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SCHOOL OF PUBLIC HEALTH

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UNIVERSITY OF GHANA



FACTORS INFLUENCING MIDWIVES' COMPLIANCE WITH IMMEDIATE POSTPARTUM MONITORING PROTOCOLS IN SELECTED HEALTH FACILITIES IN THE GREATER ACCRA REGION

BY

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DECLARATION

I, JULIET SELASI AKOSUA ATTIPOE, certify that this dissertation is my work and that no previous submission for a degree has been made here or elsewhere. Also, works by others that were used as sources of information have been duly acknowledged by referencing the authors where applicable.

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DEDICATION

I dedicate this research to my mother, Beatrice Goku, for her love and support throughout this academic journey. Thank you, Mama, for encouraging and cheering me on, especially in the lowest moments when I felt I could no longer continue. To my brothers Godwin and Mawunyo Attipoe, your constant support, kindness, and contributions toward this journey are deeply appreciated.

This dissertation is also dedicated to Dr Theodore Boafor, a senior consultant, and lecturer in obstetrics, and gynaecology and Miss Catherine Kroahmah Dwumfuor, a senior colleague and assistant lecturer in midwifery. You never hesitated to provide me references whenever needed, your unwavering support and encouragement has resulted in this academic achievement.

Most of all, I dedicate this work to Almighty God for life, for health, and for strength. I am eternally grateful to God for His providence, guidance, and unending mercies, from the beginning of this journey to the very end. Indeed, His unfailing love and protection have been abundant upon my life, and this is evident in the successful completion of this program. I conclude my dedication with Psalm 118.

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To my research assistants and participants, I say thank you for the yeoman's work throughout the data collection period. May God bless you for every moment and effort you spent to see this project come to life. Finally, I want to appreciate every institution and individual who has contributed in one way or another to my work; I say ayekoo. May God bless you and replenish your stock.

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LIST OF ABBREVIATIONS

ACOG:	American College of Obstetricians and Gynaecologists
ANC:	Antenatal Care
BEmONC:	Basic Emergency Obstetric and Newborn Care
CEmONC:	Comprehensive Emergency Obstetric and Newborn Care
ENBC:	Effective Newborn Care
GHS:	Ghana Health Service
HBM:	Health Belief Model
ICM:	International Confederation of Midwives
IFA:	Iron and Folic Acid Supplementation
IPPM:	Immediate Postpartum Monitoring/ Immediate Postpartum Monitoring Protocols
IPPP:	Immediate Postpartum Period
IPPCG:	Immediate Postpartum Care Guidelines
LMIC:	Low-and-Middle Income Country
MO:	Midwife Officer
MOH:	Ministry of Health
OR:	Odds Ratio
PMO:	Principal Midwife Officer
SDG:	Sustainable Development Goals
SM:	Staff Midwife
SMO:	Senior Midwife Officer
SSM:	Senior Staff Midwife

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TPB: Theory of Planned Behavior

WHO: World Health Organization



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ABSTRACT

Cases of maternal mortality in the Ghanaian context typically occur during the immediate postpartum period, despite strong evidence to support that strict adherence to immediate postpartum monitoring (IPPM) guidelines can significantly improve the health outcomes of both mothers and their newborns. This research evaluated factors influencing the compliance levels of Ghanaian midwives to IPPM protocols. An analytical cross-sectional study design was conducted using five selected health facilities in the Greater Accra Region, comprising two tertiary, two secondary and one primary health care facilities. Following informed consent of participants, midwives who were actively working in the labour and postnatal wards or had a minimum of six months' experience in maternity care were included in the study. Multistage and random sampling techniques were used to select 426 midwives who met the inclusion criteria across the selected health facilities. A structured questionnaire was used to capture midwives' sociodemographic and facility-based characteristics while a standardized IPPM checklist was used to observe specific practices followed by midwives during the immediate postpartum period.

The results revealed that 202 (47.4%) midwives demonstrated total compliance with IPPM protocols while 224 (52.6%) demonstrated partial compliance. In terms of midwives' individual characteristics, it is showed that midwives in the 26 – 35 age group (odds ratio (OR) = 0.43) and those older than 35 years old (OR= 0.53) were less likely to comply with IPPM protocols (p= 0.001 and p= 0.028 respectively). Also, staff midwives who were recruited as SSM were found to be 6.88 times more likely to adhere to IPPM protocols compared to those recruited at a lower grade at the time of study. Also, increase in gross monthly income was attributed to lower IPPM compliance [3001 – 4000 (OR= 0.36, p= 0.000), 4001 – 5000 (OR= 0.38, p= 0.002) and more than 5000 (odds ratio= 0.47, p= 0.053)]. In terms of facility-based metrics, increased number of

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midwives during shifts (3 – 5 midwives) and the use of nurses' notes (OR= 3.17, CI= 1.51 – 7.13) as the preferred IPPM tool were associated with increased compliance (odds ratio= 1.29, p= 0.223). However, the lack of frequent supervision led to lower compliance (OR= 0.41, CI= 0.21 - 0.74). Finally, midwives' IPMM compliance was highest within primary facilities and least in tertiary facilities. These findings suggest a clear need for improvement in the delivery of postpartum care by Ghanaian-based midwives, particularly in the postpartum period.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Maternal and neonatal health are key elements of the global health agenda of the World Health Organization (WHO), recognized as basic human rights and essential for achieving category three of the United Nations Sustainable Development Goals (Hales & Birdthistle, 2023). WHO operationally defines maternal health as the health of women for the period between pregnancy, childbirth and postpartum, while newborn health is defined as the quality of health of the newborn during the first month of life (WHO, 2025a). For both mothers and their newborns, the first 24 hours after childbirth is vital for ensuring their short-term and long-term health outcomes. This period, also known as the immediate postpartum period (IPPP), is often characterized by an elevated risk of danger to both mother and newborn due to complications which may arise from issues like postpartum hemorrhage (Bienstock et al., 2021) and neonatal distress (Mohammed et al., 2023) among others. Current evidence indicates that more than half of global maternal and neonatal mortality occur within the IPPP (Clarke-Deelder et al., 2023; Dol et al., 2022; Souza et al., 2024) making it a key period for preserving the health and well-being of mothers and their neonates.

During the immediate postpartum period, it is important for midwives and other healthcare professionals to adhere to specific immediate postpartum care guidelines (IPPCG) to monitor the vital signs of both mothers and their newborns for early detection of potential complications and also ensure the quality of care given. Clarke-Deelder et al. (2023) note that, while some postpartum

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complications may be inevitable, timely identification and management can significantly reduce the morbidity and mortality associated with the first 24 hours after delivery. Put differently, prompt, quality and precise postpartum care must be emphasized and adhered to after delivery and until discharge to preserve maternal and neonatal health. In a recent related study in Ethiopia, the authors recorded significant association between adherence to IPPCG and positive postpartum health outcomes of mothers and neonates (Kebede et al., 2021). This observation was supported by Finlayson et al. (2023) who estimated that more than a quarter of neonatal fatalities can be avoided if IPPCG are followed strictly by health professionals. However, according to documented compliance cases in some Jordanian and Ethiopian studies, healthcare providers' adherence to these guidelines is typically less than optimal (Kebede et al., 2021; Omymah & Lubna, 2022). For instance, whereas some healthcare providers adhered to certain components of postpartum care, comprehensive compliance was limited to approximately 42.4% of healthcare providers in Gondar province hospitals (Kebede et al., 2021).

In Ghana, despite significant efforts by the Ministry of Health (MOH) and Ghana Health Service (GHS) to reduce maternal deaths over the past three decades (Adu & Owusu, 2023), there remains an acute concern of maternal and neonatal mortality ratio. A recent statistic from the Ghana Maternal Health Survey (GMHS) indicate that nearly 14% of all deaths among women of reproductive age in Ghana are maternal deaths (Ghana Martenal Health Service et al., 2017). Whereas neonatal mortality, though declining, also remains unacceptably high (Adams, Ray, et al., 2023). Manu et al. (2022) highlighted the efforts of the MOH, as well as other international organizations to develop and implement standardized IPPCG to bridge these gaps. However, the persistent high neonatal and maternal mortality in Ghana reflects a potential lack of adherence by midwives to these protocols across different regions (Adatara et al., 2021; Dzomeku et al., 2020),

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and this is consistent with observations from other African and Low-and-Middle Income Countries (LMICs) (Namutebi, Nalwadda, Kasasa, Muwanguzi, & Kaye, 2023).

Factors such as lack of awareness and use of IPPCG (Namutebi, Nalwadda, Kasasa, Muwanguzi, & Kaye, 2023), low educational status (Öjendal et al., 2023), availability of postpartum guidelines (Kebede et al., 2021) and exposure to basic emergency obstetrics and newborn care training (A. Bune et al., 2023) have been previously described by researchers in non-Ghanaian health environments to contribute to healthcare professionals' non-compliance to IPPCG. Nevertheless, existing literature on factors affecting midwives' and other health professionals' compliance with IPPCG within the Ghanaian health context is limited. This study thus aims to bridge this gap.

1.2 Problem Statement

Globally, despite conscious efforts and advocacy being put in place to reduce fatalities during pregnancy, childbirth and the postpartum period, the rate of maternal and neonatal mortality in Ghana continues to be concerningly high (Adu et al., 2021). To make the matter even worse, most maternal-mortality cases in the Ghanaian environment occurs typically within the immediate postpartum period (Ghana Martenal Health Service et al., 2017) , although strong evidence supports that proper adherence to IPPM can significantly improve maternal and neonatal health outcomes and minimize mortalities during this period (Finlayson et al., 2023; Kebede et al., 2021).

Midwives are crucial in maternal and neonatal health outcomes, responsible for monitoring both mothers and their newborns after delivery. A recent position statement by the International Confederation of Nurses and Midwives highlighted the role of the midwife in ensuring the wellbeing of both mother and baby under her care, emphasizing that they possess the needed skills for essential competencies in basic midwifery practice such as examining and resuscitating the

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newborn where necessary, and promptly identifying and managing any complications, especially during the first 24 hours of life (ICM, 2024a). In Ghana, however, the persistent occurrence of maternal and neonatal deaths, especially within the first 24 hours post-delivery reflects potential gaps in compliance to standard protocols among midwives and other health professionals in the country. For example, a recent study in the Greater Accra region revealed a clear inconsistency among healthcare providers when it comes to compliance with WHO recommendations on postpartum protocols, varying significantly between urban and rural health facilities (Stephens et al., 2024). In a similar Ghanaian-based study where the researchers sought the compliance levels of midwives to national postnatal care protocols, it was found that compliance was largely inconsistent (Yevoo et al., 2020). The researchers also found that factors such as availability of required resources, uncertainty over patients' comprehensive health condition and the extent of supervisory support highly impacted midwives' compliance (Yevoo et al., 2020). Other documented evidence of non-compliance to postpartum care guidelines by midwives were published by Adams, Ray, et al. (2023) and Sunkwa-Mills et al. (2020).

Irrespective of the reason, some midwives apparently find justification to ignore standard protocols for postpartum management, often leading to suboptimal care for both mother and child. The consequences of non-compliance with established postpartum care guidelines are dire. Mothers and their newborns may face increased risks of preventable complications such as infections, postpartum hemorrhage and neonatal hypothermia. Additionally, when healthcare providers fail to adhere strictly to these guidelines, with time, the public trust in the healthcare system in the country will wane, further exacerbating the current concern for maternal and neonatal health, especially during the immediate postpartum period.

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Despite these challenges, specific Ghanaian-based studies focusing on factors affecting midwives' compliance to immediate postpartum care guidelines are scarce. This research thus seeks to assess this critical gap and identify individual and facility-based factors that affect compliance among midwives in selected health facilities in the Greater Accra Region.

1.3 Significance of Study

The current study has significance in many regards. For instance, it addresses a crucial gap in maternal and neonatal health research, analyzing which specific individual and facility-based factors influencing midwives' compliance with postpartum care protocols in Ghana. The findings could potentially encourage targeted interventions for improving compliance and subsequent health outcomes of neonatal and maternal health.

In terms of policy formation and implementation, the results can guide policymakers and healthcare administrators in designing supportive structures such as improved training programs, resource allocation strategies and supervisory frameworks. Findings resulting from the study will also be of practical implications for midwifery education and professional development. This is because, evaluating knowledge gaps in maternal and neonatal health practice will inform development of curricula and continuous professional development programs that better equip midwives to adhere to evidence-based guidelines especially due to the benefits that come with it.

Finally, the study aligns with global and national efforts to reduce maternal and neonatal mortality, contributing to the achievement of United Nations Sustainable Development Goal agenda.

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1.4 Research Questions

1. What is the level of adherence by Ghanaian midwives to immediate postpartum monitoring protocols in selected health facilities in the Greater Accra Region?
2. What are the individual factors affecting midwives' adherence to postpartum protocols?
3. What are the facility-based factors that influence midwives' adherence with postpartum care protocols?
4. What is the overall adherence of midwives with immediate postpartum monitoring protocols across different levels of health facilities?

1.5 General and Specific Objectives

1.5.1 General Objective

To evaluate factors influencing the adherence levels of Ghanaian midwives to immediate postpartum monitoring protocols

1.5.2 Specific Objectives

1. To evaluate Ghanaian midwives' adherence to immediate postpartum monitoring protocols in selected health facilities in the Greater Accra Region
2. To examine individual factors affecting midwives' adherence to postpartum protocols
3. To assess facility-based factors that influence midwives' adherence with postpartum care protocols
4. To compare the overall adherence of midwives with immediate postpartum monitoring protocols across different levels of health facilities.

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1.6 Conceptual Framework

The conceptual framework (Figure1.1) outlines how various factors influence midwives' adherence to Immediate Postpartum Monitoring (IPPM) protocols in selected hospitals in the Greater Accra Region. It posits that adherence is affected by individual, facility-based and patient related factors, which collectively impact maternal and neonatal outcomes.

Demographic variables such as age, marital status, and mode of transport reflect midwives' personal traits of midwives, while staff-related factors like education, work and training experiences contribute to their practice and competence. Facility-based factors, including resource availability, monitoring tools in use and availability, supervision and communication service availability, define the working environment enabling adherence to protocols and promoting effective postpartum monitoring. Patient factors such as language and cultural beliefs influence communication and understanding during care These elements underscore the importance of cooperation and trust, with "consent" serving as a moderating factor. Ultimately, enhancing individual skills and institutional support is expected to improve adherence, leading to better postpartum care and health outcomes.

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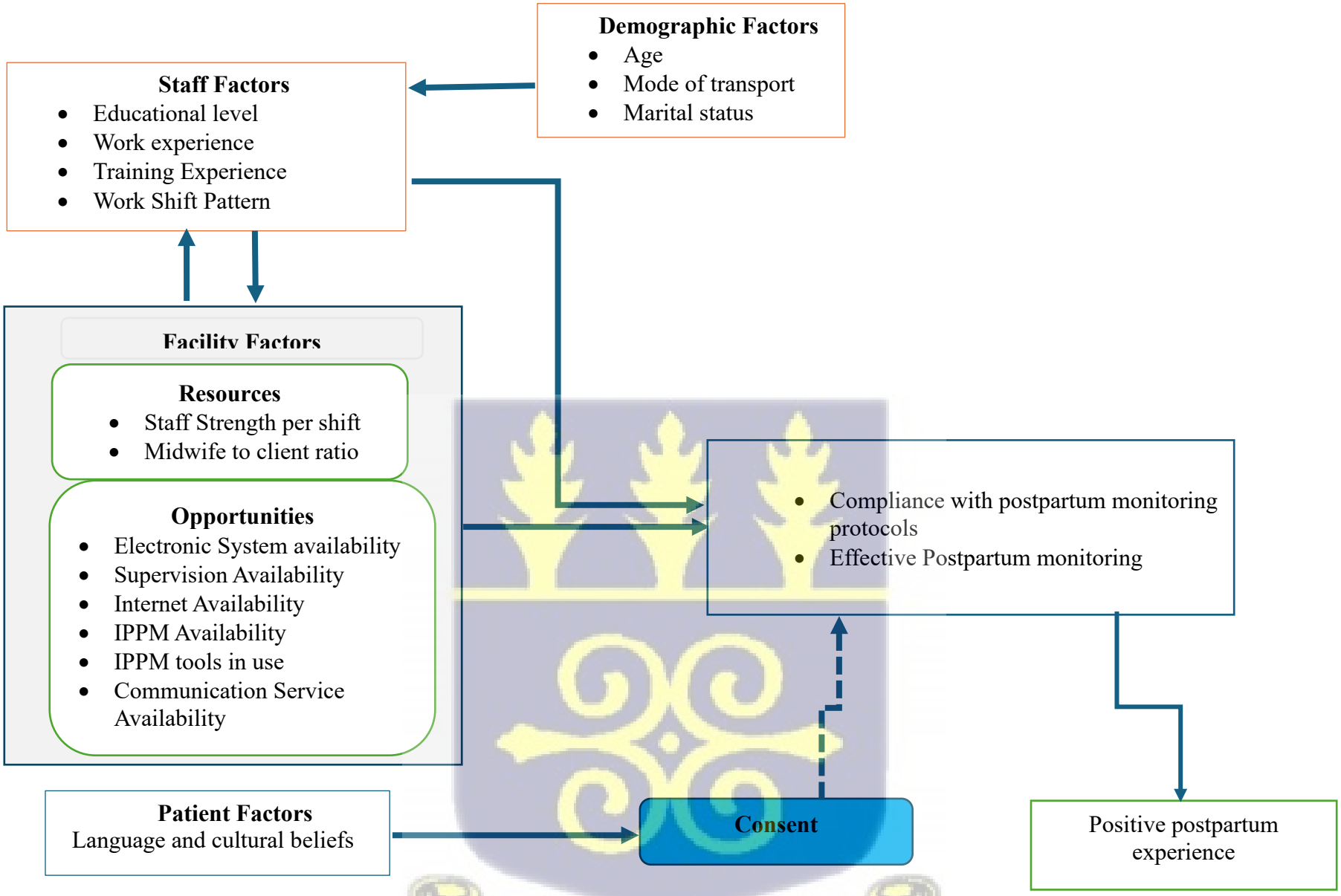


Figure 1. 1 Conceptual framework on compliance with IPPM protocols among midwives in selected hospitals in the Greater Accra Region

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CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Framework

To investigate the relationship among the study constructs, this research draws on the theory of planned behavior, and health belief model as core frameworks. The researcher prefers these theories as they are complementary and offer a structured strategy to understand how midwives process their decision-making and compliance attitudes when it comes to maternal and neonatal healthcare particularly within the immediate postpartum period.

2.1.1 Theory of planned behavior

The theory of planned behavior (TPB) is a robust framework developed by Ajzen (1991) and is used in many social and behavioral research. The theory posits that human behavior can be predicted based on perceived intention to perform the behavior (Bosnjak et al., 2020). TPB is characterized by three core components namely attitude towards behavior, subjective norms, and perceived behavioral control. While attitude towards behavior reflects an individual's evaluation of a particular behavior, subject norms stand for perceived social pressures to perform or not perform the behavior. Ajzen also described perceived behavioral control as the perception a person may have over their own ability to perform a particular behavior (Ajzen, 2011; Hagger & Hamilton, 2023).

Evidence of TPB's application in the healthcare environment is widely supported by current literature. For instance, in an earlier study by McEachan et al. (2011), where the effectiveness of TPB to predict the intentions of healthcare professionals in adhering to clinical guidelines was

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investigated, the researchers highlighted the importance of the theory of planned behavior for provider actions. More recently, Muhammed et al. (2019) also utilized the TPB model to evaluate how the intention of midwives to offer planned home birth services to low-risk women in a suburb in Nigeria vary, reporting that all TPB constructs significantly predicted their intention.

In another related study where the TPB model was applied, the framework was used to understand the breastfeeding intentions and behaviors among mothers. In the same study, Parker et al. (2020) demonstrate how the TPB can be used in the context of maternal and neonatal health outcomes. In addition, Koştu and Toraman (2021) also explored the suitability of the TPB model in healthcare providers research in their study which evaluated the approaches adopted by nurses and midwives in response to intimate partner violence.

For the current study, the theory of planned behavior is suitable due to its focus on intentional behaviors like adherence to immediate postpartum monitoring protocols, which may be planned and executed by midwives. The model also offers a robust approach to understanding cognitive factors such as perceived control and personal traits which impact midwives' behavior. Despite this suitability, the TPB may be limited by its assumption that behavior is under volitional control and may not fully account for external constraints like resource availability or systemic pressures in healthcare settings (Ajzen, 2011).

2.1.2 Health belief model

The Health Belief Model (HBM) is another common framework which underpins most health behavior research. Originally developed in the mid-1950s, its proponents tried to explain why people were unable to participate in programs designed for the detection and/ or prevention of disease. They argued that personal beliefs or perceptions regarding a disease, as well as available

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strategies to curb its occurrence are the key determinants of health behavior (Jones et al., 2014). However, this model has since evolved significantly with several refinements over the past couple of decades, owing to marked improvement in its predictive ability across multiple health behaviors and populations. In modern health research, the importance of HBM is especially seen by its frequent use across several fields such as preventive health behaviors, sick role behaviors, and health service utilization (Alyafei & Easton-Carr, 2024).

Current understanding of the model indicates three core classes of factors which influence the health-related actions of individuals. First, HBM posits that there must be enough motivation to make health issues important. There should also be a perceived threat. Finally, an individual must feel that adherence to specific health standards would help to mitigate the perceived threat (Ahadzadeh et al., 2015; Haller et al., 2008). Specifically, these classes of factors are often sub-grouped into six major tenets namely perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to actions and self-efficacy (Bish & Michie, 2010; Orji et al., 2012).

Evidence of the extensive application of HBM across various healthcare domains is seen in the metanalysis by Carpenter (2010) where the authors examined the usefulness of HBM metrics to predict behavior. The study found that the strongest predictors were benefits and barriers, whereas the predictive power of other metrics varied more significantly across different behavioral domains and time frames (Carpenter, 2010). The same study also reported some key variables which moderate the predictive power of HBM variables, as well as the relative weakness of some predictors of the model. Despite these plausible limitations, the inclusion of perceived benefits and barriers within the model is consistent with other related studies which report on the factors affecting preventive health behaviors (Alyafei & Easton-Carr, 2024).

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In terms of maternal and neonatal health research, Simhi et al. (2021) examined the treatment preferences for postpartum depression among new Israeli mothers. In their study, the researchers found that HBM components and social support were important mediating elements that helped them explain the treatment preferences of mothers. Specifically, the authors reported that HBM metrics significantly mediated the relationships between sociodemographic factors and treatment preferences (Simhi et al., 2021). Also, in a similar study which utilized the HBM, Dafroyati (2024) evaluated maternal behavior regarding antenatal care (ANC) and realized that there were significant links between HBM metrics and maternal behavior in performing ANC.

Based on evidence in current literature, this study thus focuses on the complementary frameworks of the theory of planned behavior and the health belief model as the theoretical underpinnings to investigate the factors influencing the compliance levels of Ghanaian midwives with immediate postpartum monitoring protocols in selected health facilities.

2.2 Postpartum Monitoring of Maternal and Neonatal Health

Due to well-documented physiological and psychological changes which occur to both mothers and their newborns, postpartum monitoring is vital. The World Heath Organization defines postpartum period as the period after birth, typically spanning the initial 6 weeks, where midwives and other care providers monitor maternal and neonatal progress to enable immediate response to potential complications which may arise (WHO, 2022).

In terms of mothers, postpartum monitoring encompasses evaluating various factors including the physical demands which are required during the birth process. Evidence of fatigue among postpartum women is highly prevalent with some studies indicating that tiredness and exhaustion may remain for several months post-delivery (Cheng et al., 2016; Giallo et al., 2015). Saharoy et

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al. (2023) note that it is important to monitor the physical metrics of postpartum women due to their interconnectedness with symptoms of postpartum depression as well as breastfeeding-related challenges. Additionally, postpartum monitoring of women is needed to access mothers' experiences of pain on different body parts which may affect their capacity to provide comprehensive care to their newborn babies. Common areas of pain such as those in the perineum following vaginal deliveries, caesarean incision areas or back pain have been previously described (Adams, Miller, et al., 2023; McCauley et al., 2022; Saharoy et al., 2023). Research by Feldman and Perret (2023) also highlighted the need for maternal monitoring during the postpartum period, noting the adverse repercussions of unaddressed maternal psychological health conditions on both mothers and their newborns.

For the neonate, postpartum monitoring is equally important. Following standardized guidelines by the WHO, newborn babies may be carefully assessed for feeding patterns, weight gain, and screening for jaundice among others during the postpartum period (WHO, 2022). These monitoring processes of the newborn enable practitioners to detect potentially serious conditions, often treatable, and which may otherwise not be apparent at the time of birth (Ding & Han, 2022). Also, prompt detection offers practitioners the chance to intervene, avoid complications and improve the long-term health outcomes of the newborn (Hinton et al., 2016).

2.2.1 Role of midwives in postpartum monitoring

Whereas postpartum care may be given by a team of interdisciplinary professionals, the particular roles played by the midwife is often central (Schulz & Wirtz, 2023). According to the World Health Organization's definition of midwifery, it encompasses knowledge, skillset and compassion which is given to women of reproductive age, their neonates and their families for the period before pregnancy, during pregnancy, birth and in the postpartum period (WHO, 2025b). In the same report,

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midwives' role in substantially reducing maternal and neonatal mortality, as well as improvement in the quality-of-care women is emphasized.

The International Confederation of Midwives (ICM) also defines a midwife is an individual who has attended and completed a recognized midwifery educational programme in any country and obtained the required qualifications to register and practice midwifery with legal license (ICM, 2024b). The role of the midwife in postpartum is vast, spanning across various clinical, and psychosocial responsibilities. For instance, midwives may perform certain physical tasks like monitoring the physical recovery of mothers, monitoring their vital signs or checking for the presence of infection (Peters et al., 2020). They may also be required to educate postpartum women on care practices like techniques for breastfeeding, wound care and knowledge of complications which may occur (Cheng et al., 2016). In terms of psychosocial responsibilities, midwives help mothers to adjust to their new roles and address any mental health concerns like postpartum-linked depression (Eikemo, 2025).

In a scoping review by Stoodley et al. (2023), midwives offered key activities for childbearing women and also educated them during the prenatal and postnatal periods to support the development of the mother-infant relationship. Khan and Yildirim (2024) also reported that the ability of midwives to detect and intervene during maternal complications like postpartum haemorrhage significantly reduce the number of maternal and neonatal fatalities. Further evidence of the important role of midwives in postpartum monitoring is seen by their support for breastfeeding of neonates which is consistently reported to improve breastfeeding initiation and duration (Gavine et al., 2022). Also, when midwives execute their responsibilities effectively, postpartum women have been shown to be generally satisfied based on the personalized approach that such midwives adopt (Liang, 2023).

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Despite their significance in postpartum monitoring of maternal and neonatal care, midwives sometimes encounter certain challenges in their line of duty. For instance, Liang (2023) reported that midwives may face heavy workloads and time constraints which often limit their capacity to provide personalized care for postpartum women. The same report emphasizes how such constraints may negatively impact midwives' ability to provide the right form of support to mothers, their newborns and their families. In a related Ghanaian-based study, Adams and Ray (2020) noted how educational gaps in knowledge and skills, particularly regarding postpartum monitoring, among midwives may hinder their ability to perform tasks such as examination and identification of potential complications. In some areas, research has identified resource limitations as a key challenge for midwives. A recent study in a low-resource setting in Indonesia revealed that midwives lacked the necessary tools to offer quality postpartum care for mothers and their newborns (Asiah et al., 2024).

2.2.2 Immediate postpartum monitoring

While monitoring newborn babies and their mothers in the first few weeks after birth is vital for their long-term health outcomes, the first 24-hours post-delivery is an even more crucial period. The immediate postpartum period, defined as the first 24-hours following childbirth is an important window for maternal surveillance because of the potential for serious complications like postpartum haemorrhage and sepsis which as key concerns for global maternal fatalities (Clarke-Deelder et al., 2023).

Immediate postpartum monitoring (IPPM) encompasses such postpartum tasks which occur in the first 24 hours after birth such as vital signs assessment, uterine involution, bleeding, and overall well-being after delivery. IPPM may also include monitoring blood pressure, heart rate and any signs of complications (Kamilah & Deeb, 2023). Recommendations by the WHO and ICM

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highlight the need for IPPM to occur in a recovery room following caesarean deliveries to ensure that safety protocols are adhered to (ICM, 2024a; WHO, 2022).

In addition to WHO and ICM recommendation, countries around the world and their health authorities often stipulate exact guidelines to follow during IPPM in order to standardize the practice (Weisz & Nannestad, 2021). These guidelines often indicate the specific parameters as well as the number of times IPPM assessments should be conducted and usually centre around assessment of maternal vital signs such as blood pressure, pulse and temperature, blood loss evaluation, monitoring of uterine contraction and involution, assessment of perineal wounds or tears, breastfeeding initiation and an overall monitoring of the newborn (Mugyenyi et al., 2021).

2.2.3 Compliance with postpartum monitoring guidelines

There is a notable compliance issue regarding postpartum monitoring with evidence pointing to variations or gaps in compliance across different regions. Despite the importance of postpartum monitoring in attaining positive health outcomes for both mother and the newborn, adherence to postpartum monitoring guidelines by healthcare providers remain a concern. Global and regional statistics on compliance with postpartum guidelines are often suboptimal or sometimes markedly low, suggesting that most practitioners often overlook the significance of this critical period (Moller et al., 2017).

In an earlier systematic review by Miller et al. (2016), there was global sub-optimal adherence to postpartum guidelines particularly in low-middle income countries. Similar trend of low- middle level compliance with immediate postpartum care guidelines was recorded in a later systematic review by Reid and Garcia (2020) where care guidelines used by healthcare providers were evaluated and their adherence to it assessed.

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In Ethiopia, when the implementation of postpartum care guidelines by healthcare providers in the Gondar Province was evaluated, Kebede et al. (2021) found that only 42.4% (37.5% – 47.2%) of the practitioners were fully compliant with immediate postpartum monitoring guidelines while the others omitted at least a step during the monitoring process in the immediate postpartum monitoring (IPPM) period. This low compliance to IPPM protocols was similarly observed in another Ethiopian study at Oromia, where the researchers reported that less than half of the population (44% of practitioners) were fully compliant [confidence interval: 37.3% - 51.6%], (Bune et al., 2023). An even less total compliance ratio was recorded by Haftu et al. (2018) whose study only recorded 22.8% compliance with immediate postpartum care guidelines by healthcare providers in a separate Ethiopian environment. These observations are quite concerning given the significance of immediate postpartum care to the immediate and long-terms health outcomes of neonates and their mothers. The apparent lack of adherence by these healthcare providers potentially threatens maternal and neonatal health by increasing the risk of postpartum-linked complications.

The neglect of postpartum processes was also seen by Fort (2012) who assessed healthcare providers' as well as postpartum women's compliance with postpartum and postnatal services and guidelines in the Egyptian context. The findings from this research were consistent with the reported low-medium level compliance from other African contexts. In Tanzania, a very low rate of compliance (10.4%) was recorded by Kanté et al. (2015) for not following recommendations of the World Health Organization by both practitioners and newly delivered mothers. These findings were further backed by a more recent study by Okeke and Ngunyulu (2023) where suboptimal utilization of postpartum care guidelines was reported, notwithstanding the key role of healthcare professionals.

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The gap in healthcare providers adherence to postpartum care guidelines was further demonstrated by Clarke-Deelder et al. (2023) who reported poor patient outcomes stemming from not fully adhering to standard protocols. Prominent studies by Han et al. (2023) and Mirzaii et al. (2016) also directly evaluated the adherence of healthcare providers with immediate postpartum care guidelines and found low compliance rates across different contexts. It remains clear from these reports that more research is recommended to understand providers thought processes and decision-making preferences when it comes to adhering to standardized postpartum protocols, particularly due to the well-documented nature of its benefits.

Suboptimal adherence of healthcare practitioners' adherence to postpartum monitoring guidelines was seen in a recent study where clinicians' adherence to American College of Obstetricians and Gynaecologists (ACOG) recommendations was evaluated at the first postpartum visit. Full compliance in this study to the ACOG protocols was two-thirds of the study population suggesting that even within well-resourced settings there is room for improvement when it comes to postpartum care protocol adherence (Guendelman et al., 2025). Their findings were also corroborated by a recent study by Pettus et al. (2023) where less than half of the studied population fully implemented the postpartum care recommendations in their practices. This study showed that while practitioners were aware of the guidelines that existed for postpartum monitoring, in practice, they performed selective adherence to certain aspects of the recommendations based on what they perceived to be more important compared to other components of the guidelines or how practically feasible the recommendation is.

The lack of adherence is evidently not limited to practitioners alone, however, as Acharya et al. (2023) noted in a Nepal based study the minimal compliance of postpartum women with iron and folic acid supplementation (IFA) despite its need to prevent anemia and related complications. In

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a similar study at Batam City, Setri and Reza (2021) found that at least half of the postpartum women in the study were non-compliant with recommended postpartum instructions. On the contrary, among HIV-positive women in Nigeria, postpartum care was comparatively high 24 months after delivery. However, significant gaps in the follow-up were reported (Semaan et al., 2022). Also, Alyahya et al. (2019) reported a general disregard to postpartum care recommendations by most mothers relative to antenatal care. In an even broader context, Finlayson et al. (2023) found that partners, parents and close family members of postpartum mothers also play key roles in the compliance with postpartum recommendations. These observations reflect that there are potential root causes which need addressing to reduce the risk of postpartum complications such as sepsis and postpartum haemorrhage and ultimately minimize the rates of maternal morbidity and mortality. In addition, the consistency of low adherence rates across different geographical contexts among different groups suggests a potential systemic issue in the translation of evidence-based monitoring protocols into consistent clinical practice. This would be concerning given that severe and life-threatening complications to maternal and neonatal health could be identified and addressed in the postpartum period if healthcare providers, as well as postpartum women remain vigilant.

Despite the predominantly reported low-medium compliance rates to postpartum guidelines, a few reports contradict these findings. For instance, when nursing care was evaluated during the immediate postpartum period in an Ecuadorian study, González et al. (2017) saw that healthcare providers mostly adhered to standardized protocols potentially reflecting the existence of comprehensive health systems and the availability of these protocols. A similar study by Alkasseh and Jarad (2021) agreed to these findings, reporting a moderately positive attitude (72%) towards postpartum care compliance. In Ghana, the attitude of healthcare providers and postpartum

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mothers towards postpartum monitoring was also positive (Owen et al., 2020a). The wide variation in compliance raises key questions on contextual elements which may be responsible for this disparity. Clearly, certain key players affect health professionals' as well as mothers' compliance with care recommendations available for the postpartum period and must be extensively evaluated.

2.3 Factors Affecting Midwives Compliance with Postpartum Monitoring Protocols

The inconsistencies in healthcare providers compliance with postpartum care guidelines is a concern due to potential ramifications on both the newborn and their mothers. Evidence suggests a mirage of factors which may be responsible for the disparities which are unfortunately commonly observed (Clarke-Deelder et al., 2023; Kanté et al., 2015; Kebede et al., 2021).

A notable cause of non-compliance is attributed to organizational hierarchies where the existence of certain power dynamics may result in potential barriers in communication as well as lack of trust among healthcare providers (Elliott-Mainwaring, 2021). In a qualitative evidence synthesis conducted by S. Munabi-Babigumira et al. (2017), several organizational structures like staff strength during shifts, availability of supervision, and accessibility to well-equipped facility resources were found to impact the tendency of professionals to follow standard protocols and achieve good quality care. The correlation between organizational characteristics and healthcare professionals' readiness to comply with postpartum care guidelines was also reported by Namutebi, Nalwadda, Kasasa, Muwanguzi, Ndikuno, et al. (2023) who noted that lack of up-to-date policies and guidelines, unavailability of functional equipment and inadequate human resources negatively impacted healthcare providers' compliance with immediate postpartum monitoring guidelines. In the view of Sangy et al. (2023), even disparities in gender among healthcare professionals within organizations may be a limiting factor when it comes to adhering to established protocols as professionals may be unable to advocate for necessary modifications in practice or to challenge

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existing protocols that hinder effective postpartum care, especially within the immediate postpartum period.

Related studies on the impact of resource availability including material and human resources on the tendency of professionals to comply with postpartum care recommendations were published by Blomgren et al. (2023) whereas a recent narrative review by Al Rajabi and Abushaikha (2022) also discussed how low midwife staffing and lack of adequate equipment can be detrimental to effective practice, making it less likely for midwives to comply totally with standardized protocols such as immediate postpartum monitoring guidelines. In tandem with these observations were the findings in S. Munabi-Babigumira et al. (2017) where staff shortages were seen to put extra pressures on midwives leading to stress and eventual compromise on standard protocols. In addition, the unavailability of dependable communication networks in healthcare institutions were seen to negatively impact the ease of midwives to transmit or share key information across their facilities, or seek immediate support where needed, especially in rural areas (Bune et al., 2023; Zarbiv et al., 2025). Furthermore, in Al-Rajabi et al. (2024) study, midwives' compliance with postpartum protocols was linked to the available tool used in the facility, emphasizing an earlier finding by Kebede et al. (2021).

Numutebi et al. (2023) found that certain healthcare professionals' characteristics such as their level of training could play a key role in their uptake and compliance with immediate postpartum monitoring guidelines. Midwives who had prior training in Basic Emergency Obstetric and Newborn Care (BEmONC) and Effective Newborn Care (ENBC) were more likely to comply with established guidelines. This observation is consistent with Kebede et al. (2021) and Clarke-Deelder et al. (2023) where specific training of professionals was associated with higher odds of compliance compared to their non-trained groups. Numutebi et al. (2023) further argues that

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midwives appreciate recognition for work done and this motivates them to comply with standard protocols. When midwives feel valued and supported, they are more likely to prioritize patient care and comply with immediate postpartum care guideline.

Time and ease of workload are also notable factors which play a role in healthcare providers compliance with immediate postpartum care guidelines. Raghunathan et al. (2024) argue that midwives often encounter tight work schedules which may inadvertently result in compromise on their part when it comes to compliance with monitoring protocols. They further explained how financial constraints encountered by these professionals also impact their compliance with protocols. Similarly, Pettus et al. (2023) saw that overbooked schedule of healthcare providers was a crucial systemic barrier to the exhaustive use of standard protocols.

Pettus et al. (2023) also contend that when established guidelines are not clear and easily comprehensible, there will be a consequent inconsistency with its observations and compliance among professionals. This situation could be complicated if there are no established means of communication or reporting when errors occur or when professionals need clarification with assigned tasks (Kebede et al., 2021; Kwame & Petrucka, 2021). In the same vein, Chirwa et al. (2023) argue that the lack of flexibility with certain recommendations in established guidelines reduces the tendency of professionals to completely adhere to them.

Even in cases of healthcare providers compliance with other established protocols other than postpartum monitoring guidelines, it was evident that gaps exist. For instance, while Darboe et al. (2025) found that less than half of their studied healthcare workers strictly complied with infection prevention and control standards, they concluded that the absence of personal protective equipment and insufficient monitoring by line managers were the major mitigating factors. Mohammed et al. (2022) found that 56.2% of medical professionals appropriately followed standard protocols in a

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cross-sectional study conducted in Ghana on WHO's preventive interventions for pregnant women in malaria-endemic areas. The study also found that adherence was significantly influenced by knowledge level, job satisfaction, training and supervision availability, facility type, and professional experience. These results demonstrate that awareness alone is not enough to ensure adherence to established protocols; institutional and professional support factors also play a role. Despite being unsatisfactory for good and quality care, these findings are consistent with observed trends regarding healthcare professionals' traits and their tendency to comply with standard recommendations in their practice.

In terms of the midwife as a professional, the view of Vermeulen et al. (2023) is that they may sometimes feel a lack of complete autonomy in their work especially in situations which require them to work with other professionals. According to a recent mixed-method review, this lack of autonomy may hamper the ability of midwives to confidently comply with and use prior set recommendations particularly in the postpartum period (Andina-Díaz et al., 2025). Other individual factors like baseline compliance and not being punctual at specific training sessions can also produce adverse effects on the ability of midwives to comply with established protocols (Forsetlund et al., 2021). Moreover, earlier studies also indicate that midwives compliance with postpartum care recommendations may be affected by their age of service or their experience as reported by Kebede et al. (2021) and Blomgren et al. (2023).

2.4 Comparative Analysis of Compliance across Healthcare Facilities

While gaps remain in health professionals' compliance with established guidelines, few studies have explored the potential role of the type of health facility in modulating compliance. This disparity could be attributed to differences in resources, personnel or even urbanicity of the facility among other factors (Kebede et al., 2021; Ofosu et al., 2021).

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For example, when Wiedenmayer et al. (2021) evaluated the level of compliance with standard guidelines by professionals in a Tanzanian study, they found that within the primary care setting, compliance among healthcare professionals was very minimal. They argued that non-compliance in these circumstances was due to complexities in guidelines which are mostly designed for specialists in higher- level institutional environments. Agyekum et al. (2023) study also agrees with this analogy, explaining that limited funding which exists for primary care facilities is a notable mitigating factor for total compliance, as printing, distribution and display of standard protocols may be limited especially in remote areas. In addition, primary facilities may often experience extra strain from growing patient population which may further worsen their circumstances and lead to eventual neglect of standard protocols and consequently reduced quality of care for patients (Kruk et al., 2018; Molina-Mula & Gallo-Estrada, 2020).

In other primary facility-based studies, Sampson et al. (2024) recorded that the compliance of public primary care institutions to standard protocols was less than 50%. In their study, it is seen that lack of infrastructure, minimal workforce and unavailability of needed equipment were key determinants of compliance in these environments. This finding was corroborated by a similar Nigerian-based study where males were seen to been more likely to be compliant than females (Oluwafemi et al., 2024). For Babore et al. (2024), despite the documented benefits of training on health professionals compliance with standard procedures, the lack of resources and infrastructure needed to support such training in primary care institutions is a key mitigating factor for the overall recorded compliance in these facilities.

Secondary facilities, which offer slightly more specialized care for their users, are not immune either. For instance, when Panta et al. (2020) audited the compliance of several primary and secondary level hospitals in Nepal, secondary institutions had an overall compliance of 32%

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compared to 19% obtained for primary care facilities. Across different metrics used in this study, secondary health facilities generally performed better than primary facilities indicating that although they were also underperforming, secondary care facilities were still more compliant than primary institutions. In another secondary facility-based study in Ethiopia, an overall compliance of 51.6% was observed in healthcare providers' compliance with standard protocols. The same study also reported that frequent training of staff and urbanicity of hospital were key determinants of compliance (Feyisa et al., 2022). However, Daba et al. (2023) reported unavailability of PPEs and lack of access to constant water supply as notable drawbacks for compliance in a secondary-level health facility in Ethiopia. These findings were also more prominent in conflict-prone environments.

Although tertiary-level health institutions offer the highest levels of care for patients and have better resources compared to primary and secondary care facilities, compliance in these environments is not without challenges. In the view of Babore et al. (2024), tertiary hospitals are expected to have more robust compliance rates with standard protocols. Nevertheless, copious challenges exist. In fact, reported findings on compliance in tertiary care environments widely differ from study to study. For instance, in a study which assessed the compliance of primary, secondary and tertiary hospitals in Ghana, tertiary hospitals were more robust and demonstrated a positive patient safety culture (Abuosi et al., 2023).

Contrarily, only a quarter of healthcare professionals in a tertiary care facility in Bangladesh were compliant with standard hand hygiene recommendations (Harun et al., 2023).

This was also the case in Senbato et al. (2024) study where an overall compliance of 36.49% was recorded. Even lower compliance rates of 20% and 3.3% were recorded when compliance with different standard protocols were evaluated in the tertiary health facility setting (Lau et al., 2024).

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The evidence indicates that although tertiary health facilities may be more robust than primary and secondary institution, compliance may vary depending on the metric being assessed, existence of conflicts and resource availability (Daba et al., 2023; Kebede et al., 2021; Senbato et al., 2024)



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CHAPTER THREE

METHODOLOGY

3.1 Study Design

An analytical cross-sectional study design was used to evaluate factors which affect Ghanaian midwives' compliance with immediate postpartum monitoring (IPPM) protocols in selected hospitals within the Greater Accra region. Data was collected between January 2025 – February 2025 using a robust system of self-administered structured questionnaires as well as a standard observation checklist for evaluation IPPM compliance.

3.2 Study Site

The study was conducted in five selected health facilities within the Greater Accra region, The targeted facilities consisted of two tertiary, two secondary and one primary health facility. All facilities have functioning maternity units and provide maternal and child health services to the public.

3.2.1 Greater Accra Regional Hospital

Greater Accra Regional Hospital is a tertiary care facility located in the political and economic capital of Ghana. The hospital was established in the late 1920s before undergoing significant modernization and expansion in 2017 where its bed capacity was significantly increased and its maternal and neonatal services enhanced. Every year, the Greater Accra Regional Hospital handles more than 6000 deliveries and provides comprehensive obstetric care for patients. It is also a major referral hospital for district hospitals, polyclinics, and health centres throughout the Greater Accra Region (Tende et al., 2023).

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Key infrastructure includes emergency obstetric capabilities, antenatal clinics, labour wards, and postnatal care services. The continued participation of the hospital in both local and international quality improvement initiatives further emphasize its reputation as a center of excellence in maternal health care (Adom-Miah et al., 2025).

3.2.2 Tema General Hospital

Tema General Hospital is a key tertiary health facility situated in the Tema Metropolitan District of Accra. The hospital was established to serve workers who were involved in the construction of Tema Harbor in the 1950s. The hospital has since evolved in its functionality, currently providing comprehensive healthcare services which span several specialties including internal medicine, general surgery, pediatrics, obstetrics, gynecological care, and emergency services (Appiah-Kubi et al., 2022). It currently has more than 300 beds and offers maternal and childcare services to its users. The hospital records an annual delivery turnout of approximately 3000.

The geographical landscape of Tema General Hospital encompasses a variety of communities such as Nungua, Sakumono, Tema township, and extends to Dangme West, indicating its substantial catchment population and regional significance. Overall, the hospital's physical infrastructure and service capacity have evolved to address diverse healthcare needs of this extensive service area (Appiah-Kubi et al., 2022).

3.2.3 Mamprobi District Hospital

Mamprobi District Hospital is a secondary level health care facility located within the Ablekuma South District of Accra. The hospital serves an estimated 200000 residents. The hospital is also advantageously placed within 2.6km from the Korle Bu Teaching Hospital which confers a functional referral relationship with this tertiary hospital.

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Mamprobi District Hospital has key infrastructure which includes dedicated antenatal clinic spaces, a functioning labor ward, and an operating theater, which makes offering comprehensive reproductive healthcare services possible. The infrastructure at the hospital also promotes substantial maternal care activity, evidenced by annual antenatal care attendance of more than 18000 patient visits, and over approximately 2000 deliveries. The facility also maintains a total bed capacity of 45 to support its inpatient service capabilities (Ofosu et al., 2021).

3.2.4 Shai-Osudoku District Hospital

Established in 1970, Shai-Osudoku District Hospital is a secondary level hospital located in Dodowa, which initially functioned as a basic healthcare service point. Eventually, the facility advanced to health center status in 1985 before achieving formal district hospital designation in mid-2009. With an average bed capacity of 244, the hospital currently services more than 50000 residents and has managed about 4000 to 4700 live births from 2019 to 2021 respectively (Nkansah et al., 2024).

3.2.5 Kaneshie Polyclinic

This primary care facility is located on the enclave of Kaneshie, a city in the Greater Accra region. Kaneshie Polyclinic offers maternal services to an urban working-class population. With 85 beds, the facility conducts close to 2,500 deliveries every year. Kaneshie Polyclinic also emphasizes postnatal care by providing 48-hour postpartum stays for high-risk mothers post-delivery (Muniru & Abor Patience, 2021).

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3.3 Population of Study

The population for this study comprised all Ghanaian midwives who attend to women and their newborns during the immediate postpartum monitoring period.

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3.3.1 Inclusion criteria

Midwives from the five targeted health facilities who were actively working in the labour and post-natal ward or had a minimum of six months' experience in maternity care were included in the study. All participants gave their informed consent before being recruited for the study.

3.3.2 Exclusion criteria

Midwives who were on annual leave, those in administrative roles, and those with less than six months of experience in maternity care were considered to have limited exposure to IPPM protocols and were excluded from the study.

3.4 Sampling and Sample Size Determination

3.4.1 Sampling Technique

The study used a multi-stage purposive sampling approach to select five health facilities within the Greater Accra Region, representing all three levels of Ghana's healthcare system. Greater Accra Regional Hospital and Tema General Hospital were chosen as tertiary centers due to their referral and teaching functions. Shai-Osudoku and Mamprobi District Hospitals represented secondary-level facilities providing general and specialized maternal care, while Kaneshie Polyclinic represented the primary level of community-based maternal services. This selection ensured balanced representation across different healthcare tiers, allowing for meaningful comparison of midwifery practices and postpartum monitoring across diverse settings. The selection of these five sites was also informed by the sample size, and availability of time and resources.

A simple random sample method was utilized to select midwives who satisfied the inclusion criteria from the designated health facilities. A list of qualified midwives was initially acquired

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from the personnel records of each chosen facility. Midwives who met the inclusion criteria were subsequently allocated a distinct identification numbers. The numbers ranging from 001 to 130 were inscribed on identical folded slips and deposited in a container to guarantee anonymity and randomness. Each midwife was permitted to select one folded slip without replacement. Midwives who chose numbers between 001 and 100 were included in the study, whereas those who selected numbers between 101 and 130 were eliminated. This technique ensured that the selection process was wholly probabilistic, thereby eradicating selection bias and ensuring equitable representation of eligible participants throughout the target facilities.

3.4.3 Sample Size Determination

The sample size for the study was calculated using Cochran's formula for sample size determination and assuming population adherence of 50% with IPPM protocols based on a similar recent study (Kebede et al., 2021), 95% confidence interval and 5% margin of error.

$$Sample\ size = \frac{Z^2 p(1-p)}{e^2}$$

Where Z= Z-score = 1.96

p = 0.50

e = margin of error = 0.05

Therefore:

$$Sample\ size = \frac{(1.96)^2 * 0.5 * (1-0.5)}{(0.05)^2}$$

$$= 384$$

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Considering a 10% non-response rate, a total of 422 participants were considered the minimum for the study. However, after administering the questionnaires to midwives who satisfied the inclusion criteria of this study, a total of 426 midwives responded and were therefore included.

3.4.4 Data Collection Procedure

A dual approach was used to collect data for the study. First, a structured questionnaire designed based on relevant literature was used to capture some characteristics of recruited midwives. The questionnaire was in two parts. While part A captured sociodemographic characteristics of participants, section B captured certain facility-based characteristics of participants. Concurrently, a standardized checklist, adopted from Kebede et al. (2021), which comprised 17 items was used to observe specific practices followed by midwives during the immediate postpartum period. Each checklist item was scored dichotomously (where 0= not performed and 1= performed), yielding a total score range of 0–17, with full compliance defined as performing all items.

3.5 Units of Measurement

3.5.1 Dependent variable

Compliance of midwives with IPPM protocols, defined as the extent to which midwives followed standard guidelines during the first 24-hours post-delivery, was set as the dependent variable of the study. Midwives' compliance was scored with a standardized 17-item checklist consisting of various procedures which must be undertaken by midwives to preserve the newborn and mother particularly during the first 24 hours after birth. Items such as APGAR score assessment, ensuring thermal protection, recording the sex of the neonate and administration of Vitamin K were assessed. Each of the 17 checklist items assessing midwives' compliance with immediate postpartum monitoring (IPPM) protocols was evaluated in a dichotomous manner, where performance of each

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required procedure was coded as 1 (performed) and non-performance as 0 (not performed). This scoring method generated a total compliance score ranging from 0 to 17. Full compliance was defined as the completion of all 17 procedures, resulting in a total score of 17. Partial compliance, on the other hand, referred to situations where a midwife performed some but not all of the required procedures thus obtaining a score between 9 and 16 indicating adherence to more than half of the protocol items but not complete compliance. Non-compliance was defined as performing fewer than half of the required items (a score below 9).

3.5.2 Independent Variables

Key individual and facility-based factors which could potentially influence the compliance of midwives with IPPM protocols were measured using a structured questionnaire. For individual factors, age of midwives, educational background, work experience, marital status, and work-shift pattern were recorded. In addition, facility-based factors like staff strength, midwife-to-patient ratio, availability of accessible internet, and frequent supervision by line managers were considered.

3.6 Data Analysis

Data obtained from the questionnaires and checklist observations were recorded in Microsoft Excel, cleaned and exported to Stata (version 18) for statistical analysis. Descriptive analysis of participant and facility-based characteristics were presented in tables as frequencies and percentages. Simple logistic regression was used to evaluate the relationship between predictor variables such as age group and type of facility and the overall compliance of midwives with IPPM protocols. Statistical significance of all the analyses was set at $p<0.05$.

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CHAPTER FOUR

RESULTS

4.1 Characteristics of midwives

A total of 426 midwives from five selected health facilities in the Greater Accra Region participated in the study. Table 4.1 presents the sociodemographic characteristics of the respondents, while Table 4.2 summarizes the characteristics of the respective health facilities.

There were 197 respondents from tertiary-level facilities representing approximately 46% of the data, 149 from secondary-level facilities representing aproximately 35%, and 80 from primary-level facilities representing aproximately 19%. Specifically, 97 midwives were selected from the Greater Accra Regional Hospital, 100 from Tema General Hospital, 69 from Shai-Osudoku District Hospital, 80 from Mamprobi District Hospital, and 80 from Kaneshie Polyclinic.

4.1.1 Sociodemographic characteristics of Midwives

Table 4.1 provides an overview of the sociodemographic characteristics of midwives recruited for the study. The age distribution shows a relatively young midwife population with most midwives falling within the 26 – 35 age range (52.6%) while 93 (21.8%) were 25 years or younger and 109 (25.6%) were over 35 years old. Recruited midwives predominantly had diploma education level (50.7%) with only a small proportion holding a graduate degree (6.6%).

Whereas most midwives were recruited at the grade of Staff Midwife (107, 69.7%), currently the distribution of midwives was predominantly 141 (33.1%), 107 (25.1%), 98 (23.0%) for Senior Staff Midwife, Staff Midwife and Midwife Officer grades respectively. Working experience was evenly distributed with 127 (29.8%) midwives with less than 2 years of experience while

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153(35.9%) had over 5 years of experience. The marital status of midwives also included 240 (56.3%) married, 144 (33.8%) single and 42 (9.9%) widowed midwives, worked mostly day shifts (67.4%). All the recruited midwives were females.

Table 4. 1 Sociodemographic characteristics of midwives

Characteristics	Category	Frequency	Percentage (%)
Age (years)	≤ 25 years	93	21.8
	26 – 35 years	224	52.6
	> 35 years	109	25.6
Education	Diploma	216	50.7
	Bachelors	182	42.7
	Graduate	28	6.6
Appointment Grade	SM	297	69.7
	SSM	26	6.1
	MO	89	20.9
	SMO	6	1.4
	PMO	8	1.9
Current Grade	SM	107	25.1
	SSM	141	33.1
	MO	98	23.0
	SMO	56	13.2
	PMO	24	5.6
Work Experience	< 2 years	127	29.8
	3 – 5 years	146	34.3
	> 5 years	153	35.9
Marital status	Single	144	33.8
	Married	240	56.3
	Widowed	42	9.9
Work Shift Pattern	Day	287	67.4
	Night	139	32.6
Gender	Female	426	100

NOTE:

SM = Staff Midwife SSM = Senior Staff Midwife,

MO = Midwifery Officer SMO = Senior Midwifery Officer

PMO = Principal Midwifery Officer

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4.1.2 Workplace Characteristics of midwives

In Table 4.2, the workplace characteristics of the selected facilities are summarized. The findings revealed that staff strength is a factor needing crucial attention with 275 (64.6%) midwives indicating that their respective facilities have 2 or fewer midwife staff. This could potentially present workload challenges which may lead to undesirable consequences. This finding is backed by the ratio of midwives to patients with 218 (51.2%) midwives noting that they attend to three or fewer patients whereas 208 (48.8%) handle more than three patients during a shift. This emphasizes the variability in workload distribution which may serve as an important barrier to compliance with IPPM protocols.

On the other hand, the findings reveal a generally robust availability of health facility infrastructure with (93.4%) of the facilities having an accessible electronic system at the facility, (64.8%) having accessible and stable internet, and (93.9%) reporting that IPPM protocols are displayed at vantage points within their respective maternity units. In addition, 373 (87.6%) midwives reported to have received training on essential newborn care while 269 (63.2%) had undergone Basic Emergency Obstetric and Newborn Care (BEmONC) or Comprehensive Emergency Obstetric and Newborn Care (CEmONC) training. Also, 402 (94.4%) indicated that there is an established channel of communication when abnormalities occurred whereas 371 (87.1%) also reported that there is frequent supervision by a line manager during shifts. The most used IPPM tool was observation charts (306, 71.8%).

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Table 4. 2 Workplace characteristics

Characteristics	Category	Frequency	Percentage (%)
Average Staff Strength per shift	≤ 2	275	64.6
	3 – 5	135	31.7
	> 5	16	3.7
Midwife-to-Patient Ratio	1: ≤ 3	218	51.2
	1: > 3	208	48.8
Availability of Electronic System	Yes	398	93.4
	No	28	6.6
Availability of Internet	Yes	276	64.8
	No	150	35.2
Availability of IPPM	Yes	400	93.9
	No	26	6.1
IPPM Tool in Use	Observation Charts	306	71.8
	Nurses Notes	35	8.2
	Electronic system	85	20.0
Availability of Essential Newborn Care Service	Yes	373	87.6
	No	53	12.4
BEmONC Training Experience	Yes	269	63.2
	No	157	36.9
Availability of Communication Services	Yes	402	94.4
	No	24	5.6
Availability of Supervision	Yes	371	87.1
	No	55	12.9

NOTE: Yes, indicates availability of the service, resource, or system within the facility while, No indicates absence.

IPPM = Immediate Postpartum Monitoring

BFEmONC = Basic Emergency Obstetric and Newborn Care

Staff Strength = Average number of midwives per shift

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4.2 Midwives' compliance with immediate postpartum monitoring protocols

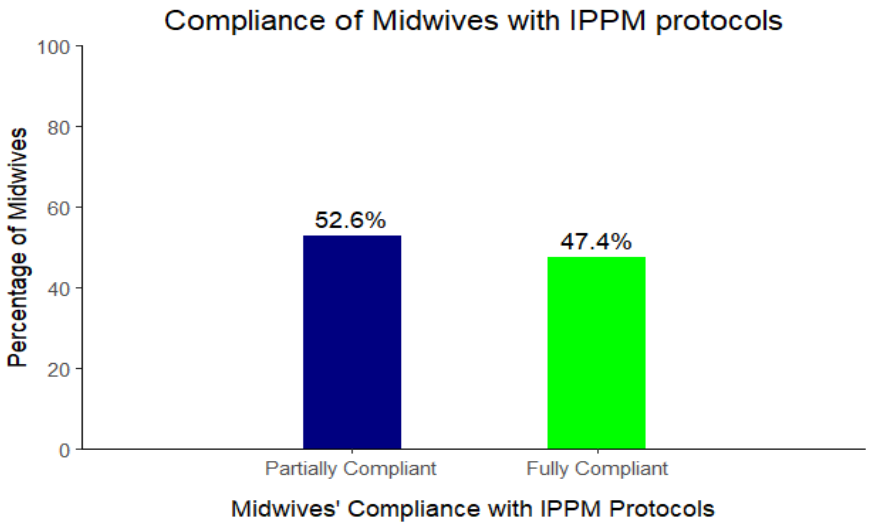


Figure 4. 1 Compliance of midwives with IPPM protocols

Figure 4.1 illustrates midwives' general compliance level with IPPM protocols. The findings reveal that while 202 (47.4%) midwives demonstrated compliance with IPPM protocols, 224 (52.6%) demonstrated partial compliance with IPPM protocols. This result is an indication of potential gaps in midwives' tendency to adhere to set guidelines possibly due to preventable causes.

4.3 Factors affecting midwives' compliance with IPPM protocols

To evaluate the factors affecting midwives' compliance with IPPM protocols, the study investigated the potential impact of sociodemographic factors, as well as health facility-based factors.

4.3.1 Demographic characteristics of Midwives

Table 4.3 provides a summary of the simple logistic regression which evaluates the influence of individual sociodemographic factors on midwives' compliance with IPPM protocols. When compared to younger midwives (≤ 25 years old), midwives in the 26 – 35 age group OR = 0.43,

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95% CI: [0.21, 0.88], p = 0.001 and practitioners older than 35 years old OR = 0.53, 95% CI: [0.28, 0.99], p = 0.028 were less likely to comply with IPPM protocols. [Table 4.3]

In terms of midwives' grades, midwives who were recruited as Senior Staff Midwives were found to be 6.88 times more likely to adhere to IPPM protocols compared to those recruited at a lower grade at the time of study. However, the study found that midwives at the Senior Staff Midwife grade currently were less likely to adhere to IPPM protocols when compared to those currently at the Staff Midwife Grade OR= 0.60, 95% CI: [0.35, 0.99], p = 0.046.



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Table 4. 3 Relationship between sociodemographic factors and midwives' compliance with IPPM

Variable	Category	Adherence		OR (95% CI)	p- value
		Full compliance	Partial compliance		
Age (years)	≤ 25 years	58	35	1	
	26 - 35 years	93	131	0.43 (0.26 - 0.70)	0.001
	> 35 years	51	58	0.53 (0.30 - 0.93)	0.028
Educational Background	Diploma	109	107	1	
	Bachelors	77	105	0.72 (0.48 - 1.07)	0.105
	Graduate	16	12	1.31 (0.59 - 2.90)	0.507
Grade at Appointment	SM	132	165	1	
	SSM	22	4	6.88 (2.31 - 20.44)	0.001
	MO	42	47	1.12 (0.69 - 1.80)	0.648
	SMO	4	2	2.5 (0.45 - 13.86)	0.294
	PMO	2	6	0.42 (0.08 - 2.10)	0.288
Current Grade	SM	57	50	1	
	SSM	57	84	0.60 (0.35 - 0.99)	0.045
	MO	50	48	0,91 (0.53 - 1.58)	0.747
	SMO	29	27	0.94 (0.49 - 1.80)	0.857
	PMO	9	15	0.53 (0.21 - 1.31)	0.167
Work Experience (years)	< 2years	62	65	1	
	3 - 5years	68	78	0.91 (0.57 - 1.47)	0.711
	> 5years	72	81	0.93 (0.58 - 1.49)	0.770
Marital Status	Single	72	72		
	Married	107	133	0.80 (0.53 - 1.22)	0.303
	Widowed	23	19	1.21 (0.61 - 2.41)	0.587
Work Shift Pattern	Day	141	146	0.81 (0.54 - 1.22)	0.310
	Night	61	78	0.97 (0.77 - 1.22)	0.768

NOTE:

SM = Staff Midwife

SMO = Senior Midwifery Officer

PMO = Principal Midwifery Officer

IPPM = Immediate Postpartum Monitoring

SSM = Senior Staff Midwife

MO = Midwifery Officer

CI = Confidence Interval

OR = Odds Ratio

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4.3.2 Health facility characteristics

Regarding the influence of facility-based factors on midwives' compliance with IPPM protocols, the study found that for facilities where there were between 3 – 5 midwives for a shift, midwives were 1.29 times more likely to fully comply with IPPM protocols compared to places where there were two or fewer midwife staff. However, this observation was not statistically significant (OR= 1.29, p= 0.223).

The study also revealed that in facilities which utilized nurses notes as the preferred IPPM tool, midwives were 3.17 times fully compliant compared to facilities where observation charts were the preferred tool OR= 3.17, 95% CI: [1.51, 7.13]. Similarly, where an electronic system was the approved IPPM tool utilized, midwives were 1.24 times more likely to fully comply with the IPPM protocols but this was not statistically significant p value ($p > 0.05$).

Regarding the availability of training services, the results indicate that midwives who had not received training on BEmONC services were significantly less likely to be compliant with IPPM protocols compared to those who had prior training OR= 0.63, 95% CI: [0.42, 0.93] [Table 4.4].

The influence of effective supervision on IPPM compliance by midwives was also observed by this study. It is seen that at facilities where midwives reported the lack of frequent supervision by a line manager, practitioners were less likely to be fully compliant with IPPM OR= 0.41, 95% CI: [0.21, 0.74] compared to places where frequent supervision by a line manager was present. This observation was also statistically significant (p= 0.004). Refer to Table 4.4.

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Table 4. 4 Relationship between workplace factors and midwives' compliance with IPPM

Variable	Category	Adherence		OR (95% CI)	p-value
		Full compliance	Partial compliance		
Average Staff Strength per shift	≤ 2	127	148	1	
	3 – 5	71	64	1.29 (0.86 - 1.96)	0.223
	> 5	4	12	0.39 (0.11 - 1.15)	0.109
Midwife-to-Patient Ratio	1: ≤ 3	96	122	1	
	1: > 3	106	102	1.32 (0.90 - 1.94)	0.153
Availability of Electronic System	Yes	185	213	1	
	No	17	11	1.78 (0.82 - 4.01)	0.149
Availability of Internet	Yes	137	139	1	
	No	65	85	0.78 (0.52 - 1.16)	0.214
Availability of IPPM	Yes	189	211	1	
	No	13	13	1.12 (0.50 - 2.49)	0.786
IPPM Tool in Use	Observation Charts	135	171	1	
	Nurses Notes	25	10	3.17 (1.51 - 7.13)	0.003
	Electronic system	42	43	1.24 (0.76 - 2.00)	0.386
Availability of Essential Newborn Care service	Yes	177	196	1	
	No	25	28	0.99 (0.55 - 1.76)	0.969
BEmONC Training Experience	Yes	139	130	1	
	No	63	94	0.63 (0.42 - 0.93)	0.022
Availability of Communication Services	Yes	193	209	1	
	No	9	15	0.65 (0.27 - 1.49)	0.320
Availability of Supervision	Yes	186	185	1	
	No	16	39	0.41 (0.21 - 0.74)	0.004

NOTE:

IPPM = Immediate Postpartum Monitoring

BFEmONC = Basic Emergency Obstetric and Newborn Care

Staff Strength = Average number of midwives per shift

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4.4 Compliance of midwives with IPPM protocols across different health facilities

Figure 4.2 is an illustration of facility-type stratification of midwives' compliance with IPPM protocols. When compared to primary health facilities, midwives at a secondary health facility showed a lower likelihood of full compliance with IPPM protocols OR = 0.88, 95% CI : [0.51-1.51]; however, this relationship was not statistically significant ($p > 0.05$). On the other hand, midwives at a tertiary health facility were more less likely to be fully compliant OR= 0.57, CI: [0.34 – 0.96] compared to those from a primary health setting. See Figure 4.2.

This finding may be attributed to the simpler caseloads and fewer complex cases in primary facilities compared to secondary and tertiary facilities where more complicated deliveries occur.

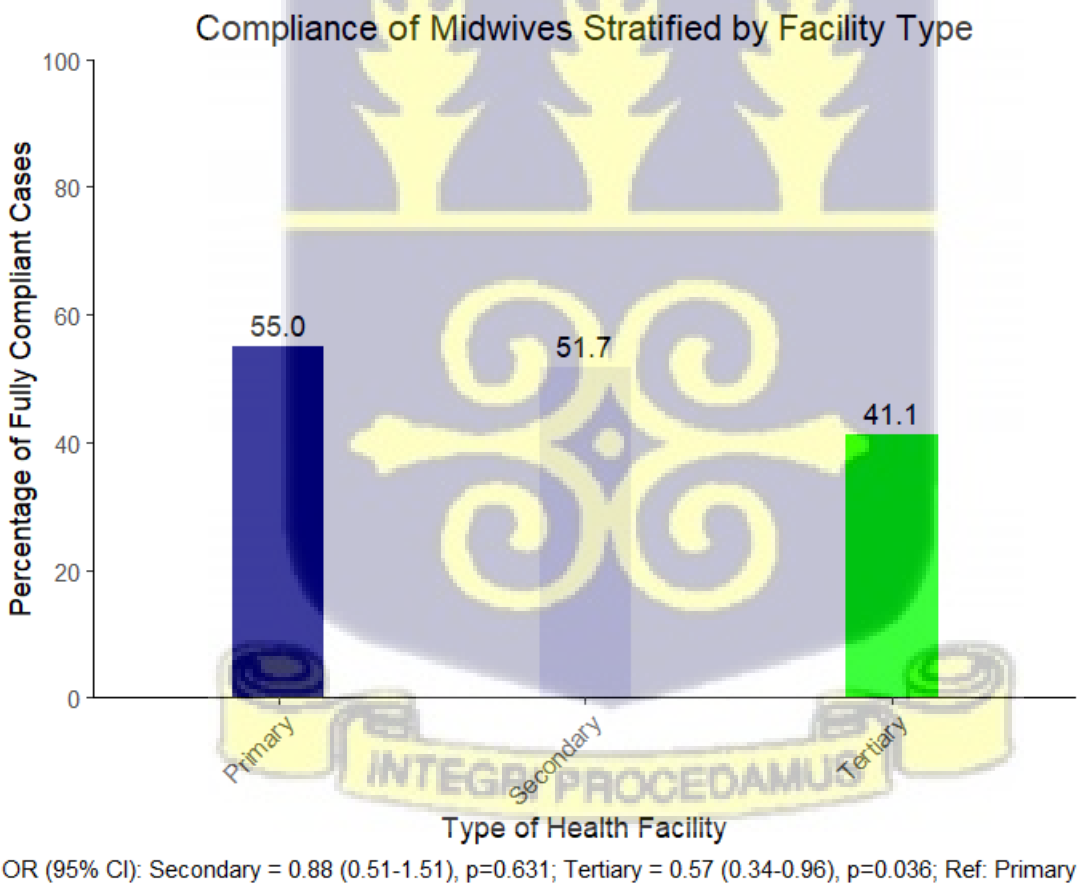


Figure 4. 2 Compliance of midwives stratified by type of health facility

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CHAPTER FIVE

DISCUSSION

5.1.1 Compliance with Immediate Postpartum Monitoring Protocols

The study explored the level of compliance with immediate postpartum monitoring (IPPM) protocols by Ghanaian midwives to ascertain whether gaps exist. Overall, the results indicate that less than half (47.4%) of the selected midwife population demonstrated full compliance with established protocols during the immediate postpartum period (Figure 4.1). The results suggest that there is clear need for improvement in the delivery of postpartum care by Ghanaian-based midwives.

The level of compliance obtained align with earlier reports on midwives' compliance with IPPM guidelines where varying compliance rates ranging between 40% - 56% have been documented (Al Rajabi & Abushaikha, 2022; Bune et al., 2023; Kebede et al., 2021). For instance, whereas the study's finding of 47.4% total compliance is slightly higher than the reported compliance by Kebede et al. (2021) where 42.4% participants were fully compliant with IPPM protocols, and 44.0% total compliance observed by Bune et al. (2023), the current findings markedly differ from the 22.8% total compliance observed in a similar Ethiopian study by Haftu et al. (2018). The result thus reiterates the argument that the overall compliance among midwives in low-and-middle-income countries regarding IPPM protocols is typically suboptimal. This is because, despite the study revealing a slightly higher compliance level among midwives in Ghanaian hospitals, total compliance by less than half of the population is still below the level required suggestive that most midwives overlook the significance of this important period. In fact, other studies indicate that the minimal compliance among midwives in these regions reflect on the readiness of postpartum

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women in complying with the necessary recommendations, further complicating the situation and putting them at risk (Alyahya et al., 2019); Setri and Reza (2021).

The current result also agrees with reports based on compliance among different healthcare providers other than midwives, regarding compliance with standardized protocols (Clarke-Deelder et al., 2023; Guendelman et al., 2025; Miller et al., 2016). For instance, in Egypt (Fort, 2012) and Tanzania (Kante et al., 2015), as low as 10.4% compliance rates were recorded among different healthcare professionals towards established protocols aimed at improving patient care and sometimes safeguarding the safety of providers. Clarke-Deelder et al. (2023) emphasized how the apparent neglect by healthcare professionals towards standard protocols during their practice poses a threat to themselves and their patients. Other studies reporting suboptimal compliance with protocols by healthcare professionals were (Han et al., 2023; Mirzaii et al., 2016; Pettus et al., 2023). These comparable rates of compliance, especially across low resource setting potentially highlight that there exists a common challenge in ensuring that professionals adhere strictly to standard postpartum recommendations. Moreover, in Miller et al. (2016) narrative review on global health professionals' compliance, the researchers described the situation as too little too late for low- and middle-income countries.

Contrary to the study's findings, however, González et al. (2017) found that nurses in Ecuador had relatively higher compliance towards established protocols. Appropriate attitudes towards compliance were also reported by (Alkasseh & Jarad, 2021) and (Owen et al., 2020b) potentially reflecting the existence of a comprehensive health system or the ease of access to these recommendations.

The results indicate that most healthcare professionals are not keen to fully adhere to standardized protocols in their practice. This is worrying considering the importance of the immediate

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postpartum period where there is an increased risk of maternal and neonatal morbidity and mortality with reports suggesting that 60% and 45% of maternal mortality cases occur in the postpartum and immediate postpartum periods respectively (Guendelman et al., 2025). The current result is also significant because when there are inconsistencies or gaps in the monitoring process during this critical period, there could be delays in identifying and managing complications which could have life-threatening ramifications to both mothers and their newborns (Clarke-Deelder et al., 2023). Addressing the contributing factors to such low compliance and gaps in adherence will go a long way to enhancing maternal and neonatal health outcomes and help achieve sustainable development goal (SDG) 3 which focuses on ensuring healthy lives and promoting well-being for all.

5.1.2 Sociodemographic Factors Influencing Midwives' Compliance with Postpartum Monitoring Protocols

The current study also evaluated how certain sociodemographic characteristics of Ghanaian midwives influenced their readiness to comply with IPPM protocols. The findings revealed that younger midwives (≤ 25 years old) were more likely to comply with IPPM protocols than older practitioners in the 26 – 35 and >35-year groups (Table 4.3). This observation contradicts earlier findings by an American study (Guendelman et al., 2025) where the researchers found that older practitioners or those with years of practice were more likely to comply with postpartum recommendations arguing that they probably have more efficiency and can collaborate more effectively. The difference in observations may be attributed to scope of adherence assessed in the individual studies. For instance, while the current study examined midwives compliance with IPPM protocols, the study by Guendelman et al. (2025) evaluated overall practitioners' compliance based on the broader ACOG guidelines which comprises many components non-existent in IPPM.

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In another similar study in Ethiopia, participants' age and years of experience corresponded to reduced compliance (85% times less) which contrasts the current findings where younger and fresher practitioners were more compliant. The contradictory results may be indicative of a complex interplay between age, years of experience and readiness to adhere to protocols. Other potential reasons could include recency of training, exposure to updated protocols, and potential for complacency or established routines among older, more experienced providers.

In terms of grade of midwives, it was seen that midwives who were initially SM at appointment were more likely to be fully compliant compared to those appointed at different grades. However, when being recruited for the study, midwives who were at the SSM grade were less likely to be fully compliant with IPPM guidelines (Table 4.3). These results could be explained by a potential switch in motivation or perceived responsibilities as midwives progress in their careers. For instance, while newly recruited midwives SM may be full of motivation to show their competency levels to their colleagues, those who had been in the post with more tenure in the senior grade may have developed their own procedures over time which may not be in tandem with current standardized procedures. Similar trends in perceived midwife responsibilities over time were reported by Susan Munabi-Babigumira et al. (2017) in their qualitative evidence synthesis.

Additionally, although the current study found no statistically significant impact of education, work, marital status, and shift pattern on IPPM, notable associations were made in some prior studies. For instance, in Kebede et al. (2021), married practitioners were 1.59 times more likely to be fully compliant with IPPM protocols while Clarke-Deelder et al. (2023) reported a positive relationship between educational background and compliance of practitioners. This observation may be indicative that sociodemographic characteristics which impact midwives' compliance with

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IPPM may be dependent on context and region of study and can therefore vary across different healthcare systems and populations.

It is implied from these findings that suboptimal compliance with IPPM among age groups and professional grades may result in gaps in IPPM guideline application which could lead to suboptimal care for patients in this critical window after being. It is also seen that, although some sociodemographic characteristics may not directly influence the readiness of professionals to apply standard protocols, they could influence this trait through other factors which warrant further studies.

5.1.3 Facility-Based Factors Affecting Midwives' Compliance with Postpartum Care Protocols

In addition to the effect of individual factors on midwives' compliance with IPPM, the study also assessed the influence of certain facility-level characteristics. The results obtained agreed to some extent with earlier reports from similar studies across different aspects of healthcare. For instance, in terms of the relationship between staff strength and midwives' compliance, adequate staffing although showing a positive relationship with midwives' compliance to IPPM was not statistically significant ($p > 0.05$). Hence, the observed association should be interpreted with caution. Although this association was not statistically significant in the present study, the observed trend is similar with previous research by Kebede et al. (2021) and Clarke-Dedeker et al. (2023), who reported that higher staffing levels were linked to improved adherence to standard protocols. Similarly, Susan Munabi-Babigumira et al. (2017) highlighted that inadequate staffing can increase workload and stress, which may contribute to lapses in protocol compliance. These studies, therefore, provide contextual support for the direction of the association observed, even though it was not statistically significant in the current findings. On the other hand, the lack of statistical

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significance in the current study potentially reflects the role of other factors which might influence the association between staffing and compliance readiness.

The current study also found that there was a marked increase in compliance (OR= 3.17) where the preferred IPPM tool was nurse's notes as opposed to observation charts. This finding is important because it projects the significance of format, use and perceived importance of different IPPM documents on influencing midwives' compliance with standard protocols. In addition, although electronic systems also showed slightly higher compliance (OR=1.24), the strong association with nurse's notes implies that simpler, perhaps more integrated or familiar, documentation systems might be more effective in certain contexts than potentially complex electronic systems or basic charts. This is in essence, like the report by Raghunathan et al. (2024) where the need for clear, accessible, and user-friendly documentation tools as enablers for implementation was emphasized. The current finding reiterates this point by suggesting that it is important to consider the design and implementation of IPPM tools to improve compliance.

Again, the observance of a positive association between training and compliance is consistent with established evidence from earlier research. In the current study, midwives without prior training in BEmONC were less likely to be fully compliant. This was the case across multiple studies in the LMIC regions in the past ((Bune et al., 2023; Haftu et al., 2018; Kanté et al., 2015; Kebede et al., 2021). In most of these studies, lack of training, inadequate knowledge, as well as skills gaps were identified as major barriers which negatively impact compliance among healthcare providers. This makes the current finding even more important and suggests that targeted training and on-going knowledge acquisition may be vital to ensure that midwives remain fully compliant with standard protocols in their practice, particularly in the immediate postpartum period.

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Another key finding from the current study was the impact of frequent supervision. It was seen that where midwives reported the lack of frequent supervision by line managers, they were less likely to be fully compliant with IPPM. This finding also agrees with previous findings (Susan Munabi-Babigumira et al., 2017; Raghunathan et al., 2024). It is implied from this finding that effective support by managers, frequent supervision and mentorship increases midwives' compliance readiness and must be prioritized across Ghanaian institutions. When these are absent, staff may become discontented, less motivated and less accountable, which may otherwise affect compliance adversely.

5.1.4 Compliance of Midwives with Immediate Postpartum Monitoring Protocols across Different Health Facilities

Across primary, secondary and tertiary health facilities, the current study also assessed how compliance varies. Although the results showed a slight decline in compliance across higher level health facilities this decrease was not statistically significant ($p > 0.05$) (Figure 4.2). Compared to earlier reports, the current results offer mixed observations, contradicting several previous reports where secondary and tertiary health facilities demonstrated comparatively higher compliance rates (Abuosi et al., 2023; Panta et al., 2020).

Notably, other studies have also concluded that wide variations exist in the compliance levels across different levels of health institutions, with lower compliance often correlated with limitations in resources (Sampson et al., 2024), shortages in workforce (Harun et al., 2023; Lau et al., 2024) and the potential of guidelines being unsuitable for the facility type (Agyekum et al., 2023). Conversely, although tertiary institutions may have better resources and personnel, there may be gaps in compliance stemming from which protocol is assessed (Senbato et al., 2024).

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5.2 Limitations

This study is not without limitations. To begin with, the focus of the study on selected health facilities in the Greater Accra Region may limit the generalizability of the findings to other regions in Ghana. Secondly, the study relies on self-reported data from midwives which may be subject to recall bias. Finally, resource constraints also limit the scope of data collection, potentially affecting the depth of analysis.



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CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

The primary objective of this study was to evaluate factors influencing midwives' compliance with Immediate Postpartum Monitoring (IPPM) protocols within selected health facilities in the Greater Accra Region, Ghana. Midwives' overall compliance, as well as sociodemographic and facility-based factors were examined while the study also compared compliance rates across different levels of health facilities.

It is seen that there is a marked variability in compliance with established IPPM guidelines, indicating gaps between protocols and practice among Ghanaian midwives.

Whereas individual factors like midwives' ages, years of experience and marital status were examined, this research particularly highlighted the important influence of the healthcare environment. Facility-based characteristics such as the availability of BEmONC training, the presence of frequent and supportive supervision from line managers, and the type of IPPM tool utilized were found to be critical determinants of midwives' compliance with IPPM. Specifically, lack of prior BEmONC training and infrequent supervision significantly reduced the likelihood of full adherence to IPPM protocols. Furthermore, the use of nurse's notes as the preferred monitoring tool was strongly associated with higher compliance compared to observation charts or electronic systems in this context.

The research also recorded a notable trend compliance across facility types where midwives in primary health facilities demonstrated higher adherence compared to their colleagues in tertiary facilities. This finding contradicts existing trends in compliance across different levels of health

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institutions suggesting that factors such as increased workload and complexity of caseloads may be mitigating factors of compliance in high-level institutions irrespective of resources and personnel.

The study concludes that a multi-pronged approach may be required to address the copious gaps in compliance among midwives in Ghana with regards in IPPM protocols.

6.2 Recommendations

Entrenched from the discussions above, the following recommendations are made from the current research.

6.2.1 Gaps in compliance with IPPM protocols

A joint effort of the Ghanaian Ministry of Health and Ghana Health Service must be dedicated to implementing target-specific training programs for midwives with particular focus on the significance of consistently complying with all the components of IPPM guidelines. The study recommends that such programs must be skill-centered, practical and focused on the possible repercussions of non-adherence on both maternal and neonatal health outcomes as this will encourage compliance.

6.2.2 Individual factors influencing midwives' compliance

To improve IPPM compliance among midwives, the study recommends the design of mentorship programs within Ghanaian health facilities where experienced midwives and practitioners could be paired with early career or younger midwives to offer them support and reinforce any best practices they may demonstrate. In addition, midwives' knowledge of current IPPM protocols could be enhanced when frequent in-service trainings are conducted in these facilities.

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6.2.3 Facility-based factors which affect midwives' compliance

It is also recommended that the Ghana Health Service should ensure that midwives in all Ghanaian health facilities undergo thorough BEmONC training and encourage well-structured supervision across work environments. This will ensure that constructive feedback and regular support are always available to aid midwives to overcome any potential challenges they may encounter in the dispensation of their duties.

6.2.4 Compliance of midwives across different health facilities

Leaders of health facilities in Ghana must recognize the potential influence of workload and overall work conditions on midwives' compliance with IPPM and related guidelines. Although this study did not find a statistically significant relationship between staff strength or staff-to-patient ratio and compliance, these factors remain important for ensuring manageable workloads and promoting optimal performance among midwives. This will enable midwives to have ample time and resources needed to provide high quality pregnancy care especially during the postpartum period. Health administrators must also prioritize strategies to minimize staff burnout and improve working conditions of their staff to ensure that ultimately the short- and long-term health outcomes of patients are preserved.

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APPENDIX

Questionnaire for the Study

Research Topic: Factors Influencing Midwives' Compliance with Immediate Postpartum Monitoring Protocols in Selected Health Facilities in the Greater Accra Region

Brief Introduction

The researcher, Juliet Selasi Akosua Attipoe, is a Masters' student at the University of Ghana School of Public Health, conducting research to analyze factors which influence midwives' compliance with immediate postpartum monitoring protocols in selected health facilities. All responses generated with this questionnaire will be treated with utmost confidentiality and will be used solely for the purpose of this research. The researcher has no affiliation with any government project, political party or commercial enterprise. Please read the instruction(s) under each section of the instrument to assist you in your responses. Thank you for your cooperation.

Date: …….

Participants ID: ……

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SECTION A: PARTICIPANTS' SOCIO-DEMOGRAPHIC CHARACTERISTICS

Please read through the following questions and tick (√) the box which most applies to you.

1. Age A. ≤ 25 years [] B. Between 26 - 35 years []

C. > 35 years []

2. Gender A. Male [] B. Female []

3. Educational Background A. Diploma [] B. Bachelors' []

C. Graduate []

4. Grade at Appointment A. SM [] B. SSM [] C. MO []

D. SMO [] E. PMO []

5. Current Grade/ Rank A. SM [] B. SSM [] C. MO []

D. SMO [] E. PMO []

6. Work Experience A. < 2 years [] B. Between 3 – 5 years []

C. > 5 years []

7. Marital Status A. Single [] B. Married [] C. Widowed []

8. Monthly Gross Income (GHC) A. Between 2000 – 3000 [] B. 3001 – 4000 []

C. 4001 - 5000 [] D. > 5000 []

9. Work/ Shift Pattern A. Day [] B. Night []

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SECTION B: HEALTH FACILITY CHARACTERISTICS

10. Which level of health facility do you work in?

A. Primary [] B. Secondary [] C. Tertiary []

11. What is your average staff (midwife) strength per shift?

A. Two [] B. Four [] C. Six [] D. Other (Please specify) …….

12. What is the average midwife-per-patient ratio?

A. 1:1 [] B. 1:2 [] C. 1:5 [] D. Other (Please specify) …….

13. Do you have an accessible electronic system at your facility? A. Yes [] B. No []

14. Do you have an accessible and stable internet service? A. Yes [] B. No []

15. IPPM protocols are displayed at vantage points at the maternity unit. A. Yes [] B. No []

16. What is the approved tool for IPPM in your facility?

A. Observation charts [] B. Nurses' notes []

C. Electronic system [] D. Other (Please specify) …….

17. Have you received any training on essential newborn care? A. Yes [] B. No []

18. Have you received any training on BEmONC or CEmON? A. Yes [] B. No []

19. There are established channels of communication and reporting when abnormalities are detected. A. Yes [] B. No []

20. Frequent supervision by a nearby manager. A. Yes [] B. No []

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SECTION C: CHECKLIST FOR COMPLIANCE

The following is a checklist for the adherence to immediate postpartum monitoring (IPPM) by midwives. Please read through the following items and tick (√) the box which most applies.

IPPM Checklist	Performed	Not Performed
21. Thermal protection was performed		
22. Gender of neonate was appropriately documented		
23. Oxytocin was provided for the mother		
24. Placental completeness was assessed		
25. Uterine massage was performed		
26. Early breastfeeding was initiated		
27. Brief counsel was given on breastfeeding attachment and positioning		
28. Vitamin K was administered to the neonate		
29. Administration of Tetracycline eye ointment		
30. Head circumference of neonate was measured		
31. Length of the newborn was recorded		
32. Weight of the newborn was measured		
33. Maternal vital signs checked and documented		
34. Advice on danger signs and immunization		
35. Is APGAR score assessed		
36. All required documentation adequately performed		

Adopted from Kebede et al. (2021)

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Ethical Considerations

JULIET SELASI AKOSUA ATTIPOE
I.B.E Church
Mamprobi

The Regional Director
Regional Health Directorate
Ghana Health Service
Greater Accra



Dear Sir/Madam,

PERMISSION TO CONDUCT A RESEARCH

I am Juliet Selasi Akosua Attipoe a Master of Science Clinical Trials (MSC) student of University of Ghana, Legon. I'm requesting for permission to conduct my MSC thesis topic titled "**Factors influencing midwives' compliance with immediate postpartum monitoring protocols in selected health facilities in Greater Accra Region**". Below is the selected facility.

- Mamprobi General Hospital
- Shai Osudoku District Hospital
- Kaneshie Polyclinic
- Greater Accra Regional Hospital
- Tema General Hospital
-

I've already received the approval from the Ghana Health Service Ethics Review Committee, please I would be glad if my permission is granted.

Thank you

Your sincerely

.....

Juliet Selasi Akosua Attipoe

Secretary
Pls walk on this
17/1/25

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GHANA
HEALTH
SERVICE
REGIONAL HEALTH DIRECTORATE,
GREATER ACCRA

P.O. BOX 184
ACCRA – GREATER ACCRA
Digital Address: GR-076-0430
Quote this number and date on all corresponden
Email: rhhs.gar@ghs.gov.gh
Tel: 0302248997

My Ref: GHS/GAR/RHD/ORD/24

Your Ref:
Date: 17TH JANUARY, 2025

THE METRO DIRECTORS OF HEALTH SERVICE
- ACCRA METRO
- TEMA METRO

THE DISTRICT DIRECTOR OF HEALTH SERVICE
- SHAI OSUDOKU

THE MEDICAL DIRECTOR
GREATER ACCRA REGIONAL HOSPITAL

RE: PERMISSION TO CONDUCT A RESEARCH

➢ **JULIET SELASI AKOSUA ATTIPOE**

Kindly find an attached letter from a Master of Science Clinical Trials (MSC) Student at the University of Ghana on the above subject matter for your information and necessary support.

Thank you.

DR. (MRS.) AKOSUA AGYEIWAA OWUSU-SARPONG
REGIONAL DIRECTOR OF HEALTH SERVICE
GREATER ACCRA REGION

Cc: Ag. Deputy Director, Clinical Care

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GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Digital Address: GA-050-3303
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Tel: +233-302-960628
Email: ethics.research@ghs.gov.gh
3rd December 2024

My Ref. GHS/RDD/ERC/Admin/App/24/586
Your Ref. No.

Juliet Selasi Akosua Attipoe
University of Ghana
Department od Epidemiology and Disease Control
School of Public Health
College of Health Sciences
Legon-Accra

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	**GHS-ERC: 046/09/24**
Study Title	Factors Influencing Midwives' Compliance with Immediate Postpartum Monitoring Protocols in Selected Health Facilities in the Greater Accra Region
Approval Date	3rd December 2024
Expiry Date	2nd December 2025
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of a yearly progress reports of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

You are kindly advised to adhere to the national guidelines or protocols on the prevention of COVID -19

Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
Mr. Kofi Wellington
(GHS ERC Chairperson)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra