

**DETERMINANTS OF POSTPARTUM DISORDERS FOLLOWING EARLY
HOSPITAL DISCHARGE IN BLANTYRE, MALAWI**

MSc in Midwifery Thesis

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MSc in Midwifery Thesis

BY

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**University Of Malawi
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SEPTEMBER, 2020

DECLARATION

I, Tiwonge Jere Lulaka declare that this thesis is my original work which has not been submitted to any other university or institution for similar purposes. Where other people's work has been used, acknowledgements have been made.

TIWONGE JERE LULAKA

Full legal name:

SIGNATURE

DATE

Certificate of approval

I, the undersigned, hereby certify that this thesis is the student's work and effort and has been submitted with my approval.

Signature: _____

Date: _____

Professor Ellen Chirwa.

Supervisor

Dedication

This work is dedicated to my dear husband Albert Lulaka, he has been there for me providing moral support to this entire work and my lovely son Divine. I am also very grateful to my late parents for raising me to be a responsible person who has now managed to achieve this qualification.

Acknowledgement

My gratitude is to God Almighty; He has been my strength, wisdom and good health by which I have managed to complete this thesis. I am also very grateful to Professor Ellen Chirwa my research supervisor for her wise guidance and constructive criticism throughout the study, Dr Alfred Maluwa for his guidance on quantitative methods appropriate for the study and Mr Christopher Namagowa for his guidance on the statistical packages used in analyzing the results.

God bless you all.

ABSTRACT

Some mothers face various disorders after childbirth like postpartum haemorrhage, fatigue, sepsis, breast engorgement, sore nipple among others. However, it remains unknown as to what predisposes mothers to these disorders following early postnatal discharge. This current study aimed at establishing the determinants of postpartum disorders in mothers at home following early discharge. Specifically, the study identified the types of postpartum disorders following early postnatal discharge; determined the prevalence of mothers facing postpartum disorders following early discharge; investigated the demographic and socioeconomic factors which determine postpartum disorders after early discharge and assessed the existing support measures used to mitigate the postpartum disorders after early discharge.

A cross-sectional study was conducted at Ndirande and Limbe Health Centres in Blantyre district with a sample size of 385 using systematic random sampling on mothers who had turned up at one-week postnatal check-up. Data was analyzed using descriptive statistics and logistic regression using statistical package for social sciences 20.0. The study results revealed that 52.7% mothers with a mean age of 25 years developed postpartum disorders. Out of those, 2.5% had life-threatening postpartum disorders (excessive vaginal bleeding) while the rest had non-life-threatening postpartum disorders like severe abdominal pains, painful legs, headache etc. The mothers with tertiary level of education (OR 27.5, 95% CI: 1.88-402.9, $p = 0.015$) and those with poor wealth quintile (OR 0.40, 95% CI: 0.21 – 0.77, $p = 0.006$)

were the ones who developed the postpartum disorders. Mothers, husbands of the study participants were the primary caregivers at home to these new mothers.

The study will enrich the body of knowledge in midwifery practice, education, research and policy making. In conclusion, the study determines that early discharge is not directly affecting the development of postpartum disorder but with other factors like poverty and high education.

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List of Abbreviations

CBMNC	:	Community Based Maternal and Neonatal Care
COMREC	:	College of Medicine Research and Ethics Committee
DHO	:	District Health Officer
DHS	:	Demographic Health Survey
KCN	:	Kamuzu College of Nursing
MCH	:	Maternal and Child Health
MDHS	:	Malawi Demographic Health Survey
MOH	:	Ministry of Health
SPSS	:	Statistical Package for Social Sciences
UNICEF	:	United Nations Children's Fund
WHO	:	World Health Organisation

Operational Definitions

Childbirth :	Is the period when the woman starts to have regular painful contractions to the time the baby and the membranes are completely expelled from the uterus
Early discharge :	Is the stay of fewer than 24 hours in the postnatal ward from the time of delivery for women who have had a normal vaginal delivery
Post partum period :	The period from complete expulsion of the placenta to 42days after
Postpartum disorders:	The incidence of physiological and psychological conditions requiring medical supervision or intervention, as obtained through history and physical assessment of postpartum mothers from the delivery of a baby up to 6weeks after delivery
Life-threatening maternal disorder :	A condition that is attributed to or aggravated by pregnancy and childbirth harms the woman's well being and capable of causing death.
Non-life threatening maternal disorder :	A condition that is attributed to or aggravated by pregnancy and childbirth which hurts the woman's well being but without causing death.

CHAPTER ONE

Introduction

Postpartum mothers develop postpartum disorders because of various reasons like inadequate postpartum care coming in due to nurses increased workload Sakala & Chirwa, (2019), early postnatal discharge among other things which make mothers leave the hospital before thorough postpartum assessment and health education (Adams et al., 2017). However this is a missed opportunity to promote healthy maternal behaviours among mothers and their newborns Jones et al., 2016; McMahon et al., (2015) and it may result in various postpartum disorders like depression, postpartum haemorrhage; infection, disability and even death (World Health Organization, 2013). Unfortunately, more mothers are discharged home during this high-risk period.

Sakala and Chirwa (2019) highlighted in their article that postnatal care in Malawi is slowing down in its progress especially within the first two days of childbirth from 41% in 2010 to 42% in 2016. Relatively it is for reasons like this that the World Health Organization (WHO) in their Postnatal Care consultation report recommended that for an uncomplicated vaginal delivery, the mother should be under the skilled birth attendant for not less than 48 hours for observation and that if need be for an earlier discharge, a qualified professional should assess the mother and baby within 2 days of discharge. Blantyre, the commercial city of Malawi located in the southern region has Ndirande and Limbe as some of its main townships in the city.

According to the Malawi Housing Census of 2008, the city of Blantyre had a total population of 648,852 while Ndirande and Limbe had 109,191 and 76,236 respectively (UNDESA, 2011).

The health centres of Ndirande and Limbe are some of the health facilities in the city practising early postnatal discharge because of the large populations they serve. Ndirande health centre for example conducts 13 deliveries and Limbe, 10 deliveries on average per 24 hours against the little workforce and 10 beds and 12 beds in the postnatal wards respectively. This scenario promotes the practice of discharging mothers within 24 hours after childbirth to create room for more new deliveries in these health centres.

In a study conducted in Malawi by Chiremba (2011), it was revealed that postnatal mothers who were discharged early after childbirth were presenting with postpartum disorders like abdominal pains, general body weakness, painful legs, constipation etc when followed up in their homes. It is against this background that this current study was conducted to find out what determined the development of the postpartum disorders of mothers whilst at home

Background

Reproductive ill-health is estimated to account for 22% of the global disease burden among women of reproductive age (15–44 years) with pregnancy-related conditions dominating the burden of reproductive ill-health especially in developing countries (Zafar et al., 2015). Postpartum disorders fall among these reproductive health illnesses because of the neglect given to the postpartum period during the

childbirth process (Villalobos et al., 2009). The maternal disorder has become so common not only in developing countries like Malawi but even globally that up to about 20 million mothers suffer pregnancy and childbirth-related disorders worldwide per annum. Mgawadere et al, (2017) echo that the postpartum period is more neglected but it is a period most postnatal deaths are recorded. In as much as more mothers are dying due to pregnancy and childbirth disorders worldwide, maternal disorders are at the centre of these deaths.

The postnatal period is very significant in the lives of a mother and her baby as they try to adapt to their new roles in life (Finlayson et al., 2020). As much as it is the period where mother and baby should well adapt to the new life after childbirth if their lives are to be kept healthy, it is also the most neglected period of the childbearing period. Unfortunately, the postnatal period is also a period where most maternal disorders and deaths occur with approximately 99% (302, 000) of all the global deaths occurring in developing countries whereas 66% (201,000) of them occur in the sub-Saharan Africa region (World Health Organization et al., 2015). The leading causes of most maternal deaths according to Say et al., (2014) in their systemic analysis on Global causes of maternal deaths are haemorrhage (27.1%), hypertensive disorders (14%) and sepsis 10.7%.

Postpartum disorders can either be life-threatening or non-life-threatening. Life-threatening postpartum disorders are conditions that are attributed to or aggravated by pregnancy and childbirth and hurt the woman's well being. In addition, postpartum disorders such as excessive vaginal bleeding are capable of causing death.

On the other hand, non-life-threatening postpartum disorders hurt the woman's well being. Unlike life-threatening disorders, non-life-threatening disorders can cause depression, fatigue, general body weakness, painful legs, painful vulva etc.

Globally, postpartum depression is one of the common postpartum disorders occurring in 13% of all postpartum women (Dlamini et al., 2019). According to Dlamini et al., (2019), developing countries like India, Pakistan and some African countries have so far recorded 19.8% of mental health disorders because of childbirth such as depression, insomnia, feeling of worthlessness, agitation, guilt and suicidal thoughts.

A systematic review of lower and middle-income countries indicates that 13% of those who have given birth experience some type of mental disorder, most commonly depression or anxiety Fisher et al., (2012), this relates to poverty, lack of support from partners, unemployment, hostile in-laws (Dlamini et al., 2019).

Contrary to a cultural belief that most African women are physically and mentally strong; Africa has recorded more postpartum mental health disorders than another continent with 50.8% in the Democratic Republic of Congo, Uganda recorded 6.6% Adama et al., (2015), 33.3% in Nigeria, 35.0% in Republic of South Africa Odinka et al., (2018), in Eswatini (formerly known as Swaziland), 52.6% women of above 24years encountered mental disorder after childbirth (Dlamini et al., 2019). The common reasons for mental health disorders from these countries included; poor intimate partner relationship, hostile in-laws, having an unplanned pregnancy, poor

social-economic status, unemployment and having insufficient emotional support from the family. However, having high educational qualifications and a supportive intimate partner was assured to be protective support for them.

In recent studies by Ngunyi et al.,(2020) conducted in Cameroon, 8.8% of postpartum mothers developed pyrexia in the first three days after childbirth and malaria, mastitis, puerperal sepsis, urinary tract infection and pneumonia were the leading causes of pyrexia. Too frequent vaginal examinations, prolonged labour, vaginal tears are some of the significant causes of pyrexia in postpartum mothers in Africa (Zafar et al., 2015).

Early discharge of postpartum mothers following childbirth is assumed to play a role in the development of postpartum disorders by the mothers. Increase in institutional and skilled delivery by health care workers from 55% in 1992 to 90%in2015 (NSO & ICF Macro, 2011), respectively have led to the overloading of health facilities in Malawi, financial constraints of these facilities plus that of the mothers may lead to compromised quality of care being provided in the health facilities leading to early postpartum discharge after childbirth (WHO, 2011). In addition, the slowing down in its progress of postnatal care in Malawi especially within the first two days of childbirth from 41% in 2010 to 42% in 2016 is promoting the practice of mothers being discharged early in return facilitating the development of various postpartum disorders.

Malawi has no policy on early discharging of postnatal mothers but the assessment parameters are incorporated in the postnatal care guidelines. In recognizing the need for close monitoring of mother to avoid disorders after childbirth, most

cultures in Malawi for example Tumbukas, Ngoni, Chewalobby for the mother or mother-in-law of this new mother to be this dyad for a period of not less than 3days to assist the new mother to adapt to her new roles. Literature has revealed that in countries with early discharge policy like Sweden, there is little evidence to support the policy after childbirth (Bravo et al., 2011; Jones et al., 2016) which WHO recommends every country to have (World Health Organization, 2013).

In Malawi, mothers who are discharged before the recommended time develop life-threatening and non-life-threatening disorders Chirembo (2011). However, there is very little literature on what determines the occurrence of postpartum disorders in Malawi. It is for this reason that this study was conducted to reveal what factors determined the occurrence of postpartum disorders. The study further seeks to contribute to the limited body of literature to support the formulation of the early postnatal discharge policy in Malawi. In Malawi, midwives and clinicians are the ones responsible for discharging postnatal mothers after delivery. For any uncomplicated vaginal delivery, the mother and the baby normally return home within 24hours and if it is not the health care worker discharging the mother then it is the mothers themselves sometimes ask for discharge themselves for various reasons like reducing the cost of hospital stay, seeing no need of staying when they feel nothing wrong with themselves and baby, seeking for an environment where they can rest (i.e home) etc. Unfortunately, mothers go home without being assessed because of increased workload and also because of the negligence of health care workers. Currently, Malawi utilizes a postnatal guideline but it does not stipulate areas to assess the

mother during a discharge and the protocol does not state when mothers need to be discharged home.

Justification / Significance of the Study

The study findings will assist in assessing the postpartum disorders mothers face following early hospital discharge after childbirth which will significantly contribute to nursing and midwifery knowledge, research and practice. Through the study, the magnitude of the disorders following early discharge will also be revealed. This will assist policy makers to revisit the policy of early discharge and come up with appropriate interventions like proper follow up of mother following early discharge as recommended by World Health Organisation. The study will also add up to literature in Malawi on early discharge which will assist in decision making in various authorities like in nursing and midwifery practice, research and education.

Problem Statement

The Malawi Housing and Population Census of 2008 show that Malawi's population has been growing almost three times since 1966 from 4,039,583 to 13,077 160 in 2008. The total population has increased by 24 percent between 1998 and 2008 representing a growth rate of 2.8 percent per annum.

The increase in the population growth rate and an increase in hospital delivery have made the hospitals be overstretched thereby propelling the practice of early discharging postpartum mothers after childbirth. Similarly, the practice of early discharge occurs in Ndirande and Limbe health centres. These townships are highly populated with a census of 109,191 and 76,236 respectively (UNDESA, 2011).

The two health facilities record an average delivery of 13 babies per 24 hours against a postnatal wards bed capacity of 10 beds. This, in turn, compels the two health facilities to be discharging mothers within 24 hours after childbirth to create room for more new deliveries. The World Health Organization (WHO) and UNFPA in their reports stipulated that for every single maternal death that occurs, there are 20-30 women who suffer various postpartum disorders worldwide (UNFPA, 2009; WHO, 2013). In a study by Chiremba (2011), it was revealed that postnatal mothers who were discharged early after childbirth were presenting with postpartum disorders like abdominal pains, general body weakness, painful legs, constipation etc when followed up in their homes within one week of their delivery.

It is against this background that this study was conducted to investigate factors that determine the occurrence of postpartum disorders and also to add up to the body of literature that will assist in the formulation of early postnatal discharge policy in Malawi.

Objectives

Broad Objective.

To establish the determinants of postpartum disorders following early hospital discharge.

Specific objectives

1. To determine the prevalence of mothers facing postpartum disorders following early discharge.

2. To identify the types of postpartum disorders following early hospital discharge.
3. To investigate the demographic and socioeconomic factors which determine postpartum disorders after early hospital discharge.
4. To assess the existing support measures taken to mitigate the postpartum disorders after early hospital discharge.

Summary

Early postnatal discharges have been introduced in many health facilities as a remedy to the inadequate bed capacity, and as a way to accommodate the growing number. Hence most postpartum mothers develop postpartum disorders at home following early hospital discharge. Therefore thorough assessment before discharge should not be neglected to promote the health of mother and baby.

CHAPTER TWO

Literature Review

Introduction

This chapter discusses the literature review that was done about early postpartum discharge following childbirth. This literature review examines a wide range of studies that have been conducted locally, regionally and globally on issues related to postpartum disorders following early hospital discharge after childbirth.

The purpose of this literature review was to identify what is already known to understand the context of the topic and avoid unnecessary replication. The review of the literature also helped to identify knowledge/information/research gaps on the subject matter thereby helping to justify the need for conducting the research and the methodology used. Further, the literature review helped to note areas in which authors are in agreement or disagreement. The review of the literature focused on the following areas: postpartum disorders experienced following early postpartum discharge and the proportion of mothers facing early discharge, determinants of early discharge, support structures.

The following electronic databases were used to conduct literature search: Google Chrome, Google Scholar, Hinari, ENASP, Pubmed. These databases were used because they offer access to vast quantities of information that was easy to retrieve. Apart from electronic databases, other reports and publications from national health surveys were manually searched from the Kamuzu College of Nursing Library. This was done to ensure a comprehensive literature search.

Common postpartum disorders

Mothers encounter various problems following early discharge but most of them are not regarded as significant because they do not require the mothers to seek medical attention. After childbirth, mothers experience physiological changes as the body is trying to adapt to a pre-pregnancy state. These changes are normal but when they put a mother's life in danger or make her not perform her usual duties at home a prompt treatment is advised. The process of childbirth after a normal vaginal delivery does not always go as expected. Mothers sometimes experience life-threatening and or non-threatening postpartum disorders after childbirth. Literature has likewise revealed that postpartum disorders can appear because of a lack of thorough assessment by health care workers during discharge McMahon et al., (2015) and less attention that is provided to the mother unlike to the newborn in the first two weeks by family members at home(Ekanem, Efiok, Udoh, & Anaikot, 2013; Iyengar, 2012). These findings concur with studies done in India, Nigeria, Morocco, Zambia where the postpartum disorders were 48.6%, 5.1%, 13.1%, 44%, 1.7% respectively; Ekanem et al., 2013; Elkhoudri, Amor, & Baali, 2015; Giri, 2009; Valley, Ahmed, & Murray, 2005).

The available literature shows that most postpartum disorders appear between the first and the fourth day following childbirth (Chirembo, 2011). Mothers at home face fatigue, insomnia, breast-related problems, constipation, sepsis, postpartum haemorrhage and even death (McMahon et al., 2015; Bravo et al., 2011).In a study by Chirembo (2011) conducted in Mzuzu, the northern part of Malawi, postnatal mothers

experienced non-threatening disorders like severe abdominal pains, backache, painful legs, painful pelvis, vulval swelling, perineal pain, general body weakness, fatigue, insomnia and fever and some experienced life-threatening disorders which included excessive vaginal bleeding, severe abdominal pains, breast-related problems and general medical problems like malaria following uncomplicated vaginal delivery.

Fatigue, insomnia, general body weakness and backache are most times expected from mothers even in uncomplicated vaginal deliveries because of the exhaustion from the process of labour, lack of sleep due to vulval and abdominal pain, infant crying and noise from daily ward activities in the postnatal ward hence they do not have enough time to rest (Lof et al., 2006; McMahon et al., 2015). Studies were done in Morogoro in Tanzania, Chile, Turkey is in support that most mothers are greatly fatigued and have insomnia soon after the delivery hence discharging these mothers early from the hospital after childbirth gives them less time to rest (Bravo, Uribe & Contreras, 2011; Gözüml & Kiliç, 2005; McMahon et al., 2015). In Chile, 90% of women reported fatigue and 80% insomnia after delivery. Similarly in Turkey, 86.6% of mothers were fatigued, 80.4% had insomnia after delivery (Gözüml & Kiliç, 2005).

The fatigue mothers experience after delivery makes them opt for a longer hospital stay because they would rather stay and seek professional surveillance and support from midwives rather than rushing home where support is not guaranteed (Kurth et al. 2016). Rushing such mothers home without a guarantee of support

increases their chances of being re-admitted to the hospital again. Farhat and Rajab, 2011 in their study found that discharging mothers within 24 hours after childbirth (early discharge) is associated with an increased likelihood of readmission during the first 2 weeks of life as compared with late discharge. Inadequate knowledge of how to take care of themselves at home makes the mothers prone to postpartum infections like pelvic inflammatory disease (PID), urinary tract infections etc. Jones and friends in his 2016 research article explained that mothers who are discharged home early, frequently return to the hospital with an infection, fever and vulval pain. Similarly, Ramírez-Villalobos et al. (2009) reported that because of early discharge, 23.1% developed signs of urinary tract infections, 3.4% had signs suggestive of endometriosis in Mexico.

In as much as discharging mothers early has become a common practice in the hospitals and it is being criticized that the practice facilitates catching of infections at home and increases the rates of readmissions, longer hospital stay after childbirth. In addition, the practice is also condemned as it predisposes the mothers to nosocomial infections in the hospitals. Danzmann, Gastmeier, Schwab, and Vonberg in their 2013 article revealed that nosocomial infection increases when clients stay longer than 48 hours in the hospital. Seemingly Chiremba 2011 commended that early discharge reduces the risk of nosocomial infections and that staying long in a hospital environment predisposes women to infections. In Malawi, infections that come about due to early postnatal discharge have become so common because of mothers' poor hygiene, manipulations in the birth canal and premature rupture of mothers' membranes in labour (Geubbels, 2006).

Mothers who go home early predispose their bodies to some harmful practices at home postnatally before their bodies are fully healed from the effects of labour. For example, mothers insert traditional herbs into the vagina to aid in the contractility of the vaginal and pelvic muscles. Such practice predisposes the mothers to infections and aggravates the perineal pain due to the inflammation process. Meanwhile, the adoption of traditional leaders in issues of maternal and child health has assisted in reducing harmful practices in the communities. For example, the Agogo approach in Ekwendeni, Mzimba district, has helped to fight the harmful cultural practices in the catchment areas where they are using the elders and grandparents trained to abolish harmful traditional practices that promote infections among pregnant women, mothers and their newborns.

Breast related disorders are also common in association with early postpartum discharge because postpartum mothers leave the hospital without proper support with breastfeeding the newborn. Furthermore, most mothers are discharged home without proper assessment and counselling on breastfeeding, baby care, family planning, maternal and psychosocial assessment hence mothers face breastfeeding problems and psychological problems at home because of the inadequate support at the hospital due to early postnatal discharge. Mothers require support to breastfeeding the newborns especially new mothers as they lack confidence because of lack of experience and this leaves them with insufficient time to establish breastfeeding (Briand et al. 2012). Consequently, this result in breast and feeding-related problems like engorged breast,

mastitis, sore and cracked nipple, tenderness, pain and first-time mothers even pushing their babies away from the breasts because psychologically they were not ready to breastfeed (Chirembo, 2011; Chimtembo, Maluwa, Chimwaza, Chirwa, &Pindani, 2013; Lof et al., 2006) furthermore parents miss an opportunity of being trained as good child care takers in the hospital. For example 71% of Swedish mothers developed breast-related problems like pain, engorgement, mastitis and tenderness because of no proper assessment, education and counselling on breastfeeding before discharge (Bravo et al. 2011). There is a need to establish the breastfeeding-related problems mothers encounter in Malawi regarding their parity and the support that is provided at home in terms of breastfeeding the newborn.

Ramírez-Villalobos et al., (2009) concur with all the other above studies that early discharge of postnatal mothers reduces the opportunity of early detecting postnatal disorders and proper puerperal care counselling which increases their risks of puerperal psychosis and later depression. If these are not considered, postpartum blues are likely. A study conducted in Australia revealed that 14.4% of mothers discharged early after childbirth developed postnatal blues compared to 7.4% of mothers who had a standard length of stay (Hickey, 1997). Bravo et al. (2011) found that women who were discharged within 48hrs after delivery were significantly more likely to be depressed at 5-6 months postpartum. Similarly, a study by Jones et al., (2016) found that more mothers are re-admitted after an early discharge following childbirth with psychosis apart from infection and post-partum haemorrhage because of inadequate assessment before discharge however Kurth et al., (2016) explained that

complementing early discharge with postnatal home visits reduces the risk of postpartum depression.

In Africa including Malawi, the postpartum disorders mothers encounter following childbirth are mostly regarded as normal because of the cultural belief that one is regarded as being weak (Nalwadda et al., 2015) when she complains of a disorder following childbirth. Hence there is a need to establish more of these disorders and how much mothers suffer in silence following childbirth.

Factors that might influence maternal disorders following childbirth.

Low level of education, poverty (low economic status), mothers age, mothers occupation are some of the factors that probably predict the occurrence of these postpartum disorders at home following early postnatal discharge (Elkhoudri et al., 2015).

Mothers' age and parity

Maternal age might at times be a predictor of length of stay in the hospital after childbirth. Young women and those well advanced in age might have a longer length of stay than middle-aged women because of the high risk of maternal disorders during delivery. A study in Tanzania found that younger women of less than 19years who are primigravidas are more likely to depart from hospital after 24hours following childbirth compared to older women of more than 20years. It was also revealed that high parity women are less likely to stay 24hours (McMahon et al., (2015). The study did not state the reasons why but multiparous women with no disorders have higher experience of taking care of themselves and their newborn hence they would opt for

an early discharge and to also take care of other children at home. In contrast, primigravidas take a hospital as the safest place for them after delivery than an early discharge (Watt et al., 2005). Sixty percent of young mothers in Chile considered long stay after childbirth necessary for them as they felt unprepared and afraid to return home after delivery. Campbell et al., (2016) in their study on the length of stay in 92 countries revealed that older women stayed longer in the hospital because they are a high-risk group hence prone to developing disorders. Discharging primigravidas early when they are not yet competent to take care of themselves and their newborn can result in various problems as demonstrated in Sweden where a majority of first-time mothers had problems breastfeeding their babies (Lof et al., 2006) and later developed mastitis, breast engorgement, sore nipples etc. First-time mothers and well-advanced women in age postpartum mothers need postnatal support more

Mother's level of education

Educated patients may be more able to understand their health needs, follow instructions, advocate for themselves and their families, and communicate effectively with health providers. Education makes patients able to practice good health practices; renounce harmful beliefs which affect their health; attain greater autonomy and capable of negotiating and interacting with their family and community to access services and educated communities are capable of demanding better public services (McMohan et al., 2015). In a systematic review done in 92 countries, postnatal mothers with tertiary education stayed too short in a hospital after uncomplicated delivery (Campbell et al., 2016). The mothers were able to quickly comprehend the

health education on how to take care of themselves and the newborn. Similarly higher education level mothers in Sweden felt they were more ready to return home after childbirth because of the support and motherhood education they were given at the hospital. In addition, these mothers attended parent classes before giving birth which also increased their confidence to leave the hospital earlier after childbirth (Lof et al., 2006). Conversely, McMahon et al., in 2015 discovered that women's level of education was not a significant predictor of time to discharge after childbirth but no reason was given. The level of education of the mothers can be linked to how mothers take care of themselves at home following early postnatal discharge. the higher the level of education, the greater the use of medical services (Mohan et al., 2015). In Malawi, the literacy level among females is 68.6 % which is very low hence making it very difficult to have the understanding to come to the hospital when they have met disorders at home (NSO, 2019). Jonaz, (2008) alluded to lack of knowledge as one reason why most mothers never attend any care after childbirth.

Other studies show that mothers of a working-class know the importance of seeking medical care, better financial stand and the ability to seek medical care according to the risen need hence they can as early as possible attend medical care when they face problems at home postnatal discharge.

In other instances, mothers' occupation or their husbands hinder women from accessing postnatal services. Adams et al., (2017) observed that female farmers and wives of farmers in Ntcheu rarely utilize postnatal care services because they lack confidence in health care workers; they felt no need, long-distance, lacked support

from their husbands. Comparatively, Sakala & Kazembe, (2011) in a study done in Zomba, the southern part of Malawi, revealed that the husband's occupation contributed to the high attendance of hospital seeking services.

Social support

After childbirth, mothers need support from their partners and other people at home to promote their quick recovery from the experiences of labour as is the second objective of postnatal care (Paulina Bravo et al., 2011). The shorter length of stay has been promoted as being consistent with a move away from an illness approach a more family-centred approach (Brown et al, 2007). Early discharge increases maternal confidence, family bonding and early sibling involvement, and serve as an opportunity for mother-baby pairs to adapt to the family life rather than the routine of a hospital

Mothers feel overwhelmed by their new responsibilities after childbirth. Lof et al., (2006) in Sweden explained that fathers of newborns have the right to 10days paternal leave to support in looking after the newborn baby in the family. In contrast, most new mothers in Switzerland opt for a longer stay in the postnatal department because they still seek professional surveillance and support from midwives rather than rushing home where support was not guaranteed (Kurth et al., 2016). Mothers feel fatigued from the process of labour, lack sleep because of infant crying, household chores, taking care of the family at home (Lof et al., 2006) and that is why WHO produced a postnatal technical consultation in 2010 explaining that service providers should offer health as well as social support to mothers during home visits to promote their health.

In Malawi, husbands and other family members like mothers, mothers-in-law, aunties, grandmothers assume a very supportive role to their wives after childbirth (Adams et al., 2017). The study by Adams et al., in 2017 conducted in Ntcheu district, the central region of Malawi, found that a great number of husbands encourage their wives to return to the hospital for postpartum care after hospital discharge for a routine check and also when any problems has risen to the mother or the newborn . Additionally, family members of a postnatal mother support new mothers in the communities by notifying community health workers about the woman during her pregnancy, delivery and the postpartum period. According to a study conducted by Sitrin et al., (2013) in Bangladesh, Nepal and Malawi on early postnatal home visits, it was found that 76% of Malawian husbands and other family members of a postnatal mother supported the new mothers by notifying the HSAs about the newborn so that she might be paid a visit.

The support provided by the HSAs extends to the mobilization of the community to offer support to pregnant women throughout pregnancy, childbirth and the postnatal period (Zimba et al., 2012). Inadequate support from family members and health care workers at home may increase the risks of re-admissions of mothers and newborns to the hospital (Jones et al., 2016). Good moral and physical support from partners family members as well as health care workers at home after childbirth is so crucial in promoting the new mother's well being postnatal. The advice from the visiting midwives, community health workers like HSAs; relief from household responsibilities; sharing responsibility in taking care of the newborn encourages the mother to rest thereby facilitating her healing (Lof et al., 2006).

Setting/ Cultural and religious practices

Urban inhabitants are more likely to access health care services than rural women because hospital services in urban can be accessed at a shorter distance than in rural areas. After all, health facilities are closed. Adams et al., (2017) observed that 50% of rural postnatal mothers do not receive postnatal care and for those who receive the care, they normally receive it 2 hours after delivery but acute postpartum haemorrhage claims a lot of mothers' lives within 2-12 hours if there is any delay in providing postnatal care (Geubbels, 2006). Early discharging of mothers after childbirth who are suspected to be at risk of haemorrhage predisposes them to effects of postpartum haemorrhage as well as death within this period. Setting can determine the health status of mothers at home following early postnatal discharge after childbirth.

Mothers recovery from the effects of labour is influenced by the home environment of mothers' which effects are determined by the socioeconomic and cultural conditions of the mother and her entire family (Mirmolaei et al., 2014). It is therefore imperative to know mothers settings and their effects to promote the wellbeing of the mother. Family's cultural and religious beliefs determine the postnatal mother's and baby's adaptation to the home environment after discharge from the hospital. Cultural and religious practices at home predispose mothers' to various health problems. Xhosa mothers of South Africa perform some rituals after delivery to strengthen the womb against any witchcraft (Peltzer et al., 2009). Similarly, in Malawi, most mothers developed puerperal sepsis because of practices of

birth canal manipulations following vaginal delivery (Geubbels, 2006) like inserting herbs into the vagina to narrow the passage. Mothers take traditional medicine and over the counter drugs to treat any medical conditions they are experiencing after childbirth without a professional's prescription. Peltzer et al., (2009) explained that 51.9% of Xhosa mothers consulted traditional healers, diviners as well as traditional birth attendants for assistance for any sickness, abdominal pain, the discomfort that they may be having which they later hide from the health care workers when they now turn to hospitals for assistance seeing the failure of traditional medicine (Peltzer et al., 2009).

Morogoro DC was associated with a significantly higher likelihood of women accessing postnatal care than the other study districts in Tanzania Mohan et al., (2015) because it is a residential area for middle-class citizens. This implies that urban and rich people know the importance of seeking care more and also health facilities are at an accessible distance than rural areas.

Socioeconomic status

The shorter length of postnatal stay reduces hospital cost however postpartum disorders may go undetected which could result in longer-term disorders and increase health care costs (Bowers & Cheyne, 2016). If a delivery has been without any disorders, mothers prefer reducing their stay in the hospital to less than 24 hours in trying to reduce costs however this practice can sometimes just be shifting these costs to a later date, now in the outpatient department (OPD) because the practice of early discharge increases the chances of a postpartum mother attending a hospital's

outpatient department as well as being admitted back to the hospital (Gözüm & Kiliç, 2005; McMahon et al., 2015). Relatively, Jones et al., (2016) echoed that early postnatal discharge after childbirth is a safe and cost-effective way of providing postnatal care to our mothers. Gözüüm & Kiliç, (2005) and Bravo et al., (2011) discovered that in Turkey and Chile respectively, early postnatal discharge increased disorder rates among women. Cases of breast engorgement, mastitis, perineal pains were on the rise at home prompting 42% of mothers to consult the outpatient departments because of the problems encountered at home due to early postnatal discharge. Similarly, Watt et al., (2005) echoed that poor woman, the young mothers were at risk of poor health outcomes after early postnatal discharge at home. Poor women eat food that is not nutritious, has little time of rest after childbirth trying to provide for their families, household chores, hence at risk of falling ill postnatally. They also delay in coming to seek health care when sick due to transport problems for instance pregnant women in Chiradzulu, Malawi delayed seeking care when in labour due to transportation problems (McMahon et al., 2015; Kumbani et al., 2013).

Poverty, inadequate education, poor knowledge and lack of follow up of postnatal mothers were cited as some of the factors that hinder women from accessing postnatal care services (Singh, et al., 2012). In his article of 2012, Singh et al. alluded that mothers in India often seek postnatal care when they have disorders at home after childbirth. According to a family's income mothers can seek health care from private, government hospitals, or would stay at home. More rich women seek hospital care more than the poor during any postnatal disorders because they can afford it. For

example in India, 77.1% of richest mothers against 22.7% of poorest mothers received postnatal care in 2008 while in 2012, 35% of rich mothers against 11% of poor mothers received postnatal care after developing disorders at home (Singh, et al., 2012). Additionally, these richest women seek care in private hospitals, unlike the poor who seek care in government hospitals where care is of low quality.

Most governments invest much in the antenatal and labour and delivery periods rather than the postnatal period. Result based financing in Malawi as well as Janani Suraksha Yojana (JSY) in India, all are schemes dealing with giving pregnant women cash incentives to promote hospital delivery. Less attention is given to the postnatal period hence it remains underutilized with 64% of mothers in Malawi not returning for one and six weeks postnatal care according to NSO & UNICEF 2008). Bravo et al., (2011) in a Spanish study found that 20% cost was saved with early discharge coupled with a well established follow up programme. Some have argued that early discharge is just shifting of economic burdens to families and non-hospital-based providers rather than the hospital itself (Brown et al, 2007). The practice of early discharge has become common in Malawi and healthcare providers do not have further contact with the woman after discharge from hospital postpartum (Gözüm & Kiliç, 2005), thereby increasing the chances of maternal disorder and seeking medical care in the hospitals even readmissions which is expensive for both the family and the hospital. Knowing that majority of Malawians are poor and cannot afford to pay for health care services, the government of Malawi entered into a service level agreement with the Christian Association of Malawi (CHAM) in 2002 to provide health care

services for free to the poorest families in Malawi to increase the numbers of hospital utilization (Zimba et al., 2012).

In India, the prevalence of having one or more postpartum disorders is at 44.8% among the poorest and a drastic drop in postpartum disorders has been observed in the highly educated mothers and those with educated husbands (Singh & Kumar, 2014). Education and good financial stand equip people with knowledge and broadens their understanding of issues like postpartum care and gives them the financial muscle to meet their needs. Somi et al., (2007) required for a postpartum mother at home after an early discharge. However, there is little information recorded on the postpartum disorders in the hospitals of Africa and Asian countries where these postpartum disorders are more common Assarag et al., (2013) unlike Western countries; firstly due to underreporting of the same by postpartum mothers themselves and their families (Valley et al., 2005; Assarag et al., 2013; Elkhoudri et al., 2015) after childbirth coupled with late diagnosis of the disorders by the doctor (Elkhoudri et al., 2015).

Support measures at home following early discharge

The good outcome of the mothers' health after childbirth depends on the quality of services they receive and how satisfied they are with the hospital services. Mothers' satisfaction with early discharge depends on several factors like health education and counselling provided, maternal and neonatal health status, personal support, financial implications and many others. Furthermore, early postnatal

discharge represents a missed opportunity for midwives to thoroughly assess mothers' physical, psychological and social well being and the chance to provide and reinforce good healthy practices (McMahon, et.al 2015). A strong social, psychological and physical support at home is required to strengthen the health of both the mother and the newborn following early hospital discharge.

Home visits

Malawi failed to fully adopt the WHO recommendations regarding early postpartum discharge which recommends follow up visits at least twice after early discharge but still Malawi through its postpartum care package like the Integrated Participants manual on Maternal and Neonatal Care, (2015) recommends that mothers should be discharged after 48 hours post-delivery if there are no problems and postnatal care provided should include advice and teaching on what the mother and her family should do when she gets home to maintain an optimum level of health status. In 2009, WHO in cooperation with UNICEF made a recommendation that every woman discharged before 48 hours should be followed home within 2days of childbirth (WHO, 2010) and that postnatal home visits should be a strategy to be followed in trying to reduce maternal and neonatal deaths at home (Sitrin et al., 2013). Even though our hospitals do not follow up all postpartum mothers in their homes in Malawi, the home visits have proved to be a very important strategy in following up with the early discharged postpartum mothers and have assisted in reducing the hospital's lack of space and costs for both hospital and the family (McMahon et al., 2015).

Low staffing levels of health care workers to conduct the home visits have posed a great challenge in making the program a success. The government of Malawi is deemed to promoting skilled attendant delivery to reduce the risks of being attended to by non-professionals. Even though the rate of live births conducted by skilled delivery has increased from 56% in 2004 to 90% in 2015-2016 as reported by MDHS 2004 and 2015-16 respectively, the number of health care workers to conduct home visits remains a challenge. Furthermore Health Surveillance Assistants (HSAs), the cadre manning the postpartum home visits according to Community Based Maternal and Newborn Care (CBMNC) package adopted in 2007 with a health care worker density of 3.3 per 10,000 population which is so low and contrary to WHO recommendation of 23 per 10,000 (DFID, Management Sciences for Health, 2010).

Apart from being short-staffed, Malawi is also faced with the challenge of HSAs being stationed at a health facility rather than going into their catchment areas making the program of home visits a failure. Understaffing of the HSAs to conduct home visits negatively impacts the maternal outcome of the postpartum mothers whereby most of the mothers develop postpartum disorders because of lack of proper health education and counselling regarding motherhood (Chirembo, 2011; Zimba et al., 2012) because access to proper medical attention can reduce the risk of disorders and infections that may lead to death or serious illness for the mother and baby (Van Lerberghe and De Brouwere 2001; WHO 2006).

The period, frequency and which person does the home visits of the postpartum mothers is also very crucial as far as the effects of home visits are concerned. A well-trained health care worker on maternal and child health issues is

recommended to do postpartum home visits (World Health Organisation, 2013) it can either be a midwife, a skilled provider or a well trained and supervised community health worker. In addition, provision of the health home visit by a well-trained health worker leads to better performance and improves the maternal outcome of the postpartum mother (Mannan et al., 2010; Christie, & Bunting, 2011) Furthermore urgency and an increase in the frequency of the home visits make the outcome better, for instance in quantitative studies done in Scotland, Bangladesh, trained health workers conducted 15 and 3 home visits respectively and greatly improved the maternal as well as neonatal outcomes ((Hoddinott, Lee, & Pill, 2006; Mannan et al., 2010). As such this is why WHO recommends a minimum of four postnatal visits (World Health Organisation, 2013) with the postpartum mother and baby, the first visit being conducted within 24hours as this is the most crucial period most maternal disorders occur (Warren, 2006).

Postnatal home visits are recommended to be conducted on days 1, 3, 7-14 and at 6 weeks to promote optimal care for mother and newborn and recognize danger signs. According to Sitrin et al., (2013), 11% of Malawian mothers have ever benefited from antenatal and postnatal home visits.

Telephone interviews

Telephone health interviews are also known as telemedicine by the World Health Organization is defined as, “the delivery of healthcare services, where distance is a critical factor, by healthcare professionals using information and communication technologies for the exchange of valid information for the diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing

education of health-care providers, all in the interest of advancing the health of individuals and their communities.”

Follow up of mothers after early postnatal discharge has proven to be more cost-effective by using telephones than the actual home visit by health personnel. Lof et al.,(2006) explained that with limited resources, following up postnatal mothers through telephone calls is the most effective strategy to screen the mother and baby’s health in identifying areas that need intervention. Kurth et al., (2016) emphasized that telephone interviews are an effective strategy in reducing maternal disorder including stress to the new parental role assumed. The Ministry of Health in Malawi with partners like Concern Worldwide Malawi, Baobab Health Trust introduced a Chipatala Cha Pa Foni program (CCPF) [Health centre by phone] which is an initiative currently being rolled out in Balaka district increases access to timely and appropriate maternal, neonatal and child health information, advice and care (Fotso et al., 2015).

This initiative is aimed at reducing maternal and neonatal mortality rates in Malawi by allowing mothers to make free phone call and automated messaging to explain their maternal concerns and to receive any maternal health advice and education. This initiative assists in serving the lives of mothers in Malawi who have developed any postnatal disorders. Unfortunately, provision of health services by phone is limited in areas with a poor telephone network, lack of reliable power sources like electricity and lack of phones by poor families (Fotso et al., 2015; Mohammad-Alizadeh-Charandabi, Malakoti, Sohrabi, & Shokranian, 2013). Recent reports have indicated that the use of cell phones in seeking maternal and neonatal services has

grown threefold in sub-Saharan Africa World Bank & ITU (International Telecommunication Union, (2012) and this has demonstrated the potential to improve timely access to maternal health services (Fotso et al., 2015).

Family members support

Globally mothers are regarded as the major caregivers and are always vigilant seeing to it that their children have positive experiences in their environment (Neumeister et al., 2013). These mothers render the most support to the sick in our society. Timely support from caregivers during labour and postnatally influence mothers to soon get better after childbirth and reduces the chances of postpartum disorders. Early discharging of mothers after childbirth without proper support lead midwives to miss the opportunity of appropriate health education and counselling of mothers on their new roles and the social, psychological changes. Some mothers felt confident that they could get help directly from midwives in case of need during postnatal visits (Lof et al., 2006). Some women were disappointed because they did not get the support expected from the midwives during their stay at the postnatal ward hence opted they to go home earlier to receive support from family members (Askelsdottir, Jonge, et al., 2013). A study done in Turkey revealed that about two-thirds of the mothers said that discharge information had not been given to them before they were discharged (Gözüm & Kiliç, 2005). Although early discharge reduces hospital costs, it has also decreased opportunities for women to learn postpartum care with the help of healthcare providers (Jones, Taylor, MacArthur, Pritchett, & Cummins, 2016).

In Malawi, mothers normally receive support from family members, mothers, mothers-in-law, aunties, neighbours and from the entire community in terms of cooking, washing, fetching water and many other household chores. In addition, mothers need assistance with the attachment of baby when breastfeeding, how to hold baby, cleaning the cord, bath baby are some of the support mothers require (Askelsdottir, Jonge, et al., 2013). In promoting healing of the mothers, husbands are not to have sex with their wives for a period ranging from one month to 6 months according to the ethnic background (Chirembo, 2011). To prevent the development of postpartum disorders, women are restricted in movements, actions and household chores during the first week after delivery by family members (Herlihy et al., 2013). This demonstrates the importance of support from family members during the postpartum period.

Utilization of Out-Patient Services

Utilization of outpatient department (OPD) can be right away after early discharge or after some days at home. A group of mothers in Mzuzu stated to have utilized OPD services soon after leaving the postnatal ward due to excessive vaginal bleeding and severe abdominal pains while another group of mothers reported having visited OPD the following day after hospital discharge because of severe vaginal bleeding and severe abdominal pains (Chirembo, 2011). In Turkey, 42% of postnatal mothers consulted OPD after hospital discharge especially primiparous (Gözüm & Kiliç, 2005) indicating the need for more professional support on how to take care of themselves and the newborn which was missed because of early postnatal discharge (McMahon et al., 2015; Ramírez-Villalobos et al., 2009).

Traditional support

Peltzer, Phaswana-Mafuya, & Treger, (2009) suggested that the use of Traditional Birth Attendants (TBA) in communities as is the practice in South Africa would assist with counselling of mothers and partners postnatally at home. If TBAs are trained they would help reduce illnesses as they would provide basic care to postnatal mothers and babies at home. TBAs in Malawi are no longer conducting deliveries but because they are still in the communities where our mothers stay, so they stand a greater opportunity of assisting in providing care to postnatal mothers whilst still at home after any disorders. Furthermore, training of TBAs is less costly as they are already instituted in the rural areas where most mothers are found (Geubbels, 2006).

Postnatal mothers have also consulted traditional healers, diviners to assist with any birth disorders in South Africa because they are locally available in the communities hence reduced the need for struggling for transport to a health facility (Peltzer et al., 2009). In an unpublished qualitative thesis conducted in Mzuzu, Malawi by Judith Chiremba in 2011, it was found that a few postnatal mothers visited traditional healers and faith healers with their postnatal disorders following an early postnatal discharge after childbirth. Chiremba explained that mothers consulted traditional healers, faith healers, diviners after being dissatisfied with hospital care.

Traditionally new mothers in Malawi are secluded in a house to promote mother and baby's healing. The mother is also assisted with various household chores like cooking, washing and many others for not less than one month according to the ethnic background to allow rest and healing.

Mothers could buy over the counter drugs, take painkillers from other relations at home, and some herbs from elders in the community to assist with severe abdominal pains and other discomforts (Chiremba, 2011).

Summary of Literature review

In summary, the existing body of literature has shown that early postnatal discharge after a normal vaginal delivery is a common practice both in developing and developed countries. The practice occurs because of various reasons such as inadequate bed capacity due to high population growth. The practice has increased the rates of postpartum disorders of mothers. Meanwhile, there is a need to determine the occurrence of these postpartum disorders at home following early postpartum discharge after a normal vaginal delivery. Thus, this study will help to make known the support that these morbid mothers receive from family members as well as from health care workers in terms of home visits as recommended by the World Health Organization and also in terms of telephone interviews. The study will also add up to a body of literature especially which group of postpartum mothers (primipara or multipara) is affected much in our setting.

CHAPTER THREE

Methodology

Introduction

This chapter describes the research methods and procedures that were used to conduct the study. It focuses on the study design, the setting, sampling method, sample size, data collection, data management and analysis, ethical consideration and plan for dissemination of the study findings.

Study Design

A cross-sectional quantitative research method was used in the current study to find out the postpartum disorders mothers face following early discharge from the hospital. The design identified a group of postpartum mothers who were at risk of experiencing a particular postpartum disorder. The design is more relevant to this study since the goal of the study was to find out what determines the postpartum disorders others were facing at home following early hospital discharge.

Study Site

This study was conducted at Ndirande and Limbe health centres in Blantyre, the Southern part of Malawi. Ndirande and Limbe are major industrial areas in Blantyre city and as such, they host large populations in the city. In addition, the two health centres are among the health facilities in Blantyre practising early postnatal

discharge following because of the large populations they serve. Ndirande Township, for instance, has a population of about 109,191 UNDESA, (2011) most of which depend on Ndirande health centre for health services including maternal and child health services. Ndirande health centre is one of the biggest health centres under Blantyre DHO offering under-five clinics, antenatal clinic, outpatient department, labour and delivery services against 17 midwives, 3 clinical officers and 1 doctor. The facility delivers 13 babies on average per 24hours and to create space for more women who kept on coming to give birth at the facility, mothers were discharged within 24hours following childbirth. Ndirande health centre has 4beds in the labour ward and 10 beds postnatal ward which makes those who have delivered in the midnight hours be discharged in the morning hours of the same day if they have no disorders (Senior Nursing Officer, Ndirande health centre, Personal Communication, January 2017).

On the other hand, Limbe health centre has a household member population of 76,236. The health facility delivers 10 babies on average per 24 hours but has only 4 beds in its labour ward and 12 beds for postnatal women against 1 medical officer, 14 midwives, 2 community nurse midwives, 1 clinical officer and 6 medical assistants. The facility is situated at the centre of Limbe market catering for areas around it and even many who come to do business in the township. Apart from labour and delivery, the health centre also offers; under-five clinics, antenatal clinic, outpatient department etc. This makes early discharge after childbirth very common as the area has a high turnover due to many it attends to.

The inadequacy of bed capacity in the labour and postnatal wards at Ndirande and Limbe health facilities makes the practice of early postnatal discharge common hence it was relevant for this study to find out the postpartum disorders that mothers face at home following early postnatal discharge.

Population and Sampling

Study population.

According to Polit and Beck (2010) study population refers to an aggregate or totality of all the objects, subjects or members that conform to a set of specifications. Postpartum mothers who had reported for a one-week postnatal check-up and had a normal vaginal delivery and were discharged home within 24hours after childbirth at Ndirande and Limbe health centres were a population of the study.

Sampling method.

Systematic random sampling was used. Numbers were written on a piece of paper and all mothers who met the inclusion criteria were offered to pick a number. Mothers who picked an odd number were recruited in the current study. Three hundred and eighty-five (385) postpartum mothers who had normal vaginal deliveries; were discharged home within 24hours after childbirth and had come for a one-week postnatal checkup were interviewed. These postpartum mothers were interviewed using a structured questionnaire.

Sample Size

Postpartum mothers who had come for a one-week postnatal checkup and were early discharged from the hospital after childbirth were interviewed. The main purpose

of the sample size calculation is to determine the sufficient number of units needed to detect the unknown parameters. To estimate the required sample the single proportion method by Lwanga, Lemeshow, and World Health Organization (1991) was used in the current study. The sample size was calculated using a 50% proportion. It was this percentage that was used as a population estimate to calculate the sample size (Naing et al., 2006). The 50% was reached because no percentage proportion was found that looked at disorders mothers face at home following early postnatal discharge. The sample size was calculated at a 95% confidence interval (CI) leaving an allowable error of 5%. The required sample size of early discharged postpartum mothers who had developed disorders after discharge was calculated using the formula below:

$$n = \frac{(Z)^2 P (1-P)}{d^2}$$

n = Sample size

Z = Z statistic for a level of confidence

P = Estimated population prevalence or proportion

d = Level of precision

In the formula, **n** was the actual number of mothers recruited in the current study, **Z** was the statistic level of confidence. The researcher presented the results with the confidence interval level of 95% which was conventional and the value of 1.96 was used, **P** was the estimated population prevalence of mothers who delivered at Ndirande and Limbe Health Centres and had developed postpartum disorders following early postnatal discharge. In the current study, the estimated population used was 50% which was the percentage of the unknown population, while **d** was the

degree of precision or accuracy which was 5% which when converted to decimal was 0.05 (Lwanga et al., 1991; Naing et al., 2006).

$$n = \frac{(1.96)^2 50\% (50\%) (5\%)^2}{(1.96)^2 0.5 (0.5) (0.05)^2} = 385$$

Therefore a total of 385 postpartum mothers were recruited from both Ndirande and Limbe Health Centres. Ndirande health centre recruited 193 while Limbe recruited 192 postpartum mothers because Ndirande has a high population and delivers almost 13 women on average per day while Limbe health facility delivers 10 women on average per day.

Inclusion criteria.

The study recruited postnatal mothers who had normal vaginal deliveries; were discharged home within 24 hours after childbirth; had single baby deliveries; had turned up at a one-week postnatal check-up at the two health facilities of Ndirande and Limbe.

Exclusion criteria.

The study never recruited postpartum mothers who encountered complications during childbirth; mothers who took more than one week before returning for a postnatal check-up; mothers whose disorders were not related to childbirth; those with multiple deliveries; those who did not give birth at Ndirande and Limbe health centres.

Data Collection

Grove, Burns, and Gray (2012) described data collection as the precise, systemic gathering of information relevant to the research purpose or specific objectives of the study. Postpartum mothers with normal vaginal deliveries who had come for a one-week postnatal check-up and were early discharged from the hospital after childbirth were interviewed.

Data collectors.

The collectors of data for the study included the researcher and her two research assistants. The research assistants were both midwife technicians. The research assistants were trained for one full day; orientation to the study and the data collection tool was done the first day and data collection practices were done the following day. The research assistants were observed on data collection on two postpartum mothers each. The research assistants were divided into 1 health facility and the researcher would alternate between the two health centres.

Recruitment process.

Permission was sought from Blantyre District Health Office to conduct the pretesting study at Zingwangwa health centre and thereafter the actual study at Ndirande and Limbe health centres. The eligible postnatal mothers who had met the inclusion criteria were recruited in the current study by either the researcher or the research assistants. An announcement was given during the health talk by the nurse on

duty in the postnatal clinic that there's a study going on about postpartum disorders. The researcher or research assistant was then given a platform to provide more information on what the study was all about. The mothers who met the study criteria were then given numbers (1-10) which were written on paper. All those who picked odd numbers were asked in the postnatal assessment room if they would be interested to take part in the current study after their postnatal check-up. If given an okay, the researcher or research assistant would then take the mother to the next room in the postnatal clinic for the interview.

The researcher or research assistant were the ones responsible for taking the participant to the next room for an interview in the current study or the qualified nurse on duty in the postnatal clinic would forward the participant to the next room for an interview if the mother had an odd number and had consented to take part in the current study. On some days, when the room for conducting interviews was engaged with other hospital activities, the researcher would use the beds in the postnatal ward for interview. The privacy of the client was maintained by screening the bed with the hospital fourfold screen in the postnatal ward.

The study participants were given oral or written information (Appendix 2) depending on their literacy level about the study for them to understand the purpose of the study. They were then requested to participate in the current study voluntarily and were allowed to sign a consent form (Appendix 4) using their signature if they were literate or thumbprint if illiterate.

Data collection process.

The postpartum mothers were interviewed to ascertain whether they had developed any postpartum disorders at home and how many did not at a one-week postnatal check-up. The mothers who met the study criteria were invited into a private room that was assigned by the hospital management for an interview to ensure privacy and confidentiality for mothers. The postpartum mothers were interviewed using a structured questionnaire. A single interview took a maximum of 30 minutes including 5 minutes for obtaining informed consent before each interview.

The postpartum mothers who reported to have developed the postpartum disorders had their questionnaire marked '**PD**' for identification purposes and those who did not develop the disorder had nothing marked on their questionnaire. The mothers who had reported to have developed postpartum disorder have first assessed the severity of the disorder before the actual interview. Those with life-threatening disorders were referred for care first and interviewed later. Postpartum mothers who did not develop postpartum disorders were also retained in the current study and interviewed as a comparison group. Approximately an average of 5 participants was recruited daily in both health facilities. And the whole data collection process took about 3 months to end.

Data collection tool.

Data in the current study was collected using a structured questionnaire which was designed by the researcher from the study's specific objectives. Close-ended questions were used in the questionnaire because the participants were not expected to give detailed explanations of the answers to the questions which they were asked. English was the original language of the questionnaire (Appendix 5) which was then translated into Chichewa (Appendix 6). Before pre-testing, the Chichewa questionnaire was translated back into English by an independent individual to see if it still had the same original meaning as before.

The questionnaire collected variables of interest for the study which were; postpartum disorders by type (Appendices 5 and 6); participants' and spouse's demographic variables (Age, marital status, education level, tribe, occupation and family structure (Appendices 5 and 6); socio-economic factors of the participants and their spouses (owning a phone, bank account, availability of social amenities and household income (Appendices 5 and 6) and support structures (where to buy medicine, availability of spouses, children, nurses and midwives, and doctors to offer support in time of need (Appendices 5 and 6).

Validity and Reliability.

Validity is the ability of the instrument to adequately measure what is supposed to be measured (Antonius, 2013; Wood et al., 2006) while reliability is the instrument's ability to consistently and accurately measure the concept under study and

produce the same results on repeated trials (as cited in Coughian, Cronin, & Ryan, 2007 p.662;). Before data collection content validity was checked by research experts (maternal and neonatal health specialists, professional statisticians and nurse researchers). The experts reviewed the data collection instrument comprehensively to ensure that it is clear, readable and comprehensive so that it elicits the proper range of responses, the flow of questions and adequacy before it was put into use. Relatively to ensure the reliability of the data collection instrument, pretesting of the instrument was carried out to check the consistency of responses between respondents using internal consistency reliability. This was also to establish if the data collection instrument was unambiguous.

Pre-testing the data collection tool.

Pretesting of the questionnaire was conducted to check the reliability of the tool and it was conducted at Zingwangwa health centre because the catchment area is also largely populated like the two main study settings with a household population of 95,402. Pretesting of the tool was conducted on 5 postpartum mothers to ascertain if it was able to collect the required data or not. Samples used in the pretest study were omitted from the main study. Following the pretesting of the questionnaire, the researcher adjusted some of the questions in the measuring instrument so that they sound clear.

Data management and analysis

The aim was to present quantitative descriptions in a manageable and intelligible form (Grove et al., 2012). For easy identification, the questionnaires were each coded with a number. Variables extracted from the questionnaire were named and data was coded for easy entry. The coded data were then entered into a Statistical Package for Social Sciences (SPSS) version 20.0 for analysis. All data were kept confidential, all databases and hard copy data collection forms were kept in secured files. Descriptive statistics were computed for demographic characteristics (age, gender, and educational level) and were presented as frequencies, percentages, shown using tables and charts.

The researcher organized the data by systematically arranging the variables on each objective according to the number of times each variable was obtained (frequency) from the lowest to the highest and their percentages. Principle Component Analysis (PCA) was used to analyze the socioeconomic status of the participants. In order to assess the relationship between the development of postpartum disorders and demographic characteristics including socioeconomic status, logistic regression analysis was performed.

A report has now been written of the findings of the research describing the postpartum disorders mother face following early hospital discharge.

Ethical considerations.

To uphold the rights of the postpartum mothers during the conduction of the study, the proposal to conduct the study was first submitted to the College of Medicine Ethics Committee (COMREC) for review. Furthermore, permission was sought from the Blantyre District Health Office and in-charges of Ndirande and Limbe health facilities. The study respected the human rights of the postpartum mothers by ensuring privacy, anonymity, confidentiality, fair treatment and protection from any harm from the study. This was upheld by interviewing the participants in a private room; the questionnaires were coded with numbers and no name was used; in ensuring confidentiality, all participants' information was not disclosed to anyone and the data collected was kept in a closed private file and kept in a locked cabinet at home; all participants were given detailed information on the aim of the study, duration of interviews, data collection methods and procedures, benefits or risks of the study to them as well as the relevance of the research study to health care system in Malawi and worldwide. They were also informed that they were free to withdraw at any stage, not to answer questions whenever they felt like and that their refusal to participate in the current study will not affect their access to health care services. Following this, participants signed a consent form to show their willingness and acceptance to participate in the current study.

Constraints and Limitations

The study results cannot be generalized because the study was only confined to one district i.e. Blantyre. If the study was conducted in several districts with different

cultural practices the study findings would have been generalized. The other limitations resulted from the time and financial constraints of the researcher because it was conducted as a requirement for the fulfilment of the Master's Degree and there was limited time and funds allocated for the study. The researcher utilized the available resources by cutting unnecessary costs and complementing the budget with her resources.

Dissemination of Findings

Dissemination of study findings and possible recommendations will be done locally (at the study settings of Ndirande and Limbe health centres), nationally and globally. There will be a meeting that will be carried out with the health facilities management and labour ward midwives and clinicians to share the results. Furthermore, the study report will be submitted to the staff of Kamuzu College of Nursing (KCN) and a report will be published in a journal article. A thesis will be submitted to KCN Library in Blantyre and the researcher will disseminate the research findings in other health forums such as a conference.

Summary

The study utilized a cross-sectional quantitative method in trying to find out the postpartum disorders mothers developed following the early hospital discharge of postpartum mothers. Furthermore, a structured questionnaire was used to collect data following a pretesting study that was conducted to test the reliability of the tool. Participants' rights were observed throughout the period.

CHAPTER FOUR

Presentation of results

Introduction

This chapter presents the analysis of the data that was collected. The first section presents demographic characteristics of mothers who were discharged early after childbirth which were analysed using descriptive statistics presented as frequencies, percentages; principle component analysis was also used to analyse the socioeconomic status of the participants; logistic regression was used to show the relationship between the development of the postpartum disorder and early hospital discharge. The variables used in the analysis include; types of postpartum disorders, demographic variables, and socio-economic factors of the participants and support structures of the participant.

Participants' socio-demographic characteristics

The socio-demographic characteristics assist the researcher to know the type of study participants is dealing with. The demographic characteristics of the participants presented in the current study include; age, marital status, level of education, occupation, tribe, and religion (Table 1). The ages of the participants ranged from 16 years to 40 years and the majority of the participants were between the ages of 21 to 25 years (39.2%; n=151) with a mean age of 25. In addition, 93.8% (n=361) of the participants were married while those not married (single, divorced and widowed) consisted of (6.2%; n=24). The majority of the participants in the current study were

of the Lomwe tribe (40.3%; n=155). There were (2.9%;n=11) participants who were civil servants like teachers, nurses and cashiers while (62.6%;n=241) were not working like housewives depending on their partners for income, and others doing piecework etc. However, the majority of the participants' partners were of technical jobs like carpentry, plumbing and vehicle mechanics (53.2%;n=205). In terms of educational background, the majority of the participants were of secondary school level (51.2%; n=197), with(1.6%; n=6) having no form of education which shows that the majority of the participants were literate. Similarly, the majority of the participants' partners had attained a secondary level of education (72.7%; n=280). Interestingly a certain proportion of the participants were not aware of their partners' level of education (5.5%; n=21).

Table 1:

Socio-demographic characteristics of all mothers at 1week postnatal check up following early hospital discharge.

Characteristic	Category	Freq (385)	Percent
Age in years	16 to 20	84	21.8
	21 to 25	151	39.2
	26 to 30	109	28.3
	31 to 35	37	9.6
	36 to 40	4	1.0
Religion	Christian	349	90.6
	Islam	36	9.4
	Others	0	0
Marital status	Married	361	93.8
	Not married	24	6.2
Parity	1-3	332	86.2
	4-6	53	13.8
Tribe	Lomwe	155	40.3
	Yao	52	13.5

	Chewa	35	9.1
	Ngoni	98	25.5
	Others	45	11.6
Education	No education	6	1.6
	Primary	171	44.4
	Secondary	197	51.2
	Tertiary	11	2.9
Occupation	Civil servants	11	2.9
	Not working	241	62.6
	Business	112	29.1
	Others	21	5.4

The participants who had developed postpartum disorders were 203 representing 52.7% (Table 2). The majority to have the disorders were participants of 21 to 25 years of age (36.9%; n=75) and the dominating tribe was Lomwe (34.9%; n=71). Furthermore, Christians who made up the majority of the research participants in this current study (90.6%; n=349) were also a majority to have the disorders (90.6%; n=184) in this study. Of the 203 participants (94.1%; n=191) were married and with parity of fewer than three children (86.2%; n= 170). Participants of secondary education were a majority (50.2%; n= 102) and housewives with disorders were (61.6%;n= 125).

Table 2:

Socio-demographic characteristics of mothers who developed postpartum disorders at 1 week check-up following early hospital discharge.

Characteristic	Category	Freq (n=203)	Percent
Age in years	16 to 20	38	18.7
	21 to 25	75	36.9
	26 to 30	68	33.5
	31 to 35	19	9.4
	36 to 40	3	1.5
Religion	Christian	184	90.6
	Islam	19	9.4
	Others	0	0
Marital status	Married	191	94.1
	Not married	12	5.9
Parity	1-3	170	86.2
	4-6	33	13.8
Tribe	Lomwe	71	34.9

	Yao	24	11.8
	Chewa	17	8.4
	Ngoni	65	32.0
	Others	26	12.0
Education	No education	2	0.9
	Primary	89	43.8
	Secondary	102	50.2
	Tertiary	10	4.9
Occupation	Civil servants	7	2.9
	Not working	125	61.6
	Business	57	28.1
	Others	14	6.9

Types of postpartum disorders experienced following early postnatal discharge

From the study, it was discovered that participants experienced life-threatening and some had non-life-threatening postpartum disorders. However, the majority of the participants reported having experienced non-life threatening postpartum disorders at home following early hospital discharge (97.5%; n=198). The common non-life-threatening postpartum disorders experienced included; severe abdominal pains, backache, painful legs and severe headache while the life-threatening type was severe vaginal bleeding (2.5%; n=5) (Figure1).

From the study results (Figure1), it was observed that the leading postpartum disorder experienced following early postnatal discharge was severe abdominal pains (62.6%; n=127). Of these, (93.7%; n=119) were married and in the age ranges of 20-25 (56.7%; n=72) with (53.5%; n=68) of secondary level of education. Additionally (84.3%; n=107) mothers reported about the abdominal pains they were experiencing to their mothers (40.2%; n=43) and husbands (32.7%; n=35) because they were trustworthy and also close to the participants. However, the majority of the participants bought painkillers from the nearest pharmacy (62.9%; n=80) to relieve themselves of the severe abdominal pain while some (23.6%; n=30) just stayed at home with the understanding that it was normal to have abdominal pains after childbirth.

Relatively, the majority of the participants with postpartum disorders (83.7%; n=170) took the problem as a normal experience following childbirth while (16.3%; n=33) participants took the postpartum problem as some physiological anomaly among other reasons.

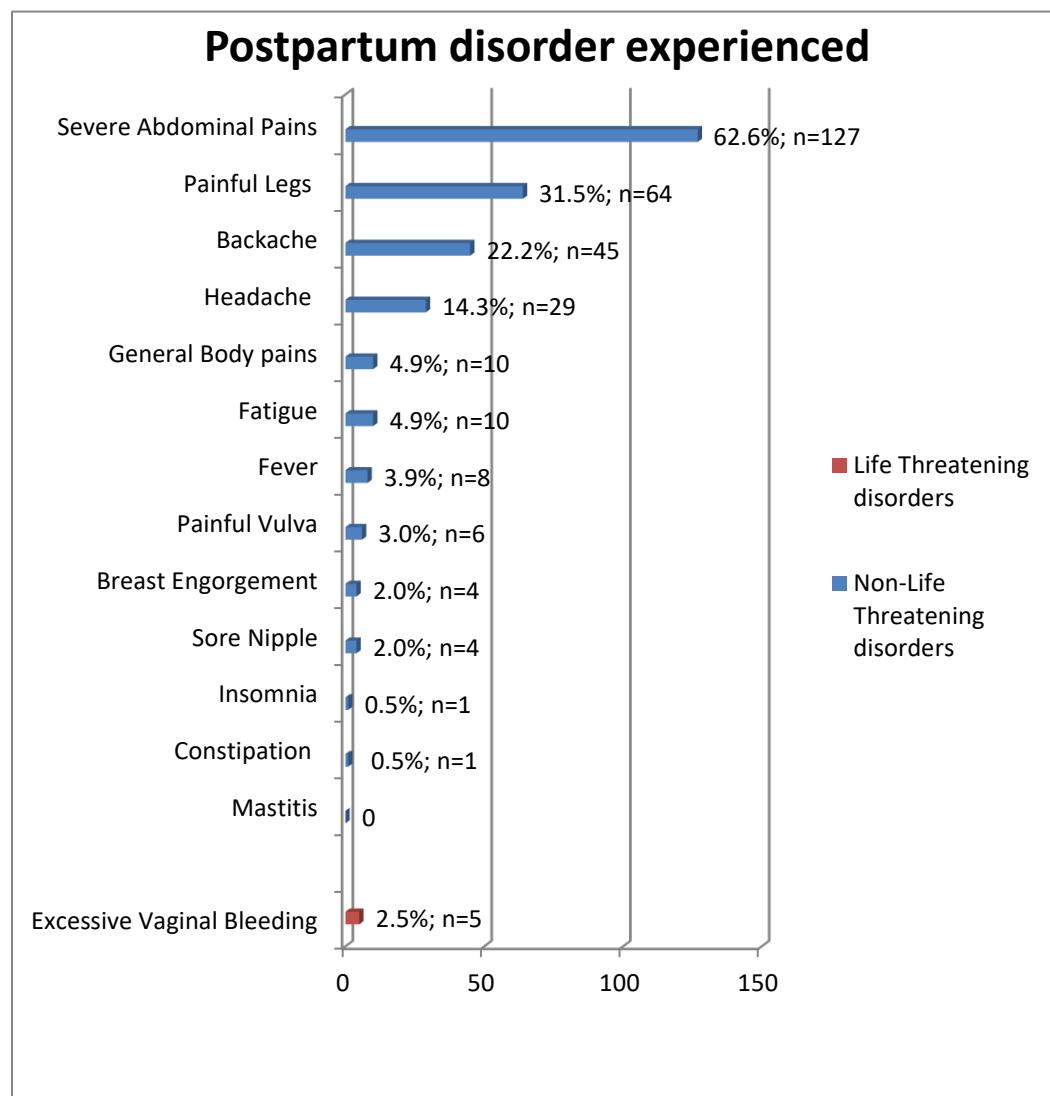


Figure1:

Types of postpartum disorders experienced following early hospital discharge.

Perceived cause of postpartum disorder experienced

The participants in the current study gave various reasons why they thought they had developed the postpartum disorder (Figure2). Some participants even after saying it was normal to experience the disorder, still gave other reasons why they think they had experienced the disorders they had.

Amongst the many causes of postpartum disorders experienced the common ones were; given birth recently, the normal process of labour etc. Whereas a small proportion of the participants (0.9%; n=2) reported that baby, not suckling and the baby being in the wrong position in the womb causing painful legs after the childbirth process.

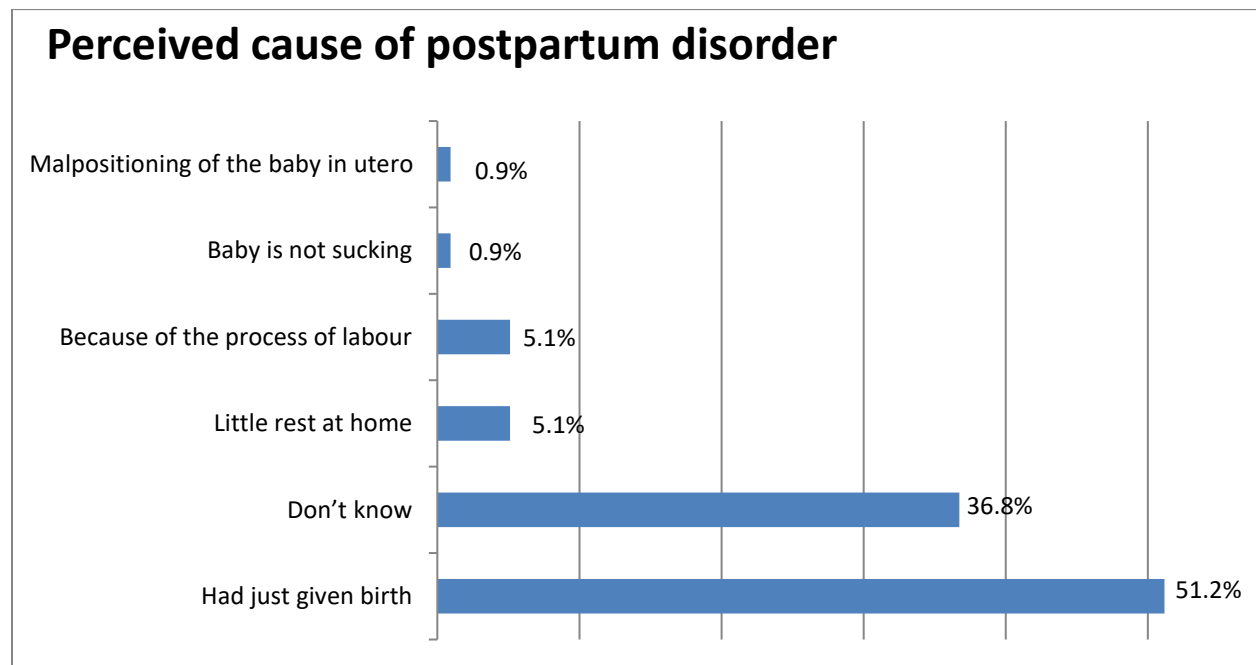


Figure 2:

Perceived cause of postpartum disorders experienced.

Time of discharge after childbirth

All mothers in the current study reported having been discharged within 24 hours in the two settings of Limbe and Ndirande health centres. The study revealed that (92.7%; n=355) participants in the current study were discharged home within 13-24 hours after childbirth, whereas (7.3%; n=30) participants in these facilities were discharged between 1-12hours. In addition, the majority of the participants reported having disorders within 24hours after childbirth (61.2%; n= 123) meaning that they developed the disorder soon after getting home while the rest developed disorders within one week of hospital discharge (38.8%; n=78).

Socioeconomic status of mothers with postpartum disorders

The postpartum mothers were also interviewed in terms of their socioeconomic status. From the study, mothers with postpartum disorders were of the following socioeconomic status (Table 3);

Table 3:Socioeconomic status of mothers with postpartum disorders

Socioeconomic index	Frequency (n=203)	Percent
Poorest	49	24.0
Poor	38	18.6
Middle	44	21.6
Rich	41	20.1
Richest		

The study revealed that the majority of the mothers who developed postpartum disorders were the poor(24.0%; n=49) whereas the richest mothers were (20.1%; n=41). Cumulatively there were (39.3%; n=80) low level socioeconomic status and (41.7%; n=85) from the high/ rich socioeconomic status.

Demographic and socioeconomic factors related to postpartum disorders

To determine the demographic and socioeconomic factors which could help predict the postpartum disorders developed, logistic regression was used. Pallant, (2011) explained that logistic regression is used to predict the odds of being a case based on the values of the independent variables. The use of logistic regression assisted in assessing the association between the development of postpartum disorders and the independent variables (demographic and socioeconomic factors). The demographic characteristics that were tested include age, religion, marital status, education, and socioeconomic status (Table 4). Socioeconomic factors were first analysed using Principle Component Analysis (PCA) then bivariate logistic regression was also performed to assess the association with the dependent variable (development of postpartum disorders)

Table 4: Demographic and socioeconomic factors of the Participants

Logistic regression model

Postpartum Disorder	Odds ratio	Std Error	P. Value
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95% CI

Socio- demographic

Age

21 –25	1.09694	0.309926
0.743 0.630, 1.904		
26- 30	1.52425	0.490322
0.190 0.811, 2.863		
31- 35	1.06413	0.466344
0.887 0.450, 2.512		
36 -40	2.15892	2.583226
0.520 0.206, 22.528		
Marital status		
<i>Not Married</i>	0.79595	0.352342
0.606 0.334, 1.895		
Participant education		
Tertiary	27.53045	37.6942
0.015 1.880, 402.961		
Secondary	3.49591	3.08666
0.156 0.619, 19.729		
Primary	4.35232	3.8669
0.098 0.762, 24.830		
Parity		
4-6	1.51809	0.55171
0.251 0.744, 3.094		

Socioeconomic status

Poor	0.40637	0.13332
0.006	0.213, 0.773	
Middle income	0.63058	0.19257
0.131	0.346, 1.147	
Rich	0.61189	0.18630
0.107	0.336, 1.111	
Richest	0.95546	0.34174
0.899	0.473, 1.926	

The study revealed that the independent variables (tertiary level of education and being poor) were statistically significant henceforth capable of predicting the outcome of the dependent variable (development of postpartum disorder) using the bivariate logistic regression analysis. In addition, the Chi-square test was also used to compare the results with those from the bivariate logistic regression analysis. The results indicated that apart from the already existing relationship observed in bivariate logistic regression analysis, being of tertiary education and coming from the poor socioeconomic status were found to be statistically significant using the chi-square test ($p < 0.015$, 0.006 respectively). The variables which were not significant in the bivariate logistic regression analysis were also found not to be significant using the chi-square test ($p > 0.05$). The results imply that being in tertiary education and coming from a poor socioeconomic status were capable of predicting the occurrence of postpartum disorders in the current study.

Age of participant

The study analysis revealed that participants of ages 21-25 years were the highest group in developing postpartum disorders (36.9%; n=75). The results reveal that the younger and the middle-aged participants from 16 – 30 years of age (89.1%; n=181) had more postpartum disorders because they were a majority in the current study and also because of their inexperience with childbirth issues as the majority of them who had disorders were also below the parity of three (86.2%; n=170). However, binary logistic regression shows that participants' age was not statistically significant ($P > 0.05$) in developing postpartum disorders. Conclusively there was no association between participant's age and development of postpartum disorder following early postnatal discharge.

Education

An analysis of participants education showed that (50.2%; n=102) of the study participants who had developed postpartum disorders were of secondary level education seconded by (43.8%; n=89) of the primary form of education. Of the 11 tertiary education participants who were enrolled on the study, 10 of them had developed postpartum disorder representing a 90.9%. The tertiary level education participants had a high probability of having a postpartum disorder (p-value =0.015) than the primary or secondary education participants. This p-value of 0.015 shows that there is a greater association between being of tertiary level of education and having a postpartum disorder. However, the participants' husbands' education level was not

significant in the current study hence there was no association with the development of postpartum disorders.

Socioeconomic status

The socioeconomic level of participants was significant in the development of postpartum disorders. The Principle Component Analysis (PCA) was used in ranking the quantile levels of socioeconomic status of the study participants using the socioeconomic variables (living in an electric house, having water supply, indoor toilet, refrigerator, and other physical assets). The results were then analysed by bivariate logistic regression to show their association with the development of postpartum disorders. The analysis revealed that most of the participants who had developed postpartum disorders were from poor economic status (24.0%; n= 49). In addition, the logistic regression revealed that there is a greater association between socioeconomic status and the development of postpartum disorders, especially the poor socioeconomic status. The lower the socioeconomic status, the greater was the risk of developing postpartum disorders(p-value of 0.006).

Measures were taken at home following the development of postpartum disorders.

From the study, participants took various measures (Table 5) to relieve themselves of the postpartum disorders they were experiencing according to their perceived severity of the disorder and availability of resources.

Table 5:

Measures taken at home following postpartum disorders(n=203)

	Frequency	Percent
Bought drugs from grocery/pharmacy	123	60.6
Went to the hospital	2	0.99
Took Coca-Cola	5	2.5
Just stayed at home	68	33.5
Reported to the people at home	163	80.3

From the interview, many of the participants bought drugs from the grocery or pharmacy as a measure to relieve themselves from the postpartum disorders (60.6%; n= 123) whereas some of the participants (2.5%; n=5) took Coca-cola to relieve the disorders. At the development of the postpartum disorder, the majority of the participants decided to report their disorders to significant family members(80.3%; n=163). Those who reported include the young mothers of 21-25 years(58.9%; n=96); the primary and secondary school level mothers (42.9%;n=70, 52.1%;n=85) respectively. The reporting might have been influenced by a lack of experience with motherhood and because they made up the majority of the participants in the current study. Furthermore on those who reported the disorders (36.8%; n=60) reported to husbands, (48.2%; n= 79) to their mothers. The participants said they reported to mothers and husbands because they were near at the time (47.2%; n= 77) and that because they had the experience of giving birth (31.9%; n= 52) respectively.

In contrast, a certain proportion did not report the postpartum disorders they had (19.7%; n= 40) because they took the postpartum disorder to be normal after childbirth (60.0%; n= 24) while others said because they do not trust the person who was around at that time of the disorder at home (2.5%; n= 1).

Assistance from household members following the development of the postpartum disorder

Provision of support from family members is the primary and vital support in the management of the postpartum disorders participants had developed. In the current study, participants received various support from a family ranging from advice, the actual performance of some tasks to no support at all (Table 6).

Table 6:

Assistance from household members (n=203)

	Frequency	Percent
Was advised it's a normal childbirth process	95	59.3
Bought drugs for me	13	8.0
Was told to explain myself at the hospital	19	9.4
Was advised to continue taking hospital drugs	10	4.9
Was advised I will be fine once baby's cord has fallen	2	1
Was advised to exclusively breastfeed baby	2	1
Others	6	3.0
No assistance	20	9.9

The study revealed that the majority of the participants who had developed postpartum disorders received support from family members (80%; n=162). Most support was in form of advice. Participants were advised that the disorders were a normal childbirth process (59.3%; n= 95) while a small proportion of participants were advised to continue exclusive breastfeeding their babies and some were advised that the postpartum problems will cease once the baby's umbilical cord has fallen (1%; n= 2 each). For those that received support, the majority of the participants acknowledged having received much social support from their mothers (45.6%; n=92. It was interesting to note that husbands, as well as children of participants, took part in giving social support to the participants (3.6%; n=15, 2.4%; n=10) respectively. Relatively these family members assisted with cooking and washing among other tasks (61.2%; n=221, 18.8%; n=68) respectively. Meanwhile, participants reported that they preferred being taken to the hospital to receive medical attention (52.7%; n=106) while other participants said they preferred resting at home as very essential for them (23.9%; n=48) following early hospital discharge.

Health care consultation

The study revealed that some participants (1%; n=2) consulted the doctor after the development of postpartum disorders. Consultation of the doctor happened after 48hours after the development of the disorder (0.5%; n= 1) while 0.5% (n= 1) did the consultation within 36 hours of disorder development. In addition, the participants

made a hospital consultation because of various disorders like backache, painful legs, headache, severe vaginal bleeding.

Home visit following early postpartum discharge

The participants in the current study revealed that the majority of them were not visited home following early hospital discharge after the birth of the child (99.5%; n=202) while only one participant claimed to have been visited by a health care worker in her home (0.5 %; n=1). In addition, the Health Surveillance Assistant (HSA) is the health care worker who was mentioned to have visited the participant in her home. The participant said she was visited once but the visit was very beneficial as she was educated about personal hygiene and how to take care of the baby.

Follow up using a phone call

All participants reported that no one from the hospital they delivered called them as a follow up since they had an early hospital discharge.

Summary of results

The majority of the participants had non-life-threatening postpartum disorders (97.5%; n=198). The common forms of postpartum disorders ranged from backache, severe abdominal pains, and painful legs to severe headache. However, most participants (83.7%) took these postpartum problems to be the normal process after childbirth. Presumably, the postpartum disorders were found to be prevailing in participants who were with tertiary education level, and the poor socioeconomic status participants. In as much as the participants who had developed postpartum disorders received support from family members especially from husbands, children and their

mothers, 60.6% of the participants mainly bought drugs from the nearby drug shops to alleviate the postpartum problems they were facing at home and only 1.0% participants consulted the doctor in relation to the postpartum disorders they were experiencing.

CHAPTER FIVE

Discussion of results

Introduction

This chapter provides a discussion of the findings of a research study which was looking at the postpartum disorders following early hospital discharge in Ndirande and Limbe Health facilities in Blantyre. The chapter has been discussed the results using the following variables; postpartum disorders participants experienced; participants' and spouse's demographic; socio-economic factors of the participants and their spouses and support measures. At the end of the chapter, limitations of the study, recommendations and areas of further study have been outlined.

Postpartum disorders experienced

Although discharging postpartum mothers before 24hours after an uncomplicated vaginal delivery is a common practice in Malawian hospitals, it is advisable by WHO that mother should still be under-skilled health personnel within 2days of delivery or follow them home (WHO, 2013). However, this is contrary to the practice around the catchment area of Limbe and Ndirande health centres in Blantyre district where postnatal mothers stay for as less as 6 hours after childbirth in the hospital after a normal vaginal birth putting them at risk of developing postpartum

disorders at home coupled with no home visit. The impact of this early discharge is that 52.7% of the postpartum mothers developed various postpartum disorders at home following the practice in the district. Lack of thorough screening during discharge and less attention that is provided to the mother unlike to the newborn in the first two weeks by family members predisposing the mothers to various health problems(Ekanem, Efiok, Udoh, & Anaikot, 2013; Iyengar, 2012). These findings concur with studies done in India, Nigeria, Morocco, Zambia where the postpartum disorders were 48.6%, 5.1%, 13.1%, 44%, 1.7% respectively (Giri, 2009; Ekanem et al., 2013; Elkhoudri, Amor, & Baali, 2015; Assarag, Dubourg, Maaroufi, Dujardin, & De Brouwere, 2013; Valley, Ahmed, & Murray, 2005). In as much as the majority of the mothers' developed postpartum disorders, the disorders were not life-threatening for example fatigue, breast problems, headache and lower abdominal pain

The postpartum disorders were more common within 24hours of childbirth, the time these postnatal mothers were already home following an early hospital discharge. The non-life-threatening disorders were a majority (92.7%) with severe abdominal pains being a common disorder (62.6%). The other disorders included; fatigue, constipation, general body weakness, fever, insomnia, painful legs, painful vulva. Most of these disorders are common in postpartum mothers because of the physiological, psychological, and social changes mothers experience during this time (Danasu & Praitathi, 2016). The contracting of the uterus during and after delivery, the process of bearing down when giving birth, the high levels of progesterone in the body are some of the factors that bring about severe abdominal pains, backache,

painful legs, constipation after childbirth. In agreement with the results, a study in Kenya by (Chersich et al., 2009) said mothers reported abdominal pains at a one-week postnatal check-up but most mothers associated it with the normal childbirth process. Similarly in this current study participants believed it is a normal childbirth process (33.5%) and in addition, they just bought drugs (painkillers) at the nearest drug shops and only 2 participants reported to the health facility with the disorders. This is great evidence that participants did not take the disorder as a serious illness. Furthermore, excessive vaginal bleeding was mostly associated with abdominal pains but in the current study, only five participants (2.5%) reported to have experienced excessive bleeding. The participants were not able to quantify how much were they bleeding since all the participants with excessive bleeding were of parity one with less experience of childbirth practice. So, the bleeding might have been compared to the little monthly period of bleeding. Mothers after childbirth experience lochia which is a normal vaginal discharge of blood mixed with mucus and uterine tissues and is heavier compared to period bleeding and lasting to almost 6weeks after childbirth.

Postnatal mothers especially in Africa view most postpartum disorders as normal hence less action is taken to deal with them. The current study (1%; n=2) reported to the health facility after developing postpartum disorders. These participants had severe vaginal bleeding, headache among other complaints. The mothers reported to the health facility 48hours after the development of the disorders giving great evidence that they were also not taking the illness serious till they could no longer persevere with the disorders. In Uganda for example, postnatal mothers took

excessive vaginal bleeding after childbirth as a normal cleansing process of the body which if stopped could have negative health consequences to their bodies (Ononge et al., 2016). Such beliefs can have fatal consequences because they lead to late diagnosis of postpartum haemorrhage and maternal death (WHO, 2016).

Severe headache accounted for 14.3% of the postpartum disorders in the current study and the rest were fatigue, excessive vaginal bleeding, general body pains, and breast-related problems.

Abdominal pains, irregular vaginal bleeding, backache and breast-related problems like mastitis are the leading postpartum disorders in India according to a study by Danasu and Praimathi (2016) while in the current study abdominal pains, painful legs, backache was the leading postpartum disorder and apart from taking painkillers; assurance by senior family members including husbands made the participants to live with the disorders but in Danasu & Praimathi(2016), home visiting was a paramount intervention by the health care workers who provided home interventions like fundal massage, leg exercises which were so effective in dealing with after pains, backache and leg pains among other problems mothers encountered. Contrary to the current study, home visiting was provided by an HSA which rendered postnatal mothers without any professional assistance from health care workers which can later complicate their ailments.

The socio-cultural background, level of education, social support at home, socioeconomic status do determine the outcome of events in life (Fan, 2017). In the

current study, postpartum mothers reported that having little rest at home due to various household chores, having just given birth, the normal process of labour, baby suckling and baby's mal-positioning in- utero were some of the reasons they perceived to have caused the occurrence of the postpartum disorders they experienced while some mothers expressed no knowledge on why they had the disorder.

The researcher from her analysis found that low socioeconomic status and tertiary education were some of the risk factors that related to mothers' developing postpartum disorders. Low level of education, poverty (low economic status), mothers old age, mothers poor occupation are some of the factors that normally predict the occurrence of postpartum disorders at home following early postnatal discharge(Elkhoudri et al., 2015). However, in the current study, a high level of education and low level of economic status are the factors that related to the occurrence of postpartum disorders. High levels of education give people confidence and a greater understanding of events unlike, a low level of education. However, in this current study, those with the highest level of education were the ones who had more postpartum disorders contrary to what most literature has written. Relatively in India, the prevalence of having one or more postpartum disorders was high among the poorest and a drastic drop in postpartum disorders was observed in the highly educated mothers and those with educated husbands (Singh & Kumar, 2014). Education and good financial stand equip people with knowledge and broadens their understanding of issues like postpartum care and gives them the financial muscle to meet their needs as required for a postpartum mother at home after an early discharge.

However, it is not known what might have predisposed these participants to postpartum disorders because the study did not look at other factors like other pre-existing medical conditions of participants or the ability to follow the advice from the health care workers at the hospital. High levels of education tend to make people too much analyse the information and most end up doing what they think is right according to their school of thought, in contrast, the low level educated participants might have just followed all they were advised at the hospital and hence they did not much develop the disorders as opposed to the highly educated participants.

In addition, social support at home is also another crucial area of promoting rest. Mothers' bodies need rest to heal properly after childbirth. Tertiary educated participants in this current study indicated that (60%; n=6) did not have anybody at home to assist them in household chores at home and (70%; n=7) was just assured by their husbands that they will be okay and ended up just buying over the counter drugs to alleviate their disorders. Normally after childbirth, much attention goes to the baby leaving the mother unattended to most times as was the case in Nigeria, mothers reported little attention by family members to the mother in the first two weeks following delivery (Ekanem et al., 2013). Although knowing quite well the importance of seeking health care services when unwell, no one of the tertiary students went to seek health services within 1 week of their childbirth. Participants with tertiary education were all (11) with single parity which could also be the reason why 90.9% had developed the postpartum disorders because they were inexperienced in childbirth

and coupled with no one to assist them at home, hence high rates of developing the disorders.

A person's socioeconomic status influences their ability to prevent various illnesses, access health care services, attain higher formal education etc. In addition, there is a great association between the development of postpartum disorders and low socioeconomic status(Somi et al., 2007) with postpartum disorders being the highest among the poorest mothers and the lowest among the wealthiest (Singh & Kumar, 2014). The results in the current study share the same sentiments that most postpartum mothers with postpartum disorders were coming from low-level socioeconomic status. Poor mothers are at risk of developing postpartum disorders because of unhygienic practices at home due to poverty after delivery (Ali et al., 2006), poor food quality and less consumption of healthy foods among others (Gazella, 2012). The Occupation and education level of an individual can predict a person's socioeconomic status. Even though a person's education can shape their economic status, sometimes it can not always be true because other people not educated but can be classified as rich because of their flourishing businesses.

Tertiary educated participants in the study could not be classified in the category of being rich since three-quarters of them were primary school teachers in government primary schools who earn less. In the current study, 62.6% of the postpartum mothers were housewives of primary education rendering them poor and their husbands were into small scale businesses like vending. Because the majority of

the postpartum mothers were of low socioeconomic status, hence there was a high prevalence of postpartum disorders.

Health care consultation

Health seeking after the development of postpartum disorders depends on several issues for example; the severity of the problem, education level of the postpartum mother, cost of health services, distance to the health facility, health beliefs, quality of the health services and community norms among others (Singh & Kumar, 2014). However, the survival of the sick is higher when the sick choose to be reviewed by qualified medical personnel rather than following non-medical remedies. In the current study, the majority of the postpartum mothers (52%) had developed postpartum disorders, but only 1.4% consulted the doctor within the period of 48 hours to 36 hours following the development of postpartum disorders. The findings imply that more postpartum mothers do not regard postpartum problems serious enough to make them seek medical care at the hospital. This is mostly the case in Africa because society gives an impression that maternal problems after delivery are normal and expected (Obuna & Umeora, 2014) and women who are unable to persevere such problems are regarded as weak (Aziato et al., 2017).

Similarly, a study in Mzuzu revealed that the majority of postpartum mothers perceived the postpartum problems they had as not serious enough for them to seek medical attention (Chiremba, 2011). In contrast, postpartum mothers in Western countries prefer seeking medical care with the postpartum disorders they had developed as was the case in Chile and Turkey, where 42% of mothers sought health

services after the postpartum disorders respectively (Bravo, Uribe, & Contreras, 2011; Gozum & Kilic, 2005). This signifies not only the differences in culture of the two settings but also the level of education of the postpartum mothers, their socioeconomic status, their interpretation or perceived threat of the disorder between Africa and Western countries. Conclusively this explains why there is reduced maternal disorder and mortality in Western countries compared to African countries (Silva et al., 2016; Askelsdottir, Lam-de Jonge, Edman, & Wiklund, 2013).

Distance to the health facility is also another factor that can influence the health care consultation of sick mothers. Most mothers would prefer other remedies rather than seeking medical care because of long distances to the hospital. Studies done in Malawi, Nepal and Palestine found that distance to the clinic was one reason why postpartum mothers did not consult medical care at the hospital (Kambala, Morse, Masangwi, & Mitunda, 2011; Dhaher, Mikolajczyk, Maxwell, & Kramer, 2008; Dhakal et al., 2007) and they preferred buying over the counter drugs, take painkillers from other relations at home, and some herbs from elders in the community (Chirembo, 2011) and traditional providers given their proximity to assist with severe abdominal pains and other discomforts (Nalwadda et al., 2015). However, in the current study, it is not known whether distance to the health facility was the issue but 60% of postpartum mothers opted to buy over counter drugs rather than consulting the doctor on the postpartum problems they had developed.

The study revealed that the majority of the participants who had developed postpartum disorders were of primary educational level (43.8%) plus those with no education at all (0.9%). In addition, the majority of the mothers were housewives

(60.8%), and 24.0% of mothers were of low socioeconomic status implying that their financial muscle could have been a barrier to seeking health services at the hospital because they depended on their husbands for income. Education plays a greater role in decision making and it opens the intellectual understanding of people thereby leading to meaningful decisions concerning issues of life (Fan, 2017). This speaks why the majority never thought of consulting the doctor after the disorders because of this low level of education and lack of financial muscle. Postpartum mothers with higher education, working and rich utilize the services more and are empowered to make decisions to visit the hospital and can fund themselves more than those not working (Machira & Palamuleni, 2017; Sakala & Kazembe, 2011). The findings do not disclose why most mothers did not proceed with their education. Since 93% of the women were married in the current study, it could be implied that early marriages led to most of them dropping out of school. Therefore there is a need to empower girls to stay in school to further their education so that they make rational decisions in life including being employed to be financially independent.

Follow up care

Home visits of postpartum mothers although recommended by the World Health Organization (WHO) after early postnatal discharge following childbirth is given very little attention in Malawi. One postpartum mother was visited home after early postnatal discharge in the current study by a Health Surveillance Assistant (HSA). In a quantitative study conducted in Malawi in 2013, 11% of postpartum mothers received a postnatal visit at home (Sitrin et al., 2013). However home visits although not given much attention, have proved to be very important in following up

with the early discharged postpartum mothers and have assisted in reducing the hospital's lack of space and costs (McMahon et al., 2015). The participant in the current study who was visited commended the health care worker's visit. She recommended more days of visit than a single day visit, alluding that she could have benefited a lot in terms of health education and counselling on many things like personal hygiene, exclusive breastfeeding, cord care and how to take care of the baby. Similarly, a study conducted in Bangladesh revealed that mothers who were visited home following early postpartum discharge were 8 times at a lesser risk of developing postnatal problems than those not home visited by health care workers (Mannan et al., 2010). In addition in Tanzania, a study found that coupling early postnatal discharge with home visit reduced the impact of breastfeeding and other maternal disorders (McMahon, 2015).

The period, frequency and which person does the home visits of the postpartum mothers is also very crucial as far as the impact of home visits is concerned. A well-trained health care worker on maternal and child health issues is recommended to do postpartum home visits (World Health Organisation, 2013) it can either be a skilled provider or a well trained and supervised community health worker. In addition, provision of the health home visit by a well-trained health worker leads to better performance and improves the maternal outcome of the postpartum mother (Mannan et al., 2010; Christie, & Bunting, 2011) Furthermore, urgency and an increase in the frequency of the home visits make the outcome better, for instance in quantitative studies done in Scotland, Bangladesh, trained health workers conducted 15 and 3 home visits respectively and greatly improved the maternal as well as

neonatal outcomes ((Hoddinott, Lee, & Pill, 2006; Mannan et al., 2010). As such this is why WHO recommends a minimum of four postnatal visits (World Health Organisation, 2013). With the postpartum mother and baby, the first visit being conducted within 24hours is the most crucial period most maternal disorders occur.

Following up on postpartum mothers using telephone interviews is an effective strategy in reducing maternal disorder (Kurth et al., 2016) and in limited-resource settings, it is very cost-effective (Lund et al., 2014). Relatively recent reports have indicated that the use of cell phones in seeking maternal and neonatal services has grown three-fold in sub-Saharan Africa (World Bank & International Telecommunication Union, 2012) since mobile phone coverage has recently increased to above 600 million users (Lund et al., 2014) as such this has demonstrated the potential to improve timely access to maternal health services (Fotso et al., 2015). Contrary to the current study, only 2.4% of postpartum mothers received phone calls from the health care workers following them up after early postnatal discharge and only 0.9% of those who developed postpartum disorders consulted health care workers through phone on the various postpartum problems they had encountered following early postpartum discharge after childbirth while at home.

However, from the study, 51%, n=209 of the participants owned a mobile phone and the rest said they have husbands and other family members who can be contacted in times of need meaning that the participants had the capability of being followed through phone postnatally. Furthermore, the results imply that the use of the phone in following up with clients as well as clients using it to seek advice/care from health care workers is poorly practised in Malawi. On the other hand, a study

conducted in the United States of America found that 52% of the patients preferred utilizing phones because they were easier and faster to an online system in seeking health care services (Dontje et al., 2014). Similarly, a study conducted in Zanzibar in 2014 revealed that utilizing mobile phones in following up antenatal mothers increased mothers hospital delivery by 60% (Lund et al., 2014). In addition, a study in Kenya in 2015 revealed that women using mobile phones had a 0% mother to a child transmission rate of HIV because mothers used their phones to get health advice from health care workers on HIV prevention and ARV drug adherence (Mushamiri, et al., 2015). Furthermore, African countries using mobile phones in their health systems like Zambia, Madagascar, Tanzania, Kenya and Uganda have reported a rapid response, active screening of clients and investigating drug reactions on clients with malaria (Zurovac et al., 2012) implying that the use of mobile phones in delivery of health care is improving clients outcomes in developing countries.

In as much as mobile phones can improve the health outcome of the clients, poor telephone network, lack of reliable power sources like electricity and lack of phones by poor families are some of the factors blocking the growth of health consultation through phone (mHealth) strategy in Malawi (Fotso et al., 2015). In addition, postpartum mothers not knowing the hospital health care workers' phone number as well as mothers not taking the postpartum problem they were experiencing serious to consult the hospital were some of the drawbacks of using mHealth in the current study. Furthermore, studies have revealed that workload of health care workers, patients not conversant with the usage of technology and patients viewing themselves as reasonably healthy are some of the reasons for less follow up by health

care workers through phone (Dontje et al., 2014; Danbjørg, Wagner, & Clemensen, 2014). In the current study, it is shown that mothers support through the usage of mobile phones was not provided.

Conclusion

The practice of discharging mothers early according to the current study has shown that mothers have coped up with it because the majority of the participants have shown no threatening postpartum disorder but only problems relating to the process of labour the results of uterine involution except 5 with excessive vaginal bleeding which was also difficult to monitor as they never returned to the hospital before the postnatal check-up day. The practice of early discharge has come to stay in our hospitals but what is required is that it should be done as per World Health Organization postnatal guideline by providing a home visit to the mother and baby within 24hours after childbirth then within 48-72hours, followed by between 7-14days and finally at 6 weeks to monitor how the mother and baby are doing and also to give various health education sessions according to the need identified. The problem is that no home visit is conducted in our settings which, was also the case in the current study hence giving room for the development of postpartum disorders among the postpartum mothers.

Recommendations

Thorough health assessment should be conducted by qualified midwives on postpartum mothers before they are discharged to rule out any health anomalies.

Community sensitization on the importance of family involvement in social supporting mothers both during antenatal and after childbirth for example assisting with household chores since it was noted in the current study that most postpartum mothers with disorders complained of having little rest at home following hospital discharge

Home visiting should be taken on board. It has been revealed in the current study and other studies that postpartum disorders are more common in the first week after childbirth (Iyengar, 2012; Valley et al., 2005; Benahmed, San Miguel, Devos, Fairon, & Christiaens, 2017; Silva et al., 2016) and unfortunately it is also a time these postpartum mothers are discharged home. This, therefore, leaves room for health care workers to follow up these mothers home for monitoring of their health. Home visits follow up should be taken on board in the formulation and implementation of early postpartum discharge policy in Malawi. Health Surveillance Assistants (HSAs), Community Midwives Assistants (CMAs), Traditional Birth Attendants (TBAs), community action groups can be used to do the follow-up. This will allow further assessments of the mothers in their respective homes for any postpartum problems and appropriate interventions to be carried out. The visiting team will also have room to assess the home environment especially the social support mothers receive and such can be recommended at each household because postpartum mothers need adequate rest after delivery. World health Organization recommended that home visits be carried out to postpartum mothers by skilled providers or well trained and supervised

community health workers (World Health Organisation, 2013) hence training of these health care workers should be done on what to assess on the postnatal mother as well as the baby. In addition privacy and confidentiality of the postpartum mothers to be emphasized because postpartum mothers might be afraid to discuss their health issues with the TBAs, and Community Action groups because they are coming from the same area (Peltzer, Mafunga, Treger, 2009). Contrary in South Africa, the postpartum mothers were freer to discuss their health issues because they felt more understood as they shared the same cultural background with the Community health workers like TBAs (Peltzer et al, 2009). However, a study conducted in Sweden revealed that postpartum home visit after discharge allows for emotional support and other individualised care to the mother adding that it is also less costly than hospital stay(Askelsdottir, Lam-de Jonge, et al., 2013) and it reduces the rate of postnatal readmissions as shown in a study in Canada where the rate of postnatal readmissions reduced from 0.78% to 0.47% after application of home visits (Cargill & Martel, 2007). Relatively a study conducted in Malawi, Bangladesh and Nepal revealed that postnatal home visits improved newborn care practices, early detection of danger signs of mother and baby etc (Sitrin et al., 2013).

Midwives must educate the postpartum mothers during postnatal discharge on the normal physiological experiences and abnormal experiences following childbirth and the importance of early seeking of medical attention if

any postpartum problem occurs because it has been noted in the current study that only three (3) out of 203 postpartum mothers sought medical care when abnormal signs were experienced.

There should be standardized protocols on the discharge of postpartum mothers' early following childbirth so that mothers are assessed thoroughly before discharge to avoid postpartum disorders that can be prevented. If after assessment, the mother is not fit for discharge, there should be room for a longer length of stay in the hospital. Doctors and midwives should be trained to use these protocols.

Limitations of the Study

Difficult to generalise the results because the study took place only in catchment areas of Ndirande and Limbe health centres in Blantyre

Privacy was not always maintained in the settings where the study was conducted because the rooms which were given to the researcher to do the study were in some days being used for some activities at the hospitals hence rendering the researcher to collect her data in the postpartum ward beds which are so close to each other although a fourfold bed screen was provided. This might have made the postpartum mothers not reveal all the necessary information regarding postpartum care and experiences at home.

Since the study required mothers to report the postpartum disorders experienced, some disorders may have been missed because they were not recognised by the postpartum mothers themselves but required health care worker's assessment.

Areas for further research

Knowledge of health care providers on what to assess the mother and baby dyad for during home visits following hospital discharge. HSAs that are used in Malawi to provide home visits do not have adequate knowledge on what to assess the mother and baby for during the visit.

Perception of postpartum mothers on the home visit follow-ups by community health workers after childbirth

Factors affecting tertiary-educated mothers on development of postpartum complications. The study should be conducted at a national level for better generalization of the results which will assist in coming up with early postpartum discharge guidelines and protocols guiding the midwifery practice in Malawi. Doing it at a national level will also help to assess how cultural practices of a tribe can influence postpartum disorders at home. The study setting failed to bring this out clearly because the cultural practices of postpartum mothers have been assimilated into other cultures in urban settings and also not all tribes had an equal representation in the current study. The study should also include diagnostic assessments for anaemia, sepsis and malaria apart from the cultural component of it.

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Appendices

Appendix 1: Participant's Information letter

Study Title: Determinants of postpartum disorders following early hospital discharge in Blantyre, Malawi.

Investigators: Tiwonge Jere Lulaka (Kamuzu College of Nursing), Professor E. Chirwa (Kamuzu College of Nursing).

Contact details of study Principal Investigator: Tiwonge Jere Lulaka, Kamuzu College of Nursing, P.O Box 415, Blantyre. Cell: 0999405545. Email: lulaka2016tiwonge@kcn.unima.mw. **Study Sponsor:** United States Agency International Development (USAID), World Learning Malawi Scholarship Program, P.O Box 30733, Lilongwe.

Dear Madam,

My name is Tiwonge Lulaka, a student at Kamuzu College of Nursing pursuing a Masters Degree in Midwifery. As part of my studies, I am supposed to conduct a research project. The title of my study is “*Determinants of postpartum disorders following early hospital discharge in Blantyre, Malawi*”. The study aims to explore the postpartum disorders mothers face following early hospital discharge after childbirth.

The purpose of this letter is to request you to participate in this research. Your participation will involve answering questions that are on the questionnaire through an

interview. The interview is expected to take 20-30 minutes of your time and it will be conducted at a time that is suitable and convenient to you and in a quiet place for privacy and to avoid disturbances. Furthermore, you may wish to know that your participation in the current study will not have any risks or discomfort to you, however, in case you experience any physical or emotional harm please forward your concerns to the researcher.

Be informed that no reports in the current study will identify you in any way and your information will be kept confidential and will only be accessed by the researcher and those people directly involved in the research. In addition, you will not be asked your name during the interview; instead, numbers will be used.

Your participation in the current study is voluntary. You may choose to participate or not or to withdraw from the study at any time. Your refusal to participate or withdrawal from the study will not have any penalty or negative effects on the services that you are receiving from the health workers at this facility. Should you agree to participate in the current study, I will ask you to sign a consent form or put your thumbprint on the space provided to indicate that you have voluntarily accepted to be interviewed.

The study and its procedures have been approved by the College of Medicine Research and Ethics Committee (COMREC), and Blantyre District Hospital authorities. Should you require any further information regarding the study or your rights as a study participant you are free to contact me on 0 999 405 545 or my research supervisor, Professor Ellen Chirwa, Box 415, Blantyre on 0888 940 513. You may raise your concerns to COMREC Secretariat, P/Bag 360, Chichiri, Blantyre 3, Telephone number 01 989 766.

Thank you for taking your time to read this information letter.

Appendix 2: Kalata ya ndondomeka yopangira Kafukufuku yopita kwa amayi otenga nawo mbali pakafukufukuyu

Mutu wa kafukufuku:Chopangitsa mavuto auchembere odza kambakotulutsa mwachangu amayi kuchipatala akangobereka kumene ku Blantyre, Malawi”.

Opangitsa kafukufuku: Tiwonge Jere Lulaka (Kamuzu College of Nursing), Professor E. Chirwa (Kamuzu College of Nursing).

Mwini kafukufuku: Tiwonge Jere Lulaka, Kamuzu College of Nursing, P.O Box 415, Blantyre. Foni: 0999 405545. Email: lulaka2016tiwonge@kcn.unima.mw.

Opeleka thandizo lopangira kafukufuku: United States Agency International Development (USAID), World Learning Malawi Scholarship Programme, P.O Box 30733, Lilongwe.

Okondedwa Amayi

Dzina langa ndine Tiwonge Jere Lulaka wophunzira kusukulu ya ukachenjede ya unamwino ya Kamuzu ndipo ndikupitiliza sukulu ya uzamba.Monga mbali imodzi yamaphunziro anga, ndikupanga kafukufuku pa mutu woti “**Chopangitsa mavuto auchembere odza kambakotulutsa mwachangu amayi kuchipatala akangobereka kumene ku Blantyre,Malawi**”.

Cholemba kalatayi ndi kukupemphani kuti mutenge nawo mbali mukafukufuku ameneyu poyankhapo mafunso omwe akonzedwa.Kafukufuku ameneyu akutengerani mphindi makumi awiri kapena atatu (20-30) ndipo chilinganizo chimenechi chichitika panthawi yomwe mungamasuke nayo pamalo achete opanda zosokoneza zilizonse.Muli ndi ufulu kutenga nawo mbali pakafukufuku amaneyi kapenanso kutuluka ndipo chisankho chimenechi sichibweretsa vuto lililonse pa

chithandizo chimene munayenera kulandira kuno kuchipatala. Mukawona kuti mukupangidwa nkhanza yamtundu wuliwonse munthawi yakafukufukuyi, muyenera kuwadziwitsa eni ake a kafukufukuyi.

Khalani otsimikizika kuti mayankho anu onse mupeleke adzasungidwa mwachinsinsi. Ngati mwavomera kutenga mbali mukafukufukuyi, mukupemphedwa kuti musayine kapena kudinda ndi chala chanu pa fomu la chivomelezo limene mutapatsidwe ngati chidzindikiro choti mwavomera kutenga mbali mukafukufukuyi mosakakamizidwa.

Kafukufuku ameneyi wavomelezedwa ndi komiti imene imayang'anira za kafukufuku yotchedwa College of Medicine Research and Ethics Committee (COMREC) komanso ndi oyang'anira chipatala cha boma la Blantyre. Ngati mungafune kudziwa zambiri zokhuzana ndi kafukufukuyi ndinu omasuka kufunsa mafunso pogwilitsa ntchito manambala iyi: 0999 405 545. Mutha kupelekanso mafunso ndi madandaulo anu kwa aphunzitsi anga Mai Chirwa pa 0888940513 komanso Mai Kapito pa 0888861333 kapenanso komiti yoyendetsa zakakafukufuku iyi: COMREC Secretariat, P/Bag 360, Chichiri, Blantyre 3, ndipo nambala yawo ya telefoni ndi iyi: 01 989 766.

Zikomo kwambiri powerenga kalatayi.

Appendix 3: Consent form for the participant

Study Title: Determinants of postpartum disorders following early hospital discharge in Blantyre, Malawi.

Investigators: Tiwonge Jere Lulaka (Kamuzu College of Nursing), Professor E. Chirwa (Kamuzu College of Nursing).

Contact details of study Principal Investigator: Tiwonge Jere Lulaka, Kamuzu College of Nursing, P.O Box 415, Blantyre. Cell: 0999405545. Email: lulaka2016tiwonge@kcn.unima.mw. **Study Sponsor:** United States Agency International Development (USAID), World Learning Malawi Scholarship Program, P.O Box 30733, Lilongwe.

I have read or have had another person read the information to me and have understood the content of the information. I have also understood the aim of the research, its procedures and the expected duration of my participation. I have been allowed to ask questions about the study where necessary. I understand that the information I will give will be kept confidential and will only be accessed by the researcher and those people who are directly concerned with the study.

I understand that I do not have to suffer any injury nor harm during the research process and that the information I will give to the researcher will not be used against me in future. I also know where to complain if my rights are violated during the study. I am aware that participation is voluntary and that I am free to withdraw from the study at any time without being penalized.

I voluntarily agree to participate in the current study.

Participant's signature.....Date.....

Participant's thumbprint (if illiterate).....Date
.....

Signature of witness (if the participant is
illiterate).....Date.....

Researcher's
signature.....Date.....

Appendix 4: Kalata yachilolezo yochokera kwa amayi otenga nawo mbali pakafukufuku

Mutu wa kafukufuku: ‘Chopangitsa mavuto auchembere odza kambakotulutsa mwachangu amayi kuchipatala akangobereka kumene ku Blantyre, Malawi.

Opangitsa kafukufuku: Tiwonge Jere Lulaka (Kamuzu College of Nursing), Professor E. Chirwa (Kamuzu College of Nursing).

Mwini kafukufuku: Tiwonge Jere Lulaka, Kamuzu College of Nursing, P.O Box 415, Blantyre. Foni; 0999 405545. Email: lulaka2016tiwonge@kcn.unima.mw.

Opeleka thandizo lopangira kafukufuku: United States Agency International Development (USAID), World Learning Malawi Scholarship Programme, P.O Box 30733, Lilongwe.

Ndawerenga, kapena munthu wandiwerengera uthenga umene uli pa kalata iyi ndipo ndamvetsa zonse zimene zalembedwa. Ndamvetsanso cholinga cha kafukufukuyi ndi m'mene atapangidwire komanso nthawi imene nditatenge kuyankha mafunso ndikavomera kutenga mbali mukafukufukuyi. Ndapatsidwa mpata ofunsa mafunso okhuzana ndi kafukufukuyi pamene sindinamvetse. Ndamvetsetsa kuti mayankho anga akhala a chinsinsi ndipo adzawerengedwa ndi anthu okhawo amene ali okhuzidwa ndi kafukufuku ameneyi.

Ndikudziwa kuti palibe vuto lirilonse lodziwika limene nditakumane nalo mukafukufukuyi. Ndadziwitsidwanso kumene ndingathe kupeleka madandaulo anga ndikakumana ndi vuto lirilonse lokhudza kafukufukuyi. Ndikudziwa kuti sindine okakamizidwa kutenga mbali mukafukufukuyi komanso kuti nditha kusiya kutenga nawo mbali mukafukufukuyi nthawi ina iliyonse popanda mlandu uliwonse.

Mosakakamizidwa, ndikuvomera kutenga mbali mukafukufukuyi.

Sayini ya otenga mbali mukafukufuku.....

Tsiku.....

Chidindo cha chala cha otenga mbali mukafukufuku (ngati saakutha kulemba).....

Tsiku.....

.....

Sayini ya mboni (ngati otenga mbali mukafukufuku saakutha kulemba).....

Tsiku.....

.....

Sayini ya opangitsa kafukufuku.....

Tsiku.....

Appendix 5: Questionnaire

Participant's identification number

Name of Health

Facility.....

Date of interview..... Participant's
number.....

Starting time..... Finishing
time.....

SECTION A: Demographic Data

How old are you?

.....

Where do you stay (physical address)?

.....

.....

.....

.....

What is your denomination?

Christian []

Moslem []

Others (specify).....

What is your marital status?

Married []

Living with a man []

Divorced []

Widowed []

Separated []

Never been married or lived with a man []

What is your highest level of education?

Tertiary level []

Secondary level []

Primary level []

I have never attended school []

If married, what is your partner's highest level of education?

Primary education []

Secondary education []

Tertiary education []

None []

What is your tribe?

Lomwe []

Tumbuka []

Yao []

Chewa []

Others (specify).....

What is your occupation?

House wife [] b. Teacher []

Secretary [] d. Engineer []

Nurse [] f. Cashier []

Business lady [] h. Tailor []

Doing piece works j. Others Specify

.....

What is your partner's occupation?

Builder [] b. Teacher []

Secretary [] d. Engineer []

e.Nurse [] f. Cashier []

g.Businessman [] h. Tailor []

Others (specify).....

What type of family do you come from?

Nuclear family []

Extended family []

Single headed family []

Others (specify)

How many children do you have?

1-3 []

4-6 []

7 and above []

SECTION B: Types of postpartum disorders mothers face following early hospital discharge

Did you experience any postpartum disorders at home following early discharge after childbirth?

Yes []

No []

What are the postpartum disorders you experienced at home during the first week after childbirth? (tick all that applies)

Constipation []

Backache []

Painful and swollen vulva []

Painful legs []

Excessive vaginal bleeding []

Insomnia []

Fatigue []

Infection []

Convulsion []

Postpartum blues [

]

Severe abdominal pains [

]

Breast engorgement []

Breast infection (mastitis) []

Sore nipple []

Others (specify).....

Do you take the disorders you experienced to be the normal process of labour and delivery?

Yes []

No []

What do you think is the cause of the postpartum disorders you developed after early discharge?

Little time of rest at home []

Because of poor resources at home []

High number of children I have delivered []

Because of increased responsibility at home []

Because of cultural practices I did []

Because of early discharge []

Others (specify)

Section C: Proportion of mothers facing disorders at home following early discharge

At what time after childbirth were you discharged home?

Less than 1 hour []

Between 1 and 12hours []

Between 13and 24hours []

Between 25 and 48hours []

Which postnatal disorders did you experience first from the other?

Severe abdominal pains []

Backache []

Breast engorgement []

Breast infection (mastitis) []

Constipation []

Excessive vaginal bleeding []

Fatigue []

Infection []

Insomnia []

Painful and swollen vulva []

Painful legs []

Postpartum blues []

Convulsion []

Sore nipple []

Others (specify).....

After how many hours/days after discharge did you start experiencing
postnatal disorders at home?

Within 24hours after childbirth

[]

Between 48 hours to 1 week

[]

SECTION D: Demographic and socioeconomic factors that determine maternal disorders among mothers after early discharge.

Do you own a mobile telephone?

Yes []

No []

Do you have an account in a bank or other financial institution that you use?

Yes []

No []

Does any member of your household have a bank account?

Yes []

No []

Does your house has

Electricity? Yes [] No []

Radio ? Yes [] No []

Television? Yes [] No []

Ground telephone?. Yes [] No []

Computer? Yes [] No []

Refrigerator? Yes [] No []

Koloboyi? Yes [] No []

Paraffin lamp? Yes [] No []

Bed with mattress?. Yes [] No []

Sofa set? Yes [] No []

Does any member of your household own;

Wrist watch Yes [] No []

Mobile phone Yes [] No []

Bicycle Yes [] No []

Motorcycle Yes [] No []

Car Yes [] No []

What is your main source of water for drinking and other household activities?

Well []

Piped water []

Borehole []

River []

Bottled []

Other (specify).....

What kind of toilet facility do members of your household usually use?

Water closet latrine []

Pit latrine []

Bucket []

Bush []

River []

Other (specify).....

Do you share a toilet with other households?

Yes []

No []

What type of fuel does your household mainly use for cooking?

Electricity []

Gas []

Paraffin []

Wood	[]
Charcoal	[]
Animal dung	[]
No food cooked in house	[]
Do you have a separate room which is used as a kitchen?	
Yes	[]
No	[]
How many rooms in your house are used for sleeping?	
None	[]
One	[]
Two	[]
Three	[]
Four	[]
Other (specify).....	
How many dependants do you assist apart from your own children?	
1-3 dependants	[]
4-6 dependants	[]
7 or more dependants	[]
Is your income able to sustain the needs of your family?	
Yes	[]
No	[]

SECTION E: Support measures used to address the postpartum disorders of mothers after early discharge

After the development of the postnatal disorders, what measures did you take?

I went to buy medications at the grocery/pharmacy/vendor []

I consulted traditional healers []

I went to the hospital []

I just stayed at home []

I reported to people at home []

Others (Specify)

.....

Did you tell anybody at home about the postpartum disorders you developed at home following early hospital discharge after childbirth?

Yes []

No []

To whom did you report to?

Mother []

Husband []

Sister []

Neighbour []

Friend []

Other (specify).....

Why did you choose to report to that person?

She/he was nearby the time I had the disorders []

I trust the person []

He/she is the eldest in my family []

Other (specify).....

If no, why did you not report the disorders?

I don't trust the people that were around []

I took the problem to be normal []

I knew they would not assist []

Other (specify).....

If you consulted the doctor, after how many hours/days did it take you
to consult him following the postnatal complication you developed?

Within 12hours []

Between 12 hours to 24hours []

Between 25 to 36 hours []

Between 36 hours to 48days []

Between 49 hours to 6 days []

What postnatal disorders made you consult the doctor following a
discharge after childbirth? (Tick all that apply)

Fever []

Constipation []

Fatigue []

Severe abdominal pains []

Excessive vaginal bleeding []

Severe backache []

Convulsion []

Breast engorgement []

Breast infection (mastitis) []

Sore nipple []

Others (specify)

How did the family members assist you with the disorders at home?

I was given traditional medicine []

I was advised that it's the normal process of childbirth []

I went to the hospital []

I was taken for prayers []

Others (specify).....

Who gave you the social support you needed at home after postnatal discharge?

My mother []

My mother-in-law []

My neighbours []

Other family members []

Others (specify)

.....

What kind of support did you receive from the family members?

They assisted with cooking []

They assisted with washing []

They assisted with taking care of the baby []

Others (specify)

What kind of support would you like to have received to solve the problem?

Taken to the hospital to receive medical attention []

Given traditional medicine []

Given time to rest at home []

Others

(Specify).....

What does your culture say about the disorders you developed?

Its normal healing after childbirth []

I have been bewitched []

Nothing []

Other (specify).....

What does your religion say about the disorders you developed?

Its normal healing after childbirth []

I have been bewitched []

Nothing []

There are evil spirits []

Other (specify).....

After early discharge from the hospital, were you visited by any
personnel from the health facility you delivered?

Yes []

No []

Which health care worker came to visit you at home after the postnatal
discharge?

Midwife []

Health Surveillance Assistant (HSA) []

Clinician []

Other (specify)

.....

How many times did the health care worker come to visit you at home after postnatal discharge?

Once ☐

Twice ☐

Thrice ☐

Four times and above ☐

Did you find the visit beneficial to your health as a postnatal mother?

Yes ☐

No ☐

What information did you receive from the health care worker?

About care of the breast

About personal hygiene

About nutrition

Others (specify)

.....

In trying to follow up on your health after childbirth, did you receive any phone call from the health facility asking how you are feeling after postnatal discharge?

Yes ☐

No ☐

Did you call the health personnel yourself consulting them on your health after postnatal discharge?

Yes []

No []

If no, what is the reason?

I do not have a phone []

I did not have airtime []

I don't know any contact number for the health worker at the hospital[
]

There is no network in my area [
]

My phone was not charged [
]

Other

(specify).....

Thank you for taking part in the current study

Appendix 6: Questionnaire translated in Chichewa

Mafunso

Nambala ya otenga mbali mukafukufuku Tsiku la
kafukufuku.....

Dzina la chipatala
.....

Nthawi yoyambila.....Nthawi
yomalizila.....

Gawo loyamba: Mbiri ya amayi wotenga mbali mkafukufuku.

Muli ndi zaka zingati?

.....

Mumakhala kuti?

.....

.....

Ndinu achipembedzo chanji?

Chikhirisitu []

Chisilamu []

China (tchulani).....

Muli pa banja?

Inde ndili pa banja []

Ayi sindinakwatiwepo []

Ndikungokhala ndi mwamuna koma sindinakwatirane naye []

Banja linatha	[]
Mwamuna anamwalira	[]
Tinasiyana	[]
Sukulu munafika nayo pati?		
Koleji	[]
Sekondale	[]
Pulaimale	[]
Sindinaphunzireko sukulu	[]
Amuna anu, sukulu anafika nayo pati?		
Koleji	[]
Sekondale	[]
Pulaimale	[]
Sianaphunzireko sukulu	[]
Ndinu a mtundu wanji?		
Lomwe	[]
Tumbuka	[]
Yao	[]
Chewa	[]
Wina (tchulani).....		
Kodi mumagwira ntchito yanji?		
Ndimangokhala	[]
Yaulembi	[]
Namwino	[]
b. Yauphunzitsi	[]
d. Yaunjiniya	[]
f. Yowerenga ndalama	[]

g.Bzinesi [] h. Yautelala []

i. Maganyu j. Zina(tchulani).....

Amuna anu amagwira ntchito yanji?

Ndimangokhala [] b. Yauphunzitsi []

Yaulembi [] d. Yaunjiniya []

Namwino [] f. Yowerenga ndalama []

]

g.Bzinesi [] h. Yautelala []

i. Maganyu j. Zina (tchulani).....

Mumachokera ku banja lotani?

Banja losasakaniza ndi maanja ena []

Banja losakanikilana ndi maanja ambiri []

Lonyang'aniridwa ndi ine mwini []

Zina

(tchulani).....

Muli ndi ana angati?

Osachepera atatu []

Osachepera asanu ndi mmodzi []

Kupyolera asanu and awiri []

Gawo lachiwiri: Mavuto auchembere omwe azimayi akukumana nawo akawatulutsa mwachangu kuchipatala akangobereka kumene.

Kodi munakumana ndi mavuto aliwonse kunyumba okhudza
uchembere chifukwa chotulutsidwa mwachangu kuchipatala mutangobereka
kumene?

Inde []

Ayi []

Ndimavuto ati amene munakumana nawo chifukwa chotulutsidwa
mchipatala mwachangu mutangobereka kumene?

Kudzimbidwa []

Kupweteka msana []

Kupweteka ndikutupa kumaso []

Kupweteka miyendo []

Kutaya magari kwambiri []

Kutopa []

Kusowa tulo []

Kutentha thupi []

Kukomoka []

Kukhumudwa []

Kupweteka mmimba kwambiri []

Kutupa mabere []

Kutentha ndinso mafinyi mmabere []

Mkaka kusasa []

Zina

(tchulani).....

Kodi mavuto onse auchembere omwe anabwera mutatulutsidwa mchipatala mwachangu kutsatira kubereka, mukuona kuti anayenera kuchitika monga zimayenera kukhalira mzimayi akabereka?

Inde []

Ayi []

Kodi mukuona kuti ndichifukwa chiyani munakumana ndimavuto auchembere mwafotokoza aja mutatuluka mchipatala?

Kusowa nthawi yokwanira yopuma kunyumba []

Umphawi []

Kuchuluka kwa ana pakhomo []

Kuchuluka udindo pakhomo []

Miyambo yamakolo []

Chifukwa chotulutsidwa msanga mchipatala []

Zina (tchulani)

Gawo lachitatu: Kuchuluka kwa amayi amene akukumana ndi mavuto auchembere akawatulutsa mwachangu mchipatala akangobereka kumene.

Mutangobereka kumene, panapita nthawi yayitali bwanji kuti mutulutsidwe mchipatala?

Sipanadutse ola limodzi []

Pakati pa ola limodzi ndi maola 12 []

Pakati pamaola 13 ndi maola 24 []

Pakati pamaola 25 ndi maola 48 []

Ndimavuto ati amene anayamba kubwera. Kutsagana ndi ati?

Kudzimbidwa []

Kukhumudwa	[]
Kukomoka	[]
Kupweteka miyendo	[]
Kupweteka mmimba kwambiri	[]
Kupweteka msana	[]
Kupweteka ndikutupa kumaso	[]
Kusowa tulo	[]
Kutaya magari kwambiri	[]
Kutentha ndinso mafinya mmabere	[]
Kutentha thupi	[]
Kutopa	[]
Kutupa mabere	[]
Mkaka kusasa	[]
Zina	

(tchulani).....

Mavuto auchembere amene mwakumana nawo, anayamba patatha
nthawi yayitali bwanji chitulukireni mchipatala mutabereka?

Pasanadutse maola awiri ndi anayi []

Pakati pamaola 48 ndi sabata imodzi []

Gawo lachinayi: Zokhudza mbiri komanso moyo wazachuma zomwe
zimapangitsa mavuto auchembere kwa amayi omwe otulutsidwa msanga mchipatala
akabereka.

Kodi muli ndi telephone yammanja?

Inde []

Ayi []

Kodi muli ndi akaunti yanu ku banki?

Inde []

Ayi []

Kodi pali aliyense mbanja lanu amene ali ndi akaunti yakubanki?

Inde []

Ayi []

Kodi nyumba yanu ili ndi;

Magetsi Inde [] Ayi []

Wayilesi Inde [] Ayi []

Kanema Inde [] Ayi []

Telefoni Inde [] Ayi []

Komputa Inde [] Ayi []

Fuliji Inde [] Ayi []

Koloboyi Inde [] Ayi []

Nyali yaparafini Inde [] Ayi []

Bedi ndi matilesi Inde [] Ayi []

Mpando wasofa Inde [] Ayi []

Kodi alipo pabanja lanu amene ali ndi;

Wotchi yapamkono Inde [] Ayi []

Telephone yammanja Inde [] Ayi []

Njinga yakapalasa Inde [] Ayi []

Njinga yamotoInde [] Ayi []

Galimoto Inde [] Ayi []

Kodi madzi akumwa komanso ogwiritsa ntchito zina zapakhomo mumatunga kuti?

Pachitsime []

Pampopi []

Pamjingo []

Mumtsinje []

Kugula a mbotolo []

Zina (tchulani).....

Kodi banja lanu limagwiritsa ntchito chimbudzi chotani?

Chamadzi chogejemula []

Chokumba []

Chandowa/ chidebe []

Kutchire []

Mumtsinje []

Zina (tchulani).....

Chimbudzi chanu chimagwiritsidwa ntchito ndi mabanja enanso?

Inde []

Ayi []

Kodi banja lanu limagwiritsa ntchito chani pophika?

Magetsi []

Parafini []

Mpweya wa gasi []

Nkhuni []

Makala []

Ndowe zaziweto []

Sitiphika mbanja langa []

Zina(tchulani).....

Kodi muli ndichipinda china chomwe mumagwiritsa ntchito ngati
khitchini?

Inde []

Ayi []

Kodi zipinda zogonamo ndizingati mnyumba yanu?

Palibe []

Chimodzi []

Ziwiri []

Zitatu []

Zinayi []

Zina(tchulani).....

Muli ndi anthu ena angati amene mumawapatsa thandizo kupatula ana
anu?

Osachepera atatu []

Osachepera asanu ndi mmodzi []

Kupyolera asanu and awiri []

Kodi ndalama zimene mumapeza zimakwana kusamalira banja lanu?

Inde []

Ayi []

Gawo lachisanu: Ndongomeko zachisamaliro zothandiza kuthana ndimavuto
auchembere obwera kamba kotuluka msanga mchipatala amayi akabereka.

Mutakumana ndimavuto auchembere kutsatira kutulutsidwa
mwamsanga mchipatala mutabereka, munachitapo chani?

Ndinakagula mankhwala ku golosale/Sitolo yamankhwala/wogulitsa
malonda ang'onoang'ono []

Ndinapita kwa asing'anga []

Ndinapita kuchipatala []

Ndinangokhala kunyumba []

Ndinawauza anthu ena []

Zina

(tchulani).....

Kodi munawuza munthu aliyense kunyumba zamavuto auchembere
amene mumawapeza kamba kotuluka mwachangu kuchipatala mutabereka?

Inde []

Ayi []

Kodi munawuza ndani zamavuto anuwo?

Amayi []

Apongozi aakazi []

Amuna anga []

Achemwali anga []

Oyandikana nawo nyumba []

Anzanga []

Ena (tchulani).....

Chifukwa chani munasankha kuwuzwa amene munawauzawo?

Anali pafupi nthawiyo []

Ndimawakhulupilira []

Ndimunthu wamkulu pabanja pathu []

Zina (tchulani).....

Ngati ayi simunawuze munthu aliyense, perekani zifukwa?

Anthu amene analipo nthawi imeneyo, sindimawakhulupilira[]

Ndimati ndimomwe ziyenera kukhalira kwa munthu wobereka kumene[
]

Ndimona kuti anthu sandithandiza []

Zina (tchulani).....

Mutatulutsidwa mchipatala zinakutengerani masiku angati kuti
mupitenso kuchipatala kukalandira thandizo pamavuto auchembere amene
munakumana nawowa?

Pasanathe mawola khumi ndi awiri []

Pakati pamaola 12 ndi maola 24 []

Pakati pamaola 25 ndi maola 36 []

Pakati pamaola 49 ndi masiku asanu ndi limodzi []

Kodi ndi mavuto ati amene anakupangitsani kuti mupitenso kuchipatala
mwana atabadwa?

Kudzimbidwa []

Kupweteka msana []

Kupweteka ndikutupa kumaso []

Kupweteka miyendo []

Kutaya magari kwambiri	[]
Kutopa	[]
Kusowa tulo	[]
Kutentha thupi	[]
Kukomoka	[]
Kukhumudwa	[]
Kupweteka mmimba	[]
Kutupa mabere	[]
Kutentha ndinso mafinya mmabere	[]
Mkaka kusasa	[]
Zina	

(tchulani).....

Nanga achibale anu anathandizapo bwanji pamavuto auchembere
amene munapezeka nawo?

Anandipatsa mankhwala achikuda	[]
--------------------------------	----------

Anandiwuza kuti ndimmene ziyenera kukhalira chifukwa ndabereka
kumene

Ananditengera kuchipatala	[]
---------------------------	----------

Anandipititsa kumapemphero	[]
----------------------------	----------

Zina	(tchulani)
------	------------

.....

Kodi ndindani amene amakuthandizani kunyumba mutatuluka
mchipatala mwana atabadwa?

Amayi	[]
-------	----------

Apongozi []

Oyandikana nawo nyumba []

Achibale ena []

Ena

(tchulani).....

Kodi achibale anakupatsani thandizo lanji kunyumba mutadwala?

Kundichapira []

Kundiphikira []

Kundilelera mwana []

Lina (tchulani).....

Nanga inu mukanakonda mutalandira thandizo lotani pamavuto

auchembere omwe munakumana nawo?

Kutengeredwa kuchipatala kukalandira thandizo []

Kupatsidwa mankhwala achikuda []

Kupuma kunyumba []

Zina (tchulani)

.....

Kodi chikhalidwe chanu chimati chani pa mavuto auchembere

mwakumana nawowa?

Ndikuchira kwathupi kutsatira kubereka []

Kulodzedwa []

Palibe []

Zina

(tchulani).....

Kodi chipembedzo chanu chimati chani pa mavuto auchembere
mwakumana nawowa?

Ndikuchira kwathupi kutsatira kubereka []

Kulodzedwa []

Palibe []

Ndimizimu yoipa []

Zina

(tchulani).....

Kodi kunabwera aliyense wogwira ntchito kuchipatala amene
anadzakuyenderani kunyumba mutatulukamchipatala?

Inde []

Ayi []

Mutatulutsidwa mchipatala mutabereka kumene, ndindani wogwira
ntchito kuchipatala amane anabwera kudzakuyenderani kunyumba?

Anamwino []

Azaumoyo []

A dokotala []

Ena

(tchulani).....

Nanga ogwira ntchito akuchipatala amene anabwera kudzakuonaniwo,
anabwera kangati?

Kamodzi []

Kawiri []

Katatu []

Koposera katatu []

Kodi mukuwona kuti kuyenderedwa ndi akuchipatala kunyumba kwanu, kunali kothandiza?

Inde []

Ayi []

Fotokozani malangizo womwe wogwira ntchito kuchipatala anabweretsa atadzakuyenderani kunyumba?

Kasamalidwe kamabere []

Ukhondo wapathupi []

Za madyedwe []

Zina

(tchulani).....

Kodi munalandirako telefoni kuchokera kuchipatala kutsatira zaumoyo wanu chitulukireni mchipatala mutakabereka?

Inde []

Ayi []

Kodi inu munawayimbirako telefoni akuchipatala kupeza uphungu uliwonse pamavuto auchembere amene munakumana nawo mutabereka?

Inde []

Ayi []

Ngati mwayankha **ayi** , chifukwa chiyani?

Ndilibe telefoni []

Ndinalibe mayunitsi oyimbira foni []

Sindidziwa foni nambala ya aliynse wogwira ntchito kuchipatala[]

Kudera kwathu kulibe netiweki ya foni []

Batire yatelefoni yanga inalibe moto []

Zina (tchulani)

.....

Zikomo kwambiri potenga nawo mbali mkafukufuku ameneyu.

Appendix 7: Permission letter to conduct a pretesting study

University of Malawi

Kamuzu College of Nursing

P.O. Box 415

Blantyre

Cell: 0999 405 545

Email:

lulaka2016tiwonge@kcn.unima.mw

Blantyre District Health Officer

Private Bag 66

Blantyre

24th March 2017

Dear Sir,

REQUEST TO CONDUCT A PRETESTING STUDY AT ZINGWANGWA HEALTH CENTRE

I am a Master of Science in Midwifery student at Kamuzu College of Nursing. I write to request your office to conduct a pretest study at Zingwangwa health centre. As an academic requirement for the award of a masters degree, I am supposed to conduct a research study. The topic of my study is “**Determinants of postpartum disorders following early hospital discharge in Blantyre, Malawi**”. The objectives of the study are to identify the types of postpartum disorders following early postnatal discharge after childbirth, to determine the proportion of mothers facing postpartum disorders following early discharge after childbirth, to investigate the demographic and socioeconomic factors which determine postpartum disorders after early discharge and to assess the existing support structures used to mitigate the postpartum disorders after early discharge.

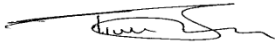
The study findings will assist policymakers to have a baseline on the need of developing a postnatal care policy in which issues of early discharge of mothers after delivery can be highlighted for instance ensuring proper postnatal visits by health care workers as recommended by WHO to reduce cases of postpartum disorders amongst postnatal mothers that arise because of early postnatal discharge following childbirth. This pretesting study will assist in making sure that the data collection tool is valid and reliable to collect the needed data from mothers.

Any areas of concern, clarifications contact the researcher on 0999405545.

Your approval of the current study will be appreciated.

Yours faithfully

Tiwonge Jere Lulaka

A handwritten signature in black ink, appearing to read 'Tiwonge Jere Lulaka', with a stylized flourish at the end.

Appendix 8: Permission to Conduct Research

University of Malawi
Kamuzu College of Nursing
P.O. Box 415
Blantyre
Cell: 0999 405 545
Email:

lulaka2016tiwonge@kcn.unima.mw

Blantyre District Health Officer

Private Bag 66

Blantyre

24th March 2017

Dear Sir,

REQUEST TO CONDUCT A RESEARCH STUDY AT NDIRANDE AND LIMBE HEALTH CENTRES

I am Tiwonge Lulaka a Master of Science in Midwifery student at Kamuzu College of Nursing. I write to request your office to conduct a research study at Ndirande and Limbe health centres. As an academic requirement for the award of a masters degree, I am conducting a research study titled **“Determinants of postpartum disorders following early hospital discharge in Blantyre”**

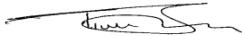
The objectives of the study are to identify the types of postpartum disorders following early postnatal discharge after childbirth, determine the proportion of mothers facing postpartum disorders following early discharge after childbirth,

explore the demographic and socioeconomic factors which determine postpartum disorders after early discharge and assess the existing support structures used to mitigate the postpartum disorders after early discharge.

The study findings will assist policymakers to have a baseline on the need of developing a postnatal care policy in which issues of early discharge of mothers after delivery can be highlighted for instance ensuring proper postnatal visits by health care workers as recommended by WHO to reduce cases of postpartum disorders amongst postnatal mothers that arise because of early postnatal discharge following childbirth.

Any areas of concern, clarifications contact the researcher on 0999405545.

Your approval of the current study will be appreciated.



Yours faithfully

Tiwonge Jere Lulaka

Appendix 9: Permission to Conduct Research: Blantyre District Health Office

Telephone: Blantyre 01875332 / 01877401
Fax: 01872551/01 878 539

Communication should be addressed to:

The District Health Officer



In reply please quote No.

MINISTRY OF HEALTH AND POPULATION
DISTRICT HEALTH OFFICE
P/BAG 66
BLANTYRE
MALAWI

REF. NO.BTDHO/MED/9

27^h March, 2017

Tiwonge Jere Lulaka

Kamuzu College of Nursing,
P.O Box 415,
Blantyre,


Dear Madam,

PERMISSION TO CONDUCT A STUDY

I am pleased to inform you that permission has been granted for you to conduct your study entitled: - **Prevalence and determinants of postpartum complication mothers face following early hospital discharge after childbirth** in Blantyre District. However, this is subject to approval by College of Medicine Research Ethics Committee (COMREC).

Please note that management encourages our participation in the study for ownership and use of findings.

Yours faithfully,


Dr. Medson Matchaya
DISTRICT HEALTH OFFICER

