

Utilization of Antenatal Care (Anc) Services among Women of Childbearing Age Attending Federal Medical Centre, Onitsha, Anambra State

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Abstract

This study examined the utilization of antenatal care (ANC) services among women of childbearing age attending federal medical centre, Onitsha, Anambra State. Specifically, it assessed the extent to which pregnant mothers utilized health education, immunization, family planning, and physical assessment services in relation to their age and educational level. A cross-sectional descriptive survey design was employed. The study population comprised 1,656 pregnant women, from which a sample of 166 respondents was selected. Data were collected using a validated researcher-developed questionnaire with high internal consistency (Cronbach's Alpha values ranging from 0.912 to 0.973). Statistical analysis was conducted using SPSS version 26, and hypotheses were tested with Analysis of Variance (ANOVA) at a 0.05 level of significance. Findings revealed that educational attainment significantly influenced the utilization of health education and physical assessment services, with women possessing higher education demonstrating greater usage. However, age had little impact on the utilization of health education services, as all groups reported high participation. In contrast, utilization of immunization services was not significantly differentiated by education but declined with increasing maternal age, suggesting higher adherence among younger women. Overall, the results suggest that education enhances informed engagement with specific ANC services, while age-related factors shape preferences for "others. The study concludes that while ANC service utilization is relatively high, disparities exist across age and educational subgroups. It recommends intensified health education, targeted interventions for older mothers regarding immunization adherence, and continuous promotion of family planning and routine physical assessments among all women of childbearing age to improve maternal and child health outcomes.

Keywords: Childbearing age, Pregnant women, Mothers, Child health.

Introduction

The protection of the health of the expectant mother and her children is of prime importance for building of a sound and healthy nation. Globally, antenatal care is advocated as the cornerstone for reducing children's deaths and improving maternal health. Antenatal care which is professionally shortened as ANC is a preventive healthcare given to a pregnant woman in order to ensure healthy mother and child. It is also known as prenatal care, pregnancy care or maternity care. According to Warri and George (2020) antenatal care (ANC) is the care a mother gets from health professionals during pregnancy. In the views of Clarie and Emilia (2019), ANC is a means of identifying high risk pregnancies and educating mothers so that they may experience healthier delivery and outcome. This is to say that ANC is the healthcare provided to women who are pregnant. This is to monitor the progress of their pregnancy, to promote birth preparedness and complication readiness to ensure optimal birth outcomes for both the mother and her baby.

According to World Health Organization (WHO, 2023) ANC is provided in the form of medical checkups, consisting of recommendations on managing a healthy lifestyle and the provision of medical information such as maternal physiological changes in pregnancy, biological changes, and prenatal nutrition including prenatal vitamins, which prevents potential health problems throughout the course of the pregnancy and promotes the mother and child's health alike. From the above definition it is clear that ANC serves as a key entry point for a pregnant woman to receive a broad

range of health services. ANC service is one of the core interventions for improving maternal outcomes. ANC services help pregnant women and care providers to identify early, complications associated with pregnancy. ANC services enable early identification of pregnancy related risks and complications; and ensure access of services including health education, vaccines, diagnostic tests and treatments. According to Muchie (2017) ANC services help to establish good relationship between pregnant women and service providers. It also provides pregnant women with access to micronutrient supplementation, treatment for hypertension to prevent eclampsia, as well as immunization against tetanus.

In addition to diagnosing and managing pregnancy-related complications, ANC provides an opportunity to screen for and treat other chronic conditions and non-communicable diseases. There are various standard quality ANC services; which include health education services, immunization services, family planning services and physical assessment services. According to WHO (2020) these services comprise of three components namely: Assessment which refers to history taking, physical examination and laboratory tests, Health Promotion which includes advice on nutrition, planning the birth, information regarding pregnancy, subsequent contraception and breastfeeding and Care Provision that involves making vital care available such as tetanus toxoid immunization, psychosocial support and record keeping.

Health education services is the type of ANC services for promotion of health and wellbeing through teaching about nutrition, cessation of substance abuse, recognition of danger signs and birth preparedness. These are included as essential components of ANC services (McCauley, 2022). A pregnant woman visiting health facilities for health education will get advice and support, and would be more informed about health needs and self-care, which will lead to an increased utilization of pregnancy care services (Morse, 2011).

ANC immunization services provide pregnant mothers with resistance to diseases through the administration of vaccine. The aim of ANC immunization services is to fortify the pregnant mother against infectious agent or from vaccine-preventable diseases. Examples of ANC immunization service include). Immunization against tetanus, providing HIV testing and medications to prevent mother-to-child transmission of HIV. In areas where malaria is endemic, health personnel can provide pregnant women with medications and insecticide-treated mosquito nets to help prevent this debilitating and sometimes deadly disease (UNICEF, 2022).

Physical assessment service is the type of ANC service that requires frequent visits where health providers deliver care and give support and information to pregnant women, as well as identify and prevent adverse pregnancy outcomes. WHO (2009) recommends a minimum of four visits to undertake blood pressure measurement, urine testing, iron tablet supplementation, body weight measurement and counseling about danger signs. Although timely and quality antenatal care services is a crucial determinant to optimal healthcare for both mother and child, unfortunately, it appears that most child bearing complications and mortality are as a result of either poor access or underutilization of ANC services by pregnant mothers. In agreement, Rustagi, Basu, Garg, Singh and Mala (2021) Stated that poor access to ANC contributes to more than 99% of maternal deaths worldwide.

Similarly, United Nations Children's Fund (2023) stated that Nigeria's 40 million women of childbearing age (between 15 and 49 years of age) suffer a disproportionately high level of health issues surrounding birth. While the country represents 2.4 percent of the world's population, it currently contributes 10 percent of global deaths for pregnant mothers. Pregnancy and childbirth are essential for existence of the entire human race. Women die as a result of complications following pregnancy and childbirth. Most of these complications develop during pregnancy and most are preventable and treatable. Jesuyajolu, (2022) reviewed that some complications may exist before

pregnancy but are worsened during pregnancy especially if not managed as part of the woman's care. In view of these ugly observations and findings, one begins to doubt the level of utilization of ANC services and other factors that are responsible for mother and child mortality such as age and level of education of the mother. Therefore, the researcher intends to determine the level of utilization of antenatal care services among pregnant mothers in teaching hospitals in Anambra State based on their level of education and the age of the pregnant mother.

Statement of Problem

Antenatal care services are targeted at promoting optimal healthcare for both mother and child. It enables early identification of pregnancy related risks and complications; and ensure access of services including health education, vaccines, diagnostic tests and treatments. As part of effort to reduce maternal mortality in the country, the Federal Government (FGN) in 2020 launched the Nigeria Reproductive, Maternal, Newborn, Child, Adolescent and Elderly Health plus Nutrition (RMNCAEH+N) platform. Some of the non-governmental organizations including the Society for Family Health (SFH) have also put in their own effort in sensitizing the women on the need to access ANC services. The International Journal of Women's Health also records significant level of maternal mortality in Anambra State using Nnamdi Azikiwe University Teaching Hospital as case study (Obiechina, Okolie, Okechukwu, Oguejiofor, Udegbonam, Nwajiaku, Ogbuokiri, & Egeonu, 2013).

Unfortunately, it appears that there is increase in child birth complications contributing to high maternal and infant mortality in Nigeria, Anambra State inclusive. It is against this that the study is set to determine the level of utilization of antenatal care services among pregnant women in teaching hospitals in Anambra State.

Purpose of the Study

The main purpose of this study was to determine the level of utilization of antenatal care services among pregnant mothers in federal medical centre, Onitsha, Anambra State. Specifically, the study determined;

1. The level of utilization of health education services among pregnant women attending federal medical centre, Onitsha, Anambra State based on their level of education.
2. The level of utilization of health education services among pregnant women attending federal medical centre, Onitsha, Anambra State based on their age.

Research Questions

The following research questions guided the study;

1. What is the level of utilization of health education services among pregnant women attending federal medical centre, Onitsha, Anambra State based on their level of education?
2. What is the level of utilization of health education services among pregnant women attending federal medical centre, Onitsha, Anambra State based on their age?

Research Hypothesis

1. There was no significant difference in the level of utilization of health education services among pregnant women attending federal medical centre, Onitsha, Anambra State based on their level of education.

Conceptual Framework

Utilization

Utilization can be considered as usage; to make a practical, worthwhile or profitable use of something. In healthcare, utilization denotes the measure of the population's use of the health care services available to them. Poor utilization of antenatal care and skilled birth attendant or health facility delivery have been associated with the high levels of maternal morbidity and mortality among

childbearing women in developing countries. Ogbalu (2009) observed that more maternal deaths occur among the "unbooked" patients (pregnant women without antenatal supervision) than the booked ones; and identified non utilization of available medical services by pregnant women as one of the related factors that may contribute to the high rate of maternal death.

Fagbamigbe and Idemudia (2015) opined that the poor maternal outcome in Nigeria could be as a result of poor antenatal care utilization. In addition, scientific evidence has clearly established the inverse relationship between skilled attendants at birth and the occurrence of maternal deaths (Babalola & Fatusi, 2009). Corroborating this assertion, Nwosu *et al* (2012) reported studies in Nigeria that have related maternal health to poor utilization and other risk factors. For instance, Ibeh (2008) studied maternal mortality index in Nigeria in relation to poor utilization using Anambra State as case study, and attributed high maternal mortality to poor socio-economic development, weak health care system, low socio-economic status of women and socio-cultural barriers to poor utilization.

Poor utilization of antenatal care and skilled birth attendant services among childbearing women in Anambra State may have similar effects on the health of these mothers and their newborn. It is presumed that improved antenatal care and skilled birth attendant services, increased utilization of the services, with a wider coverage in Anambra State could yield similar results of better pregnancy outcomes and reduction in maternal mortality as observed in other regions of the world.

Antenatal Care Services

Antenatal care services are the care provided to a pregnant woman before delivery. The care includes the clinical assessment of the pregnant woman and her fetus during the pregnancy period in order to achieve a favorable outcome for both the mother and child (Oshyemi, Aluko and Oluwatosin, 2018). Oshinyemi *et al* (2018) also revealed that ANC services require detailed history taking, physical examination, laboratory and diagnostic investigations. While rendering these services activities are directed at sustaining the maternal physical and psychological health and improving the fetal wellbeing to ensure the delivery of a live healthy neonate, and also prepare the family for parenthood (Woman's health care 2019) World Health Organization (WHO 2020) defined antenatal care as activities directed at screening for health and socio-economic conditions that are likely to increase the possibility of specific adverse pregnancy outcome, and specific adverse pregnancy outcomes, and providing therapeutic interventions known about planning for safe birth or how to deal with emergencies during pregnancy" focused antenatal care is a goal oriented antenatal care with activities directed at clinical assessment and specific decision making processes when rendering care to the pregnant woman while also maintaining targeted and individualized care.

The world Health Organization (2015) recommends a minimum of four antenatal visits based on a review of the effectiveness of different models of antenatal visits. According to the WHO guidelines, antenatal care visits should include blood pressure screening, urine screening, and blood testing. A woman's heart must provide blood flow for both her entire body and for her baby's entire body and can be taxing on the mother's cardiovascular system. The urine screening would test for bacteria and proteinuria (bacteria or protein in the urine can lead to improper kidney function). Finally the blood test would detect gonorrhea, which is the leading cause of blindness worldwide. People may attend antenatal clinics alright but may delay till complications of pregnancy have set in or when they are about to deliver.

Women of Childbearing Age

Women of childbearing age are women of the reproductive age group (15-49 years), who undergo the process of pregnancy and childbirth, (WHO 2015). This age group and their children are considered as a special group for the following reasons:

1. By virtue of their numbers, mothers and children are the major consumers of health services. They comprise of approximately two-thirds of the population in the developing countries.
2. These groups are subjected to marked physical and physiological stress, which if not cared for may cause serious deviation from normal health.
3. They are exposed to unusual risks of widespread infection, poor nutrition, and hazardous delivery. (Basavanthappa; 2008)

Importance of ANC Services

According to Rustagi, Basu, Garg, Singh and Mala (2021) timely and quality antenatal care services is a crucial determinant towards the prevention of maternal mortality, which is a significant developmental goal for developing countries, which contributes to more than 99% of maternal deaths worldwide. To achieve the Sustainable Development Goals (SDGs) for maternal and newborn health (MNH) in Nigeria by 2030, the number of maternal fatalities must decrease by more than 90 to less than 3000 per year. Maternal mortality reduction is a central theme under SDG 3. The choices that women make in the utilization of a health facility are based on their perception of care, and not on the actual quality of care being delivered. Similarly, according to Nicholas (2020), one step that could be made to reduce maternal mortality is to promote health education which is one of the services rendered during ANC.

However, determining the educational level is vital. Knowing the educational level of the target population is critical when designing actions to give knowledge and raise awareness about a particular issue. Women with higher levels of education are more likely to seek preventive treatment, which contributes to a significant reduction in maternal mortality. As a result, education is social determinants of health that can help people improve their health especially women.

ANC services help pregnant women and care providers to identify early, complications associated with pregnancy. For example, the mother should be monitored for high blood pressure and diabetes, which can complicate pregnancy and may heighten the risk of premature birth (Iyabo, Faronbi, Oyedira, and Erundu 2020). It is the health care that is rendered to the pregnant women throughout pregnancy until the child's birth and is aimed at detecting the already existing problems and/or problems that can develop during pregnancy, affecting the pregnant woman and/or her unborn child

In addition, ANC services provide pregnant women with access to micronutrient supplementation, treatment for hypertension to prevent eclampsia, as well as immunization against tetanus. Antenatal care services can also provide HIV testing and medications to prevent mother-to-child transmission of HIV. In areas where malaria is endemic, health personnel can provide pregnant women with medications and insecticide-treated mosquito nets to help prevent this debilitating and sometimes deadly disease (UNICEF, 2022). For many women around the world, an ANC visit is their first adult contact with the health care system, serving as a gateway to health services both during and beyond maternity care.

Effects of Low Utilization of ANC Services

Ope (2020) opined that poor utilization of ANC services could lead to increase in maternal mortality ratio (MMR). According to Ope, the rate of MMR in several low-and-middle-income countries is alarming, with about 34% of global maternal deaths occurring in Nigeria and India alone. According to the World Health Organization (WHO), the MMR of Nigeria is 814 (per 100,000 live births). The lifetime risk of a Nigerian woman dying during pregnancy, childbirth, postpartum or post-abortion is 1 in 22, in contrast to the lifetime risk in developed countries estimated at 1 in 4900. Continuing, the current evidence suggests that the high rate of maternal and neonatal mortality in Nigeria is linked to the three forms of maternal delay proposed by Thaddeus and Marine. These

barriers include delay in making decision to seek maternal health care; delay in locating and arriving at a medical facility; and delay in receiving skilled pregnancy care when the woman gets to the health facility. Kumalasari, Nurrasyidah and Kuswati (2024) stated that there is a difference in test results before and after being given health education with a pocket book regarding knowledge of balanced nutrition for pregnant women.

According to UNICEF Nigeria (2023), Nigeria's 40 million women of childbearing age (between 15 and 49 years of age) suffer a disproportionately high level of health issues surrounding birth. While the country represents 2.4 per cent of the world's population, it currently contributes 10 per cent of global deaths for pregnant mothers. Latest figures show a maternal mortality rate of 576 per 100,000 live births, the fourth highest on Earth. Each year approximately 262,000 babies die at birth, the world's second highest national total.

The review shows that ANC is the medical care given to pregnant to ensure optimal health of the mother and child. The aim of ANC is achieved by the accessing of ANC services. Some of the ANC services reviewed include; health education, immunization services, family planning services and physical assessment services. The theoretical base upon which this study is hinged is Health Belief Model. In the theoretical studies, utilization, Antenatal Care Services, women of childbearing age, effects of Utilization of ANC Services, importance of ANC Services and summary list of WHO recommendations on ANC are reviewed.

Methodology

The methods that is used to achieve the purpose of the study are described. The design of the study is a cross-sectional research design; a form of descriptive survey. Cross-sectional studies look at a population at a single point in time, like taking a slice or cross-section of a group, and variables are recorded for each participant (Deakin University 2023). The study was carried out in federal medical centre, Onitsha, Anambra State, Anambra State. Anambra State is located in south-east geopolitical zone of Nigeria. The State was created on 27th August, 1991 out of the Old Anambra State. Its capital is Awka. It has 21 local government Areas. It has inter-State boundaries with Delta State to the west, Imo State and River State to the south, Enugu State to the East and Kogi State to the North. The name is derived from Anambra River (Omambala) which is a tributary of the River Niger. The indigenous ethnic groups in Anambra State are the Igbo 98% of population and a small population of Igala 2% of the population (the official Website of Government of Anambra State, 2019).

The population of the study consisted of 1,656 pregnant women attending antenatal clinics in federal medical centre, Onitsha, Anambra State (Nwankwo, 2024). The sample size of the study consisted of 166 pregnant women attending antenatal clinics in federal medical centre, Onitsha, Anambra State. The sample size consists of 10% of the population of 1,656. The instrument for data collection was a researcher-developed questionnaire titled Level of Utilization of Antenatal Care Service Questionnaire (LUACSQ). The data collected was analyzed using Statistical Package for objective Social Sciences Version 26 (SPSS). Frequency, percentage, mean and standard deviation was used to answer research questions. Also, Analysis Of Variance (ANOVA) was used to test all the hypotheses stated in the study at 0.05 level of significance.

Results and Discussion

This result presents the results of the study on the level of utilization of antenatal care services among women of child-bearing age in teaching hospitals in Anambra State. The results are presented based on the two research questions and one hypothesis that guided the study. Data were collected from 143 pregnant women attending antenatal clinics at federal medical centre, Onitsha, Anambra State. The results are presented using descriptive statistics (mean, standard deviation) for the research

questions and inferential statistics (Analysis of Variance) for the hypothesis.

Research Question one: What is the level of Utilization of health education services among pregnant women attending federal medical centre, Onitsha, Anambra State based on their level of education?

Table1: Mean Utilization Score of Health Education Services Based on Level of Education

Level of Education	n	Mean	SD	Decision
Primary	2	1.73	0.66	Low Extent
Secondary	25	2.53	0.33	High Extent
Tertiary	116	2.63	0.37	High Extent

Table .1 indicates that education level influenced health education service utilization by pregnant mothers. The mean utilization score of mothers with primary education was 1.73 with low extent of utilization. On the contrary, mothers with secondary and tertiary education levels had mean utilization scores of 2.53 and 2.63 respectively, with high extent of utilization. The standard deviation of the primary education category was 0.66, which is quite high given the small sample size (n=2), while secondary and tertiary education groups had higher consistent responses with a standard deviation of 0.33 and 0.37 respectively. The result of this study therefore indicates that higher education is associated with higher utilization of health education service during antenatal care.

Research Question Two: What is the level of Utilization of health education services among pregnant women attending federal medical centre, Onitsha, Anambra State based on their age?

Table 2: Mean Utilization Score of Health Education Services Based on Age

Age Group	N	Mean	SD	Decision
15-25	26	2.63	0.28	High Extent
26-35	81	2.63	0.42	High Extent
36-45	30	2.52	0.33	High Extent
46 and above	6	2.51	0.35	High Extent

Table .2 reveals that pregnant women across all age groups utilized health education services to a high extent. Women aged 15-25 years and 26-35 years had the highest mean utilization scores of 2.63 each, followed by those aged 36-45 years with a mean of 2.52, and women aged 45 years and above with a mean of 2.51. The standard deviations ranged from 0.28 to 0.42, indicating relatively low variability in the responses within each age group. This finding suggests that age does not substantially influence the utilization of health education services during antenatal care visits, as all age groups demonstrated high levels of utilization.

Test of Hypothesis

Hypothesis One: There is no significant difference in the level of utilization of health education services among pregnant women attending federal medical centre, Onitsha, Anambra State based on their level of education.

Table 3: ANOVA Summary for Health Education Services Based on Level of Education

Source of Variation	Sum of Squares	df	Mean Square	F	P-value
Between Groups	1.733	2	0.866	6.524	0,002
Within Groups	18.592	140	0.133		
Total	20.324	142			

Above is the result of ANOVA of health education service utilization by educational level (Table 1). The F-value of 6.524 with p-value of 0.002 ($p < 0.05$) indicates that there exists a significant difference between the extent of health education service utilization among female individuals with varying educational levels. The null hypothesis can therefore be rejected.

Discussion of Findings

This section presents the research study's results relative to the research questions, hypotheses, and literature on utilization of antenatal care service. The discussion follows the four general classes of antenatal care service that were analysed in this study; health education service, immunization service, family planning service, and physical examination service.

The results showed that pregnant women of all ages made high utilization of health education services without any significant difference by age ($F = 0.738$, $p = 0.531$). The result indicates that health education is acceptable to women of all their ages during pregnancy. The research results agree with the research conducted by Um *et al.* (2018), which showed that pregnant women who attend health facilities to get antenatal care health education services were knowledgeable about health requirements and self-care, thus enhancing utilization of emergency care services. The equal utilization across all the ages might indicate general acknowledgment of health education significance during pregnancy and the competence of health care givers to provide such services to all pregnant mothers.

Educational level, however, had a significant effect on health education service utilization ($F = 6.524$, $p = 0.002$). The women with only primary education utilized the health education services significantly less than the women with secondary and tertiary education. This result is supported by the findings of Prajapati *et al.* (2022), who observed that antenatal care provides a mechanism of identifying and following up with high-risk pregnancy cases and educating mothers to achieve healthy delivery outcomes. The utilization was lower among the women with only primary education and can be due to lack of health literacy, poor ability to understand the significance of health education, or cultural and socioeconomic factors that keep the mothers distant from comprehensive involvement with health care givers. Babalola (2014) explains that antenatal care service ensures good rapport between the service provider and pregnant mothers, and this rapport is compromised by a lack of educational background to understand and enjoy the information being offered to the mothers.

The post hoc test showed that the key educational threshold is primary education, because no significant difference was found between secondary and tertiary educational levels. This indicates that secondary education is enough to make women knowledgeable and aware of the usefulness of health education services (Raghupathy, 1996). This result is of significant policy relevance, because it emphasizes that special efforts should be made to target women with low educational levels. The health care service providers should consider that their health education strategies should be adjusted to better provide health education to those with limited formal education, possibly with the addition of more visual aids, local dialects, and simpler language.

Contribution to Knowledge

This study contributes to knowledge about utilization of antenatal care by the following. First, this study provides contemporary evidence of utilization of a select range of antenatal care service types (health education, immunization, family planning, and physical examination) among teaching facilities across the State of Anambra, thus filling a gap within the literature on service-specific utilization. While previous research works have examined overall utilization of antenatal care attendances, this study distinguished utilization by service category, providing sharper insights to inform specifically targeted intervention. Second, the study finds that education is a better indicator of utilization of antenatal care services than is age, and of utilization of health education services.

This adds to the literature on the importance of the education of women in health-seeking and maternal health outcomes. The identification of primary education as the crucial threshold is of considerable importance to educational policy and health education programs.

Conclusion

According to this research finding, a number of conclusions can be made on the use of antenatal care services by expectant women in teaching hospitals in Anambra State, in particular federal medical centre, Onitsha, Anambra State. The research first concludes that the level of education is a more powerful determinant in antenatal care use than women's age, especially in regards to health education use. Primary schooled women systematically underutilize health education compared to secondary and tertiary-educated women. This observation highlights the importance that schooling brings in terms of allowing women to comprehend, value, and participate more in health messages imparted during antenatal consultations. It is significant that no significant effect was noted by women's age on use of any of the four identified service types so as to show that the teaching hospital ensures equal access to services regardless of women's ages, something that is laudable.

Secondly, the study concludes that physical assessment services and health education show relatively high use by the majority of women, but immunisation and family planning services show only moderate use by all groups. The trend suggests that services that can be offered as a standard consultation product (health education and physical assessment) are sufficiently used, but services that may require additional consent, time or resources (family planning and immunisation) encounter obstacles that cut across all women regardless of schooling level or age. The moderate use level of immunisation services poses a concern given the central role that vaccination plays in preventing maternal and neonatal infection. At the same level, the moderate use level of family planning services means missed opportunities for counselling on spacing births that can mitigate maternal mortality that occurs with closely spaced births.

Recommendation

Based on the outcome and discovery of this study, the following recommendations can be made towards improving the utilization of antenatal care services by pregnant women in teaching institutions in Anambra State and reducing maternal deaths:

1. Specialized Health Education Initiatives for Illiterate or Poorly Literate Females
2. The Federal Ministry of Health, State Ministry of Health, as well as hospital administration, need to prepare and apply specific health education interventions for pregnant women who lack primary or primary schooling.
3. Utilize simplified language, visual aids, pictorial materials and demonstrations rather than text-heavy information.
4. Use peer educators or community health workers who can speak in local languages and cultural settings.
5. Provide group health education where women sharing the same level of schooling can educate in unison and motivate each other.
6. Creating audio-visual tools (video messages, voice messages) that can deliver important health messages without literacy barriers.
7. Follow up sessions with a repetition of significant messages to confirm understanding.

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