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IMPACT OF EDUCATION PROGRAMME ON KNOWLEDGE, ATTITUDE AND CANCER PREVENTIVE BEHAVIOUR OF STUDENTS IN SELECTED FEMALE SENIOR SECONDARY SCHOOLS IN IBADAN

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Abstract

Cancer can affect any part of the body and occur in people of any age or sex. Cancerous growth can be contained if medical help is sought at the first sign of its symptom. This study examined the impact of cancer education intervention on knowledge, attitude and preventive behaviour of students in selected female secondary schools in Ibadan. The instruments used for the study were a self-developed cancer education package, a breast self-examination model and a cancer knowledge attitude and behaviour inventory (CKABI) which was tested with Crombach alpha and a reliability coefficient of r = 0.96 was obtained. Cancer education was found to significantly influence the experimental group's knowledge, attitude and cancer preventive behaviour. It was recommended that cancer education should be included in the health education curriculum of secondary schools, to equip students on how to adopt cancer preventive attitude and behaviour.

Introduction

Cancer is defined as a group of diseases characterized by an abnormal growth of cells with the ability to invade adjacent tissues and even distant organs. Park (1997) stated further that everybody, irrespective of age or sex, is susceptible to cancer disease and the severity of the disease could lead to the eventual death of the affected patient if the tumour progresses beyond the stage it can be successfully removed. It can occur at any site or tissue of the body and may involve any type of cell.

Jaiyeola (2000) affirmed that cancer incidence is rising throughout the world, with the developing countries contributing 61% of the global incidence in 1985. He stated further that cancer is now being commonly diagnosed in addition to infectious diseases as the commonest causes of death; it is estimated that about 100,000 people are diagnosed with cancer annually. Cancer in all forms causes about 12% of deaths throughout the world. Out of an estimated total of 51.3 million deaths in 1996, more than 7.1 million were attributed to cancer and it was predicted that the incidence of cancer will rise in almost all parts of the world because of the increase in changes in lifestyle and environment (WHO, 1997).

Sholanke (2000) stated that cancer is regarded in Nigeria as a deadly disease, and that most people regard the diagnosis of cancer as a death sentence. Adebamowo and Solanke (1990) stated that in females, breast cancer occurs most, followed by cancer of the cervix, uterus, ovary, skin and liver; while in males, primary cancer of the prostate, lymphoid tissue, connective and stomach cancers are the most frequent.

Obileye et al. (1998) stated that factors associated with cancer are cigarette (tobacco) usage, alcohol consumption, overexposure to radiation and excessive sunlight, over exposure to television sets, regular consumption of hot food and beverages, environmental pollution by smoke and fumes, occupational hazards, certain therapeutic drugs, and so on. They also affirmed that using certain chemicals (such as medicated soaps and creams) on the skin can cause skin cancer. In addition to the above, Mitchell and Heit (1997) stated that dietary factors, occupational exposure to causative agents, water pollution, early sexual experiences, and having multiple sexual partners could also cause cancer.

Knowledge is that level of information possessed by man about an object to make certain decisions or place value judgment on that object (Rower and Fraser 1991). Moronkola (1995) supported this assertion and stated further that knowledge is very important in health education programme planning as it has a bearing on attitude and practices. Health knowledge is very important because of the assumption that a person who is well-informed about his health will likely do those things that will promote his health or seek urgent advice when his health is likely to be in jeopardy.

Health attitude is defined by Susser and Watson (1992) as an acquired characteristics of an individual. They are more or less permanent ways of behaving. Moronkola (1995) also asserted that attitude is a psychological construct that can be likened to an emerging shadow of behaviour. It is a feeling, a disposition towards an object or issue related to the expected result one associates with that object or issue.

Akintola (1999) has reported that female commercial sex workers in Lagos metropolis have a negative attitude to cancer preventive behaviour. Mohammed (2001) also found that teenage girls in Kano municipality have no knowledge of cancer disease nor its causes, hence they engage in early sexual intercourse which is one of the factors of cervical and ovarian cancer.

In order to change or improve people's knowledge, attitude and skills in health or health-related areas, an intervention in the form of health education is usually needed. Filani and Falade (1998) noted that an important area of primary prevention of cancer disease is cancer education, which should be directed at high-risk groups (that is, female adolescents). The aim of cancer education is to motivate people to identify signs and symptoms of cancer, and to seek early diagnosis and treatment. It is also to inculcate cancer preventive behaviour, hence this study on the impact of cancer education intervention programme on knowledge, attitude and cancer preventive behaviour of students in selected female senior secondary school in Ibadan was carried out.

Methodology

This study adopted a pretest, post-test, control group quasi-experimental design. This design was chosen because with the use of control group, changes in the post-test were attributed only to the effect of the intervention given to the experimental group. In this design two groups of subjects, comparable in all ways, were selected. Varkevisser, Pathmanathan and Brownlee (1991) affirmed that the quasi experimental design use two or more groups, one of which serves as experimental in which an intervention takes place. Both groups were observed before as well as after the intervention to test if the treatment had any difference on the population.

The sample for the study was one thousand two hundred students in the selected female senior secondary schools in Ibadan. Multistage random sampling was used to select 120 SS2 students of 10 female secondary schools. Thereafter, the same method was used to select sixty students from the one hundred and twenty students to serve as the experimental group and the other sixty served as the control group.

The instruments used for this study were self-developed structured questionnaire, breast self-examination models and focus group discussion guide designed in line with the variable to be tested in the hypotheses of the study.

The self-structured questionnaire was administered as pre-testing (B1) to both the experimental (E1) and control (C1) groups on the first week of the weeks of instruction. The researcher met with the experimental group for one hour a week for cancer education intervention (TX), and with the control group for another one hour a week for placebo treatment, AIDS education intervention (P1) for a period of six

weeks. After the end of the sixth week of lectures for respective groups, a post-test questionnaire (B2) was administered to both groups. On the seventh week, the difference between pretest and post-test results in the two groups were then compared to determine whether TX (cancer education) had an impact on the knowledge, attitude and preventive behaviour against cancer disease performance of the experimental group. The completed questionnaire forms were coded and analyzed using inferential statistics of analysis of co-variance at 0.05 alpha level.

Results

Hypothesis 1: There is no significant difference in the pretest and post-test score on knowledge of proneness to cancer disease between the experimental and control groups, following cancer education intervention programme on students in selected female secondary schools in Ibadan.

Table 1: Analysis of covariance of post-test score on knowledge of proneness to cancer disease

Source of variation	SS	DF	MS	F	P	Comment
Covariates	0.234	1	0.234	2.365	0.124	Not significant
Proneness pretest	0.234	1	0.234	2.365	0.124	Not significant
Main effects	53.335	3	17.77	179.309	0	Significant
Group	53.245	1	8	537.021	0	Significant
Age	0.328	1	53.24	3.304	0.069	Not significant
Religion	0.068	1	5	0.684	408	Not significant
Explained	54.25	8	6.78	3.42	0	Significant
Residual	116.97	1180	0.099	-	-	-
Total	171.25	1180	0.144	-	-	-

Table 1 shows that group has a moderating effect on knowledge of proneness to cancer disease as a result of the significant difference in the score ($F = 537.0$; $P < 0.05$). Therefore, the null hypothesis was rejected. However, the pretest score on proneness, age and religion showed no moderating difference in the post-test score on proneness to cancer disease, hence, they are not significant ($F = 2.37$; $P > 0.05$); ($F = 3.30$; $P > 0.05$); ($F = 0.68$; $P > 0.05$, respectively).

Hypothesis 2: There is no significant difference in the pretest and post-test scores of knowledge of types of cancer disease between the experimental and control groups following the cancer education intervention programme on students in selected female secondary schools in Ibadan.

Table 2: Analysis of covariance of post-test score on knowledge of types of cancer disease

Source of variation	SS	DF	MS	F	P	Comment
Covariates	0.757	1	0.757	7.169		Not significant
Proneness pretest	0.757	1	0.757	7.169	0.08	Not significant
Main effects	95.136	3	31.712	300.19		Significant
Group	94.948	1	94.948	898.791	0	Significant
Age	0.681	1	0.681	6.446	0.011	Not significant
Religion	0.004	1	0.004	0.037	848	Not significant
Explained	96.73	8	.12.09	114.42	0	Significant
Residual	124.34	1177	0.106	-	-	-
Total	221.071	1185	0.187	-	-	-

Table 2 shows that group has a moderating effect on the post-test score of knowledge of types of cancer disease as a result of the significant difference in the score (F = 898.7; P<0.05). Age also has a moderating effect on the post-test score; hence, it is significant (F = 6.45; P<0.05). However, the pretest score and religion showed no effect on the post-test score of knowledge of types of cancer disease – they are not significant (with F = 7.17; P>0.05; F = .037; P>0.05, respectively).

Hypothesis 3: There is no significant difference in the pretest and post-test scores on knowledge of factors that cause cancer disease between the experimental and control groups following the cancer education intervention programme on students in selected female secondary schools in Ibadan.

Table 3 shows that group has a moderating effect on the post-test score of knowledge of causes of cancer disease as a result of the significant difference in the score (F = 553; P < 0.05). Therefore, the null hypothesis was rejected. Pretest score of causes of cancer and age also shows a moderating effect on the post-test score. hence, they are significant (with F = 8.67; P<0.05; F = 97.38; P<0.05, respectively).

However, religion did not have any effect on the post-test score of causes of cancer, it is not significant ($F = .315$; $P<0.05$).

Table 3: Analysis of covariance of post-test score on knowledge of factors causing cancer disease

Source of variation	SS	DF	MS	F	P	Comment
Covariates	0.852	1	0.852	8.673	0.003	Significant
Proneness pretest	0.852	1	0.852	8.673	0.003	Significant
Main effects	64.002	3	21.334	217.224	0	Significant
Group	63.993	1	63.993	551.585	0	Significant
Age	0.956	1	0.956	97.38	0.002	Significant
Religion	0.031	1	0.031	0.315	0.575	Not significant
Explained	65.333	8	83.167	83.15	0	Significant
Residual	11.497	1176	0.098	-	-	-
Total	180.831	1184	0.098	-	-	-

Hypothesis 4: There is no significant difference in the pretest and post-test scores on early warning sign of cancer disease between the experimental and control groups following the cancer education intervention programme on students in selected female secondary schools in Ibadan.

Table 4 shows that group has a moderating effect on the post-test score of early warning signs/symptoms of cancer disease as a result of significant difference in the score ($F = 689.0$; $P<0.05$). Therefore, the null hypothesis was rejected. The pretest score of early warning signs/symptoms of cancer and age also has a moderating effect on the post-test score; hence, they are significant (with $F = 9.58$; $P<0.05$; $F=7.48$; $P<0.05$, respectively). However, religion has no effect on the post-test score ($F = 0.19$; $P<0.05$), and it is not significant.

Hypothesis 5: There is no significant difference in the pretest and post-test scores of attitude against cancer disease between the experimental and control groups following the cancer education intervention programme on students in selected female secondary schools in Ibadan.

Table 4: Analysis of covariance of post-test score on knowledge of early warning signs of cancer

Source of variation	SS	DF	MS	F	P	Comment
Covariates	1.132	1	1.132	9.583	0.002	Significant
Proneness pretest	1.132	1	1.132	9.583	0.002	Significant
Main effects	81.464	3	27.155	229.804	0	Significant
Group	81.419	1	81.41	689.03	0	Significant
Age	0.885	1	10.39	7.487	0.006	Significant
Religion	0.002	1	0.118	0.019	0.889	Not significant
Explained	83.13	8		87.94	0	Significant
Residual	137.426	1163		-	-	-
Total	220.556	1171	0.188	-	-	-

Table 5: Analysis of covariance of post-test score on attitude against cancer disease

Source of Variation	SS	DF	MS	F	P	Comment
Covariates	0.596	1	0.596	1.436	0.231	Not significant
Proneness pretest	0.596	1	0.596	1.436	0.231	Not significant
Main effects	107.665	3	35.888	86.466	0	Significant
Group	106.784	1	106.784	257.274	0	Significant
Age	0.236	1	0.236	0.57	0.45	Not significant
Religion	0.084	1	0.084	0.203	0.652	Not significant
Explained	113.652	8	14.206	34.227	0	Significant
Residual	489.771	1180	0.415	-	-	-
Total	603.423	1188	0.502	-	-	-

Table 5 shows that group has a moderating effect on the post-test score of lifestyle towards cancer disease as a result of the significant difference in the score ($F = 257.2$; $P<0.05$). Therefore, the null hypothesis was rejected. However, the

pretest score of lifestyle towards cancer, age and religion did not have any effect on the post-test score; hence, they are not significant (with F=1.436; P>0.05; F=.570; P>0.05; F=0.203; P>0.05, respectively).

Hypothesis 6:   There is no significant difference in the pretest and post-test scores of attitude towards breast self examination between the experimental and control groups following the cancer education intervention programme on students in selected female secondary schools in Ibadan.

Table 6: Analysis of covariance of post-test score on attitude towards self breast-examination

Source of Variation	SS	DF	MS	F	P	Comment
Covariates	0.547	1	0.347	0.769	0.381	Not significant
Proneness pretest	0.547	1	0.547	0.769	0.381	Not significant
Main effects	247.15	3	82.383	115.909	0	Significant
Group	246.77	1	246.77	347.192	0	Significant
Age	4.716	1	4.716	6.635	0.01	Not significant
Religion	0.429	1	0.429	0.604	0.437	Not significant
Explained	250.901	8	31.363	44.126	0	Significant
Residual	83.985	1179	0.711			
Total	1088.886	1187	0.917			

Table 6 shows that group has a moderating effect on the post-test score of attitude towards breast self-examination as a result of the significant difference in the score (F = 0.347; P<0.05). Therefore, the null hypothesis was rejected. Age also has a moderating effect on the post-test score of attitude towards breast self-examination (F = 6.635; P<0.05). However, the pretest score of attitude towards breast self-examination and religion did not have any effect on the post-test score; hence, they are not significant (with F=0.769; P>0.05; F=0.604; P>0.05, respectively).

Discussion

The findings showed that cancer education programme significantly influences the knowledge of experimental group on proneness to cancer disease. Proneness refers

to a disposition to disease. The findings were in line with the report of Mary et al. (1999) that cancer education intervention improves the knowledge of college girls on susceptibility to cancer disease and enhances them to inculcate preventive behaviour to cancer.

Knowledge of the experimental group on types of cancer disease and signs and symptoms of cancer disease was significantly improved by cancer education intervention programme. It was also found that the cancer education intervention programme significantly affected the knowledge of the experimental groups on causes of cancer disease, in support of Buga (1998), who stated that cancer education intervention significantly has impact on knowledge of risk factors and preventive behaviour of breast and cervical cancer among female students.

Attitude of the experimental group was positively modified against cancer disease as a result of the cancer education programme it was exposed to; similarly, the intervention programme positively influence the attitude of the experimental group towards breast self-examination. These findings supported those of Abbah et al. (1999) that cancer education programme positively affects the attitudes of American college women and young female adults towards breast self-examination, which facilitates early detection of cancer disease and consequently early treatment.

Conclusion and Recommendations

The findings revealed that both experimental and control groups had low level of knowledge of cancer disease as well as the negative attitude and preventive behaviour to cancer disease prior to the commencement of the intervention study. However, with group having a significant impact on the different in the post-test scores of each of all the variables, as their probability is less than 0.05, all the 6 null hypotheses were rejected. This implies that the cancer education intervention programme had a significant impact on the knowledge, attitude and preventive behaviour to cancer disease of studies in the selected secondary schools in Ibadan.

Based on these findings, the following recommendations are made:

1. Oyo State Ministry of Education should make health education a compulsory subject at the secondary school level, so that students can be taught various health topics, including cancer disease.

2. Principals and other secondary school authorities should organize seminars at regular intervals in their schools for both students and staff. Parents can also be invited and various health topics should be discussed by experts.

3. The health education department of the Ministry of Health at the federal and state levels should organize cancer education programmes at regular intervals for secondary and college students.

4. Non-government organizations should, in addition to their campaigns against HIV/AIDS, organize cancer education programmes for students.
5. Social marketing techniques can also be adopted by government and non-government organizations, whereby intensive multimedia communication such as radio, TV advertising, billboards, print media, ans so on are used to educate students and the public on cancer disease and its prevention. This will consequently reduce morbidity and mortality rates arising from cancer diseases.

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