KNOWLEDGE, ATTITUDE AND PRACTICES AMONG MOTHERS TOWARDS CORD CARE OF THE NEWBORN ATTENDING KAZO HEALTH CENTER IV, KAZO DISTRICT- A CROSS SECTIONAL STUDY.

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ABSTRACT.

Background:

Poor cord care is still resulting in prevalent cord infections in developing countries because of the low knowledge, high rates of unhygienic cord care practices, and cultural belief in giving care to neonates. The study assessed the Knowledge, attitude, and practices among mothers towards cord care of the newborn attending Kazo H/CIV, Kazo District.

Methodology:

A cross-sectional descriptive design was adopted in the study. Through simple random sampling, a total of 70 mothers were selected for the study and data was collected using semi-structured questionnaires.

Results:

More than half of the respondents 39(56%) were aged between 25-34 years, majority 31(41%) were married, majority 30(43%) were at level of secondary education, majority 41(59%) were Christians. The majority of the respondents 52(74%) said that they knew what cord care was and said that cord care meant cleaning the cord, majority 43(61%) knew that the importance of cord care was to prevent infections. The majority of the respondents 54(77%) had cultural beliefs they applied to newborn babies as regards cord care. The majority of respondents 52(74%) washed their hands before handling the cord, the majority 33(61%) applied other substances to the cord, the majority 31(44%) cleaned the cord 3 times a day, and the majority 49(70%) cleaned the cord daily.

Conclusion:

The majority of the respondents knew what cord care is and the importance of cord care. In regards to attitude, most of the respondents had a poor attitude towards cord care as they preferred following their cultural beliefs. However, cord care practices were still poor among respondents since the majority of them applied substances to the umbilical code stump.

Recommendation:

There is a need for health workers to increase awareness of cord care and signs and symptoms of cord infection especially when pregnant mothers come for antenatal and postnatal services.

Keywords: Knowledge, Attitude, Practices, Cord care, Mothers, Newborn Submitted: 2024-03-09 Accepted: 2024-06-20

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BACKGROUND

Cord care is the series of steps applied in handling the umbilical cord after delivery of the newborn and if not meticulously carried out will contribute significantly to newborns' risk of infection and mortality (Afolaranmi, 2018). Umbilical cord care is among the essential newborn care practices recommended by the World Health Organization (WHO) to reduce neonatal morbidity and mortality. The basic principle of umbilical cord care is to keep it clean and dry, as this provides the fastest and safest umbilical cord healing. Unhygienic cord care practice has been implicated as the main factor responsible for the incidence of umbilical cord infection and inappropriate cord handling is among the risk factors (Kalufya et al., 2022).

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 (Afolaranmi, 2018). A study that examined the association between clean cord care practices and neonatal mortality in rural Uttar Pradesh, India showed that only thirty percent of the mothers practiced clean cord care (Chizoma & Abimbola, 2020). The study revealed that clean cord care was associated with thirty-seven percent lower neonatal mortality [OR=0.63; 95% CI 0.46 to 0.87].

With forty-one deaths per 1000 live births, the risk of neonatal death is highest in sub-Saharan Africa (Dhingra et al., 2019). The study done in Nigeria showed that maternal level of education, occupation, and parity were significant determinants of the care given knowledge of umbilical cord care was strongly associated with increasing age, higher education, and marital status. The study conducted in Tanzania reported that good knowledge of umbilical cord care was determined by having a higher level of education and having 3 or more children. You

Mothers' knowledge and practice have a significant impact on the health of the neonate, with mothers who are knowledgeable about standard cord care being more likely to practice good cord care (Kalufya et al., 2022). Each year, 51,000 newborns die in Tanzania, placing it among the top five countries in terms of newborn deaths in Africa. Tanzania's newborn deaths represent 29 percent of all child deaths in Tanzania. Although Tanzania has made great strides in reducing child mortality, it has demonstrated slower progress in reducing neonatal deaths (Dhingra et al., 2019). In addition, many traditional practices, such as the application of substances to the cord stump, letting the baby stay wet and cold, poor hygiene during delivery and the first hours after birth, discarding colostrum, and feeding other foods, can also lead to serious infections. Many of these neonatal deaths could be averted with simple preventive measures, such as hygienic care at birth and during the postnatal period. Since the umbilical stump blood vessels are exposed for the first few days after birth, they are a common portal of entry for invasive bacteria that cause systemic infections (sepsis) in newborn babies, which may lead to death.

In Uganda, it has been estimated that out of every 1000 live births, almost 307 die within the first 28 days of life that is as neonates as omphalitis being an important risk factor for severe illness and death (Tumuhamye et al, 2022). The study conducted in Kabarole in western Uganda districts on assessment of maternal and neonatal health within the first 4 weeks after birth, revealed that poor neonatal cord care caused neonatal cord sepsis and tetanus to 398 (5.0%) and 113 (1.4%) neonates respectively, out of the 7895 neonates investigated (Kyomugisha,2017). Therefore, this study intends to find out the Knowledge, attitudes, and practices among mothers towards cord care of the newborn attending Kazo H/CIV, Kazo District.

METHODOLOGY

Research Design

A cross-sectional descriptive design was adopted in the study. This design was suitable for this study because it involved a collection of data at one point in time and did not require time series over several monitoring rounds of data.

Study area

The study was carried out at Kazo HCIV, Kazo district. Kazo HCIV was chosen because of its high numbers of mothers receiving ANC services and postnatal mothers. Kazo district is located in the western part of Uganda.

Study Population

The study population comprised of mothers receiving ANC services and those that delivered from Kazo HCIV and these served as potential respondents from whom information was obtained.

Sample Size Calculation

The sample size formula for Kish Leslie (1965) was used as expressed below, Sample size, $N=\underline{Z}2$ pq

_____d2

Where Z was the standard normal deviate of 1.96 (95% confidence interval)

Knowledge, attitude, and practices among mothers towards cord care of the newborn attending Kazo H/CIV, Kazo District.

p= proportion of mothers attending Kazo H/CIV, (50%) because no study had been conducted at the health facility about the study topic.

d= level of precision (+/- 9%) n=sample size

$$\frac{96^2 x 0.50(1-0.50)}{0.09^2}$$

Considering a nonresponse rate of 5% n= 60+10 n= 70 participants

Sampling Technique

The study used systematic random sampling to select respondents where every individual in the population had an equal chance of being selected. The researcher used simple random sampling to select the respondents from the ward. This method was used because was very fair, unbiased, and easy to carry out.

Sampling procedure

To get the sampling interval, I divided 70 study participants by 25, giving me about 4. That implied that a study participant was selected at the interval of four (every mother in the maternity ward would voluntarily participate in the study). Every first mother to participate in the study each day was randomly selected by listing down all possible positions on pieces of paper and randomly selected. The selected number was the first person to participate in the study.

Data Collection Techniques

The researcher used different approaches to data collection that were guided by specific objectives or research questions. An interview-guided questionnaire was used because it was convenient for the researcher and the respondents.

Data Collection Tools

The study used semi-structured questionnaires to collect data. The researcher used face-to-face interviews to ask the respondents questions and then recorded the information from them. Interviews were used because they enabled the researcher to establish rapport with potential participants and therefore gain their cooperation, capture verbal and non-verbal responses such as body language, help to keep the respondents focused, and also allow the researcher to clarify ambiguous answers and where appropriate, seek follow-up information.

Data Collection Procedure

The researcher personally collected data by administering the questionnaire to respondents and given a reasonable amount of time to give their views and responses after which the questionnaires were collected. Strict confidentiality to all information received was assured to the respondents before interviewing. Members who consented were interviewed and then moved to the next person.

Study variables

The independent variables were demographic factors like age and marital status.

The dependent variables were Knowledge, attitude, and practices among mothers towards cord care of the newborn attending Kazo H/CIV, Kazo District.

Quality Control

The data collected was kept in a lock and key cupboard for the privacy of the information.

Pilot study

The research tool was pretested in a pilot study that was carried out at Buremba HCIII. That helped to make necessary adjustments before the study was carried out at Kazo HCIV. Questions that did not have any value to the study were removed.

Validity of the tool

The researcher tested the ability of the tool to yield dependable results by interviewing some selected respondents at Kazo HCIV about Knowledge, attitudes, and practices among mothers towards cord care of the newborn attending Kazo H/CIV, Kazo District. That also helped to correct the unnecessary errors that were in the questionnaire.

Inclusion Criteria

All mothers receiving ANC services and mothers of newborns in the postnatal ward at Kazo HCIV, Kazo district who were available during the days of data collection and consented were included in the study.

Exclusion Criteria

All mothers who were not available during data collection and those who were mentally unstable were excluded from the study.

Data analysis

After data collection, the pre-coded data was entered manually questionnaire by questionnaire and then the data was analyzed using a computer program, Microsoft Excel, and interpreted. Data was run in this program where tables were developed and then transferred to Microsoft Word where data was interpreted in a written form.

Ethical Issues

The permission was obtained from the DHO of Kazo district who forwarded it to the in charge of Kazo HCIV after approval by the Principal Kampala School of Health Sciences, an introductory letter about the study was given to

me. A free and informed consent of each respondent was given at the beginning of the study and all the information about the individual was treated with strict confidentiality. All participants' rights were respected and all data collected from the study was handled with confidentiality without the patient's name. The respondents were only included in the study.

After they understood the purpose of the study and had consented to take part. The study was voluntary and the respondents deserved the right to withdraw at any time of their wish.

Limitations of the study

Some respondents withheld information regarding maternity because they feared being ashamed.

Poor weather conditions disturbed the researcher during data collection. Study completion was delayed because of the reluctance of some respondents to answer the required questions in time.

RESULTS

Social demographic characteristics

Table 1 shows the distribution of respondents by social demographic characteristics. N=70

Variable	Frequency (n=70)	Percentage (%)
Age		
18 to 24 years	22	31
25 to 34 years	39	56
35 to 44years	9	16
Marital status		
Married	31	44
Never married	11	16
Separated	28	40
Education level		
No formal education	11	16
Primary	12	17
Secondary	30	43
Tertiary	17	24
Religious affiliation		
Islam	22	31
Christianity	41	59
Others	7	10
Total	70	100

From Table 1, more than half of the respondents 39(56%) were aged between 25-34 years while at least 9(13%) were aged from 35-44 years. Most of the respondents 31(41%) were married while at least 11(16%) were never married. Close to half of the respondents 30(43%) had attained a secondary education level while at least 11(16%) had no

formal education level. The majority of the respondents 41(59%) were Christians while the minority 7(10%) were from other religious affiliations.

Knowledge of mothers towards cord care

26% • yes • no

Figure 1 shows the distribution of the respondents according to whether they knew what cord care was. N=70

From figure 1, majority of the respondents 52(74%) said that they knew what cord care was while the minority 18(26%) did not know what cord care was.

Table 2 shows the distribution of the respondents according to what they knew as cord care. N=52

Variable	Frequency(n=70)	Percentage (%)
Cleaning cord	22	42.3
Tying cord with clamp, clean objects	4	7.7
Applying methylated spirit and other substances	8	15.4
All the above	18	34.6
Total	52	100

From table 2, most 22(42.3%) of the respondents said that cord care meant cleaning of the cord, whereas least 4(7.7%)

of the respondents said that it meant tying cord with clamp or clean objects.

Table 3 shows the distribution of the respondents according to where they learnt cord care from. N=70

Variable	Frequency(n=70)	Percentage (%)
Mother	16	22.9
Mother in law	11	15.7
Health worker	38	54.3
Media	5	7.1
Total	70	100

From table 3, more than half 38(54.3%) of the respondents learnt cord care from health workers whereas least 5(7.1%) of the respondents learnt it from media.

Importance of cord care



Figure 2: Shows the distribution of the respondents according to how they knew the cord was infected. N=70

From figure 2, most 29(41%) of the respondents knew that the cord maybe infected by having a foul smell, while least 9(13%) of the respondents knew that the cord maybe infected by the redness at the umbilical site

Attitudes of mothers towards cord care

Figure 3 shows the distribution of the respondents according to whether they had cultural beliefs applied on new born babies as regards to cord care.



From figure 3, majority 54(77%) of the respondents had cultural beliefs they applied on new born babies as regards to cord care whereas the minority 16(23%) of the

respondents said that they did not have cultural beliefs they applied on newborn babies as regards to cord care.



Figure 4: shows the distribution of the respondents according to whether they thought there are other unhygienic substances that work during cord care. N=70

From figure 4, more than half 37(53%) of the respondents agreed that there are other unhygienic substances that work

during cord care whereas less than half 33(47%) of the respondents disagreed.



Figure 5: shows the distribution of the respondents according to what unhygienic substances they thought can work during cord care. N=37

From figure 5, majority 23(63%) of the respondents thought that sought can work during cord care, while minority

14(37%) of the respondents thought that cow dung can work during cord care.



Figure 6 shows the distribution of the respondents according to why they thought people use cow dung during cord care. (N=70)

From figure 6, majority of the respondents 49(70%) said that cow dung helps to dry the cord, whereas the minority 21(30%) of the respondents said that they were not so sure of cow dung's use in cord care.

Practices of mothers towards cord care

Figure 7 shows the distribution of the respondents according to whether they wash hands before touching the baby's cord. N=70



From figure 7, majority 52(74%) of the respondents washed their hands before touching the baby's cord while minority

18(26%) of the respondents did not wash their hands before touching the baby's cord.

Table 4 shows the distribution of the respondents according to what they used when cleaning or washing their hand. N=52

VARIABLES	FREQUENCY	PERCENTAGES (%)
Water only	28	54
Water and soap	14	27
Cloth	10	19
Total	52	100

From table 4, more than half 28(54%) of the respondents said that they used water only, whereas least 10(19%) of the respondents said that they used a cloth to wipe.

Figure 8 shows the distribution of the respondents according to whether they applied substances to the umbilical cord stump. N=70



From figure 8, majority 52(74%) of the respondents applied substances to the umbilical cord stump, while the minority

18(26%) of the respondents did not apply substances to the umbilical cord stump.

Table 5 shows the distribution of the respondents according to often they cleaned the umbilical cord. N=70

VARIABLES	FREQUENCY	PERCENTAGE (%)
Daily	49	70
Once in a while	21	30
Total	70	100

From table 5, majority 49(70%) of the respondents cleaned the umbilical cord daily, while minority 21(30%) of the respondents cleaned the umbilical cord once in a while.

Table 6 shows the distribution of the respondents according to the approach and technique they used to clean the umbilical cord. N=70

VARIABLES	FREQUENCY	PERCENTAGE (%)
Cord base before the stump	31	44
Cord stump alone	18	26
Cord surrounding skin only	21	30
Total	70	100

From table 6, most 31(44%) of the respondents cleaned the cord base before the stump, whereas least 18(26%) of the respondents cleaned the cord stump alone.

Table 7 shows the distribution of the respondents according to how often they clean the cord and the stump in a day. N=70

VARIABLES	FREQUENCY	PERCENTAGE (%)
Less than 3 times	12	17
More than 3 time	27	39
3 times	31	44
Total	70	100

From table 7, most 31(44%) of the respondents cleaned the umbilical cord and the stump 3 times in a day whereas, at least 12(17%) of the respondents cleaned the umbilical cord and the stump less than 3 times in a day.

DISCUSSION

Social demographic characteristics

More than half of the respondents 39(56%) were aged between 25-34 years and 31(41%) were married something that could have been attributed to due to the full maturity age making them ready for marriage. Close to half of the respondents 30(43%) had attained secondary education level this was a slightly fair education that helped them understand the importance of cord care. The majority of the respondents 41(59%) were Christians something that could have been due to Christianity being the most dominant religion.

The knowledge of mothers towards cord care

The majority of the respondents 52(74%) said that they knew what cord care and most of them 30(43%) said that cord care meant cleaning the cord. This could have been because of the fair knowledge they got from different sources. From the findings, more than half of the respondents 39(56%) learned about cord care from health workers perhaps from the health talks. This was similar to (Udosen et al., 2019) who found that about knowledge, the majority (81.4%) of the respondents had heard about umbilical cord care, (64.4%) of nursing mothers heard about umbilical cord care from Doctors /Nurses, 196 (62.2%) learned about it from their mother/mother-in-law, who are the primary caregivers during the postnatal period.

More than half of the respondents 43(61%) said that cord care prevents infection and most of them 29(41%) knew that the cord may be infected by having a foul smell. This could have been possible due to the knowledge they got from the health workers and this was related to the study of (Udosen

et al., 2019) where when it came to umbilical cord care knowledge, 137 (43.5%) knew the importance of cord care is to prevent infection.

The attitudes of mothers

The majority of the respondents 54(77%) had cultural beliefs they applied to newborn babies as regards cord care which could have been because of the information they had gotten from different sources of information with more than half of the respondents 33(61%) saying that they applied other substances on the newborn as regards to cord care. This was in agreement with a study done in Nepal, (Memon et al., 2019) cultural beliefs were related to early newborn bathing. The majority of the participants reportedly believed that early bathing of their newborns cleans the dirty coating of Vernix present on the baby. Hence, the study population has a custom of early bathing to clean and purify the baby instantly.

More than half of the respondents 37(53%) thought that other unhygienic substances worked during cord care while the majority 23(63%) of respondents said that they thought could work during cord care cleaning. Probably they could have heard it from other colleagues. This was in agreement with a study in Sylhet District in Bangladesh, involving 39 in-depth interviews of mothers, fathers, grandmothers, and traditional birth attendants, and data from more than 6000 household surveys of mothers, found that substances were applied until the cord separated and that either turmeric or ginger are applied at birth and then a combination of mustard oil and garlic are applied twice daily until the separation of the cord (Coffey & Brown, 2017).

The majority of the respondents 49(70%) said that cow dung helped them to dry the cord. This was in agreement with Kyomugisha, (2017), who revealed that cow dung was applied to the umbilical cord because of its high moisture absorption rate. It dries the cord rapidly, which is a potential benefit in many traditional cultures as the mother and baby cannot join the rest of the household until the cord falls off. Traditional beliefs should be taken into account when introducing a clean cord care program in a community since their beliefs may conflict with program recommendations.

Practices of mothers

The majority of the respondents 52(74%) washed their hands before touching the baby's cord which was a positive practice that would prevent infections however majority 28(54%) used water only to wash their hands. This was in agreement with the study according to a study where hand hygiene is an important measure in infection prevention and vital to umbilical cord care. In this study, 130 (40.1%) of the mothers recalled that their hands were washed with water only before handling the baby's cord, 153 (47.3%) used soap and water, and 26 (8.0%) used their clothing to wipe the hands before caring for the umbilical cord stump, respectively (Afolaranmi, 2018).

The majority 52(74%) applied substances to the umbilical code stump. This was probably from what was told to them by different sources this was similar to (Dhingra et al., 2019) women reported a range of substances that were applied to the umbilical stump. However, the application of such harmful therapies in the management of babies exacerbates the probability of the development of infections like tetanus, omphalitis, fever, septicemia, etc. Earlier studies from Nepal and Pakistan also reported the use of similar materials on the newborn's umbilical cord highlighting the prevalence of this practice at a wider geographical range.

The largest percentage of respondents cleaned the umbilical cords daily. This was a good practice to maintain good hygiene. However, it was slightly different (Mohammed et al., 2020) who found that when assessing practice on umbilical cord care, the majority 275 (87.3%) reported cleaning the umbilical cord but only 41 (13.0%) reported cleaning once daily as recommended. About half 154 (48.9%) washed their hands with water and soap before and after cleaning the umbilical cord, 151 (47.9%) reported cleaning the cord base before cleaning the surrounding skin, and only 25 (7.9%) reported not applying anything to the umbilical cord to facilitate healing Close to half of the respondents 31(44%) said that the best approach and technique used to clean the cord was cleaning the base before the stump which in line with (Mohammed et al., 2020) and the most number saying that they cleaned the cord and stump three times 31(44%). This was similar to the study assessment of the frequency of umbilical cord care that revealed that only 27 (8.3%) of the mothers cleaned the cord and stump more than three times a day, 48 (14.8%) after every diaper change, 197 (60.8%) three times a day, and 43 (13.3%) did the cleaning once a day (Afolaranmi, 2018).

CONCLUSION

The majority of the respondents knew what cord care was and said that cord care meant cleaning the cord and the importance of cord care. In regards to attitude, most of the respondents had a poor attitude towards cord care as they preferred following their cultural beliefs. However, cord care practices were still poor among respondents since the majority of them applied substances to the umbilical code stump.

RECOMMENDATION

- There is a need for health workers to increase awareness on cord care especially when pregnant mothers come for antenatal and postnatal services.
- There is a need for health workers to continuously emphasize the hygiene of the mothers to ensure they maintain good hygiene for their newborn babies.
- There is a need by the health workers in particular those in the obstetrics unit to increase education on signs and symptoms of cord infection to prevent serious infection.
- There is a need for health facilities to start up prenatal and post-natal clinics to support the mothers who may need help.

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LIST OF ABBREVIATIONS

ANC:	Antenatal Care
DHO:	District Health Officer
YCC:	Young Child Clinic

H/CIV: Health Center four

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CONFLICT OF INTEREST

The author declared no conflict of interest

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