Assessment of the risk status of pregnant women presenting for antenatal care in a rural health facility in Ebonyi State, South Eastern Nigeria

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Abstract

Background: Nigeria has one of the worst maternal and child health indices globally. **Aims**: The objective of this study was to assess the risk status of pregnant women presenting for antenatal care in a rural health facility in Ebonyi State, South East Nigeria. **Subjects and Method:** This was a cross-sectional descriptive study of pregnant women selected by systematic random sampling. The study instrument was a pre-tested semi-structured interviewer-administered questionnaire. **Result:** The age range of the women in the study was 16-43 years**.** The mean age was 25.3 ± 1.3 years. According to the scoring system used, about one-fourth of the women (26%) had a high risk pregnancy while about a tenth (9.1%) had very high risk pregnancy. The vast majority of the women with at-risk pregnancies registered for antenatal care late: 58.9 % registered for antenatal care in the second trimester and 37.0 % registered for antenatal care in the third trimester of pregnancy. Of the women with an at-risk pregnancy, 79.5% had their last delivery at home and 67.1 % of them preferred to deliver at home in their current pregnancies. **Conclusion:** This study revealed that a substantial proportion of rural women with at-risk pregnancies go through their pregnancy period without significant modern antenatal care. The local government health department should intensify efforts through health enlightenment campaigns to educate rural pregnant women of the benefits of utilizing modern antenatal care services.

Keywords: Risk status, pregnant women, antenatal care.

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Introduction

Nigeria has one of the worst maternal and perinatal morbidity and mortality indices globally. Currently, the maternal mortality ratio is estimated to be 1,000 per 100,000 live births and the perinatal mortality rate is estimated to be 75 per 1000 live births [1, 2]. Antenatal care focuses on maintaining maternal and fetal wellbeing throughout pregnancy and child birth [3]. Some studies have demonstrated significant differences in maternal and perinatal morbidity and mortality rates between pregnant women who utilized modern antenatal care and those who did not [4, 5].

Adequate antenatal care identifies, predicts and manages pregnancy complications to ensure acceptable maternal and perinatal outcomes. The central purpose of antenatal care is to screen for and identify high risk pregnancies as early as possible from a general population of pregnant women, and then provide appropriate skilled care for women with high risk pregnancies while continuing to provide adequate care for the women with low risk pregnancies. This "risk approach" is a managerial tool for improving maternal and child health care [6].

The risk assessment and classification of pregnant women into low risk and high risk groups has remained an integral component of most antenatal policies. Such antenatal policies ensure access to higher levels of care for at-risk pregnancies based on need [7]. The World Health Organization (WHO) has devised a simple scoring system

which can be modified for local use when assessing the risk status of a pregnancy [8]. This scoring system takes into consideration maternal characteristics such as age, number of children, time since last delivery, medical history, and maternal education. Referral to appropriate levels of care is obligatory for those women who have a high risk pregnancy.

The aim of this study was to assess the risk status of pregnant women presenting for antenatal care in a rural health facility in Ebonyi State, South East Nigeria. The information obtained from this study will be used to help develop guidelines for community-based interventions to improve the content and utilization of antenatal care services and to reinforce existing policy documents on maternal health care in Nigeria.

Subjects and Methods

Study Background
Nwezenyi in the Izzi Local Government Area of Ebonyi State in South East Nigeria is a rural community that hosts the Nwezenyi Community Health Centre. This health care facility serves as the first point of contact with orthodox medical care for most of the population. From the 2006 census Izzi Local Government Area of Ebonyi State has a population of 234,072. The population is mainly agrarian with low literacy levels and high poverty rates.

Study Design
This cross-sectional descriptive study was conducted from June 2007 to February 2009. The study protocol was approved by the Department of Community Medicine, Ebonyi State University Teaching Hospital. A total of two hundred and eight (208) pregnant women who presented for antenatal care were selected for interviews. A systematic sampling technique (1 in 5) was used in their selection. Informed consent was obtained from the women who were assured of strict confidentiality regarding their responses. The study instrument was a pre-tested semi-structured interviewer-administered questionnaire. The questionnaire schedule elicited information on maternal characteristics including age, educational status, number of surviving children, time since last delivery, gestational age of index pregnancy at booking, past medical history, place of last confinement, and preference for place of delivery.

A simple scoring system devised by the World Health Organization (WHO) was used to assess the risk status of the pregnant women studied [8]. The scoring system assigns different points to different maternal characteristic of interest: age (<19 or >40 years scores 4 points; 30-39 years scores 2 points; 20-29 years scores zero); number of children (>10 children scores 4 points; 0-1 child scores 2 points; 2-9 children scores zero); medical history (previous obstetric complications and perinatal deaths scores 3 points; diabetes, heart disease, renal disease, psychosis scores 5 points); and maternal education (illiterate scores 1 point; literate scores zero). The scoring system place pregnant women with aggregate points ≥ 5 as very high

risk, those with aggregate points 3-4 as high risk and those with points 0-2 as low risk.

Statistical Analysis
Data generated were analyzed using a SPSS version 15 statistical software package. Descriptive statistics of frequency and percent of total were calculated for the different characteristics studied.

Results
The demographic characteristics of age and education of the 208 women selected and interviewed for the study are shown in Table 1. The age range of the women was 16 - 43 years. The mean age was 25.3 ± 1.3 years. A majority of the women (69.2 %) were within the age group 20 - 29 years. Almost half of the women (46.2 %) had no formal education.

Table 1 Demographic characteristics

Characteristic	Frequency	% of total
Age group (years)		
≤ 19	17	8.2
20-29	144	69.2
30-39	44	21.2
≥40	3	1.4
Educational status		
No formal education	96	46.2
Primary school	64	30.2
Secondary school	47	22.5
Post-secondary school	1	0.5

Table 2 Maternal characteristics

Characteristic	Frequency	% of total
Time of last delivery		
< 24 months	138	66.4
>24 months	70	33.6
Number of children		
0-1	64	30.8
2-9	136	65.4
≥ 10	8	3.8
History of previous obstetric complications and perinatal deaths		
Yes	4	1.9
No	204	98.1

Table 3 Risk status

Characteristic		Frequency	% of total
Risk status score	*Risk status*		
0-2	Normal	135	64.9
3-4	High risk	54	26.0
≥ 5	Very high risk	19	9.1
Risk pregnancy			
Yes		73	35.1
No		135	64.9

The maternal history characteristics of the women interviewed are shown in Table 2. The majority of the

women had their last delivery within the previous 24 months. The majority of the women had 2 - 9 children, but 3.8% of them had more than 10 children.

The risk status of the women is shown in Table 3. More than a third of the women were classified as having a high risk or very high risk pregnancy.

An additional examination of the current antenatal care practices and prior delivery history of the women with high risk pregnancies is shown in Table 4. Current antenatal care practice was examined by noting the trimester of pregnancy in which an antenatal care visit was booked. A substantial proportion of the women with at-risk pregnancies registered for antenatal care late, in the second and third trimesters, while only 4.1% booked their antenatal care visit to the health center in the first trimester. Furthermore, almost 80% of the women with at-risk pregnancies had their last delivery at home, and a majority preferred to deliver at home in their current pregnancies.

Table 4 Current antenatal care and prior delivery history of women with high risk pregnancies

Characteristic	Frequency	% of total
Booking time		
First trimester	3	4.1
Second trimester	43	58.9
Third trimester	27	37.0
Place of last confinement		
Home	58	79.5
Health facility	15	20.5
Preference for place of delivery		
Home	49	67.1
Health facility	24	32.9

Discussion

The results of this study showed that a substantial proportion of the women visiting the Nwezenyi Community Health Centre in the Izzi Local Government Area of Ebonyi State in South East Nigeria for antenatal care could be classified as having a high risk pregnancy by the WHO criteria. The majority of the women with high risk pregnancies sought antenatal care late, in the second and third trimesters of pregnancy. This is in keeping with the findings of most previous studies among Nigerian pregnant women in other parts of the country as well. Okunlola et al [9] and Adekanle et al [10] reported a prevalence of late booking of antenatal care visits of 86% and 82.6% respectively in southwestern Nigeria, and Ebeigbe et al [11] reported a prevalence of 79.9% of late booking of antenatal care visits in the Niger Delta. While it was not within the scope of this study to explore the reasons for this practice, previous studies suggest that ignorance of and misconceptions about the purpose of antenatal care, and financial constraints, are the dominant underlying factors in late initiation of antenatal care [12]. Late initiation of antenatal is clearly detrimental to the achievement of the objectives of modern antenatal care and negates the recommendations of the World Health

Organization on the optimal timing of the commencement of antenatal care in developing countries [3]. It prevents early detection and modification of many pre-existing or pregnancy-related conditions like chronic hypertension, diabetes mellitus, cervical incompetence, and HIV/AIDS. It prevents early commencement of health education. It prevents immunization and chemoprophylaxis against common disease conditions like tetanus and malaria [3].

The majority of the women with high risk pregnancies had their last deliveries at home, and more than three-fifths of them expressed their preference for delivery at home, usually supervised by traditional birth attendants. The continuing preference for intrapartum care by traditional birth attendants, especially in women in rural areas, has been highlighted in a previous national study and is cause for much concern [13]. This concern is heightened by the finding that while the majority of pregnant women in many communities register for orthodox antenatal care, a significant percentage still prefers intrapartum care by traditional birth attendants and only present in hospitals when there are severe complications. For example, Nwakoby found in a study in southeastern Nigeria that although 93% of rural women who had a child birth registered for prenatal care, 49% delivered at home under the care of traditional birth attendants [14]. The reported contributors to this include the fact that care by traditional birth attendants is usually cheaper, often with the option of paying in kind, which is appealing to the largely impoverished rural population. In addition, care is more informal than in an orthodox medical setting; care may be given by older relatives or respected women known to the parturient, in contrast to care by doctors and nurses who are perceived as relative strangers [13].

What may be inferred from our findings and that of previous workers is that there is a deep seated belief in the safety of traditional birth attendants by rural women and that current antenatal clinic-based health education programmes may have been largely ineffective in modifying the attitudes of rural women towards antenatal care by traditional birth attendants. This suggests a need for community-based studies to clearly identify the basis for belief in intrapartum care by traditional birth attendants and hence plan appropriate interventions to effect a change.

More than three-fifth of the study population had their last confinement less than 24 months earlier. The high incidence of short birth intervals is a reflection of the high fertility rates and low contraceptive use in Nigeria which is even more pronounced in rural areas [15]. The study population was mainly comprised of women with little education and low socioeconomic status. These are factors recognized to influence access to information on crucial health issues including contraception. These factors underlie the need to develop and implement effective community-driven family planning educational programmes to effect longer birth intervals and smaller family sizes.

Conclusion

This study brings to the fore that a substantial proportion of rural women with at-risk pregnancies go through their pregnancy period without significant modern antenatal care. Early antenatal registration and regular attendance at antenatal clinics will allow for early detection and correction of pregnancy complications. It is suggested that the local government health departments should intensify efforts through health enlightenment campaigns to educate rural pregnant women of the benefits of utilizing modern antenatal care services.

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