SJ Gynecology and Obstetrics Africa
Vol. 3 No. 2 (2026): May 2026 Issue
https://doi.org/10.51168/fx78cv37
Original Article

Knowledge about birth preparedness and complication readiness among pregnant women attending the antenatal clinic at Itojo General Hospital, Ntungamo District. A cross-sectional study.

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Abstract

Background:

This study aims to determine the knowledge about birth preparedness and complication readiness among pregnant women attending the antenatal clinic at Itojo General Hospital, Ntungamo District.

Methodology:

The study employed a descriptive cross-sectional design, which enabled the collection of data from pregnant women attending the antenatal clinic at Itojo General Hospital within a relatively short period. Data was analyzed using SPSS v20 and presented as charts, tables, and graphs.

Results:

The majority of the participants, 113(57.6%), were aged 20-29 years. Regarding education level, a large percentage of participants, 80(40.82%), had attained tertiary level education. 156 (79.6%) were from rural areas. The majority of the participants had obtained information about birth preparedness and complication readiness from health care providers, who accounted for (82.14%). 120 (61.2%) correctly identified bleeding, pain, and reduced fetal movements as danger signs, followed by (25.5%) who identified headache, vomiting, and nausea as danger signs. (8.2%) Some of the participants did not know any danger signs, and (5.1%) incorrectly identified a lack of money as a danger sign. All the 196 participants (100%) had agreed that ANC visits had improved on child preparedness and complication readiness.

Conclusion:

Health care providers were the main source of BP/CR information, and participants showed moderate knowledge of danger signs. ANC visits improved awareness, but some gaps in recognizing complications remain.

Recommendation:

Health care providers should continue and intensify education on birth preparedness and complication readiness, with special emphasis on recognizing all key danger signs.

Keywords: *Birth Preparedness and Complication Readiness, maternal health, antenatal care, danger signs, pregnancy, health education, Ntungamo District, Itojo General Hospital.*
Submitted: *December 05, 2025* ***Accepted:*** *March 28, 2026* ***Published:*** *May 01, 2026*

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Background of the study

Knowledge of birth preparedness and complication readiness (BP/CR) among pregnant women is a critical determinant of maternal and neonatal outcomes. Awareness and understanding of BP/CR allow women and their families to anticipate normal childbirth and potential obstetric emergencies, facilitating timely utilization of skilled care and reducing maternal mortality (Azeze, 2019). Studies have shown that inadequate knowledge of danger signs during pregnancy, labor, and postpartum periods contributes significantly to delays in seeking care, especially in low-resource settings (Mulugeta, 2020).

Globally, maternal mortality remains a public health challenge, with sub-Saharan Africa bearing a disproportionate burden. Despite international targets set by the Sustainable Development Goals to reduce maternal deaths, lack of awareness and insufficient preparation for obstetric complications continue to impede progress (United Nations [UN], 2025). In East Africa, high maternal mortality rates correlate strongly with low levels of maternal knowledge regarding pregnancy-related complications (Mwilike, 2018). For example, a study in Kenya and Tanzania found that many pregnant women could not identify key danger signs such as severe bleeding, prolonged labor, and high fever, which are critical for timely referral to skilled health services (Orwa, 2020).

In Uganda, research indicates variability in maternal knowledge of BP/CR across different regions. A study in

Openzinzi Health Centre III, Adjumani District, found that pregnant women had limited understanding of essential birth preparedness measures, including arranging transportation, identifying skilled birth attendants, and saving funds for emergencies (Florence, 2019). Conversely, the Uganda National Institute of Public Health reported that approximately 85% of pregnant women were adequately prepared for birth and its complications in a broader study conducted between 2006 and 2018, highlighting regional differences in maternal knowledge (Komugisha, 2024). These findings underscore the importance of assessing knowledge of BP/CR at specific healthcare facilities, such as Itojo General Hospital, Ntungamo District, to inform targeted interventions that improve maternal health outcomes.

Methodology

Study Design

The study employed a descriptive cross-sectional study design. This is because it allowed the collection of data in a relatively short period of time.

Study Area

This study was conducted from the antenatal clinic and maternity ward of Itojo General Hospital in Ntungamo District, southwestern Uganda. The Antenatal Clinic provides vital services such as routine pregnancy check-ups, screening for infections and complications, nutritional counseling, and immunizations. It typically operated on designated weekdays of Tuesdays and Thursdays. The Maternity Ward operates on a daily basis, offering labor and delivery care, emergency obstetric services, postnatal support, and newborn care. Itojo Hospital is located in Itojo Trading Centre, along the Mbarara–Ntungamo–Kabale–Katuna Road, approximately 51 kilometers (32 mi) southwest of Mbarara, the largest city in the sub-region. This location lies approximately 36 kilometers (22 mi) northeast of Ntungamo, the largest town in the district, and the location of the district headquarters. The geographical coordinates of Itojo Hospital are: 0°47'16.0"S, 30°16'38.0" E (Latitude: -0.787778; Longitude: 30.277222).

Study population

The study population consisted of pregnant women who were attending the antenatal clinic at Itojo General Hospital in Ntungamo District, southwestern Uganda.

Sample Size Determination

Sample size was determined according to the Kish and Leslie method, $n = z^2pq/e2$

Where n = the sample size

z = Standard normal deviation (1.96 for 95% confidence)

p = (Uganda National Institute of Public Health (UNIPH) 2018 study found that of the 4,472 pregnant women, of which only 3,800 (85%) were prepared for birth and its complications) = 0.85

e = level of confidence (95% confidence interval) = 5% = 0.05

q = 1- p; Q = 0.15

n= (1.96)2(0.85) (0.15)

(0.05)2

= 195.9216

Thus, n = Approximately 196 participants

The study used a sample size of 196 participants.

Sampling Technique

The study employed a simple random sampling procedure so as to get the required sample size.

Sampling procedure

The rapport was built with potential participants, and invited to join the study. Once the participants agreed willingly, the papers with the words Yes and No were folded, shaken, and placed in a basket, and whoever chose “yes” participated in the study. Then, the researcher provided those who selected yes with consent forms for signing and the research questionnaire. The researcher offered full guidance to the participants during the interactive data collection process.

Data Collection Method

Data was collected using a pretested questionnaire. It was self-administered for literate participants, and interviewing was done while filling in responses in the questionnaire for participants who were illiterate.

Data collection tools

Semi-structured questionnaire forms and voice recording devices were the tools used during the data collection process. The questionnaire forms were translated into the language the participants best understood, and the voice recording devices were used with the awareness and permission of the participants.

Data collection procedure

Upon approval of the research report by the Research and Ethics Committee of Mildmay Institute of Health Sciences, Approval was sought from the medical administration of Itojo General Hospital so as to gain access to the facility for easier interaction with the participants.

Quality Control

Pretesting of the questionnaire was done to avoid mistakes, enough time was provided to every participant, and incomplete questionnaires were repeated to ensure full data collection.

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Original Article

Inclusion criteria
Pregnant women that consent to be part of the study, those who were attending the antenatal clinic at Itojo General Hospital with a sound mind, and were present during the time of the study.

Exclusion criteria
Pregnant women attending the antenatal clinic at Itojo General Hospital who were away during the data collection activity.

Data Analysis and Presentation
The collected data was analyzed using Microsoft EXCEL and mathematical calculation tools like calculators, rulers, pencils, and pens. After the data compilation, the results were then presented in the form of tables, graphs, and narrative paragraphs.

Ethical consideration
After approval of the research report, the Research and Ethics Committee of Mildmay Institute of Health Science gave an introductory letter to the medical superintendent of Itojo General Hospital so as to access the facility. The participants were fully explained to the purpose, risks, and benefits of the study, maximum privacy was ensured for confidentiality, and no harmful procedures or activities were done to endanger the mothers or their unborn babies. Ethical approval from the school research committee and the hospital was obtained before any activity was carried out.

Results
Socio-demographic factors influencing birth preparedness and complication readiness among pregnant mothers attending ANC at Itojo General Hospital, Ntungamo District.

Table 1 shows results about the socio-demographic characteristics of participants (n = 196).

Variable		Frequency n = 196	Percentage (%)
Age	Less than 20 years	**10**	**5.0%**
	20-29 years	**113**	**57.6%**
	30-39 years	**46**	**23.5%**
	40 years and above	**27**	**13.8%**
Level of education	Non	**20**	**10.2%**
	Primary	**36**	**18.7%**
	Secondary	**60**	**30.6%**
	Tertiary	**80**	**40.8%**
Residence	Urban area	**40**	**20.4%**
	Rural area	**156**	**79.6%**
Birth preparedness and	Lack of information	**100**	**51.0%**

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complication readiness challenges	Lack of funds	**60**	**30.0%**
	Traditional beliefs	**20**	**10.8%**
	Not sure	**16**	**8.2%**
Friend or family support	Yes	**60**	**30.6%**
	No	**136**	**69.4%**

Table 1, study findings showed that the majority of the participants, 113(57.6%), were aged 20-29 years. Regarding education level, a large percentage of participants, 80(40.82%), had attained tertiary level education. Furthermore, most 156 (79.6%) were from rural areas.

Concerning the challenges that were mostly affecting birth preparedness and complication readiness, the main challenge was 100 (51%) lack of information. Lastly, only 30.6% reported having identified a trusted person or family member to support them during labor in case of an emergency.

Knowledge about birth preparedness and complication readiness among pregnant women attending the antenatal clinic at Itojo General Hospital, Ntungamo District.

Primary source of information

Figure 1 is a pie chart showing the primary source of information of participants about birth preparedness and complication readiness. (n = 196)

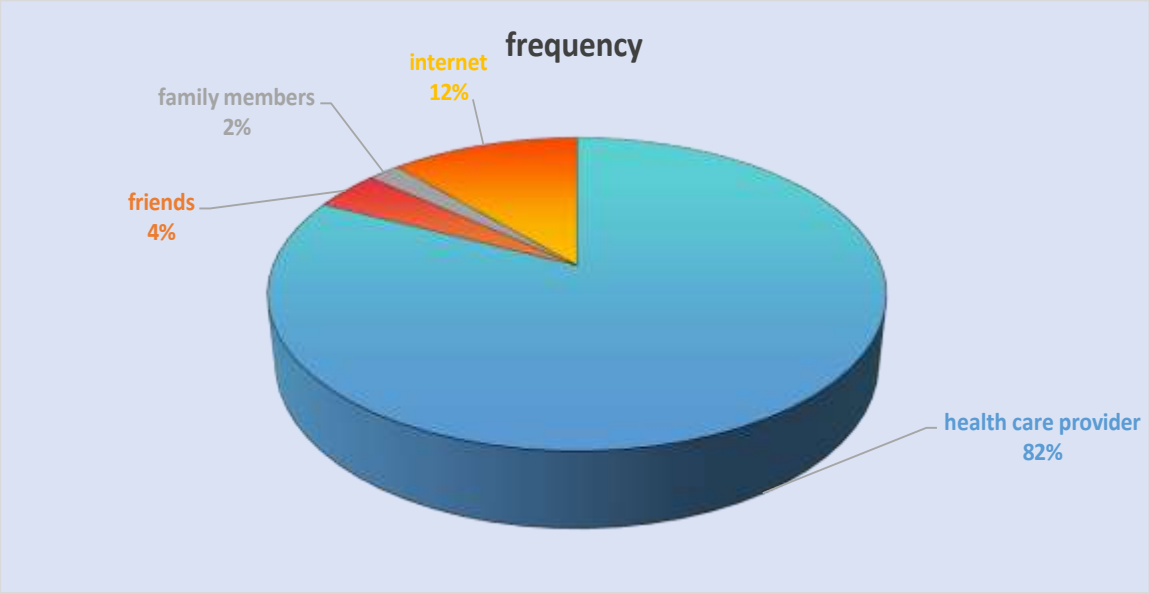

Figure 1, the pie chart showed that the majority of the participants had obtained information about birth preparedness and complication readiness from health care providers, who accounted for (82.14%).

Preparations, danger signs, counselling, and the impact of ANC visits

SJ Gynecology and Obstetrics Africa
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Table 2 shows study findings about Knowledge about birth preparedness and complication readiness among pregnant women (n=196).

Variables		Frequency n = 196	Percentage (%)
Ways of preparation	Save money for an emergency	**59**	**30%**
	Prepared delivery item	**78**	**40%**
	My partner is my planner	**39**	**20%**
	Will wait for the day of delivery	**20**	**10%**
Danger signs	Bleeding, pain, reduced fetal movements	**120**	**61.2%**
	Lack of money	**10**	**5.1%**
	Headache, vomiting, nausea	**50**	**25.5%**
	Don't know	**16**	**8.2%**
Counselling at ANC visits	Yes	**196**	**100%**
	No	**0**	**0%**
	Not sure	**0**	**0%**
Impact of ANC visits	Yes	**196**	**100%**
	No	**0**	**0**

Table 2, the majority of the participants 78 (40%) prepared delivery items, (30%) of participants reported saving money for an emergency, (20%) of participants reported that their partners are their planners, and the least participants (10%) reported that they will wait for the day of delivery. Regarding knowledge of danger signs during pregnancy, the results showed that the majority of participants, 120 (61.2%), correctly identified bleeding, pain, and reduced fetal movements as danger signs, followed by (25.5%) who identified headache, vomiting, and nausea as danger signs. (8.2%) Some of the participants did not know any danger signs, and (5.1%) incorrectly identified a lack of money as a danger sign. Furthermore, the study findings showed that all the 196 participants (100%) had agreed that ANC visits had improved on child preparedness and complication readiness.

Discussion

Socio-demographic factors that influence birth preparedness and complication readiness among pregnant mothers attending the antenatal clinic at Itojo General Hospital, Ntungamo District.

The study identified age, education level, residence, access to information, financial resources, cultural beliefs, and family support as major socio-demographic factors influencing birth preparedness and complication readiness

(BP/CR) among pregnant women attending antenatal care (ANC) at Itojo General Hospital, Ntungamo District. Most mothers were young (20–29 years), lived in rural areas, and had a tertiary education. Despite this, over half lacked adequate information, nearly a third reported financial constraints, and many had limited family support.

These findings suggest that younger mothers, particularly in rural settings, face challenges in accessing health information and resources due to financial limitations and insufficient social support. Even education alone may not guarantee complete preparedness if socio-economic and cultural barriers are present. The influence of extended family, cultural beliefs, and partner support emerged as critical in enabling effective BP/CR. These results align with Nath and Kasemesi (2018), who reported that good BP/CR is associated with adult pregnancy, higher education, employment, high income, extended family, and consistent ANC attendance. Similarly, Mulugeta (2020) emphasized that socio-demographic constraints, particularly rural residence and low financial capacity, are significant contributors to inadequate maternal preparedness in sub-Saharan Africa. This comparison highlights that socio-demographic characteristics consistently shape maternal readiness across diverse contexts, including Uganda.

Knowledge about Birth Preparedness and Complication Readiness

The study found that knowledge about BP/CR among pregnant women attending ANC at Itojo General Hospital was moderate. ANC visits positively influenced preparedness, with health care providers serving as the main source of information. Most mothers prepared delivery items and saved money, more than half correctly identified key danger signs, and all received counselling during ANC. Despite these strengths, gaps remained in practical application, particularly in recognizing danger signs and fully implementing birth preparedness measures. This moderate level of knowledge suggests that while ANC visits and counselling improve awareness, structural and social challenges such as financial limitations and lack of family support can hinder the translation of knowledge into consistent practice. Exposure to health education alone is insufficient without supportive environments that enable women to act on what they learn. These findings differ from those of Tony-Igwe (2024) in Nigeria, where maternal knowledge and practice of BP/CR were very high, largely attributed to strong ANC compliance, spousal support, and effective health education systems. Similarly, Azeze (2019) noted that effective BP/CR requires both knowledge and supportive socio-cultural and economic conditions. In Uganda, Florence (2019) reported regional variability in maternal knowledge of BP/CR, indicating that contextual factors, including facility-based education and local support systems, significantly influence preparedness.

Conclusion

The study revealed that the majority of pregnant women attending the antenatal clinic at Itojo General Hospital were young adults, predominantly from rural areas, and had attained tertiary education. Health care providers were the main source of information on birth preparedness and complication readiness (BP/CR), and most participants demonstrated moderate knowledge of key danger signs during pregnancy, labor, and postpartum.

Recommendation

Health care providers should continue and intensify education on birth preparedness and complication readiness, with special emphasis on recognizing all key danger signs.

Tailored interventions should be implemented to reach younger women and those from rural areas who may face barriers in accessing health information.

Encourage family and partner participation in ANC and birth planning to enhance support for pregnant women in practicing BP/CR.

Acknowledgement

Special extended appreciation to my parents for the financial support, the Mildmay Institute of Health Science research committee for the preparations and organization of the entire research process, the administration of Itojo General Hospital, Ntungamo district, for acceptance to interact with the participants, and the research supervisor for the tireless work done in guidance on every step of the research process.

List of Abbreviations

ANC	Antenatal Care
BMC	Baseboard management controller
BP/CR	Birth preparedness and complication readiness
FGD	Focus group discussion
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
LMIC	Low and Middle-Income Countries
SDG	Sustainable Development Goals

UHPAB	Uganda Health Professions Assessment Board
UNIPH	Uganda National Institute of Public Health
UN	United Nations
WHO	World Health Organization

Source of funding
The study did not receive any external funding.

Conflict of interest
The author did not declare any conflict of interest.

Author contributions:
Nathan Abaho was the principal investigator
Ssemuwemba Franciso supervised the research project
Immaculate Prosperia Naggulu supervised the research project
Hasifa Nansereko supervised the research project
Jane Frank Nalubega supervised the research project
Francisco Ssemuwemba supervised the research project

Data availability
The data is available upon request.

Informed consent
All the respondents consented to this study.

Author Biography
Nathan Abaho holds a Diploma in Clinical Medicine and Community Health from Mildmay Institute of Health Sciences.
Francisco Ssemuwemba is the dean of the School of Allied Health
Hasifah Nansereko is the chairperson of the Institutional Review Council (IRC)
Immaculate Prosperia Naggulu and Jane Frank Nalubega are tutors at Mildmay Institute of Health Sciences.

References
1. Azeze, G. (2019). Birth preparedness and complication readiness among pregnant women: A review of evidence. Journal of Maternal Health, 12(3), 45-53.
2. Florence, K. (2019). Assessment of birth preparedness and complication readiness among pregnant women attending antenatal care at Openzinzi Health Centre III, Adjumani District. Uganda Medical Journal, 36(2), 67-74. https://doi.org/10.11604/pamj.2019.34.46.16869
3. Komugisha, D. (2024). Maternal preparedness for childbirth and complications in Uganda: A longitudinal analysis (2006-2018). Uganda National Institute of Public Health Report.
4. Mwilike, B. (2018). Maternal mortality trends in East Africa: Challenges and interventions. East African Health Journal, 15(1), 22-30.
5. Mulugeta, H. (2020). Factors contributing to delays in receiving skilled obstetric care in sub-Saharan Africa. African Journal of Reproductive Health, 24(2), 55-63.
6. Orwa, P. (2020). Knowledge of danger signs during pregnancy among women in East Africa: A cross-sectional study. BMC Pregnancy and Childbirth, 20(1), 430.
7. United Nations. (2025). Sustainable Development Goals report 2025: Maternal health and wellbeing. United Nations Publications.
8. Azeze, G. (2019). Birth preparedness and complication readiness among pregnant women: A review of evidence. Journal of Maternal Health, 12(3), 45-53.
9. Florence, K. (2019). Assessment of birth preparedness and complication readiness among pregnant women attending antenatal care at Openzinzi Health Centre III, Adjumani District. Uganda Medical Journal, 36(2), 67-74. https://doi.org/10.11604/pamj.2019.34.46.16869
10. Mulugeta, H. (2020). Factors contributing to delays in receiving skilled obstetric care in sub-Saharan Africa. African Journal of Reproductive Health, 24(2), 55-63.
11. Nath, R., & Kasemesi, L. (2018). Socio-demographic determinants of birth preparedness and complication readiness among pregnant women in Uganda. African Journal of Reproductive Health, 22(1), 120-130.
12. Tony-Igwe, P. (2024). Knowledge and practice of birth preparedness and complication readiness among women attending antenatal clinics in Nigeria. Nigerian Journal of Health Sciences, 24(1), 89-97. https://doi.org/10.1101/2024.10.06.24314964

SJ Gynecology and Obstetrics Africa
Vol. 3 No. 2 (2026): May 2026 Issue
https://doi.org/10.51168/fx78cv37
Original Article

PUBLISHER DETAILS

SJC PUBLISHERS COMPANY LIMITED

Catergory: Non Government & Non profit Organisation
Contact: +256 775 434 261 (WhatsApp)
Email: info@sjpublisher.org or studentsjournal2020@gmail.com
Website: https://sjpublisher.org
Location: Scholar's Summit Nakigalala, P. O. Box 701432,Entebbe Uganda, East Africa