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NEONATAL CARE PRACTICES AMONG FIRST-TIME MOTHERS: A STUDY AT LA-NKWANTANANG MADINA MUNICIPALITY

BY

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DECLARATION

I, Afua Gakpe hereby declare that apart from references to other people‟s works, which have been duly acknowledged, this dissertation is as a result of my own independent work and has not been submitted for the award of any degree in any institution.

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Prof Augustine Ankomah Date

(Academic Supervisor)

DEDICATION

I dedicate this work to the Almighty God, my family and all who contributed in diverse ways in making this research a success.

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My highest gratitude and praise goes to God Almighty, for the gift of life, intelligence and opportunity, without which this project would have been impossible. I wish to express my profound gratitude to Prof Augustine Ankomah, my supervisor, for his constructive criticisms, inspiring comments and dedication to supervise this study.

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ABSTRACT

Background: Several neonatal deaths are recorded in developing countries such as Ghana, and some of these result from inappropriate neonatal care practices of mothers. The neonates of first-time mothers in particular are more at risk of receiving improper care due to lack of experience of the mothers. That is why mothers are encouraged to attend postnatal clinic. However, there is very little research information on the neonatal care practices of first-time mothers and the association between postnatal clinic attendance and neonatal care practices among first-time mothers. Information about these are necessary to help advance knowledge and empower first-time mothers to reduce morbidity and mortality during neonatal period.

Objective: The main objective of this study was to explore neonatal care practices among first-time mothers and assess the practices that are influenced by postnatal attendance.

Method: A descriptive, cross-sectional analytical study was conducted among 80 first-time mothers in two Polyclinics in Madina and Pentecost Hospital in La-nkwantang Madina Municipal Assembly using a structured questionnaire. Statistical analysis was conducted using STATA version 14.

Results: Seventy-five percent of respondents practiced exclusive breastfeeding and all respondents fed their babies with colostrum. Also, 73.75% of respondents washed their hands always before dressing the cord of their babies, but only 7.5% of the first-time mothers washed their hands before breastfeeding. Majority (91%) of respondents had poor knowledge of danger signs in the neonate, and majority (66%) failed to comply with the required postnatal visits. The chi-square tests established the existence of relationship between postnatal attendance and feeding of baby with both breasts at each feed (p=0.034); postnatal attendance and burping of baby after each feed (p=0.002); postnatal attendance and breastfeeding of baby when mother had sore nipple (p=0.014). There was also relationship

between postnatal attendance and period breastfeeding started after delivery (p=0.046); and postnatal attendance and period mothers give water to their babies (p=0.011).

Conclusion: Although the general breastfeeding and cord care practices of first-time mothers were good, their knowledge of danger signs were poor and their postnatal attendance was low. Postnatal attendance has relationship with certain neonatal practices among first-time mothers and must be encouraged

Keywords: First-time mothers; neonates; breastfeeding practices; cord care; recognition of danger signs; postnatal care.

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LIST OF ABBREVIATIONS

ANC	Ante-natal Clinic
EBF	Exclusive Breastfeeding
ENC	Essential Newborn Care Practices
ENAP	Every Newborn Action Plan
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GSS	Ghana Statistical Service
LANMMA	La-Nkwantanang Madina Municipal Assembly
MDG	Millennium Development Goals
MOH	Ministry of Health
MPC (R/C)	Madina Polyclinic (Rawlings circle)
NMR	Neonatal Mortality Rate
PNC	Postnatal Clinic
UNICEF	United Nations International Children‟s Education Fund
WHO	World Health Organization.

OPERATIONAL DEFINITION OF TERMS

Antenatal Care - is the care you receive from healthcare professionals during pregnancy.

Chlorhexine – is an antiseptic antibacterial agent that can be used to dress the umbilical cord.

Colostrum - milk produced by the mammary gland in late pregnancy and the few days after giving birth.

Cord Care – keeping the umbilical cord stump clean and dry.

Danger Signs - non-specific symptoms and signs that indicate severe illness.

Exclusive Breastfeeding – feeding the baby only with breast milk without any additional food or drink, not even water.

First-time Mother – a woman who has given birth to a baby for the first-time.

Immediate Postnatal Period - covers the first 24 hours from birth, where close direct or indirect supervision by a skilled attendant is required so that any problems can be identified promptly for appropriate intervention or referral.

Mixed Feeding – combining breastfeeding and formula feeding.

Neonate - is a child under 28 days of age.

Neonatal Morbidity - a measure of disease, illness or injury among neonates.

Neonatal Mortality - is death occurring within the first 28 days of life.

Practices - engaging in an activity again and again.

Postnatal - begins immediately after the birth of the baby to six weeks.

Postnatal Care - the skilled care rendered to both mother and baby immediately after birth to six weeks.

Skilled Care - a quality care rendered to a woman during pregnancy, childbirth, postpartum period and her infant provided by a skilled personnel supported by an enabling environment (necessary equipment, supplies and medicines and infrastructure) and functional referral system.

CHAPTER ONE

INTRODUCTION

1.0 Background of the study

The neonatal period is a critical time in the life of a child. It is that period when the child is most susceptible to disease and thus is at risk of death. Three million neonates die each year globally because of lack of appropriate care (Tura & Fantahun, 2016). According to World Health Organization (WHO), (2011), neonatal mortality is at 41% per 1000 live births. More worrying is the fact that worldwide, half (50%) of these deaths occur within the first 24 hours of life (Ministry of Health, 2014).

Neonatal mortality continues to increase as a percentage (>60%) of overall infant mortality (Shrestha, Bhattari. & Silwal, 2013). Neonatal morbidity and mortality have remained high in most developing countries and affected the achievement of the Millennium Development Goal (MDG) four (Kayom, Kakunu, & Kiguli, 2015). Fifteen (75%) of the twenty countries that have highest risk of neonatal mortality are in Africa, Africa accounts for 25% of neonatal mortality although it has only 11 percent of the world‟s population (WHO, 2012).

Ghana is one of the developing countries in Africa that has high rate of neonatal mortality. Neonatal mortality accounts for four out of ten (40%) under five mortalities in Ghana. As at 2015, there was an increase in neonatal mortality over the past five years from 30 to 32 per 1000 live births (MOH, 2014). In Ghana currently, close to half (43%) of all births take place at home (Saaka, & Iddrisu, 2014).

A lot of these babies may be at risk of being exposed to unhealthy care practices, particularly when their mothers are first-timers. A number of interventions have been developed by

international bodies to reduce neonatal morbidity and mortality. Examples of such initiatives include the WHO and UNICEF‟s Every Newborn Action Plan (ENAP). The core function of this action plan is to address the main causes of death of newborns and their prevention and management. Another joint collaboration by these two organisations is to promote postnatal care during the neonatal period (WHO, 2012). One key area of the promotion of postnatal care during neonatal period is the recommendation of visits by skilled health workers to the homes of postnatal mothers, especially during a baby‟s first week of life to improve neonatal survival. However, there is no documented evidence to suggest that health workers in Ghana are complying with this recommendation.

One other germane recommendation by WHO is that after uncomplicated vaginal delivery, mothers and their babies should be discharged after 24 hours, but this also does not seem to be adhered to. A lot of hospitals discharge mothers who have delivered earlier than the recommended time due to insufficient facilities. In Madina Polyclinic, for example, mothers who have a normal delivery and their babies seemed to be in good health, are discharged after six (6) hours because the maternity unit has only four (4) beds which are used to monitor both the women in labour and those at the fourth stage of labour.

Several of these useful recommendations that are geared towards addressing the health needs of neonates do not appear to be getting the needed compliance. Meanwhile, the goal of the Ghana National Newborn Health Strategy and Action Plan, 2014-2018, is to reduce neonatal mortality to 21 per 1000 live births. This they intend to achieve by promoting postnatal care.

According to Sink, (2009), postnatal care provides ideal opportunity to educate new mothers on neonatal care. With the seeming failure of health workers to follow-up on mothers who have newly delivered and the increasing spate of neonatal deaths, it becomes necessary to

investigate the neonatal care practices of first time mothers in particular and use that information as the basis for empowering the women in caring for their neonates.

1.1 Statement of the problem

Neonatal morbidity and mortality is a public health issue globally, regionally and locally. According to World Health Organization (WHO, 2012), neonatal deaths account for 40% of under five deaths, with 25% to 45% of these deaths occurring within the first 24 hours. The majority (75%) of the neonatal deaths occur within the first week (WHO, 2012). The World Health Organization (WHO) and United Nations International Children‟s Education Fund (UNICEF) identified neonatal death to be 2.9 million per month (Ministry of Health, 2014). According to Gul *et al.* (2014), four million neonates die globally before they reach one month of age.

United Nations International Children‟s Education Fund (UNICEF) has noted that 31% of neonatal deaths in the world are as a result of infections (MOH, 2014). The average neonatal mortality rate in developing countries is about eight times more than what occurs in developed countries. Neonatal death is highest in Africa, with the record of 41 neonatal deaths per 1000 live birth (WHO, 2006).

In Ghana, the neonatal mortality rate (NMR) is 29 per 1000 live births as at 2014 (GSS, GHS, and ICF International, 2015). Most of these deaths occur at home and are caused by factors including inappropriate cord care and skin care practices (GSS, GHS and MEASURES, 2009). Ghana‟s 2014 Demographic and Health Survey identified cases such as asphyxia and infections as some of the primary causes of neonatal deaths (GHS, 2014).

According to the MOH (2014), the interval between the onset of illness and death of babies can be in a matter of minutes or hours so it is very important to recognize and plan for the care of the neonate. Health education improves postnatal mothers‟ knowledge in neonatal care practices (Gul *et al,* 2014).These neonatal deaths could be reduced if mothers are well informed about providing proper neonatal care.

First- time mothers are new and inexperienced in neonatal care and practices. Neonatal care is poor among adolescent first time mothers as evident in their practices such as delay in initiation of breastfeeding and giving inappropriate feeds to their babies (Atuyambe, Miremba, Tumweigye, Annika, Kirumira, & Faxelid, 2008). After birth, the health of the neonate largely depends upon the care and practices adopted by their mothers; hence, the need to assess neonatal care practices especially among first-time mothers to provide information to educate and empower mothers to reduce morbidity and mortality during neonatal period.

1.2 Justification of the study

Child birth and neonatal period have great emotional effect on families, especially first- time mothers and it could be considered as a new experience in life. The need to pursue studies in the area of neonatal care is important as poor knowledge by parents, especially the mothers regarding neonatal care could pose a threat to neonatal health (Jiji *et al.*, 2014). According to Jiji *et al* (2014), it is imperative to provide comprehensive training in the field of neonatal care for mothers. For such trainings to be effective, it is important to determine the current neonatal care practices and identify deficiencies among first-time mothers through research. This will enable health workers to clearly know which areas to emphasize in educating and empowering first-time mothers to enable them improve practice and ultimately reduce

neonatal morbidity and mortality. Findings from the study could assist policy makers to develop appropriate policies and interventions pertaining to neonatal health and survival. Also, stakeholders will be empowered to implement the policies to bring to the fore neonatal survival issues.

1.3 Main objective

The main objective of this study is to assess neonatal care practices among first-time mothers and determine the practices that are influenced by postnatal attendance.

1.4 Specific objectives

1. To identify the practices of first-time mothers as regards breastfeeding of the neonate.
2. To identify the cord care practices among first-time mothers.
3. To determine first-time mothers‟ ability to recognize danger signs in the neonate.
4. To assess the association between postnatal clinic attendance and neonatal care practices among first-time mothers.

1.5 General research question

What are the neonatal care practices among first-time mothers and which of the practices are influenced by postnatal attendance?

1.6 Specific research questions

1. What are the practices of first-time mothers regarding breastfeeding of the neonate?
2. What are the practices of first-time mothers in relation to care of the umbilicus?
3. Are first-time mothers able to recognize danger signs in neonates?
4. Is there an association between postnatal clinic attendance and neonatal care practices among first-time mothers?

Conceptual Framework On Neonatal Care Practices Among First-Time Mothers

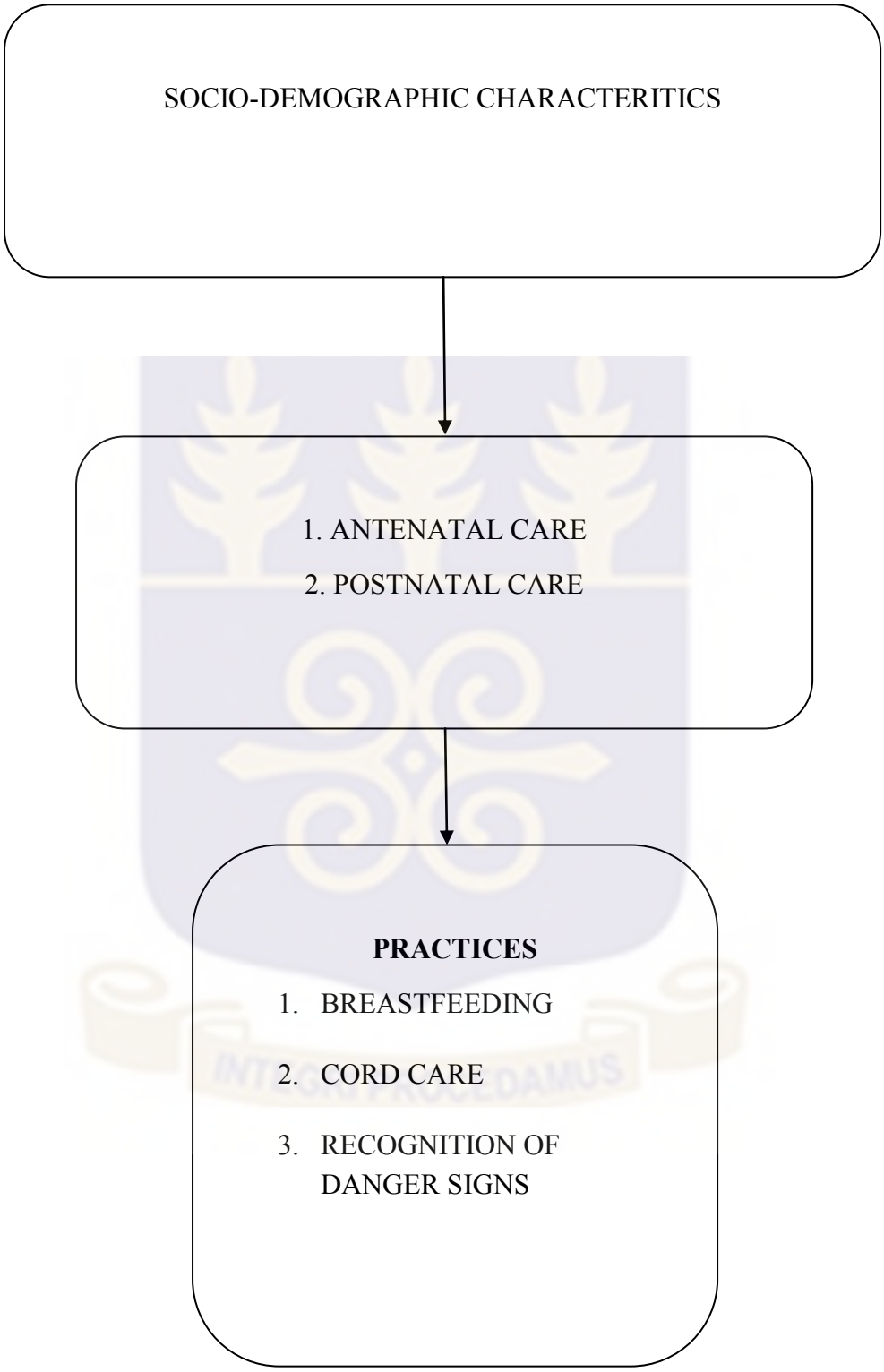

Fig.1: Conceptual framework

1.7 Narrative

The conceptual framework is on neonatal care practices among first-time mothers. The framework was aimed at reducing neonatal morbidity and mortality. To achieve this aim, it was necessary to assess the health and neonatal care practices of first-time mothers in particular because they are more likely to put the life of the new born baby at risk due to lack of experience and knowledge.

Respondents socio-demographic information such as age, level of education, marital status, occupation and their care practices was explored. The practices include their attendance of antenatal clinic during pregnancy and postnatal clinic after delivery. Also, their practices in terms of breastfeeding, cord care, and recognition of danger signs were analyzed. The outcome of these provided a clear idea on what should be emphasized in educating and empowering the first-time mothers to help reduce neonatal morbidity and mortality that occur as a result of inappropriate care practices.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section presents information on related studies on neonatal care practices among mothers, thus providing a framework for the study and establish the importance of the study. The chapter reviews relevant studies in both developed and developing countries. The literature of the study was obtained by searching for published journals, which were relevant to the topic. The review covers areas such as breastfeeding, cord care, recognition of danger signs and postnatal clinic attendance.

2.1 Breastfeeding practices

A number of empirical studies were conducted on the breastfeeding practices of postnatal mothers in general, with just a handful of them focusing on first-time mothers. Bello, Adedokun and Ojengbede (2009) did a study on social support during childbirth as a catalyst for early breastfeeding initiative for first-time Nigerian mothers using secondary data analysis of a randomized control trail. The population studied was made up of primips, consisting of an experimental group of 97 women, and a control group of 115 women. After analyzing the data using Statistical Package for Social Sciences (SPSS), Bello, Adedokun and Ojengbede (2009) identified shorter time in initiating breastfeeding among women who had companions compared with those without one. The possible challenges they enumerated as contributing to delay in initiating breastfeeding among first-time mothers were frustration, stress, and anxiety of motherhood experience.

In relation to breastfeeding, Atuyambe *et al.* (2008) did a cross-sectional study among adolescent and adult first-time mothers health seeking practices during pregnancy and early motherhood in Uganda. The researchers interviewed 762 women (442 adolescents and 320

adults) using structured questionnaire. Atuyambe *et al* (2008) discovered that majority (95%) of the women breastfed, but several kinds of feed were given to the babies before breastfeeding was initiated. Feeds such as sugar or glucose water, ghee in mushroom were given to the babies before breast milk begun to flow. As expected, adolescent mothers were found to be more likely to delay initiation of breastfeeding compared to adult mothers. According to Atuyambe *et al* (2008), the adolescent mothers waited two days and more, when lactation was established before breastfeeding. Of the 442 adolescents studied, only 143 of them started breastfeeding immediately less than an hour after delivery.

In a qualitative study on the breastfeeding experiences of first-time mothers in Vientiane, Lee, Durham, Booth, and Sychareum (2013) purposively sampled and conducted focus group discussion and in-depth interviews with first-time mothers. Lee *et al* (2013) discovered that the mothers knew the importance of breastfeeding and made sure their neonates were fed with colostrum. Although they knew the importance of exclusive breastfeeding, some of them could not practice due to inverted nipple, insufficient breast milk and working situation.

Bhandari and Paudyal, (2016), in a descriptive cross sectional research in Mahendra Adarsa Hospital in Chitwan, Nepal, explored the knowledge and practices of primip and multi gravid postnatal mothers on newborn care. The researcher relied on purposive sampling technique in selecting their sample and study site, and used face-to-face interview in assessing the knowledge of the respondents and observation checklist in assessing the practices of the mothers in newborn care. Bhandari and Paudyal, (2016), in respect to breastfeeding, revealed that most of the respondents (88%) have heard of exclusive breastfeeding (EBF) and 60 percent of them practice it. Out of the 66 respondents who have heard about EBF, 72.7% said it means feeding a baby with mother‟s milk only for six

months. The respondents knew that newborns were to be fed with mother‟s milk/colostrum first. In respect to breastfeeding frequency, a little above half (54.7%) of the respondents fed their newborn whenever it was needed. As regarding breastfeeding practices, majority (93.3%) of the mothers kept their breast clean before feeding. About 86.7 percent of mothers positioning during feeding was appropriate. The minority of respondents (20%) supported their breast with fingers below and the thumb above in feeding their newborn, and 73.3 percent supported the head of the baby while feeding. It was also discovered that about 66 % of the respondents burp their babies after feeding.

A Similar study was conducted in rural Karnataka by Kesterton and Cleland (2009) using in depth interviews and focus group discussion as well as prospective survey. The study discovered that mothers had little urgency in initiating breastfeeding. According to the authors, majority (60%) of the mothers delayed breastfeeding with the believe that they needed to bath before breastfeeding. Others gave castor oil to their babies with the notion that it cleanses the bowel to make the neonate pass stools before initiating breastfeeding. These mothers expressed and discarded their colostrum and fed their neonates with sugar water and pre-lacteal feeds.

2.2 Cord care practices

In a community based cross-sectional descriptive study conducted among 335 mother-infant dyads using both quantitative and qualitative methods in Kampala, Uganda, Kayom, Kakuru, and Kiguli (2015), after analyzing data using ACESS data base 2007 and STATA, found that most (69.5%) of the mothers reported they had received teachings on cord care, although a few (45%) received the teachings from health personnel. Some mothers reportedly received teachings on cord care from their attendants, neighbours, and fellow mothers. Majority (89.6%) of the mothers cleaned the cord of their babies at least twice a day and washed their

hands before cleaning the cord (84.9%). More than half (58%) of the mothers applied various substances such as salty water, powder, vaseline, spirit, normal saline, ripe banana (gonja), sap, soot, ash, saliva, and herbs on the cord of their babies.

Kayom, Kakuru, and Kiguli (2015) also discovered that mothers who delivered in private clinics were 1.2 times more likely to apply substances to the cord compared to those who delivered in hospital. However, there was no significant difference in the application of substances to the baby‟s cord among mothers who delivered at home and those who delivered in hospital. The level of education, parity, and the number of anti-natal clinic attendance did not result in any significant difference in the practice of application of substances to the cord. A similar descriptive study conducted using survey approach among 100 randomly selected postnatal mothers, in which data was collected using structured interview guide in selected maternity centers in Mudarai Tamilnadu by Jiji *et al* (2014). The researchers discovered that 60 percent of the respondents felt there was no need to apply any medication on the cord; which was in line with WHO‟s recommendation for dry cord care. According to Jiji *et al* (2014), the majority (88%) of postnatal mothers disagreed that application of ash, cow dung, and ghee on cord was essential.

Bhandari *et al* (2014) also analysed cord care practices among primip and multi gravid postnatal mothers in which they found that 63 percent of the respondents said it was important to wash hands before cord care. In that study, a large proportion of the mothers (89.3%) said cord should be observed for bleeding or discharge, redness and for swelling. In addition, a little more than half (56.3%) of the respondents said the cord should be kept clean to prevent infection.

Similar cord care practices among mothers were explored by Kesterton *et al* (2009), but in a sharp contrast, the researchers discovered that strict cord care was not adhered to as some women applied something if available. In 33 percent of cases, some applications were used. The qualitative aspect of the study revealed that some mothers were found treating the wound. Some used turmeric powder which naturally has antiseptic properties, but were not kept clean. According to Kesterton *et al* (2009), some mothers burnt the tip of the stump which they believed end bleeding and prevent infection by sealing the end. In another cross sectional study among 170 conveniently sampled mothers who attended pediatric outpatient clinic in a tertiary care facility in Karachi, Pakistan, Gul *et al* (2014) discovered poor cord practices among the women. Like Kesterton *et al* (2009), Gul *et al* (2014) found that majority (74%) of the respondents applied various substances. Some of the substances include, coconut oil, mustard oil, purified butter and turmeric to the cord stump. The mothers applied the substances because they believe it will keep the cord dry. Gul *et al* (2014) noted that specific effect of these substances needed to be examined since they may lead to infections.

In one other descriptive survey among 100 postnatal mothers conducted in a division of neonatology of a tertiary referral centre in South India on every 40th postnatal mother who delivered between May to August 2009, Padiyath, Bhat and Ekambaram (2010) noted that care of the cord was stressed since it could function as the entry point for infections. However, guidelines for umbilical cord care were rarely followed. In their study, 65 percent of the mothers responded that they would leave the cord stump as recommended by the World Health Organization where nothing is placed on cord stump unless indicated. However, 25 percent of the mothers were applying coconut oil on the umbilical stump. It was worth noting that 2 percent of the mothers said they would apply ash on the cord stump. This

was an illustration of the gap in the education provided to them although they were taken care of in a tertiary care centre.

The studies reviewed in cord care practices revealed a mixed situation where some postnatal mothers are adhering to the World Health Organisation‟s standard of caring for the stump, while a large proportion of them in certain cases also engage in several inappropriate and sometimes, crude practices in attending to the cord of their neonates. Here again, it is worth noting that these studies were not specifically conducted on first-time mothers, but postnatal mothers in general, most of whom may have had a lot of experience in handling the cord of neonates in the past as compared to first-time mothers.

2.3 Recognition of danger signs

The ability of postnatal mothers to easily identify and act based on observed danger signs could help in reducing complications and neonatal deaths. Ekwochi, Ndu, Osuorah, Amadi, Okeke, Obuoha … Anyim (2015) studied 376 mothers and or care givers from four communities in the seventeen local government areas of Enugu State using multistage sampling approach. The researchers established that all but one of the mothers agreed they were aware of some danger signs. When they were asked to list the danger signs, 18 (4.8%) had no idea and listed none. The majority (95.2%) listed correctly at least one of the WHO‟s recognized danger signs. According to Ekwochi *et al* (2015), two, three, four and five danger signs were listed correctly by 352 (93.6%), 296 (78.7%), 114 (30.3%) and 50 (13.2%) of the respondents respectively while only 11 (2.9%) and 1 (0.3%) correctly listed up to six and seven WHO danger signs respectively. Two hundred and sixty three had seen one or more of the danger in their current newborns or older children when they were neonates. The following WHO danger signs were mentioned by the respondents; fever, refusal to feed, weakness, convulsion, cold body, yellowness of the body, difficulty in breathing, boil and or

rashes and fast breathing (Ekwochi *et al*. 2015). Similar trend was discovered in Savelugu/Nanton District; a rural area in the Northern Region of Ghana, in a study conducted by Saaka and Iddrisu (2014) among 420 mothers who delivered a live baby at home within the past 12 months and their infants aged 12 months or less. Saaka and Iddrisu (2014) did face-to-face interviews using a pretested structured questionnaire and found that only 10 (2.5%) of the mothers were not aware of any of the danger signs in the newborn, 312 (77.2%) of respondents were aware of one to three newborn danger signs and 82 (20.3%) respondents, representing less than a quarter of the women were aware of at least four danger signs.

Again, in relation to determining mothers‟ ability to recognize danger signs in neonates, Nigatu, Worku and Dadi (2015) sampled 603 mothers in North-West of Ethiopia using pre-tested, and interview-administered questionnaire in which they established that only 18.2% of the mothers had knowledge of three or more neonatal danger signs (good knowledge). Consistent with expectations, mothers who had good knowledge of the danger signs were those who had higher educational achievements, access to television, and were antenatal and postnatal attendants, Nigatu *et al* (2015). Their study discovered that the general maternal knowledge about neonatal danger signs was low.

Women who recently delivered in Southwestern rural Uganda, numbering 765 were selected through a two-stage cluster technique and surveyed (Sandberg, Petterson, Asp, Kabakyengal and Agardh, 2014). After analyzing the data using SPSS, the researchers found that knowledge of at least one of the defined danger signs was present in a little more than half (58.3%) of the respondents, while only 14.8 percent could name at least two signs. Here again, knowledge of neonatal danger signs among mothers remained low just like Nigatu *et al* (2015) and some other researchers have found. According to Sandberg *et al* (2014), while fast or difficulty breathing was the commonly known danger sign and referred to by almost

30 percent of the women, fever and difficulty feeding were given by 20 percent of the women. The least known danger signs were convulsions, movement only when stimulated, and hypothermia, stated by less than 5 percent of the respondents. Other responses were ebino (false teeth) and oburo (millet disease) which was an explanation given to difficult breathing.

In a rural community in Sarojininagar Block, Uttar Pradesh, India, Awasthi, Verma and Agarwal (2006) did both qualitative and quantitative study among mothers, grandmothers, grandfathers, fathers or "nannies" (other female relatives) caring for infants younger than 6 months of age and recognized health-care providers serving the area. The researchers conducted focus group discussions (n = 7), key informant interviews (n = 35) and structured interviews (n = 210) with the respondents and discovered that more than half of the respondents recognised fever, irritability, weakness, abdominal distension, vomiting, slow breathing and diarrhoea as danger signs in neonates. Awasthi *et al* (2006) further found that seventy-nine (39.5%) of the caregivers had seen a sick neonate in the family in the past 2 years, but health care was sought for 46 (23%) neonates. Traditional medicines were used for treatment of bulging fontanels, chest in-drawing and rapid breathing.

The studies reviewed so far point to a direction where knowledge of postnatal mothers and their ability to recognize danger signs in neonates were quite at the low side, except for those who were highly educated, had access to television set, and a few others who were ante-natal and postnatal attendants. Majority of these studies were conducted on postnatal mothers in general and not first-time mothers, hence the need to specifically study those who are first-time mothers because they constitute a high risk segment of postnatal mothers.

2.4 Postnatal clinic attendance and neonatal care practices

All things being equal, teaching of mothers who attend postnatal clinics is expected to lead to an improvement in neonatal care practices among nursing mothers. A study by Kayom *et al* (2015) among mothers reported to have received teachings on cord care from health personnel, however, found disturbing rates of new-born care practices. They identified some gaps in information on new-born care practices in urban settings which are usually cross-cultural and better served with health care. According to Kayom *et al* (2015), more of the mothers reported that they had received teachings on cord care from health personnel, yet about 58 percent of them applied various substances on the cord of their babies to quicken the healing. The application of substances to the cord was prevalent among mothers who delivered in health facility and those who delivered at home. These substances included salty water, powder, Vaseline, spirit, normal saline, ripe banana (gonja), sap, soot, ash, saliva, and herbs. Majority had no knowledge of skin to skin care as a thermo protective method. The practice of bathing babies in herbal medicine was also common (65%), and a significant number (29%) used prelacteal feeds. Most of the neonates were born in health facilities and discharged home, only to return to the facilities with symptoms of neonatal sepsis. The inadequate new-born care practices in this urban community point to the need to intensify the promotion of universal coverage of the new-born care practices irrespective of rural or urban communities and irrespective of health care seeking indicators through health education during postnatal care.

Determining whether the utilisation of postnatal care for newborns had an association with neonatal mortality in India was the focus of Singh, Yadav and Singh‟s (2012) study. The researchers studied 643, 944 ever married women between 15–49 years and 166, 260 unmarried women from 2007 to 2008 using structured questionnaire. The researchers also investigated if sociodemographic variables have a significant importance on mortality in

neonatal period. After analysing the data using STATA version 11, Singh, Yadav and Singh (2012) discovered that 48 percent of the mothers with babies had postnatal care within 24 hours, and 64 percent of them had two or more postnatal care within the first 10 days of delivery. They identified that new-borns who died during the neonatal period were less likely to have received postnatal care within 24 hours of birth compared to those that survived the neonatal period (45 versus 48 %). They also found that new-borns that accessed government facilities for care were less likely to die during the neonatal period than those that did not access care at all. The findings of Singh, Yadav and Singh (2012) also revealed that utilisation of postnatal care was extremely limited and there was the need to make postnatal care accessible to all.

In a cross-sectional study among 4, 079 mothers in Nepal to identify factors associated with the utilization of postnatal care services, and association between utilisation of at least one postnatal care visit within six weeks of delivery and immediate postnatal care within 24 hours of delivery, Khanal, Adhikari, Karkee and Gavidia (2014) established that less than half (43.2%) of the respondents reported attending postnatal clinic within the first six weeks, with 40.9 percent reporting attending immediate postnatal care. Khanal *et al* (2014) noted that mothers who were from urban areas, rich families, were educated, had partners who were educated, delivered in a health facility, attended four or more antenatal care and their deliveries attended by skilled attendants were more likely to report attending at least one postnatal care as well as immediate postnatal care. On the other hand, mothers who reported agricultural occupation and partners performing agricultural occupation were less likely to have attended at least one PNC as well as immediate PNC. The study found a decrease in the proportion of mothers who attended PNC and immediate PNC with increasing age.

In a review of the major challenges in improving neonatal health in the same Nepal, Joshi, Sharma, and Teijingen (2013) reviewed articles and identified the following significant challenges: antenatal care; delivery practices; postnatal care; limited health infrastructure; transport and communication; affordability; women's empowerment; and political instability. Concerning postnatal care, the researcher found that most (68%) newborns do not receive postnatal care, as few communities tend to perceive complications in new-born as "God"s wish". Too many of these mothers indulged in cultural practices that could increase the risk of infection like topical applications to the cord. The study found that throughout the neonatal period, most (80.4%) infants received at least one application of mustard oil, others had application of ash, mud, breast milk, saliva, water, herbs and spices, while 15.4 percent received homemade antiseptics. Application of kajal or surma (kohl) to newborns" eyes, believed to ward off evil eyes or make their eyes beautiful. These practices can lead to watery eyes, itchiness, allergy and infections.

The prevalence of exclusive breastfeeding at one, three and six months were 74%, 24% and 9% respectively and a few mothers did not receive any information on breastfeeding during their antenatal visit, resulting in a missed opportunity. The researchers believed shortage of skilled attendants who can recognise complications and provide care for new-borns were some contributing factors to the inappropriate practices of the mothers. In addition, there was an unbalanced distribution of health personnel where the more skilled were in urban areas, and inaccessible to rural populations where their skills were most needed.

A similar study, involving a review of articles on childbirth and post- natal interventions based on current World Health Organization (WHO) guidelines, and recent Lancet series which have an alleged impact on reducing maternal, neonatal and child mortality was carried out in Pakistan by Salam, Mansoor, Mallick, Lassi, Das, and Bhutta (2014). The interventions identified include social support during childbirth, prophylactic antibiotic for caesarean

sections, prevention of postpartum haemorrhage, induction of prolonged pregnancy and postnatal interventions. The postnatal interventions include immediate essential new-born care, advice on support of early initiation of breastfeeding, promotion and provision of hygienic cord and skin care and management of new-borns with jaundice. The review of Salam *et al.* (2014) on breastfeeding showed that early breastfeeding initiation was associated with lower risks of all-cause of neonatal mortality among all live births. Another review by Salam *et al*. (2014) identified community based intervention packages for reducing neonatal morbidity and mortality and also showed an increase in rates of breastfeeding. Education and routine care through PNC attendance showed higher increments in the initiation rates of breastfeeding. In the area of cord care, their review found that there was a 28 percent reduction in mortality among low birth weight infants when chlorhexidine was used to clean the cord. Their review identified that postnatal care faced many challenges. Salam *et al* (2014) advised that follow-ups through home visits may help in increasing the coverage and improving the quality of home-based postnatal care services for mothers and newborns. The goal of improving neonatal and maternal health can be achieved through increased utilisation of basic postnatal services by mothers and newborns, increased identification and referral of post-partum women and newborns with health problems to health care facilities, and provision of quality home based postnatal care for mothers and newborns.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This study investigates the neonatal care practices among first-time mothers in an urban setting. The chapter on methodology describes the research design, research setting, target population, sample size, sampling strategy, data collection instrument used and ethical issues relating to the study.

3.1 Research design

The study was essentially cross-sectional since investigation was conducted to seek answers to the problem identified or research questions formulated. It was also descriptive in nature because the researcher gathered information on, described, and documented the prevailing neonatal care practices among first-time mothers. The objective for using the descriptive design was to provide accurate description of the activities and practices of first-time mothers about how they cared for their neonates through asking questions, reporting answers, interpreting and describing relationship among variables. This research design was relevant to the study because of its flexible and change adaptable nature. It was also a valuable means to seek new insight, ask questions and assess phenomena in a new light.

3.2 Study area

The study was conducted in La- nkwantanang Madina Municipal Assembly, which is in the Greater-Accra region of Ghana. The municipality has four public health facilities (one psychiatric hospital, two polyclinics and one health centre). Apart from the public health facilities, it has a mission and some privately owned health facilities. These health facilities provide services to the inhabitants of Madina and its suburbs such as Legon, Bawaleshie, Adjiriganor, Agbogba, Oyarifa, Pantang Adenta, Damfa and Asheyie. The data for the study

was collected in three health facilities, namely, Madina Polyclinic (Rawlings circle), Madina polyclinic (Kekele) and the Pentecost Hospital all found within the La-nkwantanang Madina Municipality. The La-nkwantanang Madina Municipality was chosen for the study partly because it is an area with many young female porters, several of whom become pregnant and assume the title of first-time mothers. Meanwhile, there is evidence that neonatal mortality increases as the age of the mother decreases (Gyesaw & Ankomah, 2013). A good number of first-time mothers in the Municipality who are not porters, will also be studied. The neonatal practices of these mothers, therefore, require some empirical investigations to be able to determine what exists and how to improve upon their current neonatal practices. The three health facilities studied were selected through the lottery method of simple random sampling. The method involved listing all the facilities in the municipality on slips of paper and putting them in a container. After mixing them, one slip was chosen from the container at a time for three consecutive times.

The Municipal Assembly is bounded at the south by Accra Metropolitan area, west by Ga–East Municipality, north by Akuapem South District, and east by Adentan Municipality. It has a population of 11, 926 with males forming 48.5 percent and females constituting 51.5 percent (Ghana Statistical Service (2012),). The La-nkwantanang Madina Municipality is cosmopolitan in nature, as it is inhabited by people from different ethnic backgrounds and Christian and Islam religious faiths. The area has a central market, and banks with a fair distribution of high and middle-income groups, but with quite a number of inhabitants below the low-income bracket. The inhabitants engage in various economic activities with petty trading being the most common.

3.3 Variables of interest

The variables of interest for the study were as follows:

1. Dependent variables: Neonatal care practices (breastfeeding, cord care and recognition of danger signs).
2. Independent variables: Postnatal clinic attendance, age, educational level of the first-time mothers, occupation, marital status and antenatal visits.

3.4 Recruitment and training of research assistants

Three assistants (midwives), one from each of the health facilities used for the study, were recruited and trained. They assisted in administering the questionnaire to the study participants. The research assistants were trained to conform to the ethical guidelines of the study.

3.5 Study population

The population of the study was first-time mothers with babies within a day to six-week-old who visited the postnatal clinic in the three health facilities in La-nkwantanang (Madina Polyclinic (Rawlings circle), Madina Polyclinic (Kekele) and the Pentecost Hospital). The reason for limiting the respondents to those with six-week-old babies was that postnatal care in Ghana ends at six weeks, by which time the mothers would have made a maximum of five visits. In this study, a mother should have made at least a maximum of four visits to a health facility to be considered as having made adequate postnatal visits. The frequency of these visits were compared with the neonatal practices of the first time mothers. In the study, the assumption was that the more the postnatal visits by these mothers, the better their neonatal practices. First-time mothers were the population for the study because they were new to

motherhood and had less experience in neonatal care practices, which may pose a risk to the life of the neonate.

3.6 Sample size

A total of 80 participants who were first-time mothers partook in the survey. The generally low number of first-time mothers in the postnatal register of the health facilities studied informed the choice of the sample size. In Madina Polyclinic (Rawlings circle), an average of 13 first-time mothers were recorded for postnatal attendance in a month. For Madina Polyclinic (Kekele), the researcher identified an average of 27 first-time mothers, and for Pentecost hospital, an average of 40 first-time mothers were documented. Due to the seemingly low numbers, all first-time mothers who visited these facilities for postnatal care during the one-month data collection period were included in the study.

3.7 Sampling technique

Considering the nature of the topic and people who were involved in this study, participants were selected through purposive sampling by the principal investigator. First-time mothers constituted the sample on the basis of their typicality or knowledge about the issue under study. The researcher purposely chose first-time mothers as subjects because they were relevant to the research topic. In this case, the judgment of the researcher was more important than obtaining a probability sample and the process of sampling involved identification of the informants or participants through the help of postnatal registers and midwives in-charge of the postnatal units of the three facilities and arranging times for meeting the participants. Every first-time mother who came for postnatal visit was important in order to get enough sample size for the study. All those who were available during the one-month period and were willing to participate in the study were studied.

3.8 Inclusion criteria

All first-time mothers who had babies that were six weeks old or less and attended postnatal clinic in the three health facilities qualified to be part of the study.

3.9 Exclusion criteria

All mothers whose babies were more than six weeks old were not eligible for the study.

3.10 Data collection tool

The tool for data gathering was questionnaire, which was in four parts. The first part gathered information on the socio-demographic, antenatal and postnatal visits of the study participants. The second part focused on the respondent‟s practices with regard to breastfeeding. The third part involved respondents‟ cord care practices, and the fourth part was about the ability of first-time mothers to recognize danger signs. The questionnaire was pre-tested to ensure its validity and reliability.

3.11 Data collection technique

The researcher and her research assistants administered the questionnaire on first-time mothers who have been selected for the study. That is, the researcher and her assistants read out the items on the questionnaire and filled-in the responses as provided by the participants. The data collection was done in the health facilities when the first-time mothers visited the facilities for postnatal care. Each questionnaire was completed within 10 minutes.

3.12 Record storage and protection

Every research record and data was protected against inappropriate use, disclosure, malicious, accidental loss or destruction in order to protect the confidentiality of the data of the study participants. The data was locked with restricted access on a secure laptop. The researcher

was responsible for the storage of the data. Apart from the researcher and the supervisor, no unauthorized person had access to the stored data.

3.13 Data analysis

The data collected was cross-checked to ensure that there were no errors. They were checked for completeness, accuracy and uniformity. Data was keyed into excel and then imported into STATA version 14 for statistical analysis. For the descriptive nature of the study, responses were coded and results expressed as frequencies and percentages. Chi- square test was conducted in determining association between postnatal attendance and specific neonatal care practices.

3.14 Ethical consideration

The study was approved by the Ghana Health Service Ethical Review Board and given an approval identification number of GHS-ERC: 123/02/17.The study pertains to the health sector and the Board was responsible for determining the ethical appropriateness or otherwise of studies conducted in the sector. Permission was sought from facility authorities before undertaking the study. They were requested to permit the researcher to undertake the study in their facilities and to assist in identifying the relevant research participants. Written informed consent was obtained from the participating first-time mothers. The study posed no threat to life and did not involve invasive procedures nor treatment. The study helped in identifying gaps or deficiencies in the practices of the first-time mothers in relations to the neonates with the view to using the information obtained as basis for determining areas that need emphasis in educating the first-time mothers.

No mother was compelled to partake in the study. For teenage mothers, parental consent was obtained before involving them in the study. The researcher took steps to ensure high level of confidentiality. To this end, no respondent was asked to write her name on the questionnaire.

The data obtained was also kept in a password-protected file to prevent any unauthorized access. Participants who wish to withdraw voluntarily from the study were permitted to do so at any stage of the research process. Respondents who gave their consent did not receive preferential treatment in any form, and those who declined to be part of the study were not victimized in anyway. No compensation was paid to study participants.

CHAPTER FOUR

RESULTS

4.0. Introduction

This chapter presents the findings of the study in accordance with the stated objectives and research questions. The chapter is in six sections. Section one presents demographic characteristics of respondents. Section two presents the assessment of practices of first-time mothers regarding to breastfeeding of the neonate. Section three presents the cord care practices of first time mothers. Section four presents assessment of first-time mothers‟ ability to recognize danger signs in neonate. Section five presents the relationship between postnatal clinic attendance and neonate care practices by first-time mothers, and section six presents the chapter summary.

4.1 Demographic characteristics of respondents

Table 1 presents the socio-demographic characteristics of the respondents. A total of 80 respondents were surveyed and 36 (45%) of them were between 21 to 25 years. A quarter (25%) of them were between 15 to 20 years. Majority, 47 (58.75%) of the respondents were married while more than one-fourth, 26 (32.50%) were single. More than three-quarters, 63 (78.75%) of the respondents were Christians. More than one-third 31 (38.80%) of the respondents were Akans, while 23 (28.80%) were Ewes and 18 (22.50%) belonged to other tribes such as Chamba, Dagarti, Dagomba, Frafra, Grushi, Hausa, Kotokoli and Mamprusi. Thirty-two (40%) of the respondents had Junior High School (JHS) education. The highest number (28.8%) of respondents were artisans, followed by traders (26.3%), and the unemployed (23.8%). The others (12.50%) were made up of caterers, cashiers, human resource personnel, lotto receivers and a secretary. All the 80 (100%) respondents delivered their baby at the hospital. Thirty percent of respondents reside in Madina, while 18.8% reside

in Ashaley-Botwe. Others (37.50%) reside in areas such as Abokobi, Adjiringanor, Agbogba, East Legon, New Legon, Hatso, Mepeasem, Ogbojo and Okponglo.

Table 1: Socio-demographic characteristics

Variable	Frequency (N=80)	Percent (%)
Age		
15-20	20	25.00
21-25	36	45.00
26-30	17	21.25
31-35	5	6.25
36-40	2	2.50
Marital status		
Married	47	58.75
Single	26	32.50
Co-habiting	7	8.75
Religion		
Moslem	17	21.25
Christian	63	78.75
Tribe		
Akan	31	38.80
Ewe	23	28.80
Ga-Adangbe	8	10.00
Others	18	22.50
Mother's educational level		
None	8	10.00
Primary	4	5.00
JHS	32	40.00
SHS	19	23.75
Tertiary	17	21.25
Mother's occupation		
Trader	21	26.30
Artisan	23	28.80
Health worker	3	5.00
Educationist	4	3.80
Unemployed	19	23.80
Others	10	12.50
Place Of Delivery		
Hospital	80	100.00
Residence		
Madina	24	30.00
Adenta	11	13.80
Ashaley-Botwe	15	18.80
Others	30	37.50

4.2 Facility in which respondents were met

Table 2 presents the health facilities as well as the number of respondents who were met and interviewed in each facility. Most (55%) of the respondents were met and interviewed at Pentecost hospital, while the least (19%) were met in Madina Polyclinic (Rawlings Circle).

Table 2: Number of respondents met in health facilities

Health facility	Frequency(N=80)	Percent (%)
Madina polyclinic (Rawlings circle)	15	19
Madina polyclinic (Kelele)	21	26
Pentecost hospital	44	55

4.3 Antenatal care practices

Table 3 shows the antenatal care practices utilised by respondents. All the respondents attended antenatal clinic. Thirty-eight (47.50%) and 35 (43.75%) of the respondents received their antenatal care at public and mission hospitals respectively. Most 67, (83.75%) of the respondents have made five antenatal visits. More than half, 43 (53.75%) of the respondents started antenatal care in the second trimester. Overall, 79 (98.75%) of the respondents had their baby at term.

Table 3: Antenatal care and delivery by respondents.

Variable	Frequency (N=80)	Percent (%)
Antenatal care		
Attendant	80	100.00
Non-attendant	0	0.00
Where antenatal care was received		
Mission hospital	35	43.75
Public hospital	38	47.50
Private hospital	7	8.75
Number of antenatal visit		
Once	0	0.00
Twice	1	1.25
Three times	1	1.25
Four times	11	13.75
Five times	67	83.75
Trimester antenatal care started		
First	34	42.50
Second	43	53.75
Third	3	3.75
Gestational age at delivery		
Term	79	98.75
Preterm	1	1.25

4.4 Postnatal care practices

The postnatal care practices of the respondents are presented in **Table 4** to help determine whether they were complying with the required postnatal visits. The Table shows that, twenty-eight (35%) of the babies were six weeks old at the time of the study. Only, one (1.25%) of the respondents was able to make the five-times required postnatal visits.

Table 4: Postnatal care by respondents

Variable	Frequency (N=80)	Percent (%)
How old the baby was		
One day	16	20.00
Two days	9	11.25
Three days	6	7.50
One week	13	16.25
Two weeks	8	10.00
Six weeks	28	35.00
Number of postnatal visit		
Once	39	48.75
Two times	34	42.50
Three times	6	7.50
Four times	0	0.00
Five times	1	1.25

4.5 Postnatal care compliance

The age of a baby determines the required number of postnatal visits a mother should make. For example, a mother with a day old baby should make one postnatal visit, while a mother with a three-day old baby should make two visits. A mother with one-week-old baby should make three postnatal visits, while a mother with a two-week-old baby should make four visits. Also, a mother with a six-week-old baby should make five postnatal visits. Mothers whose postnatal visits did not correspond to the age of their babies as explained above were deemed to be non-compliance. From **Table 5**, majority (66%) of the first-time mothers failed to comply with the required number of postnatal visits.

Table 5: Postnatal care/attendance compliance

Variable	Frequency (N=80)	Percent (%)
Compliance	27	34
Non-compliance	53	66

4.6 (a) Breastfeeding practices

Table 6 (a) presents results of the breastfeeding practices of the first-time mothers. Overall, 60 (75%) of the respondents practiced exclusive breastfeeding. Out of the 20 respondents who practiced mixed feeding, six (30%) of them stated they did that because of insufficient breast milk. The others 14 (70%) said they undergone caesarean section, while some said they had complications after delivery and these caused them to practice mixed feeding. Almost two-thirds 51 (63.75%) of the respondents started breastfeeding within an hour after delivery, while 20 (25.0%) breastfed after three hours. Some reasons for starting breastfeeding an hour after delivery were tiredness 6 (20.69%) and delivery complications 5 (17.24%). Other (62.07%) respondents said they started breastfeeding an hour after delivery because they undergone caesarean section, and some said they did not know they needed to breastfeed. All the respondents said they gave the colostrum to their babies, and almost all 77 (96.25%) of them breastfed their babies whenever needed. More than half 56 (70%) of the respondents fed their babies with both breasts at each feeding. More than two-thirds 61 (76.25%) of the respondents burped their babies after each feed and 69 (86.25%) did not give water to their babies. Slightly above two-thirds 55 (68.75%) of the respondents said they gave nothing to their babies before lactation was established. Overall, about half 42 (52.50%) of the respondents said they would give their baby breast milk if they had sore nipple.

Table 6 (a): Breastfeeding practices

Breastfeeding	Frequency	Percent (%)
Type of breastfeeding		
Exclusive	60	75.00
Mixed	20	25.00
Total	**80**	**100.00**
Reasons for practicing mixed feeding		
Insufficient breastmilk	6	30.00
Others	14	70.00
Period breastfeeding started		
Within one hour	51	63.75
After one hours	8	10.00
After two hours	1	1.25
After three hours	20	25.00
Total	**80**	**100.00**
Reason for starting breastfeeding an hour after delivery		
Tiredness	6	20.69
Complication after delivery	5	17.24
Other	18	62.07
Total	**29**	**100.00**
Colostrum after delivery		
Given to baby	80	100.00
Total	**80**	**100.00**
Frequency of breastfeeding		
Whenever needed	77	96.25
After every three hours	2	2.50
After every four hours	1	1.25
Total	**80**	**100.00**
Feeding baby with both breast at each feed		
Yes	56	70.00
No	24	30.00
Total	**80**	**100.00**
Burping baby after each feed		
Yes	61	76.25
No	19	23.75
Total	**80**	**100.00**
Period baby is given water		
Once in a while	11	13.75
I don‟t give my baby water	69	86.25
Total	**80**	**100.00**
Feed given to baby before lactation was established		
Formula feed	19	23.75
Glucose water	2	2.50
Water	4	5.00
Nothing	55	68.75
Total	**80**	**100.00**

Totals differ based on number responding to the

4.6 (b) Breastfeeding practices – multiple responses

Table 6 (b) shows the percentage of respondents who observed hygienic practices before breastfeeding their baby, how they positioned and attached their baby when breastfeeding, and their knowledge of whether breastfeeding was going well. Overall, all (100%) the respondents bathed at least once a day, but only 6 (7.5%) washed their hands before breastfeeding. More than half (88.8%) of the respondents positioned their baby‟s head and body in line when breastfeeding, while 66.3% supported the baby‟s whole body. More than half (68.8%) of the respondents had baby‟s mouth not wide open, and 30% had baby‟s lower lip turned outwards when breastfeeding. Additionally 95% of the respondents said when the baby looked healthy, it is an indication that breastfeeding was going well.

Table 6 (b): Breastfeeding practices – multiple responses

Variable	Frequency(n)	Percentage (%)
Hygienic practices undertaken before breastfeeding		
Bath at least once a day	80	100.0
Wash hands before feeding	6	7.5
Baby positioning when breastfeeding		
Baby‟s head and body in line	71	88.8
Baby supported by head and neck only	5	6.3
Baby‟s whole body supported	53	66.3
Baby‟s neck and head twisted to feed	2	2.5
Baby approaches breast, nose to nipple	4	5.0
Attachment of baby during breastfeeding		
Baby‟s chin touches breast	16	20.0
Baby‟s mouth not open wide	55	68.8
Lower lip turned outwards	24	30.0
More areola seen below bottom lip	18	22.5
Lips pointing forward	15	18.8
Signs of effective breastfeeding		
Baby looks healthy	76	95.0
Baby is calm and relaxed	2	2.5
Baby reaches or roots for breast if hungry	3	3.8
Baby restless or crying	1	1.3

*Multiple response

4.7 Cord care practices

Table 7 presents results of cord care practices of respondents. Overall, 55 (68.75%) of the respondents disagreed that they bathed their babies cord after the first bath. Only 12 (15%) agreed that the cord of the baby must always be dressed and covered. Also, 72 (90%) of the respondents disagreed that bleeding, discharging, redness and swelling in the baby"s cord is normal. More than two-thirds, 59 (73.75%) of the respondents always washed their hands before caring for the baby"s cord, and majority 71 (88.75%) used methylated spirit for dressing the cord.

Table 7: Cord care practices

Cord care	Frequency(N=80)	Percent (%)
You bath the cord of your baby after its first bath		
Strongly agree	1	1.25
Agree	21	26.25
Neutral	3	3.75
Disagree	55	68.75
The cord of baby must always be dressed and covered		
Agree	12	15.00
Disagree	68	85.00
Bleeding, discharging, redness and swelling in your baby's cord is normal		
Agree	5	6.25
Neutral	3	3.75
Disagree	72	90.00
You washed your hand before caring for your baby's cord		
Always	59	73.75
Sometimes	4	5.00
Scarcely	13	16.25
Not at all	4	5.00
Medications / substance used for dressing baby's cord		
Methylated spirit	71	88.75
Hot water	1	1.25
Heated stone	1	1.25
No medication	2	2.50
Purified butter	1	1.25
Mud	2	2.50
Penicillin	2	2.50

4.8 Recognition of danger signs

Table 8 presents results of the neonatal danger signs that the first-time mothers were able to mention. The highest (31.55%) number of respondents named high temperature, followed by excessive crying of the baby (13.37%), failure to suck the breast (11.23%), excessive vomiting (8.56%), and Jaundice (8.56%) as danger signs of neonates.

Table 8: Danger signs mentioned by first-time mothers

Danger signs	Frequency(n)	Percent (%)
High temperature	59	31.55
Excessive crying	25	13.37
Not sucking	21	11.23
Excessive vomiting	16	8.56
Jaundice	16	8.56
Rashes	14	7.49
Diarrhoea	13	6.95
Naval discharge	7	3.74
Coughing	5	2.67
Insomnia	3	1.60
Shivering	2	1.07
Breathing difficulty	2	1.07
Tender scalp	1	0.53
Restless	1	0.53
Convulsion	1	0.53
Constipation	1	0.53

Multiple response.

4.9 Knowledge of danger signs by first-time mothers

First-time mothers who were able to mention six or more danger signs of neonates were considered as having good knowledge of danger signs, whiles those who named less than six were considered as having poor knowledge. Those who were unable to name one danger sign were classified as having no knowledge. From **Table 9,** 73 (91%) of the first-time mothers had poor knowledge of danger signs in neonates, while 6 (8%) had absolutely no knowledge.

Table 9: Knowledge of danger signs by first-time mothers

Knowledge of danger signs	Frequency (N=80)	Percent (%)
Poor knowledge	73	91
No knowledge	6	8
Good knowledge	1	1

4.10 Association between postnatal attendance and neonatal practices

The age of a baby determines the required number of postnatal visits a mother should make. For example, a mother who has one-day-old baby should make one postnatal visit, while a mother with a three-day-old baby should make two visits. A mother who has one-week-old baby should make three postnatal visits, while a mother with a two-week-old baby should make four visits. Also, a mother with a six-week-old baby should make five postnatal visits. From the above explanations, the researcher was able to determine those who complied with postnatal attendance and those who did not.

4.11 Association between postnatal attendance and breastfeeding practices.

Table 10 shows the association between breastfeeding practices and postnatal attendance. From the Table, there was significant (p=0.046) relationship between postnatal attendance and breastfeeding of baby within an hour after delivery. There was also significant (p=0.034) relationship between postnatal attendance and feeding of baby with both breasts at each feed. Again there was significant relationship between postnatal attendance and burping of baby after each feed (p=0.002), also a significant relationship was observed between postnatal attendance and the period babies were given water (p=0.011). Finally, there was significant relationship between postnatal attendance and feeding of baby with the breast if mother had a sore nipple (p=0.014). However, there was no statistically significant relationship between postnatal attendance and type of breastfeeding (p=0.339).

Table 10: Association between breastfeeding practices and postnatal attendance

Breastfeeding practices	Postnatal attendance		df	χ^2
	Compliance n (%)	Non-compliance n (%)		
Type of breastfeeding			1	0.339
Exclusive	22 (36.67)	38 (63.33)		
Mixed	5 (25.00)	15 (75.00)		
Reasons for practicing mixed feeding			1	0.573
Insufficient breast milk	2 (33.33)	4 (66.70)		
Other	3 (21.43)	11 (78.57)		
Period breastfeeding started			3	0.046*
Within an hour	21 (41.18)	30 (58.82)		
After one hour	0 (00.00)	8 (100.00)		
After two hours	1 (100.00)	0 (00.00)		
After three hours	5 (25.00)	15 (75.00)		
Reason for starting breastfeeding an hour after delivery			2	0.248
Tiredness	3 (50.00)	3 (50.00)		
Complications after delivery	1 (20.00)	4 (80.00)		
Other	3 (16.67)	15 (83.33)		
Frequency of breastfeeding			2	0.452
Whenever needed	27 (35.06)	50 (64.94)		
After every three hours	0 (00.00)	2 (100.00)		
After every four hours	0 (00.00)	1 (100.00)		
Feeding baby with both breast at each feed			1	0.034*
Yes	23 (41.07)	33 (58.93)		
No	4 (16.67)	20 (83.33)		
Burping baby after each feed			1	0.002*
Yes	15 (24.59)	46 (75.41)		
No	12 (63.16)	7 (36.84)		
Period baby is given water				0.011*
Once in a while	0 (00.00)	27 (100.00)		
I don‟t give my baby water	11 (20.75)	42 (79.25)		
Feed given to baby before lactation was established			3	0.213
Formular feed	5 (26.32)	14 (73.68)		
Glucose water	0 (00.00)	2 (100.00)		
Water	0 (00.00)	4 (100.00)		
Nothing	22 (40.00)	33 (60.00)		
Feed baby with breast if you have sore nipple			1	0.014*
Yes	9 (21.43)	33 (78.57)		
No	18 (47.37)	20 (52.63)		

*Statistically significant difference between postnatal attendance and breastfeeding practices ($p < 0.05$).

Table 10 continues: Association between postnatal attendance and breastfeeding practices– multiple responses

Breastfeeding practices	Postnatal attendance		df	χ^2
	Compliance n (%)	Non-compliance n (%)		
Hygienic practices undertaken before breastfeeding				
Wash hands before breastfeeding	2 (33.33)	4 (66.67)	1	0.853
Baby positioning when breastfeeding				
Baby"s head and body in line	23 (32.39)	48 (67.61)	1	0.189
Baby supported by head and neck only	2 (40.00)	3 (60.00)	1	0.614
Baby"s whole body supported	15 (28.30)	38 (71.70)	1	0.642
Bay"s neck and head twisted to feed	2 (100.00)	0 (00.00)	1	0.029
Baby approaches breast, nose to nipple	0 (00.00)	4 (100.00)	1	0.179
Attachment of baby during breastfeeding				
Baby"s chin touches breast	5 (31.25)	11 (68.75)	1	0.903
Baby"s mouth not open wide	18 (32.73)	37 (67.27)	1	0.430
Lower lip turned outwards	8 (33.33)	16 (66.67)	1	0.670
More areolar seen below bottom lip	9 (50.00)	9 (50.00)	1	0.035
Lips pointing forward	4 (26.67)	11 (73.33)	1	0.755
Signs of effective breastfeeding				
Baby looks healthy	22 (28.95)	54 (71.05)	1	0.370
Baby is calm and relaxed	1 (50.00)	1 (50.00)	1	0.532
Baby reaches or roots for breast if hungry	0 (00.00)	3 (100.00)	1	0.248
Baby restless or crying	1 (100.00)	0 (00.00)	1	0.124

Multiple response df= degree of freedom

4.12 Association between and postnatal attendance and cord care

Table 11 shows the association between cord care and postnatal attendance. From the Table, there was no statistically significant (p>0.05) relationship between postnatal attendance and cord care practices of first-time mothers.

Table 11: Association between postnatal attendance and cord care

Cord care	Postnatal attendance		df	χ^2
	Compliance n (%)	Non-compliance n (%)		
You bath the cord of your baby after its first bath			3	0.225
Strongly agree	1 (1.25)	0 (00.00)		
Agree	5 (6.25)	16 (20.00)		
Neutral	2 (2.50)	1 (1.25)		
Disagree	19 (23.75)	36 (45.00)		
The cord of baby must always be dressed and covered			1	0.974
Agree	4 (5.00)	8(10.00)		
Disagree	23 (28.75)	45 (56.25)		
Bleeding, discharging, redness and swelling in your baby's cord is normal?			2	0.190
Agree	3 (3.75)	2 (2.50)		
Neutral	2 (2.50)	1 (1.25)		
Disagree	22 (27.5)	50 (62.5)		
You washed your hand before caring for your baby's cord			3	0.449
Always	21 (26.25)	38 (47.50)		
Sometimes	0 (00.00)	4 (5.00)		
Scarcely	4 (5.00)	9 (11.25)		
Not at all	2 (2.50)	2 (2.50)		
Medications/substances used for dressing baby's cord			3	0.449
Methylated spirit	24 (30.00)	47 (58.75)		
Hot water	0 (00.00)	1 (1.25)		
Heated stone	1 (1.25)	0 (00.00)		
No medication	2 (2.50)	0 (00.00)		
Purified butter	0 (00.00)	1 (1.25)		
Mud	0 (00.00)	2 (2.50)		
Penicillin	0 (00.00)	2 (2.50)		

df = degree of freedom

4.13 Association between postnatal attendance and knowledge of danger signs

Table 12 shows that no statistically significant (p=0.495) relationship exist between first-time mothers" postnatal attendance and knowledge of danger signs.

Table 12: Association between postnatal attendance and knowledge of danger signs

Knowledge of danger signs	Postnatal attendance		df	χ^2
	Compliance n (%)	Non-compliance n (%)		
No knowledge	1 (1.25)	5 (6.25)	2	0.495
Poor knowledge	26 (32.500	47 (58.75)		
Good knowledge	0 (00.00)	1 (1.25)		

df = degree of freedom

4.14 Summary

The chapter sought to assess the postnatal care practices: breastfeeding, cord care and recognition of danger signs by first-time mothers at the La-nkwantang Madina Municipality and consequently establish the relationship between these practices and postnatal care attendance. Overall, the study established the existence of relationships between postnatal attendance and period breastfeeding started; postnatal attendance and feeding of baby with both breasts at each feed; postnatal attendance and burping of baby after each feed; postnatal attendance and period babies are given water; and postnatal attendance and feeding of baby with breast if mothers had sore nipple. The analysis revealed areas for improvement by managers and policy makers. The next chapter discusses the results of the study in relation to literature.

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This section discusses and compares the findings of the study with literature with the view to identifying similarities and differences. The comparison focuses on determining the neonatal care practices of first-time mothers concerning breastfeeding, cord care and identification of danger signs. It also assesses the association between postnatal clinic attendance and neonatal care practices among first-time mothers. It is worthy to note that only one of the studies reviewed is from Ghana.

5.1 Background Information

All the first-time mothers were in their reproductive ages, except two who have advanced in age and were within the range of 36 to 40. The situation where only two respondents had their first child at an advanced age does not come as a surprise, as having a first child at an advanced age is usually common with high income countries (Aasheim, Waldenstrom, Rasmussen, Espehaug & Schytt, 2014). More than half, 47 (58.75%) of the respondents were married, and it confirms the position of World Factbook (2011) that Africa has high marriage rates. However, about three out of ten, 26 (32.50%) and nearly one out of ten, 7 (8.75%) of the first-time mothers were single and cohabiting respectively. This means quite a number of the young ladies who have become first-time mothers were not married. Perhaps poor parental upbringing, difficult economic conditions and many other factors might have accounted for this trend. Although Madina is located in a Ga community, only 10% of the respondents belong to the Ga-Adangbe tribe. Akans rather constituted the highest (38.80%) number of respondents. Another encouraging trend was the fact that all respondents had hospital delivery, an avenue that promote healthy outcome of both mother and baby. Pentecost hospital recorded the highest number 44 (55%) of respondents because it is the

main facility that receives referrals from health facilities within the La-nkwantanang Madina Municiplity. A 100% was recorded for antenatal attendance by respondents. Antenatal attendance is an evidence based means of educating pregnant women about their health, preparation towards childbirth, as well as their own care and that of their babies after delivery (Lothian, 2009). Majority, 78 (97.5%) of the respondents met the accepted number of antenatal visits before delivery. Only one of the respondents had a preterm baby.

5.2 Breastfeeding Practices

Putting babies to breast by mothers within one hour of birth is known as "early initiation of breastfeeding" which guarantees that the babies get colostrum, which possesses protective factors (WHO, 2017). The above protocol which is observed by the Ghana Health Service (GHS), was observed by the majority 51 (63.75%) of respondents. This was an improvement as compared to Atuyambe *et al*. (2008) who found that only 143 (32.4%) of the 442 adolescents started breastfeeding within an hour after delivery. A piece of study by Kesterton *et al.* (2009) in rural Karnataka similarly identified delay in initiating breastfeeding by majority (60%) of respondents. The study discovered that 29 (36.25%) of the respondents started breastfeeding after an hour and they gave reasons such as tiredness, delivery complications and lack of knowledge as factors leading to initiating breastfeeding after an hour. These reasons differed from those of Bello *et al.* (2009) whose study in Nigeria noted frustrations, stress, and anxiety of motherhood as reasons why mothers delayed initiating breastfeeding. Breast milk is the best feed recommended by WHO (2017), and exclusive breastfeeding for up to six months has become a universally accepted practice. The majority (75%) of first-time mothers accordingly practiced exclusive breastfeeding. Similar finding was reported by Atuyambe *et al.* (2008) and Bhandari *et al.* (2016) who had majority of respondents practicing exclusive breastfeeding. The finding, however, differs from that of

Lee *et al.* (2013) who discovered that respondents knew the importance of breastfeeding, but did not practice it.

Colostrum is breast milk, which flows after birth, lasting two to four days (Rawal, Gutap & Thapa, 2008). The study discovered that all respondents fed their babies with the colostrum; which is commendable. Bhandari *et al.* (2016) and Lee *et al.* (2013) also noted that majority of their respondents fed their babies with colostrum. In the case of Kesterton *et al.* (2009), however, majority (60%) of respondents expressed and discarded their colostrum and rather fed their babies with formula feeds, glucose water, water, castor oil, sugar water, and pre-lacteal feeds before lactation was established. In a similar study, respondents said they gave glucose water and ghee in mushroom to their babies (Atuyambe *et al.* (2008). From the findings, it was evident that most respondents knew the importance of feeding on demand 77 (96.25%) and burping of babies 61 (76.25%) after feeding, hence practiced it religiously. These depicted some improvement on the figures of Bhandari *et al* (2016) where 54.7% of respondents fed their babies on demand and 66% burped their babies after feeding. Bhandari *et al* (2016) also reported that, most (73.3%) respondents positioning and attachment of their babies during breastfeeding was appropriate. The study among first-time mothers also revealed that most respondents were able to appropriately position their babies during breastfeeding as 71 (88.8%) had their babies head and body in line during breastfeeding and 53 (66.3%) supported the whole body of their babies when breastfeeding, but their attachment was inappropriate; 55 (68.8%) had their babies mouth not wide opened during breastfeeding. The high percentage of inappropriate attachment, can lead to the likelihood of the babies sucking in air during breastfeeding. The study was interested in determining whether sore or crack nipple will prevent respondents from breastfeeding. About half (52.5%) of the first-time mothers said they will go ahead and breastfeed even if they had sore or crack nipple. This means close to half of the respondents deny their babies of breast milk once they

have sore or crack nipple. This inappropriate practice must be discouraged. Respondents‟ knowledge on whether breastfeeding was going on well was also examined. According to most (95%) respondents, when the baby is looking healthy, it is an indication that breastfeeding is going on well. Other useful indicators as to whether breastfeeding is going on well are that the baby is calm, relaxed, and gains weight.

5.3 Cord Care

The WHO recommends for dry cord care, and if it becomes necessary to apply anything at all, it should be methylated spirit or chlohaxine. Methylated spirit is, however, the recommended application for cord care in Ghana (Nutor, Kayingo, Bell, Joseph & Slaughter-Accey, 2017). Most, 71 (88.75%) of the respondents, therefore, used methylated spirit in dressing the cord of their babies. A few, however, applied mud, penicillin, hot water, heated stone, and purified butter. Only 2 (2.50%) of the respondents adhered to the WHO recommendation for dry cord care, which quite differs from Jiji *et al.* (2014) and Padiyath *et al.* (2010) who found that 60% and 65% of their respondents respectively adopted the WHO recommendation. However, some of their respondents also resorted to using substances such as ash, cow dung, ghee and coconut oil in dressing the cord of their babies. Kayom *et al.* (2015) noted that apart from spirit, some respondents in the care of the cord of their babies resorted to the use of salty water, powder, vaseline, normal saline, ripe banana (gonja), sap, soot, ash, saliva and herbs. According to Kesterton *et al.* (2009), 33% of respondents applied turmeric powder and burnt the tip of the stump. From the foregoing, it is quite clear that a lot still needs to be done to get mothers to adhere to the WHO‟s recommendation for dry cord care, and if necessary apply methylated spirit or chlohaxine.

Kesterton *et al*. (2009) observed that annually, about 3.3 million neonates die worldwide and about 30% was due to umbilical cord infection. The umbilical cord region aids the growth of

microorganisms such as clostridium tetani, which are harmful, and some of these microorganisms can be traced to the hands of the persons handling the cord (Kesterton *et al*, 2009). Consequently, the study investigated the hand washing practices of the first-time mothers before caring for the cord of their babies. Results showed that majority, 59 (73.75%) of respondents washed their hands always before caring for the cords of their babies. This finding was not different from what Bhandari *et al.* (2016) obtained, where sixty-three percent of the respondents washed their hands before caring for the cords of their babies. However, there were still instances where the mothers did not wash their hands, 4 (5%), scarcely washed their hands, 13 (16.25%) and washed their hands sometimes, 4 (5%). Most, 72 (90%) of the respondents disagreed that the discharge and bleeding of the umbilical cord was normal. A few, 5 (6.25%) of the first-time mothers, however, agreed that it was normal for the cord to have a discharge, while some 3 (3.75%) could not tell whether it was normal or abnormal. Bhandari *et al.* (2016) had a similar trend where 89.3% of respondents said they will observe the cord of their babies for discharge, which is a sign of abnormality. The few who did not see anything wrong with a cord that is having a discharge or bleeding need serious education to appreciate that. Keeping the cord dry is safe and prevent growth of microorganisms that cause infections (Quattrin, Lacobucci, Tina, Gallina, Pittini & Brusaferro, 2016). In view of that, the study analysed the practices of the first-time mothers in terms of bathing their babies after the first bath. Results showed that most 55 (68.75%) of the respondents did not bath their babies after the first bath till the cord was off, but close to three out of ten (26.25%) did, which was improper practice. To keep the cord dry, it is necessary that it should not be covered with a bandage or plaster. The majority, 68 (85%) of the first-time mothers said the umbilical cord should not be dressed and covered, but a few (15%) said it should be dressed and covered.

5.4 Recognition of danger signs

The ability of postnatal mothers to identify danger signs promptly in their neonates and seeking of timely health care, reduce complications and neonatal death (Kibaru & Otara, 2016). It was important, therefore, to find out if first-time mothers could recognize danger signs in their neonates. In this study, respondents who could not mention any danger sign were classified as having no knowledge, those who mentioned five or less were classified as having poor knowledge, and those who mentioned six and more were classified as having good knowledge. From the results, 6 (8%) had no knowledge, 73 (91%) had poor knowledge, and one (1%) had good knowledge of danger signs in neonates. Researchers such as Ekwochi *et al*. (2015), Saaka *et al*. (2014), Nigatu *et al*. (2015), Sandberg *et al.* (2014), and Awasthi *et al.* (2006) also had majority of their respondents mentioning not more than five danger signs, with some having no knowledge of the danger signs. The researchers also concluded that generally, the knowledge of respondents on danger signs was low. That same trend has been discovered in this study involving first-time mothers. The common danger signs recognized by the first-time mothers included high temperature, excessive crying, not sucking, excessive vomiting, jaundice, rashes and diarrhoea. The least mentioned were convulsion and constipation. Those commonly identified were fever, refusal to feed, weakness, convulsion, cold body, yellowness of the body, difficulty in breathing, boil and rashes, irritability, and abdominal distention; with convulsion being the least mentioned, just as it was in this study involving first-time mothers (Ekwochi *et al*., 2015; Saaka *et al*., 2014; Nigatu *et al*., 2015; Sandberg *et al.,* 2014; and Awasthi *et al.,* 2006).

5.5 Postnatal clinic attendance and neonatal care practice

Postnatal care is a preventive practice that is effective in identifying and managing developing diseases before they become complicated in both the neonate and the mother (Warren, Daly, Toure and Mongi, 2014). During postnatal visits, mothers are taught to care

for themselves as well as their babies in practices such as breastfeeding, care of the umbilical cord and recognition of danger signs. The age of a baby determines the required number of postnatal visits a mother should make. For example, a mother with one-day-old baby should make one postnatal visit, while a mother with a three-day-old baby should make two visits. Also, a mother who has one-week-old baby should make three postnatal visits, while a mother with a two-week-old baby should make four postnatal visits. Also, a mother who has a six-week-old baby should make five postnatal visits. Based on the afore-mentioned best practices, the study discovered that 66 percent of the first-time mothers failed to comply with the required postnatal visits. The results indicated that utilisation of postnatal care was low. Similar finding was reported by Singh *et al.* (2012*),* Khanal *et al.* (2014), and Joshi *et al.* (2013). The study also discovered that some first-time mothers indulged in practices that were contrary to what they were taught. For example, 25 percent of the respondents practiced mixed feeding; 3.75 percent frequently fed their babies at intervals that were more than 2 hours; 70 percent fed their babies with both breasts at each feed; 23.75 percent were not burping their babies after feeding, and 47.5 percent would not breastfeed their babies if they had sore nipple. The findings about mixed feeding was similar to Kayom *et al.* (2015) results where some respondents fed their babies with prelacteal feeds.

Regarding umbilical cord care, the study identified 21 respondents who bathed their babies after the first bath when the cord was not off; 12 respondents who indicated the umbilical cord of their babies should be dressed and covered; five respondents who stated that the discharge, redness and swelling of the cord of their babies was normal; 13 respondents who scarcely washed their hands before caring for the cord of their babies, and seven respondents who applied hot water, heated stone, purified butter and mud to the umbilical cord of their babies. Similar situation was reported by Kayom *et al.* (2015) and Joshi *et al.* (2013) who

mentioned salty water, powder, vaseline, herbs, ash mud, mustard oil and breast milk as things mothers apply on the cord of their babies.

The findings revealed that there was significant relationship between postnatal attendance and breastfeeding of baby within an hour after delivery (p=0.046). There was also significant relationship between postnatal attendance and feeding of baby with both breasts at each feed (p=0.034). Again there was a significant (p=0.002) relationship between postnatal attendance and burping of baby after each feed; and a significant (p=0.011) relationship between postnatal attendance and when baby is given water. Finally, there was significant (p=0.014) relationship between postnatal attendance and feeding of baby with the breast if mother had a sore nipple. However, there was no statistically significant (p=0.339) relationship between postnatal attendance and type of breastfeeding. Overall, there was no statistically significant relationship between umbilical cord care and postnatal attendance (p>0.05). The data also showed no statistically significant relationship between knowledge of danger signs and postnatal attendance (p=0.495). Perhaps some first-time mothers might have learnt certain practices from their mentors at home and these resulted in the absence of relationship between postnatal attendance and certain neonatal care practices.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.1 Conclusions

This study demonstrated that:

1. The breastfeeding practices of quite a number of first-time mothers had some gaps, such as practicing mixed feeding instead of exclusive breastfeeding for the first six months, feeding babies with both breasts instead of one breast at each feed, not burping their babies after feeds and not breastfeeding when they had sore nipple.
2. There were serious shortcomings in the cord care practices of quite a number of first-time mothers. These were in the areas of bathing their babies after the first bath when the umbilical cord was still not off, dressing and covering the cord of the babies, washing of hands scarcely before dressing the cord of their babies, and applying substances like hot water, heated stone, purified butter and mud on the umbilical cords of the babies.
3. Recognition of danger signs by first-time mothers was generally poor. From the results, 6 (8%) had no knowledge, 73 (91%) had poor knowledge, and one (1%) had good knowledge of danger signs in neonates.
4. Postnatal attendance by first-time mothers was at the low side. The study discovered that majority (66%) of the first-time mothers failed to comply with the required postnatal visits.

6.2 Recommendations

1. Home visits by community health nurses should be intensified to attend to first-time mothers and other postnatal mothers who do not go for postnatal clinic, and to serve as a means of encouraging them to make postnatal visits.

2. The media should actively be used in educating mothers on neonatal care practices through the local Ghanaian languages since they provide cheaper platform and are easily accessible.

3. The sensitization programmes for the first-time mothers should take into consideration the shortcomings identified by the study in the neonatal care practices and those issues emphasized.

4. From the literature review, it was evident that much research has not been done in Ghana on neonatal care practices among first-time mothers. Hence, the need to encourage further studies in this area.

6.3 Limitations

1. Respondents were selected from postnatal clinics and this could introduce selection bias.

2. The sample size could have been larger, but for the nature of the topic.

3. The study was cross-sectional design which precludes the determination of a temporal relationship.

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Appendix I

QUESTIONNAIRE

Dear Participant,

I am a student of the University of Ghana, School of Public Health and I am conducting a study on neonatal care practices of first-time mothers. I would be very much grateful if you could assist in helping to conduct this important study.

Please, you would be required to help complete this questionnaire by answering a few questions about yourself, your baby and your neonatal care practices. Your participation is vital to the success of this research project. The study will provide mid-wives and other health care providers with information to enable them know areas in which they need to do more in serving your needs as new mothers.

I would like to assure you that whatever information you give will be confidential and will be known by only the researcher and her supervisor. The information will be reported in statistical summary form and for research purposes only. Should you have any questions about the study, or problems with questions in this questionnaire, please do not hesitate to contact the Principal Investigator whose contact information is provided below.

Thank you for your willingness to participate in this important research project.

Contact:

Afua Gakpe (Student)

Phone number: 0243173736

Email: adzadzia@yahoo.com

SECTION A

1. Age of respondent……
2. Marital Status:
   1. Single { } 2. Co-habiting { } 3. Married { }
   4. Divorced { } 5. Separated { }

3. Religion:
   1. Moslem { } 2. Christian { } 3. Traditional { }
   4. Other (specify)…….

4. Tribe:
   1. Akan { } 2. Ewe { } 3. Ga-Adangbe { }
   4. Other (specify)…….

5. Your educational level:
   1. None { } 2. Primary { } 3. JSS { }
   4. SSS { } 5. Tertiary { }

6. Educational level of your husband:
   1. None { } 2. Primary { } 3. JSS { }
   4. SSS { } 5. Tertiary { }

7. (a) Occupation:
   1. Trader { } 2. Artisan { } 3. Educationist { }
   4. Health worker { } 5. Unemployed { } 6. Other (specify)….

8. Place of delivery:
   1. Hospital { } 2. Home { } 3. Other (specify)…

9. Place of residence:
   1. Madina { } 2. Adenta { } 3. Ashaley-Botwe { }
   4. Other (specify)……

10. Facility in which respondent was met:
   1. Madina Polyclinic (Rawlings Circle) { }
   2. Madina Polyclinic (Kekele) { }
   3. Pentecost Hospital { }

SECTION B

11. (a) Antenatal care:
   1. Attendant { } 2. Non-attendant { }

(b) If you are an attendant, where did you receive care?
   1. Mission hospital { } 2. Public hospital { }
   3. Private hospital { } 4. Other (specify)……

(c) No of visits:
   1. One { } 2. Two { }
   3. Three { } 4. Four { }
   5. Five { }

12. Which trimester did you start antenatal clinic:
    1. 1st trimester { } 2. 2nd trimester { }
    3. 3rd trimester { }

13. Gestational age at delivery:
    1. Term { } 2. Preterm { }

14. (a) How old is your baby?……..

(b) Number of postnatal visits:
    1. One { } 2. Two { }
    3. Three { } 4. Four { }
    5. Five { }

(c) Postnatal care: (To be ticked by interviewer based on the responses in (a) and (b) above)
    1. Compliance { } 2. Non- compliance { }

SECTION C (BREASTFEEDING)

15. (a) What type of breastfeeding are you practising? (Tick as appropriate)
    1. Exclusive { } 2. Mixed { }

(b) If you are practising mixed feeding, explain the main reason?
    1. Insufficient breast milk { } 2. Working situation { }
    3. Nipple problem { } 4. Other (specify……..

16. How early did you start breastfeeding after delivery?
    1. Within one hour { } 2. After one hour { }
    3. After two hours { } 4. After three hours { }

17. If you started breastfeeding an hour after delivery, give reason?
    1. Tiredness { } 2. Complication after delivery { }
    3. Bathing { } 4. Other (specify) …….

18. What did you do to the yellowish breast milk (colostrum) that flowed after delivery?
    1. Given to the baby { } 2. Expressed and discarded { }
    3. Other (specify)…….

19. How often do you breastfeed you baby?
    1. Whenever needed { } 2. After every three hours { }
    3. After every four hours { } 4. Other specify …….

20. Do you feed your baby with both breasts at each feeding?
    1. Yes { } 2. No { }

21. What hygienic practices do you undertake before breastfeeding? (Tick as many responses as applicable)

1. Bath at least once a day { } 2. Apply lotions or oils on the breast { }
3. Wash hands before feeding { } 4. Other (specify)……

22. Do you burp your baby after each feed?

1. Yes { } 2. No { }

23. When do you give your baby water?

1. After each feed { } 2. Once in a while { }
3. I don"t give my baby water { } 4. Other (specify)…….

24. What main feed did you give to your baby before your lactation was established?

1. Formula Feed { } 2. „Koko" { }
3. Glucose water { } 4. Water { }
5. Nothing { }

25. Would you feed your baby with your breast if you had a sore nipple?

1. Yes { } 2. No { }

26. How do you position your baby when breastfeeding? (Tick as many responses as applicable)

1. Baby"s head and body in line { } 2. Baby supported by head and neck only { }
3. Baby"s whole body supported { } 4. Baby"s neck and head twisted to feed { }
5. Baby approaches breast, nose to nipple { }

27. How do you attach your baby during breastfeeding? (Tick as many responses as applicable)

1. Baby"s chin touches breast { } 2. Baby"s mouth not open wide { }
3. Lower lip turned outwards { } 4. More areola seen below bottom lip { }
5. Lips pointing forward { }

28. How will you know if your breastfeeding is going well? (Tick as many responses as applicable)

1. Baby looks healthy { }
2. Baby is calm and relaxed { }
3. Baby reaches or roots for breast if hungry { }
4. Baby gains weight { }
5. Baby restless or crying { }

SECTION D (CORD CARE)

29. You continue to bath the cord of your baby each day until the cord falls off.

1. Strongly agreed { } 2. Agreed { }
3. Neutral { } 4. Disagreed { }
5. Strongly Disagreed { }

30. The cord of your baby must always be dressed and covered.

1. Strongly agreed	{ }	2. Agreed	{ }
3. Neutral	{ }	4. Disagreed	{ }
5. Strongly Disagreed	{ }		

31. Bleeding, discharging, redness and swelling in your baby"s cord is normal?

1. Strongly agreed	{ }	2. Agreed	{ }
3. Neutral	{ }	4. Disagreed	{ }
5. Strongly Disagreed	{ }		

32. What main medication/substance do you use in dressing your baby"s cord?

1. Methylated spirit	{ }	2. Chlorhexidine	{ }
3. Coconut oil	{ }	4. Brine (salt water)	{ }
5. Ash	{ }	6. Cow dung	{ }
7. Mustard oil	{ }	8. Purified butter	{ }
9. Mud	{ }	10. Herbs	{ }
11. Saliva	{ }	12. Breast milk	{ }
13. Powder	{ }	14. No medication or substance is applied	{ }

15. Other (specify)…….

33. You washed your hands before caring for your baby"s cord:

1. Always	{ }	2. Sometimes	{ }
3. Scarcely	{ }	4. Not at all	{ }

SECTION E (DANGER SIGNS)

34. List 10 things that should make a mother send a neonate immediately to a health facility?

i……

ii……

iii……

iv……

v……

vi……

vii……

viii……

ix……

x……

Appendix II

INFORMED CONSENT

Title: Neonatal Care Practices Among First-time Mothers: A Study at La-nkwantanang Madina Municipality.

Principal investigator: Afua Gakpe

Qualification: RGN, RM , Bsc Nursing

Address: School of Public Health, University of Ghana, Legon.

General information about the research

This research is being conducted to assess the factors that influence the neonatal care practices among first-time mothers. The study is purely an academic exercise and it forms part of the researcher‟s work towards the award of a Master of Science Degree in Public Health.

Possible risk of discomfort

There are no risks associated with participating in this study.

Description of level of research burden

Study participants would only be requested to answer questions on a questionnaire.

Possible benefits

The study is important as it is expected to have the following benefits. It will help identify the gaps in the practices of first-time mothers as regards breastfeeding, cord care, and recognition of danger signs of neonates for the purpose of improving practice. Based on the findings, health care providers who attend to postnatal mothers will know exactly the areas to emphasize in providing child care postnatal education to first-time mothers. This will ultimately help improve how first-time mothers care for their neonates to help improve neonatal health and reduce mortality among neonates. In addition to improving practice, the study is expected to contribute to knowledge about how the number of postnatal care visits is impacting on neonatal care practices of first-time mothers. It will assist policy makers to

develop interventions pertaining to neonatal health and survival and to empower stakeholders to implement the policies thereby giving neonatal survival issues the needed attention.

Confidentiality

Confidentiality will be assured. The study participants will be assured that all their information will be confidential and will not be disclosed to anyone without their permission.

Data security

All information obtained will be kept in locked files by the principal investigator with secured passcodes.

Plans for record keeping

The study materials (questionnaires and inform consents) will not be labelled with participant‟s names, but rather a unique identification number for each study participant.

Person responsible and phone number

The person responsible for the data storage will be

Afua Gakpe (Student)

School of Public Health, University of Ghana, Legon.

Mobile number: 0243173736.

Voluntary participation and the right to leave the research

Participating in this is entirely voluntary. Declining to be part of the study, answer a question or continue the study will have no negative consequences.

Contacts for additional information

Please call the person responsible for this study, Afua Gakpe, on 0243173736 if you have questions about the study. If you have any questions about your rights as a research participant or feel you have not been treated fairly, you may contact any of the following:

A. GHS/ Ethical Review Committee Administrator, Hannah Frimpong (mobile: 0507041223)

B. School of Public health, University of Ghana, Legon for further clarification or redress.

Your rights as a participant

This research has been reviewed and approved by the Ghana Health Service Ethical Review Board. If you have any further questions about your rights as a research participant, you may contact the chairman of the Board.

Consent Form

The above document describing the benefits, risks and the procedures for the research titled ("Neonatal Care Practices among First-time Mothers: A Study at La–nkwantanag Madina Municipality") has been read and explained to me. I have been given the opportunity to ask questions and all the questions that I have asked about the research have been answered to my satisfaction. I agree to participate as a volunteer.

....

Date Signature or Thumbprint of Participant

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

....

Date Signature of witness

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

....

Date Signature of persons who obtained consent

If volunteers are under 18 years, parent or guardian must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

....

Date Signature or Thumbprint of parent/guardian

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

....

Date Signature of persons who obtained consent