PREDICTORS OF FEAR OF CHILDBIRTH AMONG HIGH-RISK PREGNANT MOTHERS ATTENDING ANTENATAL CLINIC AT BWAILA HOSPITAL, LILONGWE, MALAWI

ELESTINA GONDOLONI

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR MASTER DEGREE OF NURSING SCIENCE
(INTERNATIONAL PROGRAM)
IN MATERNITY NURSING AND MIDWIFERY PATHWAY
FACULTY OF NURSING
BURAPHA UNIVERSITY
2024

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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรพยาบาลศาสตรมหาบัณฑิต (หลักสูตรนานาชาติ)

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The Thesis of Elestina Gondoloni has been approved by the examining committee to be partial fulfillment of the requirements for the Master Degree of Nursing Science (International Program) in Maternity Nursing and Midwifery Pathway of Burapha University

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ELESTINA GONDOLONI : PREDICTORS OF FEAR OF CHILDBIRTH AMONG HIGH-RISK PREGNANT MOTHERS ATTENDING ANTENATAL CLINIC AT BWAILA HOSPITAL, LILONGWE, MALAWI. ADVISORY COMMITTEE: PUNYARAT LAPVONGWATANA, Ph.D. TATIRAT TACHASUKSRI, Dr. P.H 2024.

Fear of Childbirth (FoC) a psychological health condition that affects pregnant women is characterized by worrisome feelings and thoughts about labor and birth.This cross-sectional study aimed at describing the level FoC and investigate whether knowledge of childbirth preparedness, pregnancy-related pain, pregnancy-related complications, antenatal depression, partner support, and maternal trust in midwife could predict FoC among high-risk pregnant mothers. 123 high-risk pregnant mothers aged between 15 and 40 antenatal clinic of Bwaila Hospital in Lilongwe, Malawi were included. Seven instruments were used for data collection, including, a demographic and obstetrical questionnaire, fear of childbirth questionnaire, knowledge of birth preparedness questionnaire, paper-based visual analog pain scale, Edinburgh postpartum depression scale, social support effectiveness questionnaire, and health care relationship trust scale - revised.

The results of the study showed that the participant's mean score of FoC was 20.43 (SD=10.49) indicating a low level of fear. Knowledge of childbirth preparedness, pregnancy-related pain, pregnancy complications, antenatal depression, partner support, and maternal trust in the midwife predicted FoC, explaining 19.0% variance of FoC among high-risk pregnant mothers (R^2=.190, $F_{(6,116)}$ = 4.53, p<.001). However, only antenatal depression (β=.256, p=.007) and knowledge of childbirth preparedness (β=-.196, p=.022) significantly predicted FoC.

Need to develop interventions aimed at preventing antenatal depression and improving health education to address FoC.

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Elestina Gondoloni

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INTRODUCTION

Background and Significance of the Study

Childbirth is a transformative process that brings expected and unexpected physical and psychological changes (Olza et al., 2018). While physical changes like changing body shape, sickness, and fatigue may be more noticeable, psychological changes, though less visible are equally significant. Although more women have positive birth experiences (Nilsson et al., 2018), about 5.0 % to 44.0% (Carlhäll, Nelson, Svenvik, Axelsson, & Blomberg, 2022; Hosseini et al., 2020; Johansson & Finnbogadóttir, 2019) have negative ones, potentially leading to fear and anxiety (Cantika, 2015).

Fear of Childbirth (FoC) is a strong anxiety that impairs pregnant women's daily functioning and well-being (Nilsson et al., 2018). It is characterized by worrisome thoughts about labor and birth and mostly manifested by psychological and physical symptoms such as sleep disturbances, tachycardia, avoiding threatening situations, and, among others (Imakawa, Nadai, Reis, Quintana, & Moises, 2022).

FoC is caused by four principal domains which are concerns about the welfare of the baby, the process of labor (pain, medical interventions, and abnormal labor progression), personal circumstances (loss of control and disbelief in one's capacity to give birth), and external conditions but more specifically interactions with health care team (Imakawa et al., 2022).

Several factors are known to contribute to FoC. Socio-demographic (age (Huang, Huang, Li, & Liao, 2021; Imakawa et al., 2022; Khwepeya, Lee, Chen, & Kuo, 2018), marital status (David Onchonga, MoghaddamHosseini, Keraka, & Várnagy, 2020; X. Zhou, Liu, Li, & Zhang, 2021b), employment status and education level) (Khwepeya et al., 2018), and mother's knowledge of childbirth preparedness (Gökçe İsbir et al., 2022; Hassanzadeh, Abbas-Alizadeh, Meedya, Mohammad-Alizadeh-Charandabi, & Mirghafourvand, 2021; Kaya & Evcili, 2020; Kuljanac, Brekalo, & Naki Radoš, 2023; Spiby, Stewart, Watts, Hughes, & Slade, 2022; Uludağ, Serçekuş, Vardar, Özkan, & Alataş, 2022; Zeng et al., 2023), obstetric such

as gestational age (Huang et al., 2021; Imakawa et al., 2022; X. Zhou et al., 2021b), parity (Huang et al., 2021; Imakawa et al., 2022; David Onchonga et al., 2020; X. Zhou et al., 2021b), unplanned pregnancy (Gelaw, Ketema, Beyene, Gurara, & Ukke, 2020; Kaya & Evcili, 2020), pregnancy-related complications (Berhanu, Abathun, Negessa, & Amosa, 2022; Gelaw et al., 2020; Nasr, Alshehri, Almutairi, & AbdElmenim, 2020; Nguyen et al., 2021; Yetwale & Melkamu, 2021), pregnancy-related pain (Mortazavi & Agah, 2018; Smith, Zdaniuk, Ramachandran, & Brotto, 2022), psychological such as previous pregnancy experiences (Imakawa et al., 2022), depression (Poggi, Goutaudier, Séjourné, & Chabrol, 2018; Yetwale & Melkamu, 2021; Yıldırım & Alp Yılmaz, 2023; Zhang et al., 2023b; X. Zhou, Liu, Li, & Zhang, 2021), and anxiety(Tuncer, Alp Yılmaz, Karakurt, & Yıldız Çiltaş, 2022; X. Zhou et al., 2021b) and social: partner support (Lingli Han et al., 2022; Huang et al., 2021; Mortazavi & Agah, 2018; Nguyen et al., 2021) and a maternal trust in health care professionals (O'Brien, Butler, & Casey, 2021; David Onchonga et al., 2020).

All pregnant women have some degree of FoC, but if the fear reaches a serious level during pregnancy, delivery, and after birth, it has negative effects on the mother and baby (Cenk Soysal, 2020) and impacts women's relationships with their babies, partner, and family (K. Wijma, 2003). During pregnancy, FoC impacts the mother in such a way that the mother can terminate the pregnancy, request for caesarian birth without medical indication, and develop Post-Traumatic Stress Disorder (PTSD) (Klabbers, van Bakel, van den Heuvel, & Vingerhoets, 2016). Additionally, FoC has been associated with impaired fetal development, perhaps due to high levels of cortisols passed to the baby (Alder et al., 2011; Davies, 2014b). Studies have also indicated that when a pregnant mother's experience of FoC can lead to fear and worry in the father or partner (Ghaffari, Elyasi, Nikbakht, & Shahhosseini, 2022; D. Onchonga, 2021).

FoC vary according to countries, but globally, FoC among pregnant mothers is estimated at 5.0% to 30.0% (Hildingsson, Haines, Karlström, & Nystedt, 2017; Lai, Kwok, Wang, Seto, & Cheung, 2022; Nilsson et al., 2018), 67.1% in China (Huang et al., 2021), and 16.0 % to 24.5% in Sub-Saharan Africa (Gelaw et al., 2020; Khwepeya et al., 2018; Massae, Larsson, Pembe, Mbekenga, & Svanberg, 2022; David

Onchonga et al., 2020). These findings indicate the seriousness of this condition among pregnant mothers. It is worth noting that most of these studies were done among low-risk pregnant women and a few among high-risk pregnant women. According to Zlakowska (2020), high-risk pregnancies are associated with higher levels of FoC compared to low-risk pregnancies, probably due to the unknowns that come with high-risk situations (Isaacs & Andipatin, 2020), the belief of a high-risk mother and the fetus's well-being (Mirzakhani, Ebadi, Faridhosseini, & Khadivzadeh, 2020), and limited access to diagnostic, therapeutic, and intensive care service (Isaacs & Andipatin, 2020).

However, in contrast, findings by Mohamamdirizi, Mohamadirizi, and Mohamadirizi (2018) did not find a statistically significant difference in FoC scores between high-risk and low-risk pregnant mothers. Despite the inconsistencies, it is essential to understand more about FoC among high-risk pregnant mothers since these two groups have also different experiences.

A high-risk pregnancy is any pregnancy in which there is a factor that has the potential to negatively impact either the fetal or maternal outcome (Isaacs & Andipatin, 2020; Leichtentritt, Blumenthal, Elyassi, & Rotmensch, 2005). Anemia, heart illness, gestational hypertension, gestational diabetes, Human Immunodeficiency Virus (HIV) infection, multiple pregnancies (e.g., twins or triplets), previous pregnancy complications (e.g., uterine scars from last cesarean sections), or maternal age extremes, such as adolescent pregnancies or pregnancies in women of advanced maternal age, are some of the risk factors that can impact pregnancy (Gomindes et al., 2022; National Institutes of Health (NIH), 2018).

According to Yeoh, Hornetz, and Dahlui (2016), high-risk pregnancies are expected to have intensive utilization and frequent visits to the antenatal clinic for monitoring of their conditions. However, in settings like Malawi, where there is inadequate emergency obstetric care, a shortage of qualified healthcare professionals, a lack of access to high-quality healthcare, and inadequate maternal health services (Gondwe, Desmond, Aminu, & Allen, 2022; Mgawadere, Unkels, Kazembe, & van den Broek, 2017), high-risk pregnant mothers may not receive timely and appropriate

medical treatment which could exacerbate their fears (Isaacs & Andipatin, 2020). Furthermore, high-risk pregnancies are associated with high levels of depression and anxiety (Littleton, Breitkopf, & Berenson, 2007) as such they require periodic screening and psychosocial support (Sinaci et al., 2020). Significant obstacles to maternal health exist in Malawi, where the majority of maternal fatalities arise from pregnancy-related problems (Riches, Jafali, & Lissauer, 2023) and account for the country's high maternal mortality rate of 439 deaths per 100,000 live births (National Statistical Office (NSO), 2017).

Research consistently shows that insufficient knowledge regarding birthing preparation negatively impacts FoC, resulting in greater levels of FoC (Gökçe İsbir et al., 2022; Hassanzadeh et al., 2021; Kuljanac et al., 2023; Spiby et al., 2022; Uludağ et al., 2022; Zeng et al., 2023). Without sufficient knowledge on childbirth preparedness, pregnant mothers may suffer panic and worry because they do not know what to expect during the whole process, which will severely impact their pregnancy experience (Hassanzadeh, Abbas-Alizadeh, Meedya, Mohammad-Alizadeh-Charandabi, & Mirghafourvand, 2020). In Malawi, research reveals a significant issue of poor childbirth preparedness knowledge among pregnant mothers due to inadequate antenatal education (Lungu, Chodzaza, Kamanga, Chikazinga, & Jere, 2023; Malata & Chirwa, 2011; Munkhondya et al., 2020). Specifically, in high-risk pregnancies, the lack of knowledge and understanding about high-risk pregnancies can intensify fear, leading to further complications (Wilhelm et al., 2015).

Additionally, studies show that FoC is impacted by discomfort (pain) experienced during pregnancy (Mortazavi & Agah, 2018; Smith et al., 2022; Toohill et al., 2014). Biologically, the body undergoes physiological processes to detect, transport, and interpret information in reaction to pain. Both physical perception and emotional aspects are addressed by these processes. For instance, the brain interprets pain signals, leading to emotional responses expressed as anger or fear (De Ridder, Adhia, & Vanneste, 2021; Leachman, 2023). Compared to low-risk pregnancies, women with high-risk pregnancies such as preeclampsia, gestational diabetes, and multiple pregnancies report higher levels of pelvic girdle pain and lower back pain

(Bryndal, Majchrzycki, Grochulska, Glowinski, & Seremak-Mrozikiewicz, 2020; Wuytack, Begley, & Daly, 2020).

Furthermore, FoC is also significantly impacted by pregnancy-related complications (Berhanu et al., 2022; Gelaw et al., 2020; Nasr et al., 2020; Nguyen et al., 2021; Yetwale & Melkamu, 2021). Complications related to pregnancy might lead to unpredictability in birthing outcomes and impair women's sense of control over the process. Specifically, high-risk pregnancies are associated with complications that call for medical interventions and repeat procedures potentially causing FoC (Sheen & Slade, 2018). Uncertainty about the potential impact of these complications on their health and the health of their baby contributes to the development of FoC (Isaacs & Andipatin, 2020; Sharma, Jungari, & Lawange, 2022).

Studies have also shown that antenatal depression is associated with FoC among pregnant mothers (Poggi et al., 2018; Yetwale & Melkamu, 2021; Yıldırım & Alp Yılmaz, 2023; Zhang et al., 2023b; X. Zhou et al., 2021). Antenatal depression is linked to negative thought patterns, self-doubt, and concentration on distressing ideas, which consequently lead to FoC due to preoccupation with stress and anxiety related to childbirth (Field, Diego, & Hernandez-Reif, 2006). Furthermore, mothers with high-risk pregnancies exhibit greater depressive symptoms than mothers with low-risk pregnancies (Nonacs, 2008; Tsakiridis et al., 2019), supporting the need to include antenatal depression as a contributing factor.

Furthermore, research indicates that partner support is also significantly associated with FoC, having a negative association (Lingli Han et al., 2022; Huang et al., 2021; Mortazavi & Agah, 2018; Nguyen et al., 2021). Partner support, often from the father-to-be, is linked to psychological adjustment to motherhood (Stapleton et al., 2012) as it offers comfort, encouragement, and empathy, ultimately enhancing a woman's satisfaction (Molgora et al., 2018). A high-risk pregnancy is associated with emotional burdens that generate emotional breakdown (Wilhelm et al., 2015) and if not supported by the partner, pregnant women feel overwhelmed and lonely, leading to a probability of experiencing FoC (Adewuya, Ologun, & Ibigbami, 2006a).

Lastly, FoC is also impacted by maternal trust in the midwife (O'Brien et al., 2021; David Onchonga et al., 2020). Trust is essential for effective communication, permitting women to express their concerns honestly. Lack of trust can cause communication obstacles, leading pregnant mothers to feel neglected and misunderstood, and this might cause pregnant mothers to feel anxious and worried and hence might develop FoC (Downe, Finlayson, Oladapo, Bonet, & Gülmezoglu, 2018). As there are treatments involved in high-risk pregnancies, it is easier for the mother to disclose symptoms and comply with treatment instructions if she or he has trust in the provider's sense of confidentiality, competencies, and respect (Greenfield, Jomeen, & Glover, 2022). In Malawi, the research found a strained relationship and lack of trust between midwives and women or guardians (de Kok et al., 2020).

Khwepeya et al. (2018) found that in Malawi, pregnant mothers have a considerably higher prevalence of FoC (20.0%) than postpartum women. This data aligns with the global prevalence estimates of 5.0% to 30.0% for FoC in pregnant mothers (Hildingsson et al., 2017; Lai et al., 2022; Nilsson et al., 2018), indicating its severity in Malawi. Noticeably, the study by Khwepeya et al. (2018) was conducted among low-risk pregnant mothers and the findings may not apply to high-risk pregnant mothers due to variations in experiences and pregnancy status (Nkoka, Ntenda, Senghore, & Bass, 2019).

Additionally, as reported by Khwepeya et al. (2018) in Malawi, healthcare providers prioritize physical maternal well-being over mental well-being, hence the imbalance in well-being evidenced by the presence of antenatal and postpartum depression (Chorwe-Sungani, Wella, Mapulanga, Nyirongo, & Pindani, 2022). As such, it was recommended for early identification of pregnant mothers at risk for FoC to enhance childbirth experiences (Khwepeya et al., 2018), ultimately contributing toward achieving or addressing the United Nations Sustainable Development Goal (SDG) 3 sub goal 4, aimed at reducing premature deaths due to non-communicable diseases(NCDs) by one-third through prevention and treatment and improve mental health (Sustainable Development Goals (SDG), 2022)) and well-being and prioritize

midwifery care to achieve a positive delivery experience while safeguarding the mother and baby's health (Striebich, Mattern, & Ayerle, 2018).

Therefore, this study aimed to assess factors contributing to FoC among high-risk pregnant mothers.

Research Objectives

1. To determine the level of FoC in high-risk pregnant mothers
2. To examine if pregnancy-related pain, pregnancy-related complications, mother's knowledge of childbirth preparedness, antenatal depression, partner support, and maternal trust in midwives can predict FoC among high-risk pregnant mothers.

Research Hypothesis

Pregnancy-related pain, pregnancy-related complications, mothers' knowledge of childbirth preparedness, antenatal depression, partner support, and maternal trust in midwives could predict FoC among high-risk pregnant mothers.

Theoretical Framework

The study utilizes Engle's BioPsychoSocial (BPS) wellness model and literature review. The BPS model is an interdisciplinary framework that posits that health and well-being stem from a complex interaction of biological, psychological, and sociocultural factors (Engel, 1977; Lugg, 2022). The interplay of these three components affects the etiology, appearance, and recovery of sickness (Engel, 1977, 1981). For instance, problems with a patient's emotional or social health could impact their physical health (Megan, 2021).

This model considers biological elements such as inherited traits and prior physical harm or infection experiences that affect health (Morrison & Bennett, 2009). These elements are linked to FoC, suggesting that physical problems during pregnancy might intensify this fear. The biological factors in this study are pregnancy-related pain and pregnancy-related complications. Furthermore, the model's

psychological components assess clients' mental health, including mood disorders, trauma, anxiety, depression, and substance abuse or addiction. These factors may affect overall health outcomes when combined with biological and social factors (Lugg, 2022). The psychological element in this study is knowledge of childbirth preparedness and antenatal depression which are associated with FoC.

Social aspects encompass an individual's relationships, community, and cultural setting. Social variables interact with biological and psychological factors, hence influencing a person's health (Morrison & Bennett, 2009). The social factors for the study are partner support and maternal trust in the midwife, which both have a positive link to FoC.

This study hypothesizes that biological, psychological, and social factors impact FoC in high-risk pregnant mothers, offering a comprehensive approach. Pregnant mothers often experience fear, but significant social, psychological, or biological conditions must trigger the FoC.

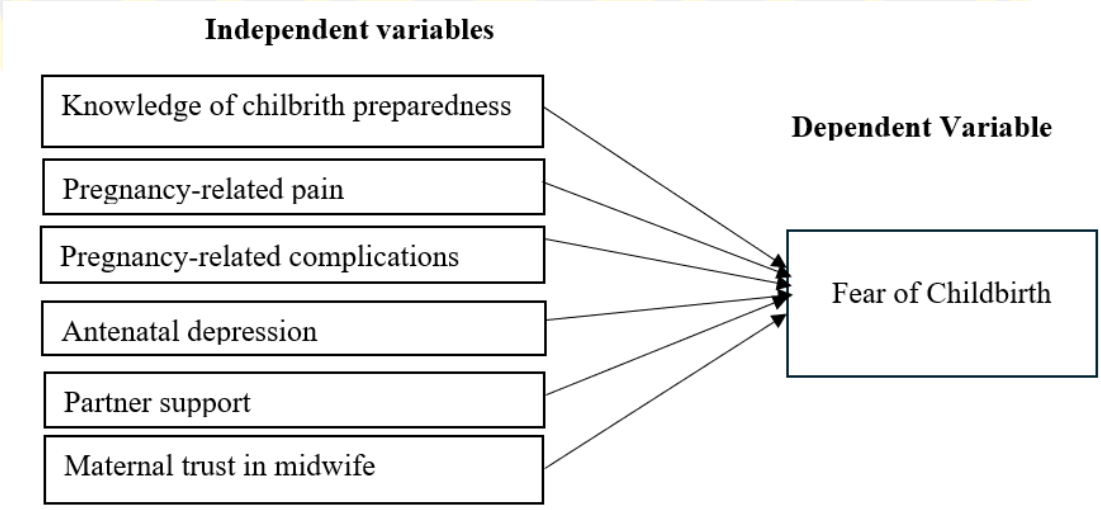

Figure 1 Conceptual Framework

Scope of Study

The study examined predictors of FoC among high-risk pregnant mothers attending the Antenatal Clinic (ANC) of Bwaila Family Health Unit (FHU) in Lilongwe, Malawi where data was collected for 2 weeks. Bwaila ANC is the busiest

clinic in the country, serving approximately 360 high-risk pregnant mothers every month from 8:00 a.m. to 12:00 p.m. on Monday through Friday.

Operational Definition of Terms

Fear of Childbirth refers to anxious thoughts about labor and giving birth. Assessed in four subscales; uncertainty and injury, unprofessional maternity staff conduct, unpredictability, and unpleasant emotions. The Fear of Childbirth Questionnaire (FCQ) was used to measure FoC in this study (Slade, Balling, Houghton, & Sheen, 2022).

Pregnancy-related pain refers to recurring or chronic pain in the lumbar spine or pelvic/genital area lasting over a week during this pregnancy. It was assessed by the paper-based Visual Analog Scale (VAS) (Gallagher, Bijur, Latimer, & Silver, 2002).

pregnancy-related complications refers to unfavorable health conditions or occurrences in the current or previous pregnancy. These conditions include pre-eclampsia, eclampsia, infections, gestational diabetes, premature delivery, stillbirths, problems after cesarean section, postpartum hemorrhage, anemia, malaria, and more. It was assessed by answering yes or no to the questions in the demographic questionnaire under obstetric components.

Knowledge of childbirth preparedness refers to being aware and understanding the components, importance, resources, and timing of childbirth preparedness. It was assessed by the Knowledge of Birth Preparedness questionnaire (Alatawi, Rashad, and Alabdulaziz (2023).

Antenatal depression refers to clinically severe depressed symptoms for 2 weeks or longer during the current pregnancy. It was measured by the Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden, & Sagovsky, 1987).

Partner support refers to activities and behaviors perceived by the pregnant mother that are meant to offer emotional, practical, or informational support, care, and

understanding from a partner. It was measured by the Social Support Effectiveness Questionnaire (SSE-Q) (Rini, Schetter, Hobel, Glynn, & Sandman, 2006).

Maternal trust in midwife refers to the perceived pregnant mother's confidence, dependency, empathy, ethical behavior, and belief in the competence of her midwife during this antenatal period. It was measured by The Healthcare Relationship Trust –Revised Scale (HCRT-R) (Bova et al., 2012).

CHAPTER 2
LITERATURE REVIEW

This chapter reviews the literature on many factors that affect FoC among pregnant mothers. The search focuses on the mother's knowledge of childbirth preparedness, pregnancy-related pain, pregnancy-related complications, antenatal depression, partner support, and maternal trust in the midwife. The literature review's contents are listed below.

1. Overview of high-risk pregnancy
    1.1 The link between high-risk pregnancy and FoC
2. Concept of FoC
    2.1 Definition and assessment of FoC
    2.2 Classification and key elements of FoC
    2.3 Clinical manifestation and management of FoC
    2.4 Impact of FoC
3. Theoretical framework: Biopsychosocial model
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4. Factors contributing to the FoC
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    4.3 Pregnancy-related complication
    4.4 Partner Support
    4.5 Maternal trust in midwife
5. Summary

Overview of high-risk pregnancy

A high-risk pregnancy is defined as a pregnancy that is complicated by factors (fetal or maternal) that negatively impact the pregnancy outcome (maternal, perinatal, or both) (Bhandari, Dwa, Maharjan, & Bajracharya, 2024; Isaacs & Andipatin, 2020; Leichtentritt et al., 2005). The World Health Organization (WHO) estimates that in 2020, approximately 800 women died every day as a result of preventable childbirth-related complications (World Health Organisation, 2024). Between 14.4% to 40.5% of pregnancies are classified as high-risk (Nesro, Dhinsa, & Gelan, 2021; Prajapati et al., 2022; Rajbanshi, Norhayati, & Nik Hazlina, 2020), contributing to 70-80% of perinatal mortality and morbidity (Arjariya & Tiwari, 2021). Furthermore, pregnant women may face risks before conception due to a variety of reasons, and some pregnancies may become high-risk as they progress (National Institutes of Health (NIH), 2018) . The risks include anemia, heart disease, hypertension, gestational diabetes, HIV infection, malpresentation, multiple pregnancies (such as twins or triplets), fetal anomalies, complications from previous pregnancies (i.e. uterine scars from prior cesarean sections), and extreme maternal ages (adolescent or advanced maternal age) (Gomindes et al., 2022; NIH, 2018).

The high maternal mortality rate of 439 per 100,000 live births in Malawi makes maternal health a major issue (NSO, 2017). Similar to a global perspective, in Malawi, pregnancy-related complications cause most of maternal deaths (Riches et al., 2023), with some of the complications including hypertension, gestational diabetes, postpartum hemorrhage, pre-eclampsia, and eclampsia (Balkus et al., 2021). In addition, other factors affecting maternal mortality include substandard emergency obstetric treatment, a shortage of competent healthcare practitioners, limited access to quality healthcare services, especially in rural and isolated areas, and insufficient maternal health provisions (Gondwe et al., 2022; Mgawadere et al., 2017). The latter factors may lead to delays in receiving prompt and efficient medical treatment during pregnancy, consequently leading to FoC as high-risk pregnant mothers perceive themselves as having higher risks (Isaacs & Andipatin, 2020). In Malawi, high-risk pregnancies are managed at a secondary and tertiary level (government and private), where the mothers' and baby's well-being are monitored intensively. However, these

pregnancy-related complications may be of concern to the mothers mostly about potential issues and their outcomes, particularly if they are aware of the challenges they face in obtaining quality healthcare.

1.1.The Link Between High-risk Pregnancy and FoC

High-risk pregnancies are closely linked to FoC due to the numerous physical and emotional challenges they present. Although not many studies have focused specifically on high-risk pregnancies, FoC is common among women having high-risk pregnancies (Zlakowska, 2020). The fears arise from various factors such as the diagnosis of high-risk status, pregnancy-related complications, the potential for adverse outcomes, the uncertainty of the unknown, lack of information about high-risk pregnancies, and loss of control over the gestational situation (Wilhelm et al., 2015). Additionally, the stress of managing a high-risk pregnancy can lead to depression (Nonacs, 2008; Tsakiridis et al., 2019), heightened anxiety (Marlinawati, 2023; Sinaci et al., 2020), which are closely linked to FoC (Poggi et al., 2018; Yetwale & Melkamu, 2021; Yıldırım & Yilmaz, 2023; Zhang et al., 2023a; X. Zhou et al., 2021b).

FoC is particularly significant because it can negatively impact both maternal and neonatal health. This is especially concerning in a setting like Malawi, where access to comprehensive mental health services is limited (Khwepeya et al., 2018) and there is a lack of antenatal education (Lungu et al., 2023), which leads to a lack of knowledge. It is crucial for pregnant women to feel safe, supported, and informed to ensure their adherence to and permanence in prenatal care services (Wilhelm et al., 2015).

The worry associated with high-risk pregnancies can also affect a woman's trust in healthcare providers. Women who have complications or receive a high-risk diagnosis might also be more inclined and depend on their healthcare providers for support and reassurance. However, if the care provided is perceived as inadequate or if there is a lack of effective communication, it can erode trust, potentially leading to lower adherence to medical advice and reduced utilization of healthcare services (Isaacs & Andipatin, 2020).

By understanding and addressing FoC and its factors among high-risk pregnancies, healthcare providers can offer more comprehensive and personalized

care to pregnant mothers. This approach can improve maternal and neonatal outcomes by ensuring that all aspects of a woman's health are considered and addressed. Furthermore, in Malawi where maternal mental health services are scarce (Khwepeya et al., 2018), understanding FoC and its aspects is crucial as it can help with the development or enhancement of interventions including counseling, stress management techniques, and psychoeducation, that can help lessen anxieties, uncertainties, and depression associated with high-risk pregnancies. Moreover, understanding FoC is also one way of contributing toward addressing the U.N. SDG 3 sub-goal 4, aimed at reducing premature deaths due to non-communicable diseases(NCDs) by one-third through prevention and treatment and improving mental health (SDG, 2022).

Concept of fear of childbirth

2.1 Definition and Assessment of FoC

FoC is the psychological concept under the perinatal anxiety umbrella (Jomeen et al., 2021). Nath, Lewis, Bick, Demilew, and Howard (2021) defined FoC as a woman's nervous thoughts and feelings about labor and delivery. Notably, the fear reaction may be protective since it drives pregnant women to seek help when they're worried (Jomeen et al., 2021). However, identifying and acknowledging fear during pregnancy is very critical.

FoC lacks uniform diagnostic criteria, but variety of ways have been employed to diagnose it including self-reported fear (Nilsson, Lundgren, Karlström, & Hildingsson, 2012). Noticeably, the Wijma Delivery Expectancy Questionnaire A (WDEQ-A), a validated 33-item self-report questionnaire created by K Wijma, Wijma, and Zar (1998), has been widely used to assess FoC. The questionnaire uses a six-point Likert scale from 0 to 5 with possible scores ranging from 0 to 165 with a threshold score of 85 or higher which indicates significant FoC.

Additionally, a 40-item nine-factor Childbirth Fear Questionnaire (CFQ) developed by Fairbrother, Collardeau, Albert, and Stoll (2022) is also used to assess FoC. It is scored on a 4-point Likert scale from 0 to 4 with a total score range of 0 to

160. Furthermore, a 20-item, Fear of Childbirth Questionnaire (FCQ) developed by Slade et al. (2022) assesses FoC too. This questionnaire is scored at 4-point Likert scale from 0 to 3 with possible score range of 0 to 60. Lastly, a visual analog Fear of Birth Scale (FoBS) by Haines, Pallant, Karlström, and Hildingsson (2011). In this study, FCQ by Slade et al. (2022) was used to assess FoC.

2.2 Classification and Key Elements of FoC

Two forms of FoC exist: primary and secondary. Primary FoC usually appears in young women and first-time mothers. The fear in this group is caused by indirect exposure to stressful or traumatic birth situations, poor birthing knowledge, sexual abuse, and generalization of other fears like needle, blood, or hospital phobia (Bhatia & Jhanjee, 2012; Rondung, Thomtén, & Sundin, 2016). However, fear conditioning following a traumatic birth experience like induced abortion, stillbirth, or miscarriage causes secondary FoC (Bhatia & Jhanjee, 2012; Rondung et al., 2016). Furthermore, based on cumulative ratings on the questionnaires, FoC is classified as low, mild, moderate, high, and severe (Ahmed, Shaaban Mohammed, & Hanafy Saber, 2022; K Wijma et al., 1998). According to Nunes et al. (2022), a low level of fear is a manageable concern that helps a woman prepare for delivery. On the other hand, moderate fears are worries that are difficult to cope with unaided, but still do not damage a woman's mental health, whereas severe fear can significantly impact the mother's mental health and her relationship with the baby (Nunes, Coutinho, & Santos, 2022).

Previous studies have identified childbirth-related fears which include fear of unfamiliar situations, concerns about baby harm or stress, uncertainty about pain management, fear of one's abilities, fear about receiving medical treatment without consent, fear about making suboptimal decisions, feelings of isolation and abandonment, fears about becoming a parent, and fear of mode of childbirth (Sharma et al., 2022; Slade, Balling, Sheen, & Houghton, 2019). These fears highlight the issues about the labor process, the baby's well-being, and the challenges associated with being a parent.

2.3 Causes of FoC

Fear is thought to be caused by biological, psychological, and social factors Biologically, fear of pain (Otley, 2011), psychologically, previous traumatic birth experiences, complicated deliveries, personal factors, feelings of helplessness, and anxiety about parenthood all cause FoC (Otley, 2011). Socially, a lack of support, a low education level (Khwepeya et al., 2018), and insufficient knowledge about childbirth and what to expect can lead to increased anxiety and fear (Hassanzadeh et al., 2020).

2.4 Clinical Manifestation and Management of FoC

Pregnant mothers with FoC may show a range of symptoms, such as crying, nervousness, anxiety, hopelessness, and sadness (Shabakhti, Rohani, Matbouei, & Jafari, 2020). Moreover, FoC may be indicated by physical symptoms such as stomach discomfort, psychological symptoms such as worry, panic attacks, and sleep difficulties (sleeplessness and disturbing nightmares) (M. A. O'Connell, Khashan, Leahy-Warren, Stewart, & O'Neill, 2021b). Furthermore, because of fear, some women may request a cesarean birth and delay their planned pregnancy or avoidance of engaging in sexual activity (Mortazavi & Agah, 2018). These findings highlight the variety of FoC manifestations, psychologically and biologically.

Women with birthing fears should be prioritized in maternity care, thus, several interventions or programs have been developed to prevent and manage FoC among pregnant mothers. The interventions or programs include prenatal psychological or emotional psychotherapy, better midwifery care, cognitive behavioral therapy, childbirth education programs, psychoeducation, and haptonomy (Akgün, Boz, & Özer, 2020; Azizi, Kamali, Elyasi, & Shirzad, 2021; Birner & Grosse, 2021; Mandal et al., 2022; Webb, Bond, Romero-Gonzalez, Mycroft, & Ayers, 2021).

2.5 Impact of FoC

FoC may have various consequences during pregnancy, potentially having adverse impacts on the mother, fetus, and family (Nilsson et al., 2018). In its severe form, fear may lead to persistently elevated basal levels of the stress hormone cortisol (hypercortisolism) (Schneiderman, Ironson, & Siegel, 2005), which may contribute to

the development of other conditions including asthma, irritable bowel syndrome, It would also seem that fear and resulting stress in pregnancy have the potential to change maternal immunity which can lead to preterm birth, intrauterine growth restriction, and pre-eclampsia (Osborne & Monk, 2013). During the first trimester, experiencing levels of FoC can result in abnormalities in the embryo. These abnormalities have the potential to impact aspects of development such as brain function, metabolism, immune system development, and fetal death. Experts attribute these consequences to changes in the environment, blood flow, and contractions induced by cortisol (Alder et al., 2011; Davies, 2014b).

In the second and third trimesters, FoC leads to low birth weight, growth restriction, and fetal distress (Davies, 2014a). It is believed that these consequences occur due to an abnormal increase of maternal cortisol which crosses the placenta to the baby (Gitau, Fisk, Teixeira, Cameron, & Glover, 2001), limiting blood circulation and hence restricting the supply of oxygen and nutrients essential for development (Abeysena, Jayawardana, & R, 2009; Ali, Seif, & Kibusi, 2022; Zhang et al., 2023b). Additionally, FoC can lead to an increased risk of neurodevelopment in the fetus(Davies, 2014a). Furthermore, FoC leads a pregnant woman to terminate a wanted pregnancy, request for caesarian birth without medical indication, and development of PTSD (Klabbers et al., 2016).

Additionally, cognitive impairment, mental health concerns, and sleep disturbances may arise as a result of FoC (Hill, 2001; Jomeen et al., 2021; Klabbers et al., 2016; Palagini et al., 2014). To partners or expectant fathers, FoC in the mother can lead to the development of FoC in the partner (Ghaffari et al., 2022; D. Onchonga, 2021).

Furthermore, FoC may contribute to increased pain during labor and unfavorable birth outcomes (Ali et al., 2022; Çapik & Durmaz, 2018; Lukasse, Schei, Ryding, & Group, 2014; Seefeld, Weise, Kopp, Knappe, & Garthus-Niegel, 2022), undergo surgical resection, which may not always be medically necessary and may pose additional risks (Yin et al., 2024). In the postpartum period, FoC can impact mother-child bonding (Davies, 2014a), affecting the emotional well-being of the child, and

potentially leading to postpartum depression (Davies, 2014a) These effects underline the importance of assessment, appropriate support, and tailored therapies for individuals experiencing FoC (Jomeen et al., 2021).

2.6 Prevalence of FoC Globally and in Malawi

Globally, FoC among pregnant mothers is estimated at 5.0% to 30.0% (Hildingsson et al., 2017; Lai et al., 2022; Nilsson et al., 2018). Prevalences in different regions are as follows, 67.1% in China (Huang et al., 2021), 16.0% in Tanzania (Massae et al., 2022), 22.1% in Kenya (David Onchonga et al., 2020), and 24.5% in Ethiopia (Gelaw et al., 2020). These variations in prevalence rates could be attributed to cultural differences, different assessment tools, and methodologies used.

While there is not enough research on FoC in Malawi, Khwepeya et al. (2018) discovered a 20.0 % prevalence of FoC among pregnant women, underscoring the seriousness of the problem in the country.

The Theoretical Framework: Biopsychosocial Model

This study is based on the Biopsychosocial (BPS) model developed by George L. Engel in the 1970s (Engel, 1977). The BPS model explains how various factors, such as genetics, biochemistry, mood, personality, behavior, culture, family background, socioeconomic status, and medical conditions interact to influence health and illness (Taukeni, 2020). This model aligns with the general systems theory that views organisms as interconnected entities made up of parts (McEwan & Wills, 2021). The BPS model provides a comprehensive framework for understanding health and disease, patient outcomes, and health care (Engel, 1981).

Biologically, human health depends on how the body interacts with the environment. In this resource lie systems in the brain, such as systems that act as mediators for various emotional and physiological states (Lehman, David, & Gruber, 2017). Furthermore, when assessing conditions, it is important to consider aspects such as symptoms of acute and chronic disease, clinical signs, medications, medical

history, genetics, and treatment (Diamond, Brown, & Miranda, 2020; Morrison & Bennett, 2009).

The psychological component includes actions involving emotional and behavioral responses. It also focuses on aspects such as self-assessment of the impact of the disease with emphasis on the importance of diagnostic and coping strategies that address the individual's personality traits, substance use, and addiction issues for anxiety and depression emotional emphasis (Diamond et al., 2020; Morrison & Bennett, 2009).

The social dimension includes interactions with others, the environment, and the impact of perceived relationships on well-being (Diamond et al., 2020; Lehman et al., 2017). Furthermore, other factors like the quality of family relationships, the effectiveness of social support networks, and communication between patients and healthcare providers, values, technological influences, religious beliefs, social relationships, and community characteristics also play a role (Diamond et al., 2020; Morrison & Bennett, 2009).

3.1 The BPS Model in Research

The BPS model has proven useful in the community, primary care (Van Dijk-de Vries et al., 2012), family medicine (Downing, 2012), mental well-being (McKay, McDonald, Lie, & McGowan, 2012), addiction treatment (Buckner, Heimberg, Ecker, & Vinci, 2013; Samenow, 2010), and occupation-based therapy (Mosey, 1974). The BPS model provides a valuable perspective on maternity care. Some factors can affect the pregnancy and birth process. Using this model, healthcare providers can provide care that considers the needs and circumstances of each pregnant woman. Ultimately, this process can have consequences for both mother and baby (Guillemin & Barnard, 2015). Bera (2019) examined the relationship between biological, psychological, and social well-being among high-risk pregnant women. The findings of this study indicated that 53.1% of women were affected by low biological well-being, 48.8% by low psychological well-being, and 56.7 % by low social well-being 2.0 %. Furthermore, the study also examined the relationship between these

dimensions of well-being and revealed a significant relationship between the biological and social-psychological aspects of well-being.

Another study using the BPS model examined the biological, psychological, and social variables of postpartum health services and their relationships with factors. Analysis of the multivariate model illustrated the overlap between these characteristics, emphasizing the interactive influence of sociological, psychological, and biological factors on care utilization (Duberstein et al., 2021).

These studies provide insight into the relationships among biological, psychological, and social factors affecting pregnant women.

3.2 The BPS Model and FoC

All pregnant mothers have some level of anxiety during pregnancy, but biological, psychological, and social factors are three factors that play an important role in contributing to FoC. Biologically, in pregnancy-related pain, pain perception causes distress through cognitive (insula), affective (Anterior Cingulate Cortex (ACC) and autonomic (ACC plus insula) activation, and this pain is expressed as anger , fear, despair, anxiety, and depression (De Ridder et al., 2021; Leachman, 2023).

Research has shown the importance of the BPS model in understanding FoC. Based on research findings, pregnant women who had higher levels of FoC were found to have poorer physical and mental health (Toohill et al., 2014). Additionally, social support is a stress buffer that acts to reduce stress levels (Modde, Rice, French, Kupzyk, & Houfek, 2022), suggesting that effective partner support can alleviate some symptoms of depression, thereby reducing its negative impact on childbirth fears. On the other hand, a lack of partner support may contribute to symptoms, which in turn may increase FoC. Furthermore, it is believed that increased support may reduce pain and depressive symptoms, ultimately leading to reduced FoC (Toohill et al., 2014).

According to IsHak et al., (2018), pain and depression are highly intertwined (IsHak et al., 2018), suggesting that pain and depression can mutually reinforce each other, amplifying the FoC. When a woman experiences pain, it can lead to increased depressive symptoms, which in turn heighten her perception of pain (Bair, Robinson,

Katon, & Kroenke, 2003). This cycle can escalate her fear of future pain during childbirth. Therefore both symptoms must be measured and managed to achieve a full remission (Trivedi, 2004).

Therefore, by understanding and addressing the biological, psychological, and social factors contributing to FoC, healthcare providers can offer more comprehensive and personalized care to pregnant mothers. This approach can improve maternal and neonatal outcomes by ensuring that all aspects of a woman's health are considered and addressed.

Factors Contributing to FoC

4.1. Knowledge of childbirth Preparedness

Knowledge of childbirth preparedness refers to the understanding and awareness that pregnant mothers have regarding the processes, practices, and resources necessary for a safe and healthy childbirth experience (Gebre, Gebremariam, & Abebe, 2015). A woman's knowledge of childbirth preparation can significantly influence her childbirth experience and empower her to make sense of the labor stage and what to expect at each stage (Hassanzadeh, Abbas-Alizadeh, Meedya, Mohammad-Alizadeh-Charandabi, & Mirghafourvand, 2019). This knowledge serves as a crucial protective psychological factor for FoC (Hassanzadeh et al., 2020; Rublein & Muschalla, 2022). Conversely, a lack of information about childbirth preparation can lead to a lack of insight into labor and birth planning, resulting in increased anxiety and uncertainty (Hassanzadeh et al., 2019). In Malawi, research reveals a significant issue of poor knowledge of birthing preparedness among pregnant mothers due to inadequate antenatal education (Lungu et al., 2023; Malata & Chirwa, 2011; Munkhondya et al., 2020), thus underscoring the relevance of this factor to be investigated in relation to FoC.

Research has shown a relationship between FoC and knowledge of childbirth preparedness. A study in Turkey showed that FoC ($p < 0.001$) was one of the reasons for feeling unprepared for childbirth (Gökçe İsbir et al., 2022). Another research conducted in China found a significant negative correlation between knowledge about birthing preparation and FoC ($r = -0.148$, $p < 0.001$) (Zeng et al.,

2023). These findings align with a study from Croatia where inadequate readiness for childbirth was significantly negatively associated with levels of FoC among nulliparous and multiparous women ($r = -.53$, $p < 0.001$ and $r = -.36$, $p < 0.01$), respectively. Moreover, the same study revealed that birth preparedness significantly predicted FoC among nulliparous and multiparous women ($\beta = -.40$, $p<0.001$and $\beta = -.37$, $p < 0.01$) respectively (Kuljanac et al., 2023). Additionally, similar findings were reported by researchers who observed that not attending classes in first-time pregnant mothers significantly predicted severe FoC ($\beta = 19.2$, $p < 0.001$) (Hassanzadeh et al., 2020). The reason behind this might be that those who did not participate in classes missed out on information regarding birth preparation. Insufficient information can contribute to fear of the unknown, leading to increased FoC levels (Hassanzadeh et al., 2019).

Furthermore, another study revealed that participants who attended classes experienced a reduction in FoC compared to those who did not participate ($P = 0.010$) (Uludağ et al., 2022). Antenatal education serves as a tool for providing knowledge and skills related to childbirth preparation, helping pregnant women increase their understanding and awareness of the process which consequently alleviate the fears associated with giving birth (Spiby et al., 2022). Knowledge of childbirth preparedness was assessed using knowledge of birth preparedness questionnaire.

In conclusion knowledge of birth preparedness had a significant negative impact on FoC.

4.2. Pregnancy-related pain (Discomfort during pregnancy)

Pregnancy-related pain refers to recurring discomfort or pain in the back or pelvic/genital region that lasts for more than one week. The discomfort/pain comes as a result of the mechanical strains and physiological changes, hormones such as progesterone and relaxin (Rankin, 2017), that occur during pregnancy (Liddle & Pennick, 2015). Some common discomforts or pains associated with pregnancy include lower back pain (Ansari, Hasson, Naghdi, Keyhani, & Jalaie, 2010; Gutke, Boissonnault, Brook, & Stuge, 2018; Manyozo, Nesto, Bonongwe, & Muula, 2019;

Mohseni-Bandpei et al., 2009), dyspareunia (pain during sexual activity), vulvodynia, pelvic girdle pain (Bastiaanssen et al., 2005, Gutke et al., 2018, Kanakaris et al., 201, Van De Pol et al., 2007), genital discomfort (Rossi et al., 2019). Studies indicate that women with high-risk pregnancies report higher levels of pelvic girdle pain and lower back pain compared to low-risk pregnancies, specifically those with preeclampsia, gestational diabetes, and multiple pregnancies (Bryndal et al., 2020; Wuytack et al., 2020). While many of these symptoms are considered normal and do not raise concerns, those accompanied by pain or bleeding can be particularly alarming for mothers (A. A.-W. Ibrahim & Ali Hassan, 2020; Lutterodt et al., 2019). These discomforts impacts one's quality of life for example, causing difficulties with walking (Boutib, Chergaoui, Marfak, Hilali, & Youlyouz-Marfak, 2022; Gutke et al., 2018).

As a biological factor, when experiencing pain, the body undergoes various physiological processes to detect, transmit and interpret pain signals. Various factors contribute to the experience of pain, including it's the emotional dimension of pain contribute to the experience of pain in such a way that when the brain receives pain signals, it elicit reactions such as fear or anger (De Ridder et al., 2021; Leachman, 2023). Pregnant women who experience pain during pregnancy might worry that childbirth pain will be more intense and challenging to manage. This concern can increase anxiety about the delivery experience, making them more susceptible to FoC (Rondung et al., 2016).

Research indicates that discomfort during pregnancy can impact a woman's fear of childbirth. For instance, Toohill et al. (2014) found a correlation between experiencing moderate to severe pain during pregnancy and high levels of FoC in both first-time mothers (nullipara) and mothers who have given birth before (multipara) ($r = -0.14$, $p = 0.001$ and $r = -0.126$, $p = <0.001$, respectively). Similarly, Mortazavi and Agah (2018) observed a significant association between moderate to severe dyspareunia (painful sexual intercourse) and FoC in nulliparous and multiparous pregnant women ($p = 0.001$ and $p = 0.003$, respectively). Furthermore, they found that mild to severe dyspareunia significantly predicted severe levels of FoC

(OR = 2.829, p = 0.002 and OR = 5.768, p = 0.001, respectively). It is worth noting that individuals who experience dyspareunia may associate their pain with vagina examinations leading to increased concerns about labor due to fear of experiencing pain during these types of examinations.

Moreover, research conducted by Smith et al. (2022) reported that women affected by vulvodynia exhibited higher scores on the W DEQ both during pregnancy and in the three months after childbirth. Additionally, another study revealed an association between FoC and the vaginismus sub-scale of the Golombok Rust Inventory of Sexual Satisfaction (GRISS) (r=0.206, P <0.001). This study concluded that assessing FoC and its associated risk factors during pregnancy—including vaginismus—can help identify at-risk groups and establish support services (Özçelik Eroğlu et al., 2022).

In contrast, a different study investigated the relationship between vaginismus, dysmenorrhea, social support, and FoC concerning birth self-efficacy. Interestingly, the study found that vaginismus did not significantly predict FoC (β=0.247, p>0.05), and when mediated by self-efficacy, vaginismus also did not have an impact on FoC (β= 0.074, p>0.05) (Esmalian, Tahor-Soltani, Shabani, & Erfani, 2023). The existing discrepancy in the literature may be attributed to mediating factors such as influences or differences in population characteristics. Pregnancy-related pain was measured using a paper-based VAS. In conclusion, pregnancy-related pain is a positive significant predictor of FoC.

4.3 Pregnancy-Related Complications

Issues that arise during and after pregnancy can have consequences for both mental health. Pregnancy-related complications refer to any health issues or events that a woman is currently facing or has faced in the past during her pregnancy. Such problems may include diabetes, hypertension, placenta previa or abruption, premature birth, miscarriage, postpartum depression, severe morning sickness, and anemia (Centre for Disease Control (CDC), 2023). Complications related to pregnancy might

lead to unpredictability in birthing outcomes and impair women's sense of control over the process. High-risk pregnancies are associated with complications that call for medical interventions and repeat procedures potentially causing FoC (Sheen & Slade, 2018). And the uncertainty about the potential impact of these complications contributes to the development of FoC (Isaacs & Andipatin, 2020). Moreover, women who have had previous traumatic births or pregnancy complications may be particularly vulnerable to developing FoC, as they anticipate similar or worse experiences in their current pregnancy and they may fear the potential impact of complications on their health and the health of their baby (Sharma et al., 2022).

Research has consistently shown that these pregnancy-related problems significantly affect the FoC. For instance, one study found that experiencing a pregnancy-related problem during the current pregnancy was a predictor of FoC (AOR; 5.60, p=.04) (Yetwale & Melkamu, 2021). Similarly, another study revealed that current pregnancy issues were highly predictive of FoC (AOR; 6.24, p<.001) (Gelaw et al., 2020; Yetwale & Melkamu, 2021). Additionally, experiencing problems in previous pregnancies was found to be a significant predictor of FoC as well (AOR; 6.59, p=.04) (Yetwale & Melkamu, 2021). The findings of the research also support this latter conclusion. The study revealed that experiencing pregnancy complications in the past significantly predicted FoC (AOR: 6.949, p=.00) (Berhanu et al., 2022).

Similarly, a study conducted in Turkey found a significant correlation between previous pregnancy complications and FoC (p=.02) (Nasr et al., 2020). These findings align with a study that discovered a significant positive correlation between FoC and the occurrence of pregnancy complications in previous pregnancies among multiparous women (r=.60, p < 0.05) (Nguyen et al., 2021). Previous pregnancy-related complication is assessed by a yes or no question. In conclusion, both current and past pregnancy-related complications have a significant positive influence on FoC.

4.4 Antenatal depression

Antenatal depression (AD)is defined as the presence of depressive symptoms during pregnancy daily for more than two weeks (Vahia, 2013). These

symptoms include persistent low mood, loss of interest in activities that were once seen as rewarding, self-criticism, fatigue despite adequate rest, difficulty concentrating on thoughts, changes in eating or sleeping habits, and end-of-life intentions (Vahia, 2013). AD affects a significant number of pregnant mothers during pregnancy with almost one in five women suffering from this condition, making it a major global health issue (Faisal-Cury, Rocha, Silotto, & de Oliveira Rodrigues, 2021). The prevalence of AD among pregnant women, including Malawi, ranges from 15.0 % to 65.0 % (Chorwe-Sungani et al., 2022; Dadi, Miller, Bisetegn, & Mwanri, 2020; Okagbue et al., 2019; Silungwe, 2021). This wide range underscores the significant impact of AD on maternal health in various contexts. AD is linked to negative thought patterns, self-doubt, and focus on distressing ideas, which can lead to FoC due to the preoccupation with stress and anxiety related to childbirth (Field et al., 2006). Moreover, depressive symptoms are higher among high-risk pregnant mothers than among low-risk pregnant mothers exacerbating the challenges faced by these women (Nonacs, 2008; Tsakiridis et al., 2019).

Various studies have shown an association between depressive symptoms and FoC in pregnant mothers. The study by Poggi et al. (2018) found a significant correlation between depressive symptoms and FoC ($r = 0.58$, $p < 0.05$). Moreover, a recent study from China showed that maternal depression in the third trimester was associated with higher FoC. Furthermore, previous studies showed that depression was a predictor of FoC ($\beta = 0.30$, $p < 0.05$) (Zhang et al., 2023b). These findings are consistent with a study in Turkey, which showed a positive effect of depression on FoC ($\beta = 0.44$, $p < 0.001$). The study also found a statistically significant correlation between the two variables ($r = 0.600$, $p < 0.05$) (Yıldırım & Yilmaz, 2023).

Similarly, Yetwale and Melkamu (2021) found that major depression strongly predicted FoC (AOR = 10.46, $p < 0.001$). In their study, pregnant women who experienced depression showed higher scores on the FoC questionnaire compared to pregnant women without antenatal depression. Similarly, a recent study from Poland showed an association between AD and FoC severity ($r = 0.378$, $p = 0.01$), where AD

also significantly predicted FoC severity (AOR = 1.08), p = 0.01) (Ilska et al., 2021). In addition, a Chinese study reported a correlation between depressive symptoms and FoC (r = 0.37, p < 0.001). Depressive symptoms were also found to be a significant predictor of FoC in other studies (β = 0.220, p < .001) (X. Zhou et al., 2021) and (β=0.09, p=0.042) (Usui, Takegata, Takeda, & Kitamura, 2023). The findings are consistent with those of a study that found that depression was a significant predictor of severe FoC (AOR= 18.69 p 0.001) even after accounting for other factors (Nath et al., 2021). It was measured using the EPDS. In conclusion, antenatal depression is a significant positive predictor of FoC.

4.5 Partner support

Partner support during pregnancy is defined as the pregnant woman's perception of her partner's actions and behaviors to provide informational and beneficial support, care, and understanding. It involves two cognitive functions: addressing challenges or issues within the relationship and offering reliable support that promotes psychological well-being (Iafrate et al., 2014).

Effective partner support plays a crucial role in various stages of pregnancy, labor, and postpartum such as problem-solving, alleviating emotional distress, calming anxious minds, and enhancing psychological well-being by ensuring that partners can rely on each other(Gelaw et al., 2020; Kucukkaya & Basgol, 2023; Yuksel & Bayrakci, 2019). Research highlights a strong link between a mother's health throughout pregnancy and childbirth and the emotional and practical assistance she receives from her partner (Stapleton et al., 2012), suggesting partner support as a protective social factor of emotional stability.

Partner support, often provided by the father-to-be, is critical for psychological adjustment to motherhood, this is in particular in high-risk pregnant mothers who are mostly psychologically unwell. Supportive partners offer comfort, encouragement, and empathy, which significantly enhance a woman's satisfaction and overall experience during pregnancy (Molgora et al., 2018). This emotional support is particularly important in reducing the emotional burdens associated with high-risk pregnancies (Lee et al., 2019; Sürücü, Besen, Duman, & Yeter Erbil, 2018), thereby

decreasing the likelihood of FoC (Marcelina, Rachmawati, & Ungsianik, 2019). As a high-risk pregnancy is associated with challenges, the presence of a supportive partner equips women with a heightened sense of empowerment to deal with the challenges of pregnancy (van Lonkhuijzen, Rustenhoven, de Vries, & Wagemakers, 2023), thereby reducing the occurrence of fear. Conversely, a lack of partner support can leave a pregnant woman feeling isolated and overwhelmed, increasing the probability of experiencing FoC (Adewuya et al., 2006a). The absence of support undermines her ability to cope with the challenges of pregnancy, highlighting the essential role of partner involvement in promoting maternal health and well-being.

Several studies have consistently found a connection between FoC and partner support. A study conducted in China revealed that inadequate or lack of support from a spouse was identified as a predictor for FoC (β=093, p<0.001 and β= 0.92, p<0.001, respectively) (Huang et al., 2021). Similarly, insufficient emotional support from one's spouse was identified as a predictor for FoC (AOR:4.450, p=0.01) among both first-time mothers and those who have given birth before in an Iranian study by Mortazavi and Agah (2018). Furthermore, Anjum, Mushtaq, Anwar, and Ali (2023) conducted a study that found a significant negative correlation between partner support and FoC (r=-.57, p <0.001), and also that support from one's partner significantly predicted FoC (r^2=20, p <0.001). Another study by Lingli Han et al. (2022) in China examined the relationship between FoC, intolerance of ambiguity, and coping mechanisms. It revealed that inadequate support from partners was a significant predictor for FoC (β=-0.189, p=0.010).

Moreover, an Indonesian study highlighted the significance of husband support as a predictor of FoC (OR =11.96, p<0.001). In the same study, women who reported satisfaction with their husband's assistance during pregnancy had lower levels of FoC compared to those who did not receive such support (Marcelina et al., 2019). Social support from partners also emerged as a factor predicting FoC (OR=0.49, p =0.043), and the availability of support from partners was associated with a reduced risk of women reporting fear of birth (Massae et al., 2021).

Conversely, some studies found different results. For instance, a study revealed a non-significant predictive impact of marital status on FoC among pregnant mothers (β=-0.045, p >0.05) (Çıtak Bilgin, Coşkun, Çoşkuner Potur, İbar Aydın, & Uca, 2021). Likewise, another study indicated that partner support had a non-significant predictive effect on FoC (β =-0.04, p=050), and a non-significant association with FoC (r=-.09, p=0.163) (Cho & Ahn, 2020). Additional research revealed that those who had partner support were likely to develop FoC (r=.14, p <0.1) (Nguyen et al., 2021).

Researchers have gathered evidence regarding the negative and positive associations between partner support and FoC and its impact on FoC. Nevertheless, cultural norms and perspectives can influence the relevance of this relationship (Çıtak Bilgin et al., 2021). Partner support was assessed using the SSE questionnaire. In conclusion, partner support has a negative impact on FoC.

4.6 Maternal trust in midwife

As trust forms the foundation of relationships, establishing connections is crucial for quality maternity care. The trust that pregnant mothers place in their midwives reflects their confidence, reliance, and satisfaction with the midwife's expertise, empathy, and ethical conduct during pregnancy. When a mother trusts her midwife, it means she firmly believes she is receiving care and understands the vulnerability that comes with this conviction (Tegenu, Tilahun Beyene, Mekoya Jemaneh, Melkamu Andualem, & Atomsa Hunde, 2023). Furthermore, when women receive support and recognition, their faith in having a safe delivery grows stronger, leading to a reduction in the fear and anxiety typically associated with childbirth (Borrelli, Spiby, & Walsh, 2016; Hofberg & Ward, 2003).

Women with high-risk pregnancies often have complex medical needs and require specialized care (National Institutes of Health (NIH), 2018). They may depend heavily on their healthcare providers for accurate information, guidance, and support throughout their pregnancy journey. High-risk pregnancies can be emotionally challenging for expectant mothers due to increased concerns about their health and the health of their babies (Isaacs & Andipatin, 2020). Trust in healthcare providers can

alleviate anxiety and provide reassurance, knowing they are in capable hands (Cure, 2024).

Trust in midwives is particularly crucial for high-risk pregnant mothers in managing and alleviating FoC as trust has proved to alleviate symptoms (Birkhäuer et al., 2017). Midwives who their patients trust can provide a calming presence and reassurance, which is especially important for high-risk mothers . Furthermore, when high-risk mothers trust their providers, they are more likely to feel confident in their care, reducing overall stress and fear about the childbirth process (Mirzaee & Dehghan, 2020).

Global research highlights the importance of a pregnant woman's ability to place trust in her midwife, especially when it comes to the emotional aspects of childbirth (O'Brien et al., 2021). The FoC has been associated with a lack of trust in healthcare professionals (Waldenstrøm et al., 2004; Nilsson &Lundgren, 2009, cited in O'Brien et al. (2021). This feeling often comes with a sense of exclusion from decision-making processes. O'Brien et al. (2021) emphasize the importance of establishing trust between midwives and expectant mothers.

Additionally, a study conducted in Kenya found a link between FoC and confidence in healthcare providers ($p < 0.001$). The same study also revealed that trust in healthcare providers was a predictor of low levels of FoC ($\beta = -1.378$, $p < 0.05$) (David Onchonga et al., 2020). These findings are supported by research indicating that distrust towards professionals strongly predicts FoC among pregnant women (Klabbers et al., 2016). Maternal trust in midwife is measured by the HCRT-R scale.

In summary, the trust that pregnant mothers have in midwives negatively influences their FoC.

Summary

To summarize, FoC is a common problem in Malawi among pregnant mothers, with a reported prevalence of 20.0 %, which falls within the global FoC prevalence. However, the lack of detailed population-based statistics makes a thorough knowledge of its full breadth in the country difficult since only one study was

conducted in Malawi. Notably, there is a significant information gap regarding FoC among high-risk pregnant women, as prior studies focused primarily on low-risk pregnancies. Furthermore, healthcare practitioners in Malawi prioritize women's physical health while ignoring their mental health concerns.

From this literature review, several key factors that contribute to FoC emerged and they include: knowledge about childbirth preparedness, partner support, and maternal trust in midwife have a negative association with FoC and a predictive power in FoC. On the other hand, antenatal depression, pregnancy-related pain, and pregnancy-related complications have a positive association with FoC and a predictive power.

CHAPTER 3
RESEARCH METHODOLOGY

This chapter presents the research methodology which includes details on research design, population and sample, study setting, research instruments, human rights protection, data collection, and data analysis.

Research Design

A cross-sectional predictive correlational study was conducted to meet the study's objectives.

Population and Sample

Population

The population of the study was high-risk pregnant mothers who attended the antenatal clinic of FHU, at Bwaila Hospital, in Lilongwe, Malawi.

Sample

The sample for the study was selected from the high-risk pregnant mothers who came to the antenatal clinic of Bwaila Hospital as per the following inclusion criteria.

1. Age between 15 and 40 years old
2. Proficient in reading and communicating in the Chichewa language
3. Provided consent to participate in the study

Participants were excluded if they were on any antipsychotic treatment.

Sample Size

The required sample size was calculated using G*power 3.1.9.7 (Faul, Erdfelder, Buchner, & Lang, 2009). The medium effect size of 0.15 (Polit & Beck, 2012) was used, and the alpha of .05 and power of .90 were applied to compute the sample size. The power analysis showed that the appropriate sample size for this study was to have at least 123 participants.

Sampling Technique

Information about the study was shared with all pregnant mothers. High-risk pregnant mothers were identified by checking in their health passport book and also asking them questions whether they have either 1 or more of the following conditions; Age (adolescent and ≥35 years), weight; obesity, problems during the previous pregnancy; miscarriage, stillbirth, gestation diabetes, pre-eclampsia, shoulder dystocia, previous cesarean birth, disorders before present pregnancy: high blood pressure, diabetes, sickle cell anemia, fibroids, disorders during the present pregnancy: HIV, Syphilis, hepatitis B, pre/eclampsia, hyperemesis gravidulum, gestational diabetes, anemia, bad obstetric history, breech presentation, placenta previa.

When identified, the participant's queue numbers were duplicated and dropped into a container and one number was then extracted randomly from this container. The participant with that particular number would then be approached and invited to join the study. The participants were given an information sheet to read, if interested in taking part, they were asked to give a signed consent. Then they were given a questionnaire to fill in.

Research Setting

The research was conducted at the ANC department of Bwaila FHU, maternity hospital, a government-run facility situated in the urban area of Malawi's Lilongwe district. Serving as a district hospital, Bwaila Hospital caters to a population of approximately 40,852 women of reproductive age (15 and 40) with diverse nationalities but the majority being Malawians. The women come from different socioeconomic backgrounds ranging from low to middle class. Bwaila is located within the vicinity of Lilongwe, and clients use convenient public transportation to have access to the service.

Services at the clinic include ultrasound scans (USS), which are especially important for managing high-risk pregnancies. Despite this, many high-risk and low-risk pregnant women face significant challenges during their pregnancy journey, including a lack of access to health education and essential medications such as iron.

Bwaila serves as a referral center for high-risk pregnancies. The hospital has six examination rooms, with facilities for obstetricians, and ultrasound scans by a sonographer and midwives. The ANC clinic operates Monday through Friday from 8:00 a.m. to 12:00 p.m., serving approximately 360 high-risk mothers per month, an average of approximately 15 per day.

During the first follow-up ANC visit, high-risk mothers are checked for the vital signs such as blood pressure, temperature, heart rate, respiratory rate, and others which include body weight, height, essential vaccinations, counseling, and HIV testing. Midwives conduct assessments and, if necessary, mothers are referred to obstetricians for further evaluation.

Research Instruments

Data was collected using a Chichewa 7-part questionnaire. The research tools are described as follows.

1. Socio- demographic Questionnaire

The socio-demographic questionnaire which was developed by the researchers consisted of two parts. The first part contained information on characteristics such as participants' age, educational level, employment status, and marital status, and the second part contained obstetric information on pregnancy, parity, gestational age, pregnancy-related complications, or planned or unplanned pregnancies.

2. Fear of Childbirth Questionnaire (FCQ)

This study used the Fear of Childbirth Questionnaire (FCQ) developed by (Slade et al., 2022) to assess the fear of childbirth. The validated self-assessment scale consisting of 20 items had four categories: uncertainty and injury (7 items), which assessed fear of pain, control, power, and injury, and professional behaviors (5 items) with competence, including attention, and care. associated fears were assessed; unpredictability (4 items) which assessed fear of events and challenges; and negative emotions (4 items) which assessed fear of loneliness and anxiety. Responses were

indicated on a 4-point Likert scale ranging from 0 to 3 as follows: strongly disagree (0), somewhat disagree (1 point), somewhat agree (2 points), and strongly agree (3 points). The scoring system was reversed for items 1, 3, 5, 8, 10, 14, 17, and 20). The possible scores ranged from 0 to 60 with categories including low fear (<30), moderate fear (30 – 39), and severe (>39) (Ahmed et al., 2022). The tool was demonstrated to be reliable and valid with a Cronbach's alpha coefficient of .90 (Ahmed et al., 2022), and a Content Validity Index (CVI) of 83% (Sanjari, Fakhraei, Soleimani, & Alidousti, 2022b). In this study, 18 items were used and possible scores ranged from 0 to 54, and a higher score denoted a higher degree of FoC (Ahmed et al., 2022).

3. Knowledge of Birth Preparedness (KBP) Questionnaire

The questionnaire on knowledge of birth preparedness developed by Alatawi et al. (2023) consisted of forty multiple-choice questions was used to assess mothers' knowledge of childbirth preparedness. Each question had one answer, and each incorrect and correct response were assigned 0 and 1, respectively. The possible scores ranged from 0 to 40. For interpretation, scores between 10-14 (poor level of knowledge), 15 to 19 (moderate level of knowledge), and 20-25 (good level of knowledge) (Alatawi et al., 2023). The tool demonstrated reliability with r=0.89 and a validity coefficient of r=0.90. In the current study, 25 items were used and a higher score was considered to have good knowledge (Alatawi et al., 2023).

4. Paper-Based Visual Analogue Scale (VAS)

The measurement tool chosen to evaluate pregnancy-related pain was the paper-based Visual Analogue Scale (VAS), which was designed by Weigl and Forstner (2021). VAS consisted of an 8cm line that represented a continuum ranging from "no pain" at the left end (0 cm) to "worst pain" at the right end (10 cm) equivalent to 0mm to 100 mm respectively. Participants were asked to mark their perceived pain level over the week on this scale specifically related to pregnancy-related pains such as lower back pain, pelvic or genital pain, and vaginal pain during sexual activity. The possible scores ranged from 0 to 100mm. Further interpretations, pain levels are

categorized as: "no pain" (0-4 mm), "mild pain" (5-44 mm), "moderate pain" (45-74 mm), and "severe pain" (75-100 mm). The scale was demonstrated to be valid (Weigl & Forstner, 2021). In this study, a higher score indicated a higher degree of pain (Delgado et al., 2018).

5. Edinburgh Postpartum Depression Scale (EPDS)

For assessing antenatal depression, a validated Chichewa version of the Edinburgh Postpartum Depression Scale (EPDS) by (Cox et al., 1987) was utilized. The tool consisted of 10 questions and participants were asked to rate their experiences with symptoms of depression over the week using a 4-point Likert scale. The questionnaire uses reverse scoring, where a score of 3 represents agreement and a score of 0 represents no agreement at all. For example, a score of 3 means "I always feel this way," while a score of 0 means "I never feel this way." According to Chorwe-Sungani and Chipps (2018), the Chichewa version is valid with a sensitivity rate of 68% and specificity rate of 88%), reliable (Cronbach's alpha = 0.8), and accurate (AUC = 0.85). A score of ≥10 in this study indicated the presence of antenatal depression (Chorwe-Sungani & Chipps, 2018).

6. The Social Support Effectiveness (SSE) Questionnaire

The Social Support Effectiveness (SSE) questionnaire developed by Rini et al. (2006) was used to assess partner support. The tool has 25 items with questions asking women to evaluate the level and effectiveness of support from their partner by rating how well the help provided matches their needs. The questionnaire covers three types of support: task-related, informational, and emotional. Participants rated each item on a scale of 0 to 4 with possible scores ranging from 0-80. The reliability (Cronbach's alpha) scores for the aspects of support were as follows: task (.80), informational (.63), emotional (.87), and negative aspect (.81) (Stapleton et al., 2012). In 19 items were used and the possible scores ranged from 0-56. A higher score in this study indicated the presence of partner support.

7. Health Care Relationship (HCR) Trust Scale-Revised

The maternal trust in the midwife was evaluated using the revised Health Care Relationship (HCR) trust scale developed by Bova et al. (2012). This scale had three domains: relationships, respectful communication, and professional collaboration. Participants were asked to indicate their level of trust toward the midwife or midwives who provided care during their ANC visit. The scale had 13 items, rated on a 5-point Likert scale: O=none of the time,1=some or a little of the time 2=occasionally, 3=most of the time, and 4=all of the time. The scoring system was reversed for item 12. The possible score range was from 0 to 52. The tool's reliability, as measured by Cronbach's alpha coefficient, was 0.93 (Logrippo, 2013). In this study, a higher score indicated the presence of maternal trust in midwife (Logrippo, 2013).

Translation of Instruments

The instruments in the English version (FCQ, KBP, EPDS, VAS, SSE, and HCRTS) were translated into the Chichewa language following recommended guidelines (Wild et al., 2005).

Forward Translation: A bilingual specialist fluent in both languages translated the instruments' original English versions into Chichewa.

Review by experts: Two in-country professionals (midwives) who speak Chichewa and know the topic reviewed the translated versions. They evaluated the wording's appropriateness, the translation's clarity, and the material's cultural significance.

Back translation: Three multilingual translators proficient in both languages independently back-translated the instruments' Chichewa version into English. The original English text and the back-translated versions were compared to find any differences or possible translation problems.

Review by experts: English-speaking specialists (lecturers in midwifery) knowledgeable about the issue checked the back-translated English versions to evaluate accuracy and ensure that the original text's intended meaning is effectively conveyed. Then, a final Chichewa version was finalized.

Comparison and Improvement: The original English versions, the translated Chichewa versions, and the back-translated English versions were thoroughly compared to note any differences or areas that needed improvement.

A Pilot Test: Pilot testing was conducted on 30 high-risk pregnant women at the antenatal clinic. Evaluating the phrasing and comprehensibility which assisted in establishing the suitability and sufficiency of the final Chichewa version of the instruments.

Content validity: An expert group comprising three experienced midwives in Malawi evaluated the content validity of the Chichewa version of the instruments. The team assessed the relevance and clarity of the instrument.

Reliability and Validity of the Instruments

Validity

The EPDS Chichewa version was already validated in the country (sensitivity rate: 68% and specificity rate: 88%) (Chorwe- Sungani & Chipps, 2018). Only the Chichewa versions of the FCQ, KBP, VAS, SSE, and HCRT-R were validated by three experts (2 Malawian lecturers in midwifery and 1 experienced practicing midwife with a masters). The FCQ, KBP, VAS, SSE, and HCRT-R demonstrated acceptable validity of 0.90, 0.85,1.00, 0.90, 0.82, and 1.00 respectively.

Reliability

The reliability was tested with 30 (pilot study) and 123 (main study). The reliability was tested with Cronbach's alpha coefficients for the FCQ, EPDS, VAS, SSE, and HCRT-R, and Kuder–Richardson 20 for the KBP questionnaire. In both cases, there were acceptable levels of reliability for all the questionnaires (Table 1).

Table 1 Reliability of the Research Instruments

Questionnaire	Cronbach's alpha(n=30)	Cronbach's alpha (n=123)
Fear of Childbirth Questionnaire	.77	.83
Knowledge of Birth Preparedness	Kuder–Richardson 20 =.75	Kuder–Richardson 20 =.73
Edinburgh Postpartum Depression Scale	.73	.82
Social Support Effectiveness Questionnaire	.80	.78
Health Care Relationship-Trust Scale	.83	.81

Human Right Protection

This research was carried out after getting approval from the Institutional Review Board (IRB) of Burapha University (G-HS111/2566,) and the Research Ethical Board of the National Health Sciences Research Committee (NHSRC) (24/03/4348), Malawi. Additionally, permission was sought from the research committee of Lilongwe District Assembly and the management team of Bwaila FHU. During the data collection, potential participants were given detailed information about the study's aims and procedures. The right to voluntarily agree, decline, or withdraw participation without affecting the quality of care was emphasized. Only participants who willingly consented after providing written informed consent were included in the study. Additionally, for the participants who were less than 18 years old, consent was sought from their guardians and they signed the assent form (The Council for International Organizations of Medical Sciences, 2016). To protect the confidentiality, no names were used, instead, each participant was assigned a unique number.

For privacy, paper documents containing data were safely kept, and electronic data were protected with passwords, accessible only to the researcher. All data-related documents will be securely destroyed one year after the study's

publication. Participants with higher scores on the EPDS and FCQ were given counseling, ensuring comprehensive support for their well-being.

Process of Data Collection

Preparation

1. The researcher obtained approval from the Faculty of Nursing, Burapha University, and subsequently submitted the research proposal to both the IRB of Burapha University and the NHSRC in Malawi for clearance.

2. A formal letter was requested from the FON, BUU to seek permission for data collection from the study setting.

3. The letter from FON, BUU was then provided to the chairperson of the research committee for the Lilongwe District Assembly. Permission to collect data was sought from both the research committee for Lilongwe District Assembly and the matron at FHU, Bwaila Hospital (study setting).

4. Two registered nurse-midwives who were not employed during data collection were trained as Research Assistants (RAs). The training covered the data collection tools, study participant recruitment, data collection procedures, and including ethical principles.

Actual data collection

5. The research team arrived at the clinic every Monday through Friday at 7:00 am, explained the data collection process to the staff in the ANC department, and obtained permission from the ANC staff to proceed with data collection.

6. Study information and calls for volunteers were shared during health education sessions. The research team recruited study participants, obtained informed consent from eligible and interested participants and questionnaires were distributed.

7. Participants completed self-administered questionnaires for an average of 35 minutes. The researcher ensured that participants were attended to by the midwife either before or after completing the questionnaires, whichever was convenient for them.

8. Participants were asked to review their completed questionnaires for accuracy before returning them to the RAs.

9. Participants identified with high levels of FoC or depression (indicated by scores on the FCQ and EPDS) were counseled accordingly.

10. Data collection continued until the required sample size was achieved.

Data Analysis

The data analysis for this study was conducted using Statistical Package for Social Sciences (SPSS) version 26 software at a significance level (α) of 0.05. The analysis employed the following statistical methods:

1. Descriptive statistics (frequency, percentage, mean, and standard deviation) were utilized to explain the demographic characteristics of the sample and the study variables.

2. Assumption testing for multiple regression. Various statistical tests were employed to assess the assumptions necessary for multiple regression analysis, including, normality of variables, linearity, homoscedasticity, absence of outliers, no autocorrelation, and no multicollinearity.

3. A standard multiple regression analysis was performed to identify the predictive factors of FoC among high-risk pregnant mothers attending ANC at Bwaila Hospital.

CHAPTER 4
RESULTS

Introduction

This chapter describes the findings of the study. The objective of the study was to describe the level of FoC and assess its predictors such as pregnancy-related pain, pregnancy-related complications, knowledge of childbirth preparedness, antenatal depression, partner support, and maternal trust in the midwives among high-risk pregnant mothers attending antenatal clinic at Bwaila Hospital. The finding of the study is outlined below and include their demographics, obstetrics, studied variables, and factors predicting FoC.

Description of Demographic and Social Characteristics of the Participant

In this study, data was collected from a total of 133 high-risk pregnant women who visited the antenatal clinic of Bwaila Hospital. However, six questionnaires had missing data, and four questionnaires had outliers, therefore, the total of 123 participants proceeded to the final analysis. The age of the participants ranged from 15-40 years, with a mean of 29.87 years (SD=6.45), and nearly two-thirds (61.8%) were within the age range of 20-34 years. Most participants were married (89.4%) with one-third having completed primary (45.5%) or secondary education (42.3%). Nearly half of the participants (47.2%) were self-employed or engaged in business activities, with more than one-third (40.7%) being housewives (Table 2).

Table 2 Demographic and Social Characteristics of the Participants (n=123)

Characteristics	Frequency (n)	Percentage (%)
Age (years) (M=29.87, SD=6.45, Min=15, Max=40)		
15-19	10	8.1
20-34	76	61.8
35-40	37	30.1
Marital status		
Married	110	89.4
Unmarried	11	9.0
Divorced	1	0.8
Widowed	1	0.8
Education Level		
Primary	56	45.5
Secondary	52	42.3
College	12	9.8
University	3	2.4
Employment status		
Self-employed/Business	58	47.2
Housewife	50	40.7
Salary employed	15	12.1

*M= Mean, SD=Standard Deviation, Min=Minimum, Max=Maximum

Obstetric Characteristics of the Participants

The results showed that nearly two-thirds of the participants were multigravidas (69.9%) and more than one-third were multiparous (49.6%). Furthermore, the mean gestational age was 27.28, SD= 5.44), with 51.2% in the third trimester. More than two-thirds of the participants had planned pregnancies (66.7%) and one-third (43.9%) had pregnancy-related complications (Table 3).

Table 3 Obstetric Characteristics of the Participants (n=123)

Characteristics	**Frequency (n)**	**Percentage (%)**
Gravidity		
Primigravida	13	10.6
Multigravida	86	69.9
Grand	24	19.5
Parity		
Nulliparity	16	13.0
Primiparity	35	28.5
Multiparity	61	49.6
High parity	11	8.9
Gestation Age (weeks) (M=27.28, SD=5.44, Min=10, Max=37)		
1-12 (1st trimester)	2	1.6
13-27 (2nd trimester)	58	47.2
28-40 (3rd trimester)	63	51.2
Planned pregnancy		
Planned	82	66.7
Unplanned	39	31.7
Not sure	2	1.6
Pregnancy-related Complication		
Complication (Yes)	54	43.9
Hyperemesis gravidulum	10	8.1
Malaria	10	8.1
Eclampsia, Pre-eclampsia	14	11.4

Table 3 (Continued)

Characteristics	Frequency (n)	Percentage (%)
Antepartum hemorrhage	5	4.1
Abortion	4	3.3
Fresh/macerated stillborn	8	6.5
Gestational Diabetes Mellitus	3	2.4
No complication	69	56.1

*M= Mean, SD=Standard Deviation, Min=Minimum, Max=Maximum

Description of Dependent and Independent Variables

FoC was the dependent variable with a mean score of 20.43±10.49, which indicated a low level of fear. The study's independent variables included pregnancy-related complications (table 1), knowledge of childbirth preparedness, the mean score of 17.24±3.05 (moderate level), pregnancy-related pain, the mean score of 31.02±15.22(no pain), antenatal depression, the mean score of 7.11±5.53 (no depression), partner support, the mean score of 41.09±8.48 (presence of support), and maternal trust in midwife, the mean score of 41.85±8.05 (trust in midwife) (Table 4).

Table 4 Mean and Standard Deviation of FoC and Selected Characteristics (n=123)

Variable	Possible score range	Actual score range	M	SD	Interpretation
Fear of Childbirth	0-54	2- 43	20.43	10.49	Low fear
Knowledge of childbirth preparedness	0-25	10-23	17.24	3.05	Moderate level
Pregnancy-related Pain	0-83	16-65	31.02	15.22	No pain
Antenatal depression	0-30	0-21	7.11	5.53	No Depression
Partner support	0-58	22-56	41.09	8.48	Presence of support
Maternal trust in midwife	0-52	23-52	41.85	8.05	Trust in midwife

* M= Mean, SD=Standard Deviation

Assumptions for Multiple Regression

The normality of the variables was tested using the Kolmogorov-Smirnov test with a significant level of p=.05, the variables FoC, pregnancy-related complications, knowledge of childbirth preparedness, pregnancy-related pain, antenatal depression, partner support, and maternal trust in midwife was normally distributed.

Results showed that there were no outliers in the univariate and multivariate tests. There was no autocorrelation, a Durbin-Watson value of 1.75, and there was no multicollinearity, demonstrated by the Variance Inflation Factor (VIF) values of less than 10, and no coefficient of greater than .85. Additionally, the scatter plot of the residuals established that the data meets the assumption of linearity and homoscedasticity (Appendix D).

Relationship Between Independent and Dependent Variables

Pearson correlation was computed to establish the relationship between FoC and knowledge of childbirth preparedness, pregnancy-related pain, antenatal depression, partner support, and maternal trust in midwives. A point-biserial correlation was also computed to establish the relationship between pregnancy-related complications and FoC.

Results showed that there was a significant positive statistical relationship between FoC and pregnancy-related complications (r=.181, p=.04), pregnancy-related pain (r=.236, p<.001), and antenatal depression (r=.329, p<.001). Additionally, there was a significant negative statistical relationship between FoC and knowledge of childbirth preparedness (r=-.208, p=.03). However, there were negative correlations between partner support (r=-.152, p=.09) and maternal trust in midwife (r=-.157, p=.08) with FoC which were not statistically significant (Table 5).

Table 5 Correlation Matrix Between Independent and Dependent Variables (n=123)

	Variable	1	2	3	4	5	6	7
1.	Fear of Childbirth	1.000						
2.	pregnancy-related complications	.181a*	1.000					
3.	Knowledge of childbirth Preparedness	-.208b*	-.046	1.000				
4.	Pregnancy-related Pain	.236b**	.170	-.051	1.000			
5.	Antenatal Depression	.329b**	.132	-.025	.311**	1.000		
6.	Partner support	-.152b	-.122	.017	-.210*	-.351**	1.000	
7.	Maternal trust in midwife[b]	-.157b	.080	.113	-.140	-.219*	.266**	1.000

* p< .05 level, ** p<.01 level, a=point biserial correlation, b=Pearson's product-moment correlation

Standard Multiple Regression Analysis of Factors Predicting FoC

A standard multiple regression analysis was computed to find factors contributing to FoC. Results from a standard multiple linear regression revealed that knowledge of childbirth preparedness, pregnancy-related pain, pregnancy-related complications, antenatal depression, partner support, and maternal trust in midwife predicted FoC, explaining 19.0% variance of FoC among high-risk pregnant mothers (R^2=.19, $F_{(6,116)}$ = 4.529, p<.001). The results also revealed that antenatal depression (β = .256, p=.007) and knowledge of childbirth preparedness (β=-.196, p=.022) significantly predicted FoC. However, pregnancy-related pain (β=.119, p=.186), pregnancy-related complications (β=.116, p=.177), partner support (β=.005, p=.953), and maternal trust in midwife (β=.099, p=.267) did not significantly predict FoC (Table 6).

Table 6 Multiple Regression Analysis for Variables Predicting FoC (n=123)

Predictor	**B**	**SE**	**β**	**t**	**p-value**
Constant	16.725	9.480		1.764	<.001
Pregnancy-related Pain	.084	.063	.119	1.329	.186
Pregnancy-related Complications	2.440	1.798	.116	1.357	.177
Knowledge of childbirth Preparedness	-.686	.296	-.196	-2.319	.022
Antenatal Depression	.496	.181	.256	2.745	.007
Partner support	.007	.114	.005	.060	.953
Maternal trust in midwife	.132	.119	.099	1.116	.267

R^2=0.190, Adjs.R^2=0.148, $F_{(6,116)}$ =4.53, p< .001

CHAPTER 5
CONCLUSION AND DISCUSSION

This chapter summarizes the study findings on FoC among high-risk pregnant mothers. The study aimed to explore and predict FoC guided by the BPS model and the relevant literature.

Summary of the Findings

The study recruited a total of 123 high-risk pregnant mothers attending the ANC clinic at Bwaila Hospital, Lilongwe, Malawi using a simple random sampling method. The studied variables were FoC, knowledge of childbirth preparedness, pregnancy-related complications, pregnancy-related pain, antenatal depression, partner support, and maternal trust in midwife. The study sample consisted of pregnant mothers aged 20-34 years (61.8%), with smaller percentages in the age group of 35-40 years (30.1%) and 15-19 years (8.1%). 89.4% of the participants were married, 40.7% were housewives, and 47.2% were self-employed. The analysis showed that the average FoC score was 20.43 (SD=10.49), indicating a low level among participants.

A standard multiple linear regression analysis indicated that knowledge of childbirth preparedness, pregnancy-related pain, pregnancy-related complications, antenatal depression, partner support, and maternal trust in midwife explained 19.0% of the variance in FoC among high-risk pregnant mothers ($F(6,116) = 4.529$, $p<.001$). However, only antenatal depression ($\beta = .256$, $p=.007$) and knowledge of childbirth preparedness ($\beta=-.196$, $p=.022$) significantly predicted FoC in this study.

Discussion

Level of FoC Among High-risk Pregnant Mothers

The mean score for FoC in the current study was 20.43±10.49 indicating low fear among high-risk pregnant women in Malawi. This finding is consistent with previous studies that also reported lower levels of fear among high-risk pregnant

mothers (Dal Moro, Soecki, de Fraga, Petterle, & Rückl, 2023; Uslu-Sahan, Ercevik, Yıldı, & Koc, 2023). In contrast to other studies reporting moderate to severe fears among pregnant women (Abali & Çiçek, 2024; Alemu, Wudu, & Lakew, 2024; Berhanu et al., 2022; H. A. Ibrahim, Alshahrani, & Elgzar, 2024; Kaya & Evcili, 2020; Nasr et al., 2020; X.-L. Zhou et al., 2021a), the present study findings were significantly lower despite the challenges commonly associated with high-risk pregnancies (Isaacs & Andipatin, 2020; Mirzakhani et al., 2020; Rodrigues, Zambaldi, Cantilino, & Sougey, 2016). This finding can be attributed to several factors.

Firstly, the traditions and beliefs surrounding childbirth in Malawian culture consider it to be the primary responsibility of women (Kabagenyi et al., 2014; Kululanga, Sundby, & Chirwa, 2011). During childbirth, women are encouraged to be strong and fit regardless of pregnancy risk level (Kamwendo, 1996). This cultural perspective alleviates fear as women draw strength from the belief that childbirth is necessary and that childbirth challenges can be managed.

Furthermore, more than two-thirds of the participants were multigravida/parous women. Multigravida/parous women are generally better prepared for subsequent labor and exhibit a lower risk of FoC compared to nulliparous women(Deng et al., 2021; H. A. Ibrahim et al., 2024).

In addition, the maternal age of the participants also contributed to the low fear. More than two-thirds of participants were over 20 years of age and fell into the older adult category. This age group is considered competent and psychologically mature about childbirth, making them less fearful (Alemu et al., 2024). Lastly, the marital status of the participants also played a role in lowering fear. More than two-thirds of the participants were married, and according to Maeve A O'Connell, Leahy-Warren, Kenny, O'Neill, and Khashan (2019), FoC is more closely associated with being single compared to married or cohabiting women.

In summary, lower than anticipated fear of childbirth in the study can be explained by cultural beliefs, previous childbirth experience, age-related psychological maturity, and marital status.

Factors Contributing to FoC

Antenatal Depression

One-third (29.3%) of the participants in this study reported depressive symptoms, and also antenatal depression emerges as the strongest predictor of FoC (β = .256, p = .007). Thus, this study suggests that antenatal depression is associated with higher FoC in high-risk pregnant mothers. Antenatal depression, categorized under psychological factors, causes women to see themselves and the world in a distorted way, leading to fear and doubts about childbirth (Toohill et al., 2014). Women with depression often feel more stress and anxiety, which can lead to increased fear of childbirth (Hassanzadeh et al., 2020). Additionally, mothers who experience antenatal depression may express their great concern about the potential harm to their baby and lose control over labor and delivery (Slade et al., 2019), increasing fear. Furthermore, depressed pregnant mothers may exhibit increased anxiety about encountering uncomfortable or painful medical procedures during childbirth, reflecting greater fear and anxiety about the delivery process.

The current study findings are consistent with previous research indicating that antenatal depression is a significant predictor of FoC (Ilska et al., 2021; Nath et al., 2021; Toohill et al., 2014; Usui et al., 2023; Yetwale & Melkamu, 2021; Yıldırım & Yilmaz, 2023; Zhang et al., 2023b; X. Zhou et al., 2021). These findings underscore the importance of addressing antenatal depression and providing appropriate support and intervention which can help alleviate fears and promote a more positive childbirth experience for mothers at high risk.

Knowledge of childbirth preparedness

In this study, more than two-thirds (68.5%) of the participants had moderate knowledge of childbirth preparedness which negatively impacted FoC (β = -0.196, p = .022), suggesting that having no or inadequate knowledge about childbirth preparedness can lead to FoC or that knowing childbirth preparedness can reduce the likelihood of developing FoC. As a protective psychological factor, knowledge boosts confidence, reduces feelings of uncertainty, and eventually reduces fear of the unknown (Cleeton, 2001; Hassanzadeh et al., 2020; Stoll, Hauck, Downe, Payne, & Hall, 2017). Being well-informed about childbirth preparedness, therefore, may result

in understanding the birth process and measures to ensure the baby's safety, which ultimately reduces the fear concerning the childbirth process. The knowledge of what to expect during childbirth can promote empowerment and a sense of control over events thereby eliminating anxiety about losing control. Moreover, knowledge of childbirth preparation can help minimize worry associated with feeling voiceless during decision-making time. This information could therefore lead to a feeling that one is fit enough to defend oneself and speak out their requirements when giving birth hence reducing the fear of non-inclusion in the decision-making process (Appendix). In addition, knowing helps individuals understand better the physiology of childbirth, including its potential difficulties, available support networks for mothers and babies, and women's body limits, thereby providing confidence building by reducing vagueness due to ignorance (Hassanzadeh et al., 2020).

The current study finding is similar to other studies that found that higher childbirth-related fear was associated with lower scores of childbirth preparedness (Zeng et al., 2023), echoing the negative impact of knowledge of childbirth preparedness on FoC. Similarly a finding of Kilijanac et al., (2023). revealed that birth preparedness significantly predicted FoC among nulliparous (β=-40, p- value < .01) and multiparous (β=-37, p-value < .01) women (Kuljanac et al., 2023). Researchers also found that FoC was strongly impacted by not attending antenatal preparation classes (β=19.2, 95, p-value < .001) (Hassanzadeh et al., 2020), echoing the negative impact of knowledge of childbirth preparedness on FoC. This underscores the role of antenatal education in equipping pregnant women with the knowledge and skills necessary for childbirth preparation. Antenatal education serves as a tool for providing knowledge and skills related to childbirth preparation and increases their understanding, confidence, and awareness of the process, (David Onchonga et al., 2020; Spiby et al., 2022), which consequently alleviates the fears associated with giving birth. Despite this fact, few studies have been conducted in this area; thus there is a need for more data that will support the present outcome

In conclusion, the findings suggest that enhancing knowledge of childbirth preparedness can serve as a valuable tool in reducing fear and anxiety associated with childbirth as well informed expectant mothers are better able to comprehend and navigate the birthing process, potentially mitigating fears associated with childbirth

(Spiby et al., 2022), ultimately promoting a more positive birthing experience for expectant mothers.

Pregnancy-related complications

In this study, (43.9%) of the participants reported experiencing pregnancy-related complications which were significantly and positively correlated with FoC (r=.181, p=.04). However, these complications did not significantly impact FoC (β=.119, p=.177). Experiencing complications during pregnancy such as gestational diabetes or preeclampsia increases concerns about the baby's welfare during labor and delivery (Sharma et al., 2022). Additionally, mothers with pregnancy-related complications may anticipate complications during childbirth, medical management, or repeat procedures due to their condition which may increase the fear (Sheen & Slade, 2018). Moreover, the lack of support for those with pregnancy-related complications heightens concerns such as fear of death, baby injury, and loss of control during childbirth (Gelaw et al., 2020). Fear of the recurrence of past difficulties related to pregnancy and lingering posttraumatic emotions from those experiences may contribute to greater anxiety about childbirth (Yetwale & Melkamu, 2021)

The present finding is in contrast to previous studies that found a significant predictive power of pregnancy-related complications in FoC (Berhanu et al., 2022; Gelaw et al., 2020; Yetwale & Melkamu, 2021). This difference could be attributed to high-risk pregnancy awareness because the participants in this study were already aware of their high-risk status, which could lead to better psychological preparation, advanced planning, or health care -increased support from providers. Thus, although complication is associated with increased FoC, it may be less involved with already anticipated or already experienced fear, and thus less involved in strong prediction. In conclusion, these findings suggest that pregnancy-related complications may significantly influence FoC by increasing specific fears and anxieties associated with the birth experience.

Pregnancy-related pain

One-third of the participants (37.4%) reported pregnancy-related pain of varying levels. The analysis revealed a positive and significant correlation between pregnancy-related pain and FoC ($r = .236$, $p < 0 .001$). This suggests that pain during pregnancy may influence individuals' fear of childbirth. Individuals experiencing pain from pregnancy, especially if it is severe or persistent, may worry about managing the pregnancy effectively due to the fear that labor pain will be severe, and potentially harmful to their baby. Pain from pregnancy can feel overwhelming and unmanageable as such, individuals may be concerned about their ability to cope with pain during labor and manage the birth effectively (Sharma et al., 2022). However, despite the significant associations found in this study, pregnancy-related pain did not significantly predict FoC. This finding is consistent with other studies, whereby vaginismus and lower abdominal pain did not predict FoC in pregnant women (Esmalian et al., 2023; Zhang et al., 2023b).

However, pregnancy-related pain was an important factor in predicting FoC in a study (Mortazavi & Agah, 2018). Differences in the literature may be influenced by mediating factors such as demographic characteristics or other contextual influences such as individual coping strategies, antecedents of pain, and psychological adjustment, and therefore possibly pain of pregnancy is associated with FoC. Still, its predictive power is limited when considered in isolation from other psychosocial factors. Another reason could be that many women could not focus much on the pain and thus did not have a frightening idea of childbirth (Esmalian et al., 2023)

Partner support

The study findings show that partner support was not significantly correlated with FoC ($r = -.152$, $p = .092$) and did not significantly predict FoC, despite a mean score of 41.09 ($SD = 8.48$), which indicated the presence of partner support. Even though most participants reported receiving this support, they are still worried about being left alone during labor without their chosen birth partner. This suggests that although having a supportive partner is helpful, it does not significantly reduce

childbirth-related fears, especially in this case where the assessed partner support was done during pregnancy and not during childbirth. The current findings are consistent with previous studies which reported no significant impact of partner support on FoC (Cho & Ahn, 2020; Çıtak Bilgin et al., 2021; Ölmez & Oğlak, 2022). However, other studies have revealed the significant predictive power of partner support on FoC. For example, the women who received low emotional support from their partners were reported to be 2 times more likely to develop FoC than their counterparts (Mortazavi & Agah, 2018), and those who received support from their partners were less likely to develop FoC (Anjum et al., 2023; Lu Han et al., 2022; Huang et al., 2021; H. A. Ibrahim et al., 2024).

Support from partners during pregnancy, childbirth, and postpartum is important for problem-solving, reducing emotional intensity, and enhancing psychological well-being (Gelaw et al., 2020; Kucukkaya & Basgol, 2023; Yuksel & Bayrakci, 2019). Moreover, strong husband support strengthens women's physiology of pregnancy and its outcomes (Størksen, Garthus-Niegel, Adams, Vangen, & Eberhard-Gran, 2015) and helps them manage their fear (Marcelina et al., 2019), reducing FoC. While the absence of partner support (Hildingsson & Johansson, 2024) and relationship problems (Dencker et al., 2019) may intensify the FoC. However, cultural norms and attitudes (Çıtak Bilgin et al., 2021; Kabukçu, Sert, Güneş, Akyol, & Tipirdamaz, 2019; Mkandawire & Hendriks, 2019) and contextual issues affect the relevance of these relationships (Mosesson, 2023; Yaya Bocoum et al., 2023). Thus, even in the presence of partner support, health care, cultural norms, and gender roles may constrain its effectiveness in predicting fear of childbirth among pregnant mothers.

Maternal trust in midwife

More than two-thirds of the participants reported having trust in their midwives (41.85± 8.05). However, the current study finding has revealed non-significant association between maternal trust in midwife and FoC ($r = -.157$, $p = .083$) and non-significant impact of maternal trusting the midwife on FoC ($\beta = .099$, $p = .267$, although mothers generally reported trusting their midwives This means that mothers were not less afraid to give birth simply because they trusted their midwives, and they

were even confident that staff would be there when needed, suggesting that trust only in the availability of staff does not reduce fear of childbirth.

So, even with trust in their midwives and confidence in staff availability, mothers' fear of childbirth was not strongly influenced. This suggests that factors other than trust in the midwife or staff availability likely play a role in mothers' fear of childbirth. i.e. the competence or capability of the healthcare worker and mothers' prioritization based on health issues and medical interventions (Hajikhani Golchin, 2021; Sheen & Slade, 2018). The current study finding is dissimilar to previous studies that found that maternal trust in midwives significantly predicted FoC (Klabbers et al., 2016; David Onchonga et al., 2020).

Therefore, only antenatal depression and knowledge of preparedness for childbirth significantly predicted FoC. Factors like pregnancy-related complications, pain, partner support, and maternal trust in midwife did not predict fear of childbirth. However, all these factors interact in various ways, influencing fear of childbirth either directly or indirectly. The BPS model shows how different elements like genetics, mood, behavior, and social support interact to influence health and illness (Taukeni, 2020). For example, strong partner support could aid partners in dealing with depression as well as obtain knowledge about delivery that can counter the effects of complications and pain which can lead to a fear reduction. The BPS provides a framework for comprehending how the biological, psychological, and social factors combine to constitute FoC. At times, particular factors may not independently predict childbirth anxieties but the cumulative effect of such can greatly determine an individual's perceptions of childbirth.

Conclusion

The level of FoC among high-risk pregnant mothers was low and only antenatal depression and knowledge of childbirth preparedness were found to be significant predictors of FoC. Nonetheless, the overall explained variance was low (19.0%) suggesting that other factors beyond those under consideration are likely to contribute towards levels of fear of childbirth among high-risk pregnant mothers.

Additional psychosocial characteristics e.g., such as personality traits and socioeconomic status, are also essential.

These findings highlight the need for healthcare providers to focus on providing comprehensive education regarding childbirth preparation and integrating mental health services in ANC to address antenatal depression are critical in reducing fear and anxiety. Although this study found no significant prediction of pregnancy-related pain, pregnancy-related complications, partner support, and maternal trust in midwives, and FoC, there is still a need to effectively manage pain, clearly communicate about complications, encourage partners to participate, and provide resources for partners to support pregnant mothers and prioritizing of midwifery care in building trust through consistent, compassionate, and high-quality. Addressing these issues could dramatically improve care for high-risk pregnant women, leading to better maternal and neonatal outcomes.

Implication of the Findings

Research implications

This study is limited by a single area of focus, a limited number of factors considered, and its quantitative design. Future research should include more sites, examine a broader range of factors, and use mixed-methods and longitudinal methods to increase the generality and depth of findings.

Practical implications

Despite studies reporting low levels of fear, antenatal depression and lack of knowledge about childbirth preparation have emerged as predictors of FoC. Health professionals should consider psychological well-being maintained in the prenatal period and women should be encouraged to express their feelings and thoughts about childbirth and given detailed information about childbirth preparation.

Social implication

Cognitive behavioral education programs should be developed to help at-risk pregnant women cope with their fear of childbirth.

Knowledge Implication

This study adds to the understanding of maternal health and FoC in Malawi, particularly highlighting the role of antenatal depression and knowledge of childbirth preparation on FoC.

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APPENDIX

APPENDIX A

Questionnaires in English

Participant number.....

Date.....

Structured Questionnaire

Topic: **Predictors of Fear of Childbirth Among High-Risk Pregnant Mothers Attending Antenatal Clinic at Bwaila Hospital, Lilongwe, Malawi**

Part One: Demographic Questionnaire

Instructions: For each question, except for questions 1, 5, 6, & 7, tick the box or select the appropriate response that best reflects your situation.

A. Demographic characteristics

1. Age, how old are you.....(insert current age in years)
2. What is your marital status? Single ☐ Married ☐ Divorced ☐ Widowed ☐
3. What is your highest educational level: No formal education ☐ Primary ☐ Secondary ☐ College/university ☐
4. What is your current employment status; self-employed ☐ housewife ☐ salary employed ☐

B. Obstetric characteristic

Gravidity

5 How many pregnancies have you had? (including the current one) .....

Parity

6 How many times have you given birth (including deliveries from 28 weeks and above, and whether the delivery resulted in a live or a stillbirth).....

Gestation age

7 How old is this pregnancy?... (Write the exact gestation age as of the day of the study (in months)

8. This pregnancy is. Planned☐ Unplanned ☐ Not sure ☐

9. **Current /previous Pregnancy-related complications**: Are you currently experiencing or in the previous pregnancy, did you experience the following(tick whichever applies) Gestational diabetes ☐, pregnancy-induced hypertension ☐, placenta previa and abruption ☐, malaria ☐, premature labor☐, miscarriage ☐, postpartum depression ☐, hyperemesis gravidarum☐

Part two: The Fear of Childbirth Questionnaire (FCQ)

Instructions: Please think about how you have felt over the last two weeks. Please read each statement below and say how much you agree with them by circling the number from strongly disagree to strongly agree. There are no right or wrong answers; give your first response.

		Strongly disagree	Slightly disagree	Slightly agree	Strongly agree
1	I feel fine about my labor and giving birth to my baby	3	2	1	0
2	I worry my labor or birth will not go to plan	0	1	2	3
3	I am confident that the staff will always respect my wishes	3	2	1	0
4	I am worried about the long-term effects that labor or birth could have on my body	0	1	2	3
5	I am confident I will be able to cope with the pain	3	2	1	0
6	I am worried that my baby will be harmed during labor and birth	0	1	2	3
7	I worry I will lose control of myself during labor	0	1	2	3
8	I am confident my body can give birth to my baby	3	2	1	0
9	I worry I will not have a voice in decision-making during labor	0	1	2	3
10	I am confident I am emotionally strong enough to cope with labor and birth	3	2	1	0
11	I worry that labor is unpredictable	0	1	2	3
12	I am worried about things being ‘done ’to me during labor and birth	0	1	2	3
13	I am worried I will be harmed during labor	0	1	2	3
14	I am confident that staff will be there when I need them	3	2	1	0
15	I worry that my baby will feel distressed during labor and birth	0	1	2	3
16	I worry about having unpleasant procedures during labor and birth	0	1	2	3
17	I am confident I will get the pain relief I want	3	2	1	0

		Strongly disagree	Slightly disagree	Slightly agree	Strongly agree
18	I worry about being left alone, without my chosen birth partner, during labor	0	1	2	3
19	I am worried about labor and birth, and I don't know why	0	1	2	3
20	I am confident my body will work well during labor and birth	3	2	1	0
21	Have any of the above really bothered you over the past 2 weeks? Only If yes, please answer the next three questions (please circle):			Yes ☐	No ☐ (**answer question 22**)
	1 .How much have they bothered you?	A little bit 1	Quite a lot 2	A great deal 3	Extremely 4
	2 .How often have they bothered you?	Once or twice 1	Most Days 2	Everyday 3	Lots of times each day 4
	3 .Is this something you would like specific help or support with?			Yes ☐	No ☐
22	Additional fears Are there any other fears relating to birth that are not mentioned here? If No :Thank you for completing :you have finished this part . If Yes, please briefly describe in the box below If you have more than one other fear or concern, please just describe the main one HERE…… Now please complete the three questions about impact below			Yes ☐	No ☐ (End of this part)
23	1. Has this fear really bothered you over the past 2 weeks? 2. Only If yes, please answer the next three questions (please circle):			Yes ☐	No ☐ (end of this part)
	1 .How much has it bothered you?	A little bit 1	Quite a lot 2	A great deal 3	Extremely 4
	2 .How often has it bothered you?	Once or twice 1	Most Days 2	Everyday 3	Lots of times each day 4
	3 .Is this something you would like specific help or support with?			Yes ☐	No ☐

Part Three: Knowledge Of Birth Preparedness Questionnaire

Instructions: Answer the following questions by circling the correct answer

1. What is birth preparation?

a. Readiness for the emergence of the baby b. Readiness for the development of the child

c. Readiness for becoming pregnant d. All the above

2. What kind of preparation should the pregnant women make?

a. Preparation regarding the pregnant mother diet, clothes and exercise. b. Preparation for labor c. Preparation for postnatal diet, clothes and exercise.d. All of the above .

3. At least how many times pregnant women should do the antenatal visits?

a. 2. b. 4. c. 6. d. 8

4. What kind of food should a pregnant woman consume?

a. Well-balanced diet b. High protein diet c. High-fat diet. d. High carbohydrates die

5. How iron deficiency anemia can be prevented?

a. By consuming green leafy vegetables b. By consuming red meat c. By consuming citrus.

d. All of the above

6. What type of nutritional supplement should a pregnant woman consume?

a. Folic acid and iron b. Vitamin A c. Only iron. d. Only folic acid

7. How much extra calories a pregnant woman must consume per day?

a. 50 Kilocalories b. 100 Kilocalories c. 150 Kilocalories d. 200 Kilocalories

8. How many meals should a pregnant woman consume in a day?

a. Three meals and two or more snacks per day .b. Three heavy meals and one snack per day

c. Four heavy meals and two or more snacks per day .d. Four heavy meals and one snack per day

9. How much average weight does a pregnant woman gain during pregnancy?

a. 7- 9 kg .b. 10-1 2 kg .c. 13-15 kg d. 16 kg or more

10. What kind of clothes should be wearing by pregnant women?

a. Polyester clothes .b. Cotton clothes .c. Silk clothes. d. Woollen clothes

11. What type of footwear should the pregnant women wear?

a. Well fitting footwear with flat sole .b. Medium-heeled footwear .c. High heeled footwear

.d. Large size footwear

12. When a pregnant woman could not travel?

a. If the doctor has advised .b. Throughout pregnancy. c. Only in the first trimester d. Only in second trimester

13. What type of travel vehicle to be avoided if the pregnant woman has any health problems?

a. Airplane. b. Car .c. Train. d. Ship

14. What should a pregnant woman do if need to travel by car for long distance?

a. Stop every 2 hours and walk around for approximately 10 minutes .b. Stop every 3 hours and walk around for approximately 10 minutes. c. Stop every 4 hours and walk around for approximately 10 minutes. d.Stop when feeling exhausted

15. Which personal hygiene should the woman emphasis during pregnancy?

a. Skin care .b. Breast care .c. Perineal care .d. All of the above

16. What complications arise if personal hygiene is not maintained?

a. It increases risk of maternal infection. b. Fetal congenital anomaly. c.Premature birth .d. Prolonged delivery

17. What is necessary for the wellbeing of the woman during pregnancy along with a healthy diet?

a. Full bed rest. b. Heavy work. c. Light Exercise .d. Heavy exercise

18. Why is exercise needed during pregnancy?

a. To overcome complications b. To improve breathing .c. To promote mother's health. d. To reduce the appetite

19. What is the effect of light exercise on the fetus?

a. Compromise fetal growth. b. Reduce fetal birth weight. c. Increase risk of preterm birth.

d. Reduce prenatal complications

20. Who should not exercise during the pregnancy?

a. Those with blood disorder .b. Those with malpresentation. c. If the fetus has intra uterine growth retardation IUGR .d. Those who have asthma and heart diseases

21. Which of the following is not safest place for delivery?

a. Government hospital .b. Private hospital. c. Private health clinics .d. Unprepared house

22. Who can conduct the delivery safely?

a. Doctors, midwives and nurses. b. Untrained dais. c. Family members. d. unregistered practitioners in the Ministry of Health

23. Which of the following signs indicate the approach of labour?

a. Vomiting .b. Leg pain .c. Show. d. Abdominal pain

24. What should be done if leakage of water occurs through vagina during pregnancy?

a. Go to the nearest hospital immediately. b. Wait for some more time. c. Use a sanitary pad. d. Clean the perineal area with water

25. What should be done in case of anxiety or suspicion of a health problem?

a. Consult the doctor .b. Take rest .c. Have homemade remedy .d. Walk for sometime

26. What kind of complication may occur during labour?

a. Heavy vaginal bleeding. b. Infection .c. Laceration. d. All of the above

27. What kind of preparation should be done for the postnatal period?

a. Preparation for breast feeding. b. Preparation to eat well balanced diet. c. Preparation for personal hygiene. d. All of the above

28. How should the body be cleaned after birth?

a. Take bath daily. b. Take bath every 2 to 3 days .c. Take bath weekly. d. Take bath monthly

29. How to clean the breast during breastfeeding period?

a. Frequent washing with soap and water. b. Frequent washing with water only. c. Frequent washing with alcohol. d. Frequent wiping with cotton only

30. How to clean the perineum?

a. wipe from front to back after urinating/emptying .b. doing sitz bath with warm salty water twice a da. c. wearing clean pads and changing soiled pads frequently . d. all of the above

31. What kind of complication may appear after delivery?

a. Vaginal bleeding .b. Puerperal sepsis. c. Breast inflammation. d. All of the above

32. What is the cause for breast engorgement?

a. Improper Diet .b. Improper Activity .c. Improper breast feeding .d. Improper breast hygiene

33. What should be done if health problems occur after delivery?

a. Take rest .b. Take medications .c. Consult the doctor or health personnel .d. Have home made remedy

34. What is the importance of light exercises during postnatal period?

a. Reduce risk of complication .b. Increase breast milk production. c. Prevent uterine prolapse and urinary incontinence. d. All of above **35.**

What is the schedule of follow-up visits during the postpartum period?

a. Visit within 1 week after birth .b. Visit within 7-14 days after birth .c. Visit within 4-6 weeks after birth. d. All of the above

36. What is your plan for newborn feeding?

a. Breastfeeding. b. Formula feeding. c. Breastfeeding and Formula feeding .d. all of the above

37. Is vaccination important for children from the first day of birth?

a. True .b. False

38. Are vaccines associated with fever and pain?

a. True b. False

39. Choose all possible danger signs that can occur during pregnancy?

□Convulsions □Reduced / loss of fetal movement □Drainage of liquor

□Swelling of hands, face, entire body □Severe headache □Blurred vision Severe □vomiting □Fever

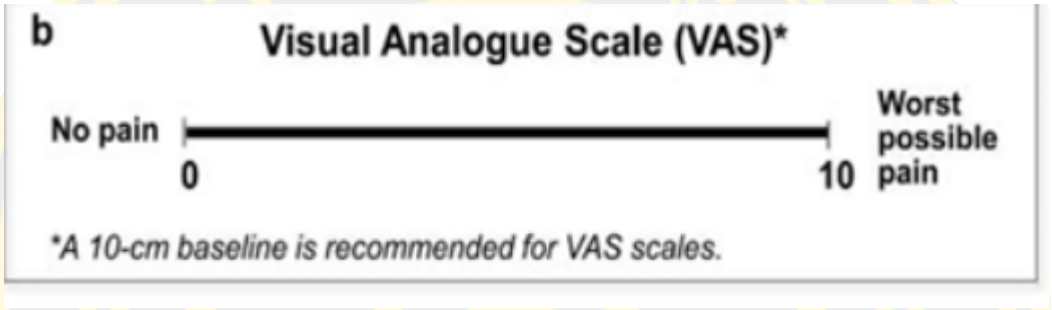
□All of the above

40. If you experience any of pregnancy danger signs, what will be the first action?

a. Going to the doctor immediately. b. Waiting for the next visit. c. ask any person or my relative d. Take rest and have home made remedy

Part four: Visual Analogue Scale

Instructions: Make a vertical mark on the line at the position that corresponds to your pain intensity using these references 0 (no pain) and 10 (worse pain) to describe your current level of pain; lower back pain, pelvic or genital pain, or vagina pain during sexual activity. Make sure your mark is visible on the line. This symbol symbolizes the level of pain you are presently feeling.



Part five: Edinburg Postnatal Depression Scale

Instructions: As you are pregnant, tell me closest how you have felt in the past seven days, including today. Circle that which apply

In the past seven days:

1 I have been able to laugh and see the funny side of things

[3]. as much as I always could. [2]. Not quite so much now .[1]. Definitely not so much now .[0]. not at all

2 I have looked forward with enjoyment to things

[3]. as much as I ever did .[2]. rather less than I used to .[1]. definitely less than I used to [0]. hardly at all

3 I have blamed myself unnecessarily when things went wrong

[3]. Yes, most of the time .[2]. Yes, some of the time .[1]. Not very often .[0]. No never

4 I have been anxious or worried for no good reason

[3]. not at all .[2]. hardly ever . [1] yes, sometimes .[0] yes very often

5 I have felt scared or panicky for no very good reason

[3]. Yes, quite a lot .[2]. yes sometimes.[1]. no, not much .[0]. No, not at all

6 Things have been getting on top of me

[3]. Yes, most of the time, I have not been able to cope at all .[2]. Yes, sometimes I have not been coping as well as usual .[1]. No, most of the time, I have coped quite well .[0]. No, I have been coping as well as ever

7 I have been so unhappy that I have had difficulty sleeping

[3]. Yes, most of the time .[2]. yes, sometimes .[1]. not very often .[0]. No, not at all

8 I have felt sad or miserable

[3]. Yes, most of the time [2]. yes, sometimes [1]. not very often [0]. No, not at all

9 I have been so unhappy that I have been crying

[3]. Yes, most of the time [2]. yes quite often [1]. only occasionally [0]. no never.

10 The thought of harming myself has occurred to me

[3]. yes quite often [2]. sometimes [1]. hardly ever [0]. Never

Part six: Social support effectiveness questionnaire

Instructions: In our daily lives, we sometimes need help or support from people who are close to us. The following questions ask about help or support you may have received in the past 3 months and what you thought of it.

You will be asked about three different types of help or support: 1) Help with tasks or responsibilities, 2) Advice or information, and 3) Emotional support.

Start here: Have you been married or in a committed relationship for 3 months or more?

□1 Yes

□0 No

1. Sometimes we need help with tasks and responsibilities such as household chores, running errands, or childcare. When your partner (or other support person) attempted to help you with your tasks and responsibilities, how good was the match between the amount of help provided and the amount you wanted?

□Very Poor (it was far too little or far too much help), □Poor (it was too little or too much help) □Fair (it was somewhat too little or somewhat too much help), □Good (it was close to being the right amount of help), □Excellent (it was exactly the right amount of help)

2. To what extent did you wish this person's help had been different somehow—for instance, a different type of help or offered in a different way or at a different time?

□Not at all, □A little bit, □Moderately, □Quite a bit □Extremely

3. When help with tasks and responsibilities is provided skillfully, it makes you feel less burdened and you don't feel bad for needing it. When this person attempted to help you with tasks and responsibilities, to what extent was his/her help provided skillfully?

□Not at all □A little bit □Moderately □Quite a bit □Extremely

4. When you needed this person's help with tasks and responsibilities, how often was it difficult to get?

□Never □Rarely □Sometimes □Often □Always

5. How often did this person offer to help you with tasks and responsibilities without you having to ask?

□Never □Rarely □Sometimes □Often □Always

6. Sometimes we need advice or information—for instance, on how to get something done or how to handle a problem. When this person attempted to give you advice or information, how good was the match between the amount he/she provided and the amount you wanted?

□Very Poor (it was far too little or far too much help) □Poor (it was too little or too much help) □Fair (it was somewhat too little or somewhat too much help) □Good (it was close to being the right amount of help) □Excellent (it was exactly the right amount of help)

7. **To what extent did you wish this person's advice or information had been different somehow—for instance, a different type of help, or offered in a different way or at a different time?**

□Not at all □A little bit □Moderately □Quite a bit □Extremely

8. When advice or information is provided skillfully, it is useful and you don't feel bad for needing it. When this person attempted to give you advice or information, to what extent was it provided skillfully?

□Not at all □A little bit □Moderately □Quite a bit □Extremely

9. When you needed advice or information from this person, how often was it difficult to get?

□Never □Rarely □Sometimes □Often □Always

10. How often did this person offer helpful advice or information without you having to ask for it?

□Never □Rarely □Sometimes □Often □Always

11. Sometimes we need emotional support—someone to listen to and understand our feelings or to show us affection and concern. When this person attempted to give you emotional support, how good was the match between the amount of support he/she provided and the amount you wanted?

□Very Poor (it was far too little or far too much help) □Poor (it was too little or too much help) □Fair (it was somewhat too little or somewhat too much help) □Good (it was close to being the right amount of help) □Excellent (it was exactly the right amount of help)

12. To what extent did you wish this person's emotional support had been different somehow—for instance, a different type of support, or offered in a different way or at a different time?

□Not at all □A little bit □Moderately □Quite a bit □Extremely

13. When emotional support is provided skillfully, it makes you feel loved and cared for and you don't feel bad for needing support. When this person attempted to give you emotional support, to what extent was the support provided skillfully?

□Not at all □A little bit □Moderately □Quite a bit □Extremely

14. When you needed emotional support from this person, how often was it difficult to get?

□Never □Rarely □Sometimes □Often □Always

15. How often did this person offer emotional support without you having to ask for it?

□Never □Rarely □Sometimes □Often □Always

When you received help or support from this person in the past 3 months, did it ever make you feel any of these things?:

16. Disrespected/Insulted..... □Yes □No

17. Helpless..... □Yes □No

18. Incompetent..... □Yes □No

19. Guilty..... □Yes □No

20. Ashamed/Embarrassed..... □Yes □No

21. Stupid/Unintelligent..... □Yes □No

22. Indebted, like you owe something in return ..... □Yes □No

23. Frustrated..... □Yes □No

24. Angry..... □Yes □No

25. Irritated..... □Yes □No

Part seven: Health Care Relationship (HCR) Trust scale- Revised version

Instructions: Below are statements to evaluate your trust in the midwife here at the clinic. Please read each item and decide which of the following responses best describes how you feel about your midwife who helps to manage your prenatal care. O=none of the time,1=some or a little of the time, 2=occasionally or a moderate amount of the time, 3=most of the time, 4=all of the time

1.How often does your midwife discuss options and choices with you before healthcare decisions are made?	0	1	2	3	4
2.My midwife is committed to providing the best care possible	0	1	2	3	4
3.My midwife is sincerely interested in me as a person	0	1	2	3	4
4.My midwife is an excellent listener	0	1	2	3	4
5.My midwife accepts me for who I am	0	1	2	3	4
6.My midwife tells me the complete truth about my health-related problems	0	1	2	3	4
7.My midwife treats me as an individual	0	1	2	3	4
8.My midwife makes me feel that I am worthy of his/her time and effort.	0	1	2	3	4
9.My midwife takes the time to listen to me during each appointment	0	1	2	3	4
10.I feel comfortable talking to my midwife about my issues	0	1	2	3	4
11.feel better after seeing my midwife	0	1	2	3	4
12.How often do you think about changing to a new midwife	0	1	2	3	4
13.How often does your midwife consider your need for privacy?	0	1	2	3	4

End of questions

Thank you for your participation

APPENDIX B

Questionnaires in Chichewa

Participant number.....

Date.....

GAWO LOYAMBA : mafunso okhudzana Mbiri yamoyo wanu

Lembani komanso sankhani yankho loyenera limene likugwirizana ndi inu polemba mmipatayi kanepa pochonga m·bokosi.

Mbiri yamoyo wanu

1. Muli ndi zaka zingati.....(lembani zaka zanu)

2. ndinu okwatiwa? 1. Ndine wokwatiwa ☐ 2. Ndine wosakwatiwa ☐ 3.banja linatha ☐ 4. Ndine wamasiye ☐

3. Kodi maphunziro anu munafika nawo patali bwanji? 1.sindinaphunzire ☐ 2. Pulayimale ☐ 3. Secondary ☐ 4. Koleji ☐ 5. Yunivesite ☐

4. mumagwira ntchito yanji? 1.ndinazilemba ntchito ndekha ☐ 2.ndimagwira ntchito yapanyumba☐ 3. ndinalembedwa ntchito ndi ena ☐

zokhuza uchembere

5. mwakhala oyembekezera kangati?,..... (kuphatikizirapo mimba yapanoyi)

6. mwabereka kangati? (kuphatikiza kubereka mimba yosatha masiku kuyambira masabata 28 kupita m'tsogolo, mwana wamoyo kapena wopitirira) .....

7. Kodi mimbayi yapanoyi ili ndi miyezi ingati?.....

8. Mimba iyi ndi... 1.yokonzekera ☐ 2. yosakonzekera.☐ 3. Sindikudziwa ☐ ..

9. Mavuto okhudzana ndi mimba panopa kapena mbuyomu, (chongani zonse zomwe mwakumana nazo kapena munakumana nazo): Kodi mukukumana ndimavuto awa kapena munakumanako ndi mavuto awa omwe amabwera chifukwa chapakati kapena kubereka; 1. Matenda a shuga ☐ 2. matenda a BP(kuthamanga kwa magazi) ☐ 3. kutaya magazi matenda asanayambe komanso musanabereke☐ 4. Malungo ☐ 5. kubereka mimba isanakwane masiku ☐ 6. kupititsa padera ☐ 7. Mtayo ☐ 8. kudwala matenda okhumudwa mutangobereka☐ 9. kusanza kopyoola muyezo muli oyembekezera☐ 10. kukomoka nthawi yomwe munali oyembekezera, muli muchipinda choberekera kapena mutangochira ☐

Gawo lachiwiri: mafunso okhudzana ndi mantha obereka

Gawo lino likukuwunika momwe mukumvera, nkhawa zanu, komanso zokumana nazo zokhudzana ndi kubereka.

Ganizirani momwe mwakhala mukumvera masabata awiri apitawo. Werengani ziganizo ziri mmusimu ndikunena mmene mukuvomerezana nazo pakuchonga kabokosi. Palibe yankho lolondola kapena lolephera.

	kukanitsitsa	**kukana**	**kuvomera**	**kuvomeretsetsa**
1.Ndimamva bwino komaso womasuka zakuchira kapena kubereka mwana	3	2	1	0
2.Ndimadandawula kuti mwina kubereka mwana kutha kuzakhala mosiyana ndi mmene ndakonzekera	0	1	2	3
3.ndili ndi chikhulupiriro kuti azamba azalemekeza zokhumba zanga	3	2	1	0
4.ndimadandawula za mmene thupi langa litha kusinthira kamba kakubereka	0	1	2	3
5.ndiri ndi chikhulupiriro kuti nditha kupirira ululu omwe umadza nthawi yobereka	3	2	1	0
6.ndimadandawula kuti mwana wanga azavulazika nthawi yobereka	0	1	2	3
7.ndimadandawula kuti nditha kulephera kuzigwira nthawi yobereka	0	1	2	3
8.ndiri ndi chikhulupiriro kuti thupi langa litha kubereka mwana ndithu	3	2	1	0
9.ndimakhala ndi nkhawa kuti sindidzatha kudzadzilamulira ndekha	0	1	2	3

	kukanitsitsa	**kukana**	**kuvomera**	**kuvomeretsesa**
nthawi yobereka ikakwana				
10.ndiri ndi chikhulupiriro kuti ndiri okhwima m'maganizo komaso okonzeka kubereka mwana	3	2	1	0
11.ndimada nkhawa kuti matenda akayamba samapanganika	0	1	2	3
12.ndimada nkhawa ndi zomwe zingachitike panthawi yochira	0	1	2	3
13.ndiri ndi nkhawa kuti nditha kudzapwetekeka nthawi yobereka	0	1	2	3
14.ndiri ndi chikhulupiriro kuti ogwira ntchito Ku chipatala azandithandiza ndikazafuna thandizo	3	2	1	0
15.Ndimakhala ndi nkhawa kuti mwana wanga adzabanika nthawi yomwe ndili mu leba komanso panthawi yobereka	0	1	2	3
16.ndimakhala ndi nkhawa kuti achipatala atha kudzapanga zina zosayenera pathupi langa	0	1	2	3
17.ndiri ndi chikhulupiriro kuti ndidzapatsidwa mankhwala othesa ululu amene ine ndikufuna	3	2	1	0
18.ndimakhala ndi nkhawa kuti ndidzakhala ndekha, opanda munthu amene ndimafunitsitsa atakhala nane mu nthawi yobereka.	0	1	2	3
19.kubereka kumandipatsa nkhawa,	0	1	2	3

	kukanitsitsa	**kukana**	**kuvomera**	**kuvomeretsetsa**
sindikudziwa chifukwa chiyani				
20.ndiri ndi chikhulupiriro kuti thupi langa lidzagwira ntchito yabwino mu nthawi yobereka	3	2	1	0
21.Kodi ziganizo ziri mmwambamo zakhala zikukutsowetsani mtendere masabata awiri apitawo**?** *Ngati eya**,chonde yankhani mafunso otsatirawa***			Eya ☐	Ayi☐ **(yankhani funso 22)**
1. zakusowetsani mtendere motani	pang'ono 1	mwa apo ndi apo 2	kwambiri 3	mobyolera muyeso 4
2. zimakusowetsani mtendere pafupi pafupi?	kamodzi kapena kawiri 1	masikuambiri 2	tsiku lirilonse 3	kambiri mu tsiku limodzi 4
3. Kodi mungafune mutathandidzidwa?			Eya☐	Ayi ☐
Mantha owonjezera 22.Palinso mantha ena okhuza kubereka oti sanatchulidwe mmwambamo ngati muli ndi mantha opyolera limodzi, chonde fotokozani mutu chabe wa manthawo .... tsopano,chonde malizitsani mafunso atatu okhudza zotsatira pansipa			Eya☐ **chonde,mwachidule fotokozani mu bokosimu**	Ayi ☐ Mathero a mafunso mu gawoli
23.Zotsatira zokhuza mantha owonjezera **1. kodi mantha amenewa akuvutitsani kwambiri masabata awiri apitawa** **Ngati eya,chonde yankani mafunso atatu otsatirawa(chonde zunguizani)** **Ngati ayi, zikomo pomaliza kuyankha mafunso mugawoli**			Eya ☐	Ayi ☐
1. akukusowetsani mtendere motani?	pang'ono 1	mwa apo ndi apo 2	kwambiri 3	mobyolera muyeso 4
2. zimakusowetsani mtendere pafupi pafupi?	kamodzi kapena kawiri	Masiku ambiri	tsiku lirilonse 3	kambiri mu tsiku limodzi

	kukanitsitsa	**kukana**	**kuvomera**	**kuvomeretsetsa**
	1	2		4
3. Kodi mungafune mutathandidzidwa**?**			Eya☐	Ayi ☐

Gawo lachitatu: chidziwitso pa funso lokonzekera kubadwitsa mwana

Chongani kapena zungulizani yankho limodzi lolondola

1. Kodi kukonzekera kubereka ndi chiyani?

a. Kukonzekera kubadwa kwa mwana .b. Kukonzekera kukula kwa mwana. c. Kukonzekera kutenga mimba .d. Zonse pamwambapa

2. Kodi amayi apakati ayenera kukonzekera zotani?

a. Kukonzekera za zakudya za mayi wapakati, zovala, ndi masewera olimbitsa thupi. b. Kukonzekera ntchito .c. Kukonzekera zakudya zobereka, zovala ndi masewera olimbitsa thupi. d. Zonsezi pamwambapa

3. Kodi amayi oyembekezera ayenera kupita kusikelo yaamai amimba kangati?

a. 2 .b. 4 .c. 6 .d. 8

4. Kodi mayi woyembekezera ayenera kudya zakudya ziti?

a. Zakudya zopatsa thanzi .b. Zakudya zama nyama .c. Zakudya zamafuta ambiri .d. Zakudya za zolimbitsa/ zomanga thupi

5. Kodi kuchepa kwa magazi mthupi kungapewedwe bwanji?

a. Podya masamba obiriwira .b. Kudya nyama yofiira .c. Podya zipatso monga manamchesi, malalanje. d. Zonsezi pamwambapa

6. Ndi zina ziti zina zoonjezera zomwe mayi woyembekezera ayenera kumwa kapena kudya?

a. mapilitsi opewa matenda otha magazi ndi mapilitsi amagazi .b. mapilitsi a thanzi (Vitamin A) c. mapilitsi amagazi .d.mapilitsi opewa matenda otha magazi

7. Kodi mayi woyembekezera ayenera kudya zopatsa mphamvu zochuluka bwanji patsiku?

a. 50 kilocalories .b. 100 kilocalories .c. 150 kilocalories .d. 200 kilocalories

8. Kodi mayi woyembekezera ayenera kudya kangati patsiku?

a. Kudya katatu ndi zotolatola kawiri kapena kuposera .b. kudya katatu zambiri pakamodzi komanso zotola tola kamodzi patsiku .c. kudya kanayi zambiri pakamodzi komanso zotolatola kawiri kapena kuposera .d. kudya kanayi zambiri pakamodzi komanso zotolatola kamodzi patsiku **9. Kodi mayi woyembekezera ayenera kuonjezera ma kg ochuluka bwanji?**

a. 7-9kg. b. 10-12kg .c. 13-15kg .d. 16kg kapena kuposa

10. kodi mzimayi woyembekezera akuyenera kuvala zovala zotani ?

a. Zovala za zoterera .b. Zovala zokhutala .c. Zovala za ulusi.d. Zovala zaubweya ()

11. Kodi amayi oyembekezera ayenera kuvala nsapato zotani?

a. Nsapato zokwanira bwino za flat .b. Nsapato zapakatikati .c. Nsapato zagogoda .d. Nsapato zokhwepa

12. ndinyengo ziti zomwe mayi woyembekezera sakuyenera kuyenda maulendo ?

a. pamene dokotala walangiza .b. Pa nthawi yonse ya mimba .c. mundimwe yoyamba yamimba (miyezi itatu yoyambirira) .d.mundime yachiwiri yamimba (miyezi inayi kufikira miyezi 7)

13. Kodi mayi woyembekezera yemwe ali ndi vuto lokhuza za umoyo akuyenera kupewa kugwiritsa ntchito njira yamayendedwe ati?

a. ndenge .b. Galimoto .c. Sitima yapamtunda .d. sitima yapa madzi.

4. Kodi mayi woyembekezera ayenera kuchita chiyani ngati afunika kuyenda pagalimoto mtunda wautali?

a. Imani maola awiri aliwonse ndikuyendayenda kwa mphindi 10 .b. Imani maola atatu aliwonse ndikuyendayenda kwa mphindi pafupifupi 10 .c. Imani maola anayi aliwonse ndikuyendayenda kwa mphindi 10 .d. Imani pamene mukumva kutopa ( )

15. Ndi ukhondo uti umene mzimayi woyembekezera ayenera kuutsindika?

a. Chisamaliro chapakhungu. b. Kusamalira mabere .c. Kusamalira kumusi .d. Zonsezi pamwambapa

16. Kodi ndi mavuto otani amene angabwere ngati mayi wapakati sakuchita ukhondo?

a. Zimawonjezera chiopsezo cha matenda kwa amayi .b. zitha kubweretsa chilema kwa mwana woyembekezerayo .c. Kubadwitsa mwana masiku asanakwane .d. matenda kutenga nthawi

17. kuphatikizira chakudya chathanzi, kodi chofunika china ndi chiyani kuti mayi akhale ndi moyo wathanzi pa nthawi yomwe ali oyembekexera?

a. Kupumula, osachita kapena kugwira ntchito ina iliyonse .b kugwira Ntchito yolemetsa .c. kuchita masewero olimbitsa thupi opepuka .d. Kuchita masewera olimbitsa thupi kwambiri

18. N'chifukwa chiyani kuchita masewera olimbitsa thupi n'kofunika pa nthawi yapakati?

a. Kuthana ndi zovuta zokudza Kamba ka mimba .b. kupuma bwino .c. Kulimbikitsa thanzi la amayi .d. Kuchepetsa chilakolako ( )

19. Kodi kuchita masewera olimbitsa thupi opepuka kumakhudzana bwanji ndi mwana wosabadwayo?

a. kusokoneza kakulidwe kwa mwanayo .b. Kuchepetsa sikelo yamwanayo .c. Kuchulukitsa chiopsezo cha kubadwa masiku asanakwane .d. kuchepetsa zovuta zokhuza mwanayo

20. Ndani sayenera kuchita masewera olimbitsa thupi ali ndi pakati?

a. Amene ali ndi vuto la magazi .b. amene mwana wake sanasogoze mutu .c. Ngati mwana wosabadwayo sakukula .d. Amene ali ndi matenda amphumu (chifuwa cha asthma) ndi matenda a mtima

21. Ndi malo ati omwe Sali oyenerereza/ kuvomerezeka kuberekerako?

a. Chipatala cha boma .b. Chipatala chomwe sichaboma (Private ndi cha mishoni) .c. kwa azamba .d. kunyumba

22. Kodi ndindani amene angathandizire kubereketsa mwana mwabwinobwino?

a. Madokotala, azamba ndi anamwino ovomerezeka ndi boma .b. azamba omwe sanaphunzitsidwe zachipatala .c. Achibale .d. azachipatala omwe sanalowetsedwe mukaundula wa unduna wa zaumoyo

23. Ndi ziti mwa zizindikiro zotsatirazi zomwe zimaonetsa kuti leba yatsala pang'ono kuyamba?

a. Kusanza .b. Kupweteka kwa mwendo .c. kutaya chikazi chonanda chophatikizana ndimagazi.

d. kupweteka m'mimba

24. mukuyenera kuchita chiyani ngati mukutaya madzi panthawi yomwe muli oyembekezera?

a. kupita kuchipatala chapafupi nthawi yomweyo .b. Dikirani kanthawi .c. panirani kansalu / nyanda/ pad/ nthete. d.Tsukani kumusi ndi madzi oyera bwino/aukhondo

25. Kodi mayi wapakati akuyenera kuchita chiyani ngati ali ndi nkhawa kapena akukayikira kuti akudwala?

a. kaonaneni ndi adotolo. b. kupumula, osagwria ntchito iliyonse .c. kuzithandiza ndi mankhwala / chithandizo opangidwa kunyumba .d. Yendaniyendai mwakanthawi

26. Ndi zovuta zotani zomwe zingawonekere panthawi yobereka?

a. Kutaya magazi kwambiri .b. Matenda/ kutentha thupi kwambiri .c. kung'ambika kapena kuchekeka njira yabambo .d. Zonsezi pamwambapa

27. Kodi mzimayi akuyenera kuchita ziti zozikonzekeretsa panthawi yomwe wangochira / kubereka?

a. Kukonzekera kuyamwitsa .b. Kukonzekera kudya zakudya zopatsa thanzi .c. Kukonzekera ukhondo wapathupi .d. Zonsezi pamwambapa

28. Kodi mziyayi akuyenera kuzisamalira mthupi bwanji pamene wangochira/ kupabadwitsa mwana??

a. Kusamba tsiku lililonse .b. kusamna pa masiku awiri kapena atatu aliwonse .c. kusamba sabata iliyonse .d. kusamba mwezi ndi mwezi

29. Kodi mabere akuyenera kusamalidwa bwanji munthawi yoyamwitsa?

a. Kutsuka pafupipafupi ndi sopo ndi madzi .b. Kutsuka pafupipafupi ndi madzi okha .c. Kutsuka pafupipafupi ndi sipirit. d. Kupukuta pafupipafupi ndi thonje kokha

30. Kodi kumusi kukuyenera kusamalidwa motani ?

a. kupukuta kuyambira kutsogolo kupita kumbuyo mukamaliza kukoza/kutaya madzi .b. Kutsuka komanso kukhalira madzi ofunda a mchere kawiri pa tsiku. c. kuvala nyanda/ padi yaukhondo komanso kusintha nyanda pafupipafupi .d. zones pamwambapa

31. Ndi zovuta zotani zomwe zingathe ckuchitika /kubwera pambuyo pobereka?

a. kutaya magazi kwambiri .b. kudwala matenda otentha thupi kwambiri (Puerperal sepsis).

c. Kutupa m'mawere .d. Zonsezi pamwambapa **32. Nchiyani chomwe chimachititsa kuti mabere atupe/ asasirane?**a. Zakudya Zosayenera .b. kuchita ntchito zosayenera/ zolakwika .c. Kuyamwitsa molakwika .d. Ukhondo wolakwika wa m'mawere

33. Kodi chingachitike n'chiyani ngati pachitika mavuto okhuza umoyo wanu wathanzi pamene mwaberereka pambuyo pobereka?

a. Pumulani .b. Imwani mankhwala .c. kaonaneni ndi a dotolo kapena azaumoyo. d. zithandizireni ndi chithandizo chakunyumba

34. Kodi kufunikira kochita masewera olimbitsa thupi opepuka munthawi yomwe muli muchikuta ndi kotani?

a. kuchepetsa chiopsezo cha zovuta zina .b. Kuchulukitsa kupanga mkaka wa m'mawere

c. kupewa kutulukira kwa chiberekero ndi kukoza mosayembekezera .d. Zonse pamwambapa

35. Kodi ndondomeko ya yokaonetsa mwana kuchipatala ndi iti?

a. kupita patatha sabata imodzi chibadwitsireni mwana. b. kupita pakadutsa masabata 6 chibadwitsireni mwana. c. Zonsezi pamwambapa .d. Palibe zolondora

36. Kodi dongosolo lanu lodyestsa mwana wongobadwa kumene ndi lotani?

a. Kuyamwitsa mkaka wammabere. b. Kumpatsa mkaka wogula kusitolo. c. Kumpatsa mkaka wogula kusitolo ndi kuyamwitsa mkaka wa m'mawere .d. zonsezi pamwambapa

37. Kodi katemera ndi wofunikira kwa ana kuyambira tsiku loyamba lobadwa?

a. Zoona .b. Zabodza

38. Kodi katemera amagwirizana ndi kutentha thupi ndi ululu?

a. Zoona .b. Zabodza

39. Sankhani zizindikiro zonse zoopsa zomwe zingachitike panthawi yomwe mzimayi ali ndi pakati?

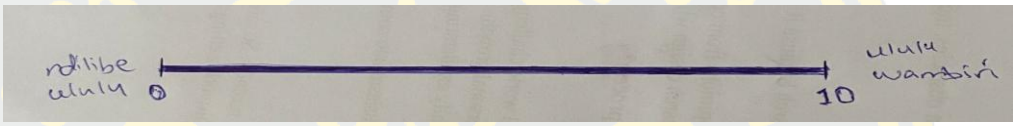
Kutuluka magazi kumaliseche ☐ kupuma mobanikira/ movutikira ☐ Kukomoka ☐ mwana kugunda mochepa/mwana kusiya ☐, kugunda☐ Kutaya madzi ☐ , Kutupa kwa manja, nkhope, thupi lonse ☐, Kumva mutu waching'alanga'la ☐, kuona chimdima mmaso ☐Kusanza kwambiri☐, thupi kutentha kwambiri☐, Zonsezi ndizolondolora ☐

40. Ngati mukukumana ndi zizindikiro zowopsa za mimba, mungatani? Ndikhale chochita choyamba?

a. Kupita kwa dokotala nthawi yomweyo. b. Kudikirira ulendo wotsatira. c. kufunsa munthu aliyense wa achibale. d. kupumula ndikuzithandiza ndi chithandicho cha kunyumba

Gawo lachinayi :Kufuna kudziwa mulingo wa ululu womwe mukumva

Pangani chizindikiro choyima pamzere omwe uli mmunsimu pofuna kufotokoza ululu womwe mukumva; kupweteka kwa msana, kupweteka kwa m·chiuno, kupweteka kumaliseche panthawi yokumana ndi abambo /yogonana. Onetsetsani kuti chizindikiro chanu chikuwoneka pamzere. Chizindikiro ichi chikuyimira kuchuluka kwa ululu womwe mukumva pakati pa 0 (palibe ululu) ndi 10 (kupweteka kwambiri).



Gawo lachisanu: kufuna kudziwa zamatenda okhumudwa

Tsopano ndikufunsani mafunso okhuzana ndim'mene mwakhala mukuganizira ndi kumvera
masiku asanu ndi awiri apitawa. Musankhe yankho logwiridzana ndi m'mene mwakhala
mukumvera masiku asanu ndi awiri apitawa.

Zongulizani yankho loyenera

1. Masiku asanu ndi awiri apitawa, kodi mwakhala mukutha kuseka komanso kuona
kusangalatsa kwa zinthu?

[3] Olo mpang'ono komwe [2] Panopa osati kwambiri .[1] Osati bwino kwambiri .[0] Monga m'mene mumathera nthawi zonse

2. Masiku asanu ndi awiri apitawa, kodi mwakhala mukudikira ndi nsangala mu zinthu
zozachitika mtsogolo?

[3] Olo mpang'ono komwe. [2] Panopa osati kwambiri .[1] Osati bwino kwambiri .[0] Monga m'mene mumathera nthawi zonse

3. Masiku asanu ndi awiri apitawa, kodi mumazida nokha mosafunikira pamene zinthu
sizinayende bwino?

[3] Nthawi zambiri .[2] Kawirikawiri .[1] Mwakamodzikamodzi .[0] Sizinachitikepo

4. Masiku asanu ndi awiri apitawa, kodi mumakhumudwa kapena kudera nkhawa
popanda chifukwa chenicheni?

[3] kwambiri. [2] Nthawi zina [1] Sizimachitika [0] Olo mpang'ono pomwe

5. Masiku asanu ndi awiri apitawa, kodi mumachita mantha kapena kusowa mtendere
popanda chifukwa chenicheni?

[3] Kwambiri .[2] Nthawi zina .[1] Osati kwambiri [0] ngakhale pang'ono

6. Masiku asanu ndi awiri apitawa, kodi mwakhala mukuganiza kapena kumva ngati
munalindi zinthu zambiri zoyenera kuchita koma simumakwanisa kuchita?
[3] Nthawi zambiri mwakhala mukulepheratu .[2] Nthawi zina mwakhala mukulepheratu
[1] Nthawi zambiri mwakhala mukutha [0] Mwakhala mukutha ngati m'mene mumapangira nthawi

7. Masiku asanu ndi awiri apitawa, kodi mwakhala osasangalala moti mwakhala mukulephera kugona?
[3] Nthawi zambiri .[2] Kawirikawiri .[1] Osati kawirikawiri [0] mpang'ono pomwe

8. Masiku asanu ndi awiri apitawa, kodi munali wokhumudwa kapena kusowa mtendere
wa mumtima?
[3] Nthawi zambiri .[2] Kawirikawiri .[1] Osati kawirikawiri [0] mpang'ono pomwe

9. Masiku asanu ndi awiri apitawa, kodi mwakhala osasangalala moti mwakhala mukulira?
[3] Nthawi zambiri .[2] Kawirikawiri .[1] Mwakamodzikamodzi .[0] Sizinachitikepo

10. Masiku asanu ndi awiri apitawa, kodi munakhalapo ndi maganizo ofuna kuzipweteka?
[3] Nthawi zambiri .[2] Kawirikawiri .[1] Mwakamodzikamodzi. [0] Sizinachitikepo

Gawo la chisanu ndi chimodzi: kudziwa zamathandizo omwe mumalandira

Pa moyo wathu watsiku ndi tsiku, nthawi zina timafuna thandizo kuchokera kwa anthu omwe ali pafupi nafe. Mafunso otsatirawa akufunsani za thandizo kapena chithandizo chomwe mwalandira m'miyezi itatu yapitayi ndi zomwe mudaganizapo. Mudzafunsidwa za mitundu itatu ya chithandizo kapena mathandizo: 1) Thandizo la ntchito kapena maudindo, 2) thandizo la Malangizo ndi zina, ndi 3) Thandizo lamalingaliro.

Yambirani apa: Kodi mwakhala pabanja kapena muli pachibwenzi kwa miyezi itatu kapena kupitilira apo?

1 Inde ☐ 0 Ayi ☐

1. Nthawi zina timafuna kuthandizidwa ntchito ndi maudindo monga ntchito zapakhomo, kuthamangira, kapena kusamalira ana. Pamene okondedwa anu (kapena wina wothandizira) adayesa kukuthandizani pa ntchito ndi maudindo anu, zinali zabwino bwanji kugwirizana pakati pa kuchuluka kwa thandizo loperekedwa ndi thandizo lomwe mumafuna?

☐ linali lochepetsetsa kwambiri kapena linali thandizo lochulukitsitsa kwambiri ☐ lina linali lochepa kwambiri kapena lambiri kwambiri ☐linali lochepa kapena lambiri ☐ linali pafupi kufanana kuchuluka ndi thandizo lomwe ndimafuna, ☐ linali lochuluka ndendende ndi thandizo lomwe ndimayembekezera

2. Kodi mumalakalaka kuti chithandizo cha munthuyu chikanakhala chosiyana motani—mwachitsanzo, chithandizo chosiyana, kapena choperekedwa mwanjira ina kapena nthawi ina?

☐Ayi ☐ Pang'ono chabe ☐ mwapakatikati ☐ mwachoncho ☐ mobzyola

3. Pamene chithandizo cha ntchito ndi maudindo chiperekedwa mwaluso, chimakupangitsani kumva kuti mulibe kulemedwa ndipo simukumva kuti mukuchifuna. Pamene munthuyu ankafuna kukuthandizani pa ntchito ndi maudindo, kodi thandizo lake linaperekedwa mwaluso bwanji?

☐Ayi ☐ Pang'ono chabe ☐ mwapakatikati ☐ mwachoncho ☐ mobzyola

4. Pamene mudafuna thandizo la munthu uyu pa ntchito ndi maudindo, kodi zinali zovuta bwanji kupeza thandizoli?

☐Sizinavute ☐ Mwa apo ndi apo ☐ Nthawi zina ☐ Nthawi zambiri ☐ Nthawi zonse

5. Kodi ndi kangati munthu ameneyu anadzipereka kuti akuthandizeni pa ntchito ndi maudindo popanda inu kufunsa?

☐Sizinavute ☐ Mwa apo ndi apo ☐ Nthawi zina ☐ Nthawi zambiri ☐ Nthawi zonse

6. Nthawi zina timafunika malangizo kapena mfundo zina, monga mmene tingachitire kapena kuthetsa vuto. Pamene munthuyu ankafuna kukupatsani malangizo kapena zambiri, kodi zinali zabwino bwanji kugwirizana pakati pa mulingo wachithandizo chomwe mumafuna ndi thandizo lomwe anapereka?

☐ linali lochepetsetsa kwambiri kapena Thandizo lochulukitsitsta kwambiri ☐ linali lochepa kapena lambiri kwambiri ☐linali lochepa kapena lambiri ☐ linali pafupi kukhala kuchuluka kwa chithandizo chomwe ndimafuna ☐ zinali ndendende kuchuluka kwa chithandizo chomwe ndimafuna

7. Kodi munalakalaka kuti malangizo a munthu ameneyu kapena mfundo zake zikanakhala zosiyana bwanji—mwachitsanzo, thandizo lina, kapena kuperekedwa m'njira ina kapena panthawi ina?

☐Ayi ☐ Pang'ono chabe ☐ mwapakatikati ☐ mwachoncho ☐ mobzyola

8. Pamene uphungu kapena chidziwitso chiperekedwa mwaluso, chimakhala chothandiza ndipo simumva chisoni chochifuna. Pamene munthu ameneyu ankafuna kukupatsani malangizo kapena zinthu zina, kodi zinaperekedwa mwaluso motani?

☐Ayi ☐ Pang'ono chabe ☐ mwapakatikati ☐ mwachoncho ☐ mobzyola

9. Pamene munkafuna uphungu kapena chidziwitso kuchokera kwa munthu ameneyu, kodi zinali zovuta kangati kupeza?

☐Sizinavute ☐ Mwa apo ndi apo ☐ Nthawi zina ☐ Nthawi zambiri ☐ Nthawi zonse

10. Kodi ndi kangati munthu ameneyu anapereka malangizo othandiza kapena mfundo zothandiza popanda inu kupempha?

☐Sizinavute ☐ Mwa apo ndi apo ☐ Nthawi zina ☐ Nthawi zambiri ☐ Nthawi zonse

11. Nthawi zina timafuna munthu woti azitichirikiza—munthu woti atimvetsere ndi kumvetsa mmene tikumvera kapena kutisonyeza chikondi ndi kutidera nkhawa. Pamene munthuyu ankafuna kukuthandizani m'maganizo, kodi pali kusiyana kotani pakati pa kuchuluka kwa chithandizo chomwe wapereka ndi zomwe mumafuna?

☐ linali lochepetsetsa kwambiri kapena Thandizo lochulukitsitsta kwambiri linali lochepa kapena lambiri kwambiri ☐linali lochepa kapena lambiri ☐ linali pafupi kukhala kuchuluka kwa chithandizo chomwe ndimafuna ☐ zinali ndendende kuchuluka kwa chithandizo chomwe ndimafuna

12. Kodi mumalakalaka kuti munthu ameneyu azikuchirikizani mosiyanasiyana mwanjira ina yake—mwachitsanzo, chithandizo chosiyana, kapena choperekedwa mwanjira ina kapena panthawi ina?

☐Ayi ☐ Pang'ono chabe ☐ mwapakatikati ☐ mwachoncho ☐ mobzyola

13. Pamene chithandizo chamaganizo chikuperekedwa mwaluso, chimakupangitsani kumva kuti mumakondedwa ndi kusamaliridwa ndipo simumva chisoni chifukwa chofuna chithandizo. Pamene munthu ameneyu anayesa kukulimbikitsani, kodi chithandizocho chinaperekedwa mwaluso motani?

☐Ayi ☐ Pang'ono chabe ☐ mwapakatikati ☐ mwachoncho ☐ mobzyola

14. Pamene munafunikira chithandizo chamaganizo kuchokera kwa munthu ameneyu, kodi ndi kangati kunali kovuta kupeza?

☐Sizinavute ☐ Mwa apo ndi apo ☐ Nthawi zina ☐ Nthawi zambiri ☐ Nthawi zones

15. Kodi ndi kangati munthu amene wapereka chithandizo chamaganizo popanda kumupempha?

☐palibe ☐ Mwa apo ndi apo ☐ Nthawi zina ☐ Nthawi zambiri ☐ Nthawi zonse

Pamene mudalandira chithandizo kapena chithandizo kuchokera kwa munthuyu m'miyezi itatu yapitayi, zinayamba kukupangitsani kumva chilichonse mwa zinthu izi?

16. Kunyozeka/kunyozedwa.....☐ Inde ☐ Ayi

17. Wopanda thandizo.....☐ Inde ☐ Ayi

18. Wosakwanitsa.....☐Inde ☐ Ayi

19. Wolakwa.....☐ Inde ☐ Ayi

20. Manyazi/manyazi.....☐ Inde ☐Ayi

21. Wopusa/Wopanda nzeru.....☐ inde ☐ Ayi

22. Kukhala ngati uli ndi ngongole yoti udzabwenza .....☐ inde ☐ Ayi

23. Kukhumudwa.....☐ inde ☐ Ayi

24. wokwiya.....☐ inde ☐ Ayi

25. Kukwiyitsidwa.....☐ inde ☐ Ayi

Gawo lachisanu ndi ziwiri: kukhulupira mzamba kapena namwino

Pansipa pali mawu angapo onena za kukhulupirira kwanu mu namwino /azamba omwe amakuthandizani k uku sikelo . Chonde werengani chilichonse ndikusankha kuti ndi iti yankho lotsatirali likufotokoza bwino momwe mumamvera za mzamba wanu yemwe amakuthandizani ; O=ayi, 1=nthawi zina, 2=mwa apo ndi apo, 3=nthawi zambiri, 4=nthawi zonse

	O=ayi	**1**=nthawi zina	**2**= mwa apo ndi apo	**3**=nthawi zambiri	**4**= nthawi zonse
1.Kodi amzamba anu amakuwunikirani zosankha zomwe mulinazo musanapange chiganizo pa nkhani ya za umoyo?	0	1	2	3	4
2.Amzamba anga amawonetsetsa kuti andipatsa chithandizo chapamwamba	0	1	2	3	4
3.Amzamba anga amawonetsa chidwi pa ine ngati munthu	0	1	2	3	4
4.Amzamba anga amandimvetsera	0	1	2	3	4
5.Amzamba anga amandilandira ndi m'mene ndiliri	0	1	2	3	4
6.Amzamba anga amandiuza chirungamo chokhachokha za mavuto anga azaumoyo	0	1	2	3	4
7.Amzamba anga amandisamala ngati munthu pandekha	0	1	2	3	4
8.Amzamba anga amandiwonetsa kuti ndine oyenera nthawi yawo komanso Khama lawo	0	1	2	3	4
9.amzamba anga amaonetsetsa kuti andipatsa nthawi nkundimvetsera nthawi iliyonse ndikabwera kuno	0	1	2	3	4

	O=ayi	**1**=nthawi zina	**2**= mwa apo ndi apo	**3**=nthawi zambiri	**4**= nthawi zonse
10.Ndimakhala womasuka ndikamawalankhula amzamba anga za zinthu zokhudzana ndi ine.	0	1	2	3	4
11.ndimamva bwino ndikawawona amzamba anga	0	1	2	3	4
12.Kawirikawiri mukakhala mumafuna mutasintha amzamba anu ndikupeza ena?	0	1	2	3	4
13.Kawirikawiri amzamba anu amalingalira za kufunikwa kwa chinsinsi chanu?	0	1	2	3	4

Mapeto a mafunso

Zikomo chifukwa chotenga nawo mbali

APPENDIX C

Additional Information about Dependent Variable

1. **Mean and standard deviations of FCQ (n=123)**

OVERALL (M=0.98, SD=0.11)						
Subscake and item	**SD n (%)**	**SD n (%)**	**SA n (%)**	**SA n (%)**	M	SD
1. uncertainty and injury (M=0.89, SD=0.32)						
6. I am worried that my baby will be harmed during labor and birth (0-3)	46(37.4)	42(34.1)	24(19.5)	11(8.9)	0.72	0.87
7. I worry I will lose control of myself during labor (0-3)	36(29.3)	43(35.0)	31(25.3)	13(10.6)	1.00	0.97
8. I am confident my body can give birth to my baby (3-0)	70(56.9)	38(30.9)	6(4.9)	8(6.5)	1.17	0.97
9. I worry I will not have a voice in decision-making during labor (0-3)	36(29.3)	33(26.8)	39(31.7)	15(12.2)	0.60	0.86
13. I am worried I will be harmed during labor (0-3)	31(25.2)	31(25.2)	44(35.8)	17(13.8)	1.38	1.01
15. I worry that my baby will feel distressed during labor and birth (0-3)	60(48.8)	25(20.3)	27(22.0)	11(8.9)	1.38	1.01
19. I am worried about labor and birth, and I don't know why (0-3)	51(41.5)	21(17.1)	37(30.1)	14(11.4)	0.89	0.97
2. behavior of maternity staff (M=1.13, SD=0.47)						
10. I am confident I am emotionally strong enough to cope with labor and birth (3-0)	73(59.3)	36(29.3)	9(7.3)	9(4.1)	1.27	1.02
14. I am confident that staff will be there when I need them (3-0)	68(55.3)	41(33.3)	8(6.5)	6(4.9)	1.52	0.99
16. I worry about having unpleasant procedures during labor and birth (0-3)	54(43.9)	37(30.1)	22(17.9)	10(8.1)	0.61	0.82
3. unpredictability (M=1.11, SD=0.25)						
2. I worry my labor or birth will not go according to plan(0-3)	35(28.5)	18(14.6)	55(44.7)	15(12.2)	1.41	1.03
5. I am confident I will be able to cope with the pain (3-0)	60(48.8)	47(38.2)	7(5.7)	9(7.3)	1.21	1.09
12. I am worried about things being 'done' to me during labor and birth(0-3)	27(22.0)	23(18.7)	55(44.7)	18(14.6)	1.52	1.00
17. I am confident I will get the pain relief I want (3-0)	53(43.1)	42(34.1)	15(12.2)	12(9.8)	0.91	1.03
18. I worry about being left alone, without my chosen birth partner, during labor (0-3)	51(41,5)	35(28.5)	20(16.3)	17(13.8)	0.90	0.97
4. negative emotions (M=0.90, SD=0.24)						
1. I feel fine about my labor and giving birth to my baby (3-0)	53(43.1)	41(33.3)	17(13.8)	12(9.8)	0.90	0.98
4. I am worried about the long-term effects that labor or birth could have on my body (0-3)	60(48.8)	47(38.2)	7(5.7)	9(7.3)	0.72	0.87
20. I am confident my body will work well during labor and birth (3-0)	75(61.0	41(33.3)	5(4.1)	2(1.6)	1.02	1.07

Interpretation of the means (for 3-0)	0.00-0.74=strongly agree
	0.75-1.49= slightly agree
	1.50-2.24=slighlty disagree
	2.25-3.00 Strongly disagree
(for 0-3)	0.00-0.74=strongly disagree
	0.75-1.49= slightly disagree
	1.50-2.24=slighlty agree
	2.25-3.00 Strongly agree
Scoring system:	SD=Strongly disagree (0)
	SD=Slightly Disagree (1)
	SA=Slightly Agree (2)
	SA=Strongly agree (3)

APPENDIX D

Assumptions of Multiple Regression

Assumptions for Multiple Regression

The assumption of the regression analysis to test the dependent and independent variables was done which included testing for normality, outliers, autocorrelation, multicollinearity, homoscedasticity, and linearity.

1. The normality test using the Kolmogorov-Smirnov test with a significant level of $p<.05$, the variables FOC, knowledge of childbirth preparedness, pregnancy-related pain, antenatal depression, spousal support, and maternal trust in the midwife were normally distributed ($p>.05$).
2. Outliers: The results on the scatterplot showed that there was no data beyond 3 of +3. Thus, there was no outlier.
3. Autocorrelation: The result of the analysis showed that the Durbin-Watson value was 1.75. It means no autocorrelation.
4. Multicollinearity; Variance Inflation Factor (VIF) values were less than 10 of all independent variables, tolerance values of all independent variables were greater than .10, and the correlation analysis showed that there were no values with a coefficient greater than .85, which indicated that there was no multicollinearity for variables.
5. Homoscedasticity: The result of analysis in scatterplot between standardized Predicted value and standardized residual, it was within a narrow space of -3, +3. The variance of Z residual across all values of Z predicted was equally distributed. Variance were homoscedasticity.
6. Linearity: The normal P-P plot of Regression standardized residuals showed the relationship between dependent variable with independent variables. The scatterplot indicated variables were close to the straight line.

APPENDIX E

Participant information sheet and consent forms

Participant Information Sheet

Research protocol code: G-HS111/2566

Research Title: Predictors of Fear of Childbirth Among High-Risk Pregnant Mothers Attending Antenatal Clinic at Bwaila Hospital, Lilongwe, Malawi

Dear High-Risk Pregnant Mothers,

I, Elestina Gondoloni, a student of the Faculty of Nursing, Burapha University, would like to invite you to participate in a reach project entitled Predictors of Fear of Childbirth Among High-Risk Pregnant Mothers Attending Antenatal Clinic at Bwaila Hospital, Lilongwe, Malawi. Before agreeing to participate in this project, the details of the projects are as follows:

Research objectives

1. To determine the level of fear of childbirth among high-risk pregnant mothers

2. To investigate the mother's knowledge of childbirth preparation, Pregnancy-related pain, pregnancy- related complications, antenatal depression, partner support, and maternal trust in midwife can predict FoC in high-risk pregnant mothers.

If you volunteer to participate in this research, you will be asked to complete a 45- minute questionnaire. The questionnaire will ask about your fear of childbirth, your understanding of childbirth preparation, your experience with pregnancy-related pain, any present or previous pregnancy-related complications, antenatal depression, partner support, and your trust in the midwife.

There are relatively small risks associated with this study. When filling out the questionnaire, you may experience mental discomfort with some of the questions. However, the study team will create a friendly environment. There are NO physical risks; however, before the commencement of the study, an assessment for danger signs will be done, like severe headaches or blurred vision, to ensure your welfare throughout the research. Furthermore, you are free to report any discomfort that may arise during the process of questionnaire administration. Additionally, if you report having elevated scores on the EPDS or FoC, you will be provided with counseling services or healthcare referrals.

When you volunteer to participate in this study, you will fill in the questionnaire before or after meeting with your midwife or the obstetrician. To align with the health guidelines and ensure the safety of all participants, COVID- 19 prevention measures will be implemented during this research. These measures will include wearing masks, maintaining social distance, and regularly sanitizing the hands and pens using alcohol-based sanitizer.

As a participant, it is important to note that there may not be any direct personal benefits associated with your involvement. However, your participation in this study will contribute to the advancement of knowledge regarding delivery fear among high-risk pregnant women. The knowledge gained has the potential to enhance the provision of support and care for women experiencing fear of childbirth.

There are no compensation or rewards for taking part in this study; nevertheless, I would like to offer many thanks for your incredible commitment to this study. Your participation will assist in obtaining critical insights. Your time and insights are greatly appreciated.

Your participation in this study is entirely voluntary. The decision to engage is solely yours, and you can withdraw at any moment without providing a reason. Your decision will have no negative implications on your care.

All information gathered during the research will be kept strictly confidential. Only the research team will have access to the data, and the results will be presented in a way that does not identify individual participants. To protect your privacy, your information will be given a code number rather than your name.

You can contact the researcher if you have any questions /issues.

Name: Elestina Gondoloni, University: Burapha University

University Email: 65910023@go.buu.ac.th

Phone: +66985837043/ +265995435634

If the researchers do not follow the research protocol as stated in the Participant Information Sheet, please contact Burapha University Institutional Review Board Office, Burapha University (Division of Research and Innovation), Tel. +66 (0)38-102620”

Participant Information Sheet

(For Parents and guardians)

Research protocol code: G-HS111/2566

Research Title: Predictors of Fear of Childbirth Among High-Risk Pregnant Mothers Attending Antenatal at Bwaila Clinic, Lilongwe, Malawi

Dear Parents and Guardians

I, Elestina Gondoloni, a student of the Faculty of Nursing, Burapha University would like to invite your ward/child to participate in a research project, entitled Predictors of Fear of Childbirth Among High-Risk Pregnant Mothers Attending Antenatal at Bwaila Clinic, Lilongwe, Malawi. Before allowing your ward/child to participate in this project, the details of the projects are as follows:

Research objectives

To determine the level of fear of childbirth among high-risk pregnant mothers

To investigate the mother's knowledge of childbirth preparation, pregnancy-related pain, current and previous pregnancy-related complications, antenatal depression, partner support, and maternal trust in the midwife can predict FoC in high-risk pregnant mothers.

If you allow your ward/child to participate in this research, she will be asked to complete a 45-minute questionnaire. The questionnaire will ask about her fear of labor, her understanding of birthing preparation, her experience with pregnancy-related pain, any present or previous pregnancy-related complication, antenatal depression, partner support, and her trust in the midwife.

There are relatively small risks associated with this study. When filling out the questionnaire, the ward/child may experience mental discomfort with some of the questions. However, the study team will create a friendly environment. There are NO physical risks; however, prior to the commencement of the study, assessment for danger signs will be done on your ward/ child: like severe headaches or blurred vision, in order to ensure the welfare of participants throughout the research. Furthermore, your ward/child is free to report any discomfort that may arise during the process of questionnaire administration. Additionally, if your ward/child report

having elevated scores on the EPDS or FoC, she will be provided with counseling services or healthcare referrals.

When your ward/ child volunteers to participate in this study, she will fill in the questionnaire before or after meeting with her midwife or the obstetrician. To align with the health guidelines and ensure the safety of all participants, COVID- 19 prevention measures will be implemented during this research. These measures will include wearing masks, maintaining social distance, and regularly sanitizing the hands and pens.

As a participant, it is important to note that there may not be any direct personal benefits associated with your ward/ child' s involvement. However, her participation in this study will contribute to the advancement of knowledge regarding delivery fear among high-risk pregnant women. The knowledge gained has the potential to enhance the provision of support and care for women experiencing fear of childbirth.

There are no compensations or rewards for taking part in this study; nevertheless, I would like to offer many thanks for you and your ward/child's incredible commitment to this study. Your ward/ child' s participation will assist in obtaining critical insights. The time and insights are greatly appreciated.

Your ward/ child' s participation in this study is entirely voluntary. The decision to engage is solely yours, and she can withdraw at any moment without providing a reason, and the decision will have no negative implications.

All information gathered during the research will be kept strictly confidential. Only the research team will have access to the data, and the results will be presented in a way that does not identify individual participants. To protect your ward/ child' s privacy, the information will be given a code number rather than your ward/ child' s name.

You can contact the researcher if you have any questions /issues.

Name: Elestina Gondoloni, University: Burapha University, University Email: 65910023@go.buu.ac.th Phone: +66985837043/ +265995435634

If the researchers do not follow the research protocol as stated in the Participant Information Sheet, please contact Burapha University Institutional Review Board Office, Burapha University (Division of Research and Innovation), Tel. +66 (0)38-102

Participant's consent form

(For those aged 12 years but less than 18 years)

Research Code: G-HS111/2566

Research Title: Predictors of Fear of Childbirth Among High-Risk Pregnant Mothers Attending Antenatal Clinic at Bwaila Hospital, Lilongwe, Malawi

Date ……..…... Month ……..…… Year …….

Before signing the consent form to participate in this research project, I have been explained the objectives of the research project, research methods, and various details as specified in the participant information sheet that the researcher has given to me. I have fully understood the preceding explanation, and the researcher has undertaken to answer my questions willingly and without concealment to my satisfaction.

I voluntarily agree to participate in this research project. I understand I can withdraw from the research project at any time without giving a reason and without affecting any benefits that I am entitled to.

I have been given explicit guarantees that my information and identity will be kept confidential and will be shared only in the summary of research results. Disclosure of my information to the relevant authorities requires my permission.

I have read and fully understood the above statements in all respects and have signed this consent document willingly.

In the case that I cannot read or write, the researcher has read the statement in the consent form to me until I fully understand it well. Therefore, I willingly signed or stamped my thumb on this consent form.

Participant's signature …….

Parents or guardian's signature ……

Researcher's signature: ……..……..

name(……..…….)

Note: If the participant gave a thumbprint as their consent, a witness signature will be needed.

Participant's consent form

Research Code: G-HS111/2566

Research Title: Predictors of Fear of Childbirth Among High-Risk Pregnant Mothers Attending Antenatal Clinic at Bwaila Hospital, Lilongwe, Malawi

Date …….....….. Month …….....……. Year …….

Before signing the consent form for this research participation, I was provided the information about the purposes and the processes of the research in the participant information sheet, which the researcher has given to me. I have fully understood the preceding explanation and the researcher has undertaken to answer my questions willingly and without concealment to my satisfaction.

I voluntarily agree to participate in this research project. I understand I can withdraw from the research project at any time without giving a reason, without it affecting any benefits that I am entitled to.

I have been given the explicit guarantees that my information and identity will be kept confidential and will be shared only in the summary of research results. Disclosure of my information to the relevant authorities requires my permission.

I have read and fully understood the above statements in all respects and have signed this consent document willingly.

In the case that I cannot read or write, the researcher has read the statement in the consent form to me until I fully understand it well. Therefore, I willingly signed or stamped my thumb on this consent form.

Participant's signature ……..……..

Researcher's signature:……..……

Print Name (……)

Note: If the participant gave thumbprint as their consent, witness signature will be needed.

APPENDIX F

Ethical approval letters and data collection letters

สำเนา ที่ IRB3-013/2567

เอกสารรับรองผลการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา

คณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา ได้พิจารณาโครงการวิจัย

รหัสโครงการวิจัย : G-HS111/2566

โครงการวิจัยเรื่อง : Predictors of Fear of Childbirth Among High-Risk Pregnant Mothers Attending Antenatal Clinic at Bwaila Hospital, Lilongwe, Malawi

หัวหน้าโครงการวิจัย : MISSELESTINA GONDOLONI

หน่วยงานที่สังกัด : คณะพยาบาลศาสตร์

อาจารย์ที่ปรึกษาโครงการหลัก (สารนิพนธ์/ งานนิพนธ์/ วิทยานิพนธ์/ ดุษฎีนิพนธ์)

หน่วยงานที่สังกัด : คณะพยาบาลศาสตร์ **อาจารย์ที่ปรึกษาโครงการร่วม (สารนิพนธ์/ งานนิพนธ์/ วิทยานิพนธ์/ ดุษฎีนิพนธ์)**

หน่วยงานที่สังกัด : คณะพยาบาลศาสตร์

: รองศาสตราจารย์ ดร.ปัญญรัตน์ ลาภวงศ์วัฒนา

: รองศาสตราจารย์ ดร.ดติรัตน์ เตชะศักดิ์ศรี

วิธีพิจารณา : ☐ Exemption Determination ☐ Expedited Reviews ☑ Full Board

BUU Ethics Committee for Human Research has considered the following research protocol according to the ethical principles of human research in which the researchers respect human's right and honor, do not violate right and safety, and do no harms to the research participants.

Therefore, the research protocol is approved (See attached)

1. Form of Human Research Protocol Submission Version 2: 26 January 2024
2. Research Protocol Version 1: 10 September 2023
3. Participant Information Sheet Version 2: 29 January 2024
4. Informed Consent Form Version 2: 29 January 2024
5. Research Instruments Version 2: 29 January 2024
6. Others (if any) Version -: -

วันที่รับรอง : วันที่ 5 เดือน กุมภาพันธ์ พ.ศ. 2567

วันที่หมดอายุ : วันที่ 5 เดือน กุมภาพันธ์ พ.ศ. 2568 ลงนาม *Assistant. Professor Ramorn Yampratoom*

(*Assistant. Professor Ramorn Yampratoom*)

Chair of The Burapha University Institutional Review Board Panel 3

(Clinic / Health Science / Science and Technology)

** หมายเหตุ การรับรองนี้มีรายละเอียดตามที่ระบุไว้ด้านหลังเอกสารรับรอง **

CERTIFICATE OF ETHICS APPROVAL

This is to certify that the National Health Science Research Committee has reviewed and approved the study titled:

Study Title: **Protocol # 24/03/4348: Predictors of fear of childbirth among high-risk pregnant others attending antenatal clinic at Bwaila Hospital, Lilongwe, Malawi**

Investigator: Elestina Gondoloni

StartDate: 08/03/2024

End Date:07/03/2025

Date of issue: 08/03/2024

Dr. Martias Joshua
Chairperson-NHSRC

National Health Sciences Research Committee
2024 -03- 08
APPROVED

Mr. Billy Nyambalo
NHSRC -Administrator

Ref. No.:
Telephone No.: 265 726 466/464
Telefax No.: 265 727817
Telex No.:
E-Mail. lilongwedho@malawi.net

COMMUNICATIONS TO BE ADDRESSED TO:

In reply please quote NO DZH/MALAWI,
Lilongwe District Health Office
P.O. Box 1274
Lilongwe
Malawi

6th February, 2024

The In-charge – Bwaila Hospital (Antenatal Clinic)

Dear Sir/Madam

PERMISSION LETTER TO CONDUCT ACADEMIC RESEARCH STUDY AT LILONGWE DISTRICT

The bearer of this letter is **Elestina Gondoloni** pursuing Masters of Science in Nursing from Burapha University has been granted a permission to conduct academic research study at Bwaila Hospital:-

"Predictors of Fear of Childbirth Among High-risk Pregnant Mothers Attending Antenatal Clinic at Bwaila Hospital, Lilongwe, Malawi ."

Any assistance rendered would be appreciated.

MINISTRY OF HEALTH LILONGWE DISTRICT HEALTH OFFICE 06 FEB 2024 DISTRICT HEALTH OFFICER P.O. BOX 1274, LILONGWE

Thomas Chigeda
For: DIRECTOR OF HEALTH AND SOCIAL SERVICES

MHESI 8137/270

Graduate School, Burapha University
169 Longhaad Bangsaen Rd.
Saensuk, Muang, Chonburi
Thailand, 20131

February 14th, 2024

To Research Committee Chairperson, Lilongwe District Health Office, Ministry of Health,
P.O. Box 1274, Lilongwe, Malawi

Enclosure: 1. Certificate ethics document of Burapha University
2. Research Instruments (Try out)

On behalf of the Graduate School, Burapha University, I would like to request permission for Ms. Elestina Gondoloni to collect data for testing the reliability of the research instruments.

Ms. Elestina Gondoloni, ID 65910023, a graduate student of the Master of Nursing Science program (International Program) in Maternity Nursing and Midwifery Pathway, Faculty of Nursing, Burapha University, Thailand, was approved her thesis proposal entitled: "Predictors of fear of childbirth among high-risk pregnant mothers attending antenatal clinic at Bwaila Hospital, Lilongwe, Malawi" under supervision of Assoc. Prof. Dr. Punyarat Lapvongwatana as the principle advisor. She proposes to collect data from 30 high-risk pregnant mothers attending the antenatal clinic at Bwaila Hospital.

The data collection will be carried out from February 14 - 16, 2024. In this regard, you can contact Ms. Elestina Gondoloni via mobile phone +26-5995-4356-34 or +66-98-583-7043 or E-mail: 65910023@go.buu.ac.th

Please do not hesitate to contact me if you need further relevant queries.

Sincerely yours,

มัณฑนา รังสิโยภาส

(Assist. Prof. Dr. Montana Rungsiyopas)
Vice-Dean for Academic Affairs
Acting of Dean of Graduate School, Burapha University

Graduate School Office
Tel: +66 3810 2700 ext. 705, 707
E-mail: grd.buu@go.buu.ac.th
http://grd.buu.ac.th

MHESI 8137/271

Graduate School, Burapha University
169 Longhaad Bangsaen Rd.
Saensuk, Muang, Chonburi
Thailand, 20131

February 14th, 2024

To Research Committee Chairperson, Lilongwe District Health Office, Ministry of Health,
P.O. Box 1274, Lilongwe, Malawi

Enclosure: 1. Certificate ethics document of Burapha University
2. Research Instruments

On behalf of the Graduate School, Burapha University, I would like to request permission for Ms. Elestina Gondoloni to collect data for conducting research.

Ms. Elestina Gondoloni, ID 65910023, a graduate student of the Master of Nursing Science program (International Program) in Maternity Nursing and Midwifery Pathway, Faculty of Nursing, Burapha University, Thailand, was approved her thesis proposal entitled: "Predictors of fear of childbirth among high-risk pregnant mothers attending antenatal clinic at Bwaila Hospital, Lilongwe, Malawi" under supervision of Assoc. Prof. Dr. Punyarat Lapvongwatana as the principle advisor. She proposes to collect data from 123 high-risk pregnant mothers attending the antenatal clinic at Bwaila Hospital.

The data collection will be carried out from February 19, 2024 to March 22, 2024. In this regard, you can contact Ms. Elestina Gondoloni via mobile phone +26-5995-4356-34 or +66-98-583-7043 or E-mail: 65910023@go.buu.ac.th

Please do not hesitate to contact me if you need further relevant queries.

Sincerely yours,

มัณฑนา รังสิโยภาส

(Assist. Prof. Dr. Montana Rungsiyopas)
Vice-Dean for Academic Affairs
Acting of Dean of Graduate School, Burapha University

Graduate School Office
Tel: +66 3810 2700 ext. 705, 707
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