

CORD CARE AND ITS ASSOCIATED FACTORS AMONG MOTHERS OF BUWAMBO VILLAGE, WAKISO DISTRICT. A CROSS-SECTIONAL DESCRIPTIVE STUDY.

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Abstract:

Background:

The objective of the study was to determine factors associated with cord care among mothers of Buwambo village. While the specific objectives were to assess maternal factors, health workers as well as community impact on maternal cord care practices among mothers of Buwambo village.

Methodology:

A cross-sectional descriptive study design that utilized quantitative methods of data collection were used. The researcher employed this design because it was less time-consuming and in addition enabled the researcher to collect data at once without follow-up respondents obtaining both dependent and independent variables at the same time.

The study findings:

The majority 83(83%) of the mothers in the study had sufficient knowledge about cord care, 11(11%) of the respondents reported the use of local herbs and other non-medical substances and 6(6%) had very little knowledge about cord care, 77(77%) of the mothers in the study attended ANC 3 -4 times, 11(11%) more than 4 times, and 12 (12%) mothers attended only 2 times.

85(85%) of the mothers cleaned the cord 3 times a day, 9(9%) cleaned twice and only 6(6%) cleaned more than 3 times a day. 66(66%) of the mothers involved in the study was taught about cord care by a health worker and variations were only in the time of education, 31(31%) were taught by their mothers and elder relatives and only 3(3%) were self-taught. Cultural norms and practices like putting drops of breast milk in the urachus was discussed in the community.

Conclusion:

Maternal, community as well health workers in contact with the mother playing an important role in maternal cord care practices.

Recommendation:

Mass sensitisation of the public should go on to a complete understanding of the recommended cord care practices and their advantages.

Keywords: Cord Care, Wakiso District, Mothers, Buwambo Village, submitted: 2023-05-23

Accepted: 2023- 06-08.

1. Background of study:

Neonatal sepsis is the third leading cause of death for infants in their first month of life. The newly cut umbilical cord can be a pathway for

June 27, 2023

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bacteria that can cause newborn sepsis and death. (Coffey, P.S., 2017). According to Tank PJ et al. Sepsis accounts for around one-third of deaths in neonates worldwide and contributed to approximately 400,000 neonatal deaths in 2015. Globally 2.4 million children died in the first month of life with approximately 6,700 newborn deaths every day, amounting to 47% of all child deaths under the age of 5 years (WHO, 2020). This enlightens the need for further studies into the different causes of the high neonatal mortality rate.

Neonatal mortality is highest in sub-Saharan Africa, with a mortality rate estimated at 27 per 1,000 live births, in 2020 (UNICEF, 2021).

The majority of all neonatal deaths occur during the first week of life, and about 1 million newborn deaths within the first 24 hours. (WHO, 2020), Half of the global neonatal deaths occur in sub-Saharan Africa where 34.6% to 66.0% of neonatal deaths reportedly occur within the first 24 hours of life (Velaphi SC, 2019), as of Easter C.O et al, Umbilical cord infection contributes significantly to the neonatal mortality rate in sub-Saharan Africa attributed to the low knowledge of chlorhexidine gel for umbilical cord management amongst mothers as a result of strangled resource settings (Easter C.O et al. 2021) This highlights the need to further improve aspects like cord care to combat the causes of neonatal death.

In East Africa, sepsis-related mortality of 19% was reported (Lamiaa M et al. 2017). In Uganda, neonatal deaths account for 42% of under-5 deaths, the majority of neonatal deaths in Uganda were a result of sepsis and other related factors (Kananura, 2016). With a commendable contributing factor being that the Knowledge regarding prenatal and newborn care is sufficiently low among primary healthcare workers with the highest deficit in the management of neonatal

infections enough to necessitate efforts in the orientation of health workers regarding this aspect of care. This further depicts the relevance of this study to assess the different factors associated with cord care and reduce cord sepsis is one of the leading causes of neonatal deaths.

2. Methodology:

2.1. Study design:

A cross-sectional descriptive study design that utilized quantitative methods of data collection was used. The researcher employed this design because it was less time-consuming and in addition and enabled the researcher to collect data at once without follow-up respondents obtaining both dependent and independent variables at the same time.

2.2. Study Area:

The study took place in buwambo village, which is located in Buwambo parish, Gombe sub-county, Wakiso district. This location is approximately 15.8 kilometers from Kasangati-Gayaza Road, north of Kampala City. The administrative offices are located in Wakiso town with a population of about 16,442 people. Buwambo village population consists of people of low social class who depend on agriculture yield, and groceries. The village is served by Buwambo Health Centre IV although some depend on drug shops and clinics. The community was chosen because many mothers would provide a sufficient sample for the study.

2.3. Study population:

The study population comprised mothers living in Buwambo village, wakiso district who were willing to take part in the study.

2.4. Sample size Determination:

The Burton formula (1965) formula was used, that is $N = \frac{QR}{O}$

O

Where;

Q: is the total number of days taken to collect data.

R: Is the maximum number of respondents to be interviewed O: Maximum amount of time on each respondent.

Q = 10, R = 10, O = 1 hour

therefore $N = 10 * 10$, N = 100 respondents

The study consisted of 100 mothers within the buwambo village community willing to participate in the study.

2.5. Sampling technique:

The respondents for the study were selected using a simple random sampling method.

2.6. Sampling Procedure:

The researcher used simple random sampling to identify

respondents indicating that all respondents fit the inclusion criteria stood an equal chance of being selected for the study and a total of 100 respondents were obtained and interviewed after obtaining consent.

2.7. Data collection method:

Data were collected from the mothers through the use of questionnaires containing questions derived in line with the specific objectives, the questionnaires were administered by the researcher and assistants to the respondents in a guided interview involving open and close-ended questions collecting only the necessary data

2.8. Data collection tools:

A semi-structured questionnaire with both open and closed-ended questions were used to collect data in a guided interactive interview with the mothers, Questions were written in simple and clear English and formulated according to the specific objectives.

2.9. Data collection procedure:

After writing the proposal with the supervisor's guidance, the researcher obtained an introductory letter which he carried to the LC1 chairperson of the buwambo ward where he was authorised to carry out the study.

The LC1 chairperson of buwambo village introduced the researcher to the mothers of the community. The researcher identified the participants by employing simple random sampling methods and interviewed them with individual consent.

The completeness of the questionnaires was assessed and codes were assigned to the study tools. The researcher collected data for 6 days interviewing 20 women every day within the first four days and 10 women every day for the last two days with the help of 2 research assistants. The study tools

are currently kept safely with only the researcher being able to access them when he needs them.

2.10. Study variables:

2.10.1. The independent variables:

Maternal factors: In this study, maternal factors like age, education level, socioeconomic status, ANC attendance and knowledge were assessed, and their impact on cord care practices.

Health worker's impact: In this study, the health workers' role in terms of imparting knowledge, changing attitudes and practices towards cord care were evaluated

Community factors: In this study, community factors like religion, myths, cultural practices, and the use of herbs and other substances in cord care.

2.10.2. The dependent variables:

Mothers of the buwambo village community with at least one child.

2.11. Quality control:

Identification of research assistants and training on how to use the questionnaires was done two days before data collection. The researcher collected data within six days.

2.11.1. Inclusion criteria:

Only women of the buwambo village with infant children, who consented to take part in the study were included.

2.11.2. Exclusion Criteria:

Mothers unable to make participate due to various reasons despite consenting were excluded from the study.

2.12. Data Management:

After every day of data collection answered questionnaires were assigned codes and checked for completeness and then properly kept in a lockable waterproof cupboard to ensure confidentiality and safety. The researcher also stored the information in both soft and hard copy

2.13. Data analysis and presentation:

Data will be tallied manually according to the research objectives and finally, quantitative data will be entered into the computer using Microsoft Excel 2019 program for analysis. The analyzed data will be statistically presented through tables, frequencies, figures, and narratives of which frequency and percentages will be utilised for easy interpretation and establishment of a correlation of the variables in the study.

2.14. Ethical considerations:

2.14.1. Village approval:

An introductory letter was obtained from the Mildmay Institute of Health Science to carry out the study in Buwambo village and permission was sought and obtained from the LC 1 chairperson.

Information provision: The purpose and objectives of the study were clearly explained to the clients before they decide to participate in the study.

2.14.2. Consent:

Data was collected only when the participants had understood the objectives of the study clearly and signed a consent form to take part in the study.

2.14.3. Confidentiality:

Participants' confidentiality was assured and only signatures were obtained leaving all unique identifiers such as names, telephone numbers, ID numbers, and addresses among others. The completed questionnaires can only be accessed by the researcher. They will be kept for three years under lock and key, and after they will be destroyed.

2.14.4. Autonomy:

The respondent was allowed to withdraw from the study at any point

2.14.5. Compensation:

The researcher did not pay any of the respondents for taking part in the research due to the researcher's low financial status.

3. Presentation, Analysis, and Interpretation of Result:

This chapter presents the findings that were obtained from the study on cord care and its associated factors among mothers of the buwambo village, Wakiso District. The data was collected from 100 respondents using a questionnaire as a study tool and presented in the form of tables, pie charts, and graphs as seen below.

Table 1 depicts the Majority of 40 (40%) of the mothers from the study were aged 30 - 35 years whereas the least 6(6%) were 18 years and below according to table 1.

The study involved the majority of Baganda 42(42%), followed by Basoga 28(28%), Banyankole ranking third with 20(20%), and only 10(10%) were from other tribes for example Langi, Banyole, Basamya as of Table 1.

Most 52(52%) of the respondents attained secondary as the highest level of education whereas 7(7%) had not attended any education level. 26(26%) had stopped in primary and only 15 (15%) had reached tertiary level of education according to Table 1.

The greatest percentage 96(96%) of the study population were direct mothers to the children with only 4(4%) being caretakers/guardians given in Table 1.

According to Table 1 majority 45(45%) of the respondents were self-employed with most of them operating small Kiosks, shops, and mobile money outlets, and others were commercial farmers, 33(33%) being employed and only 22(22%) being self-employed

With distinction by religion, 32(32%) were Catholics, 25(25%) were Protestants (Anglicans), 23(23%) born again Christians, whereas only 20(20%) were others which included the SDA, moslems and Jehovah witnesses.

As depicted in Table 2, 85(85%) of the mothers cleaned the cord 3 times a day, 9(9%) cleaned twice, and only 6(6%) cleaned more than 3 times a day.

The majority 99(99%) of the mother applied no medication on the cord however only 1(1%) applied tetracycline ointment found in the mama

Table 1: Distribution by demographic characteristics of the respondents

Characteristic	Frequency	Percentage (%)
Age		
Below 18	6	6
18 - 25	15	15
25- 30	23	23
30 - 35	40	40
Above 35	16	16
Tribe		
Muganda	42	42
Musoga	28	20
Munyankole	20	28
Others	10	10
Education level		
Never attended school	7	7
Primary level	26	26
Secondary level	52	52
Tertiary level	15	15
Relationship to child		
Parent	96	96%
Guardian	4	4%
Occupation		
Employed	33	33
House wives	22	22
Self employed	45	45

Table 2: Distribution by demographic characteristics of the respondents

Religion		
Catholics	37	37
Protestants	25	25
Born Again christians	28	28
Others	10	10

Table 3: Distribution according to number of times mother cleaned the cord.

Number of times a day	2 times	3 times	More than 3 times
Number of mothers	9	85	6
Percentage	9%	85%	6%

kit. However, All mothers in the study were delivered from the hospital.

Of the 66 mothers who were taught about cord care by health workers, only 10(15%) were taught during Antenatal, while the rest 56(85%) were briefed during discharge after delivery.

The majority 70(70%) of the mothers in the study knew the members of the CHWs however none reported that they were visited during pregnancy and only 10(14.3% of the 70 mothers) were visited after childbirth. All (100%) of the mothers would easily access a health worker at Buwambo Health Center IV in case of any cord-related infection or complaints and various medical clinics within the community whose services were also described as affordable.

3.1. Community impact on Cord care practices.

Several cultural norms and practices incorporated into mothers by fellow community members in regards to the cord were identified and discussed with examples including putting drops of breast milk in the urachus after cord detachment to prevent colic, use of the cord for paternity determination rituals where it was said that “the dry cord is placed in ritual waters and paternity is determined depending on whether it floats or sinks”, a sinking cord was regarded as decisive for paternity as a floating cord raised questions. However, most of them directly involved the cord after detachment including

All the mothers in the study had ever heard of the herbal mixture called kyogero however only 52 (52%) of them had ever used it and only 3 (5.76%) of them used Kyogero to facilitate detachment. Of the 52 mothers All (42 mothers making 81%) mothers from Buganda had ever used kyogero, 6 (11%) of them were Basoga, and 4 (8%) of them were Banyankole. It was however regarded as a foreign concept in other areas like the Langi, Basamya, and Banyole.

4. Discussion:

4.1. Maternal factors affecting cord Care:

All (100%) of the respondents in the study knew cord care as keeping the cord clean, dirt

free, and dry to facilitate healing, this depicted that mothers understood the key concepts of cord care even though added ideologies might have influenced their practices these results were similar to those of Kyomugisha R, 2017 in her study about Knowledge And Practices On Umbilical Cord Care Among Mothers Attending Young Child Clinic In Mutolere Hospital, Kisoro District in which majority of the respondents had sufficient knowledge towards cord care and contradicted with Asiedu et al. 2019 who studied about Neonatal cord care practices among mothers and caregivers in the Volta region of Ghana where 64.3% of the mothers had insufficient knowledge towards cord care and applied substances that haven't been recommended for cord dressing indicating a considerable level of awareness amongst the mothers of Buwambo village.

The majority 40(40%) of the respondents were aged 30-35years whereas the least 6(6%) were below 18 according to results from Table 1 above and application of substances was commonest amongst those aged 25 years and below point towards age as a key factor contributing towards proper cord care practices, these results correlate with a study by Addis Eyeberu et al.(2022) about Practicing Level and determinants of safe cord care and skin-to-skin contact among post-partum women where maternal age was discovered to contribute to safe cord care practices as a great contributor as it was also observed that quality of cord care increased as maternal age increased.

Quality of cord care was observed to increase with the level of education, in the study, 52(52%) of the respondents attained secondary as the highest level of education whereas 7(7%) had not attended any education level. 26(26%) had stopped in primary and only 15 (15%) had reached tertiary level of education according to Table 1. It was observed considerably that mothers with a higher level of education were more informed about care for the cord and strictly followed recommended cord care instructions given by their doctors. They were also less likely to apply substances like ash or salt on the cord. This clarified the maternal level of education as a key factor in the level of awareness and information towards

Table 4: **distribution of mothers in relation to when they were taught about cord care**

Time of education	During Antenatal	During discharge
Number of mothers	10	56
Percentage	15%	85%

Table 5: **distribution of mothers who knew the CHWs according to when they were visited (n= 70)**

Time of visit	During pregnancy	After child birth	Never visited
Number of mothers	0	10	60
Percentage	0%	14.3%	85.7%

Table 6: **distribution according to tribe and use of kyogero (n=52)**

Tribe	Number of respondents who used Kyogero	Percentage
Baganda	42	81%
Basoga	6	11%
Banyankole	4	8%

cords, these were just as Dessalegn N et al.(2021) in their study about Umbilical cord care practices and associated factors among mothers of neonates visiting Mizan-Tepi University teaching hospital southwest Ethiopia observed that mothers who attended college were 5 times more likely to have good cord care practices compared to the uneducated. This singles out the level of education as one of the key factors affecting cord care practices among mothers of buwambo village.

Social economic status which was assessed through financial efficiency was observed to be a key factor influencing the quality of cord, 84(84%) of the respondents' income was insufficient to take care of them and their families with only 16 (16%) being financially capable of meeting all their requirements with minimal difficulty. The financial strain was said to be responsible for the type of substance used to clean the cord and the quality of delivery justifying socioeconomic status' contribution to the quality of cord care. These findings were similar to those of Erick de Jonge et al. 2018, in their study of Socioeconomic inequalities in newborn care during facility and home deliveries, Socioeconomic inequalities in newborn care during facility and home deliveries, and Eyeberu et al. 2022 in their study of Practicing Level

and determinants of safe cord care and skin-to-skin contact among post-partum women in public hospitals who speculated that socioeconomic status strongly influences newborn care since it influences the place of delivery and quality of care delivered to the newborn, it is without a doubt that socioeconomic status greatly influences the quality of cord care among mothers in Buwambo village and a key factor to the cause.

All of the mothers attended ANC with 77(77%) of the mothers attending 3 - 4 times, 11(11%) more than 4 times, and 12 (12%) mothers attending only 2 times as depicted by Figure 3, this was observed to be of importance towards cord care delivery as multiple mothers reported to be taught about cord care during ANC showing that if mothers attended ANC more often the chance of imparting them with knowledge about the principles of cord care would be higher. These results were in line with Lindsay Malick et al. 2019 study of Trends, determinants, and newborn mortality related to thermal care and umbilical cord care practices in South Asia as well as Mahama Saaka et al., 2018 study about the Prevalence and determinants of essential newborn care practices where they both observed that full maternal antenatal care attendance increased the odds of infants' re-

ceipt of the recommended cord care delivery practices. The beneficence depicted that ANC was profitable however, myths and cultural practices might haven't been addressed or else they extend to the health workers themselves a field that was inadequately assessed.

All mothers in the study delivered from the hospital and reported that proper cord care was done at birth and recommendations of proper cord care were made by doctors to mothers during discharge however no respondents reported delivering from home or TBAs and this hindered the comparison in the quality of cord care and place of delivery, the study was more in agreement with the study by Tuluope. o et al. 2018 that remarked place of delivery has a significant influence on the quality of cord care given to the newborn with health facility delivery seven times more likely to predict good cord care compared to home delivery however the results were inconclusive ruling out Gelana Fedaku et al. 2022 study results that showed that mothers who delivered from home had higher odds of practicing potentially harmful traditional cord care as compared to those who delivered at a health institution.

4.2. Health worker's impact on maternal behaviour towards cord care:

It was observed that health workers greatly contributed to maternal knowledge, attitude and practices towards cord care given that 66(66%) of the mothers involved in the study were taught about cord care by a health worker and variations were only in the time of education, 31(31%) were taught by their mothers and elder relatives and only 3(3%) were self taught after a previous encounter with someone cleaning the cord identifying a possibility if mother contact with health workers increased forexample through ANC health education sessions, the chance of enlightening the knowledge would increase and subsequently equip them with the key information about cord care, these results were in sync with Kasthuri Sivalogan et al. 2018 in his study about Influence of newborn health messages on care-seeking practices and community health behaviors among participants in the Zambia Chlorhex-

idine Application Trial, as well as Emmerance Uwingabire et al. 2020 during the Umbilical cord care among postnatal mothers in Kibungo Hospital catchment area, Rwanda study who observed that community education, understanding and engagement by health workers influences the acceptability of health initiatives towards safe cord care delivery and suggested that health care providers need to educate mothers on the practice of allowing the cord to dry naturally, and discourage the use of harmful substances that delay cord separation and increase risk of sepsis and subsequent neonatal mortality.

The study observed a gap in the care delivery by the CHWs as the majority 70(70%) of the mothers in the study only knew the members of the CHWs and none of these reported being visited during pregnancy and only 10(14.3% of the 70 mothers) were visited after childbirth isolating an overall low CHWs turn up to check on the mothers which without doubt contributed to the contradiction between advised cord care practices and the maternal practices due to a gap in the knowledge and limited opportunity to consult. This was controversial to Tanya Guenther et al. 2019 in their study about Home visits by community health workers for pregnant mothers and newborns and Abimbola O et al., 2019 study of Umbilical Cord Care Knowledge and Practices of Mothers attending Selected Primary Health Care Centres whose results cited CHWs to have key roles in antenatal care, labour, and delivery, postnatal and neonatal care.

A remarkable health-seeking behaviour was reported as all (100%) of the mothers would easily access a health worker at Buwambo Health Center IV in case of any cord-related infection or complaints and various medical clinics within the community whose services were also described as affordable, this showed

4.3. Community-related factors associated with cord care:

The study involved the majority of Baganda 42(42%), followed by Basoga 28(28%), Banyankole ranking third with 20(20%) and only 10(10%) was from other tribes, for exam-

ple, Langi, Banyole, Basamya as of Table 1, it was observed that application of substances was commonest amongst the Baganda as well as the cultural practices. A total of 11(11%) respondents reported the use of substances other than the recommended ones, these included fresh fine ash, Papyrus ash, salt, saliva, Dettol solution, Johnson Cusson's powder, washing soap foam, scrapping from roasted "Gonja" and juices from local herbs such as Kiyondo, Kasalabakesi, and kyogero to facilitate the detachment of the cord, these were observed to re occur commonly among respondents and commonly occurred amongst those taught by their mothers and friends alongside medical workers, these reported that they were following pre-existing traditions even without clear justification of the importance making a mother's immediate environment a key influencer of their cord care practices. This is related to Patricia S, 2017 in her review of Umbilical cord-care practices in low-and middle-income countries where she suggested that beliefs related to the application of substances to the umbilical cord varies by country and by regions or cultural groups within a country.

Cultural norms including putting drops of breast milk in the urachus after cord detachment to prevent colic were reported despite most of them directly involving the cord after detachment, they were observed to be of great impact on the quality of cord care. This depicted the community's impact on the quality of cord care as some mothers practiced these norms on top of the medical recommendations of cord care.

Cultural norms were observed to be related to the region as of the study out of the 52% of the mothers who had ever used kyogero, it was reported that all mothers from Buganda had ever used kyogero and 6 Basoga and 4 Banyankole. It was however regarded as a foreign concept amongst mothers from other areas like the Langi, Basamya, and Banyole. This was similar to Margaret B et al. 2018 observation that there may be regional differences in cord care.

5. Limitations of the study:

The researcher faced a social desirability bias since of quality of cord care is based on self-report and unfavourable climates like heavy rain. The researcher was also subjected to a negative attitude and compliance as some participants demanded money to participate in the study.

6. Conclusion:

From the findings, it is evident that different maternal factors affected the quality of cord care despite adequate knowledge displayed by the respondents, maternal socioeconomic status, maternal Age, and ANC attendance were observed to influence the quality of cord care. About Health worker's impact on maternal knowledge attitude and practices, the majority of the respondents were taught about cord care by the health workers though some acquired knowledge from other sources which identified a discrepancy to be addressed to ensure that medical recommendations are issued to all mothers during ANC and after delivery. The community as well contributed to the Cord care practices such as the application of substances other than the recommended medications and the exercise of different norms.

7. Recommendations:

Regarding the above-derived conclusions, the following recommendations are key to ensuring high-quality cord care practices among mothers, for effective integration, the Ministry of Health, the local council of Buwambo, and the community at large have been designated a part to play. The ministry should integrate a comprehensive education system for all mothers during antenatal care as most reported never being taught the basics of cord care during this period and only briefing on how to clean it was done before discharge however no myths were addressed, leaving mothers susceptible to application of substance which in turn contributes to the sustained high numbers of cord sepsis. Community health education talks concerning cord care should be considered of high importance as even mothers who deliver

from home or traditional birth attendants can be addressed in this endeavour, it will also refreshen the knowledge of the elderly who take part in advising mothers towards cord care.

Among the key traditional practices was the use of kyogero and its use was reportedly profound among Baganda, with no social class limit, this necessitates further research to rule out any

contraindications to the use of kyogero since it is communally integrated into the daily cord care medications with confession of adequate results and presenting a non-applicable area of discouragement, however, if research is done and proper uses of kyogero identified, its integration into medical care in a safe approach might improve the overall care. This presents a gap that requires further pondering to demystify the role of kyogero and its mode of action toward the reported results. The ministry should as well provide WHO-recommended cord care medication to the health centers to make them easily accessible to those of low socioeconomic status who end up improvising due to the inability to purchase these medications. The government should as well set incentives like transport facilitation allowances to community health workers to ensure their regular checkups on mothers during pregnancy and after delivery to further enrich mothers with knowledge and early identification of poor cord care practices.

The local government should organise community-based health education talks regarding cord care, and camps for mothers regarding care for the cord and its effect on the health of the baby to ensure utmost awareness amongst mothers. Community health workers should be empowered with valid and up-to-date information, and necessary tools, in conjunction with facilitation to extend the health center services unto the mothers and caretakers even at their homes to aid in early detection and intervention of poor cord care and its outcomes.

The people of Buwambo community should request health education talks regarding cord care in case the health worker hasn't offered it. They should also present their beliefs towards cord care to the health workers and stand to be corrected.

The mothers in buwambo should be encouraged to attend health education talks regarding cord care to refreshen their information to the current guidelines.

8. Acknowledgement:

Perseverance and commitment have never disappointed in human history, I would like to acknowledge the favour of the lord unto my life, the efforts of my supervisor, and my very present friends in time of need who have supported me physically, intellectually, and emotionally towards the completion of this research, I pray that may the holy spirit enable you to delight yourselves in the lord so that he may grant unto you the desires of your hearts.

9. List of Abbreviations:

WHO: World Health Organisation.
UNICEF: United Nations Children's Fund.
UBOS: Uganda Bureau Of Statistics. **ICF:** International Coaching Federation. **ANC:** Ante-Natal Care.
CHW: Community Health Workers.
TBAs: Traditional Birth Attendants.

10. Publisher details:

Publisher: Student's Journal of Health Research (SJHR)
(ISSN 2709-9997) Online
Category: Non-Governmental & Non-profit Organization
Email: studentsjournal2020@gmail.com
WhatsApp: +256775434261
Location: Wisdom Centre, P.O.BOX. 148, Uganda, East Africa.



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