The military societal obstruction may have a major effect on how well the project works. Therefore, in order to encourage women to embrace BPCR practices, culturally relevant measures are required(38, 48).

The pregnant Women who have experienced complications in past pregnancies may be more attentive and prepared during succeeding pregnancies. Previous pregnancy can shape their next comprehensive approach, thus making them more than to recognize the position of preparation (49). Due to Previous experiences with obstetrical-related problems also influence childbirth preparation. Women who have confronted complications in past pregnancies are more likely to be aware of the importance of being prepared for future births. This practice can serve as a rousing factor for looking for information and support related to BP/CR (39). The obstetrics Healthcare providers should share these experiences to teach women about the importance of awareness(5).

Important determinants of BP/CR practice in military pregnant women included familiarity with pregnancy gages of obstetrics danger signs, peripheral residency, and educational attainment. In order to improve childbirth practices, Abosie and Wodajo (2020) focused on the consequences of cooperative pregnancy on military women's income, education, and understanding of obstetric danger signs(50). The effects of sociodemographic characteristics like income, level of education, marital status, broadcasting exposure, and previous childbirth experience on influencing childbirth among pregnant women. These findings highlight the need for battered women to improve birth preparedness, mainly among uneducated pregnant and low-income military women, to enhance maternal and neonatal health outcomes(33).

2.3.1. Obstetric Related and Other Factors

The Value of antenatal care follow-up is key for childbirth preparation, to provide essential obstetrics-related information and health services to childbearing women, preparing them for birth and reducing the risk of complications. The Study indicates that females who appear in ANC are significantly more prepared for birth and its problems (51). Several factors have been identified as influencing BP/CR among pregnant women. One of the most significant predictors is the frequency of ANC contact. It was exposed that women who participated in four or more appointments with an ANC were better to well prepared for childbirth(39, 48).

The status of childbirth planning is crucial for the operative to pregnant military women. The Studies have shown that women who are up-to-date about possible difficulties are more likely to be involved in the level of preparedness (49). Due to the Familiarity with obstetric danger signs through pregnancy, labor, and childbirth, and postpartum period is another serious factor influencing childbirth. The Trainings have shown that women who are well-informed about obstetrical danger signs are expected to engage in BP/CR practices and neonatal care(52). For example, in the Ethiopian study, reports show that the awareness of these obstetric danger signs knowingly increased the likelihood of actuality prepared for complications(39). This result underlines the need for targeted levels of educational programs that inform pregnant women about the signs that require immediate medical attention.

On the other hand, due to Support from living with partners and their family members is another crucial factor affecting well-preparedness. Women who receive pregnancy encouragement and assistance from their families are more likely to engage in childbirth performs(53). This support can include financial assistance for healthcare costs, transportation to healthcare facilities, and emotional support during pregnancy(39, 48). Engaging families at the BP/CR education level can enhance the overall preparedness of pregnant military women(5).

The maternal mortality rates in Ethiopia's high and short-skilled health care providers hinder the widespread practice of BP/CR. Those Studies largely attention on civilian populations, leaving insufficient evidence on BP/CR prevalence among pregnant military women and their families(54). The pregnant and Military life are stressful and can negatively impact mental health, leading to anxiety and interruption in pregnant military women, affecting their BPCR preparation and childbirth plans(48).

Childbirth is influenced by a number of factors, such as income level, academic achievement, and access to obstetrics healthcare services. Convincing successful interventions that can enhance maternal and neonatal health outcomes requires an understanding of all of these predictors (23-25). The pregnant military women may not receive adequate counseling and advice on these topics, especially if they cannot attend regular ANC follow-up. Socioeconomic disparities, such as limited transportation and healthcare resources, can also hinder effective BP/CR, making it crucial to address these issues(55-57). The military faces challenges in childbirth preparation due to frequent relocations and deployments, disrupting access to antenatal care contacts. Regular visits are crucial for humanizing about complications, but military lifestyles may boundary their attendance(58, 59).

This study expressions into what the level of experience preparedness and those factors, such as information, that influence BP/CR among Ethiopian pregnant military women who are currently pregnant and their families, the obstetrics healthcare access, and barriers to well preparedness and complications readiness. It aims to provide insights for targeted interventions and improve maternal health outcomes for military families in Ethiopia(60, 61). The study aims a document the association between complication readiness and birth preparedness among pregnant military women and those military families in Ethiopia, and the importance of the gap in understanding specific factors influencing BP/CR in military concern.

2.5. Conceptual framework

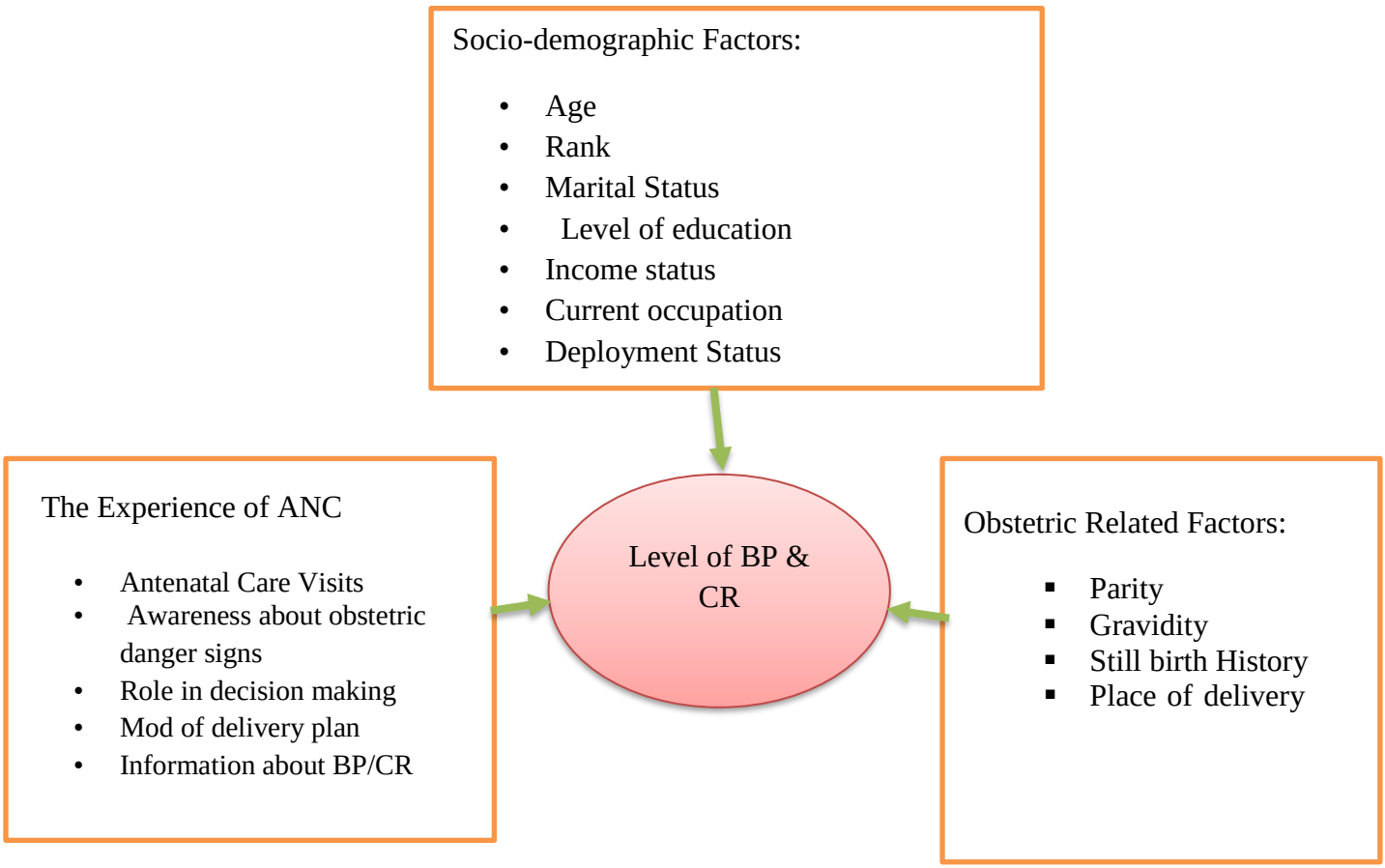

Figure 1: Conceptual framework illustrating the variables influencing women's readiness for complications and childbirth (*Source*:: the conceptual development after reviewing different literature).

3. OBJECTIVES OF THE STUDY

3.1 General Objective

To assess the level of experience and Factors Influencing Birth Preparedness and Complication Readiness among Pregnant women at Armed Forces Comprehensive Specialized Hospital, Addis Ababa, Ethiopia,2025.

3.2. Specific Objective

- To determine the level of Birth Preparedness and Complication Readiness among Pregnant women at the Armed Forces Comprehensive Specialized Hospital, Addis Ababa, Ethiopia
- To identify factors influencing BP/CR among pregnant women at AFCSH.

4. METHODS AND MATERIALS

4.1. Study Area

The study was conducted at the Armed Forces Comprehensive Specialized Hospital, Addis Ababa, Ethiopia. The hospital has total bed capacity is 768 and it gives different services such as inpatient, outpatient, medical, surgical, pediatric, psychiatric, Obstetrics & Gyn wards MRI, CT scan, major and minor operation, Type of main staff members; total staff of 621 from 58 different specialty at different discipline these 198 nurses and 26 was midwifery.

4.2. Study Period

Data was gathered throughout March 10,205-April 25,2025

4.3. Study Design

An institutional-based cross-sectional study design was used to assess the prevalence of BP/CR among the target population AFCSH.

4.4. Populations

4.4.1. Source of Population

The source population included pregnant military women and pregnant women from military families who attended AFCSH during the study period.

4.4.2. Study of Population

The study population was selected from pregnant military women and military family members attending antenatal care services at AFCSH during the study period.

4.5. Eligibility Criteria

Inclusion Criteria: Pregnant women of reproductive age. The women who are active-duty military personnel or the partners of military personnel.

Exclusion Criteria: Women with high-risk pregnancies who require specialized care. The Women who are unable to provide informed consent.

4.6 Sampling Methods

The census sampling method was employed across different ranks and demographics within the military. This method of sampling is used because the population size is small and manageable.

4.6.1. Sample Size Determination

The single population proportion formula is used to calculate the sample size. The sample size was determined by the formula as follows. In military areas, such types of research were not conducted in the similarity of the military population; the military lifestyle poses for unique challenge and imposes limitations on generalizability. Use of a larger sample size increases the ability to find findings to enter the military population, enhancing the validity of the research. For this reason, 50% was considered.

$$n = \frac{(Z\alpha/2)^2 \times p\,(1-P)}{d^2} = 385$$

Where; n= Sample size

Z=standard normal deviate (1.96 for 95% Cl)

d=desired degree of accuracy (0.05)

P = by considering 50 (due to the unknown BP/CR rate in military families and pregnant service members), and adding 10% of the non-response rate. So, the final sample size was 422.

4.7. Variables

- Dependent Variables:

Level of Birth Preparedness and Complication Readiness

- Independent Variables:

Socio-demographic Factors:-(Age, Education Level, Income, Marital Status, occupation, Deployment Status, and Rank.

Obstetrics Related Factors: (Antenatal Care Visits, Health Knowledge, Previous Pregnancy Outcomes and Parity, previous birth experiences, and access to prenatal care.

4.8. Operational Definition

Awareness on key danger signs of pregnancy: **-** A woman was considered as good awareness on key danger signs of pregnancy, if she can mention at least three of the six key danger signs for pregnancy spontaneously (vaginal bleeding, swollen hand/ face, blurred vision, headache, PROM and Severe lower abdominal pain)(62-64).

Awareness on key danger signs of labor /child birth: -A woman was considered as good awareness on key danger signs of labor/childbirth, if she can mention at least three of the six key danger signs for labor/childbirth spontaneously (Severe Vaginal bleeding, Prolonged labor (>12 hour), Retained placenta>1hr, Severe headache and Cord comes first of the baby).

Awareness of the key danger signs of postpartum: - A woman was considered to have good awareness on key danger signs of postpartum, if she can mention at least three of the six key danger signs for postpartum spontaneously (vaginal bleeding, foul smelling vaginal discharge and high fever, Swollen hands and face and Severe headache).

Level of Birth Preparedness and Complication Readiness: After computing the question if greater than or equal to the mean ($\mu \geq 15.25$), they are well prepared, and less than the Mean, not well prepared(65), (5).

Well Prepared: the pregnant military women who demonstrate a high level of knowledge and readiness regarding birth preparedness awareness items and complication readiness. Indicators computing question may include a variable greater than or equal mean(6, 25).

Not Well Prepared: The pregnant military women who lack essential knowledge or resources for effective care. Readiness regarding birth preparedness awareness items(66). Indicators may include a computing question, including the variable less than the mean.

Military: refers to the organized armed forces of a nation responsible for the Ethiopian national defense and security. It includes personnel, equipment, and infrastructure across various branches such as the army, navy, and air force(67).

Military Family: In our study, including marriages in the military and they face unique challenges due to deployment, relocation, and the military lifestyle(68).

4.9. Data Collection Methods

4.9.1. Data collection instruments

Data was collected through structured questionnaires face-to face-to-face interviews, including both closed and open–ended questionnaires. To assess knowledge and practices related to BP/CR. A structured questionnaire was adopted from Monitoring birth preparedness and complication readiness: tools and indicators for maternal and newborn health(65). to assess various aspects of BP/CR, including the questionnaire used to collect information, which has fifteen socio-demographic characteristics, fourteen obstetric history, and thirteen levels of preparedness, and five questions to assess obstetric danger sign awareness of BP/CR. The questionnaire was for validation before administration. The Data are collected through face-to-face interviews conducted by trained research assistants to ensure accuracy and consistency.

4.9. Data collection procedure

The data was collected from a face-to-face interview question of pregnant military women and their families. Four BSc nurses and one MSc student supervisor were assigned to collect the data. Have day of training on the process of data collection will be organized for the data collectors and the assigned supervisor. In concern with data collection, first, all questionnaires of the military and their family were collected, and only questioner that met the inclusion criteria were selected and reviewed by data collectors. If the number of complete recorded questions and pregnant military women who have BP /CR follow-up. Before the actual data collection regarding the aim of the study, the data collection tool and procedures by went through the questionnaires question by question.

4.10**.** Data Quality Control

At every stage, the quality of the data was guaranteed. The data collectors and their supervisors receive days of training a week before data collection on the study's goals, applicability, interviewing techniques, information confidentiality, and informed consent. To guarantee uniformity for the purpose of gathering data, the questionnaire was translated from Amharic to English and back again. The questionnaire was pretested in one of the Ethiopian police hospitals out of the selected cluster in the study area, which has similar characteristics to the study population. About 5% of the sample size (n = 21) were interviewed. Findings were discussed among data collectors and supervisors to ensure a better understanding of the data

collection process. Based on the pretest, questions were revised, and those found to be unclear or confusing were modified. Supervisors followed the data collection closely throughout the data collection period, along with the principal investigator. All the questionnaires were checked each night on the same day. Questionnaires found incomplete and/or inconsistent were back to the data collector based on the ID number and were completed on the next day. Data were entered and cleaned using Epi-Info before being exported to SPSS for analysis.

4.11. Data Analysis

Data were entered into the SPSS version 25 statistical tool for analysis and carefully cleaned for errors and missing values. Descriptive statistics such as frequencies, percentages, mean, and standard deviations were employed to characterize results. Cross-tabulation was performed between each variable that explained and the result variable to check whether the Chi-square (6.701, p 0.569) assumptions were met. Bivariate logistic regression was used for variables that met the chi-square assumptions, and all factors that explained a correlation with the outcome variable at a p-value of less than 0.25 were chosen as candidates for multivariable analysis. Multicollinearity between the candidate variables was investigated.

Multivariable analysis was performed using the enter selection method to control for confounding variables and identify statistically significant associations between explanatory variables and the outcome variable at P value < 0.05. The degree of association between independent variables and the outcome variable was measured using OR with 95% CI.

The model's fitness was assessed using the Hosmer and Lemeshow goodness-of-fit test (4.807 p = 0.778). The variables with a P-value < 0.25 in the bivariate analysis included (Rank, family size, role of decussationinobstataric care history of stillbirth,, current gestational age, number of antenatal contact, use of contraceptive, known of EDD or LNMP, ANC counseling,hasband and ANC, participates of pregnancy conference, knowledge of obstetrics danger sign in labor and delivery and information of obstetrics danger sign in post-partum period**)**.did not show a statistically significant association in the final multivariable logistic regression analysis model. The fulfillment of assumptions for principal component analysis was assessed using the Kaiser-Meyer-Olkin Measure of Sampling. Adequacy of 0.06 or above, and significance of Bartlett's Test of Sphericity at a p-value of less than 0.05. In each step, variables with anti-image correlations and communalities less than 0.5, loading (correlations above 0.4) in more than one component (complex structure), and a single variable loading in a component were removed.

The total variation explained by a single component. This component's factor score was used to divide women into teen groups based on their level of preparedness.

4.12. Ethical Considerations

This proposal was submitted to Addis Ababa University, College of Health Sciences. A letter of ethical clearance was obtained from Addis Ababa University College of Health Sciences and AFCSH. Letters of cooperation were written to concerned bodies and selected health institutions, and permission for data collection was obtained from selected hospitals and health centers. For the quantitative part, as the study was conducted through a questionnaire, the individual participants were not subjected to any harm. After provision of all necessary information, pregnant military women were asked for informed consent and willingness to participate in the study. Before conducting the interview, confidentiality, anonymity, voluntary participation, and freedom to withdraw from the study were assured. The information taken from the participant was accessed only by the principal investigator and locked with a password, and a coding system will be used to maintain confidentiality and anonymity. Post interview counseling and reassurance will also be provided to debrief participants.

4.13. Dissemination of the Study

The findings from this study will first be presented for defense at the School of Nursing and Midwifery, Addis Ababa University. The result of this study will be disseminated through formal reports, presentations at relevant conferences, and publications in peer-reviewed journals. This dissemination aims to inform policy and practice in BP/CR within military healthcare settings and improve care for pregnant women and their families.

5. RESULT

A total of 422 pregnant women were initially sampled for this study, of whom 404 completed the survey, yielding a response rate of 95.7%. The analysis is based on data from these 404 respondents. Primarily presents the sociodemographic characteristics, obstetric history, and other relevant factors influencing birth preparedness and complication readiness (BPCR) among the participants. Descriptive statistics summarize the distribution of key variables, followed by multivariable logistic regression analyses to identify factors significantly associated with BPCR. The findings provide insight into the level of preparedness and the determinants that influence maternal readiness for childbirth and potential complications in the armed forces' specialized hospital.

5.1. Socio-demographic characteristics of the study participants

The majority of the respondents were in the age group of 20-34 years of age 287(71%). Regarding their marital status, 385(95%) are currently married. The educational status of 231(57.2%) of respondents has completed higher education. In terms of rank, 212 respondents (52.5%) were civilians, followed by officers 101 (27.2%). The occupational characters of the respondent showed that 149(36.4% were military personnel and the rest 122(30.2%) were housewives, from the respondents Family sizes showed that 231(57.2%) of households had four or more members, while173(42.8%) had fewer than four that (Table 2).

Table 2: Socio-demographic characteristics of military pregnant women and their families in at AFCSH Addis Ababa, Ethiopia2025, (N=404).

Socio-Demographic	Category	Frequency	Percent%
Age	Less than 20	16	4
	20-34	287	71
	35and Above	101	25
Rank	Enlisted man[a]	82	20.3
	Officer	101	27.2
	Civil	212	52.5
Marital statues	Married	385	95.3
	Other's	19	4.7
Educational level	Primary education	48	11.9
	Secondary education	100	24.8
	College and above	231	(57.2)
	0thes[c]	25	(6.2)
Current Occupation	House wife	122	(30.2)
	Government Employs	99	(24.3)
	Military	147	(36.4)
	Other	37	(9.2)
Family size	less than 4	173	(42.8)
	4 and above	231	(57.2)
Household use of income	Household eats into assets and savings	71	17.6
	Household spends what it earns	152	(37.4
	Households can save money	115	28.2
	The household gets into debt	14	3.2
	No answer	52	13.6
Husband education level	Secondary Education	86	21.3
	College and Above	267	66.1
	others [e]	52	12.6
Currently living with a partner	Yes	321	79.4
	No	83	20.5
Role of the decision maker for obstetric service seeking	Joint wife and husband	280	67.8
	Others [f]	124	30.7
currently deployed	Yes	180	44.6
	No	224	55.4

Discussed your birth plan	Yes	233	57.7
	No	171	42.3
Planned during deployment	Yes	221	54.7
	No	183	46
[a] private, corporal, sergeant [b] single, divorced, widowed, [c] no formal education, read and write [d] merchant, NGO [e] no formal education, primary education [f] self			

5.2. Obstetrics characteristics of the participant factors

The study examined the obstetric characteristics of pregnant mothers, revealing significant trends affecting BP/CR. Among participants, 101(25%) were primigravida, while 303(75%) were multigravida, However, a concerning 250(61.9%) reported a history of stillbirth, and 127(31.4%).

Antenatal care (ANC) engagement was suboptimal, with only 237(57.4%) having prior ANC contact and 243(60.1%) reporting fewer than four visits in their current pregnancy, falling below recommended guidelines. Additionally, 291(72%) had a history of family planning, which may contribute to better preparedness. Most participants 340(84.2%) intended to have a spontaneous vaginal delivery, and 307(76%) reported that their pregnancies were planned. Awareness of their expected delivery date was high, 267(66.1%), and 318(79%) received counseling from healthcare providers. Partner involvement was notable, with 263(65.1%) of husbands attending ANC visits, further supporting BPCR efforts (Table 3).

Table 3:Obstetrics Characteristics of military pregnant women and their families in at AFCSH Addis Ababa, Ethiopia2025, (N=404).

Obstetrics Characteristics	**Category**	**Frequency**	**Percentage (%)**
Gravidity	Primigravida (1)	101	25
	Multigravida (2 and above)	303	75
Parity	Nullipara (No)	120	29.5
	Primipara (1)	141	34.9
	Multipara (2 and Above)	143	35.4
History of stillbirth	Yes	250	61.9
	No	154	38.1
History of abortion	Yes	127	31.4
	No	277	68.6
History of ANC contact in the previous pregnancy	Ye	232	57.4
	No	172	42.6
Current gestational age	≤20weeks	86	21.3
	≥(21-30week)	169	41.8
	≥ (31 weeks above)	149	36.9
ANC contact in the current pregnancy	1-3 contact	243	60.1
	≥4 contact	161	39.9
History of family planning	Yes	291	72
	No	113	28
Mode of delivery plan	SVD	340	84.2
	C/S	64	15.8
Status of current pregnancy	planned and wanted(intended)	307	76
	unplanned but anted(mistimed)	78	19.3
	unplanned and unwanted	19	4.7
Know the Expected Date of Delivery and (LNMP)	Yes	267	66.1
	No	137	33.9

5.2.1. During ANC experience and Counseling and Information related factors

The study assessed the level of awareness among pregnant mothers about Birth Preparedness and Complication Readiness (BPCR), revealing that 241(59.7%) reported having some information, indicating a notable knowledge gap that could hinder preparedness for childbirth. Most respondents, 248(61.4%), cited healthcare providers as their primary source of information (Table 4).

Table 4:Obstetrics Characteristics of military pregnant women and their families in at AFCSH Addis Ababa, Ethiopia2025, (N=404).

Counseling and Information During ANC Visits	category	frequency	Percentage%
Received Counseling from Health Service Providers	Yes	318	78.7
	No	86	21.3
Have you ever participated in the Pregnancy Conference	Yes	144	35.6
	No	260	64.4
Husband's Attendance at ANC Follow-Up	Yes	263	65.1
	No	141	34.9
Information About (BP/CR)	yes	241	59.7
	No	163	40.3
Source of Information About BP/CR During Pregnancy	Health care provider	248	61.4
	Media (TV, Radio)	103	25.5
	Other	53	13.1

5.3 Level of Birth Preparedness and Complication Readiness items

The study reveals that 340 (84.2%) of respondents have identified their intended place of delivery, but 47.8% have not identified a skilled provider. Financial preparedness is moderate, with 254(62.6%) saving for delivery expenses and 216(53.5%) arranging for emergency transportation. Awareness of urgent obstetric danger signs and 24-hour emergency services is high, but only 60(14.9%) have made comprehensive arrangements for birth preparedness and complication readiness. This highlights the need for more integrated planning, especially for high-risk groups like military women (Table 5).

Table 5:Level Birth preparedness and complication readiness items among pregnant military women and their families in at AFCSH Addis Ababa, Ethiopia2025, (N=404).

Birth preparedness and complications readiness items	**Category**	**Frequency**	**Percentage**
Identify the place of delivery	Yes	340	84.2
	No	64	15.8
Identify a skilled provider	Yes	193	47.8
	No	211	52.2
Save money	Yes	254	62.6
	No	150	37.4
Identify means of emergency transport	Yes	216	53.5
	No	188	46.5
Identify emergency urgent obstetric signs	Yes	306	75.7
	No	98	24.3
Identify a health institution with 24-hour emergency obstetric care	Yes	306	75.7
	No	98	24.3
Prepare clean clothes & other necessary materials	Yes	273	67.6
	No	131	32.4
A plan for communication means	Yes	235	58.2
	No	169	41.8
Arrange for BP/CR	Yes	60	14.9
	No	344	85.1
Identify support people to help	Yes	263	65.1
	No	141	34.9
Identify the importance of seeking care without delay	Yes	316	78.2
	No	88	21.8

5. 4. Level of Birth Preparedness

In this study level of BP/CR was grouped into two after computing the questions to assess the dependent variable if greater than or equal to the mean ($\mu \geq 15.25$), they are well prepared, and less than the Mean, not well prepared (Figure 2).

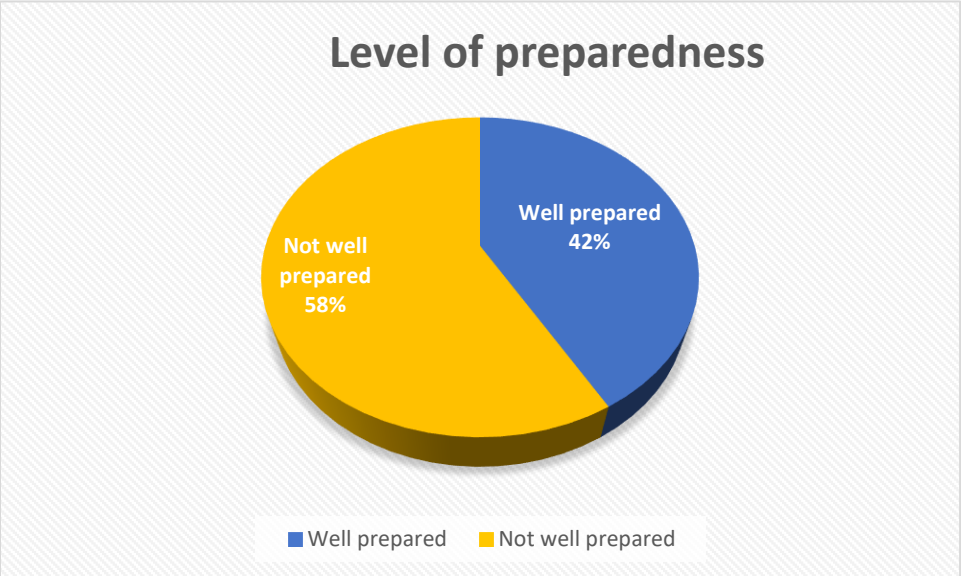

Figure 2: The pie chart shows the level of Birth Preparedness and Complication Readiness

5.5. Knowledge of key obstetric and neonatal danger signs

The study evaluated pregnant women's knowledge of danger signs across different stages, revealing a generally high level of awareness. During pregnancy, 320(79.2%) of participants were knowledgeable about potential complications, while 84(20.8%) were unknowledgeable. Awareness remained strong during labor and delivery, with 294 (72.8%) of women identifying critical signs, although 110(27.2%) lacked this knowledge.

In the postpartum period, 295(73 %) demonstrated awareness of danger signs, while 109 (27%) were unknowledgeable. Knowledge regarding danger signs in newborns was slightly lower, with 288 (71.3%) informed, leaving 116 (28.7%) unaware. These findings highlight the importance of ongoing education to further enhance maternal awareness and improve health outcomes during and after pregnancy (Table 6).

Table 6: Knowledge of pregnant women on obstetrics danger signs during pregnancy, labor, the postpartum period, and the newborn period among pregnant military women and their families in at AFCSH Addis Ababa, Ethiopia2025, (N=404).

Obstetrics Danger Signs	Category	
	Good awareness N (%)	Poor awareness N (%)
Knowledge of danger signs during pregnancy	320(79.2)	84(20.8)
Knowledge of danger signs during labor and delivery	294(72.8)	110(27.2)
Knowledge of danger signs during the postpartum period	295((73)	109(27)
Knowledge of danger signs in newborns	288(71.3)	116(28.7)

5.5. Predictors of birth preparedness and complication readiness

The logistic regression analysis identified several significant associations influencing birth preparedness and complication readiness (BPCR) among pregnant women.

Military women are 15.03 times more likely to be prepared and ready for complications compared to women who have other occupations (AOR = 15.03; 95%CI:4.32-51.66). Government employee women who had 4.35 times more likely to be prepared and ready for complications compared to women who had other occupations (AOR = 4.35;95% CI: 1.55-12.19). women who have History of an abortion are two times more likely to be prepared and ready for complications than women who have not experienced abortion (AOR = 1.91;95% CI: 1.12- 3.26). Women who live with a partner are 54% less likely to be prepared and ready for complications compared to women who do not live with their partner (AOR = 0.46;95% CI: 0.26- 0.83). The woman's choice of spontaneous delivery is 3.1 times more likely to be prepared and ready for complications compared to women who have cesarean section (AOR = 3.05;95% CI: 1.47- 6.29). Women who have information are 55% less likely to be prepared and ready compared to women to have not gained information (AOR = 0.45;95% CI:0.27- 0.75) (Table 7).

Table 7: Logistics Regression Analysis on Factors Associated with the Practice of Birth Preparedness and Complication Readiness among pregnant army women and their family AFCSH Addis Ababa, Ethiopia, N=404(simple and multiple variable binary logistics regression).

Predictors	**Category**	**Level of preparedness**		COR (95%CI)	AOR (95%CI)	P-value
		well prepared	Not - Well prepared			
Occupation	House wives	36	86	1.30(0.56,3.03)	2.20(0.81,5.91)	0.118
	Government employees	34	64	1.65(0.70,3.90)	4.35(1.55,12.19)	0.005*
	Military	89	58	4.77(2.1,10.85)	15.03(4.37, 51.66)	0.000*
	Others	9	28	1	1	
Currently live with a partner	Yes	118	203	0.38(0.23,0.63)	0.46(0.26, 0.83)	0.010*
	No	50	33	1	1	
	Others	10	25	1	1	
History of abortion	Yes	60	67	1.40(0.92,2.14)	1.91(1.12, 3.26)	0.016*
	No	108	169	1	1	
Mode of delivery	SVD	150	190	2.02(1.12,3.62)	3.05(1.47, 6.29)	0.003*
	C/S	18	46	1	1	
Information about BP/CR	Yes	78	163	0.38(0.26,0.58)	0.45(0.27, 0.75)	0.002*
	No	90	73	1	1	
*=significant in bivariate analysis at p-value of less than 0.05, **=statistically significant association at p- p-value of less than 0.05 after adjusting for all the other variables.						

6. DISCUSSION

To assess the Level of experience and Birth Preparedness and Complication Readiness in this study, 41.6% of the pregnant women were classified as well prepared for birth and complication readiness (BPCR). This prevalence was comparable to findings from similar studies that were conducted in southern Ethiopia reported a BPCR prevalence of 44.9% among 422 participants, which the authors attributed to improved multi-sectoral interventions and health extension programs enhancing maternal preparedness(47). From this study, the result that was obtained in southern Ethiopia was slightly higher than the current study; this may be due to the study's subject. Conversely, the prevalence is notably higher than earlier studies in Ethiopia, such as those in Jimma Zone, 23.3%(69). and Adigrat town 22%(40). reflecting possible improvements over time due to increased awareness and antenatal care coverage(70). However, it remains lower than figures reported in some middle-income countries like Thailand and India, where BPCR rates exceeded 78%, likely due to differences in socioeconomic status and healthcare infrastructure(71, 72). There are five predictors associated with the level of birth preparedness, well-preparedness, Occupation, living with a partner, history of abortion, mode of delivery, and Information about BP/CR. The variance in research emphasizes the importance of contextual factors, such as health education, access to resources, and community engagement, in BPCR practices. The findings of this study coincide with a growing body of evidence indicating moderate but improving levels of birth preparedness in resource-limited settings, emphasizing the continuous need for focused treatments to promote maternal readiness for birthing issues.

The results show that women in military occupations are more likely prepared and ready to face complications compared to women who have other occupations. These findings align with previous research suggesting that stable employment enhances access to healthcare resources and information, thereby improving BPCR (73-75). However, the structured healthcare access and mandatory antenatal care within military settings likely contribute to better BPCR, as supported by a systematic review in Ethiopia showing formal employment improves preparedness through financial stability and healthcare access(76). In these findings, women who are Government employees women's also demonstrate a strong association, and align with findings from Ethiopian and Tanzanian studies where stable jobs facilitate antenatal care attendance and BPCR(77, 78).

The women who had a partner living with them by 54% to be protected for well preparedness compared to not livid with a partner (AOR = 0.46; 95% CI: 0.26–0.83). The big difference from this study might be that our study was conducted in military personnel, but the other one in the civil community. It indicates the importance of social support(45). There were findings indicating that women with supportive partners were more likely to engage in health-seeking behaviors and prepare adequately for childbirth. Such as from multiple African settings where partner cohabitation strongly supports maternal health behaviors, including BPCR, by providing emotional and financial support (79, 80).

Regarding reproductive history, 31.4% of this study participant had a history of abortion, a character comparable to previous others study Ethiopian studies where prior adverse pregnancy outcomes increase maternal vigilance Women who with history of abortion was 4.35 times have an increased more likely to prepared and ready for complication compared to women who have not experience. Suggests that previous experiences may enhance awareness. It strengthens previous study in Ethiopia and Somalia, which indicates that women who have undergone previous reproductive experiences tend to be more vigilant and prepared. This similarity was due to similar population and settings (76).

The significant association of spontaneous vaginal delivery with preparedness the impact of informed decision-making. Similar findings were reported by Ezechi et al. 2017, who noted that women informed about their delivery options are better prepared for childbirth. Ezechi, O. C., et al. "Informed Choices in Delivery Mode." African Journal of Reproductive Health, 2017. The majority (84.2%) planning spontaneous vaginal delivery (SVD) is consistent with global trends in low-resource settings where vaginal delivery remains predominant(81). Studies from Ghana and Ethiopia similarly report high SVD rates, which correlate with better preparedness as women anticipate a less complicated birth process compare to caesarian section chose women(82).

Lastly, 59.7% of women in the study received information about being protected to be well prepared, a prevalence higher than some reports from Ethiopia, where BPCR knowledge and practice remain low (around 25–32%(1, 83). This suggests this study population benefits from better health education outreach, which is critical since receiving BPCR information significantly improves preparedness and reduces maternal and neonatal risks.

These results align with global evidence emphasizing that comprehensive birth preparedness planning effectively reduces delays in seeking and receiving care, thereby lowering maternal and neonatal morbidity and mortality, especially in resource-limited settings.

7. Conclusion and Recommendations

7.1. Conclusion

The study conducted at the Armed Forces Comprehensive Specialized Hospital identified several key factors influencing the level of birth preparedness and complication readiness (BPCR) among pregnant women. The findings underscore the critical role of occupational status, particularly among military occupation and government employees, in enhancing preparedness due to better access to healthcare resources and structured support. The pregnant military women factors such as living with a partner, significantly improved readiness, and emphasize the importance of emotional support during pregnancy. A history of abortion was associated with increased awareness and impetus for well preparation, reflecting the impact of previous pregnancy experiences.

Additionally, mode of delivery planning for spontaneous vaginal delivery, information receive about childbirth were important determinants of well preparedness. These results align with international evidence emphasizing that comprehensive birth preparedness planning well reduces delays in seeking and receiving care, thereby reducing maternal and neonatal morbidity and mortality, particularly in resource-limited settings.

7.2 Recommendations

For Army Force Hospital Commanding Officers (COs): to assess the current challenges tackled in maternal healthcare within military hospitals. Enhance service delivery by allocating resources to improve the obstetrics healthcare facilities and training for obstetrics healthcare providers to meet the exclusive needs of pregnant military personnel and their families.

For Department Heads: to identify the exact challenges in maternal health services. Increase manpower by engaging additional qualified staff and facilitating continuing training programs to ensure that obstetrics healthcare providers are well-equipped to address these challenges effectively.

For the Army Force Health Directorate, to evaluate and regularly monitor the overall performance of hospitals and obstetrics and gynecology departments regarding maternal health services. Implement feedback mechanisms to ensure continuous improvement and address any identified breaks in service delivery.

For Educational Institutions (EDUCHS): Ethiopian Defense University College of Health Science, to encourage and support research initiatives focused on maternal health and childbirth. Facilitate partnerships between researchers and healthcare professionals to identify and address local challenges, ultimately contributing to improved maternal health outcomes in pregnant military women's settings.

8. LIMITATIONS

The study's limitation is a cross-sectional design the ability to establish causal relationships between identified levels of experience and BPCR outcomes, as time-based sequencing cannot be deep-rooted. The setting within a military hospital may limit generalizability to broader civilian populations, given the exceptional obstetrics healthcare access and military occupational characteristics of the participants. Self-reported data on sensitive topics such as abortion history and birth preparedness may be subject to social desirability or recall bias despite mitigation efforts. Furthermore, some important variables such as cultural beliefs, detailed socioeconomic status, and quality of antenatal care were not assessed, which may influence BPCR but remain unmeasured in this study. Lastly, the sample size, while adequate for the primary analyses, may have limited power to detect associations for less common exposures or outcomes.

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APPENDIX I: Study Participant Information Sheet

My name is _____. I am working as the data collector of the study being conducted in this Hospital. I kindly request that you lend me your attention to explain to you about the study in general.

Objective of the study: To determine factors influencing BP/CR among military pregnant women and their families, and Above new cases and follow-up in AFCSH in Addis Ababa, Ethiopia, 2025. The purpose of the research is to fill the gap in information about the prevalence of BP/CR and possible factors responsible for pregnant women who are new cases and on follow-up in AFCSH in Addis Ababa. The data collectors will collect the necessary information from study subjects and from using interviewer interviewer-administered structured questionnaire, which takes approximately 20-30 minutes.

Risk and /or Discomfort: Participating in this study does not have any risk or harm.

Benefits: Participating in this study does not have any direct benefits or incentives. But the findings from this research may reveal important information for regional health planners.

Rights of participants: Participation in this study is fully voluntary. You have the right to decide whether to participate or not in this study. If you decide to participate, you have the right to withdraw from the study at any time. You do not have to answer any question that you do not want to answer.

Confidentiality: The information you will give us will be confidential. There will be no information that will identify you in particular. Any information forwarded will be kept secret, and your name will not be specified.

Person to contact: Contact address: Principal investigator:

Email: andualemchifraw23@gmail.com. Mobile phone No: 251920877496

Consent form: By signing below, you acknowledge that you have read and understood the information provided above, and you consent to participate in this study.

Participant's Name: _____ Signature: _____ Date: _____

Structured questions to assess factors influencing the level of awareness regarding Birth Preparedness and Complication Readiness (BP/CR).

Table 2: Socio-demographic characteristics

S.NO	Question	Response	Remark
1.	Participant Code	_____	
2.	service user	1. Military 2. Military Family 3. Staff	
3.	What is your current military rank	1. Pvt 2. Corporal 3. Surgeon 4. Officer 5. Civil.	
4.	How old are you (Age)--	Year.....	
5.	Marital statues	1, Single 2. Married, 3. Widowed 4. Divorced	
6.	Educational level	1. No formal education 2. Read and write 3. Primary education 4. Secondary education 5. College and above	
7.	What is your current Occupation	1. Housewife 2. Government Employee 3.NGO employee 4. Merchant 5. Military 6. Other	
8.	Family size	_____	
9.	What is your household's use of income	1. Your household eats into its assets and savings 2. Your household spends what it earns 3. Your household can save money 4. Your household gets into debt 5. I have no answer	
10.	Husband education level	1.No Formal Education 2. Primary Education 3. Secondary Education 4. College and Above	
11.	Are you currently living with a partner	1. Yes 2.No 3. Live at the front (Mission) 4. Filed	

12.	Distance from home to hospital	1. >10 KM 2.< 10 km	
13.	What is your role in decision-making regarding your obstetrics health care	1. Self 2. Wife and husband (Joint) 3. Others	
14.	Are you currently deployed, or have you been deployed in the past 12 months	1. Yes, currently deployed 2. Yes, deployed in the past 12 months 3.No, not deployed	
15.	Have you planned for your obstetrics health care during deployment	1. Yes 2. No	
16.	Have you discussed your birth plan and pregnancy? Follow up with your husband and command	1. Yes 2. No	

Table 3: Obstetrical History and Related Factors

S.No	Question	Response	Remark
1.	Number of pregnancies (Gravidity)	_____	
2.	Number of live births	_____	
3.	History of stillbirths		
4.	Did you ever have a history of abortion	1. Yes 2. No	
5.	Did you receive antenatal care during your last pregnancy? (For multi-gravid and delivered mothers only	1. Yes 2. No	
6.	How many weeks of current pregnancy (GA)	_____	
7.	Number of ANC contacts? (visits)	_____	
8.	Before this pregnancy, have you ever used contraceptives	1. Yes 2. No	
9.	Have you ever had a plan for the mode of delivery	1. SVD 2. C/S	
10.	What is the status of the current pregnancy	1. Planned and Wanted 2. Unplanned and Unwonted 1. Unplanned and unwanted	
11.	Know the Expected Date of Delivery (LNMP)	1. Yes 2. No	
12.	Did you receive any advice or counseling from health service providers during your ANC visit	1. Yes 2. No	
13.	Does your husband come to the Health center during your ANC follow-up?	1. Yes 2. No	
14.	Have you ever participated in the Pregnancy Conference	1. Yes 2. No	

Table 4: Level of preparedness for birth and its complications.

S.No	Question	Response	Remark
1.	Do you have any information about birth preparedness and complication readiness	1. Yes 2. No	
2.	If yes, what is your source of information about BP/CR during pregnancy?	1. Health perfection 3. Media (TV, radio) 4. Other (specify)…	
3.	Where do you plan to place of deliver	1. Home 2. Health facility 3. Other (specify)….	
4.	Have you chosen a Skilled health care provider for your delivery	1. Yes 2. No	
5.	Have you set aside money for childbirth-related expenses?	1. Yes 2. No	
6.	Do you have a plan for Transportation to a health care facility during labor?	1. Yes 2. No	
7.	Are you aware of the signs that indicate a need for urgent Obstetrics care during pregnancy	1. Yes 2. No	
8.	Do you know of a health institution that provides 24-hour emergency obstetric care	1. Yes 2. No	
9.	Have you gathered clean clothes and other necessary materials for the delivery	1. Yes 2. No	
10.	Do you have a plan for how to communicate with your support network during labor	1. Yes 2. No	
11.	Do you have family or friends you can rely on for support during childbirth	1. Yes 2. No	
12.	Do you understand the importance of seeking obstetrics care without delay if complications arise	1. Yes 2. No	
13.	Have you made some arrangements regarding preparations for birth and its complications?	1. Yes 2. No	

Table 5: Awareness About Obstetric danger signs during pregnancy, labor and delivery, postpartum, and in newborns (Level of BP/CR practice)

S.NO	Question	Response	Remark
1.	Have you ever had obstetric danger signs during a previous pregnancy	1. Yes 2. No	
2.	Do you know of obstetrics danger signs During Pregnancy ***(possible more than one answer)****?*	1. Vaginal bleeding 2. Swollen hands/face 3. Blurred vision 4. Severe headache 5. PROM 6. Severe abdominal pain	
3.	Do you know about obstetrics? Danger signs that can occur During Labor and Delivery ***(possible more than one answer)?***	1. Severe Vaginal bleeding 2. Prolonged labor (>12 hours) 3. Convulsion 4.Retained placenta(>1hr) 5. Severe headache 6. The cord comes first before the baby	
4.	Do you know about obstetrics? Danger signs that can occur during the Postpartum Period ***(possible more than one answer)?***	1. Severe Vaginal bleeding 2. foul-smelling vaginal discharge 3. Convulsion 4. High fever 5. Swollen hands and face 6. Severe headache	
5.	Awareness of danger signs, Newborn outcome ***(possibly more than one answer).***	1. Difficult or fast breathing 2. Yellow skin or eye color 3. Poor sucking or feeding 4. Bleeding, or discharge from the umbilical cord 5. The baby is very small 6.Convulsion/spasm/rigidity 7.Lethargy/unconsciousness	

Thank you for spending your time and valuable information you gave us