University of Dongola

Faculty of Medicine and Health Sciences

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Awareness of Obstetric Danger Signs among Pregnant Women Attending Dongola Maternity Hospital, Northern State, Sudan, from August to December 2026

A Research Proposal Submitted in Fulfillment of the Requirements for the Degree of Bachelor of Medicine and Bachelor of Surgery (MBBS)

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1. Introduction

Pregnancy is a physiological process that may be associated with complications affecting the health and lives of both the mother and her baby. Early recognition of warning signs and timely access to appropriate healthcare are important components of antenatal care. The World Health Organization recommends antenatal care that promotes the health and well-being of pregnant women and helps identify problems requiring further assessment or management [1].

Obstetric danger signs are symptoms or signs that may indicate a serious complication during pregnancy. These include vaginal bleeding, severe headache accompanied by blurred vision, convulsions, high fever, severe abdominal pain, swelling of the face or hands, difficulty breathing, and reduced or absent fetal movement. Pregnant women need information about these warning signs so they can recognize symptoms that require prompt medical assessment [1,2].

Antenatal care provides an opportunity for healthcare professionals to educate pregnant women about possible complications, explain the importance of recognizing danger signs, and advise them when and where to seek medical care. However, recognizing a danger sign does not necessarily mean that a woman will receive care immediately. Household decision-making, financial difficulties, transportation problems, distance from health facilities, and delays within the health system may also influence access to care [1,3].

Previous studies have assessed awareness of obstetric danger signs among pregnant women in different settings. In eastern Sudan, Ali and colleagues investigated awareness and nutritional education among pregnant women attending antenatal care clinics in Kassala. Their findings provide Sudanese evidence on this subject, although the results cannot automatically be generalized to women attending antenatal care in other states [4]. Studies conducted in other countries have also examined awareness and its associated factors, demonstrating the importance of considering the population, setting, and methods used to assess awareness when interpreting and comparing findings [5].

Despite the importance of this subject, evidence specific to pregnant women attending Dongola Maternity Hospital in Northern State remains limited. Assessing awareness in this setting may provide information about the danger signs women can recall independently, the signs they recognize when prompted, and factors associated with differences in awareness. The present study will therefore assess awareness of obstetric danger signs and associated factors among pregnant women attending Dongola Maternity Hospital from August to December 2026.

1.2 Problem Statement

Maternal mortality remains a major public health concern worldwide. The latest joint estimates published by the World Health Organization and partner agencies indicate that approximately 260,000 maternal deaths occurred globally in 2023, with sub-Saharan Africa accounting for approximately 70% of these deaths [6]. These figures demonstrate the continuing burden of maternal mortality and the need to strengthen access to effective maternal healthcare.

Sudan continues to face challenges related to maternal health. A study examining maternal mortality trends in Sudan reported that direct obstetric causes accounted for a substantial proportion of maternal deaths, with haemorrhage identified as an important cause [7]. These findings highlight the importance of recognizing potential complications and ensuring timely access to appropriate obstetric care. However, mortality statistics alone cannot establish the level of awareness of danger signs among pregnant women in a particular hospital.

Evidence from Sudan indicates that awareness requires further attention. A cross-sectional study involving 388 pregnant women attending antenatal care clinics in six health centres in Kassala, eastern Sudan, assessed awareness of pregnancy danger signs and the provision of health education [4]. Although this study provides relevant national evidence, its findings may not represent pregnant women attending healthcare facilities in Northern State because the study population and healthcare setting differ.

At present, locally specific evidence on awareness of antenatal obstetric danger signs and the factors associated with it among pregnant women attending Dongola Maternity Hospital is limited. Failure to recognize warning signs may contribute to delays in seeking care; however, care-seeking is also influenced by financial constraints, transportation, family decisions, and the availability of appropriate health services [3]. Therefore, this study will assess awareness of obstetric danger signs and associated factors among pregnant women attending Dongola Maternity Hospital, Northern State, Sudan, from August to December 2026.

1.3 Justification

Assessing awareness of obstetric danger signs is important because antenatal care provides an opportunity to communicate information about pregnancy-related complications and the need for timely medical assessment [1,2]. Understanding which danger signs pregnant women can recall spontaneously and which they recognize when prompted will provide a clearer description of awareness in the study population.

The study is justified by the need for evidence specific to Dongola Maternity Hospital. Findings from Kassala or other countries may not fully reflect the experiences of women attending antenatal care in Northern State [4,5]. Local evidence may help healthcare providers understand the awareness needs of women attending this facility and inform consideration of antenatal health-education activities.

The study will also examine associations between awareness and selected sociodemographic characteristics, obstetric history, antenatal care-related

factors, exposure to health education, and sources of information. Previous research has examined awareness and factors associated with it in different populations, supporting the relevance of investigating these relationships in the local context [4,5]. The findings may be useful to healthcare providers, hospital administrators, maternal health programme planners, and future researchers.

The study will be conducted among pregnant women attending antenatal care at Dongola Maternity Hospital. Therefore, the findings will describe the study population and should not automatically be generalized to all pregnant women in Northern State or Sudan. Nevertheless, the results may provide useful local evidence for understanding awareness of obstetric danger signs in this setting.

1.4 Objectives

1.4.1 General Objective

1. To assess awareness of obstetric danger signs and associated factors among pregnant women attending Dongola Maternity Hospital, Northern State, Sudan, from August to December 2026.

1.4.2 Specific Objectives

1. To determine the proportion of pregnant women with adequate awareness of obstetric danger signs using a predefined scoring system.

2. To assess the obstetric danger signs that pregnant women can recall spontaneously.

3. To determine the obstetric danger signs that pregnant women recognize when presented with a list.

4. To examine the association between sociodemographic characteristics and awareness of obstetric danger signs.

5. To examine the association between obstetric history, antenatal care-related factors, exposure to health education, and awareness of obstetric danger signs.

6. To identify the main sources of information about obstetric danger signs among the study participants.

1.5 Research Question

What is the level of awareness of obstetric danger signs, and which factors are associated with awareness among pregnant women attending Dongola Maternity Hospital, Northern State, Sudan, from August to December 2026?

1.6 References

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