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KNOWLEDGE AND PRACTICES OF UMBILICAL CORD CARE AMONG MOTHERS AGED 18-40 YEARS ATTENDING POSTNATAL CARE AT KAWOLO HOSPITAL BUIKWE DISTRICT. A CROSS-SECTIONAL STUDY.

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ABSTRACT.

Background:
Harmful umbilical cord care contributes to neonatal infection, by which it's a common portal of entry for invasive pathogenic. In turn, this leads to the death of many neonates. This study aimed to assess the knowledge and practices of umbilical cord care among mothers aged 18-40 years in Kawolo General Hospital Buikwe district.

Methods:
A descriptive cross-sectional study was conducted among 138 postnatal mothers using a simple random method. Data was collected from October to November 2023. Using a closed-ended questionnaire data was entered into Microsoft Excel 2007 for analysis and presentation.

Results:
The majority of the mothers were married, between the ages of 25-30 years, and worked as businesswomen. The majority of respondents 100/138 (80%) understood the definition of newborn cord care. All the participants 138/138 (100%) revealed using cord ligatures to tie the baby's cord during delivery. The majority of the mothers, 91/138 (66%) only cleaned their baby's cord once a day. While 120/138 (94%) applied warm saline water on the cord stump of the baby while at home, 8/138 (6%) used chlorhexidine.

Conclusion:
The majority of the respondents had accurate knowledge about cord care of newborns with the benefits of clean cord care being to prevent infection but a few knew when the cord would detach and their source of information was mainly from their mothers or in-laws.

Recommendations:
Health professionals should continue to make an effort to prevent morbidity and mortality rates related to umbilical cord infections as a result of poor cord care practices through health education and sensitizing the community about the dangers of poor cord practices.

Keywords: *Knowledge, Practices, Umbilical cord care, Kawolo Hospital, Buikwe District, Postnatal care*
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INTRODUCTION.

The set of procedures used to handle the umbilical cord following a newborn's delivery is known as cord care. (Afolaranmi et al., 2018). The National Institute of Health Care and Excellence urges against the routine use of such antiseptics and that parents be instructed on how to maintain the umbilical cord dry and clean (NICE, 2015). Over 30% of the approximately 33.3 million neonatal fatalities that occur worldwide each year are attributable to illnesses that began as umbilical cord infections as a result of improper umbilical cord care procedures (Karumbi et al., 2013). Dry cleaning could be just as useful and efficient as antiseptics. Furthermore, in hospital settings in high-income nations, dry care would be less expensive for healthy newborns (Guen et al., 2017) In the same vein, are the recommendations of the American Academy of Paediatrics and the Spanish Association of Paediatrics and Standards Commission of the Spanish Society of Neonatology. These groups also assert that the only things needed for caring for an umbilical cord are water, soap, and drying afterward; using antiseptic solutions can cause the cord to separate sooner rather than later and is not beneficial (López-Medina et al., 2020).

The umbilical cord may be a common portal of entry for invasive pathogenic Neonatal mortality associated with bacterial contamination of the umbilical stump. Unplanned home birth or septic delivery, low birth weight, prolonged rupture of the membranes, umbilical catheterization, and chorioamnionitis are common risk factors for the development of neonatal omphalitis. Home births are six times more likely than hospital deliveries to result in omphalitis in low-resource countries. (Stewart et al., 2016). Approximately 7.5 million newborns globally pass away in their first month of life, with 98% of these

deaths occurring in underdeveloped nations. Initial cord infections are responsible for a considerable percentage of neonatal infection-related fatalities. The incidence of omphalitis, which can result from umbilical cord contamination, can reach 77 per 1000 hospital-born infants. (Stewart et al, 2016).

Worldwide newborn mortality has decreased from 5 million in 2014 to 2.4 million in 2019; still, there is a significant chance of death within the first 28 days of life (Merga et al., 2022). Harmful umbilical cord care contributes to neonatal infection, which accounts for millions of neonatal deaths (Merga et al., 2022). Approximately 7.5 million newborns globally pass away in their first month of life, with 98% of these deaths occurring in underdeveloped nations. Initial cord infections are responsible for a considerable percentage of neonatal infection-related fatalities. The incidence of omphalitis, which can result from umbilical cord contamination, can reach 77 per 1000 hospital-born infants (Dessalegn et al., 2022).

Studies conducted in Cameroon and Nigeria both in the sub-African subregion reported unsatisfactory levels of cord care practices among mothers bringing to bear its importance to increased risk of infections and mortality in the neonatal period. (Afolaranmi et al., 2018)

Studies conducted in Nairobi Kenya stated that mothers had good knowledge of the need for hygiene when cutting the cord, had poor knowledge and practice in other aspects of cord care, and were afraid of holding the cord (Obimbo et al., 1999).

Kampala Uganda has poor cord care of 0.095 cases per 28 child days. (Tumuhamye et al., 2022)

However, no study concerning knowledge and practices towards umbilical cord care among Mothers in Kawolo Hospital, Buikwe district has yet been done. Therefore, the study will aim to find the knowledge and practice of cord care among mothers in Kawolo Hospital, Buikwe district has yet to be done

General Objective.

- To assess knowledge and practices of umbilical cord care among mothers aged 18 to 40 years attending PNC at Kawolo Hospital, Buikwe district.

Specific Objectives.

- To assess knowledge of Umbilical Cord care among mothers aged 18 to 40 years attending PNC at Kawolo Hospital, Buikwe district.
- To determine the different practices of Umbilical cord care among mothers aged 18 to 40 years attending PNC at Kawolo Hospital, Buikwe district.

METHODOLOGY.

Study design.

The study was a cross-sectional study comprising of quantitative approach. The quantitative approach was used to establish mother‘s views about cord care practices. The in-depth information was obtained from key informants and the design was cheap and quick to gather data in a short time.

Study area.

The study was conducted in the PNC at Kawolo General Hospital located in Buikwe district, Central Uganda. The study was conducted from July to November 2023.

Study population.

The study population was mothers aged 18 to 40 years attending PNC at Kawolo General Hospital, Buikwe district, Central Uganda.

Inclusion criteria.

All mothers aged 18 to 40year attending PNC at Kawolo Hospital, Buikwe district

Exclusion criteria.

All mothers attending other wards besides the post-natal ward.

Sample size determination.

The sample size was determined using the Kish and Leslie (1965) formula for cross-sectional study;
Sample size, n = (z2pq)
n = number of respondents,
p = estimated prevalence of the problem from the previous study = 10%
z = standard deviation at 95% confidence interval =1.96
d = the precision or maximum acceptable error the investigator is willing to accommodate (5% in my study because of the limitation of finance including time for the study)
q = 1-p
Therefore; n = (1.96*1.96*0.1*(1-0.1))/(0.05*0.05)
n = 138.

Sampling technique.

A simple random sampling method was used to provide equal opportunities for every individual to be selected. It was simple to administer and reduced bias and participants were given equal chances of being included in the study.

Sampling Procedures.

The principal investigator used the random number method by approaching the mothers aged 18 to 40 years attending PNC at Kawolo Hospital, Buikwe district

Data collection methods.

An interview method was used guided by a semi-structured questionnaire designed and pre-tested by the researcher to obtain quantitative data

Data collection tools.

A well-written structured questionnaire designed based on the objectives of the study was distributed to the respondents to obtain quantitative data.

Data collection procedure.

Data was collected between October to November 2023. Before interviewing, every selected mother explained the study objectives and voluntarily requested to make informed consent before any information was collected through the questionnaire.

Definition of variables.

The dependent variable was umbilical cord care
The independent variable was the knowledge and practices of mothers at PNC in Kawolo General Hospital

Quality control.

The quality of the research was earned through;

- **Pretesting of the research tool.**

  A pre-visit was carried out and the research instruments were tested to ensure accuracy, reliability, and validity of instruments. They were developed fully before the actual study to ensure a standard questionnaire.

- **Ample time.**

  The respondents were given ample time to answer the questions.

- **Adherence to standard operating procedures (SOPs):**

  The study method was conducted with strict adherence to the COVID-19 SOPs to prevent the spread of the disease and other communicable diseases

Data analysis and presentation.

The data captured in the questionnaires was entered in Microsoft Excel from where it was exported into a statistical package for social sciences for analysis. Descriptive and inferential statistics were used to analyze the data. Descriptive statistics was used to analyze data to process categorical data which was presented in frequency and percentage distributions.

Ethical consideration.

An introductory letter from the principal of St. Francis Schools of Health Sciences and taken to the hospital's medical superintendent. (MS).
Before interviewing participants, each was explained the objectives of the
study and requested to make informed consent before any information collection. After that, the respondents were briefed on the importance of the study. It was clearly explained that there would be no incentive to offer to the respondents after data collection.
Respondents were assured of confidentiality of their responses and that they were free to quit at any time if they wished so. They were assured that there would be no risk the respondents could be exposed through their participation in the study.

RESULTS.

Demographic Characteristics of Postnatal Mothers.

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Table 1 shows the demographic characteristics of postnatal mothers. (N=138)

Variable	Parameter	Frequency	Percentage (%)
Age category	18-24	14	28
	25-30	18	36
	31-35	10	20
	36 -40	08	16
Occupation	Farmer	05	10
	Businesswoman	20	40
	Housewife	13	26
	Civil servant	12	24
Level of education	Informal	01	2
	Primary	03	6
	Secondary	14	28
	Tertiary	32	64
Marital status	Married	42	84
	Single	00	0
	Divorced	07	14
	Widowed	01	2

In Table 1, out of the 138 participants, 36% were in the age category of 25-30 years, 28% in the age category of 18-24 years, 20% in the age category of 31-35 years, and 16% in the age category of 36 -40 years. 40% were businesswomen, 26% were housewives, 24 % were civil servants and 10% were farmers. The majority of the participants 64% had attained education up to tertiary level, 28% had attained education up to secondary level, 6% had attained education up to primary level and 2% had an informal education. 84% were married, 14% were divorced and 2% were widowed.

Knowledge of Umbilical Cord Care among Postnatal Mothers.

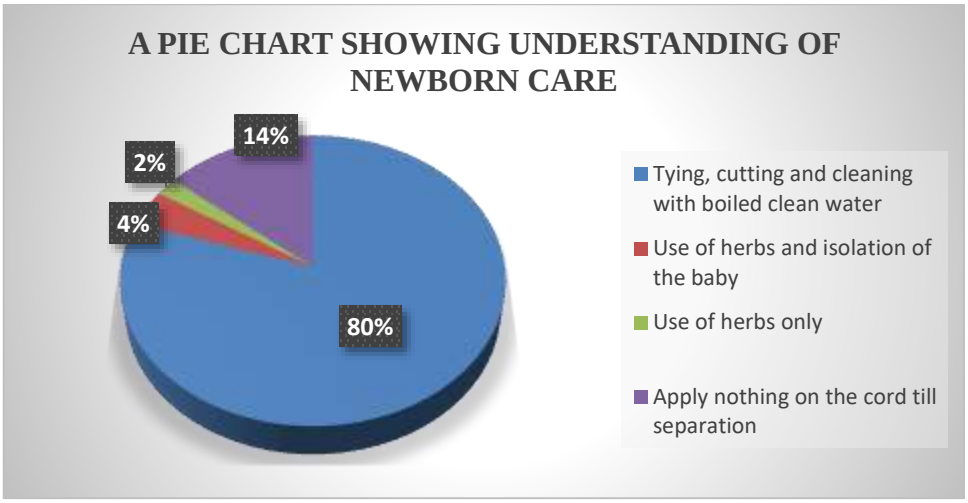

Figure 1: Showing knowledge of cord care among postnatal mothers (N=138)

In the pic chart (Figure 1) majority of the participants 80% understood cord care of new-born as tying, cutting, and cleaning it with boiled clean water, 14% understood that nothing should be done on the cord till separation, 4% understood it as use of herbs and isolation of the baby while 2% understood it as use of herbs only.

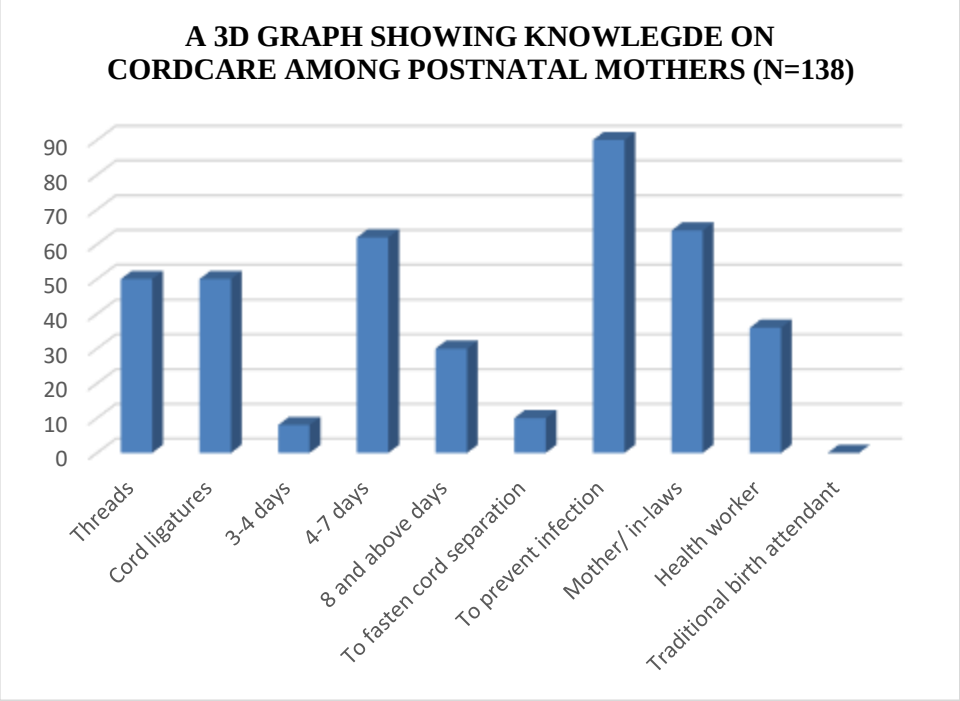

Figure 2: Showing knowledge of cord care among postnatal mothers (N=138)

50% of the participants used threads for tying the baby's cord while another 50% had it that they were using cord ligatures.62% knew that the cord took 4-7 days to detach, 8% knew that the cord took 3-4 days to detach and 30% knew it that the cord took 8 and more days to detach. 90% of the participants knew the benefit of cord care was to prevent infection while 10% took the benefit of fastening the process of cord separation. 64% had their source of information about cord care from mother/in-laws while 36% had their source from health workers.

Practices on Umbilical Cord Care among Postnatal Mothers.

Table 2: Showing practices of umbilical cord care among postnatal mothers. (N=138)

Variable	Parameter	Frequency	Percentage (%)
Materials used for cutting baby's cord	A sterile Pair of scissors	43	86
	Surgical blade	07	14
Materials used to tie the baby's cord	Cord ligature	50	100
	Threads	00	0
Number of times you clean the cord in a day	Once	33	66
	Thrice	06	12
	When necessary	11	22
What do you apply on the cord stump while at home	Warm saline water	47	94
	Cow dung	00	0
	Chlorhexidine	03	6
	Herbs	00	0

The majority of the participants 86% saw their babies being cut with a sterile pair of scissors during delivery, while 14% saw surgical blades being used to cut the baby's cord. All the participants 100% revealed using cord ligatures to tie the baby's cord during delivery. 66% only cleaned once their baby's cord in a day, 22% cleaned the cord when it was necessary while 12% cleaned the cord thrice in a day. 94% applied warm saline water on the cord stump while 6% used chlorhexidine. (Table 2)

DISCUSSION.

Knowledge of Postnatal Mothers on Umbilical Cord Care.

The study showed a significant percentage of 80% of participants understood newborn cord care as tying, cutting, and cleaning with boiled clean water. These study findings indicate that mothers were knowledgeable about the cord care of newborns. This is attributed to the health education done by the midwives and other health professionals that they do during the antenatal care visits as they prepare these mothers for delivery. In addition, the mothers are educated with a good level of educational attainment at the tertiary level meaning that they can comprehend and understand the information.

These study findings are in line with those of Og et al 2019 who conducted a study in Nigeria and found a good knowledge of cord care among women aged 26 years and above with the majority mainly having attained secondary and tertiary education. This is explained by the good health system for the mother and newborn which includes free postnatal care services and education.

The study also showed that 64% of the participants had their source of information about cord care from mothers and in-laws. These study findings indicate a poor source of knowledge about cord care. This is attributed to the fact that these mothers spend a lot of time with the mothers or in-laws immediately after the delivery of the baby and develop a lot of trust to the extent that mothers will do whatever they are told by their mothers without consultation from a health professional.

These study findings are in line with those of Osuchukwu et al 2018 who revealed that

34% of the mothers got their information from their mothers/mother-in-law which was one of the poor sources of information.

Practices of Umbilical Cord Care among Postnatal Mothers.

The study showed that 86% of the mothers reported that a sterile pair of scissors was used to cut their baby's cord. This study finding indicates a good practice done at the health facility in taking care of the cord. This is attributed to the well-trained staff employed at the health facility.

These study findings are in agreement with those of Kumola (2015) who conducted a study in Kenya and found that 93% of respondents reported the use of a pair of scissors in cutting the cord. This is explained by the standards and guidelines set by the World Health Organization (WHO, 2015) globally in handling cord care.

The study also showed that 94% of the participants applied warm saline water to the cord stump. These study findings indicate that the mothers had a good practice of cord care while at home. This is attributed to the fact that mothers who have any wound to be cleaned should use clean saline water with a clean cotton cloth which is commonly used in our communities.

These study findings are in disagreement with those of Dessalegn et al. (2022), who carried out research in Ethiopia and discovered that women covered the cord stump with materials including turmeric, mustard oil, cow dung, and antiseptic lotion. This is attributed to the myths attached to the use of these substances making it hard to change the mothers' mindset.

CONCLUSION.

The majority of the respondents had accurate knowledge about cord care of newborns with the benefits of clean cord care being to prevent infection but a few knew when the cord would detach and their source of information was mainly from their mothers or in-laws. The respondents knew umbilical cord care and the most common practice was cutting with a sterile pair of scissors during delivery at the health facility and use of warm saline water to apply to the cord mothers while at home.

LIMITATIONS.

- Inadequate finances to finance the research project.
- Long distance to the health facilities for research, pretesting tools, and piloting the study
- some participants didn't reveal the correct information which affected the results of the study.

RECOMMENDATIONS.

Health professionals should continue to make an effort to prevent morbidity and mortality rates related to umbilical cord infections as a result of poor cord care practices through health education and sensitizing the community about the dangers of poor cord practices.

Educate the parents on how to manage the cord, what to expect, and when to seek input from a healthcare professional. They should;

- Inspect the stump regularly to ensure that it's healing and remains clean and dry.
- Always wash hands before touching the cord to reduce the risk of introducing an infection.
- Ensure that nappies do not rub on the cord stump-fold them down at the front if necessary.
- Seek further input if it remains intact beyond 3 weeks from delivery as it normally falls off after 1-2 weeks.
- Be alert for signs of infection-redness, swelling, pus or blood, fever, poor feeding, crying when the stump is touched, and seek healthcare review.

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LIST OF ABBREVIATIONS AND ACRONYMS.

WHO: World Health Organization
MS: Medical Superintendent
SOP: Standard Operating Procedure
SD: Standard deviation
M: Mean
NICE: National Institute for Health and Care Excellence
PNC: Postnatal clinic

SOURCE OF FUNDING.

There was no source of funding.

CONFLICT OF INTEREST.

There was no conflict of interest.

AUTHOR BIOGRAPHY.

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