KNOWLEDGE ATTITUDE OF NURSING MOTHERS TOWARDS UMBILICAL CORD CARE IN CALABAR METROPOLIS, CROSS RIVER STATE

ABSTRACT

Aim: Nigeria is one amongst a few countries that contribute to the burden of neonatal death resulting from infection of the umbilical cord due to poor cord care by care givers. Prevention of cord infection can be achieved through the use of hygienic methods when cleaning the cord. This study therefore assessed the knowledge, attitude and practice of nursing mothers towards umbilical cord care.

Methods: The study was a descriptive and cross sectional in design. 388 respondents were randomly selected using multistage sampling technique. Data was collected using a validated semi-structured questionnaire which was self-administered after a Cronbach-Alpha test was carried out giving a result on 0.713. It was analyzed using the statistical package for social science (SPSS) version 21 to generate descriptive (frequency tables, charts) and inferential statistics (Pearson's chi-square).

Results: The result gotten from the study showed that the majority of nursing mothers who participated in the study were between ages 20-29 (37.6%) with a mean age of 29.7. majority of the mothers were married 304 (78.4%) with at least one child 181 (46.6%) with infants aged 1 week 301 (77.6%). Most respondents were Efik 202 (52.1%), most being Christians 329 (84.8%). Most mothers received more than 30,000 in income 174 (44.8%). Almost all the respondents 316 (81.4%) heard about umbilical cord care. Majority of the respondents 280 (72.2%) defined umbilical cord care as tying, cutting and cleaning with methylated spirit and cotton bud. However, half 210 (54.1%) of the respondents had not heard of Chlorhexidine digluconate and majority of the respondents 316 (81.4%) did not know it could be used to prevent infection. Virtually all mothers knew that it was important to clean the baby's cord 386 (99.4%). Mother's attitude towards care of the umbilical cord was positive with a result of 353 (91%).

Conclusion: the respondents had fair knowledge on cord care, positive attitude and good practice towards umbilical cord care. Poor knowledge can lead to prevalence of cord infection.

KEY WORDS: Knowledge, Attitude and Practice

Introduction

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 death as compared to other phase of life[1].

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 [2]. 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 [3,4,5].

After the delivery of the baby, the cord should be clamped firmly and cut with sterile instrument to separate the baby from the placenta attached to the mother's uterus leaving about 6cm with the baby. The instrument used in cutting the cord cuts across the living tissues and the blood vessels which are still connected to the baby. The umbilical cord is wet with an open surface wound and blood vessels still patent, they provide a nutritive culture medium for bacterial growth [6]. These require that some degree of hygiene practices must be adopted to prevent infection, which may present as yellow discharge from the cord, foul smelling, red skin around the base of the cord, pain when touched the skin around the stump and excessive crying, These strengthen the need for standard cord care practice among mothers[7].

In developing countries umbilical cord infections constitute a major cause of neonatal morbidity and pose significant risk for mortality[3]. It is important to care for the umbilical cord as to reduce neonatal morbidity and mortality.

Knowledge, attitude and practice of nursing mothers towards cord care have a great impact on the health of the child. Poor cord care can lead to infection of the umbilical cord. Cord care practices are normally given to mothers during antenatal and postnatal periods. The care the newborn receives is dependent on the knowledge, skills and attitude of the mother[8]. According to a study carried out in Nepal by[9], he highlighted data from a study carried out by [10] this data showed a result from 2006 that under-five mortality rates have declined over the past, but the neonatal mortality rates still remained high.ie; IMR- 48/1000 live birth and NMR 33/1000

live birth, this shows that poor attitude of postnatal mothers towards neonatal care has a lot of gap especially in those who belong to the lower socio- economic status[9] while the Nigeria figure showed 41 per 1000 live births between 1990 and 2013, factors identified from the statistics gotten from the data were linked with antenatal care [11].

The lack of knowledge of standard cord care is an important factor underlying unhygienic umbilical cord care among mothers. Mothers who are knowledgeable of standard cord care and the possible risk for non-adhering to proper care of the cord are more likely to carry out standard methods for cord care. Lack of knowledge of standard cord care affects young mothers especially the primiparas who may lack the ability to make independent decision on cord care causing neonates to be in situations which can be vulnerable to their survival. He further noted that the neonatal health outcome could be improved significantly by strengthening information, education and communication given to nursing mothers. Education on cord care was also relatively low with only 16.8% of mothers who receive antenatal care and 3.9 % postnatally according to a research carried out by[12] noted that Lack of knowledge, coupled with strong cultural beliefs, influence neonatal survival once a neonate is at home with the primary caregiver. According to the study done in Ethopia by [13] where mothers new the need for hygiene will cutting and tying the cord.

Another study carried out by[6], indicated that the respondents had poor knowledge of standard cord care Majority (69.8%) of the respondents applied harmful and contaminated material/substances to the umbilical cord. The reasons were to prevent infection (12.6%) wade away evil spirit 55.9% which the respondents believed to have caused neonatal deaths.[14] studied the mother's knowledge of cord care practices in an urban slum area in Nairobi, Kenya, where 307 mothers with infants less than three months of age attending clinics were interviewed.

The results showed 40% had good knowledge and 66% had good practice for post-natal cord care this still indicates room for improvement. Another study carried out by [8] stated that only a small percentage of mothers had acquired knowledge regarding cord care. According to a report done by [15], Seventy six (36.2%) of mothers did not know what was used to cut baby's cord, but in 48 (22.9%) and 62 (29.5%), surgical blade and scissors were used respectively. In 20 (9.6%) of cases, razor blades (old and new) were used to cut the cord the study also added that Two hundred and four (97%) of the mothers received antenatal care in recognized Government health care centers. Only 6 (2.9%) women had no antenatal care, or patronized TBAs in the antenatal period but 24 (11.5%) delivered at home/TBAs. For source of information for antennal care, One hundred and ninety (90.5%) mothers had received some information on cord care. Nurses were the highest source of information.

Regarding, keeping cord clean majority 56.3 % of respondents answered that it should be kept clean to prevent infection. The percentage of mothers who believed that the cord should be clean thus preventing infection is still low, this is poor and this can be as a result of their practice and attitude towards cord care. It is important that mothers know about the practices they carry out are harmful, what they may cause and the problems associated with their use.

METHODS

RESEARCH DESIGN

This study is descriptive cross-sectional in design.

Description of Study Area

The area of study will be Calabar metropolis in Calabar, Cross River State, Nigeria. Calabar is also called “Canaan City”. The original name for Calabar was Akwa Akpa. Administratively the city is divded into Calabar Municipal and Calabar South LGAs. It has asn area pf 406 square Kilometers (157 sq mi) and had a population of 371,022 at the 2006 census.The first study population will be in Calabar Municipal. It is also called efik eburutu and Kalabar. It has an area of 142 km^2 and has a population of about 179,392 as at the 2002 census. Its headquarters are in the city of Calabar. In the North, the municipality is bounded by Odukpani Local Government Area in the north east by the great Kwa River. Its Southern shores are bounded by the Calabar River and Calabar South Local Government area. It has an area of 331.551 square km. it is the headquarters of the southern Senatorial District. There are 10 wards in the Local government. Wards (1,2,3,4,5,6,7,8,9,10), The two ethnic groups are the Quas and the Efiks, but the area has people from all parts of the state and country because of its cosmopolitan status. The efiks have taken on to the western culture. Fishing is also a popular occupation. The Quas occupy the hinterlands and they are farmers, hunters, traders as well as blacksmiths. Most occupants of the area are civil servants, businessmen. It is predominantly a Christian city with a small percentage of Muslims and there are also few traditionalists. Both the traditional and orthodox health care services co-exist in Calabar municipality. It is a semi-urban settlement, with a mixture of many Nigerian ethnic groups, but it is predominantly made up of the Efiks, Efuts, Quas, Ibibios and Yakkurs (Antai and Effiong, 2009). Ikot Ansa is located in Nigeria (general) 287 mi or 462km south of Abuja the country’s capital. It is about 64km^2. The closest airport to Ikot Ansa is Margaret Ekpo International Airport. Ikot Ansa consist of Nyokebika, Ikot Omin, Ikot-Okon, Ikot Eso Archibong, Ikot Efana Nkpa and Adiabo Ikot Mbo as well. The second study population is located in Calabar South Local Government Area of Cross River State, Nigeria. Calabar South

is one of the two Local Government Areas that make up Calabar Metropolis. It was created from Calabar Municipality in 1996. The Local Government consists of 11 political wards (wards 1,2,3,4,5,6,7,8,9,10 and 11) which are grouped in support of the traditional administration into 22 clans namely, Eyamba, Duke, Etim Effiom, Ekpo Edem, Ntiero Edem Effiom Ekpo, Archibong, Lower Cobha, Upper Cobhan, Ekpo Abasi, Ewa Ekeng, Effanga Offiong, Ekeng Iwatt, Efut Abua East, Efut Abua West, Efut Ekondo, Efut Akwa, Efut Uwanse, Efut Obufa Esuk, Efut Akani Esuk, Efut Anantigha, Effiom Ewa Nsa and Edet Nsa . The common language of the people of Calabar South is Efik. Most individuals who reside in the area are civil servants, businessmen, traders, farmers and fishermen. It consists predominantly of Christians with a low number of Muslims. Traditionalists also reside in the area as well. Traditional and orthodox health care services co-exist in Calabar South. Modern health care is organized in two categories. In Calabar south, there are 29 Government owned health facilities spread through all the 11 wards (1 general hospital, 2 comprehensive health centres, 6 primary Health centres and 20 health Posts) 8 private health facilities as well as 6 traditional birth homes. Most of these health institutions in the area help the residents by ensuring that there is not only maternal health care service but also the provision of child health services. The setting for the study will be one of the 22 clans in Calabar South Local Government Area which is Ekpo Absasi health care center.

Study Population

The study population for this research work were Nursing mothers who visit Ikot Ansa health center in Calabar Municipality and also mothers who visit the health center in Ekpo Abasi in Calabar South which is within Calabar metropolis, irrespective of their tribe, religious belief and level of education. This study population was chosen because of availability of information and

participation is guaranteed. The entire population of Ikot Ansa is 87,461 according to the 2006 census. The number of women of reproductive age who visit Ikot Ansa health center is 12,500 a year this figure is based on the number of nursing mothers who visit the health center on a daily basis. The entire population of Calabar South Local Government Area is 191,630. The number of women who visit Ekpo Abasi yearly is 14,000. These figures are based on the number or nursing mothers who visit the Health center on a daily basis for their antenatal care needs.

Sample Size Determination

The formula of Armitage and Berry, 1994 was used to determine the sample size because the study population is more than 10,000 and it gives you more precise estimates of population parameters and their differences and gives more powerful statistical test. This formula can be used to achieve a degree of precision or power though it does not guarantee absence of bias.

The sample size will be calculated using this formula;

$$n = \frac{z^2 pq}{d^2}$$

$$n = \frac{1.96^2 X 0.5 X 0.5}{0.05^2}$$

$$n = 384.16$$

$$n \approx 400$$

The sample size for this research was approximately 400. This is to accommodate no response within the study population.

Where n = Minimum sample size

Z = Standard normal deviation set at 1.96

P = Proportion of persons in the population with factors under study, 0.5

d^2 = Degree of accuracy desired, 0.05

q= proportion of persons in the population without factors under study (q=1-P)

The inclusion criteria will be:

• Mothers aged between 15 and 49.

• Mothers who have been discharged after child birth and visiting Ikot Ansa and Ekpo Abasi Health care centers at the time of the study

Sample Technique

The sampling technique adopted for this research was a multistage sampling technique. Below are the different stages used for the sampling.

First Stage: cluster sampling was used because the study population who visit Ikot Ansa and Ekpo Abasi health center are nursing mothers and so this possible because the population is homogenous and approximately the same size.

Second Stage: A purposive sampling technique was used. This is due the fact that purposive sampling represents judgment one makes as well as selective or subjective sampling carried out. This sampling technique allowed the researcher to believe that they have the ability to obtain a high representative sample of the population based on sound judgment which is Ikot Ansa and Ekpo Abasi, this will inversely save time and money .

Third Stage: Random sampling technique was used to select the Nursing mothers who participated in the research by using Balloting technique where numbers were written on a piece

of paper. Mothers who randomly pick odd numbers were selected for the study. This helped to remove bias and gave every nursing mother an equal chance of being selected for the study. The respondents for this study were nursing mothers who attend the antenatal clinic weekly at Ikot Ansa and Ekpo Abasi Health center.

Data Collection Method/ Instrument For Data Collection Quantitative method of data collection was used to collect data from the respondents who were nursing mothers.

A 36 – itemed semi structured questionnaire was used to collect data from the nursing mothers and the questions were asked in the sections described below. The questionnaire had four sections. The sections are:

- Section A- This section is titled Socio-Demographic information of the participants.
- Section B- The knowledge of Umbilical cord care carried out by mothers.
- Section C- Attitude of the Nursing Mothers towards Cord Care.
- Section D- Practice of the Nursing Mothers towards Cord Care.
- Section E- Materials used by Nursing Mothers towards Cord Care.

(See appendix 1)

Validity and Reliability of Instrument

Validity: Face and content validity of the instrument (questionnaire) was carried out through the Judgment and supervision of the project supervisor. Corrections and suggestions were made by the supervisor of the research which was incorporated and drafted before the research became effective. Face validity viewed the extent to which the research instrument covered the concepts relating to knowledge, attitude and practice of nursing mothers towards umbilical cord care,

content validity tested the extent to which the research instrument applied conceptual models in assessing these variables and the construct validity assessed how the variables in the study were connected in explaining knowledge, attitude and practice of umbilical cord care among nursing mothers.

Test-retest was used to ensure reliability of the study. A pilot study (pre-test) was conducted at Okon ene by distributing twenty (20) copies of the questionnaire to nursing mothers in the town, this was done to determine the relevance of content, clarity of statement, this tested the ability of the respondents to respond properly to the questions. Questions which were not appropriately answered were reviewed in the final questionnaire. Nursing mothers in Ikot Ansa and Ekpo Abasi was chosen so as to ensure the integrity of the questionnaire when used for the main research study in Calabar metropolis, Calabar. Cronbach's coefficient Alpha was used to test for internal consistency of the questionnaire of the pretest done, the research instrument scored 0.713. This meant that contents of the questionnaire were at least 71.3% appropriate/ reliable for this study.

Reliability statistics

Cronbach's Alpha	N of items
.713	56

Data Collection Procedure

The researcher administered the questionnaires with the helpn4 research assistants (1 female and 3 males), this was done under a time frame of 6 days (11^{th}-17^{th} of February, 2017). The

researcher ensured that the assistants were debriefed on how the questionnaires should be shared and answered.

For each day used about 64 questionnaires were gotten from the research assistants. Monitoring of sharing the questionnaires was done by each of the research assistants based on instructions from the researcher.

A total of 400 questionnaires were shared. The questionnaires were shared every morning at the beginning of antenatal and postnatal days and informed consent was sought from each respondent. After the questionnaires were retrieved from the respondents only 388 were turned at the end of the distribution.

Data Analysis

The data collected was analyzed using a developed coding guide in order to facilitate data entry. Each questionnaire was coded and entered into a computer facilitated by a developed coding guide.

The Statistical Package for Social Sciences (SPSS) version 21.0 software package was used for statistical analysis. The data collected were subjected to provide descriptive and inferential statistics using the information obtained and were summarized and presented into tables and charts and Pearson's Chi square.

Knowledge Score

Knowledge scores were computed using 1 for the correct answer and 0 for the wrong answers for each of the knowledge questions on a 24- point scale. For each questions, two answers were available; Yes and No. the maximum score obtainable was 24 while the minimum was 0. An

addition of the knowledge score was done by adding together individual knowledge scores. The scores were then classified into two categories by taking the mean of the highest and lowest scores and a value of 20.06 was gotten. This was used to classify respondents into high, average and low levels of knowledge. Scores between 0-6 were low, 7-12 as moderate and 13-24 as high level of knowledge.

Attitude Scores

Attitude scores were computed by awarding a mark for each correct answer to 6 statements which assessed respondents' attitudes to towards umbilical cord care on a 30 point scale. For each item, there were four responses: Strongly Agree, Agree, Disagree, Strongly Disagree and undecided. A composite attitude score was compiled by adding together the individual attitude scores. The scores were then classified into two categories by taking the mean of the highest and lowest scores and a value of 19.7 was obtained. This was used to classify into poor, fair and good levels of attitude. Scores from 0-6 were low attitude and scores from 7-12 as moderate attitude and 13-24 were regarded as high attitude.

Ethical Consideration

Ethical approval to carry out the study was obtained from Babcock University Health Research and Ethics Committee (BHREC). The purpose of the study was explained to the respondents and a signed consent was obtained from each of the respondents. The respondents wishes and rights was respected at all times, including right to discontinue with the study at any time.

Informed consent: informed consent forms were shared to the participants during the study and anyone that signed was included in the study. Privacy and respect for human dignity was considered to ensure confidentiality.

Freedom from harm: only those who agreed to sign the informed consent form was included in the study. Every participant was assured that their response will be anonymous and they will be free from any harm. Participants who wished to opt out of the study was be free to do so at any stage of the study without allowing their decision to affect them.

Benefits from the research:

1. The research will contribute to current research on umbilical cord care
2. The findings gotten from this study will help in identifying the specific problematic area which may need neonatal emergent attention.
3. The research will help in resolving the issue of cord infections in infants and thus help in keeping with today's emphasis on primary prevention in health care delivery and meeting sustainable development goal to reduce neonatal mortality.
4. This study may provide a foundation on which behaviour change communication programme can be designed.

RESULTS

This study was carried out to determine the knowledge, Attitude and Practice of nursing mothers towards Umbilical Cord Care in Calabar metropolis, Cross River State, Nigeria. This section of

results captures tables, descriptive analysis and charts. Out of 400 questionnaires distributed, for the research, 388 were correctly filled and retrieved for the analysis with a response rate of 97%.

frequency Distribution of Demographic Characteristics

SECTION A: Demographic Distribution Of Respondents

This study carried out comprised of 388 nursing mothers in Calabar metropolis, Cross River State, Nigeria. This study showed that most of the nursing mothers in Calabar metropolis were within 20-29years of age (37.6%), majority were married (78.4%) with one child of 1-4weeks old (77.6%) and most nursing mothers had an income of N31, 000 and above per month. (44.8%). **See Table 1**

FREQUENCY DISTRIBUTION OF DEMOGRAPHIC VARIABLE

VARIABLES		FREQUENCY	PERCENTAGE %
Age	< 29 years	59	15.2 %
	20-29 years	146	37.6%
	30-39 years	107	27.5%
	40-49 years	76	19.6%
Marital Status	Married	304	78.4%
	Single	44	11.3%
	Separated	2	0.5%
	Divorced	38	9.8%
Number of children	One	181	46.6%
	Two	19	4.9%
	Three	179	46.1%
	Four	6	1.8%
	Five and above	2	0.5%
Age of the infant	1-4 weeks	301	77.6%
	2-4 months	47	12.1%
	5-10 months	15	3.9%
	>11 months	25	6.4%
Religion	Christianity	329	84.4%
	Muslim	1	0.3%
	Traditionalist	57	14.7%
	Others	1	0.3%
	Ibibio	124	32.0%

Ethnicity	Efik	202	52.1%
	Hausa	3	0.8%
	Igbo	31	5.7%
	Yoruba	22	1.5%
	Others	6	
Occupation	Farming	2	0.5%
	Hairdressing	83	21.4%
	Petty trader	192	49.5%
	House wife	71	18.3%
	Student	8	2.1%
	Civil servant	32	8.2%
Income per month	<N18,000	97	25%
	N19,000-N30,000	63	16.2%
	>N31,000	174	44.8%
	No Salary	54	13.9%
Highest level of education	No Schooling	7	1.8%
	Primary Education	70	18.0%
	Secondary Education	227	58.5%
	Tertiary Education	73	18.8%
	Post- Graduate	11	2.8%

frequency distribution of other variables

Knowledge of Nursing Mother towards Hygienic Umbilical Cord Care

With regards to knowledge, majority (81.4%) of the respondents had heard about umbilical cord care, (64.4%) nursing mothers heard about umbilical cord care from Doctors /Nurse.

More than half (72.2%) of the mothers knew that umbilical cord care means tying, cutting and cleaning with methylated spirit and a cotton bud. Also (63.1%) of the respondents agreed that methylated spirit should be used only to clean the cord. while more than half (58.8%) of the respondents agreed that umbilical cord should not be left exposed, thus it should be covered with

the baby's diaper. Furthermore (54.1%) of the respondents had not heard about Chlorhexidine digluconate and they respondents stood for the fact that chlorhexidine digluconate cannot be used to prevent umbilical cord infection. As shown in **table above**

Table 2: Knowledge of nursing mother towards hygienic umbilical cord care

VARIABLES		Yes	No
Have you ever heard of umbilical cord care?		316(81.4%)	72(81.4%)
After cleaning the cord should it be left exposed by folding the diaper under the umbilical cord?		160(41.2%)	228(58.8%)
Which of the following can lead to cord infection	When the umbilical stump is moist	303(78.1%)	85(21.9%)
	When unhygienic materials are placed on the cord e.g. herbs, palm oil	204(52.6%)	184(47.4%)
	When the baby is given a sponge bath	173(44.6%)	215(55.4%)
	Placing the baby completely in water when giving the baby a bath	5(1.3%)	383(98.7%)
Have you heard about Chlorhexidine digluconate (ointment)?		178(45.9%)	210(54.1%)

Can Chlorhexidine digluconate be used to prevent cord infection?		72(18.6%)	316(81.4%)

331

332 **Table 3 : Knowledge of nursing mother towards hygienic umbilical cord care**

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VARIABLE		FREQUENCY	PERCENTAGE
Where did you hear about umbilical cord care?	Nurse/Doctor	250	(64.4%)
	Traditional Birth Attendant	130	(33.5%)
	Mother/Mother-in-law	7	(1.8%)
	Friends	1	(0.3%)
What does umbilical cord care mean?	Not applying anything to the cord till it falls off	60	(15.5%)
	Use of herbal preparations	48	(12.4%)
	Tying, cutting and cleaning with methylated spirit and a cotton bud	280	(72.2%)
What materials should be used to tie the cord	Cord clamp	308	(79.4%)
	Thread from cloth	78	(20.1%)
	Elastic band	2	(0.5%)
	Hair strand	0	(0%)
	Narrow tapes	0	(0%)
How long does it take the umbilical cord to detach?	3-4 days	161	(41.5%)
	5-15 days	185	(47.7%)
	4 weeks	42	(10.8%)
	>5 weeks	0	(0%)
Why it is important to care for the cord	To prevent infection	269	(69.3%)
	To prevent evil spirit	3	(0.8%)
	To prevent	116	(29.9%)

	abdominal pain		

Table :4

The respondent from the study had an average level of knowledge 40.2% of umbilical cord care with a mean score of 20.2 and with and standard deviation of (±1.6) using a rating score of 24 with 11 items.

Level	Frequency N=388	Percentage %	X(SD)
High	152	39.2%	20.06(±1.7)
Average/moderate	156	40.2%	
Low	80	20.6%	
Total	**388**	**100**	

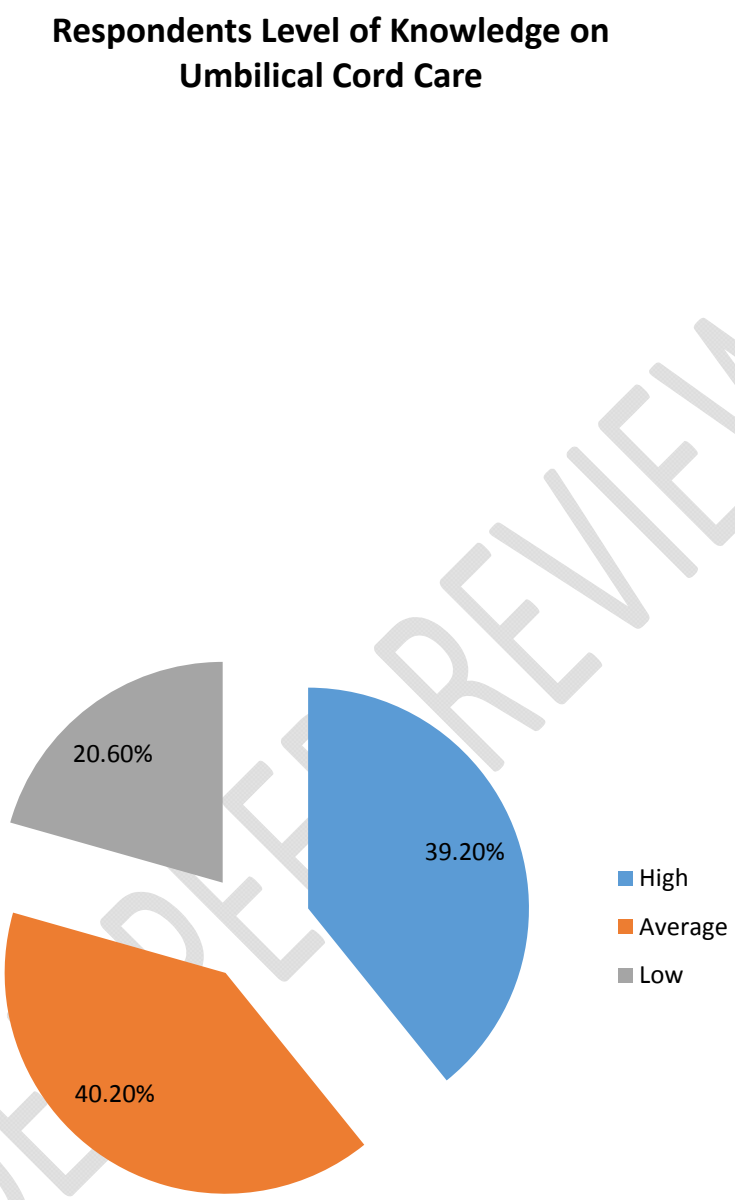

Figure 1: Respondent level of knowledge

Attitude of Nursing Mothers Toward Umbilical Cord Care

According to the results gotten from the study, almost the entire number of nursing mothers (99.4%) agreed that umbilical cord requires special care while over half (59.8%) of the respondents disagreed that scary appearance the cord presents prevents them from cleaning the

cord. Majority (71.4%) of the respondents disagreed that the shrinking nature of the cord prevented them from cleaning the cord stump. However, majority 46.2% of the respondents agreed that cultural belief should not influence the way umbilical cord is cleaned. See **Table 4**

Table 5 : Respondents attitude towards umbilical cord care

Variables	Agree %	U	Disagree %	X;SD
Baby's umbilical cord requires special care	386(99.4%)	-	2(0.6%)	4.4;0.5
the appearance of the umbilical cord is scary which prevents me from cleaning it	36(9.3%)	120(30.9%)	232(59.8%)	3.2;1.0
I am scared to clean the umbilical when it is shrinking	25(6.4%)	86(22.2%)	277(71.4%)	3.2;1.2
I clean the cord only when it is has an offensive odor	80(20.6%)	38(9.8%)	270(69.6%)	3.0;1.0
I clean the umbilical cord only when I change my baby's diaper	171(44.1%)	62(16%)	155(39.9%)	2.9;1.0
My cultural belief influences the way in which I clean the umbilical cord	33(8.5%)	176(45.4%)	239(46.2%)	2.7;1.0

The respondent's attitude towards care of the Umbilical cord 49.5% was good using a rating scale of 24 with 6 items having a mean score of 19.7 and a standard deviation of 3.9.

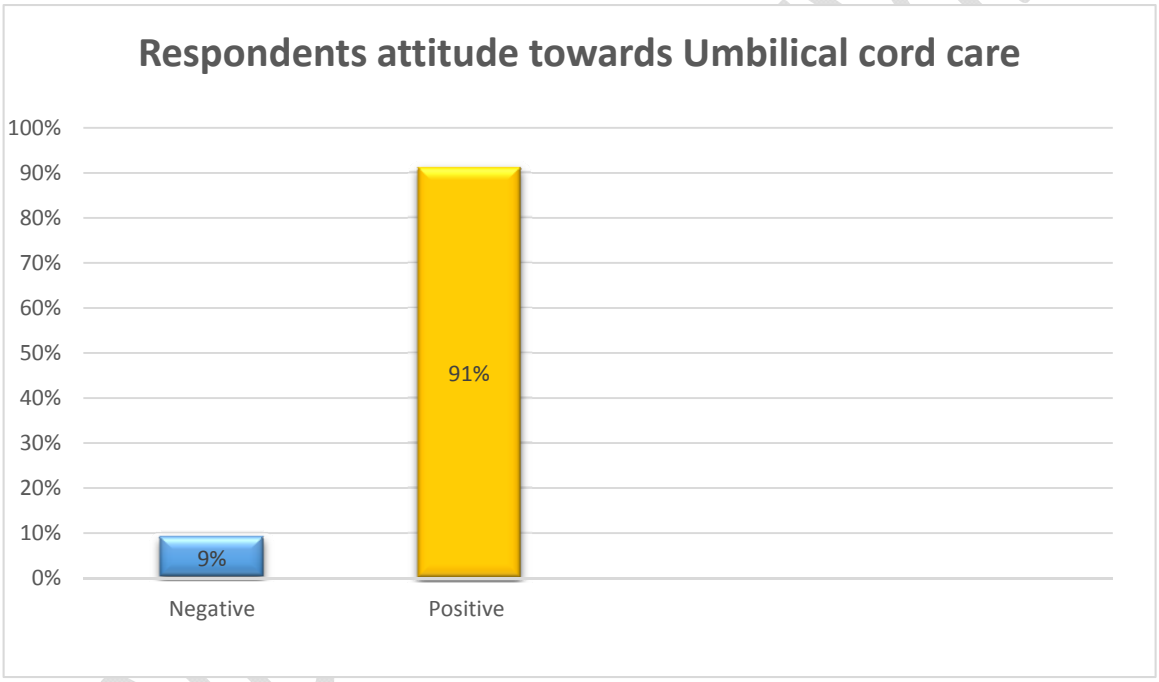

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Figure 2: Respondents attitude towards umbilical cord care

Umbilical cord care is important in reducing neonatal mortality. The risk of cord infection is increased by exposure to unhygienic cutting of the cord and application of unclean substances. It is important to note that babies who are delivered in hospitals may be affected by traditional practices after discharge which most times lead to umbilical cord infection and death among the neonates[16]. Therefore, mothers who adopt clean cord care practice will by implication contribute to the survival of the neonates and prevent neonatal death from infections such as omphalitis, neonatal tetanus and septicemia.

Knowledge of standard cord care among the respondents was average and the source of their information was from either a Doctor or Nurse. However, more than half (55.9%) of the respondents cleaned the base of the cord and surrounding skin at the same time, (43.8%) of the respondents cleaned the cord three times daily instead of whenever the diaper is changed. This showed poor cord care practice. This result showed a slight similarity with results obtained from [6], where out of 450 respondents only (40%) cleaned cord base and surrounding skin at the same time, (49.54%) cleaned the cord 3 times. Umbilical cord care was associated with age, Educational attainment, Income and Number of children in relation to the respondents who participated in the study.

Discussions

This study showed that majority of the nursing mothers in Calabar metropolis were within 20-29years of age which is at variance with the findings of carried out in Ethiopia where the age range of nursing mother how had babies were between 20-40 years. Even though the age

group starts from 20 there is still a difference which could be because the research was done 3 years ago and the number of nursing mothers was within the age gap and also the difference could result from the fact that the research was done in a populous residential region in Ethiopia. Most Mothers were secondary school holders while up to half of the nursing mothers were petty traders and most nursing mothers earned an income of N31,000 and above per month. This showed that most mothers are able to afford health care facilities and also the fact that these mothers live in Calabar metropolis which is semi-urbanized which is in accordance with the study done by[17], the study contributed that socioeconomic factors plays a role in the decision's mothers make when it comes to those who care for their infants and where they go for delivery. Mothers in low income areas choose home delivery as it is cheaper and they won't have to pay for health care service in health facilities, this decision has led to increase in neonatal cord infection and death. Similarly, [18] reported that socioeconomic status of families influenced proper cord care, No beneficial cord care practice was highest among the low socioeconomic group, and Mothers who had their babies in teaching hospitals were more likely to carry out cord care practices that are considered beneficial to their babies.

This research revealed that majority of the respondents had heard of umbilical cord care which may be as a result that most mothers received antenatal care from the hospital this is in variance with a research carried out by[12], where education on cord care was also relatively low with only (16.8%) of mothers who receive antenatal care and 3.9 % postnatally according. From the finding, half of the respondents had average level of knowledge regarding umbilical cord care while almost (40%) of the respondents had high knowledge of cord care, this could be in accordance with the research done by [14], The results showed (40%) had good knowledge.

These findings suggest that there is still room for improvement regarding knowledge of umbilical care. It however, disagrees with the findings of [14] in which majority of the mothers knew about hygienic cord care.

According to the study carried out more than half of the nursing mothers heard about umbilical cord care from Doctors /Nurse which agrees with [15] in which mothers had the source of knowledge regarding cord care form the Nurses. This result is in variance with the study carried out by[6] where the mothers poor knowledge was poor due to the fact that their source of information were mainly their mothers, mother -in – laws, church members and Traditional birth Attendants.

Furthermore majority of the mothers said that it is important to care for the cord in order to prevent infection this is in agreement with[15] where (56.3%) of respondents answered that it should be kept clean to prevent infection. Majority of the nursing mothers had knowledge of what cord care means when it comes to cutting, tying and cleaning the cord with methylated spirit with agrees to the study done in Ethopia by[19] where mothers new the need for hygiene will cutting and tying the cord.

The findings from this study revealed that almost half of the respondents had a good attitude and fair attitude toward cord care. Majority of the respondents agreed that umbilical cord requires special care and more than half of the respondents disagreed that scary appearance of the cord presents them from cleaning it. Less than half respondents cleaned the cord only when they changed their baby's diaper which varies with [20] recommendations where on average, cleaning once daily and as often as each diaper is changed. Majority of the nursing mothers said that their

cultural belief had no influence in the way the clean their baby's cord. this is not in consonance with the report of [17] in which the influence of Cultural beliefs and traditional practices were implicated in cord management and separation time.

This study has shown that mother's knowledge is fair, their attitude and practice is good, there is still room for improvement as few mothers still patronize TBAs and churches for health care service, there is need for direct and focused health education, home visits to reach out to mothers. This will by implication, help to reduce neonatal mortality.

Conclusion

Knowledge of standard cord care among the respondents was average and the source of their information was from either a Doctor or Nurse. This result showed a slight similarity with results obtained from [6], where out of 450 respondents only (40%) cleaned cord base and surrounding skin at the same time, (49.54%) cleaned the cord 3 times. Umbilical cord care was associated with age, Educational attainment, Income and Number of children in relation to the respondents who participated in the study.

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