



Effect of health education programme on practice of cervical cancer screening among women of child bearing age in Anambra state

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Abstract

Effect of Health Education programme on practice of cervical cancer screening among women of child bearing age in Anambra State, two research questions and hypotheses guided the study. The study adopted a quasi-experimental research design and the sample comprised of one hundred and thirty four subjects for experimental group and fifty subjects for control group. The subjects are those women going to antenatal in open emergency clinics in Anambra State at the time of this study. The instrument used for the study contained five inquiries on segment information of the respondents, inquiries on information on cervical disease and practice inquiries with four point reaction alternatives. The reliability of the instrument was set up by utilizing Cronbach alpha to ensure its inward consistency. The means and standard deviation was used to answer the research questions and inferential statistics (ANCOVA) was used to test the null hypotheses at 0.05 level of significance. The findings of the suggests that exposing women of child bearing age to health education programme improved the practice of cervical cancer screening practice than not exposing them to any treatment. Thus, health education programme significantly increased the cervical cancer practice of women of child bearing age. Women of child bearing who had only primary education were better in cervical cancer screening practices than those with higher education qualifications.

Keywords: health education programme, knowledge, cervical cancer practice, women of child bearing age

Introduction

Efficient health education program could contribute to the understanding of cervical cancer, as well as improve screening rates. It can improve health and social cohesion by empowering individuals with knowledge, cognitive and socio-emotional skills and by instilling positive values, attitudes, and norms (Ndikom & Ofi, 2012) [13]. Adequate knowledge can arouse the interest for regular cervical cancer screening among women of child bearing age in Anambra state, it is important to check whether there is a difference in the knowledge and practice of cervical cancer screening of respondents with regard to relevant health education programme. This is because, literature has shown that lack of proper knowledge, proximity to screen centers, cost of screening services and absence of cervical cancer prevention programmes can negatively influence cervical cancer screening uptake (Onyenwenyi & Gugu, 2016; Shida, Kuwana & Takahashi, 2018) [18, 21].

Early detection is important in the management of cervical cancer, however most of the women in developing nations present with advanced disease when nothing can be done for them (Ayinde, Omigbodun & Ilesanmi, 2004; Owoeye & Ibrahim, 2013) [5, 19]. Several reasons for the late presentations have been noted, namely ignorance about the symptoms, fatalistic attitude (fear of death from the disease), readiness to attribute neoplastic disease to supernatural causes thereby resulting in delays in seeking help, fear of confirmation of suspicion and of course the perennial problem of low coverage of the population by health centre services especially the rural areas (Adewole *et al.*, 2005). Hence it has been reported that 50-90% of women who develop or die from cervical cancer have never been screened (Owoeye and Ibrahim, 2013) [19].

Cervical cancer screening is used to find changes in the cells of the cervix that could lead to cancer. Screening includes cervical cytology (also called the Pap test or Pap smear), testing for human papillomavirus (HPV), or both. Most women should have cervical cancer screening on a regular basis (Ifemelumma, Anikwe, Okoro-chukwu, Onu, Obuna, Ejikeme, & Ezeonu, 2019) [11]. The different methods of cervical cancer screening include Papanicolaou (Pap) smear, visual inspection of the cervix with acetic acid (VIA), HPV DNA test, and colposcopy (Ali, Kuelker & Wassie, 2012) [2]. Colposcopy is not used as a primary screening test but it is combined with other tests. Preventive screening for cervical cancer is integrated into the routine annual medical and health care consultations recommended for women in developed countries. However, primary prevention is the prevention of cancer caused by HPV and the use of the HPV vaccine to reduce the risk of cervical cancer (Guljaš & Gvozdanović, 2017) [10]. The vaccine is effective in women aged 16 to 26. Secondary prevention means early detection of the disease, i.e. a visit to a gynaecologist and a cytological analysis at the start of sexual activity, but no later than the age of 20, since such regular controls can detect causes of sexually transmitted infections, pre-stages and the earliest stages of cancer when it is still curable. The tertiary prevention for cervical cancer is for all women who need treatment for invasive cancer at any age. Treatment at tertiary prevention can be with ablative surgery, radiotherapy and chemotherapy (Onyenwenyi & Gugu, 2016) [18]. Poor implementation of cervical cancer prevention policies and guideline remains a concern to many health care professionals, further there is dearth of knowledge on effect of structured programme on cervical cancer preventive practices among women of child bearing

age in Anambra State. A paradigm shift is thus advocated for primary, secondary and tertiary prevention measures for cervical cancer through health education. Findings from studies have suggested that unscreened women were at high risk of cervical cancer which had necessitated researchers to continue to investigate different reasons for non-screening among women (Oche *et al.*, 2013)^[17]. The American Cancer Society recommends that all women should begin cervical screening at age 21 years; a 3 year interval can be considered in the age group 21 to 29 years while women who have had the HPV vaccine should follow the screening recommendations for their age group (American Cancer Society, 2012; Oche *et al.*, 2013)^[3, 17]. Obročníková and Majerníková (2017)^[16], reported that the screening method of the conventional cervical cytology is a secondary prevention strategy for cervical cancer which allows an early detection and treatment of cervical precancerous lesions. Smears are taken by gynecologists and evaluated by approved cytology laboratories. During the first two years, the screening is cytology taken annually. Screening interval is prolonged to 3 years if the two consecutive cytological findings were negative. The screening is discontinued in women aged 64 years, whose last 3 consecutive smears were negative. Continuous care of primary health care workers, extending the screening programs, regarding health policies and system and changing people’s behaviour and attitudes may positively affect the public health. Because of their role in the preventive health services, we should determine the knowledge levels of health care personnel through epidemiologic studies and take actions (Can *et al.*, 2014). The advantages and benefits of cervical cancer prevention using Pap smear test has been demonstrated in countries where there are national screening programmes (WHO, 2018)^[22]; hence had contributed immensely to the lowest incidence and prevalence of cervical cancer outcome. Also the cancer related morbidity, mortality have been reduced and the socio-economic, health burden of the society too. Meanwhile the high rate of late presentation of cases and the subsequent increase in the morbidity or mortality in cervical cancer in the developing world such as Nigeria may be attributed to lack of proper awareness, health education, poor health policies, traditional beliefs and other cultural implications (Mutyaba, Mmiro and Weiderpass, 2011; Ekine, West and Gani, 2015)^[12, 8]. Therefore the objective of this study is to assess the effect of Health Education programme on practice of cervical cancer screening among women of child bearing age in Anambra State.

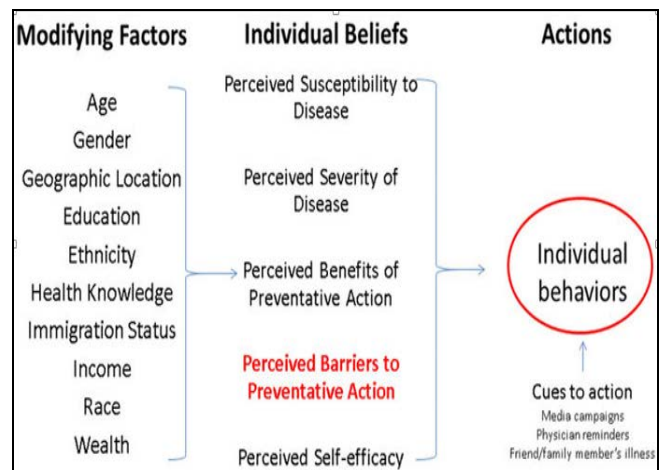
Statement of the Problem

The low level of information regarding prevention of cervical cancer by women seems to be affecting their knowledge of cervical cancer screening for early detection. It seems that they still ignore the occurrence and the likelihood of cervical cancer prevalence among women. Most women of child bearing age seem not to have enough understanding about cervical cancer screening centers and what they entail. Significant number of women, though aware of health risks in cervical cancer, still appears to ignore the preventive actions of cervical cancer screening. Failure of the early detection seems to have caused death in many instances which is more than deaths from other diseases. From all indications, the burden of cervical cancer is rising but with the early detection through screening and

structure health education, the disease needs not claim so many lives again. Some Nigerian women seem to present cases of cervical cancer at an advanced stage of the disease at which little or no therapy can be adopted. The rate of cervical malignant growth is depicted as the main source of gynecological diseases in Nigeria. Cervical malignant growth has accordingly become a genuine endemic issue which presents multidimensional difficulties to the populace, medical services experts, governments, advancement support organizations and corporate economies. In spite of the fact that it is preventable, screening and preventive acts of ladies in the state is restricted and little documentation is accessible. The low degree of data with respect to counteraction of cervical malignant growth by women is by all accounts influencing their insight into cervical disease evaluating for early recognition, hence the need to critically evaluate the effect of Health Education programme on practice of cervical cancer screening.

Theoretical Framework

The study was hinged on Health Belief Model (HBM) which gives models on how the conduct change measure is accepted to happen. The Health Belief Model (Figure 1) is a mental model that endeavors to clarify and anticipate wellbeing practices. The HBM is most broadly utilized health model and has been applied in various settings, including utilization of screening, acquiring inoculations, consistence with clinical regiments and reaction to disease side effects. The major constructs of the Health Belief Model as described by Fayanju, Kraenzle, Drake, Oka & Goodman (2014)^[9] are perceived susceptibility, severity, benefits, barriers, and self-efficacy (middle column). Modifying factors (left column) affect these perceptions, as do cues to action (right column). The combination of beliefs and cues to action leads to behavior. Thus, in order to efficiently evaluate the effect of Health Education programme on practice of cervical cancer screening, the present study seeks to evaluate the pre-test and post-test mean cervical cancer screening practice scores of women of child bearing age exposed to health education programme and the mean cervical cancer screening practice scores of women of child bearing age of different education levels.



Source: Fayanju, Kraenzle, Drake, Oka & Goodman (2014)^[19]

Fig 1: A representation of health belief model (hbm) research questions

The following were the research questions that guided the study.

1. What is the pretest and posttest mean cervical cancer screening practice scores of women of child bearing age exposed to health education programme and those in control group?
2. What is the pretest and posttest mean cervical cancer screening practice scores of women of child bearing age of different education levels exposed to health education programme and those not exposed?

Hypotheses

Specifically the following null hypothesis will guide the study.

1. There is no significant difference in the mean cervical cancer screening practice scores of women of child bearing age exposed to health education programme and those in control group
2. There is no significant difference in the mean cervical cancer screening practice scores of women of child bearing age of different education levels exposed to health education programme and those in control group.

Methodology

The examination embraced a quasi-experimental research design, it utilized pre-test post-test with control group. This semi exploratory plan was utilized on the grounds that irregular task of subjects was unrealistic in the investigation region. The investigation region is Anambra state and the populace for the examination comprised of all ladies of child bearing who enlisted for antenatal in open medical clinics in Anambra State within the time of this investigation. This classification of ladies were picked on the grounds that they are within the child bearing age bracket and are prone to cervical cancer. The example size for this examination comprised of 134 subjects for trial group and 50 subjects for control group. Multi stage sampling method was utilized for the examination. Simple random testing strategy was utilized to choose two senatorial zones out of the three senatorial zones in Anambra State. Purposive testing method was utilized to choose all open clinics since they are homogenous in qualities. Simple random sampling method was utilized to put the two clinics chose in each senatorial zone exploratory and control group. Simple random sampling was also utilized to choose antenatal days. The pregnant ladies who enlisted and went to antenatal facilities consistently in the four chose clinics during the time of study and who fulfilled the incorporation models partook in the examination. The instrument utilized for data collection was Cervical Cancer Knowledge and Practice Test Questionnaire (KNOCERC) the instrument was self created following audit of related writing. To guarantee the consistency of the instruments utilized for information gathering, the reliability co-efficient of the instrument was resolved. Pre-test was directed first and gathered followed by the Health Education Program. The post-test was given after the completion of the health education program and surveys. The ignorant respondents were approached to finish the survey by verbally reacting to inquiries within the sight of the research aides. The information created were examined utilizing mean and standard deviation which was utilized to respond to the exploration questions and Analysis of covariance is a general linear model which blends ANOVA and regression

was utilized to test the null hypotheses at 0.05 level of significance in line with the research objectives.

Results and Discussion

Research Question 1: What is the pretest and posttest mean cervical cancer screening practice scores of women of child bearing age exposed to health education programme and those in control group?

Table 1: Pretest and Posttest Mean Cervical Cancer Screening Practice Scores and Standard Deviation of Women of Child Bearing Age Exposed to Health Education Programme and those in Control Group

Group	Pre test			Post test			Mean gain score
	N	mean	SD	N	mean	SD	
Health Education Programme Group	134	16.33	7.36	134	19.41	7.61	3.08
Control Group	50	15.46	10.21	50	14.22	9.52	-1.24

Table 1 shows that the pretest and posttest mean cervical cancer screening practice scores of women of child bearing age exposed to health education programme and those in control group were 16.33 and 19.41; and 15.46 and 14.22 respectively. The mean gain score for those exposed to health education programme was 3.08 while those in control group had a mean loss of 1.24. This suggests that exposing women of child bearing age to health education programme improved the practice of cervical cancer screening practice than not exposing them to any treatment. The findings of the study revelled to a large extent positive effect of health education programme on practices of cervical cancer screaming of the subjects. The improved practice of cervical cancer screening uptake of the subjects as reported was not a surprise and can be worked to improve learning offered by health education programme. This was to establish that there is a positive link between increase health knowledge and resultant improved health practices. The result was similar to the findings of Nyamambi, Murenda, Simanda and Mazinyane (2020) [15], whose the results showed that most programmes to improve knowledge of cervical cancer and screening services. Also, Al-amro, Gharelbeh and Owe’s (2020) [1], advocated for a structured screening programmes implemented in collaboration national partners and institutions to decrease the incidence of cervical cancer. There was a significant difference in mean cervical cancer practice scores of women of child bearing age exposed to health education programme and those in control group. Thus, health education programme significantly increased the cervical cancer practice of women of child bearing age. This finding showed that women of child bearing age exposed to health education programme had meter cervical cancer screening knowledge scores when compared to the findings of the study done in Ethiopia (Aweke, Ayanto & Ersado, 2017) [4]. This could potentially be attributes to structured health education on knowledge and practice of cervical cancer screening.

Research Question 2: What is the pretest and posttest mean cervical cancer screening practice scores of women of child bearing age of different education levels exposed to health education programme and those not exposed?

Table 2: Pretest and Posttest Mean Cervical Cancer Screening Practice Scores and Standard Deviation of Women of Child Bearing Age of Different Educational Levels Exposed to Health Education Programme and those in Control Group

Educational levels	Pre test			Post test			Mean gain score
	N	Mean	SD	N	Mean	SD	
Health education programme group:							
Primary	8	15.87	12.90	8	24.88	11.91	9.01
Secondary	33	16.91	8.77	33	21.42	8.31	4.51
Tertiary	93	16.16	6.22	93	18.23	6.60	2.07
Control group:							
Primary	6	13.00	10.92	6	13.83	11.91	0.83
Secondary	31	15.65	10.73	31	15.83	9.37	0.18
Tertiary	13	16.15	9.16	13	11.92	9.09	-4.23
Total:							
Primary	14	14.64	11.73	14	20.14	12.77	5.50
Secondary	64	16.30	9.71	64	18.44	9.30	2.14
Tertiary	106	16.16	6.59	106	17.45	7.20	1.29

Table 2 shows pretest, posttest mean cervical cancer screening practice scores and mean gain scores of child bearing age based on their treatment groups and education levels. Women of child bearing age with primary education has the lowest pretest mean cervical cancer screening practice score of 14.64 but the highest posttest mean score of 20.14 and mean gain score of 5.50. Conversely, those with secondary and tertiary education who had higher and about equal pretest mean scores of 16.30 and 16.16, and posttest mean scores of 18.44 and 17.45 respectively fell lower than those with primary education in mean gain scores. In terms of their mean cervical cancer screening practice scores based treatment groups and educational levels, women with primary education who were exposed to health education programme had the lowest pretest score of 15.87 but had the highest posttest score of 24.88 as well as the highest gain score of 9.01. On the other hand, those with secondary education who had the highest pretest mean score had a lower post test score of 21.42 and a gain score of 4.51. Those with highest educational level (tertiary education) who had the second highest pretest mean score (Mean = 16.16) had the lowest posttest score of 18.23 and mean gain score of 2.07. For those in control group, women who had primary, secondary and tertiary education had pretest mean scores of 13.00, 15.65 and 16.15 and posttest mean scores of 13.83, 15.83 and 11.92 respectively. The mean gain scores of those with primary and secondary education were 0.83 and 0.18 and mean loss of -4.23 for those with tertiary education. These results show that women of child bearing of all levels of education exposed to health education programme benefitted from the treatment compared to their counterparts in control group. However, those with primary education improved more in cervical cancer screening practices compared to others. The results of this study

showed that women of child bearing age who had only primary education were generally better in cervical cancer screening practices than those with higher education qualification. The findings also revealed that women of child bearing of all levels of education exposed to health education programme benefited from the treatment compared to their counterparts in control group. However, those with primary education improved more in screening practices compared to others. Nwankwo, Aniebue, Aguwa, Anarado and Agunwah (roll) reported that cervical cancer awareness and practices significantly varied with the level of educational attachment. This finding were at variance with that of Eke, Eke, Nwosu, Akabuikie, Ezeigwe and Okoye (2012) [17]. who recorded that educational level, age and material status do not affect the practice of cervical cancer screening practices in Nigeria. This study also revealed that women of child bearing age that attained tertiary. Education had a mean gain of 1.29 which was significantly lower than their counterpart with formulating education who had a mean score of 5.50 in cervical cancer practice score. Similarly, those with tertiary education were significantly lower than those with secondary education who had mean score of 2.14. This mixed outcome could be explained in line with the opinion of Santos, Sa'coutho and Hespahnhol (2017) [20] who advocate improvement of overall patients health literacy irrespective of their educational levels. This is because literacy is a relevant determinant of individual health and a public health priority.

Hypothesis 1: There is no significant difference in the mean cervical cancer screening practice scores of women of child bearing age exposed to health education programme and those in control group.

Table 3: Summary of Analysis of Covariance of Child Bearing Mothers' Mean Cervical Cancer Practice Scores by Treatment Groups

Source of variation	Type iii sum of squares	DF	Mean square	F	P-value	Decision
Corrected model	2766.631	2	1383.315	24.165	.000	
Intercept	4225.121	1	4225.121	73.808	.000	
Pretest practice scores	1785.636	1	1785.636	31.193	.000	s
Groups	858.010	1	858.010	14.988	.000	s
Error	10361.369	181	57.245			
Total	72744.000	184				
Corrected total	13128.000	183				

The data in table 3 shows that there was a significant

difference in mean cervical cancer practice scores of women

of child bearing age exposed to health education programme and those in control group, $F(1,181) = 14.988, P < 0.05$. The null hypothesis was rejected. Thus, health education programme significantly increased the cervical cancer practice of women of child bearing age.

Hypothesis 2: There is no significant difference in the mean cervical cancer screening practice scores of women of child bearing age of different education levels exposed to health education programme and those in control group.

Table 4: Summary of Analysis of Covariance of Child Bearing Mothers' Mean Cervical Cancer Practice Scores by Treatment Groups and Educational Levels

Source of variation	Type III Sum of squares	Df	mean square	F	P-value	Decision
Corrected Model	3359.885a	6	559.981	10.147	.000	
Intercept	4209.232	1	4209.232	76.272	.000	
Pre Practice Scores	1772.771	1	1772.771	32.123	.000	
Groups	1085.130	1	1085.130	19.663	.000	S
Education Levels	389.717	2	194.858	3.531	.031	S
Groups * Education Levels	51.391	2	25.696	.466	.629	NS
Error	9768.115	177	55.187			
Total	72744.000	184				
Corrected Total	13128.000	183				

The results presented in table 4 shows that there was a significant difference in mean cervical cancer screening practice scores of women of child bearing age of different educational levels, $F(2,177) = 3.531, P < 0.05$. There, the null hypothesis was rejected. Table 5 shows simple contrast to ascertain the group that differed significantly from the other. However, there is no significant interaction between treatment and educational levels on the women's cervical cancer screening practice, $F(2,177) = .466, P > 0.05$. The plots of means of cervical cancer screening practice scores of women of child bearing by treatment groups and different educational levels displayed in figure 4 shows no interaction effect. To ascertain which group was significantly different from the other, simple contrast test was conducted and displayed in table 5. The result shows that women of child bearing age with primary and secondary education were not significantly different in terms of mean cervical cancer practice scores.

However those that attained tertiary education were significantly lower than those with only primary education in cervical cancer practice score. Similarly, those with tertiary education were significantly lower than those with secondary education.

Table 5: Simple Contrast for main effect of education levels on mean cervical cancer practice scores of women of child bearing age

Educational levels	Contrast estimate	P-value	Decision	
Secondary vs. Primary	(18.271-19.984)	-1.713	.440	NS
Tertiary vs. Primary	(15.050 -19.984)	-4.934	.033	S
Secondary vs. Tertiary	(18.271- 15.050)	3.221	.027	S

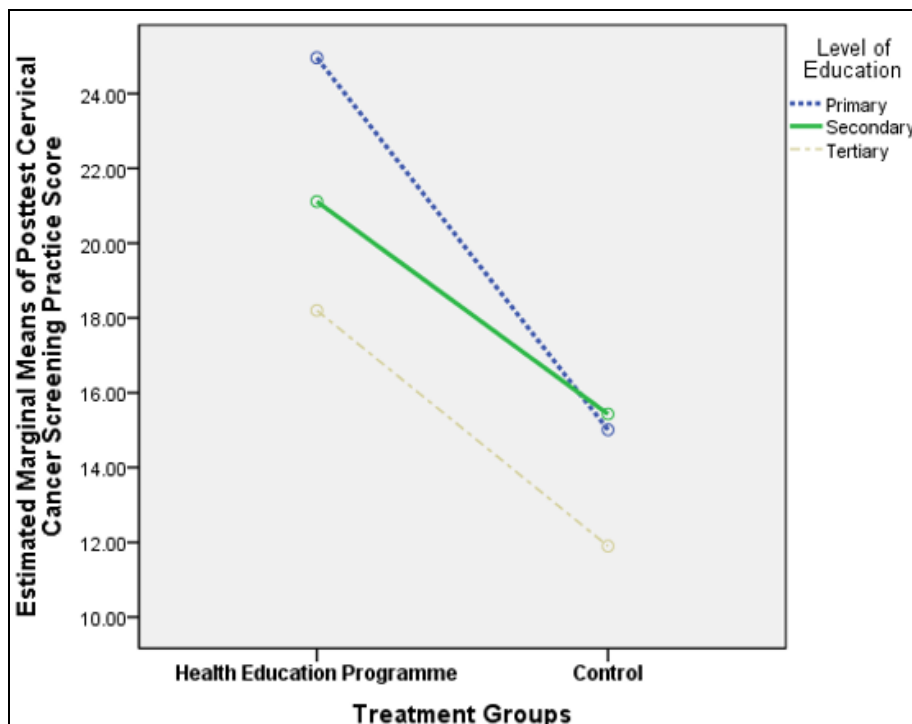


Fig 2: Mean plots of cervical cancer screening practice scores of women of child bearing age by treatment groups and educational levels showing no significant interaction effect.

Implication of Findings

The findings of this study will be of immense benefit to Federal, States and Local Government. This study will encourage the provision of government supported cervical cancer screening and treatment programs for vulnerable population. Provide coverage for clinical preventive services such as cervical cancer screening and comprehensive health education programme. Power point teaching can be provided by government as an effective measure to increase the knowledge and practice during antenatal and postnatal visits. Because women of child bearing with highest educational level had higher cervical cancer screening knowledge compared to those with the lower levels of education, health educators can plan the goal of pap smear screening of cervical cancer taking cognisance of patients educational level, enhance the educator patient relationship and sense of well being to the patient through the development of mutually agreed screening goals. Above all, the findings of the study would help to expand the scientific body of professional knowledge up on which further research on cervical cancer screening knowledge of women can be conducted.

Recommendations

1. Research is recommended that will look at the socio-cultural factors and service related factors affecting cervical cancer screening practice.
2. Educate women about screening to reduce the negative attitude of embarrassment attached to the procedure. Cervical cancer screening services should be integrated with other health services so that women accessing various health services can also be able to access cervical cancer information and screening services.

Conclusions

The study revealed that knowledge of cervical cancer screening among the respondents was high and health education programme significantly increased the cervical cancer screening practice of women of child bearing age. This indicates that most women may have a high level of the general knowledge about the disease but no knowledge of the disease itself or its progression. The knowledge of cervical cancer, knowledge of cervical cancer screening and knowledge of modes of prevention of cervical cancer are critical in determining cervical cancer screening uptake among the women. It is thus concluded that exposing women of child bearing age to health education programme improved the cervical cancer screening practice than not exposing them to any treatment. With adequate knowledge of cervical cancer and a positive perception of cervical cancer screening, utilisation of cervical cancer screening services is uniform among women of all parity level. Specifically, the study showed that women of all parity levels benefitted from the health education programme except those with 7-9 children whereas those with 4 – 6 children benefitted most from the health education programme.

References

1. Al-amro SQ, Gharaibeh MK, Oweis AI. Factors Associated with Cervical Cancer Screening Uptake: Implications for the Health of Women in Jordan. *Infectious Diseases in Obstetrics and Gynecology*, 2020.
2. Ali F, Kuelker R, Wassie B. "Understanding cervical cancer in the context of developing countries," *Annals of Tropical Medicine and Public Health*,2012;5:1:3–15.
3. American Cancer Society. *Cancer Facts & Figures 2012*. Retrieved 30/06/21 from, 2012. <https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2012.html>
4. Aweke YH, Ayanto SY, ErsadoTL. Knowledge, attitude and practice for cervical cancer prevention and control among women of childbearing age in Hossana Town, Hadiya zone, Southern Ethiopia: Community-based cross-sectional study. *PLoS one*,2017;12: (7):181-215.
5. Ayinde OA, Omigbodun AO, Ilesanmi AO. Awareness of cervical cancer, Papanicolaou's smear and it's utilisation among female undergraduates in Ibadan. *Afr J Repro Health*,2004;8: (1):68-80.
6. Can H, Erdem O, Oztekin C, Celik SB, Onde M. Are primary health care workers aware of cervical cancer risk? *Asian Pac J Cancer Prev.*,2014;15: (1):6669-6671.
7. Eke NO, Eke CO, Nwosu BO, Akabuikie JC, Ezeigwe CO, Okoye SC. Cervical cancer screening by female workers in South East Nigeria. *Afrimedical Journal*,2012;3: (2):11-15.
8. Ekine AA, West OL, Gani O. Awareness of female health workers and non health workers on cervical cancer and cervical cancer screening: south–south, Nigeria. *Int J Med Sci Clin Inventions*,2015;2: (2):713-725.
9. Fayanju OM, Kraenzle S, Drake BF, Oka M, Goodman MS. Perceived barriers to mammography among underserved women in a Breast Health Center Outreach Program. *The American Journal of Surgery*,2014;208: (3):425-434.
10. Guljaš Slivečko I, Gvozdanović Z. Knowledge and Behaviour of Female Students in Relation to Cervical Cancer Prevention. *Croat Nurs J*, 2017;1: (1):39-49.
11. Ifemelumma CC, Anikwe CC, Okorochukwu BC, Onu FA, Obuna JA, Ejikeme BN, Ezeonu OP. Cervical cancer screening: assessment of perception and utilization of services among health workers in low resource setting. *International journal of reproductive medicine*, 2019, 2019.
12. Mutyaba T, Mmiro FA, Weiderpass E. Knowledge, attitudes and practices on cervical cancer screening among the medical workers *African Health Sciences*,2011;11: (1):57-66.
13. Ndikom CM. Ofi BA. Awareness, perception and factors Affecting utilization of cervical cancer screening services among women in Ibadan, Nigeria: a quantitative study: *Reproductive Health*,2012;9: (1):11-19.
14. Nwankwo KC, Aniebue UU, Aguwa EN, Anarado AN, Agunwah E. Knowledge attitudes and practices of cervical cancer screening among urban and rural Nigerian women: a call for education and mass screening. *European journal of cancer care*,2011;20: (3):362-367.
15. Nyamambi E, Murendo C, Sibanda N, Mazinyane S. Knowledge, attitudes and barriers of cervical cancer screening among women in Chegutu rural district of Zimbabwe. *Cogent Social Sciences*, 2020;6:

- (1):1766784.
16. Obročníková A, Majerníková L. Knowledge, attitudes and practices of cervical cancer prevention. *Pielęgniarstwo XXI wieku/Nursing in the 21st Century*,2017;16: (2):18-22.
 17. Oche MO, Kaoje AU, Gana G, Ango JT. Cancer of the cervix and cervical screening: Current knowledge, attitude and practices of female health workers in Sokoto, Nigeria. *International Journal of Medicine and Medical Sciences*,2013;5: (4):184-190.
 18. Onyenwenyi AOC, Gugu GM. Strategies for the prevention and control of cervical cancer in rural communities: a Nigerian perspective. *Journal of Community Medicine and Primary Health Care*,2016;28: (2):77-93.
 19. Owoeye IOG, Ibrahim IA. Knowledge and attitude towards cervical cancer screening among female students and staff in a tertiary institution in the Niger Delta. *International Journal of Medicine and Biomedical Research*,2013;2: (1):48-56.
 20. Santos P, Sá L Couto L, Hespanhol A. Health literacy as a key for effective preventive medicine. *Cogent Social Sciences*,2017;3: (1):1407522.
 21. Shida J, Kuwana K, Takahashi K. Behavioural intention to prevent cervical cancer and related factors among female high school students in Japan. *Japan Journal of Nursing Science*,2018;1: (1):1-18.
 22. World Health Organization. *Comprehensive Cervical Cancer Control: A Guide to Essential Practice*. 2nd ed. Geneva: WHO, 2018.