# Assessment of Maternal Knowledge of Birth Preparedness among Pregnant Women Attending a Comprehensive Health Care Centre in Ondo State, Nigeria: A Cross-Sectional Study

**MAYAKI-ADEOLU Felicia Foyeke[1], OWA Olorunfemi Oludele[2], OMOTUNDE Victory Ogooluwa[3]**

**[1]Department of Nursing Science, College of Health Sciences, Joseph Ayo Babalola University, Ikeji, Osun State, Nigeria**

**[2]Department of Obstetrics and Gynecology, Federal Medical Centre Owo, Ondo State, Nigeria**

**[3]Department of Nursing Science, College of Health Sciences, Joseph Ayo Babalola University, Ikeji, Osun State, Nigeria**

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## ABSTRACT

**Background**: Birth preparedness is an important component of safe motherhood because it encourages pregnant women and their families to anticipate delivery needs, identify appropriate care, arrange transportation and finances, and plan for skilled attendance.

**Objective**: To assess maternal knowledge of birth preparedness among pregnant women attending the Comprehensive Health Care Center, Opa-Idanre, Idanre, Ondo State, Nigeria.

**Methods**: A descriptive cross-sectional survey was conducted among pregnant women receiving antenatal care. An adopted structured questionnaire was used to assess socio-demographic characteristics and maternal knowledge of birth preparedness of 77 participants. Data were analysed using SPSS version 26.0 with frequencies and percentages.

**Results**: Sixty respondents (77.9%) were aware of the importance of preparing for childbirth ahead of time. Sixty-one (61%) had received birth-preparedness information from healthcare providers. Awareness of signs of labour was 93.5%; 70.1% knew the importance of antenatal care in preparation; 76.6% were familiar with the importance of skilled birth attendance; and 68.8% were aware of potential childbirth complications. Saving money was the most frequently identified meaning/component of birth preparedness (50.6%), followed by identifying a skilled birth attendant (16.9%), arranging transportation (13.0%), choosing a healthcare facility (11.7%) and preparing a birth plan (7.8%).

**Conclusion**: Respondents demonstrated generally favourable knowledge, but gaps remained in awareness of childbirth complications and in understanding birth preparedness as a multidimensional process. Structured antenatal education should therefore emphasize complication readiness and practical planning.

**Keywords**: birth preparedness; maternal knowledge; pregnant women; antenatal care; skilled birth attendance; Nigeria.

## INTRODUCTION

Maternal health remains an important public health concern globally, particularly in low- and middle-income countries where women may experience preventable complications during pregnancy, labour, childbirth and the postpartum period (World Health Organization 2022). . Although substantial progress has been made in improving maternal healthcare, preventable maternal morbidity and mortality continue to constitute major

challenges in many developing countries. The burden is particularly important in settings where women experience delays in recognizing complications, deciding to seek care, reaching an appropriate healthcare

facility or receiving timely and adequate treatment. These delays may be influenced by socioeconomic circumstances, educational level, cultural beliefs, availability and accessibility of healthcare services, household decision-making and the extent to which women and their families are prepared for childbirth.

Birth preparedness is an important strategy within the broader concept of safe motherhood. It involves advance planning and preparation by pregnant women, their families and communities for normal childbirth and possible obstetric complications (Ademuyiwa et al., 2022). Birth preparedness encompasses several interrelated activities, including identifying an appropriate place of delivery, planning for skilled birth attendance, arranging transportation, making financial provisions, recognizing signs of labour and potential danger signs, and knowing where to obtain appropriate maternal healthcare when complications occur. The concept therefore emphasizes the importance of anticipating the needs associated with childbirth rather than waiting until labour or an emergency occurs before making necessary arrangements.

An important foundation of birth preparedness is maternal knowledge. A pregnant woman needs appropriate information to recognize the importance of antenatal care, understand the signs of labour, identify maternal and obstetric danger signs, appreciate the importance of skilled birth attendance and understand the need to make practical preparations before delivery (Enuku, C., & Osarugwe, A. 2023). Knowledge can influence a woman's perceptions and decisions concerning pregnancy and childbirth and may provide the basis for appropriate health-seeking behaviour. Women who understand the potential complications of childbirth and the importance of timely professional care may be more likely to plan for delivery in a health facility and seek skilled assistance when required.

Knowledge of birth preparedness, however, is multidimensional. It extends beyond simply knowing that one should prepare for childbirth. A woman may understand the general importance of preparation but may not know the specific actions required (Akinwaare, M. O., & Oluwatosin, A. 2023). Comprehensive knowledge should include an understanding of the importance of saving money for delivery and emergencies, identifying a suitable healthcare facility, arranging transportation, identifying a skilled birth attendant, preparing essential items for admission, discussing delivery plans with family members and recognizing signs that require immediate attention. Knowledge of these different components enables pregnant women and their families to make informed decisions before the onset of labour.

Knowledge of the signs of labour is particularly important because it enables pregnant women to recognize when childbirth is beginning and take appropriate action. A woman who is unable to distinguish normal pregnancy discomforts from signs associated with the onset of labour may delay seeking appropriate care. Similarly, knowledge of maternal and obstetric danger signs is essential because complications can occur unexpectedly during pregnancy, labour or after delivery. Recognition of severe bleeding, prolonged or obstructed labour, convulsions, severe headache, loss of consciousness and other warning signs may facilitate timely referral and treatment. Thus, education concerning danger signs should form an important component of antenatal health education and birth preparedness.

Antenatal care provides an important platform for developing maternal knowledge. During antenatal contacts, nurses, midwives and other healthcare professionals can provide information on pregnancy, nutrition, labour, delivery, danger signs, birth preparedness and complication readiness. Antenatal education can also provide opportunities for healthcare providers to identify individual knowledge gaps and provide tailored counselling. The quality and frequency of information provided during ANC may therefore influence the extent to which women understand what is required to prepare adequately for childbirth.

Despite the importance of maternal knowledge, having information does not necessarily guarantee adequate birth preparedness or appropriate maternal-health practices. The original research project recognizes a possible gap between what women know and what they eventually do. Socioeconomic circumstances, poverty, educational attainment, cultural beliefs, family influence, transportation difficulties and accessibility of health facilities may affect the ability of women to translate knowledge into practice. Nevertheless, knowledge

remains an essential starting point because women cannot be expected to consistently undertake recommended preparations when they lack adequate information about their importance.

The socioeconomic environment in which women live may also influence their acquisition and application of maternal-health knowledge. Poverty can limit access to healthcare services and may make it difficult for women to act on information received during antenatal care. Educational level may affect the ability to understand and retain health information, while cultural beliefs and practices may influence perceptions of pregnancy, childbirth and the appropriate source of care. Family members and partners may also play an important role in decision-making regarding healthcare utilization. These factors demonstrate that maternal knowledge should be examined within the broader social and health-system context in which pregnant women make decisions.

The Nigerian maternal-health context makes the assessment of birth-preparedness knowledge particularly relevant. The original project identifies maternal mortality as a continuing public-health concern and highlights socioeconomic status, education, cultural beliefs and access to healthcare facilities as factors that may influence birth preparedness. The project also cites Nigerian evidence demonstrating that women may have varying levels of knowledge regarding birth preparedness and that knowledge gaps may persist despite contact with antenatal services. This indicates the need for continuous assessment of maternal knowledge at the local level so that health education can be adapted to the needs of specific populations.

In Nigeria, antenatal care represents an important opportunity for strengthening women's knowledge and preparing them for childbirth. Nurses and midwives are particularly well positioned to provide health education because of their regular contact with pregnant women during ANC visits. Through individualized and group education, healthcare providers can explain the importance of skilled birth attendance, encourage women to identify appropriate delivery facilities, promote financial and transportation planning, and educate women about labour and obstetric danger signs. However, effective health education requires an understanding of the specific areas in which women already possess adequate knowledge and those in which misconceptions or information gaps remain.

Ondo State has implemented maternal-health interventions aimed at improving pregnancy and childbirth outcomes. The original research project specifically identifies Goal-Oriented Prenatal Education among the initiatives relevant to maternal health in the state. Such interventions emphasize the role of structured prenatal education in improving women's preparedness for childbirth and utilization of maternal healthcare services. However, the existence of maternal-health programmes does not eliminate the need for local assessment. Health knowledge may vary according to community, socioeconomic characteristics, educational background, access to health services and previous experiences with pregnancy and childbirth.

The Opa-Idanre community provides an important setting for examining maternal knowledge of birth preparedness. Pregnant women attending the Comprehensive Health Care Center, Opa-Idanre, represent women who are already in contact with the formal healthcare system through antenatal care. Assessing their knowledge can provide useful information regarding whether important birth-preparedness messages are reaching women and which areas require greater emphasis during ANC education. Local evidence is particularly useful because findings from studies conducted in other communities may not necessarily reflect the knowledge and experiences of women in Opa-Idanre.

Although birth preparedness has been examined in different Nigerian populations, there remains a need for facility- and community-specific evidence on the knowledge of pregnant women regarding the practical requirements of childbirth (Victor et al., 2023). Understanding maternal knowledge at the local level can help healthcare providers identify specific deficiencies and strengthen antenatal counselling. For example, if women demonstrate good knowledge of labour signs but limited awareness of potential childbirth complications, health education can be redirected towards complication readiness. Similarly, if women understand the importance of antenatal care but have limited understanding of skilled birth attendance, this area can receive greater attention during prenatal education.

The present manuscript therefore focuses specifically on the knowledge dimension of birth preparedness among pregnant women attending the Comprehensive Health Care Center, Opa-Idanre. Rather than combining knowledge with reported practices or determinants, the study examines specific areas of maternal knowledge,

including awareness of the importance of preparing for childbirth, knowledge of labour signs, understanding of the role of antenatal care, awareness of skilled birth attendance and knowledge of potential childbirth complications. Examining these domains separately provides a clearer understanding of the strengths and gaps in maternal knowledge among women receiving antenatal care at the facility.

The findings are expected to provide useful information for nurses, midwives and other maternal-health professionals involved in antenatal education. Identifying specific knowledge gaps can assist healthcare providers in developing more focused health education, strengthening birth-preparedness counselling and encouraging women and their families to make appropriate arrangements before labour. The findings will also contribute to efforts aimed at improving maternal-health education and reducing preventable delays in seeking and accessing skilled maternal healthcare.

### Objective

To assess the level and domains of maternal knowledge of birth preparedness among pregnant women attending the Comprehensive Health Care Center, Opa-Idanre.

## METHODS

### Design and setting

This was a descriptive cross-sectional survey was conducted at the Comprehensive Health Care Center, Opa-Idanre, Idanre, Ondo State. The facility provides antenatal, delivery, postnatal, immunization and family-planning services.

### Population, sample and sampling

The target population comprised pregnant women attending ANC. The project estimated approximately 85 monthly attendees and used the Taro Yamane formula with a 0.05 margin of error, obtaining 70 and adding 10% to reach 77. Purposive sampling method was employed

### Instrument and quality assurance

The adopted structured questionnaire contained four sections: socio-demographic information; maternal knowledge; birth-preparedness practices; and determinants. Face and content validity were reviewed by the project supervisor. A pilot study was conducted using 10% of the target population in another setting. The reported Cronbach's alpha was 0.710 for 27 items.

### Data collection and analysis

Questionnaires were administered at the facility; questions were read to respondents who could not read, while literate respondents completed the questionnaire themselves. SPSS version 26.0 was used to generate frequencies and percentages.

### Ethics

The project reports institutional ethical review, voluntary participation, informed consent, privacy and confidentiality.

## RESULTS

The findings show that the respondents generally had good knowledge of birth preparedness. Most respondents (93.5%) knew the signs of labour, while 79.2% had received birth-preparedness information from healthcare providers and 77.9% were aware of the importance of preparing ahead for childbirth. Also, 76.6% were familiar with the importance of skilled birth attendance.

However, some knowledge gaps were observed. Only 70.1% knew the importance of antenatal care in birth preparation, while 68.8% were aware of potential childbirth complications, indicating that about one-third of respondents lacked knowledge in these areas.

Regarding the meaning or components of birth preparedness, saving money for childbirth (50.6%) was the most commonly identified component. This was followed by identifying a skilled birth attendant (16.9%), arranging transportation (13.0%), choosing a healthcare facility (11.7%), and preparing a birth plan (7.8%). This suggests that respondents' understanding of birth preparedness was largely centred on financial preparation.

The respondents were predominantly aged 31–36 years (46.8%), married (89.6%), and in their second trimester of pregnancy (61.0%).

| **Indicator** | **Yes n (%)** | **No n (%)** |
|---|---|---|
| Aware of importance of preparing ahead | 60 (77.9%) | 17 (22.1%) |
| Received information from healthcare providers | 61 (79.2%) | 16 (20.8%) |
| Knows signs of labour | 72 (93.5%) | 5 (6.5%) |
| Knows importance of ANC in preparation | 54 (70.1%) | 23 (29.9%) |
| Familiar with importance of skilled birth attendant | 59 (76.6%) | 18 (23.4%) |
| Aware of potential childbirth complications | 53 (68.8%) | 24 (31.2%) |
| Meaning/component identified | n (%) | |
| Saving money for childbirth | 39 (50.6%) | |
| Identifying skilled birth attendant | 13 (16.9%) | |
| Arranging transportation | 10 (13.0%) | |
| Choosing healthcare facility | 9 (11.7%) | |
| Preparing a birth plan | 6 (7.8%) | |

The respondents were predominantly aged 31–36 years (46.8%), married (89.6%), and in the second trimester (61.0%).

## DISCUSSION

The study demonstrates generally favourable awareness of birth preparedness. More than three-quarters knew the importance of preparing ahead of childbirth, and nearly four-fifths reported receiving information from healthcare providers. Awareness of labour signs was especially high at 93.5%, suggesting that ANC encounters may be successfully communicating some immediate childbirth information.

However, knowledge was incomplete. Nearly one-third were unaware of potential childbirth complications, and 29.9% did not identify the importance of ANC in preparation. This is important because birth preparedness extends beyond recognizing labour; it includes anticipating complications, identifying skilled care, arranging transport and preparing resources.

Saving money was the most commonly identified component. The relatively lower recognition of birth planning and other components suggests that some women may hold a narrower understanding of

preparedness. Antenatal education should therefore present birth preparedness as a package rather than as financial preparation alone.

The findings are consistent with the literature cited in the original project, which emphasizes the contribution of ANC education to birth-preparedness knowledge and the persistence of knowledge gaps in rural and semi-urban settings.

## IMPLICATIONS FOR NURSING PRACTICE

1. Use a standardized birth-preparedness checklist during ANC.
2. Give specific education on danger signs and possible complications.
3. Ensure counselling covers facility, skilled provider, transport, finances and birth planning.
4. Use understandable language and practical examples for women with limited formal education.
5. Where appropriate, involve partners and family members.

## STRENGTHS AND LIMITATIONS

The study assessed several knowledge domains in a real ANC setting and included respondents at different pregnancy stages. Limitations include cross-sectional design, self-reported responses, purposive sampling, single-facility recruitment and the absence of a reported composite validated knowledge score.

## CONCLUSION

Pregnant women attending the Opa-Idanre comprehensive health centre demonstrated generally favourable awareness of birth preparedness, especially advance preparation and labour signs. Important gaps remained in complication readiness and comprehensive understanding of preparedness.

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