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**DEPARTMENT OF NURSING**

**DIPLOMA PROGRAMMES**



**CORD CARE PRACTICES AMONG MOTHERS ATTENDING POST NATAL CARE**

**AT PALM AVENUE MATERNITY HOME, BEREKUM.**

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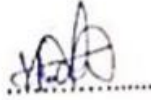
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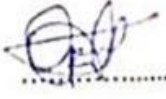
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## **ABSTRACT**

The study was focused on the cord care practices among mothers attending post natal care at Palm Avenue Maternity Home, Berekum. A cross sectional descriptive study was used to collect in-depth information for the study. The sample population was obtained using a convenient sampling technique. A total of fifty (50) mothers (respondents) were selected for the study. The data for the study was collected by the administration of questionnaire to the participants.

The study found out that, majority of the respondents had their baby's cord dressed by their mothers.

Majority of the respondents had knowledge about the correct method to care for the cord. All of the respondents (100) agreed that proper care of the cord prevents infection.

Most of the respondents had knowledge about the techniques used in cord care. None of the respondents apply concoction (cow dang, pepsodent, mixture of chalk and salt) to the stump of the baby's cord.

The study concluded that majority of the respondents (68%) apply cream/ointment (chlorhexidine) on the cord and majority of the respondents (94%) had good knowledge on handwashing technique on cord care.

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## **ABBREVIATIONS**

|      |                                    |
|------|------------------------------------|
| NDHS | National Demographic Health Survey |
| LMIC | Low- and middle-income countries   |
| SSA  | Sub-Saharan Africa                 |
| WHO  | World Health Organization          |
| SDGs | Sustainable Development Goals      |

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## CHAPTER ONE

### INTRODUCTION

#### 1.0 Background of the study

The first week of life is very critical because most neonatal deaths occur at this age. Most of these neonatal deaths occur due to unacceptable health care practices, unhygienic practices, taboos and superstitions associated with cord care that contribute to the neonatal cord infection (Mdegela, Outwater, & Ndomondo, 2022). Newborn's health and survival depend on the precaution given to newborn care and are a significant component in reducing child mortality (Mdegela, Outwater, & Ndomondo, 2022).

Yearly, about 3.3 million neonatal deaths occur around the globe; of these, more than 30% are caused by infections (Karumbi, Mulaku, Aluvaala, English, & Opiyo, 2020). Neonates are prone to infections because of their immature immune system, thus making them susceptible to infections, commencing as early as umbilical cord stump infection. The umbilical cord stump could serve as a route of entry for infections as it enhances growth of some beneficial microorganisms (commensals) and other harmful microorganisms which on entering the blood stream becomes systemic (neonatal sepsis). Neonatal sepsis as a result of cord infection is estimated to exceed 15% of neonatal deaths worldwide (Coffey & Brown, 2019). It is also the third leading reason for deaths of infants in their first month of life. The microbes that cause the cord infection are mostly acquired from the mother's birth canal, the environment in which the baby is delivered, the hands of the person taking and assisting with the delivery, and poor umbilical cord stump care practices by mothers. Thus, to prevent cord infection, it is essential for mothers to be equipped with sufficient knowledge about hygienic cord care practices, and consequences of poor cord care practices. Ideal umbilical cord care skills for new-born by mothers and important members of the family during the first week of life,

particularly in settings with poor sanitation, have the likelihood of preventing and thus eradicating neonatal deaths (Coffey & Brown, 2019). Numerous studies have done on umbilical cord care, proper handling of cord care, old fashioned practices of cord care, antimicrobial agents used in cleaning the cord, normal standard of cord care, and most of the researches were channelled to the methods used in cord care such as dry cord care, rubbing of topical agents amongst others, etc. However, existing literature showed that mothers have various opinions about cord care practices. While some are of the opinion that there is no distinctive way for caring for babies' cord stump than ensuring that the cord is hygienic, others have the choice of handling and caring for the cord stump of their babies as they deem fit.

In Nigeria, researches have revealed that umbilical cord infections have led to about 10% and 19% of neonatal morbidities and its resultant estimated 30-49% neonatal deaths (Afolaranmi, et al., 2018). The National Demographic Health Survey (NDHS, 2018), revealed that Nigeria records the neonatal death rate of 37 deaths per 1,000 live births and neonatal death varies according to place of residence, zone, mother's literacy rate, and household wealth. Mortality rates in municipal areas are steadily lower than those in rural areas with infant death being 43% higher in rural areas (86 deaths per 1,000 live births) than in urban areas (60 deaths per 1,000 live births).

A number of factors contribute to the high incidence of infection in these countries: most deliveries take place at home, often in unhygienic circumstances, deliveries are conducted by untrained birth attendants, and some traditional cord care practices are harmful. Cord care is thus an important issue that needs to be addressed. As in the case of research into other aspects of pregnancy and delivery care, research on cord care has focused more often on interventions such as early cord clamping and the use of topical antimicrobials on the stump

and much less on practices that are based on "natural" or physiological processes (Faheim, Hassan, & Gamel, 2019).

Approximately 4 million neonatal deaths occur globally each year with about 99% of the deaths occurring in low- and middle-income countries (LMIC) particularly in sub-Saharan Africa (SSA). About three-quarters of these neonatal deaths occurs as a result of sepsis with umbilical cord infection (omphalitis) accounting for a significant proportion of the infection in SSA (Kyololo & Kipkoech, 2023).

Cost is another aspect of cord care. In countries where mothers receive postnatal visits, problems with the cord often determine the number of visits. If cord separation and healing are delayed, as when some antimicrobials are used, the cost of postnatal care may unnecessarily increase (Mugford, 2017).

Approximately 99% of the 4 million annual neonatal deaths occur in low- and middle-income countries, and 36% are attributed to serious infections; in high mortality settings this proportion may approach 50%. The overall proportion of mortality related to local umbilical cord infections that become systemic is unknown, but exposure to pathogens, with or without the development of local signs of omphalitis is thought to be an important proximal event in the pathway to sepsis and death in newborns (Mullany, et al., 2019).

Importantly, this suggests that a single cleansing of the cord with a topical antiseptic at the time of cutting might be less effective than a more intensive continued follow-up of cord cleansing through the first week of life. Continued promotion of clean and hygienic cord care at birth and during the immediate postpartum period is necessary and emphasis should be placed on recognition of signs of cord infection by both caretakers and by neonatal and/or maternal health outreach workers (Mullany, et al., 2019).

## 1.1 Problem statement

Mothers usually want their babies' cords to go off within a short period of time. In a number of instances, the mothers apply various items on the cords with the hope that these substances or concoctions will enable the cords to go off early. Unfortunately, the applications of some of these substances lead to development of cord sepsis in the delicate little ones (Racheal, 2018).

In most cultures, some kind of substance applied to the cord stump are; ash, oil, butter, spice pastes, herbs and mud animal. These substances are often contaminated with bacteria and spores and thus increase the risk of infection. One of the most dangerous practices is the application of cow, chicken or rat dung to the stump (Traverso). Umbilical cord care remains a significant factor influencing local and systemic infections of the neonate. Despite this, there are very few studies investigating the effect of the different cord care regimens on umbilical cord infections rate among neonates of mothers. Studies conducted in Cameroon and Nigeria both in the West African sub region reported unsatisfactory levels of cord care practices among mothers bring to bear its importance to increased risk of infections and mortality in the neonatal period (Bhatt, Malik, Jindal, Sahoo, & Sangwan, 2019). World Health Organization advocates for dry umbilical cord care and application of topical antiseptics in situations where hygienic conditions are poor or infection rates are high (Zupan, Garner, & Omari, 2020). However, the Nigerian government recommends the use of Methylated spirit or chlorhexidine solution for cord care. Globally, about 130 million babies are delivered annually with an estimated 4 million deaths occurring within the first 4 weeks of life and 1.5 million of these deaths are attributable to infections (Mullany L. , et al., 2018). In Nigeria, several hospital-based studies have reported cases of umbilical cord infections accounting for between 10 and 19% of neonatal admissions resulting in as much as 30–49% of neonatal deaths (Punitha & Kumaravel, 2020). It is in this light that, this study would be

undertaken at Palm Avenue Maternity Home, Berekum in order to have full knowledge about how mothers take care of their baby's cord, so that appropriate educational campaign can be out for mothers attending post-natal care.

## **1.2 General objective of the study**

The main objective is to find out the cord care practices among mothers attending post natal care at Palm Avenue Maternity Home, Berekum.

## **1.3 Specific Objectives**

1. To identify the level of knowledge mothers attending post-natal care at Palm Avenue Maternity Home, Berekum have on cord care.
2. To determine the how mothers attending post-natal care at Palm Avenue Maternity Home, Berekum practice cord care.
3. To determine infection prevention measures adapted by mothers attending post-natal care at Palm Avenue Maternity Home, Berekum during cord care.

## **1.4 Operational Definition**

**Knowledge:** defined as having an adequate understanding of cord care.

**Umbilical cord:** this is the strand of tissues connecting the fetus to the placenta. It contains two arteries that carry blood to the placenta and one vein that returns it to fetus.

**Neonate:** Is an infant at any time during the first 28 days of life. The word is particularly applied to infants just born or in the first week of life.

**Post-natal care:** This is a process whereby mothers discharged from hospital after birth come back to the hospital for further management of both mother and newborn infant.

**Infection:** Injurious contamination of the body or part of the body by pathogenic agents such as fungi, bacteria, protozoa, rickettsia or virus or by a toxin that these agents may produce in the case of cord care

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

This chapter contains a review of relevant literature related to the research topic: “Cord care practices among mothers attending post-natal care at Palm Avenue Maternity Home, Berekum”. The sources of information include books, journals, and online articles, research reports.

#### 2.1 Overview

The birth of a healthy newborn is one of the finest gifts of nature. The birth process takes only a few hours but it is the most hazardous period of life since it is associated with the largest number of deaths as compared to other phase of life. The umbilical cord is a unique tissue consisting of two arteries and one vein which at term is about 56cm in length and extends normally from the center of the placenta to the umbilicus of the unborn baby. During pregnancy, the umbilical cord connects the fetus to the mother through the placenta. The blood flowing through the cord brings nutrients and oxygen from the mother to the fetus and carries away carbon dioxide and other metabolites from the fetus. After birth, the umbilical cord is tied or clamped tightly to keep the umbilical vessels occluded and prevent bleeding. The cord is the cut off with a sterile instrument to prevent infection. (Udosen, Olaoye, Okondu, Udosen, & Amaechi, 2019).

Keeping the stump clean and dry is therefore very important if infection is to be prevented. The newborn has no protective flora at birth (Sarkany & Gaylarde, 2019). Normal skin flora begins to be acquired within 24 hours. The umbilicus is colonized by bacteria from environmental sources such as the mother's vagina, her skin flora, and the hands of caregivers (Wolinsky & Lipsitz, 2018).

Once colonized, the umbilicus acts as a reservoir of bacteria that may cause cross-infection in the nursery (Jellard, 2017).

If a baby is kept with its mother (by rooming-in), the bacteria colonizing the baby come mostly from its mother's normal skin flora and are predominantly non-pathogenic.

Colonization rates with pathogenic organisms are significantly lower in rooming-in babies than in babies kept in nurseries, with a 24-hour rooming-in system being most effective.

The cord normally falls off between 5 and 15 days after birth (Wilson, 2018). Factors that delay the process are the application of antiseptics to the stump, infection and caesarean section. Delayed cord separation with antiseptics may be due to destruction of the normal flora around the umbilicus (navel) and a subsequent decrease in the number of leucocytes attracted to the cord (Novack, 2020).

## **2.2 Knowledge on cord care**

Each year nearly 7.7 million children under five years die around the world; out of which approximately 3.1 million of the newborns die during the neonatal period and almost all these (99%) deaths occur in the developing countries (Rajaratnam, et al., 2019). According to the World Health Organization estimation, neonatal deaths account for 45% of the under-five deaths (World Health Organization [WHO], 2017). More than one-third of these deaths take place in the first 24 hours of birth, whereas three-quarter of the neonatal deaths takes place in the first seven days of birth (Akter, Dawson, & Sibbritt, 2019).

Among the 17 Sustainable Development Goals (SDGs) set by United Nations in 2015, the 3rd goal, target (No. 3.2) states that all countries aim to put a stop to millions of avoidable deaths of newborns and under-five children by 2030. The targets to achieve are: reduction in neonatal mortality and under-5 mortality to no more than 12 and 25 deaths per 1000 live births respectively (WHO, 2017). Majority of low-income countries are far behind achieving

this goal mainly because of slow progress in reducing neonatal death (Mesekaa, Mungai, & Musoke, 2017).

In Pakistan, despite the reduction in under-five and infant mortality rate, there is almost no change in neonatal mortality for the last two decades (from 56 to 46 per 1000 live births) (Demographic P. Health Survey, 2018). Pakistan ranks third among the top ten countries with high incidence of neonatal deaths. At these mortality levels, 1 in every 14 Pakistani children is unable to survive before the first birthday, while 1 in every 11 dies before the age of five (Fikree, Ali, Durocher, & Rahbar, 2019). The increasing evidence suggests that early newborn care practices impact neonatal mortality and morbidity. The burden of neonatal mortality and morbidity can be reduced by practicing essential newborn care (ENC) practices. Many studies have been done on the newborn care topics in Pakistan and in developing countries but most of them only focus on newborn care practices (Rama, Gopalakrishnan, & Udayshankar, 2017).

Obimbo, Musoke and Were (2019), conducted a study on the knowledge, attitudes and practices of mothers and knowledge of health workers regarding care of the newborn umbilical cord. The study was conducted among mothers with infants less than three months of age attending well child clinics and health units of public health in Nairobi, Kenya. The sample size for the study was 307. The study showed that majority of the mothers had good knowledge on the need for hygiene when cutting the cord, had poor knowlegde and practice in other aspects of cord care and were afraid of handling the cord.

The greatest period of risk for umbilical stump contamination with bacteria including *Clostridium tetani*, is the first three days of life. Risk decreases with time as the umbilical wound heals and the stump separates (Bennett, Macia, & Traverso, 2019). The risk of cord infection is increased by unhygienic cutting of the cord and the application of unclean substances to the stump.

Umbilical cord infection is thus a serious infection that needs aggressive treatment.

Afolaranmi, et al. (2018) conducted a cross-sectional study among 324 mothers of children less than 59 months using a multistage sampling technique. The study purpose was to find out cord care practices: A perspective of contemporary African Setting. The study found out that mothers have a higher level of knowledge of cord care.

Nutor, Kayingo, Bell and Joseph (2016), conducted a study among healthcare workers and mothers in the Volta region of Ghana on the topic Knowledge, attitudes and practices regarding care of newborn umbilical cord. The sample size for the study were 102 mothers and 66 healthcare workers in 11 health centers in the Volta region of Ghana. The study found out that, more than one in five mothers are not following the recommended practices in newborn cord care.

## **2.3 Cord Care Practices**

### **2.3.1 Traditional Practices**

Neonatal sepsis is the third leading cause of neonatal mortality in the first month of life, accounting for more than 15% of all neonatal deaths worldwide (Liu & Oza, 2019). Harmful traditional cord-care practices are often cited as an important public health concern. In order to address the high rates of newborn sepsis, it is important to have a clear knowledge of the behavioral intention behind traditional cord care practice in low- and middle-income nations (Kokebie, Aychiluhm, & Degu, 2018).

A clear understanding of behavioral intention underlying traditional cord care practices in low- and middle-income countries can be helpful in addressing high rates of neonatal sepsis (Liu, et al., 2019). A wide variety of traditional practices and beliefs are associated with care of the umbilical cord. Traditional beliefs must be taken into account when introducing clean cord care programmes in a community since these beliefs may conflict with programme

recommendations. Some traditional practices such as applying unclean substances to the cord are dangerous and should be discouraged or replaced with safer alternatives (Traverso, et al., 2018).

The umbilical cord is left long in most traditional cultures. Exceptionally, it is cut very short, as in some communities in Uganda (this practice is associated with the danger of umbilical bleeding as it makes the cord hard to tie) (Billinbton, 2016).

In most cultures, some kind of substance is applied to the cord stump. Ash, oil, butter, spice pastes, herbs and mud are substances that are commonly used. These substances are often contaminated with bacteria and spores and thus increase the risk of infection. One of the most dangerous practices is the application of cow, chicken or rat dung to the stump; this is associated with a high risk of neonatal tetanus. Ghee application has also been found to be a risk factor for tetanus (Traverso, 2020).

### **2.3.2 Medical Practices**

Hygienic cord care is recommended to reduce the risk of sepsis, a major cause of newborn mortality specifically, infection that enters the body at the cord stump site in the newborn. Due to unsanitary cord care practices, cord infections are more common and prevalent in developing countries (Dessalegn, Dagnaw, Sedid, & Wolde, 2022). A wide variety of regimens exist for cord care in hospital nurseries, suggesting an uncertainty about what is most effective. The purpose of these regimens is to reduce colonization and thereby reduce infection of the cord stump with hospital microorganisms, the most common of which is *S. aureus*. Regimens for cord care are, however, not always based on firm evidence that they are effective (Novack, 2020).

Routine care of the cord usually includes daily cleaning of the stump with alcohol and application of a dusting powder or an antimicrobial solution. Powders currently used contain

varying proportions of zinc oxide, talc, starch or alum and other ingredients. Some powders also contain hexachlorophene or chlorhexidine. The most common antimicrobial agents include triple dye, tincture of iodine, iodophors, antibiotic ointments, silver sulphadiazine and chlorhexidine. The frequency of treatment also varies. In some cases, the cord stump is cleaned and/or treated only at the time of delivery; in others, care is repeated daily or at every diaper change until the umbilicus heals (Udosen, Olaoye, Okondu, Udosen, & Amaechi, 2019).

#### **2.4 Infection Prevention Measures during Cord Care**

At birth, hands should be washed with clean water and soap before delivery, after any vaginal examination, and again before tying and cutting the cord. The newborn should be laid on a clean surface (such as the mother's abdomen) and the cord should be cut with a sterile instrument (Alexander, 2022).

In the postnatal period, clean cord care includes washing hands with clean water and soap before and after care and keeping the cord dry and exposed to air or loosely covered with clean clothes. The napkin should be folded below the umbilicus. Touching the cord, applying unclean substances to it and covering it with bandages should be avoided (WHO, 2017)

Other practices that may reduce the risk of cord infections are the use of 24-hour rooming-in instead of nurseries in institutions (Mapata, 2016). Rooming-in also has many other benefits such as facilitating breast-feeding and bonding, and increasing the mother's confidence. Skin-to-skin contact with the mother helps to promote colonization with non-pathogenic bacteria from the mother's skin flora. Early and frequent breast-feeding will provide the newborn with antibodies to help fight infections (Mapata, 2016).

No study could be identified on methods of cleaning the cord, should it become sticky or soiled; using clean water and soap (or just clean water if soap is unavailable) seems the most

sensible. Cleaning with alcohol is not recommended as it delays healing and drying of the wound. Over the years, mothers have been advised not to immerse an infant in a tub for bathing until the cord has separated because it has been assumed that immersing the cord in water would promote infection, prevent drying and delay separation. Daily baths in the form of sponge baths are, however, common practice in many hospitals because they are considered infection control measures. A study comparing daily bathing with no bathing has shown no difference in umbilical cord colonization or infection between the groups and that immersing the newborn in a tub is not harmful to the cord (Rush, 2019).

However, the main issue here is thermal protection since bathing the newborn can induce hypothermia. The newborn should not be bathed before six hours after birth or longer if possible, and measures should be taken to ensure that no heat loss occurs. Current recommendations direct that newborns should not be bathed routinely.

While there is general consensus that clean cord care decreases the risk of cord infection, the application of topical antimicrobials to the cord stump is more controversial. A 1997 systematic review of randomized controlled studies comparing different methods of cord care, was unable to conclude that application of topical antimicrobials is superior to just keeping the cord clean (Garner, et al., 2017). Studies from developed countries show that in hospital nurseries, the use of an antiseptic on the stump significantly reduces umbilical colonization rates. However, as mentioned earlier, the effect of such agents in reducing cord infections is less clear. Since most infections with hospital-acquired bacteria occur after discharge from the hospital, it is important that the evaluation of regimens for umbilical disinfection should prospectively follow up the infants after discharge. Unfortunately, very few studies have done this. However, one randomized controlled study found no such effect (Schoyen & Meberg, 2016).

According to available studies, chlorhexidine, tincture of iodine, povidone-iodine, silver sulphadiazine and triple dye appear to be of most value in controlling umbilical colonization in hospital nurseries. Alcohol does not promote drying, is less effective against bacteria than other antimicrobials and delays cord separation. It is therefore not suitable either for cleaning or for routine application to the cord stump (Lawn, 2019).

Studies have shown that antimicrobials prolong the time it takes the cord to separate (Novack, 2020). A comparison between two methods of newborn cord care: natural drying and alcohol cleaning. The clinical significance of this delay has not been studied, but it appears to be of no medical consequence. However, late separation of the cord is disliked by parents as it worries them and entails more home visits by midwives, thus increasing their workload and the cost of postnatal care (Mugford, 2018).

A population-based study in rural parts of Pakistan, where mothers delivered at home under unclean conditions and where living areas are often in close proximity to animals and animal dung, found that the use of a topical antimicrobial on the cord stump at delivery and during the first few days after delivery was highly protective against neonatal tetanus as compared to applying nothing to the wound (Bennett, Macia, & Traverso, 2019).

In conclusion, clean cord care practices should be the main focus of any clean delivery and cord care programme. There is not enough evidence to recommend the widespread use of topical antibiotics in developing countries. Use of antiseptics at home, and the logistics of supply, therefore needs close supervision (Wolinsky & Lipsitz, 2018).

## **CHAPTER THREE**

### **MATERIALS AND METHODS**

#### **3.0 Introduction**

This chapter describes the research design and methodology. This includes the study area, study population, sample and sampling technique, data collection, analysis and ethical considerations.

#### **3.1 Study area**

The study was conducted at the Palm Avenue Maternity Home, Berekum. The maternity home is a private facility which renders care to pregnant women during antenatal, labour and postnatal. Palm Avenue Maternity Home is located in Berekum off Senase road. The service provided at the facility includes; antenatal care, delivery, postnatal care, family planning, education of pregnant women and counselling.

#### **3.2 The study population**

The target population were all mothers at Berekum while the accessible consisted of mothers attending for post-natal clinic at Palm Avenue Maternity Home, Berekum population

#### **3.3 Study design**

The study was a cross sectional descriptive study. Cross-sectional studies are carried out at one time point or over a short period and they are usually conducted to estimate the prevalence of the outcome of interest for a given population, commonly for the purposes of public health planning. The study used this design because there was the need to gather data on the situation over the period of conducting the study.

#### **3.4 Sampling technique and size**

A total of fifty (50) mothers were selected for the study. The respondents were obtained using the convenient sampling method. This method was used because it is inexpensive and

respondents are easy to reach. The first 50 mothers who were attending Post-natal Clinic and came from 8:00am to 11:00am were selected.

### **3.5 Data collection methods and instruments**

Written questionnaire was used for the data collection on socio demographic data as well as the specific objectives of the study. Participants were encouraged to ask questions for clarifications and answers were provided for such questions. Since some of the respondents were not literates, explanation of some terms was made to them. The data was collected within the space of 3 days. Each respondents used approximately 30 minutes to answer the questionnaire.

### **3.6 Data analysis technique**

The data obtained from the study were checked for accuracy, utility, and completeness. Data were analyzed using Microsoft Excel 2017 and results were presented in tables and figures.

### **3.7 Ethical consideration**

An introductory letter was sent to the Management of the Palm Avenue Maternity Home, Berekum for approval to conduct the study. Participants were informed of the benefits, risks, purpose, and procedure of the study and their right to withdraw from the study at any point without penalty. All participants agreed voluntarily to be part of the study. Respondents were assured of anonymity and confidentiality by not providing any form of identification on the questionnaire. However, identification codes were used to represent the respondent according to their chronologic entry into the study.

### **3.8 Limitations of the Study**

The study was limited by the convenience sampling method that was used to select participants since not every participant had an equal and independent chance of being

selected. Also, it was difficult to generalize our findings since a small sample size and one facility were used.

## CHAPTER FOUR

### DATA ANALYSIS AND RESULTS

#### 4.0 Data Presentation & Analysis

This chapter deals with the analysis of data collected from the field of study and the results obtained from the analysis. The study findings are presented in tables or figures.

#### 4.1 Demographic Profile of Respondents

**Table 1: Age Distribution of Respondents**

| Variable | Categories | Frequency (n) | Percentage (%) |
|----------|------------|---------------|----------------|
| Age      | 18-22      | 10            | 20             |
|          | 23-27      | 14            | 28             |
|          | 28-32      | 18            | 36             |
|          | Above 32   | 8             | 16             |

From table 1, most of the respondents (36%) were aged between 28-32 years, 28% were aged between 23-27 years, 20% of the respondents were aged between 18-22 years and a few (16%) were aged above 32 years.

**Table 2: Marital Status of Respondents**

| Variable       | Categories | Frequency (n) | Percentage (%) |
|----------------|------------|---------------|----------------|
| Marital Status | Single     | 10            | 20             |
|                | Married    | 40            | 80             |
|                | Divorced   | 0             | 0              |

From table 2, majority of the respondents (80%) were married and only a few (10%) were single. None of the respondents were divorced.

**Table 3: Educational background of Respondents**

| Variable               | Categories          | Frequency (n) | Percentage (%) |
|------------------------|---------------------|---------------|----------------|
| Educational Background | No formal education | 4             | 8              |
|                        | Basic               | 10            | 20             |
|                        | Senior High         | 7             | 14             |
|                        | Tertiary            | 29            | 58             |

From table 3, most of the respondents (58%) were tertiary graduates, 20% had basic education, few of the respondents (14%) were senior high school graduates and only 8% of the respondents had no formal education.

**Table 4: Religion of Respondents**

| Variable | Categories    | Frequency (n) | Percentage (%) |
|----------|---------------|---------------|----------------|
| Religion | Christian     | 32            | 54             |
|          | Islam         | 18            | 36             |
|          | Traditional   | 0             | 0              |
|          | Non-religious | 0             | 0              |

From table 4, more than half of the respondents (54%) were Christians and 36% of the respondents were Muslims. None of the respondents were either traditionalist or non-religious.

Respondents were asked to indicate their occupation. From the data gathered, majority of the respondents (45%) were teachers, 36% of the respondents were traders and few of the respondents (10%) were farmers. Only 9% of the respondents were unemployed.

## 4.2 Knowledge on cord care

**Table 5: People responsible for cord care**

| Variable                           | Categories                | Frequency (n) | Percentage (%) |
|------------------------------------|---------------------------|---------------|----------------|
| Who takes care of the baby's cord? | Mother                    | 42            | 84             |
|                                    | Grandmother/Mother in-law | 7             | 14             |
|                                    | Friend/Neighbour          | 1             | 2              |

From table 5, majority of the respondents (84%) had their baby's cord cared by their mothers, 14% had their baby's cord dressed by their grandmothers/mother in-law and only a few (2%) had their baby's cord dressed by their friends/neighbours.

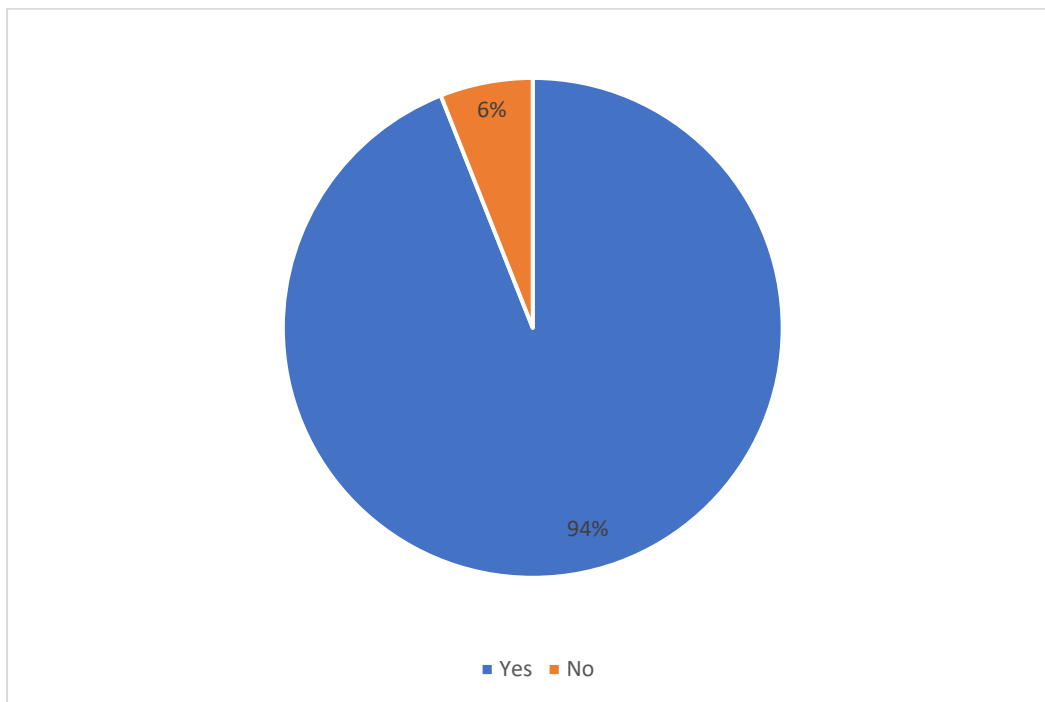
**Table 6: Respondents knowledge on cord care**

| Statement  |   | Agree | Disagree | Neutral |
|--|---|-------|----------|---------|
| Application of concoction to the stump of the cord is the appropriate method for cord care | n | 2     | 48       | 0       |
|  | % | 4     | 96       | 0       |
| Proper care of the cord prevents infection   | n | 50    | 100      | 0       |
|  | % | 0     | 0        | 0       |

From table 6, majority of the respondents (96%) disagreed that application of concoction to the stump of the cord is the appropriate method for cord care and only 4% of the respondents agreed to this assertion.

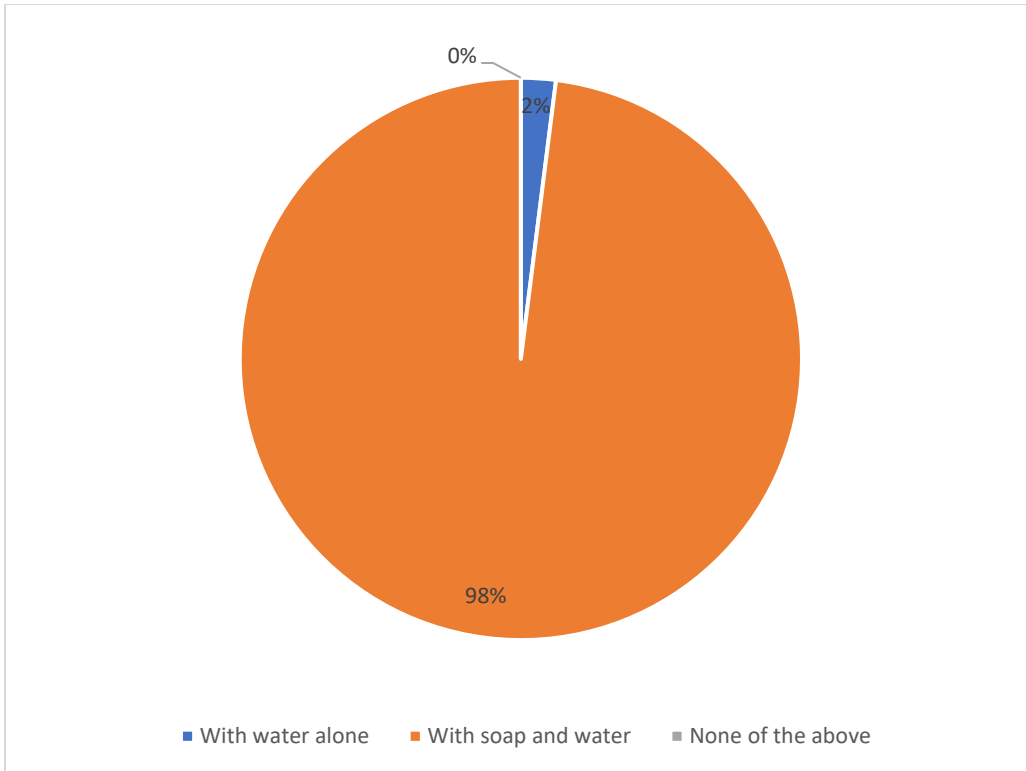
All of the respondents (100) agreed that proper care of the cord prevents infection.

### 4.3 Infection prevention measures adopted by mothers



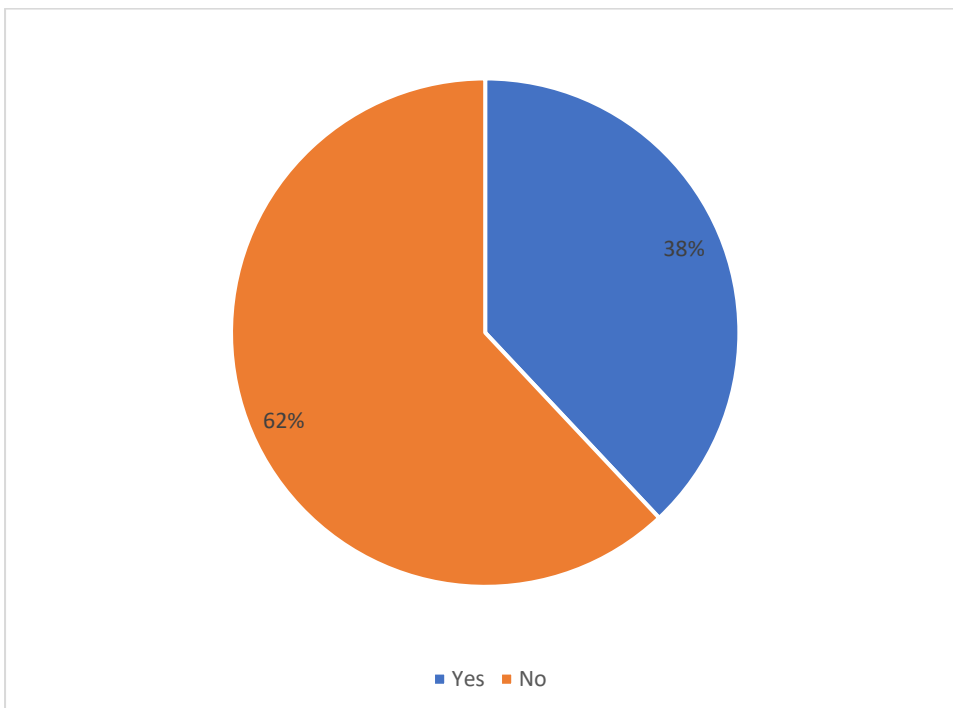
***Figure 1: Respondent's Knowledge on handwashing***

From figure 1, majority of the respondents (94%) indicated 'Yes' meaning they have knowledge about handwashing technique. Only a few (6%) of the respondents indicated 'No' which means they have no knowledge about handwashing technique.



**Figure 2: Material used in handwashing**

From figure 2, majority of the respondents (98%) wash their hands with soap and water and only 2% of the respondents wash their hands with only water.



### **Figure 3: Exposure of cord to air**

From figure 3, more than half of the respondents (62%) do not expose the cord of their babies to air dry while 38% of the respondents do.

**Table 7: Type of concoction used**

| <b>Variable</b>                                   | <b>Categories</b>         | <b>Frequency (n)</b> | <b>Percentage (%)</b> |
|---|---------------------------|----------------------|-----------------------|
| What type of concoction to you apply to the cord? | Cow dang                  | 0                    | 0                     |
|   | Pepsodent                 | 0                    | 0                     |
|   | Mixture of chalk and salt | 0                    | 0                     |
|   | Specify (None)            | 50                   | 100                   |

From table 7, None of the respondent apply concoction (cow dang, pepsodent, mixture of chalk and salt) to the stump of the baby's cord.

### **4.4 Level of knowledge about the recommended health procedure for umbilical cord care**

**Table 8: Knowledge on the recommend procedure for cord care**

| <b>Variable</b>                       | <b>Categories</b> | <b>Frequency (n)</b> | <b>Percentage (%)</b> |
|---------------------------------------|-------------------|----------------------|-----------------------|
| Do you know something about cord care | Yes               | 48                   | 96                    |
|                                       | No                | 2                    | 4                     |
| Do you apply antiseptic on the cord   | Yes               | 50                   | 100                   |
|                                       | No                | 0                    | 0                     |

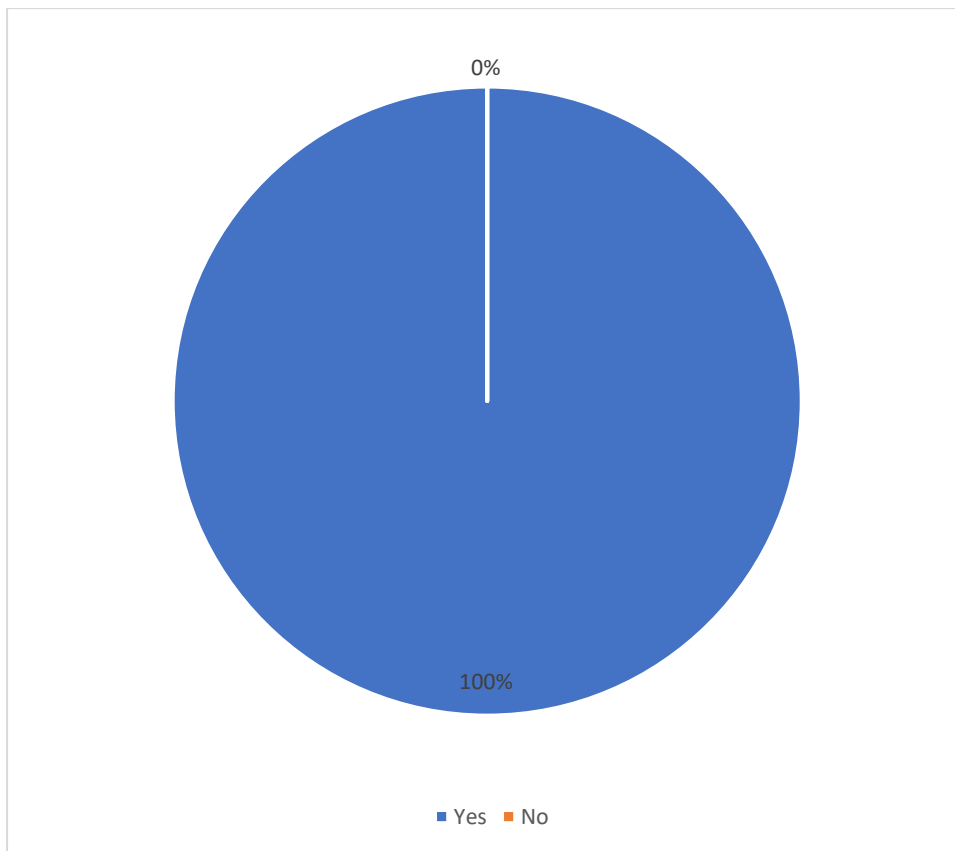
From table 8, most of the respondents (96%) had knowledge about the recommended procedures for cord care while a few (4%) had no knowledge about it.

All the respondents (100%) indicated that they apply antiseptic on their baby's cord.

**Table 9: Type of antiseptic used by respondents.**

| Variable                                 | Categories     | Frequency (n) | Percentage (%) |
|--|----------------|---------------|----------------|
| What type of antiseptic did you applied? | Spirit         | 16            | 32             |
|  | Cream/Ointment | 34            | 68             |

From table 9, majority of the respondents (68%) use cream/ointment (chlorhexidine) on the cord while 32% uses spirit as their antiseptic.



**Figure 4: Recommended antiseptic used for cleaning the cord.**

From figure 4, all of the respondents (100%) knew alcohol is a recommended antiseptic used for cleaning the cord.

## **CHAPTER FIVE**

### **DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS**

#### **5.0 Introduction**

This chapter provides an in-depth look at the major findings that emerged out of the research, comparison of the analyzed data with findings from other literature, conclusion, and recommendations.

#### **5.1 Discussions**

##### **5.1.1 Knowledge on cord care**

Majority of the respondents (96%) disagreed that application of concoction to the stump of the cord is the appropriate method for cord care. This illustrates that respondents have a good knowledge on the appropriate method in caring for the cord. This study contradicts a study conducted by Obimbo, Musoke and Were (2019) on the knowledge, attitudes and practices of mothers and knowledge of health workers regarding care of the newborn umbilical cord. The study concluded that majority of the mothers had good knowledge on the need for hygiene when cutting the cord, had poor knowledge and practice in other aspects of cord care and were afraid of handling the cord.

All of the respondents (100) agreed that proper care of the cord prevents infection. This indicates that, the respondents have good knowledge about the care of cord. This finding is in line with a study conducted by Afolaranmi, et al. (2018) among 324 mothers of children less than 59 months to find out cord care practices. The study found out that mothers have a higher level of knowledge of cord care.

### **5.1.2 Infection Prevention Measures during Cord Care**

Majority of the respondents (94%) indicated 'Yes' meaning they have knowledge about handwashing technique. Again, majority of the respondents (98%) wash their hands with soap and water. This finding is similar to a study conducted by WHO (2017) that, In the postnatal period, clean cord care includes washing hands with clean water and soap before and after care and keeping the cord dry and exposed to air or loosely covered with clean clothes.

None of the respondent apply concoction (cow dang, pepsodent, mixture of chalk and salt) to the stump of the baby's cord. This finding corresponds to a study conducted by Traverso (2020) that, in most cultures, some kind of substance is applied to the cord stump. Ash, oil, butter, spice pastes, herbs and mud are substances that are commonly used. These substances are often contaminated with bacteria and spores and thus increase the risk of infection. One of the most dangerous practices is the application of cow, chicken or rat dung to the stump; this is associated with a high risk of neonatal tetanus. Ghee application has also been found to be a risk factor for tetanus.

Most of the respondents (96%) had knowledge about the recommended procedures for cord care. Again, all the respondents (100%) indicated that they apply antiseptic on their baby's cord. Majority of the respondents (68%) use cream/ointment (chlorhexidine) on the cord. This finding is in line with a study conducted by Udosen, Olaoye, Okondu, Udosen and Amaechi (2019). The study states that; Routine care of the cord usually includes daily cleaning of the stump with alcohol and application of a dusting powder or an antimicrobial solution. Powders currently used contain varying proportions of zinc oxide, talc, starch or alum and other ingredients. Some powders also contain hexachlorophene or chlorhexidine. The most common antimicrobial agents include triple dye, tincture of iodine, iodophors, antibiotic ointments, silver sulphadiazine and chlorhexidine. The frequency of treatment also

varies. In some cases, the cord stump is cleaned and/or treated only at the time of delivery; in others, care is repeated daily or at every diaper change until the umbilicus heals.

All of the respondents (100%) knew alcohol is a recommended antiseptic used for cleaning the cord. This finding contradicts with a study conducted by Rush (2019), cleaning with alcohol is not recommended as it delays healing and drying of the wound. Again Lawn (2019) stated that alcohol does not promote drying, is less effective against bacteria than other antimicrobials and delays cord separation. It is therefore not suitable either for cleaning or for routine application to the cord stump.

## **5.2 Conclusion**

The following conclusions were drawn from the study;

1. Majority of the respondents (96%) disagreed that application of concoction to the stump of the cord is the appropriate method for cord care.
2. Majority of the respondents (94%) had good knowledge on handwashing technique on cord care.
3. Majority of the respondents (98%) wash their hands with soap and water.
4. Most of the respondents (96%) had knowledge about the recommended procedures for cord care.
5. Majority of the respondents (68%) apply cream/ointment (chlorhexidine) on the cord.

## **5.3 Recommendations**

Based on the findings of the study, the following recommendations are made.

1. Mothers should be educated on the importance of cord care.
2. There should be the distribution of antiseptic creams to new born mothers and educate them on how to use it.

3. Mothers should be encouraged to send their newborn babies to the healthcare facilities when they detect any sign of cord infection.

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## APPENDIX

### HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE, BEREKUM

#### QUESTIONNAIRE

Dear Respondent,

We are students of the above institution researching the topic; Cord care practices among mothers attending post-natal care at Holy Family Hospital, Berekum.

Kindly answer the under-listed questions by ticking (✓) the appropriate box or writing in the space provided. Any information you provide is confidential. Your opinion is neither considered right nor wrong. You can choose to withdraw your participation at any time. It will take approximately 30 minutes to answer this questionnaire.

Thank you.

**PLEASE TICK [✓] THE APPROPRIATE BOX WHERE APPLICABLE**

#### **SECTION A: Demographic Data**

1. Age: A. 18-22 [ ] B. 23-27 [ ] C. 28-32 [ ] D. Above 32 [ ]

2. Marital status: A. Single [ ] B. Married [ ] C. Divorced [ ]

3. Educational Background: a. No formal education [ ] b. Basic [ ] c. S/High [ ] d. Tertiary [ ]

4. Religion: a. Christian [ ] b. Islam [ ] c. Traditional d. Non Religion [ ]

5. Occupation: .....

**SECTION B: Knowledge on cord care**

6. Who takes care of the baby's cord?

- a. Mother [ ] b. Grandmother/Mother In-Law [ ] c. Friend/Neighbor [ ] d.

Specify.....

7. Application of concoction to the stump of the cord is the appropriate method for cord care.

- a. Agree [ ] b. Disagree [ ] c. Neutral [ ]

8. Proper care of the cord prevents infection?

- a. Agree [ ] b. Disagree [ ] c. Neutral [ ]

**SECTION C: Infection prevention measures adopted by mothers**

9. Do you have any knowledge about hand washing technique?

- a. Yes [ ] b. No [ ]

10. How do you wash your hands?

- a. With water alone [ ] b. With soap and water [ ] c. None of the above [ ]

11. Do you expose the cord to air for it to get dry?

- a. Yes [ ] b. No [ ]

12. What type of concoction do you apply to the cord?

- a. Cow dung [ ] b. Pepsodent [ ] c. A mixture of chalk and salt [ ] d. Other (s)

specify.....

**SECTION D: Level of knowledge about the recommended health procedure for umbilical cord care**

13. Do you know something about cord care?

a. Yes [ ] b. No [ ]

14. Do you apply antiseptic on the cord?

a. Yes [ ] b. No [ ]

15. What type of antiseptic did you applied?

a. Spirit [ ] b. Cream/Ointment [ ] c. Other(s) specify.....

16. Are you aware that alcohol is recommended antiseptic to be used for cleaning the cord?

a. Yes [ ] b. No [ ]

NATIONAL CATHOLIC HEALTH SERVICE (DIOCESE OF SUNYANI)  
**HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE**  
**BEREKUM**



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P. O. Box 21,  
Berekum, B/A  
Ghana, W/Africa  
Tel. 0352222124  
Fax: 0352222474

Our Ref. ....HFNMTG/GC/011/082323

Your Ref. ....

Date .. August 23, 2023 .....

The Matron  
Palm Avenue Maternity Home  
P.O. Box 118  
Berekum

Dear Matron

**PERMISSION TO CONDUCT RESEARCH**

I wish to introduce to you the under listed names of final year students of the College:

1. Yeboah Wiafe Ophilia
2. Kyeraa Abigail
3. Abena Abrafi

As part of the pre-requisite for the award of Diploma in Midwifery they are to conduct a research study, on the topic 'An exploratory Study to Assess the Cord Care Practices among Mothers attending Post natal care at Palm Avenue Maternity Home, Berekum.'

I would be grateful if you could assist them with any material or help they may need to accomplish this task.

Thank you.

Yours sincerely

  
.....  
Celestine Ahiawornu  
Supervisor

For: Principal