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Attitudes and Practices of Mothers towards Neonatal Umbilical Cord Sepsis in Maternity Ward of Kitagata Hospital, Sheema District.

Namuddu, Rebecca

Department of Nursing Science, Kampala International University, Uganda.

ABSTRACT

Globally, it is estimated that over four million newborns die annually from serious neonatal infections. This study was carried out to find out the attitudes and practices of mothers towards neonatal umbilical cord sepsis in maternity ward of Kitagata Hospital, basing on the following study objectives; the factors associated with neonatal umbilical cord sepsis and the prevalence of umbilical cord sepsis among neonates in maternity ward of Kitagata Hospital. The study was conducted at Kitagata Hospital, in Sheema district, employing a cross sectional descriptive design and enrolled all mothers whose neonates were found admitted in the maternity ward and ready to freely participate in the study. A sample size of 96 respondents who were selected using a simple random sampling technique was used in the study. A pretested, self-administered questionnaire was used as a primary data collection tool which was filled by the respondents after getting informed consent. All the data collected was kept confidential by the researcher and was analyzed by the Statistical Package for Social Science 17.0 program after which it was presented using tables, pie charts and graphs. Cross-tabulations were also drawn. Neonatal cord sepsis is still one of the causes of neonatal morbidity and mortality in Kitagata Hospital with prevalence rate of 29%. Most mother still have cultural attitudes and practices with 51% traditional medicines used to care for neonate umbilical cord care. Uganda MOH should increase on health awareness campaigns so that many of our newborns do not fall victim of cord sepsis, routine evaluation of neonates and encourage ANC visits.

Keywords: Attitudes, practices, mothers, neonatal umbilical cord, sepsis, Uganda.

INTRODUCTION

Globally, it is estimated that over four million newborns die annually from serious neonatal infections [1-10]. Neonatal umbilical sepsis continues to be a major health problem with up to 323 of every 1000 neonates seen in clinics presenting with clinical symptoms [2-10]. In low income countries, about 60% of births occur without skilled attendants, and most of these at home. Worldwide, 60 million births happen outside facilities and even for some facilities birth hygienic practices may be sub-optimal. The unhealed umbilical cord is a major entry point for local and invasive infections during the neonatal period and is rapidly colonised by bacteria from the environment [11-21].

Sub-Saharan Africa contributes 67% to the global under-five mortality and it is also affirmed that the prevalence is even higher in communities that practice application of non-sterile home remedies to the cord [21-28]. In Pemba Island, Zanzibar and Tanzania, omphalitis occurred in 954 (5.5%) out of 17,198 infants within seven days of age [2]. In a study establishing the prevalence of neonatal umbilical cord sepsis in five African countries; Egypt, Nigeria, Democratic Republic of Congo, Libya and Malawi, picked at random [2], it was revealed that of the 25.37 million neonates enrolled in their study, 6.785(26.7%) neonates had umbilical sepsis and 0.521(7.7%) of them died.

In Uganda, neonatal cord sepsis contributes 45.0% to infant mortality rate. In 2013 the status was 27 per 1,000 live births and the target for 2015 was 20 per 1000 live births Annual Health Sector

Performance Report for Financial Year 2013/2014. The ministry of health 2014 report states that one of the major causes of newborn mortality is sepsis [22].

METHODOLOGY

Study Area and Location

The study was conducted at Kitagata Hospital, located in Kitagata business town of Sheema district in Ankole sub-region, western Uganda. The hospital is about 62km south west of Mbarara and about 17km south of Ishaka town, Ishaka – Bushenyi municipality. Kitagata hospital is a government, public institute with a bed capacity of about 120 (www.Globefeed.com). The study area was selected because of its strategic location and status, in a rural district and being a government facility where many patients are believed to be getting health services from.

Study Design

The study used a cross sectional descriptive design which allowed the analysis of multiple variables and also data was collected at a particular point in time.

Study Population

The study enrolled all mothers that had their neonates admitted in the maternity ward of Kitagata Hospital during the period of this study.

Sample Size Estimation

A sample size of 96 respondents was calculated using the formula by Wayne Daniel (1986), stated as below. This sample size was a clear representation of the population under study.

$n = \left(\frac{Z^2 P\, Q}{D^2}\right)$

Where; n =desired sample size,

Z = Standard normal deviation taken at 1.96 at confidence level of 95%.

P = Proportion of mothers who had better attitudes and practices towards neonatal umbilical cord sepsis (Considered to be 50% of the targeted population).Therefore the p =0.5

Q= Standardize, 1.0-P = 0.5

D = Degree of accuracy desired using 10%, or 0.1

In this case, 95% confidence level has 5% error.

$$n = \left(\frac{1.96^2 \times 0.5 \times 0.5}{0.1^2}\right)$$

$$n = 96.04$$

Therefore, n = 96 respondents.

Sampling Procedure

The researcher used simple random sampling technique in which respondents were chosen from the population with equal chances of selection. The advantage with this technique is that it was easy to administer, the analysis of data obtained from it was straight forward.

Eligibility Criteria

Inclusion criteria

All the respondents whose neonates were admitted in the maternity ward of Kitagata Hospital during the study period and were willing to participate freely, those who signed the consent form.

Exclusion criteria

All respondents whose neonates were not admitted in the maternity ward of Kitagata Hospital during the time of study despite their willingness to freely take part in the study. Neonates with congenital malformations.

Data Collection Procedures

Data was collected using the pretested questionnaires. Before the actual data collection, research assistants were trained on how the questionnaires were to be filled. Then the researcher and research assistants met the registered respondents that took part in the study, after obtaining permission for data collection from the hospital administration. Each respondent had to give an informed consent before enrolling in the study and was allowed to participate only once. The researcher and research assistants then assisted the respondents in filling the questionnaires and explained to them where necessary for any clarifications. The properly filled questionnaires were then collected and data was taken for analysis.

Data Analysis and Presentation

The quantitative data collected was edited, coded and entered into the Statistical Package for Social Science (SPSS) program

17.0 for analysis of variables. Descriptive statistics in form of frequencies, percentages and means was employed to describe the respondents` perceptions regarding the variables in the study.

Analysed data was then presented using tables, pie charts and graphs. Cross-tabulations were also drawn. Descriptive statistics enabled the researcher to meaningfully describe the distribution of scores.

Ethical Considerations

Permission to conduct the study in form of an introductory letter from Kampala International University, western campus was given to the researcher who then presented it to the Hospital Administrator of Kitagata Hospital for approval, after which the actual data collection commenced. During data collection process, the researcher and her assistants introduced themselves to the respondents and explained to them the purpose of the study so as to obtain their informed consent. The respondents signed the consent forms thereafter.

Confidentiality and privacy during the study were ensured to enable participants give information with ease. The respondents were assured that the information they were to give would only be used for research purposes and they would freely withdraw from the study in case they could be uncomfortable to continue and that in any way this would not affect their treatment and care.

RESULTS

Table 1: Showing gender of the neonates

Gender of neonates	Frequency	Percentage
Male	40	42%
Female	56	58%
Total	**96**	**100%**

Source: field data August/September 2016

The table above showed that majority were female neonates with 58% and few male neonates with 42% involved in the study.

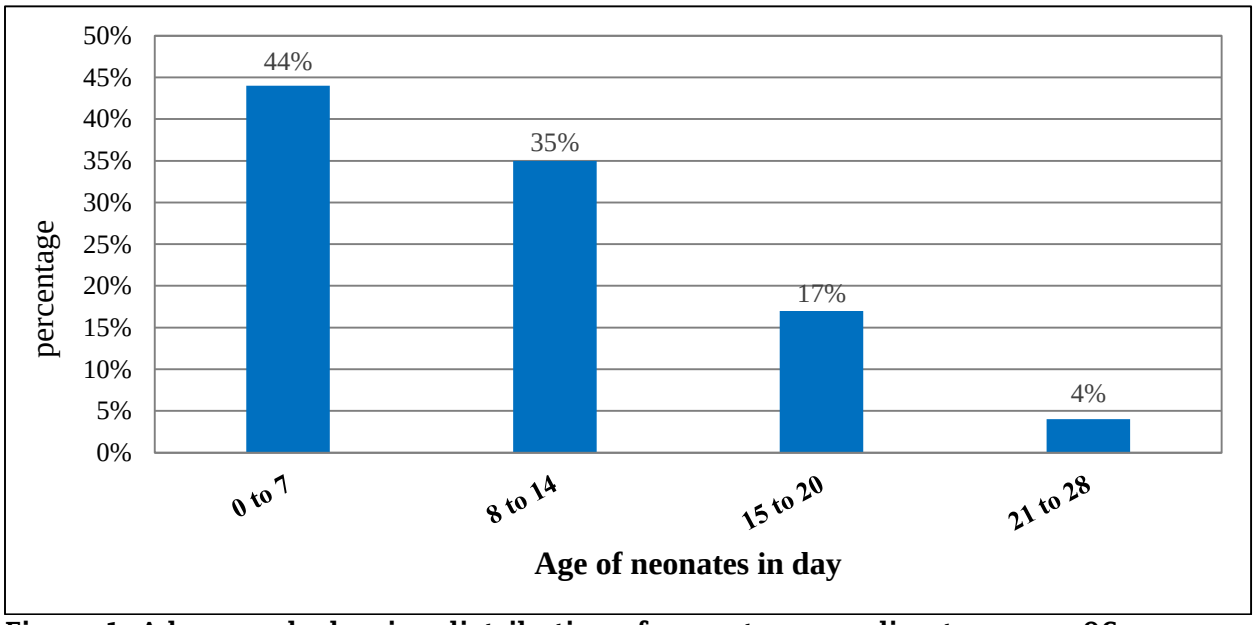

Figure 1: A bar graph showing distribution of neonates according to age, n=96

Majority (0 to 7 days) age-group had the highest 44% (42) neonates, followed by age group (8 to 14 days)who had 35% (34) neonates meanwhile age-group 15 to 20 days had 17% (16) neonates and few were age-group 21 to 28 days with 4% (4) neonates.

Table 2: Show the cross-tabulation according to age and marital of the respondent

Age group of respondents (years)	Marital status of respondents				Total
	Married	Widow	Cohabiting	Separated	
15-24	22	0	9	4	35 (36.5%)
25-34	22	0	7	4	33 (34.4%)
35-44	12	0	5	5	22 (22.9%)
45 & above	3	0	3	0	6 (6.2%)
Total	59 (61.5%)	0 (0%)	23 (25%)	13 (13.5%)	96 (100.0%)

The ages and marital status of respondents were cross-tabulated and it was revealed that majority 59 (61.5%) of them were married and none of them was widowed. 23 (25%) were cohabiting and 13 (13.5%) had separated. The age-group of (15-24) years had the majority ofRespondents35 (36.5%) followed by that of 25-34 years 33 (34.3%) and (35-44) years had 22 (22.9%). The 45 years and above age group had the least 6 (6.2%) respondents.

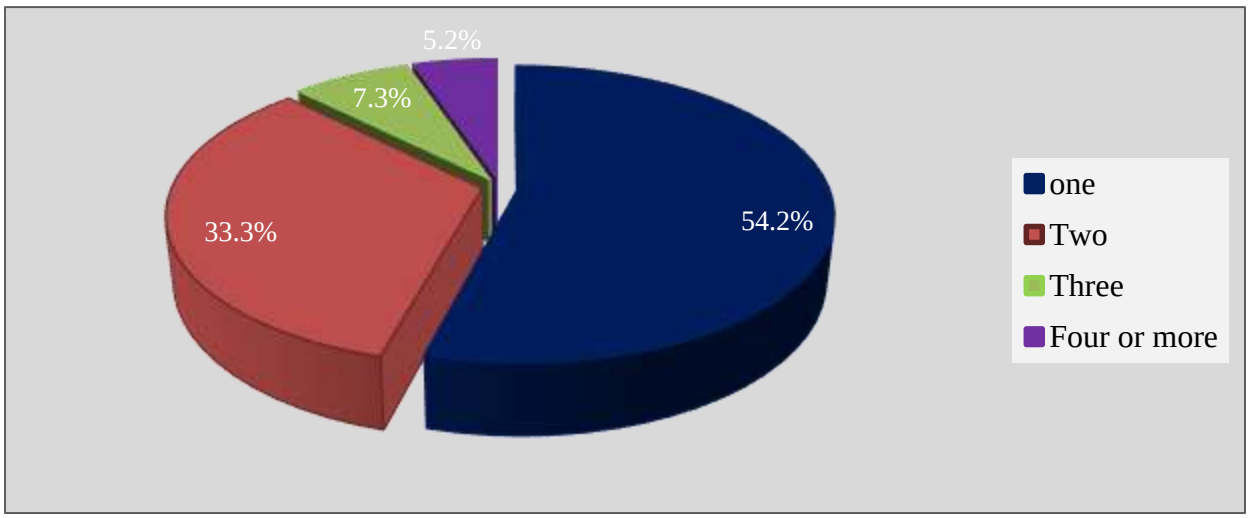

Figure 2: A pie chart showing number of wives a respondent's husband had, n=96

Majority 52 (54.2%) of the respondents did not have co-wives while 32 (33.3%) respondents were two co-wives, 7 (7.3%) of the respondents said they were three co-wives and few 5 (5.2%) were four and above co-wives.

Table 3: Show the distribution according to educational background of respondents

Educational background	Frequency	Percentage
Primary	36	37.5%
'O' level	26	27.1%
'A' level	7	7.3%
University	9	9.4%
College	10	10.4%
None	8	8.3%
Total	**96**	**100.0%**

As shown in the table 3 above, the study revealed that 36 (37.5%) of the respondents had gone through primary level, 26 (27.1%) through 'O' level, 7 (7.3%) through 'A' level,

9 (9.4%) through University and 10 (10.4%) had gone through College meanwhile only 8 (8.3%) respondents had not gone through formal education.

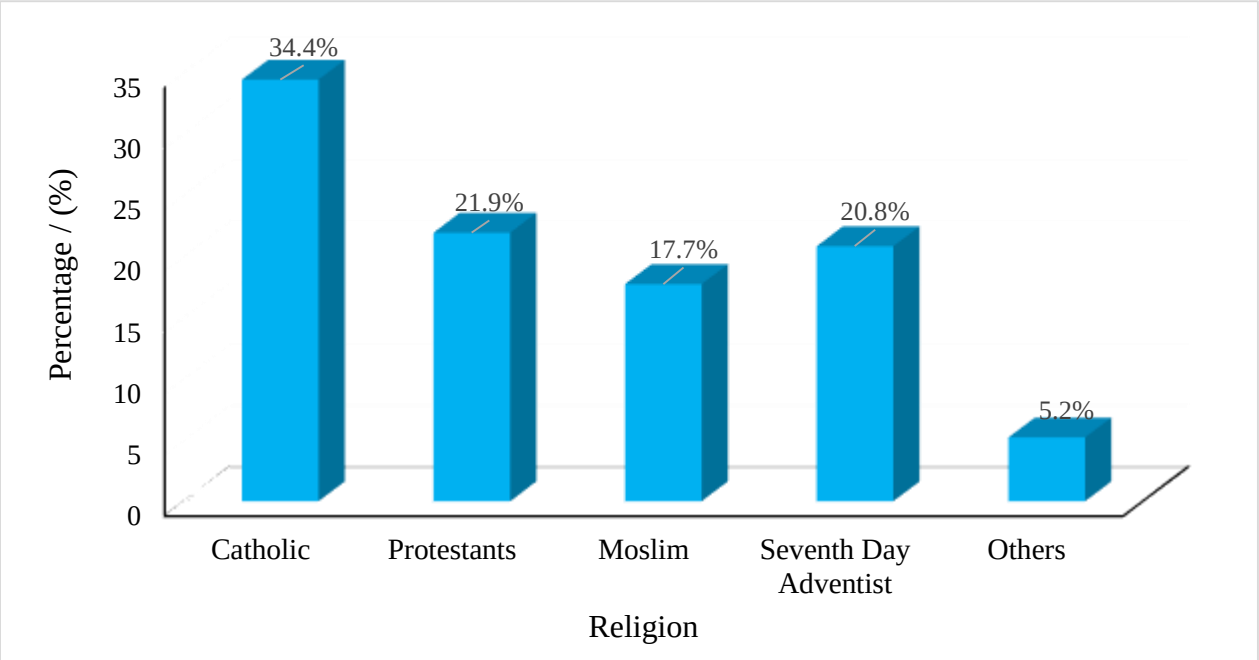

Figure 3: A bar graph showing the religion of the respondents, n=96

The results showed, majority 34.4% (33) of the respondents were Catholics, Protestants were 21.9% (21), 17.7% (17) were Moslems, 20.8% (20) were Seventh Day Adventists (SDAs) and only 5.2% (5) respondents were in other religions.

Table 4: Show the distribution of respondent according to their tribe

Tribe of the respondents	Frequency	Percentage
Banyankole	39	40.6%
Bakiga	26	27.1%
Bakonjo	10	10.4%
Baganda	8	8.3%
Banyarwanda	7	7.3%
Batoro	6	6.3%
Total	**96**	**100.0%**

Most 39 (40.6%) of the respondents were Banyankore. Followed by Bakiga 26 (27.1%), Bakonjowere 10 (10.4%),Bagandawere 8 (8.3%), Banyarwanda were 7 (7.3%)and very few were Batooro, 6 (6.3%).

It was noted in the study that most 63 (65.6%) of the respondents were multiparous and only 33 (34.4%) respondents were having their first born.

Table 5: Show the cross-tabulation according to occupation and ANC attendance of the respondent

Occupation	ANC visit attended					Total
	Once	**Twice**	**Thrice**	**Four times**	**Never**	
Peasant	3	4	8	21	7	43 (44.8%)
Teacher	3	3	4	2	3	15 (15.6%)
Business	2	1	2	16	11	32 (33.3%)
Medical person	1	2	0	1	1	6 (6.3%)
Total	9(9.4%)	10(10.4%)	14(14.6%)	41(42.7%)	22 (22.9%)	96 (100%)

The distribution according to the occupation and ANC attendance of respondents were cross-tabulated. The majority 43 (44.8%) of respondents were peasants, 32 (33.3%) of respondents were Business people, followed by Teachers 15 (15.6%) and least 6 (6.3%) were Medical persons. Those who attended ANC visit four times were many 41 (42.7%), followed by those who never attended ANC visit were 22 (22.9%) meanwhile 14 (14.6%) attended thrice, 10 (10.4%) attended ANC twice and few respondents attended ANC once, 9 (9.4%).

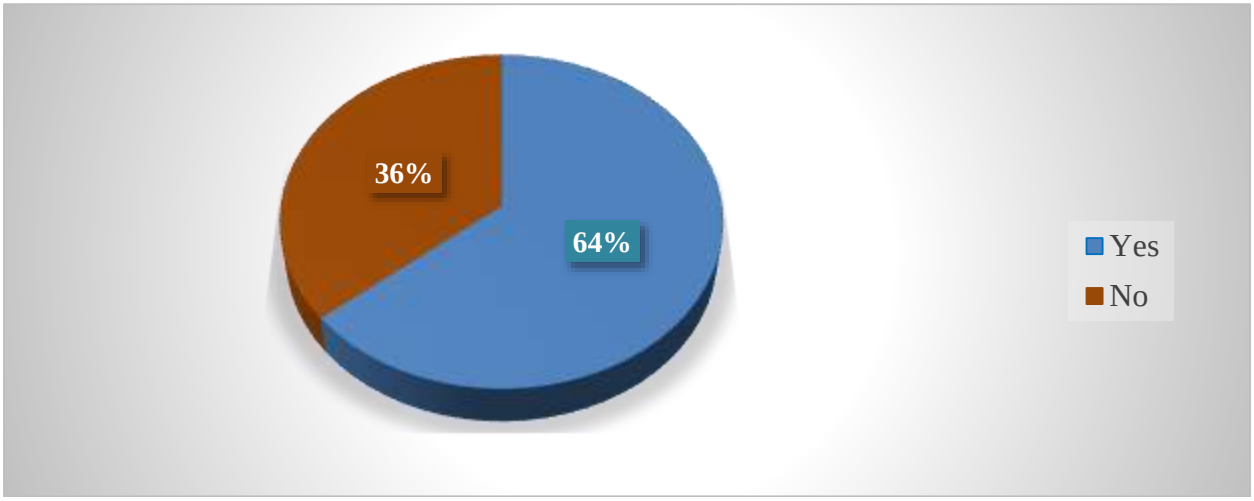

Figure 4: A pie chart showing whether respondents receive mama kit prior to delivery, n=96

The analysed results showed that majority 64% (61) "Yes" of respondents received mama kits and 36% (35) "No" did not.

Table 6: Show the distribution of place where respondent's mama kit was given

Description of place	Frequency	Percentage
Bought it from a friend	5	8.2%
Bought it from a medical persons	13	21.3%
Given during ANC visits	43	70.5%
Total	**61**	**100%**

The study finding revealed that out of 64% (61) of respondents who received mama kits, 70.5% (43) respondents were given mama kits during ANC visits, 21.3% (13) bought them from medical personnel and 8.2% (5) bought them from their friends.

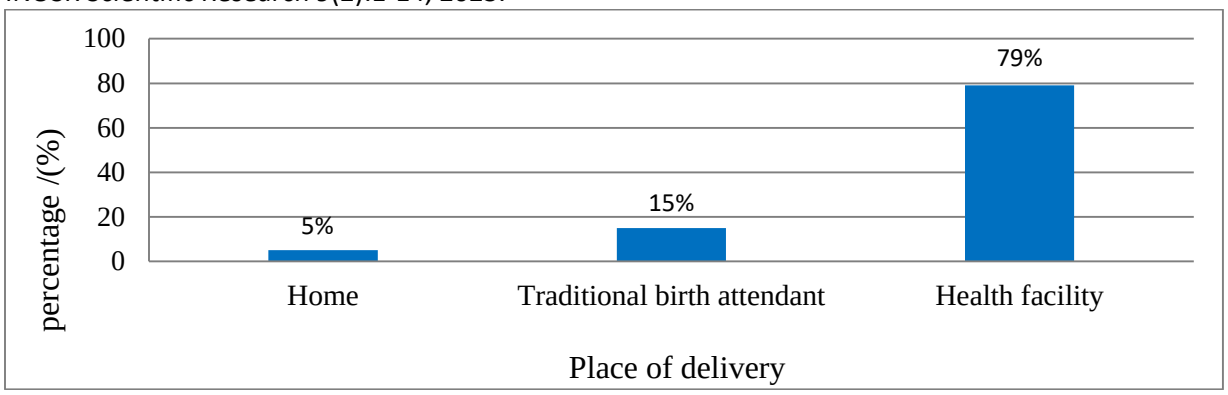

Figure 5: A bar graph showing respondent's place of delivery, n=96

As shown in figure 5 above, it was noted that 79% (76) respondents delivered from a health facility. 16% (15) respondents were delivered by TBA (Traditional birth attendants) and only 5% (5) respondents delivered from their homes by their own assistance.

Table 7: Show distribution of respondent according to observed cutting of neonate's umbilical cord and instrument used to cut

Variable	Description	Frequency	Percentage
Observed cutting of neonate's umbilical cord	Yes	75	78%
	No	21	22%
	Total	**96**	**100%**
Instrument used to cut neonate's umbilical cord	Razorblade	15	20%
	Pair of scissors	58	77%
	Knife	0	0%
	others	2	3%
	Total	**75**	**100%**

Results showed that 75 (78%) "Yes" respondents observed the cords of their babies being cut and only 21 (22%) "No" respondents did not.

Out of 75 (78%) of the respondents who observed the cords of their babies being cut, majority 58 (77%) respondents said that the cords of their babies were cut using a pair of scissors, 15 (20%) said razorblades were used meanwhile only 2 (3%) of respondents said that the cords of their babies were cut using other instruments and none reported that the babies cord were cut using a knife.

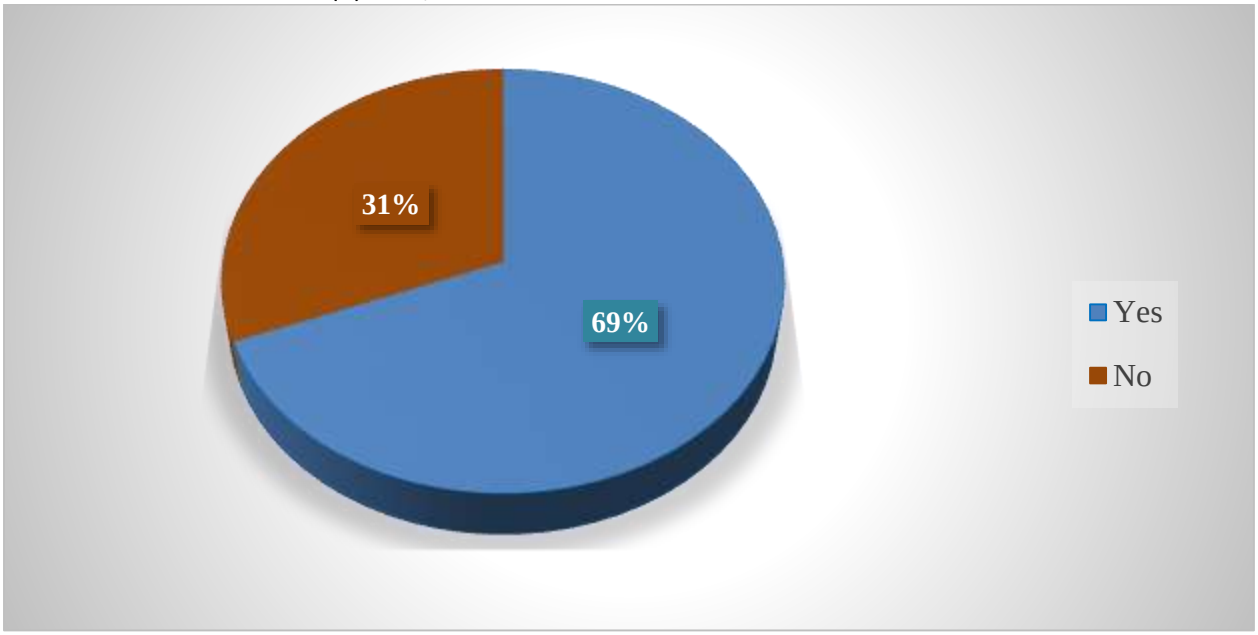

Figure 6: A pie chart showing whether the respondent's knowledge about the care of the neonatal umbilical cord, n=96

The study results showed that 69% (66) 'Yes" respondents knew or were told how to care for the neonatal cord whereas 30 (31%) had no idea or were not told.

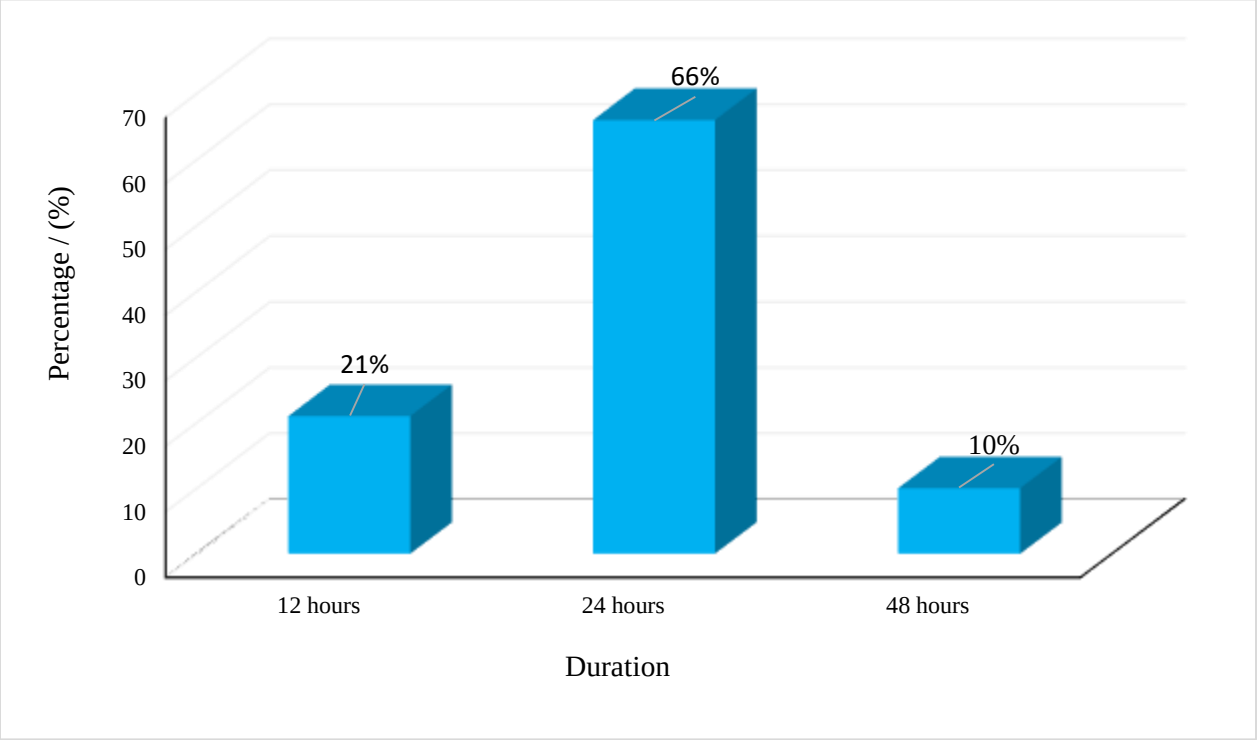

Figure 7: A bar graph showing the time taken for the respondents to wash their babies for the first time after birth, n=96.

Majority 69% (66) respondents washed their babies in the first time 24 hours after birth, 21% (20) washed them in 12 hours after birth and least 10%(10) washed theirs in 48 hours after birth.

Table 8: Show how often the respondents wash their babies in a day

How often to wash babies in a day	Frequency	Percentage
Once	23	24%
Twice	60	63%
Thrice	11	11%
Four times and more	2	2%
Total	**96**	**100%**

The finding revealed, Majority 60 (63%) respondents' babies were being washed twice, followed by 23 (24%) babies were being washed once meanwhile 11 (11%) babies were being washed thrice and very few 2 (2%) babies were being washed four times and more in a day.

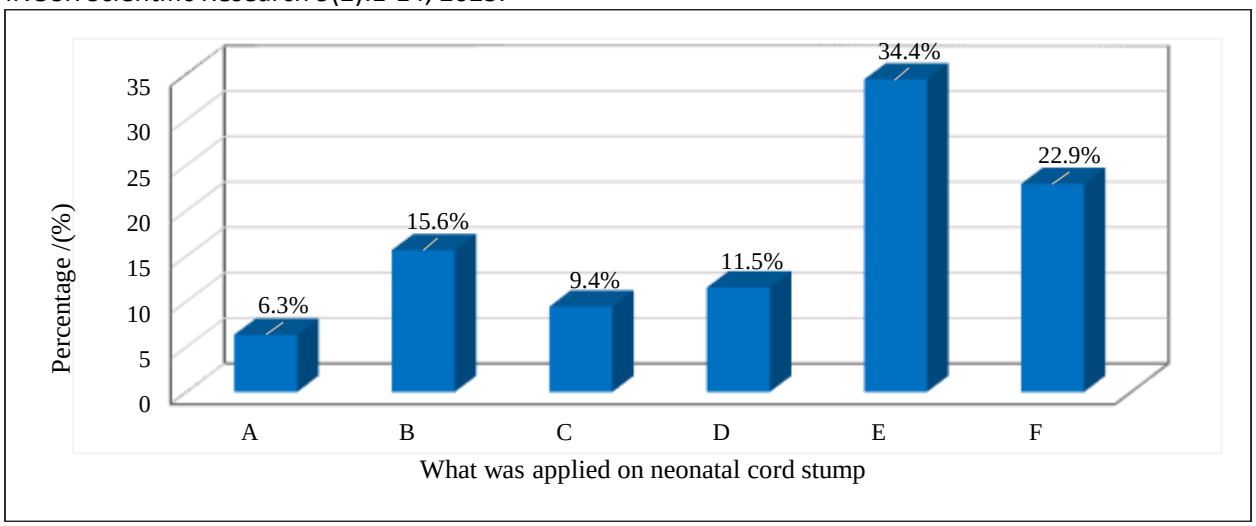

Figure 8: A bar graph showing respondents apply on the neonatal umbilical cord stumps, n=96

The study findings showed that 34.4% (33) of the respondents used salty, cold, boiled water (E). 22.9% (22) respondents applied the saliva of the babies' mothers or grandmothers mixed with ash from burnt papyrus rids (F), 15.6% (15) applied Spirit (B), 11.5% (11) applied Sap from back tree and lizards` faeces (D), 9.4% (9) applied Castor oil (C) and 6.3% (6) applied only Lizards` faeces (A) on the neonates' cord stumps.

Table 9: Show whether the respondent's husbands were supportive during birth preparations and after birth

Description	Frequency	Percentage
Yes	75	78.1%
No	21	21.9%
Total	**96**	**100.0%**

Majority, 75 (78.1%) "Yes" respondents revealed that their husband were very supportive before and after delivery while only 21 (21.9%) "No" said their husbands were not supportive at all.

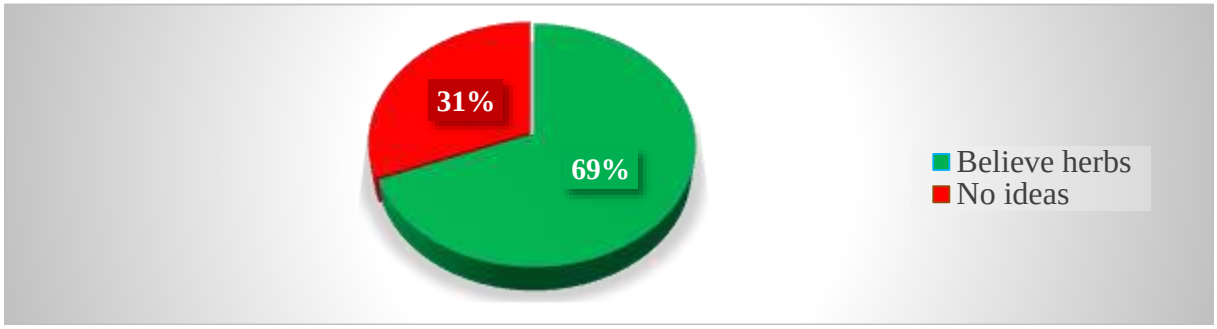

Figure 9: A pie chart showing respondents' cultural beliefs regarding neonatal umbilical cord care, n=96.

Most of the respondents 69% (66) believed that the herbs have natural power to heal the neonatal cord stumps quickly and that they have blessings of the great grandparents. About 31% (30) of the respondents did not have any idea about what was being asked.

Table 10: Show respondents' comparison in caring of neonatal umbilical cord using modern and traditional medicines

Comparison of medicines	Frequency	Percentage
Modern medicines	17	18%
Traditional medicines	49	51%
Both	30	31%
Total	**96**	**100%**

Study results found that 49 (51%) of the respondents said that it is cheaper to use traditional herbs than using modern medicine because herbs are obtained at no cost while 30 (31%) respondents agreed that both modern and traditional medicine are useful. Only 17 (18%) of the respondents said that treating neonatal umbilical cord using modern medicines is cheaper than using traditional medicine prevent harmful germs from entering the cord stump there by quickening healing.

The researchers examined and observed the neonates under the study, read through their medical files and determined the number of neonates who had umbilical cord sepsis. The clinical signs observed were umbilical pus, redness and swelling.

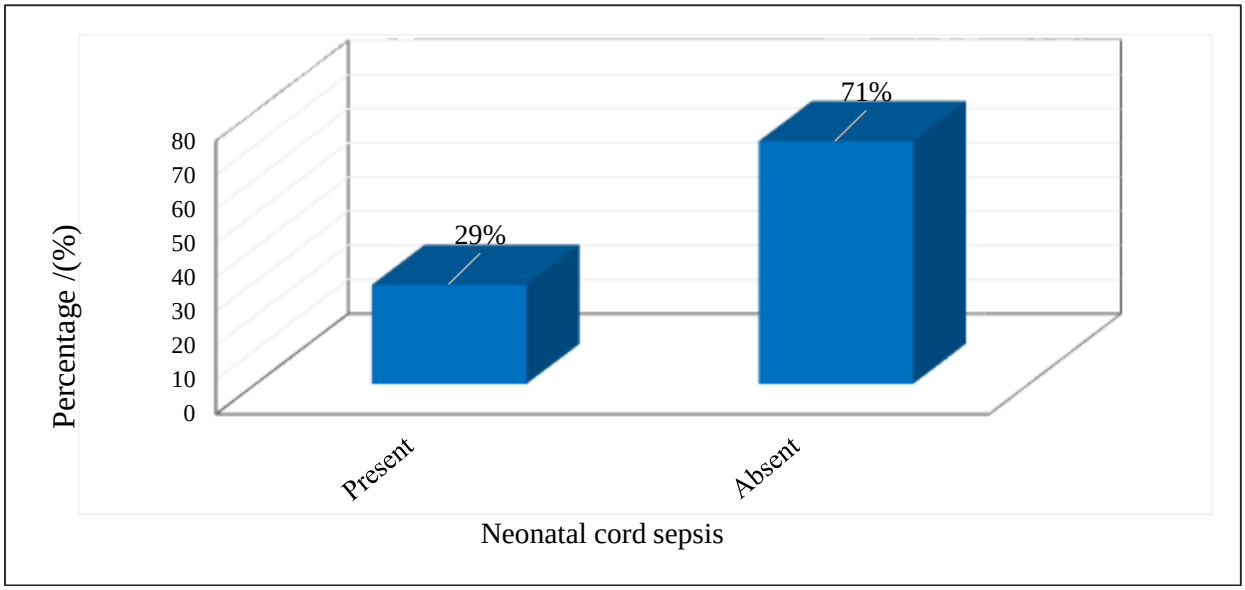

Figure 10: A bar graph showing neonate have umbilical sepsis, n=96

Study results from the figure 10 above, out of 96 neonates enrolled under the study, 28 (29%) of them had umbilical cord sepsis and majority 68 (71%) did not have umbilical cord sepsis.

The researcher sorted out the questionnaires of those respondents whose babies had umbilical cord sepsis and looked for specific information. The following were obtained:

Majority 13 of respondents had gone through primary, 9 through 'O' level, 3 through 'A' level, 2 through College and 1 never did formal education.

16 respondents were multiparous while 12 were having first born. 27 respondents attended ANC and only 1 never attended. 21 respondents received mama kits and 7 did not. 25 respondents delivered from a health facility, 1 from home by herself and 2 delivered by TBAs. 10 respondents were told or knew how to care for neonatal cord and 18 were not told or did not know anything regarding neonatal cord care. 13 respondents washed their babies 24 hours for the first time after birth, 12 washed theirs after 48 hours and only 3 after 12 hours. 15 respondents could wash their babies twice in a day, 12 could wash theirs

once and only 1 washed her baby thrice in a day. Fifteen (15) respondents applied saliva mixed with ash from burnt papyrus rids on the cords of their babies, 8 applied sap from back tree mixed with lizard's feaces, 3 applied salty water and 2 applied only lizard's feaces on the cords of their babies.

DISCUSSION

The findings of this study showed that 36 (37.5%) of the respondents had finished primary level, 13 of whom had babies with cord sepsis, and 26 (27.1%) finished 'O' level, 9 0f whom had babies with cord sepsis. 76 (79%) respondents delivered from a hospital facility, 25 of whom had babies with cord sepsis while 15 (16%) respondents were delivered by TBAs and 2 of them had babies with cord sepsis. 63 (65.6%) of the respondents were multiparous 16 of whom had babies with cord sepsis, and 33 (34.4%) were having their first born (Para 1)12 of whom had cord sepsis. 61 (64%) respondents were told or knew how to care for neonatal cord, 10 of whom had babies with cord sepsis and 35 (36%) respondents were not told or did not know anything regarding neonatal cord care, 18 of whose babies had cord sepsis. 66 (69%) respondents washed their babies 24 hours for the first time after birth 13 of whom had babies with cord sepsis, 20 (21%) washed theirs after 12 hours of whom 12 respondent had their babies with cord sepsis, and 10 (10%) respondents washed their babies after 48 hours of whom 3 had babies with septic cords. 60 (63%) respondents could wash their babies twice in a day 15 of whom their babies had cord sepsis, 23 (24%) could wash their babies once in a day 12 of whom their babies had cord sepsis and only 11 (11%) respondents washed their babies thrice in a day 1 of whom her baby had cord sepsis. 49 (51%) respondents applied traditional medicine on the cords of their babies 28 of whom their babies had umbilical cord sepsis while only 17(18%) respondents applied modern medicine on their babies` cords and none of their babies had cord sepsis.

The above findings are in agreement with those of other scholars. Lawn *et al.* [23], who in their study found out that most mothers stick on their cultural and traditional practices on neonatal cord care, most of which are not so effective in preventing pathogens from entering via the neonate's cord stump and hence causing sepsis. These scholars also found out that most of their respondents were not aware of the need for postnatal health care attendance except for immunization of children. Mullany *et al.* [2], revealed that application of unclean substances and unhygienic handling of neonates increase neonatal cord sepsis in developing countries. Poor communication skills of health workers and deep-rooted cultural beliefs are some of factors that lead to increased neonatal cord sepsis [24].

This study revealed that of the 96 neonates enrolled under the study, 28 (29%) of them had umbilical cord sepsis. These results were based on clinical signs like umbilical cord pus, redness and swelling. These findings are consistent with those of Kerber *et al.* [25], whose study established that 14.9% of their study sample size (17198) who had cord sepsis had umbilical cord pus, redness and swelling. Sawardekar [26], report findings agreed with the prospective observational study in a Special Care Baby Unit in a regional referral hospital in Oman who found that 16.9% of his study sample size (11260) had umbilical cord sepsis.

CONCLUSION

Despite Government's efforts to reduce on neonatal mortality and morbidity in the country, neonatal cord sepsis is still one of the causes of neonatal morbidity and mortality in Kitagata Hospital with prevalence rate of 29%. Most mother still have cultural attitudes and practices with 51% traditional medicines used to care for neonate umbilical cord care.

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