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Effect of Maternal Health Education on the Health Attitude of Pregnant Mothers Attending Ante-natal Clinics in Anambra State, Nigeria

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ABSTRACT: Maternal health education is aimed at enhancing maternal health attitude. This study was designed to determine the effect of maternal health education on the health attitude 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 Maternal Health Attitude Questionnaire (MHAQ) was used for data collection. The reliability of the instrument was established through Cronbach's Alpha method which yielded 0.80. 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 attitude scores (11.93) more than those in control group (mean = 1.23). 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 that non-governmental organizations should sponsor health education program for pregnant mothers attending antenatal clinics. From time to time, the maternal health education program for antenatal mothers should be reviewed and restructured to meet up with their current health needs.

KEYWORDS: maternal health education, antenatal clinics, health attitude.

I. INTRODUCTION

Nisar and White (2003) stated that antenatal care (ANC) is an important determinant of good maternal health. Lack of ANC is a risk factor for maternal mortality, and reduction of maternal mortality requires early detection of high risk pregnancies through proper ANC. Maternal health refers to the health of women during pregnancy, childbirth, and the post partum period. It encompasses the health care dimensions of family planning, pre-conception, prenatal, and

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postnatal care in order to reduce maternal morbidity and mortality (WHO, 2005). Good maternal health can be promoted through proper maternal health education which invariably influences maternal health attitude. Positive health attitude is capable of influencing maternal morbidity and mortality among pregnant women. Maternal morbidity and mortality in Nigeria are caused by haemorrhage, infection, eclampsia, hypertension, unsafe abortions, malaria in pregnancy, anaemia in pregnancy and female genital cutting (Maya, 2010).

A descriptive study by Sultana and Ahmed (2002) entitled attitude of women of NWFP towards antenatal care stated that a safe motherhood initiative is a global effort to reduce maternal morbidity and mortality. Result revealed that 980 patients were recorded and all of them were married. Monthly attendance showed increasing trend. In the study 72.44% of the women were 25 to 35 years of age while 11.42% were teenagers. Multiparity was recorded in 38.9% and 12.14% had more than nine pregnancies. Six hundred and fifty (650) patients were living near the hospital. 2.24% patients had one visit only, with the rest visiting for 2 to 5 times. Thirty (30) patients had medical disorders. Obstetrical diseases were detected in 194 patients. Pregnancy losses contributed to 146 women and 3 women had more than 6 losses. 254 women selected hospital delivery. Out of them, 160 women were booked in the third trimester. Caesarean section rate among these women was 16.4%. In conclusion, the women living near the hospital used the facility. Antenatal care should be provided at the door step of their houses.

Adekoya (2009) conducted a study on attitude of pregnant women towards antenatal talk. A case study of selected pregnant women in Abeokuta, Nigeria. Total of 100 pregnant women were purposively selected from three hospitals in the state capital. Data on personal characteristics and attitudes towards antenatal talk were elicited using Likert type questions in a structured questionnaire. The result revealed that the mean age of the pregnant women in the location are within the economic/active age range. The mean household income was found to be #30,000 per month, and majority (66%) of the women are employed, majority were within gestational age of 6 to 9 months. Also majority of the pregnant women had positive attitude to the antenatal talk. However, the women reported they would prefer a more practical session combined with demonstrations. The overall rating ranges from good to very good.

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. Population comprised all pregnant women who were residing at Tshino village and attending antenatal care services. Non-probability, Snow ball sampling method was used to select ten pregnant women. Data were collected through semi-structured in-depth interviews. The results revealed that pregnant women had knowledge related to antenatal care services, though had limited knowledge about the importance of early booking. The pregnant women further displayed positive and negative attitude towards the antenatal care services.

Rosliza and Muhamed (2011) conducted a study entitled knowledge, attitude and practice on antenatal care among Orang Asli women in Jempol, Negeri Sembilan. All women aged between 15 to 49 years old who had at least one antenatal experience were interviewed using a structured, pretested questionnaire. A total of 104 women were interviewed. Among them, 92.3% admitted attending antenatal clinic during their previous pregnancies while only 48.1% came early for their first check-up. About 70% of the women had history of home delivery and 44.2% had experienced at least one high risk pregnancy before. Study revealed that 44.2% (95% CI, 34.7 – 53.7%) of the women have good knowledge regarding antenatal care while 53.8% (95% CI, 44.3 – 63.1 %) of them noted to have positive attitude regarding antenatal care. However, result showed that the level of knowledge regarding the importance of early antenatal care, screening tests, and complications of diabetes and hypertension in pregnancy were poor.

Another is a study by Igbokwe (2012) on knowledge and attitude of pregnant women towards antenatal services in Nsukka Local Government Area of Enugu state. A multistage sampling technique of balloting without replacement was used to select 259 pregnant women in Nsukka local government area of Enugu state. Data were collected using structured questionnaire and analysis was done using simple percentage and mean responses. Results showed that pregnant women had moderate level of knowledge of concept of antenatal services. Pregnant women from urban area had high level of knowledge of concept of antenatal services while their counterpart from the rural setting had moderate level of knowledge.

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 attitude of

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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.

II. STATEMENT OF THE PROBLEM

Good health for mothers is an important public health concern. Death during childbirth is often the concluding event in a long story of pain and suffering. Millions more are left with permanent disability and damage which impact their ability to undertake social and economic responsibilities and share in the development of their communities. The deaths, many of which may be preventable, impact women who are not only childbearing but are also often the mainstays within a family – as carers to the young and old, bread winners and educators of children (Scotland Malawi Partnership, 2010).

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 positive health attitude among pregnant mothers in Anambra State, Nigeria?

III. PURPOSE OF THE STUDY

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

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

IV. SCOPE OF THE STUDY

The subjects of this study were pregnant mothers attending antenatal clinics in Anambra State. The study was delimited to only four well-attended health facilities in Anambra State. Two urban facilities namely Nnamdi Azikiwe University Teaching Hospital (NAUTH) Nnewi, Odumegwu Ojukwu University Teaching Hospital, Amaku, Awka; and two rural health facilities namely Primary Health Centre, Neni and Health Centre, Awka-Etiti.

The study also examined the effect of age and residential locations on maternal health attitude.

V. RESEARCH QUESTIONS

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

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VI. HYPOTHESES

In this study, the following null hypotheses were tested at .05 level of significance.

1. There is no significant difference in the mean health attitude 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 attitude scores of pregnant mothers exposed to maternal health education based on their age groups.
3. There is no significant difference in the mean health attitude scores of pregnant mothers exposed to maternal health education based on residential location.

VII. METHODS AND MATERIALS

VIII. RESEARCH DESIGN

The design adopted for this study was quasi-experimental research design. Quasi-experimental design involves selecting groups, upon which a variable is tested, without any random pre-selection processes. In its simplest form, it requires a pretest and post test for a treated and comparison group (Trochim, 2006).

IX. 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.

X. POPULATION FOR THE STUDY

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

XI. SAMPLE AND SAMPLING TECHNIQUE

The sample size for the study was 211 subjects (119 subjects for experimental group & 92 subjects for control group). Only health facilities were sampled and all the pregnant women attending antenatal clinics in the sampled health facilities at the time of the study constituted the sample. Purposive sampling technique was adopted in this study. For the purpose of having representatives from urban and rural areas, two urban areas and two rural areas were purposively selected. 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.

XII. INSTRUMENT FOR DATA COLLECTION

The instrument for data collection was a validated structured questionnaire entitled Maternal Health Attitude Questionnaire (MHAQ) which has a reliability result of .80. The MHAQ consisted of two sections. In section A, the respondents were required to provide the demographic information such as age group and residential location. Section B of the questionnaire was on health attitude of the subjects and has 9 four-point response form of questions of strongly agree, agree, disagree and strongly disagree

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XIII. 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 mother.

XIV. CONTROL OF EXTRANEOUS VARIABLE OF INTERFERENCE

This is to eliminate alternative sources of variations that were most likely to distort the results. 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 researcher. This enabled the subjects feel at home and minimized bias.

XV. 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 committees of NAUTH and the mothers respectively. Subjects 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.

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 to ascertain their baseline health attitude. 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). While 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. 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 group (119 subjects). For control group only 92 subjects participated.

XVI. 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.

XVII. RESULT

Research question one.

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

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Table 1

Mean Difference of Health Attitude Scores of Pregnant Mothers in Both Experimental and Control Groups on Maternal Health Issues.

Source of Variation	N	Pretest \bar{X}	Posttest \bar{X}	Mean Difference	% \bar{X} Difference
Treatment	119	19.33	31.26	11.93	62%
Control Group	92	18.95	20.16	1.23	6.5%

Table 1 revealed that with pretest mean score of 19.33 and posttest mean score of 31.26 with mean difference of 11.93 (62%) in attitude for the pregnant mothers treated with maternal health education as against pretest mean score of 18.95 and post test mean score of 20.16 with mean difference of 1.23 (6.5%) for the pregnant mothers in the control group. Therefore, maternal health education enhanced pregnant mothers' health attitude.

Research question two.

What is the effect of maternal health education on health attitude 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 Attitude Scores of Pregnant Mothers on Maternal Health Issues Based on Their Age Groups After Maternal Health Education.

Source of Variation	N	Pretest \bar{X}	Posttest \bar{X}	Mean Difference	% \bar{X} Difference
BELOW 20 YEARS	11	19.45	28.82	9.37	48%
20 TO 30 YEARS	55	19.05	31.0	12.00	63%
31 TO 40 YEARS	35	19.37	32.40	13.03	67%
41 YEARS & ABOVE	18	20.00	31.17	11.17	56%

Table 2 indicated that with mean difference of 13.03 (67%) in attitude for the pregnant mothers aged from 31 to 40 years, they have more positive health attitude than others after being treated with maternal health education. Pregnant mothers aged 20 to 30 years had mean difference of 12.00 (63%), followed by those aged 41 years and above who had mean difference of 11.17 (56%). Finally, those aged below 20 years had mean difference of 9.37 (48%) in maternal attitude.

Research question three.

What is the effect of maternal health education on health attitude 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 Attitude Scores of Pregnant Mothers on Maternal Health Issues Based on Their Location.

Source of Variation	N	Pretest \bar{X}	Posttest \bar{X}	Mean Difference	% \bar{X} Difference
URBAN	90	19.78	32.40	12.62	64%
RURAL	29	17.93	27.72	9.79	55%

Table 3 showed that with mean difference of 12.62 (64%) in health attitude for the pregnant mothers in urban areas, they had more positive health attitude than those in the rural areas who had mean difference of 9.79 (55%) after being treated with maternal health education.

Null hypothesis One.

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

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Table 4

Summary of ANCOVA Analysis Testing the Null Hypothesis of No Significant Difference in the Mean Health Attitude Scores of Pregnant Mothers Exposed to Maternal Health Education and Those in the Control Group

Source of Variation	SS	df	MS	Cal. F	Crit. F	P < 0.05
Corrected Model	409.303	2	204.651			
Intercept	2852.940	1	2852.940			
ATTITUDE1	10.790	1	10.790			
TREATMENTGROUP	386.534	1	386.534	21.71	3.84	S
Residual	3703.124	208	17.803			
Total	194673.000	211				
Corrected Total	4112.427	210				

Results in Table 4 showed that the F-calculated value of 21.71, with 1 and 210 degrees of freedom, was greater than the F- table value of 3.84 at .05 level of significance ($F\text{-cal.} = 21.71 > F\text{-table} = 3.84, P < 0.05$). The null hypothesis of no significant difference between the mean health attitude 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 attitude 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 attitude of pregnant mothers.

Null hypothesis two.

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

Table 5

Summary of ANCOVA Analysis Testing the Null Hypothesis of No Significant Difference in the Mean Health Attitude Scores of Pregnant Mothers Exposed to Maternal Health Education Based on Their Age Groups

Source of Variation	SS	df	MS	Cal. F	Crit. F	P > 0.05
Corrected Model	167.616	4	41.904			
Intercept	1141.453	1	1141.453			
ATTITUDE1	54.064	1	54.064			
AGE	114.355	3	38.118	2.28	2.67	NS
Error	1903.308	114	16.696			
Residual	118360.000	119				
Corrected Total	2070.924	118				

In table 5, it was observed that at 0.05 level of significance, 3 and 118df, the calculated $F_{2.28}$ is less than the critical $F_{2.67}$ ($F\text{-cal} = 2.28 < F\text{-table value} = 2.67, P > .05$). The null hypothesis of no significant difference in the mean health attitude scores of pregnant mothers exposed to maternal health education based on their age groups was upheld. Therefore, this implies that health attitude scores of pregnant mothers are the same due to their ages.

Null hypothesis three

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

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Table 6

Summary of ANCOVA Analysis Testing the Null Hypothesis of No Significant Difference in the Mean Health Attitude 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	479.550	2	239.775			
Intercept	1543.039	1	1543.039			
ATTITUDE1	.019	1	.019			
LOCATION	426.290	1	426.290	31.07	2.67	S
Error	1591.374	116	13.719			
Residual	118360.000	119				
Corrected Total	2070.924	118				

Table 6 showed the F - calculated value of 31.07, with 1 and 118 degrees of freedom which was greater than the F - table value of 2.67 at .05 level of significance ($F - \text{cal.} = 31.07 > F - \text{table} = 2.67$, $P < .05$). The null hypothesis of no significant difference in the mean health attitude scores of pregnant mothers exposed to maternal health education based on location was rejected. This implies that health attitude scores of urban and rural of pregnant mothers were not the same.

In table 6, it was observed that at 0.05 level of significance, 1 and 118df, the calculated $F_{31.07}$ is greater than the critical $F_{2.67}$. The third null hypothesis is rejected. Therefore, this implies that the effect of maternal health education in enhancing health attitude of pregnant mothers differs significantly due to location. The result revealed that those in urban area had more mean health attitude scores than those in rural area.

XVIII. DISCUSSION

The result of the study showed effect of maternal health education on health attitude of mothers. The experimental group recorded a higher mean difference health attitude score ($\bar{x} = 11.93$) than the control group ($\bar{x} = 1.23$). Hence, maternal health education enhanced pregnant mothers' health attitude positively. The mean difference health attitude score of mothers as reported can be linked to maternal health education which is a more inclusive teaching as compared to usual health talk given at antenatal clinics. Analysis of Covariance (ANCOVA) carried out showed that maternal health education is significant in enhancing health attitude of pregnant mothers. This is in consonance with Knowledge, Attitude and Practice (KAP) Model (Akinsola, 2002), which is one of the theoretical frameworks applied to this study. KAP established that if you increase people's knowledge about their health practices, their attitude will be changed or modified and become more positive.

The findings of some researchers are in agreement with the result of this present study. For instance, the study by Ferguson, Daris and Browne (2012) showed that the labour and birthing effect on women attending antenatal education include less false labour admissions, more partner involvement, less anxiety but more labour interventions. Also, the result of the study is supported by the findings of Adekoya (2009) which holds that majority of the pregnant women had positive attitude to the antenatal talk. It also agrees with findings of Rosliza and Muhamed (2011) which revealed that 53.8% of pregnant women had positive attitude regarding antenatal care.

The result of this present study was more specific than that of Maputle et al (2013) because it showed that all respondents displayed positive attitude. Maputle et al (2013) revealed that the pregnant women displayed positive and negative attitude towards the antenatal care services. The disparity may be because Maputle et al (2013) used qualitative exploratory approach, snow ball sampling method and used only ten pregnant women. They also collected data through semi-structured in-depth interviews in their study.

This present study also examined the moderator variables of age and location in terms of their individual associations with maternal health attitude, which is the dependent variable. With respect to age, the result of the study is in line with the findings by Sultana and Ahmed (2002) which revealed that 72.44% of the pregnant women were 25 to 35 years of age with monthly attendance showing increasing trend. Though the study was a descriptive type but the findings support the findings of the present study with those aged 31 to 40 years and those aged 20 to 30 years being higher than

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others. These mothers demonstrated their eagerness to learn during the teaching and were very interested to improve their health attitude.

With respect to location, the result of the study showed that the pregnant mothers in urban areas had more mean difference (= 12.62) than those in the rural areas who have mean difference of 9.79 after being treated with maternal health education. The result of the study is not supported by the findings of Igbokwe (2012) which revealed that pregnant women from both urban and rural settings had positive attitudes. The disparity in the results of the two studies may be because Igbokwe used descriptive design, structured questionnaire in data collection and area of study was Nsukka in Enugu State. He did not give any treatment to the subjects.

The result of the present study may be because in the real sense, those in urban areas live in the city with all amenities including regular power supply and internet services. Thus they are expected to make maximum use of these amenities. Example, they can search the internet at home for maternal health issues taught at antenatal clinic after each session of the teaching. Policy makers and programme planners in maternal health education shall take advantage of the findings of this study. This will go a long way in reducing maternal morbidity and mortality which are the problems at stake.

XIX.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 attitude score than those in the control group. Maternal health education enhanced pregnant mothers' health attitude positively (mean difference scores of 11.93 and 1.23 for experimental and control groups respectively). Table 1.
2. There was variation in the mean difference health attitude scores of mothers with respect to age. The pregnant mothers aged 31 to 40 years had more mean difference health attitude score (positive attitude) than others (13.0) after being treated with maternal health education (Table 2).
3. The pregnant mothers in urban areas had more mean difference health attitude score than those in the rural areas with mean difference of 12.62 and 9.79 respectively (Table 3).
4. Maternal health education had significant influence in health attitude of pregnant mothers ($P < .05$, Table 4).
5. The effect of maternal health education in enhancing health attitude of pregnant mothers did not differ significantly due to their ages ($P > .05$, Table 5).
6. The effect of maternal health education in enhancing health attitude of pregnant mothers differed significantly due to location ($P < .05$, Table 6).

XX. RECOMMENDATIONS

1. From the finding that maternal health education is significant in influencing maternal health attitude; the researchers recommended that maternal health education must be seriously upheld in every antenatal clinic.
2. Non-governmental organizations (NGOs) should sponsor health education program for pregnant mothers attending antenatal clinics.
3. From time to time, the health education program should be restructured and reviewed to meet up with the health needs of the pregnant mothers.

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