#### KNOWLEDGE AND PRACTICES OF POST-OPERATIVE MOTHERS BETWEEN 25-30YEARS TOWARDS CESAREAN SECTION INCISION CARE AT KAPCHORWA HOSPITAL, KAPCHORWA DISTRICT. A CROSS-SECTIONAL STUDY.

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# Page | 1 Abstract

#### Introduction

Caesarean section is a life-saving surgical intervention for women and their newborns though its recent overutilization is a global public health concern on average. There is a 4.4% annual rise in cesarean section rates worldwide, with Asian countries having the second highest annual increase during the period 1990–2014. Adequate and practiced knowledge about incision care is vital for preventing infections and promoting optimal healing following a cesarean section.

#### Purpose

The purpose of the study was to assess the knowledge and practices of post-operative mothers towards cesarean section incision care at Kapchorwa Hospital

#### Methodology

This was a cross-sectional study to assess the knowledge and practices of post-operative mothers towards cesarean section incision care at Kapchorwa Hospital, Kapchorwa District. Data was collected using structured questionnaires designed in-house. The data captured in the questionnaires were entered in Microsoft Excel from where it was exported to a statistical package for social scientists for analysis. Descriptive and inferential statistics were used to analyze the data. Descriptive statistics were used to analyze data to process categorical data which were presented in frequency and percentage distributions.

#### Results

In the present study, the majority (48.0%) of the study participants were aged 21-30 years, married (76.0%), had at least secondary education(42.0%), and were rural dwellers(80.0%). In this study, only 19(38.0%) had adequate knowledge about cesarean section incision care. This study also showed that 11(22.0%) of the study had adequate practice while 39(78.0%) had inadequate practice about cesarean section incision site care.

#### Conclusion

Post-operative mothers have inadequate knowledge and practice about cesarean section incision site care.

#### Recommendation

Policymakers need to package health education sessions at all levels of maternal care, implement a well-defined organized post-cesarean section incision care program, and further research is recommended to find out knowledge and practices in different regions.

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#### **Background of the Study**

Cesarean section is a life-saving surgical intervention for women and their newborns its recent overutilization is a global public health concern on average (WHO 2015) There is a 4.4% annual rise in cesarean section rates worldwide, with Asian countries having the second highest annual increase during the period 1990-2014. In this context, the global recommendation of a 10-15% national cesarean rate has been critiqued and a revision urged (Gresh et al., 2021). A more recent multi-country survey conducted in 178 WHO member states has suggested that the population-level cesarean section rate should not exceed 19%, as increased levels of neonatal and maternal mortality have been reported above this level (WHO 2015).In Europe and the United States of America (U.S.A), Surgical site infections are the second most frequent complication of the majority of operations

(Mcallister et al, 2014). Post-incision care has remained relatively neglected in many intervention designs. According to ZawnVillines et al., (2018) women after a successful C-section, many guides suggest that full recovery takes 4 to 6 weeks. Yet every person is different and much research suggests a significantly longer recovery time. He continues to explain methods that can be used to speed up Cross-section recovery some of which include getting plenty of rest, asking for help, processing your emotions, taking regular walks, managing pain, watching for signs of infection, fighting constipation, and getting support for breastfeeding. Boerma T. et al., (2018) noted that Caesarean section (CS) is a common surgical intervention during fetal delivery, especially when vaginal delivery is associated with high risk to both the woman and the fetus. the rate of CS is on the rise as is seen from the doubled cesarean deliveries from 2000 to 2015 globally. For example, in the Middle East and North

Africa increased from 19% in 2000 to 29.6% in 2015, the Demographic and Health Survey report of 2015 reported the prevalence of CS in Tanzania's mainland to be 6% however, anecdotal evidence shows that CS rates in its regional hospitals are as high as 48%, regional hospitals usually receive referrals of mothers with obstetric complications that require CS, although CS is a critical intervention for managing complex obstetric issues, it may result in various complications including rupture of the uterus in subsequent pregnancies, injury of the nearby organs, postpartum anemia and SSIs (Nyamtema, 2016). SSI is the most common complication associated with CS and contributes significantly to maternal morbidity and mortality (Shahane et al 2012). Mothers who underwent CS have a 5 to 20 times increased risk of acquiring infections compared to mothers with spontaneous vaginal delivery(Kelley et al,2012).sepsis is reported to be the third direct cause of maternal death after hemorrhage and eclampsia, SSIs from CS may lead to prolonged hospitalization, increased healthcare costs, repeat operations to treat the infected wound and endometritis, and may render the mother unable to care for her newborn and, in severe cases, cause maternal death(Mdoe et al., 2023). a study conducted in Ethiopia by Gelaw and Abdela (2018) noted that cesarean delivery is the most common major operation carried out in obstetrics; constituting about 15% of all deliveries worldwide. Surgical site infections (SSIs) are among the most common infectious complications after cesarean delivery; which increase maternal morbidity and mortality, hospital stay, and the cost of treatment(Gelaw & Abdela, 2018). The prevalence of SSI attributable to CS ranges from 11% to 48%SSI may occur as a result of repeated vaginal assessments, contamination of the surgical wound due to improper care, longer operation duration, pre-existing diabetes, severe anemia, and a lack of awareness of home care practices after hospital discharge (Nguhuni B. et al, 2017). According to Dusabe (2016), a study conducted in Kabarole, Western Uganda, in 2016, established a cesarean rate of 25% with disparities at low- and highlevel Facilities with the former having a rate of 6-8% and the latter 18–16%. In the study, factors such as having a previous CS, complications during pregnancy, ANC attendance of 4 or more times, inadequate human resources, inadequate medicines supplies, and myths and misconceptions about CS affected access and utilization of CS services, this rise in the trend has not come without fears, and some countries like Italy have used it to gauge the quality of services provided; the low rate, being commendable as a marker of high-quality services. This initiative was a five-year experience in Abruzzo, Italy, and revealed that a third (18.5 million) of cesarean sections had been performed for nonmedical indications.

There are several C-sections done at Kapchorwa Hospital over 200 C-sections on average every month and it has been noticed that several mothers who undergo the operations have issues on the operation site which include wound infection, bleeding at the site, and burst abdomen (HMIS 031 and 054, Kapchorwa hospital records 2019). There is increased mortality and morbidity of mothers who have undergone Cesarean section at Kapchorwa Hospital. Puerperal sepsis is the leading cause of maternal death at Kapchorwa Hospital. The aim is to assess the knowledge and practices of postoperative mothers towards cesarean section incision care at Kapchorwa Hospital, Kapchorwa District.

#### Specific objectives

- 1. To establish the level of knowledge of postoperative mothers towards cesarean section incision care at Kapchorwa Hospital, Kapchorwa District.
- 2. To find the post-operative mother's practices towards cesarean section incision care at Kapchorwa Hospital, Kapchorwa District

#### Methodology

#### Study Design and rationale

This study adopted a cross-sectional design with a quantitative approach. The cross-sectional research design was used because it allowed collection of data at a single point in time which makes it relatively cheap and less time-consuming than other types of research. In addition, it allowed the collection of data from a large pool of subjects. The quantitative approach was used to collect and analyze numerical data to enable the investigation of relationships between the study variables.

#### Study setting and rationale

The study was carried out at Kapchorwa Hospital in the Kapchorwa district. It is found in eastern Uganda which is 240 km by road from Uganda's Capital busiest City of Kampala within the eastern Region of Uganda by Road. It is bordered by Moroto which is 128km by road and Nakapiripirit which is 106.6km to the North, Bukwo which is 63km, Kween districts which is 21.2km by road and the Republic of Kenya (Nairobi) to the East which is 564.2km, Sironko which is 41km by road.

The study setting was selected because of the problem identified and no similar study had ever been done to address the problem thus prompting the principal researcher to under this study.

#### Study Population

The study considered post-operative mothers aged between 25 and 30 years at Kapchorwa Hospital.

#### Sample Size Determination

The sample size was derived using the Slovenian method. n=N/n (Ne)2 n=the number of samples N=the total population

e=a margin of error. 45(1+45\*0.05)2 45(1+45\*0.0025) n= 50.0625 Hence n 50 participants.

#### Sampling procedure

A total of 50 post-operative mothers (25-30 years) were selected. Simple random sampling was employed to select the study respondents to avoid bias.

A list containing the names of the post-operative mothers

was provided from which identifiable numbers were assigned.

The numbers were written on paper which was rolled and subjected to the lottery method by putting them in the container.

The papers bearing the respondent's numbers were thoroughly mixed and picked one after the other without replacement until there required number was attained.

#### **Inclusion Criteria**

The study participants included post-operative mothers between the ages of 25-30 years in Kapchorwa Hospital who were available at the time of data collection and consented to participate in the study.

#### **Definition of Variables**

The dependent variable of the study was cesarean section incision care, while the **independent variables** were knowledge and practices of post-operative mothers aged 25-30 years.

#### **Research Instruments**

Data was collected using a structured questionnaire which consisted of closed-ended questions. The questionnaire was chosen because of its associated advantages in terms of data processing and analysis costs which were cheaper and took little time.

#### **Data collection Procedure**

After approval by the research committee of St. Francis Schools of Health Sciences, the researcher introduced herself to the in charge of the Centre and explained the purpose and procedure of the study before approaching the individual respondents to request participation in the study. Following acceptance, the researcher then approached the individual participants, introduced themselves, and explained the purpose of the study.

Data collection was carried out using a structured questionnaire to enable the respondents to exhaust teach posed questions. Interviews were conducted in the postnatal ward at Kapchorwa Hospital. Responses of respondents were filled in the questionnaires by the researcher and research assistants. The method was used because it allowed accurate recording of responses. Two research assistants were used in the study and were introduced to the study and were informed about the study objectives and a sample of respondents were interviewed per day for 3 days to make a total of 50 respondents.

#### **Data management**

Data was managed by the researcher to ensure accuracy. It was cleaned, sorted, and coded. The researcher made sure that all questions in the tool were answered and complete, as well as data editing before leaving the area of study to ensure that there were no mistakes or areas left blank and correction of any mistakes immediately if found.

#### Data analysis

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

#### **Ethical Consideration**

Permission and ethical clearance to conduct the study were obtained from St. Francis Schools of Health Sciences. The Ethics Committee is the authorized institutional review board.

In addition, the researcher sought consent from postoperative mothers in the postnatal ward at Kapchorwa Hospital. The informed consent process was done before data collection and whoever declined, the researcher respected their choice and position since the study was purely voluntary while taking field notes, the participant was assigned identification numbers instead of using their names for confidentiality purposes. However, information concerning their sex, age, and highest level of education was captured among the socio-demographic characteristics.

#### Data Presentation, Analysis, and Description of Findings Socio-demographic characteristics of the study participants

In the present study, the majority(48.0%) of the study participants were aged 21-30 years, married(76.0%), had at least secondary education(42.0%), and were rural dwellers(80.0%). Most (78.0%) were saved by tribe, 42.0% were housewives and 42.0% were Anglicans by religion (Table 1).

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Variable	Frequency(N=50)	Percentage (%)
Age(Years)		
≤20	09	18.0
21-30	24	48.0
≥31	17	34.0
Marital status		
Single	04	8.0
Married	38	76.0
Separated/divorced	05	10.0
Cohabiting	03	6.0
Level of education		
No formal education	12	24.0
Primary	17	34.0
At least secondary	21	42.0
Residence		
Urban	10	20.0
Rural	40	80.0
Tribe		
Sabiny	39	78.0
Gishu	08	16.0
Iteso	03	6.0
Pokot	-	
Occupation		
Formerly employed	08	16.0
Peasant	14	28.0
Housewife	21	42.0
Business	07	14.0
Religion		
Catholic	15	30.0
Anglican	21	42.0
Muslim	05	10.0
Others	09	18.0

#### Table 1: Socio-demographic characteristics of the study participants

### Knowledge of cesarean section incision site care among post-operative mothers

#### Table 2: Showing the days the participants have been in the postnatal ward

Variable	Frequency (n)	Percentage (%)
<3 days	36	72.0
>3 days	14	28.0
Total	50	100

Table 2 majority of the respondents 36(72.0%) had stayed for less than 3 days in the ward while the minority 14(28%) more than 3 days in the ward

#### Figure 1: showing if the respondents had ever heard about cesarean section incision care



Figure 1 indicates that the majority of the respondents 39(78%) had never heard about cesarean section incision care whereas the minority of the respondents 11(22%) had ever heard about cesarean section incision care.

#### Table 3: Showing the participant's understanding of cesarean section incision care

Variable	Frequency (n)	Percentage (%)
Care given to aid wound recovery	16	32
Care to prevent infection	13	26
I don't know	21	42
Total	50	100

Results in Table 3 above shows that majority of respondents 16(23%) reported care given to aid wound recovery while the minority of the respondents care to prevent infection.

# Figure 2: Showing the respondents understanding of cesarean section incision care bacterial infection



Figure 2 indicates that majority of the respondents 43(86%) didn't know anything about cesarean section incision care bacterial infections while the minority of the respondents 7(14%) reported that if a wound rots



#### Figure 3: Showing the signs and symptoms of cesarean section bacterial infections

Figure 3 shows that majority of the respondents 20(40%) had pus discharge while the minority of the respondents 7(14%) had watery discharges

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Figure 4 shows that majority of the respondents 29(58%) reported poor hygiene as the cause of the cesarean section incision bacterial infection while the minority of the

respondents 3(6%) reported lack of exercise as the cause of the cesarean section incision bacterial infection.

Figure 5: Showing the importance of finishing the prescribed antibiotics



Figure 5 shows that majority of the respondents 35(70%) didn't finish the prescribed antibiotics whereas the minority of the respondents 15(30%) finished the prescribed antibiotics.

Table 4: Showing if balanced diet is important for wound healing after operation

Variable	Frequency (n)	Percentage (%)
Yes	27	54
No	23	46
TOTAL	50	100

Table 4 indicates that majority of the respondents 27(54%) reported that balanced was important for wound healing while the minority of the respondents 23(46%) didn't know that balanced diet was important for wound healing.

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# Frequency n=50

#### Figure 6: Showing the importance of personal hygiene in prevention of infection

Figure 6 shows that majority of the respondents 37(74%) didn't know that personal hygiene was important in prevention of wound infection whereas the minority of the

respondents 13(26%) knew that personal hygiene was important in prevention of wound infection.

#### Table 5: Showing if exercise is important for recovery

variable	Frequency (n)         Percentage (%)	
Yes	6	12
No	44	88
Total	50	100

Table 5 shows that majority of the respondents 44(88%) didn't know that exercise was important for the recovery while the minority of the respondents 6(12%) that exercise was important in wound recovery.

# Frequency n=50

Figure 7: Percentage of Knowledge

Figure 7 shows that majority of the participants 40(80%) having never heard about post cesarean section self-care incision care while the minority of the participants 10(20%) reported having heard about post cesarean self-care/incision care

# Figure 8: Knowledge score of cesarean section incision site care

Figure 8 indicates that majority of the participants 31(62%) had inadequate knowledge about cesarean section incision care while the minority of the participants 19(38.0%) had adequate knowledge.

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#### Practice of cesarean section incision site care among post-operative mothers

#### Figure 9: shows the respondents performance of post cesarean section incision care



Figure 9: above shows that majority of the respondents 36(72%) could not perform post cesarean section care/incision care while the minority 14(28%) had ever performed post cesarean section incision care/incision care

Figure 10: Shows what the mothers use for cleaning the wound



Figure 10: indicates that majority of respondents 24(48%) were using saline water whereas the minority 2(4%) were using savlon.

Figure 11: showing the respondents do physical exercise.



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Figure 11 shows that majority of the respondents 22(44%) had never done exercise whereas the minority 4(8%) had ever done twice a day.



Figure 12: showing how do respondents take to change their diet.

Figure 12. Shows that the majority of respondents 21(42%) could change their diet after a day while minority could 3(6%) could after 5 days.



Figure 13. Shows some of the foods the respondents eat after surgery.

Figure 13 shows that the majority of the respondents 28(56%) could eat rice after surgery while the minority 9(18%) could eat Irish potatoes after surgery.



#### Figure 14: shows some of the complications that arise from surgery.

Figure 14 indicates that the majority of respondents 34(68%) reported pain whereas the minority 2(4%) reported keloids as a complication that aroused from surgery.

#### Figure 15: Shows if respondents take medications as prescribed by the doctor.



Figure 15 indicates that the majority of the respondents 30(60%) take their medications as prescribed while 20(40%) of the respondents do not take medications as prescribed.

#### Figure 16: showing if the respondents have ever performed post cesarean section selfcare/ incision care



Figure 16 shows that majority of the participants 35(70%) reported having not been performed post cesarean section self-care/incision care while minority 15(30%) of the

participants reported that having been performed post cesarean section care/ incision care.

Practice score of cesarean section incision site care

This study showed that 11(22.0%) of the study had adequate practice while 39(78.0%) had inadequate practice about cesarean section incision site care as illustrated in figure 11.



#### Figure 17: Practice score of cesarean section incision site care

#### DISCUSSION

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# Knowledge of cesarean incision section site care

The findings demonstrated that only 19 out of the 50 study participants (38.0%) had adequate knowledge about cesarean section incision site care. This is comparable to a study in Uganda which found that 40% of the postpartum women had ever heard about post-cesarean section self-care practices (Atuhaire, 2021).

In this current study 88% of the participants couldn't believe that that exercise was important and could aid the recovery process during post-partum period and this is in line with a study conducted by Mbombil (2017) in South Africa regarding of knowledge of different postnatal exercises that revealed 72% didn't perform exercises because they simply lacked knowledge on what to do.

The findings of this study about knowledge of good hygiene revealed that only 26% off the participants talked about good hygiene as a form post cesarean self-care/incision care. This is in line a study by Missiya.,(2016) which revealed over 70% of women having inadequate knowledge and this could have attributed to the fact that data was collected from a low resource setting facility with most of the clients having limited medical personnel for patient health education.

Most(72.0%) of the study participants had stayed for <3days in the ward, only 22.0% had ever heard about cesarean section incision care,14.0% knew about cesarean section incision bacterial infection and pus discharge was the most reported symptom of bacterial infection(40.0%). Poor hygiene(58.0%) was the most reported cause of bacterial infection,30.0% reported that it is important to finish the prescribed antibiotics ,majority(54.0%) agreed a balanced diet is important for wound healing after surgery, 26.0% stated that bathing frequently prevents wound infection and only 12.0% reported that exercise is important for recovery

The observed knowledge gap among postoperative mothers regarding cesarean section incision site care is a cause for concern. Adequate knowledge about incision care is vital for preventing infections and promoting optimal healing following a cesarean section. The low percentage of mothers with adequate knowledge suggests a need for improved education and awareness programs targeting this demographic. Several factors could contribute to this lack of knowledge. Socio-economic factors, education level, and access to healthcare information may play significant roles. It's crucial to understand these factors to design targeted educational interventions. Implementing comprehensive and accessible educational programs, both within healthcare facilities and the community, can substantially enhance knowledge levels.

# Practice of cesarean section incision site care

The study aimed to investigate the practice of cesarean section incision site care among postoperative mothers in Kacphorwa Hospital, Eastern Uganda. The results revealed that only 11 out of 50 study participants (22.0%) had adequate practice of cesarean section incision site care. A study in Uganda, showed that 22% of the postpartum mothers don't perform post cesarean section self-care at all(Atuhaire, 2021).

Most(62.0%) clean the surgical site once a day, majority(48.0%) reported that they use saline water for cleaning,44.0% reported that they don't do exercise and 42.0% reported that they change diet every day.

The finding that a relatively small percentage of postoperative mothers demonstrated adequate practice in cesarean section incision site care is concerning and highlights an area for significant improvement. Proper incision care is crucial for preventing complications, reducing infection risk, and ensuring a smooth recovery after a cesarean section. The low percentage of mothers with adequate practice might be influenced by a variety of factors, including cultural beliefs, educational levels, accessibility to healthcare resources, and understanding of the importance of incision care. Addressing these factors is essential to encourage and enable postoperative mothers to follow the recommended care practices diligently.

#### Conclusion

Post-operative mothers have inadequate knowledge and practice about cesarean section incision site care/self-care.

#### Recommendations

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Based on the findings in the study, the researcher wishes to make the following recommendations, Implement a well- defined organized post cesarean section incision care program.

#### **Ministry Of Health**

- The multidisciplinary approach among health workers including doctors, midwives, nurses, social workers, physiotherapies and dieticians should be strengthen for more efficient referral system.
- Policy makers need to package health education sessions at all levels of maternal care in Uganda about cesarean section incision care.

#### **Hospital administration**

- Implement a well- defined organized post cesarean section incision care program.
- Conduct awareness sessions for mothers in both antenatal and postnatal unit regarding incision cares guidelines for women to enhance incision care knowledge and practices among pregnant and post-operative women.

#### **Healthcare workers**

- Healthcare providers must play a pivotal role in educating postoperative mothers about proper incision care. Providing clear and detailed information, answering questions, and addressing concerns can empower mothers to take an active role in their postoperative care. Additionally, utilizing visual aids and simplified educational materials in local languages can improve comprehension and retention of essential information.
- Healthcare providers play a critical role in guiding postoperative mothers on proper incision care techniques. This includes demonstrating the appropriate way to clean and dress the incision site, emphasizing the importance of hygiene, and providing a clear care plan. Regular follow-up appointments and check-ins can further reinforce proper practices and allow for early identification of any issues.
- Community-based interventions can also contribute to improving practice. Engaging community health workers to educate and support postoperative mothers in their homes can enhance compliance with recommended incision care practices. Additionally, creating support networks among mothers who have undergone cesarean sections can foster a sense of community and encourage the sharing of experiences and best practices.

#### Researchers

• Further research is recommended to find out knowledge and practices in different regions in Uganda and health professions should also be incorporated about cesarean section incision care.

#### **Implications to Nursing Practice**

- Helps nurses' better package of post cesarean self-care messages for women to better understand
- Prompt the hospital to implement a well-defined organized post cesarean section self-care programs
- Inform policy makers of the need for package of health education sessions at all levels of maternal care in Uganda about cesarean section and its care
- Call for further research to find out knowledge and practices in different regions of Uganda and need for health professionals to be incorporated in future research about cesarean section selfcare/ incision care.
- Nurses and Midwives should organize sensitization programs through which they teach the mothers about the dangers of improper wound hygiene.
- Nurses should encourage the mothers only to use safest medications that have been authenticated by UNBS and authorized by Uganda National Drug Authority (UNDA).

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#### List of Acronyms

	ANC	:	Antenatal Clinic
D	C&S	:	Cesarean Section
Page   13	HMIS	:	Health Management Information
			System
	ICU	:	Intensive Care Unit
	MOH	:	Ministry of Health
	SSA	:	Sub Saharan Africa
	SSI	:	Surgical Site Infection
	UNBS	:	Uganda Bureau of Standards
	UNDA	:	Uganda National Drug Authority
	UNMEB	:	Uganda Nurses and Midwives
			Examination Board
	USA	:	United States of America
	WHO	:	World Health Organization

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