

Original Article

IMPACT OF HEALTH EDUCATION ON PREGNANT WOMEN: A KNOWLEDGE-BASED ASSESSMENT

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Abstract

Background: A crucial component of effective antenatal care is health education, which aims to inform pregnant women about pregnancy, childbirth, neonatal care, nutrition, hygiene, and recognizing warning signs.

Objectives: This study examined the socio-demographic information, knowledge, attitudes, and practices of pregnant women regarding antenatal health education.

Materials and methods: The study was a descriptive cross-sectional study. A total of ninety-nine (99) well-structured questionnaires were administered to respondents (pregnant women) attending clinic at Oba Ademola hospital, Abeokuta, Ogun State, Nigeria. A stratified random sampling technique was employed to select participants. Data was analyzed using statistical package for social sciences version 21.0 and results were presented in tables.

Results: Regarding antenatal health education, almost all respondents (98%) had attended sessions, with a marked improvement in knowledge of pregnancy danger signs from 36.4% (basic understanding before education) to 46% (excellent knowledge after education). Attitudes were highly positive, as 53.5% strongly agreed that antenatal education helps decision-making, 99% felt motivated to attend ANC, and 94.9% supported allocating more time to health talks. Behavioral outcomes were also significant: 98% reported lifestyle changes, 100% recognized warning signs, and 99% sought care after noticing a danger sign.

Conclusion: Antenatal health education was shown to be highly effective in improving maternal knowledge, attitudes, and practices, thus contributing to safer pregnancy outcomes.

Keywords: Antenatal care, Health education, Pregnancy, danger signs, Maternal health

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INTRODUCTION

The state of pregnancy is a pivot in the life of a woman, which is indicated by significant physical and mental changes that requires adequate healthcare intervention.[1] Prenatal care (ANC) is a crucial tactic to lower maternal and neonatal morbidity and mortality, and maternal health is an integral part of global health agendas. Health education, which attempts to provide pregnant women

with essential knowledge about pregnancy, childbirth, neonatal care, nutrition, hygiene, and early detection of danger signs, is one of the cornerstones of effective ANC.[1]

Maternal mortality is still a major public health concern in developing nations like Nigeria, where it accounts for almost 20% of all maternal deaths worldwide.[2] According to Fagbamigbe and Idemudia [3], many of

these deaths are avoidable and are frequently caused by a lack of knowledge, ignorance of warning signs, poor health-seeking behavior, and insufficient use of prenatal services. Additionally, health education provided during prenatal visits aids in increasing awareness, altering harmful cultural perceptions, and enabling women to make knowledgeable decisions about their reproductive health.[3]

Research has demonstrated that regular, structured health education enhances maternal knowledge, attitudes, and behaviors, improving mother and child health outcomes.[4] Therefore, it is crucial that pregnant women visiting clinics have access to and understand health education. Sociodemographic characteristics, the availability of health information, and the skill of the healthcare professionals providing the information all have an impact on how successful these educational interventions are.

In Abeokuta, Ogun State, Nigeria, Oba Ademola Hospital is a renowned maternity and child health facility. Assessing pregnant women's comprehension and application of the health education they receive during ANC is important. Strategies for enhancing maternal care services and lowering avoidable complications can also be informed by an understanding of these women's knowledge levels and the effects of such education. Thus, the purpose of this study is to evaluate pregnant women who attend antenatal clinics at Oba Ademola Hospital's understanding of the benefits of health education.

Operational Terms

Antenatal Care (ANC): A type of preventive healthcare provided to pregnant women to monitor and promote the well-being of both mother and fetus throughout pregnancy.

Health Education: Structured educational activities aimed at informing and motivating individuals to adopt health-promoting behaviors and make informed health decisions.

Health-Seeking Behavior: The actions and decisions taken by individuals to maintain or improve their health, including utilizing healthcare services.

Intervention: A planned health education strategy or program implemented to improve health knowledge and behavior among pregnant women.

Maternal Health: The health status of women during pregnancy, childbirth, and the postpartum period.

Pregnancy Outcome: The result of the pregnancy, including maternal and neonatal health, birth complications, or stillbirths.

Trimester: One of the three stages of pregnancy: first (0–12 weeks), second (13–26 weeks), and third (27–40 weeks), each characterized by specific developmental milestones.

MATERIALS AND METHODS

Study Area

Abeokuta South is one of the twenty local government areas in Ogun State, Nigeria. It serves as the administrative headquarters of Abeokuta, the capital of Ogun State, and is a key urban center with historical and socio-economic significance. The area is known for its dense population, which consists of both rural and urban communities. Abeokuta South has a vibrant economy that includes agriculture, trading, and small-scale businesses, making it an important commercial hub within the state. Abeokuta South Local Government Area (LGA) covers an area of approximately 71 square kilometers and has a population of over 250,000, according to the 2006 national census.[5]

Oba Ademola Maternity Health Centre, established in 1929, is a secondary healthcare facility located in the Abeokuta South Local Government Area of Ogun State, Nigeria. The hospital offers a range of essential services including antenatal care, maternal and child health services, immunization, laboratory diagnostics, and pharmaceutical services. It operates 24 hours a day and serves both urban and peri-urban communities. The facility is recognized and licensed under the Ogun State Ministry of Health as part of the public health infrastructure.

Research Design

Research design is the guideline which directs the researchers towards solving the research problem. For the purpose of this study, the researchers adopted a descriptive cross-sectional survey design. The aim of surveys is to gather data from a specific sample of pregnant women attending antenatal clinics at Oba Ademola Hospital, Ogun State, Nigeria.

Study Population

Population can be defined as a group from which a sample is drawn. It can be anything depending on what you are studying. The target populations were pregnant women attending antenatal clinic at Oba Ademola Hospital, Abeokuta, Ogun State, Nigeria

Inclusion criteria

Respondents were pregnant women attending women attending antenatal clinic at Oba Ademola Hospital, Abeokuta, Ogun State, Nigeria

Exclusion criteria

Those who were excluded from the study were non pregnant women attending antenatal clinic at Oba Ademola Hospital, Abeokuta, Ogun State, Nigeria

Sampling Techniques

Sampling or sample is a selection of items taken from the population for examination. It is simply a smaller part of the population. Samples are useful because they allow the researchers to examine the characteristics of the population. Without having to study the whole population because, it is a known fact that the whole population cannot be studied hence a sample was drawn to represent the population. Since the findings from the study of the sample were used to generalize for the population, the entire pregnant women were given equal chance of being included in the sample.

The researchers adopted a stratified random sampling technique, a sampling method in which specific group in a population is identified. The sample size for the research was calculated using Taro formula.[6]

$$n = \frac{N}{1 + N(0.05)^2}$$

Where; n= Sample size, N=Total population (126) and e=Degree of tolerance (0.05)

$$n = \frac{126}{1 + 126(0.05)^2}$$

$$n = \frac{126}{1 + 126(0.0025)}$$

$$n = \frac{126}{1 + 0.315}$$

$$n = \frac{126}{1.315}$$

n= 95.8; Therefore, sample size used is 96

To guide the selection of the sample size for this study, the researchers selects a sample of 96 participants with 3 extra in case of non-returned questionnaires to make a total of 99.

Instrument for Data Collection

For data collection, a standardized and verified self-administered questionnaire was used. The questionnaire was created to meet the study's aims. The questionnaire used in the study had four sections. Section A- Demographic characteristics, Section B- Knowledge of Antenatal Health Education, Section C- Attitudes towards Health Education and Section D- Practice and Behavioral Change

Method of Data Collection

The researchers used a primary method of data collection in obtaining data for the study. According to Orji (2019) primary data refers to data that contains direct accounts that are obtainable observations, direct participation and questionnaire. For the purpose of this study, the primary methods for data collection include a well structures questionnaire, and personal interview. The researchers collected primary data from the respondents using a closed-ended questionnaire. The questionnaires were distributed as printed form and the items on the questionnaire were designed as dichotomous items, and was divided into four sections for the purpose of this is to ensure that the respondents have maximum freedom to express their feeling on the type of data expected from them.

Data Analysis

Collected data will be analyzed using descriptive and inferential statistics tools with the aid of Statistical Package for Social Sciences (SPSS version 21.0) software.

Ethical Approval

The research adhered to internationally recognized ethical guidelines, in accordance with the Declaration of Helsinki. Ethical clearance was granted by the Health Research and Ethics Committee of the Ogun State Ministry of Health. Formal (verbal) permission was also secured from the ward focal person and the medical director of the clinic. Written informed consent was obtained from all

participants, and strict confidentiality of the data was maintained throughout the course of the study.

RESULTS

The socio-demographic information of the respondents

The socio-demographic information of the respondents is summarized in Table 1. The results indicate that the majority of respondents are aged between 30 and 39 years (40.4%), while the smallest group is those less than 20 years old (5.1%). Furthermore, most respondents are married (90.9%), with singles accounting for only 2%. In terms of education, the majority of respondents have

attained tertiary education (53.5%), while the fewest have only completed primary education (5.1%).

Regarding occupational status, most respondents are traders (37.4%), whereas those in other occupations represent the smallest percentage (2%). Considering the number of pregnancies, the majority of respondents have experienced 2 to 3 pregnancies (61.6%), while only a small fraction (2%) have had more than 5 pregnancies. Lastly, the gestational age of the majority of respondents falls between 27 and 40 weeks (47.5%), with the smallest group being those between 1 and 12 weeks (20.2%).

Table 1

Socio demographic information

Parameters	Age group	Frequency	Percentage
Age	Under 20	05	5.1
	20-29	39	39.4
	30-39	40	40.4
	40 above	15	15.2
	Total	99	100.0
Marital status	Single	02	2.0
	Married	90	90.9
	Divorced	04	4.0
	Separated	03	3.0
	Total	99	100.0
Educational level	No formal education	08	8.1
	Primary	05	5.1
	Secondary	33	33.3
	Tertiary	53	53.5
	Total	99	100.0
Occupation	Unemployed	04	4.0
	Trader	37	37.4
	Artisan	24	24.2
	Civil Servant	32	32.3
	Others	02	2.0
	Total	99	100.0
	1	23	23.2

Number of Pregnancies (Gravidity)	2-3	61	61.6
	4-5	13	13.1
	Above 5	02	2.0
	Total	99	100.0
Gestational Age (weeks)	1-12	20	20.2
	13-26	32	32.3
	27-40	47	47.5
	Total	99	100.0

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Respondents Knowledge of antenatal health education

The respondents' knowledge of antenatal health education is summarized in Table 2. A significant majority of the respondents (98%) have attended antenatal health education sessions, with 55.6% attending sessions once a month. Furthermore, nearly all respondents (98%)

importance of health education during pregnancy. Prior to receiving antenatal education, a fair number of respondents (36.4%) had a basic understanding of pregnancy danger signs. However, after receiving education, the percentage of respondents with excellent knowledge increased to 46%.

Table 2

Knowledge of antenatal health education

Questions	Response	Frequency	Percentage
Have you attended any antenatal health education sessions?	Yes	97	98.0
	No	02	2.0
	Total	99	100.0
How often do you attend antenatal care (ANC)?	Once a month	55	55.6
	Twice a month	28	28.3
	Weekly	15	15.2
	Regularly	01	1.0
	Total	99	100.0
Are you aware of the importance of health education during pregnancy?	Yes	97	98.0
	No	02	2.0
	Total	99	100.0
Rate your knowledge on pregnancy danger signs before receiving antenatal education	Poor	25	25.3
	Fair	36	36.4
	Good	25	25.3
	Excellent	13	13.1
	Total	99	100.0
Rate your knowledge after attending antenatal sessions	Poor	03	3.0
	Fair	06	6.1
	Good	44	44.4
	Excellent	46	46.5
	Total	99	100.0

The respondents' attitude towards health education

The respondents' attitudes toward health education are summarized in Table 3. A majority of respondents (53.5%) strongly agree that health education helps individuals make better decisions during pregnancy.

Nearly all respondents (99%) feel motivated to attend antenatal care (ANC) following health talks, and most (94.9%) believe that more time should be allocated for health education during ANC sessions. Additionally, a significant portion of respondents (60.6%) prefer group discussions as a method of delivering health education.

Table 3**Attitude towards health education**

Questions	Responses	Frequency	Percentage
Do you believe health education helps you make better decisions during pregnancy?	Strongly Agree	53	53.5
	Agree	44	44.4
	Strongly Disagree	02	2.0
	Total	99	100.0
Do you feel motivated to attend ANC after health talks?	Yes	98	99.0
	No	01	1.0
	Total	99	100.0
Do you think more time should be allocated for health education during ANC?	Yes	94	94.9
	No	05	5.1
	Total	99	100.0
Which method of health education do you prefer?	Group Discussion	60	60.6
	Audio-visuals	04	4.0
	One on one counselling	30	30.3
	Printed Materials	05	5.1
	Total	99	100.0

The respondents practice and behavioural changes

The changes in practice and behaviour among the respondents are summarized in Table 4. A significant majority (98%) have made lifestyle or health changes as a result of antenatal education. All respondents (100%) now recognize warning signs during pregnancy due to the

education they received. Nearly all the respondents (99%) sought care after noticing a danger sign based on what they had learned. Additionally, all respondents (100%) would recommend antenatal care (ANC) and health education to other pregnant women.

Table 4**Practice and behavioural changes**

Questions	Response	Frequency	Percentage
Have you made any lifestyle or health Changes due to antenatal education?	Yes	97	98.0
	No	02	2.0
	Total	99	100.0
Do you now recognize warning signs during pregnancy due to education received?	Yes	99	100.0
	No	0	0
	Total	99	100.0
Have you ever sought care after noticing a danger sign based on what you learned?	Yes	98	99.0
	No	01	1.0
	Total	99	100.0
Would you recommend ANC and health education to other pregnant women?	Yes	99	100.0
	No	0	0
	Total	99	100.0

DISCUSSION

The findings of this study provide valuable insights into the socio-demographic characteristics, knowledge, attitudes, and practices of pregnant women regarding antenatal health education. The socio-demographic profile shows that most respondents were aged between 30 and 39 years, married, and had attained tertiary education. The study's conclusions offer insightful information about the sociodemographic traits, knowledge, attitudes, and behaviors of expectant mothers with regard to prenatal health education. According to the sociodemographic profile, the majority of respondents were married, between the ages of 30 and 39, and had completed higher education. This is consistent with earlier research showing that women in this age group use maternal health services more frequently, probably because they are in their prime reproductive years and are better informed about the needs of mothers.[3] The high percentage of married women in this study might also be a reflection of social and cultural settings where having children is closely linked to marriage.[7]

Knowledge and health-seeking behavior have been found to be significantly influenced by education. Higher maternal education is linked to increased awareness and uptake of antenatal care services, according to research from Nigeria and other low- and middle-income countries (LMICs).[8,9] The majority of respondents had postsecondary education. The positive change in

knowledge levels seen following prenatal health education, where the percentage of women with excellent knowledge of pregnancy danger signs increased to 46%, was probably influenced by this educational advantage. Studies assessing prenatal health talks as a method to lower maternal morbidity and mortality have shown comparable improvements.[10]

Positive attitudes regarding prenatal health education were also found in the study. Nearly all of the respondents stated that they were motivated to attend ANC after health talks, and more than half strongly agreed that health education promotes better decision-making during pregnancy. This is in line with the theory of health behavior change, which holds that the adoption of healthier behaviors is influenced by motivation, awareness, and perceived benefits.[11] It is noteworthy that group discussions are preferred as the primary means of health education because they strengthen learning outcomes by fostering peer support and enabling pregnant women to share their experiences.[12]

Significant behavioral changes after prenatal health education were also shown by the results. Almost all respondents said they had changed their lifestyles for the better, were aware of the warning signs of pregnancy, and sought medical attention as soon as possible. Since early detection and prompt medical intervention are crucial tactics for lowering maternal and neonatal mortality, such

behavioral changes are essential.[1] Additionally, the fact that ANC and health education are unanimously recommended to others indicates that health education is widely accepted as a successful intervention for promoting maternal health. Prenatal health education has been associated with higher ANC attendance, better delivery outcomes, and lower maternal health risks in Sub-Saharan Africa, according to similar research.[13,14]

CONCLUSION

Pregnant women's knowledge, attitudes, and practices regarding maternal health are considerably improved by antenatal health education, as this study has shown. The respondents' use of prenatal health services was influenced by their sociodemographic profile, especially their marital status and level of education. Antenatal education was successful in raising awareness of pregnancy warning signs, fostering favorable attitudes toward ANC, and motivating behavioral changes like lifestyle adjustments and prompt health-seeking behaviors. The overwhelming support for prenatal health education emphasizes how crucial it is to promoting maternal health and lowering avoidable maternal and newborn mortality.

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