

Knowledge, Practice Towards Birth Preparedness and Complication Readiness among Pregnant Women Attending Antenatal Clinic at Nyamagana Health Centre in Mwanza Tanzania

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Abstract

Background: Birth preparedness and complication readiness (BPCR) is a key component of globally accepted safe motherhood programs, including those in Tanzania. BPCR helps women deliver safely by ensuring prompt access to skilled care during labor and by facilitating the early recognition of complications. The ultimate goal of the study was to contribute to better maternal and neonatal health outcomes in Mwanza. By improving BPCR, the study hoped to reduce complications during childbirth and increase the number of safe deliveries in the region.

Method: This study employed a quantitative cross-sectional design conducted from 23rd June 2021 to 30th September 2021 at an antenatal clinic in Mwanza, Tanzania, to assess birth preparedness among pregnant women. Data analysis was completed and report writing was completed 12th June 2022. A total of 107 participants were randomly selected and interviewed using a structured questionnaire. Descriptive statistics, including numerical summaries, frequencies, proportions, and percentages, were used to analyze the data and assess normality. These statistics were then employed to describe the study population in relation to relevant variables.

Result: In this study of 107 pregnant women attending an antenatal clinic in Mwanza, Tanzania, (89.7%) of the women responded. Almost half (60%) of the women had poor knowledge of danger signs and birth preparedness, 26% had fair knowledge, and only 14% had adequate knowledge. The mean percentage of knowledge on obstetric danger signs was 42.7% during pregnancy, 42.8% during labor, and 32.3% during the postpartum period.

Conclusion: Pregnant women in Mwanza, Tanzania have low levels of knowledge about danger signs and birth preparedness. This is a concern because it can lead to delays in seeking care for pregnancy complications and childbirth emergencies. To address this problem, we need to strengthen antenatal care services and provide women with access to reliable information about danger signs and birth preparedness, training antenatal care providers to educate women on danger signs and birth preparedness.

Keywords: Danger Signs, Birth Preparedness, Complications Readiness, Pregnancy, Antenatal Clinic

List of Abbreviations

AAMSoN: Archbishop Anthony Mayala School of Nursing
CUHAS: Catholic University of Health and Allied Sciences
ANC: Antenatal Care
BP/CR: Birth Preparedness and Complication Readiness
MMR: Maternal Mortality Rate
SBA: Skilled Birth Attendants
WHO: World Health Organization

1. Introduction

Birth preparedness and complication readiness (BP/CR) is a safe motherhood strategy intended to promote skilled birth attendance by helping women and their families plan for pregnancy and childbirth, thereby reducing maternal mortality [1]. BP/CR is an approach that aims to raise awareness at the personal, family, and community levels, creating a stronger demand for quality health services [2]. Since pregnancy is perceived as an ordinary event, most families do not plan for birth or expect an emergency.

Knowledge deficit on BPCR among pregnant women makes them unable to recognize the complications and signs of obstetric emergency [3]. In many societies in the world, cultural beliefs and lack of awareness inhibit preparation in advance for delivery and the expected baby [4].

About 98% of these deaths occur in developing countries. Sub-Saharan Africa is, by far, the region of the world with the highest level of neonatal and infant morbidity and mortality and remains the most troubling geographic area [5]. In this region, one in every six children dies before age one, which is more than 15 times higher than the average for the developed countries. Most of these deaths are caused by infectious diseases, pregnancy-related complications, and delivery-related complications, including intra-partum asphyxia, birth trauma, and premature birth which can easily be prevented [6].

In Tanzania Maternal mortality has remained a challenge in Tanzania. The Tanzania Demographic and Health Survey 2015-16 has shown that the problem has been increasing despite various strategies instituted to control it. It has been shown that most of the maternal deaths occurring in health facilities, whether direct or indirect, have other contributing factors [7]. Antenatal care (ANC) service in Tanzania is free of charge, and 96% of pregnant women attend ANC services at least once during pregnancy, while 43% attend the WHO-recommended four visits accordingly [8]. The maternal mortality rate (MMR) is estimated to be 454 per 100,000 live births [9]. To achieve the fifth Millennium Development Goal, aiming at a 75% reduction in maternal mortality, Tanzania should have an MMR not greater than 140 deaths per 100,000 live births by 2030. To address this challenge, Tanzania adopted the Focused Antenatal Care (FANC) model in 2002 [10].

In Tanzania, the majority of infant deaths occur during the first month of life. This is due to a number of factors, including low coverage of neonatal care, delays in seeking care for neonatal morbidities, and demographic, socioeconomic, and cultural factors. Birth preparedness and complication readiness (BP and CR) is a comprehensive strategy that can help to address these problems by promoting the timely utilization of skilled maternal and neonatal health care [11]. Despite the importance of birth preparedness and complication readiness (BP and CR) as well as neonatal care, studies assessing their status and contribution to the reduction of neonatal mortality in the local context are very limited. The ultimate goal of the study was to contribute to better maternal and neonatal health outcomes in Mwanza. By improving BPCR, the study hoped to reduce complications during childbirth and increase the number of safe deliveries in the region.

2. Methods and Material

This study employed a quantitative cross-sectional design conducted from 23rd June 2021 to 30th September 2021 at an antenatal clinic in Mwanza, Tanzania, to assess birth preparedness among pregnant women. Data analysis was completed and report writing was completed 12th June 2022. A total of 107 participants were randomly selected and interviewed using a structured questionnaire. The sample size was estimated using the Kish Leslie formula (1965), with a prevalence of 90.5% [12]. A simple random sampling technique and the study participants were selected using Systematic Random Sampling Technique. Data were collected by using a structured and pretested questionnaire. The consent process involved individual discussions with participants, who were informed about the study's aims, procedures, risks, and benefits. Witness signatures were obtained for illiterate participants. The consent form and questionnaires were administered in Swahili to ensure widespread understanding. The knowledge of danger signs, birth preparedness, and complication readiness among pregnant women was established through a series of questions.

Data was coded and entered into an Excel sheet. Data cleaning was done and analyzed using the appropriate SPSS software version 25. Descriptive statistics, including numerical summaries, frequencies, proportions, and percentages, were used to analyze the data and assess normality. These statistics were then employed to describe the study population in relation to relevant variables. All methods were carried out in accordance with relevant guidelines and regulations in the Ethics declaration section, including Ethical approval and informed consent statement.

2.1. Ethics Approval and Consent to Participate

This study received ethical approval from the joint Catholic University of Health and Allied Sciences (CUHAS)/ Bugando Medical Centre (BMC) Ethics Committee/Institutional Review Board. (Number CREC/1902/2021. All participants provided written informed consent, including a fingerprint for those who were illiterate, with confirmation that written informed consent was obtained from the parent/guardian of each participant under 18 years of age.

3. Results

3.1. Socio-Demographic Characteristics

As summarized in Table 1, a total of 107 pregnant women participated in this study with an age range of 17 to 40 years. The leading age group was 21–30 years, which constituted 48 (44.8%) participants. More than half 69 (64.5%) of the participants were married with most of them being multipara 36 (33.60%). A total of 48 (44.8%) participants had a primary-level education, and the majority 52 (48.6%) had a petty business. See Table 1 Socio-demographic characteristics of participants

Variables	Frequency	percentages
Age		
17-20	28	26.2
21-30	48	44.8
31-40	31	29
Marital status		
Married	69	64.5
Single	32	30
Divorced	1	0.9
Separated	5	4.6
Widow	0	0
Educational status		
Primary	48	44.8
Secondary	29	27.1
Advance Secondary	11	10.3
University	7	6.5
Uneducated	12	11.3
Occupation		
Peasant	43	40.2
Petty business	52	48.6
Home Activities	6	5.6
Government Employment	6	5.6

Table 1: Socio-Demographic Characteristics of Participants

3.2. Knowledge and Attitudes towards Birth Preparedness

The study showed that 83.2% of participants had knowledge of birth preparedness, while 16.8% had never heard the meaning of birth preparedness. Of the participants, 69.7% received the information from the antenatal clinic, 28.1% from the radio, and only 2.2% from mass media. Regarding the basic components of birth preparedness, such as saving money, arranging for someone to care for the house, and arranging transportation, 87.8% of participants reported saving money, 82.2% reported arranging for someone to care for the house, 80.4% reported arranging transportation, 30.8% reported preparing someone for blood donation, and only 24.3% reported preparing a skilled birth attendant.

3.3. Knowledge of Complication Readiness during Pregnancy, Labor, and the Postpartum Period

The results showed that 93.4% of participants responded that vaginal bleeding is the most dangerous sign during pregnancy, while 67.3% of participants responded that severe headache is a dangerous sign. A total of 91.6% of participants responded that the most dangerous sign during labor is vaginal bleeding, followed by severe headaches 58.9%. During the postpartum period, the majority 86.0% reported vaginal bleeding as a dangerous sign. See Table 2 Knowledge of Complication readiness during Labor and postpartum period.

Variables	Frequency	Percentage
Danger sign during Pregnancy		
Vaginal bleeding	100	93.4
Severe headache	72	67.3
Breathlessness	56	52.3
Blurred vision	49	45.8
Swollen hands or face	47	44
Accelerated or reduced fetal movement	32	30
Convulsions	26	24.3

Loss of consciousness	26	24.3
Water break without labor	25	23.4
High fever	24	22.4
Danger signs during labor		
Vaginal bleeding	98	91.6
Severe headache	63	58.9
Loss of consciousness	43	40.2
Retain of placenta	36	33.6
Convulsions	28	26.2
High fever	24	22.4
Prolong labor	24	22.4
Danger signs during postpartum period		
Vaginal bleeding	92	86
Severe headache	57	53.3
Blurred vision	45	42.1
Severe weakness	37	34.6
Breathlessness	35	32.7
Swollen hands or face	27	25.2
Convulsions	23	21.5
Loss of consciousness	20	18.7
High fever	10	9.3

Table 2: Knowledge of Complication Readiness during Pregnancy during Labour and Postpartum Period

3.4. Practice of Birth Preparedness and Complication Readiness

The study showed that only 13 (12.1%) participants were well prepared for birth and complications readiness, 19 (17.8%) par-

ticipants were partially prepared, and the majority 70.2% were not prepared. See Figure 1 Practice of Birth Preparedness and Complication Readiness

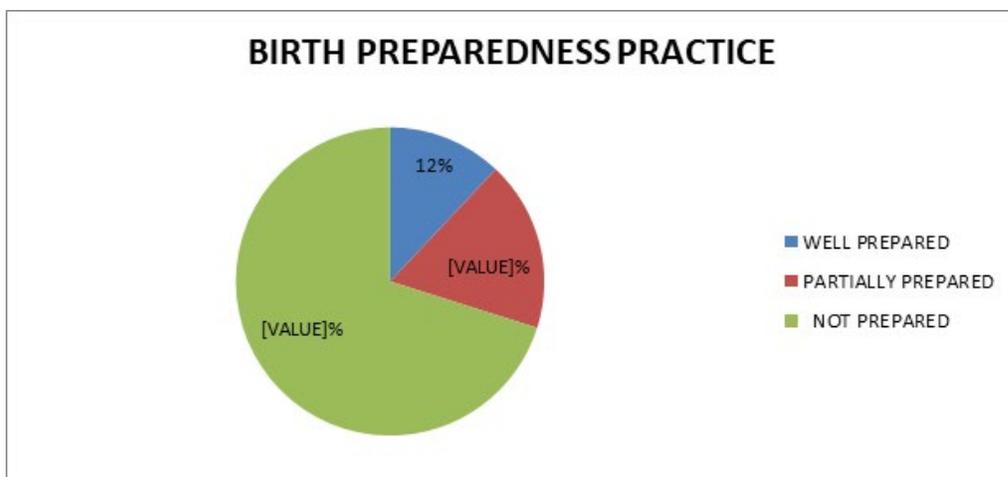


Figure 1: Practice of Birth Preparedness and Complication Readiness

4. Discussion

This study found that the participants had good knowledge of birth preparedness and complication readiness during pregnancy, and more than half received the information from the antenatal clinic.

This is similar to the study done by Florence M, Atuhaire C, et al in Openzinzi Hciii, Adjumani District, Uganda, which revealed that more than half of pregnant women in Uganda had knowledge of BP/CR, but only a few had practiced all of the components of BP/

CR [13]. The most common sources of information about BP/CR were from health professionals, family members, and friends. A similar study done by Mulugeta AK, Giru BW, et al in Addis Ababa governmental health facilities, Addis Ababa, Ethiopia, showed that more than half of primigravida women in Ethiopia had knowledge of BP/CR [14]. The most common sources of information about BP/CR were health professionals and family members and friends. Another study done by Moshi FV, Ernest A, Fabian F et al in rural Tanzania revealed that most of the pregnant women had knowledge of BP/CR and the most common sources of information about BP/CR were health facilities [15]. All of these studies suggest that BP/CR is an important concept that pregnant women should be aware of. However, the studies also show that there is still room for improvement in terms of knowledge and practice of BP/CR. It is important to continue to provide education and support to pregnant women and their partners so that they can be prepared for childbirth and complications.

The finding of this study found that more than half of the participants were aware that vaginal bleeding is the most dangerous sign during pregnancy, in labor, and postpartum, although most pregnant women are not prepared for Birth Preparedness and Complication Readiness (BP/CR). A similar study done by Rabiun A, Ladu HI et al in a tertiary hospital in Nigeria revealed that ninety-three percent of pregnant women in Nigeria had knowledge of at least one obstetric danger sign, but only a few had knowledge of all four major danger signs (vaginal bleeding, severe headache, blurred vision, and swollen hands and face) and only 39.0% of women had a BP/CR plan [16]. A study done by Zuniga JA, Garcia A, et al in rural Uganda revealed that more than half of pregnant women in rural Uganda had knowledge of at least one obstetric danger sign, but only a few had knowledge of all four major danger signs and only 18.0% of women had a BP/CR plan [17,18]. Other studies have also revealed that pregnant women had knowledge of at least one obstetric danger sign, but only very few of them had knowledge of all four major danger signs and the majority of pregnant women did not have a BP/CR plan. Although pregnant women are generally aware of vaginal bleeding as a dangerous sign during pregnancy, labor, and postpartum, a large number of pregnant women are not prepared for birth preparedness and complication readiness (BP/CR). This may be due to a lack of adequate knowledge of BP/CR and how to overcome complications during pregnancy. Being aware of danger signs does not necessarily translate into preparedness for birth and complications. More needs to be done to support pregnant women in developing BP/CR plans.

4.1. Limitations of the Study

This study assessed knowledge and practice towards birth preparedness and complication readiness (BP/CR) among pregnant women attending the antenatal clinic at Nyamagana Health Centre in Mwanza, Tanzania. Although the methodology used provided an opportunity to follow up and clarify some issues with the respondents, the study had some limitations. First, the study had a small sample size, which could limit the generalizability of the findings. Second, the study may not have controlled for all

confounding variables, which could have influenced the results. Lastly, the study had a short follow-up period, which could have limited the ability to assess the long-term impact of the intervention.

Despite these limitations, the study provides valuable insights into the knowledge and preparedness of pregnant women regarding BP/CR. The findings suggest that there is a need to continue to provide education and support to pregnant women and their partners on BP/CR. This can be done through a variety of channels, such as antenatal care, community outreach programs, and mass media campaigns. BP/CR programs should be tailored to the specific needs of pregnant women in different communities and should be culturally appropriate and accessible to all pregnant women, regardless of their socioeconomic status.

5. Conclusion

This study has shown that pregnant women lack adequate knowledge of birth preparedness and complication readiness (BP/CR) and how to overcome complications during pregnancy. Therefore, it is necessary to continue to provide education and support to pregnant women and their partners on BP/CR. This can be done through antenatal care, community outreach programs, and mass media campaigns. BP/CR programs should be tailored to the specific needs of pregnant women in different communities. These programs should be culturally appropriate and accessible to all pregnant women, regardless of their socioeconomic status. Pregnant women should be encouraged to develop BP/CR plans with their partners and healthcare providers. These plans should include identifying a skilled birth attendant, arranging for transportation to a health facility, and having a savings plan to cover the costs of childbirth and complications. By taking these steps, we can help pregnant women to be better prepared for childbirth and complications, and improve maternal and child health outcomes.

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Authors' Contributions

Authors' contributions Gotfrida Marandu wrote the first draft of the manuscript. Victor Mwaiswelo contributed to the writing of the paper and provided vital feedback. Gotfrida Marandu and Victor Mwaiswelo contributed to data acquisition. Gotfrida Marandu ran the analyses with input from RM. All authors contributed to the study design and interpretation of analyses. All authors critically reviewed and revised the manuscript and approved the final version.

Availability of Data and Materials

All relevant data are available within the manuscript.

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