

Effect Of Maternal Health Education On The Health Knowledge Of Pregnant Mothers Attending Ante-Natal Clinics In Anambra State, Nigeria.

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Abstract: Maternal mortality is a tragedy for the family, as the death of a mother deprives the child of breast feeding and can result in infant mortality. Maternal health education is aimed at improving health knowledge of mothers. This study was designed to determine the effect of maternal health education on the health knowledge of pregnant mothers attending antenatal clinics in Anambra State, Nigeria. Demographic variables of age group and location were considered in this study. Quasi-experimental pre-test, post-test, control non randomized design was used for the study. The sample consisted of 211 pregnant women attending antenatal clinics in the sampled health facilities in Anambra State. Purposive sampling technique was adopted for the study. A validated and reliable Maternal Health Knowledge Questionnaire (MHKQ) was the instrument for data collection. Data collected were analysed using descriptive statistic of means for answering the research questions (mean difference). The null hypotheses were tested using Analysis of Covariance (ANCOVA) at .05 level of significance. The results among others showed that mothers in experimental group recorded higher mean difference health knowledge scores (8.99) more than those in control group (mean difference for health knowledge scores = 1.11). Maternal health education had significant influence on health knowledge of pregnant mothers ($P < .05$). Researchers therefore concluded that maternal health education increased health knowledge of pregnant mothers. Hence, they recommended among others that maternal health education must be upheld in every antenatal clinic.

Key Words: Maternal mortality, maternal health education, antenatal clinic.

I. Introduction

Antenatal care raises awareness about the need for care at delivery, and also gives women and their families a familiarity with health facilities that enables them seek help during crisis. Pregnant mothers need to recognize the importance of antenatal care and to receive such care during pregnancy (Nisar & White, 2003). Bbaale (2011) stated that antenatal care (ANC) plays an important role in ensuring a healthy mother and baby during pregnancy and after birth. According to Holmes and Baker (2006), antenatal clinics are where antenatal care is given to pregnant mothers. Care given at antenatal clinics are geared towards good maternal and child health.

According to Bodhi Tree Educational Foundation (2013), maternal health education forms the foundation of every childhood development and a healthy child begins with a healthy mother, and a healthy pregnancy. In this study maternal health education refers to a process that informs, motivates and equips pregnant mothers with the skills to adopt and maintain healthy practices and life-styles in order to prevent illness, conserve health and promote the life of the mothers and their unborn babies. Maternal health education tends to improve knowledge of mothers.

Bhuiyan, Nakamura and Qureshi (2006) conducted a study on the development and assessment of maternal and child health (MCH) handbook in Bangladesh. They stated that providing maternal health knowledge to the mothers and families through a communication tool will help to improve and sustain the maternal health conditions of a country. The results of the study showed that there has been satisfactory improvement of knowledge regarding ANC visit, danger signs, breastfeeding and vaccination among case group after intervention of MCH handbook. The result also showed that knowledge remained almost the same for the control group who was provided with conventional cards only. Also, Nisar and White (2003) in their study titled factors affecting utilization of antenatal care among reproductive age group women (15 – 49 years) in an urban squatter settlement of Karachi. Results revealed that women receiving ANC were more knowledgeable about the importance of dietary protein (AOR = 1.97 95% CI 1.16 – 3.33), intake of green leafy vegetables for the

prevention of anaemia (AOR = 2.34 95% CI 1.33 – 4.11), and reporting danger signs (AOR = 2.25 95% CI 1.07 – 4.74) (Nisar & White, 2003).

Maputle, Lebese, Lebese, Khoza, Khoza, Shilubane, Shilubane, Netshikweta and Netshikweta (2013) did a study entitled knowledge and attitude of pregnant women towards antenatal care services at Tshino village, Vhembo district, South Africa. The results revealed that pregnant women had knowledge related to antenatal care services, though had limited knowledge about the importance of early booking. Arthur (2012) conducted a study on wealth and antenatal care use, implications for maternal health care utilization in Ghana. The results revealed that wealth still has a significant influence on adequate use of ANC. Education, age, number of living children, transportation and health insurance are other factors that were found to influence the use of ANC in Ghana. Rahman (2009) conducted a study on determinants of maternal health care utilization in Bangladesh. Results showed that maternal education, mothers' age at birth, place of residence, access to mass media and NGO, and wealth quintile significantly increase the utilization rates for antenatal care, delivery care and post natal care.

Maternal education is important in effecting the health seeking behaviour of mothers (Desai & Alva, 2004). Again, it has been shown that health education for mothers can reduce maternal mortality rate by 50 percent (Arthur, 2012). In many developing countries, complications of pregnancy and childbirth are the leading causes of death among women of reproductive age. A woman dies from complications from childbirth approximately every minute (WHO, 2005). About 358,000 women died in 2008 of complications during pregnancy or childbirth. Most of these deaths can be avoided as the necessary medical interventions exist and are well known. The key obstacle is pregnant women's lack of access to quality skilled care (e.g. ANC) before, during and after childbirth. Again, Millennium Development Goal 5 (MDG5) improves maternal health; set the targets of reducing maternal mortality by 75 per cent and achieving universal access to reproductive health by 2015. But so far progress in reducing maternal mortality in developing countries like Nigeria and providing family planning services has been too slow to meet the targets (WHO, 2013). Index Mundi (2012) posited that maternal mortality rate in Nigeria in 2010 was 630 deaths/100,000 live births.

In this present study, the researchers developed detailed structured planned and more inclusive health education which was delivered to pregnant mothers on scheduled dates. It covered maternal health issues especially those causes/risk factors of maternal morbidity and mortality that can be handled by health education. Examples include anaemia, malaria, pre-eclampsia/eclampsia, infection/sepsis, frequency of childbirth, and malnutrition in pregnancy. This study looked at variables such as age group and location (place of living) and effect they may have on health knowledge of pregnant mothers. For example with respect to age, studies have shown that age has influence on some causes of maternal morbidity and mortality. A study by Idowu, Mafiana and Sotiloye (2005) revealed that all severely anaemic pregnant women were under 30 years old. Maternal age of more than 20 years was protective for pre-eclampsia (Baradaran, Bahasadri & Razieh, 2011). Age influences the use of antenatal care (Arthur, 2012). Ezeruigbo (2013) in her study stated that women aged 25 – 44 years were more likely to use antenatal services than those younger than 25 or older than 44 years. Location is another variable that addresses where the subjects reside/live. It can be urban or rural. Urban location is bound to have more amenities like health facilities than a rural location. Arthur (2012) in his study revealed that considerable variations exist in the use of ANC in the geographical regions and between the rural and urban dwellers.

Statement of the Problem

Good health for mothers is an important public health concern. Maternal health refers to the health of women during pregnancy, childbirth and the post partum period. While motherhood is often a positive and fulfilling experience, for numerous women, it is associated with suffering, ill health and even death (WHO, 2013). According to Centre for Health and Gender Equity (2014), pregnancy continues to carry a high risk of death worldwide, despite numerous commitments to address the issues that increase maternal mortality. Further, an estimated 350,000 women die each year from complications of pregnancy and childbirth worldwide, mostly from preventable causes. Quality antenatal care services and proper maternal health education will reduce maternal mortality (WHO, 2005). The estimated average maternal mortality rate in Nigeria, however, is 1,000 for every 100,000 births, but this figure varies according to states of the country (Maya, 2010). The magnitude of maternal mortality at a glance shows Nigeria: 140 daily; 1 death in 8 to 10 minutes, and maternal mortality rate is 1,500 to 1,800 in 100,000 births (Adesokan, 2011). A study by Igwegbe, Eleje, Ugboaja and Ofiaeli (2012) revealed that in Anambra State, out of 4,916 live births 54 maternal deaths occurred, giving a maternal mortality rate of 1,098 per 100,000 live births.

Maternal morbidity and mortality constitute a serious health problem that requires systematic investigations. Hence, the problem of this study posed in question form is: does maternal health education on maternal health issues lead to increased health knowledge among pregnant mothers in Anambra State, Nigeria?

Purpose of the Study

The purpose of the study was to determine the effect of maternal health education on the health knowledge of pregnant mothers attending antenatal clinics in Anambra State, Nigeria. Specifically, the study determined the effect of maternal health education on the:

1. health knowledge scores of pregnant mothers about maternal health issues in both experimental and control groups.
2. health knowledge scores of pregnant mothers of different age groups after maternal health education.
3. health knowledge scores of pregnant mothers of different residential locations after maternal health education.

Scope of the Study

The subjects of this study were pregnant mothers attending antenatal clinics in Anambra State, Nigeria. The study also examined the effect of age and residential locations on maternal health knowledge.

Research Questions

1. What is the effect of maternal health education on health knowledge scores of pregnant mothers in both experimental and control groups?
2. What is the effect of maternal health education on health knowledge scores of pregnant mothers treated with maternal health education based on their age groups?
3. What is the effect of maternal health education on health knowledge scores of pregnant mothers treated with maternal health education based on their residential locations?

Hypotheses

The following null hypotheses were tested at .05 level of significance.

1. There is no significant difference in the mean health knowledge scores of pregnant mothers exposed to maternal health education and those in the control group.
2. There is no significant difference in the mean health knowledge scores of pregnant mothers of different age groups exposed to maternal health education.
3. There is no significant difference in the mean health knowledge scores of pregnant mothers exposed to maternal health education based on location.

II. Methods And Materials

Research Design

The design adopted for this study was quasi-experimental research design.

Area of the Study

The area of the study was Anambra State. The state is one of the thirty-six states of Nigeria and is located in the south-east geo-political zone of the country.

Population for the Study

The population for the study consisted of all the pregnant women in Anambra State.

Sample and Sampling Technique

The sample size for the study was 211 subjects (119 subjects for experimental group & 92 subjects for control group). Purposive sampling technique was adopted in this study. For the purpose of having representatives from urban and rural areas, two urban areas were purposively selected which were Nnamdi Azikiwe Teaching Hospital, Nnewi (NAUTH) and Odumegwu Ojukwu University Teaching Hospital, Amaku-Awka. Then two rural areas which were Health Centre, Neni and Health Centre, Awka-Etiti. The pregnant mothers who registered and attended antenatal clinics regularly in the four selected health facilities during the period of study, and who satisfied the inclusion criteria participated in the study. The inclusion criteria were: the subject must be confirmed pregnant, duly registered at antenatal clinic, must be between 28 and 32 weeks gestation; complies with ANC appointment dates, and had no impending cause(s) of maternal mortality. Subjects in one urban and one rural health facilities were assigned a treatment (experimental) group whereas subjects in another one urban and one rural health facilities were assigned to a control group.

Instrument for Data Collection

The instrument for data collection was a validated structured questionnaire entitled Maternal Health Knowledge Questionnaire (MHKQ) which has a reliability result of .88. The MHKQ consisted of four sections. The four sections consisted of 36 structured closed-ended question items.

Training of Research Assistants

One nursing staff each was selected from the two health facilities used for the experimental group to get a total of two research assistants, who assisted in the teaching of the mothers.

Control of Extraneous Variable of Interference.

Control group was in one rural and one urban health facilities while the experimental group was in another one rural and one urban health facilities. No person was trained as research assistant for control group. Two research assistants were trained only for experimental group. The research assistants were allowed to do the teaching to the subjects rather than the researchers. This enabled the subjects feel at home and minimized bias.

Method of Data Collection.

Permission to conduct the study was requested for and obtained from management of the various health facilities (NAUTH, Amaku-Awka, Neni and Awka-Etiti). Ethical approval and verbal consent were obtained from the ethical committee of NAUTH and the mothers in the various health facilities respectively. Arrangements were made with the various heads of the antenatal clinics in the various health facilities to ask all pregnant mothers within 28 to 32 weeks of gestation who registered to report weekly to the ANC for the training programme which lasted for a period of six weeks (once every week i.e. 6 sessions). Those assigned to the treatment group received detailed, structured, planned and more inclusive maternal health education on maternal health issues especially on the causes of maternal morbidity and mortality. Those in the control group in differently located health facilities did not receive any form of teaching on the maternal health issues from the researchers or assistants but received normal and usual antenatal health talk weekly for six weeks too. Subjects in both groups were informed about the purposes of the study and their consent to participate in the exercise was obtained.

The researchers and two research assistants carried out weekly visits to the designated health facilities. Each group of mothers was visited once every week to continue with the teaching exercise which lasted for not more than one hour per day. The lessons lasted for a total period of six weeks.

Pretesting

Before the teaching interventions, the subjects were assembled in their individual health facilities and copies of the close-ended pre-test questionnaire were administered to the mothers in the two groups (i.e. treatment and control groups) to fill-in. The copies of the questionnaire administered were collected and scored later. This helped to ascertain their baseline health knowledge. Then the mothers in the treatment group received six weeks sessions of teaching on issues especially health education on preventable causes of maternal morbidity and mortality (one session each week lasted for one hour). The mothers in the control group only received health talks on general health issues from health workers in their antenatal clinics but none from the researchers or research assistants.

Post-test

At the end of six weeks exercise, copies of the same questionnaire with the question items numbers reshuffled were re-administered to the subjects in the treatment and control groups by the researchers and research assistants.

Method of Data Analysis

The descriptive statistics of mean scores were used for answering research questions. For all the null hypotheses, inferential statistics of analysis of covariance (ANCOVA) was used to test the hypotheses at .05 level of significance and appropriate degree of freedom.

III. Results

Research question one.

What is the effect of maternal health education on the health knowledge scores of pregnant mothers in both experimental and control groups? Data answering this research question are contained in Table 1.

Table 1 Mean Difference Between the Scores of Health Knowledge of Pregnant Mothers Exposed to Maternal Health Education and Those not Exposed to Maternal Health Education (Experimental = 119, Control = 92).

Source of Variation	N	Pretest \bar{X}	Posttest \bar{X}	Mean Difference	% \bar{X} Difference
Treatment	119	16.96	25.95	8.99	53%
Control Group	92	18.57	19.68	1.11	5.97%

Table 1 showed the pretest mean score of 16.96 and posttest mean score of 25.95 with mean difference score of 8.99(53%) in health knowledge for the pregnant mothers treated with maternal health education. Pretest mean score of 18.57 and posttest mean score of 19.68 with mean difference score of 1.11(5.97%) for the pregnant mothers in the control group. Therefore, maternal health education increased pregnant mothers' health knowledge.

Research question two.

What is the effect of maternal health education on health knowledge scores of pregnant mothers treated with maternal health education based on their age groups? Data answering this research question are contained in Table 2.

Table 2 Mean Difference of Health Knowledge Scores of Pregnant Mothers on Maternal Health Issues in Relation to Their Ages.

Source of Variation	N	Pretest Mean	Posttest Mean	Mean Difference	% Mean Difference
BELOW 20 YEARS	11	16.27	24.36	8.09	49.72%
20 TO 30 YEARS	55	16.60	25.76	9.16	55.18%
31 TO 40 YEARS	35	17.51	26.20	8.69	49.63%
41 YEARS & ABOVE	18	17.39	27.00	9.61	55.26%

Table 2 indicated that with mean difference score of 9.61(55.26%) in health knowledge for the pregnant mothers aged from 41 years and above, they had more than others after being treated with maternal health education. Pregnant mothers aged 20 to 30 years had mean difference score of 9.16 (55.18%), followed by those aged 31 to 40 years who had mean difference score of 8.69 (49.63%), while those aged below 20 years had mean difference score of 8.09 (49.72%) in maternal health knowledge.

Research question three.

What is the effect of maternal health education on health knowledge scores of pregnant mothers treated with maternal health education based on their location? Data answering this research question are contained in Table 3.

Table 3 Mean Difference of Health Knowledge Scores of Pregnant Mothers on Maternal Health Issues Based on Their Location.

Source of Variation	N	Pretest Mean	Posttest Mean	Mean Difference	% Mean Difference
URBAN	90	16.99	25.74	8.75	51.50%
RURAL	29	16.86	26.59	9.73	57.71%

Table 3 indicated that pregnant mothers in both rural and urban areas had mean difference scores. Pregnant mothers in rural areas had more mean difference score of 9.73 (57.71%) than those in the urban areas who had mean difference score of 8.75 (51.50%) after being treated with maternal health education.

Null hypothesis one.

There is no significant difference in the mean health knowledge scores of pregnant mothers exposed to Maternal Health Education and those in the control group. Data answering this hypothesis are contained in Table 4.

Table 4 Summary of ANCOVA Analysis Testing the Null Hypothesis of No Significant Difference in the Mean Health Knowledge Scores of Pregnant Mothers Exposed to Maternal Health Education (Experimental Group) and Those not Exposed to Maternal Health Education (Control Group)

Source of Variation	SS	df	MS	Cal. F	Crit. F	P < 0.05
Corrected Model	2043.868	2	1021.934			
Intercept	2053.316	1	2053.316			
Knowledge 1	7.453	1	7.453			
Treatment Group	1931.269	1	1931.269	100.47	3.84	S
Error	3998.104	208	19.222			
Residual	119787.000	211				
Corrected Total	6041.972	210				

Results in Table 4 showed that the F-calculated value of 100.47, with 1 and 210 degrees of freedom, was greater than the F-table value of 3.84 at .05 level of significance ($F_{\text{cal.}} = 100.47 > F_{\text{table}} = 3.84, P < 0.05$). The null hypothesis of no significant difference between the mean health knowledge scores of mothers exposed to maternal health education and those not exposed was rejected. This implies that there was significant difference between the mean health knowledge scores of pregnant mothers exposed and those not exposed; and the observed difference was not in fact due to chance, but the effect of the maternal health education (MHE) on the knowledge of pregnant mothers.

Null hypothesis two.

There is no significant difference in the mean health knowledge scores of pregnant mothers of different age groups exposed to maternal health education. Data answering this hypothesis are contained in Table 5.

Table 5 Summary of ANCOVA Analysis Testing the Null Hypothesis of No Significant Difference in Mean Health Knowledge Scores of Pregnant Mothers of Different Age Groups Exposed to Maternal Health Education

Source of Variation	SS	df	MS	Cal. F	Crit. F	P > 0.05
Corrected Model	57.685	4	14.421			
Intercept	1669.975	1	1669.975			
Knowledge1	6.060	1	6.060			
AGE	46.126	3	15.375	0.95	2.67	NS
Residual	1854.013	114	16.263			
Total	82044.000	119				
Corrected Total	1911.697	118				

Table 5 showed that at 0.05 level of significance, 3 and 118df, the calculated F0.95 is less than the critical F2.67. The null hypothesis of no significant difference in the mean health knowledge scores of pregnant mothers of different age groups exposed to maternal health education was upheld. Therefore, this implies that health knowledge scores of pregnant mothers of different age groups are the same.

Null hypothesis three.

There is no significant difference in the mean health knowledge scores of pregnant mothers exposed to maternal health education based on location. Data answering this hypothesis are contained in Table 6.

Table 6 Summary of ANCOVA Analysis Testing the Null Hypothesis of No Significant Difference in the Mean Health Knowledge Scores of Pregnant Mothers Exposed to Maternal Health Education Based on Location

Source of Variation	SS	df	MS	Cal. F	Crit. F	P > 0.05
Corrected Model	27.653	2	13.827			
Intercept	1694.763	1	1694.763			
Knowledge1	12.113	1	12.113			
Location	16.095	1	16.095	0.99	3.93	NS
Residual	1884.044	116	16.242			
Total	82044.000	119				
Corrected Total	1911.697	118				

Table 6 showed the F - calculated value of 0.99, with 1 and 118degrees of freedom which was less than the F - table value of 3.93 at .05 level of significance (F - cal. = 0.99 < F-table = 3.92, P > .05). The null hypothesis of no significant difference in the mean health knowledge scores of pregnant mothers exposed to maternal health education based on location was accepted. This implies that health knowledge scores of urban and rural of pregnant mothers were the same.

IV. Discussion

Effects of Maternal Health Education on the Health Knowledge of the Subjects

The result of the study showed that the experimental group recorded a higher mean difference health knowledge score (mean =8.99) than the control group (mean =1.11). Hence maternal health education increased pregnant mothers' health knowledge. Analysis of Co-variance (ANCOVA) carried out showed that maternal health education is significant in enhancing health knowledge of pregnant mothers.

The higher mean difference health knowledge score in experimental group was as a result of health education received by those mothers. Again, the subjects paid attention during the teaching. The finding of the study was in consonance with those documented by Bhuiyan, Nakamura and Qureshi (2006) who observed that there was satisfactory improvement of knowledge regarding antenatal care (ANC) visit, danger signs, breastfeeding and vaccination among case group after teaching intervention of maternal and child health (MCH) handbook. Also, knowledge remained almost the same for the control group who was provided with conventional cards only.

Similarly, in a study by Nisar and White (2003) which aimed at describing the socio-demographic characteristics and utilization pattern of antenatal care (ANC) of reproductive age group women and to assess and compare the knowledge on ANC between women who received and those who did not receive ANC. Women receiving ANC were more knowledgeable. The result of the present study is supported by the findings

of Maputle, Lebese, Lebese, Khoza, Khoza, Shilubare, Shilubare, Netshikweta and Netshikweta (2013) which revealed that pregnant women had knowledge related to antenatal care services. Though, they had limited knowledge about the importance of early booking.

The result disagreed with findings of Rosliza and Muhamed (2011) in which only 44.2% of the pregnant women had good knowledge regarding antenatal care though interview was used for the study. The disparity in the results may be that in the study done by Rosliza and Muhamed, no treatment was given and about 70% of the women had history of home delivery.

The result of the present study is slightly supported by the findings of Igbokwe (2012) which revealed that pregnant women had moderate level of knowledge of concept of antenatal services. Igbokwe's study was a descriptive survey and did not employ maternal health education but only assessed the knowledge of the respondents. This present study, therefore, has demonstrated that maternal health education helps the pregnant mothers to acquire more knowledge.

In addition, the study also examined the moderator variables of age group and location. With respect to age, the findings of this study indicated that the pregnant mothers of all age groups had mean difference health knowledge scores, though some had more than others. Mothers aged 41 and above had more (mean=9.61) than others after being treated with maternal health education. Those aged below 20 had the least score (mean =8.09). ANCOVA carried out revealed that effect of maternal health education in enhancing health knowledge of pregnant mothers does not differ significantly based on their age. The reason that the older mothers had more mean difference scores than others may be because of the fact that they know the need to listen during antenatal teaching.

The result of the ANCOVA is supported by the result of Arthur (2012) which revealed that age is among the factors found to influence the use of ANC in Ghana. It is also supported by Rahman (2009) that mothers' age at birth significantly increases with utilization rates of ANC. The researcher added that since maternal health education is received at antenatal clinic, good attendance to ANC and proper attention to health education at ANC will influence mothers' health knowledge. The finding showed that those aged below 20 had the least score (mean =8.09), meaning they may be more at risk of maternal morbidity and mortality. Thus this group should be given proper attention during antenatal teaching.

With respect to the mothers' residential locations, the result of the study revealed that the pregnant mothers in rural area recorded more (mean = 9.73) than those in the urban areas who have mean difference score of 8.75 after being treated with maternal health education. ANCOVA on the mean scores in health knowledge revealed that the effect of maternal health education in enhancing health knowledge of pregnant mothers does not differ significantly based on location.

The pregnant mothers in rural areas had more mean difference score (9.73) than those in urban area (8.75). Well, it may be because those in the rural area were very attentive and punctual during the maternal health education. Attention is needed for learning to occur and punctuality is important. Those in urban areas felt that they know it all, they have been hearing of maternal health issues, and thus, their interest was affected negatively. They paid less attention to the teaching and were not as punctual as those of the rural areas.

Moreover, the finding disagrees with the finding of Igbokwe (2012) which revealed that pregnant women from urban areas had high level of knowledge of concept of antenatal services while their counter-part from the rural setting had moderate level of knowledge. However, Igbokwe did not give any treatment but rather he used a descriptive design. He collected data using structured questionnaire and analysis using simple percentage and mean responses.

V. Conclusions

Having examined the findings, the following conclusions have been reached.

1. Mothers in the experimental (treatment) group recorded a significant higher mean difference health knowledge score. Hence maternal health education increased pregnant mothers' health knowledge (mean difference scores of 8.99 and 1.11 for experimental and control groups respectively, table 1).
2. Mothers whose ages were 41 years and above recorded the highest mean difference score in health knowledge (9.61) than others after being treated with maternal health education (Table 2).
3. Mothers in rural areas recorded a higher mean difference score in health knowledge than those in urban areas. They had more mean difference health knowledge score than those in the urban areas with mean difference scores of 9.73 and 8.75 respectively (Table 3).
4. Maternal health education had significant influence in health knowledge of pregnant mothers ($P < .05$, Table 4).
5. The effect of maternal health education in enhancing health knowledge of pregnant mothers did not differ significantly based on their age ($P > .05$, Table 5).
6. The effect of maternal health education in enhancing health knowledge of pregnant mothers did not differ significantly based on their location ($P > .05$, Table 6).

Recommendations

1. From the finding that maternal health education is significant in influencing maternal health knowledge; the researchers recommended that maternal health education must be seriously upheld in every antenatal clinic.
2. Health education unit should take up the responsibility of planning and designing health education program for pregnant mothers attending antenatal clinics. This is because from this study, maternal health education is significant in influencing maternal health knowledge.
3. Health educators and midwives should educate mothers attending antenatal clinics and apply all the necessary health education strategies. Examples, varied teaching aids and methods should be used.

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