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IMPACT OF VISUAL INSPECTION WITH ACETIC ACID TEST AND CERVICAL CANCER RELATED AWARENESS PROGRAMME ON THE HEALTH BEHAVIOUR OF WOMEN FROM NORTH BENGAL, INDIA.

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ABSTRACT **Background And Objective:** There is a lack of awareness regarding cervical cancer and its prevalence. We estimated the prevalence of cervical cancer in women who tested positive for visual inspection with Acetic Acid (VIA) and assessed the efficacy of awareness spread through planned teaching programmes on prevention strategies for cervical cancer. **Methodology:** A descriptive survey study followed by one group pre-test and a post-test research study conducted on women > 30 years attending wellness clinics in six sub-centres in West Bengal. Socio-demographic variables and responses to knowledge-based questions on healthcare measures for preventing cervical cancer were recorded using a standard questionnaire. A standardized observational checklist was used to document the observations on cervical changes. The women who attended the awareness programme were interviewed on post-test knowledge regarding health behaviour in preventing cervical cancer. **Results:** The majority (80%) of women had no cervical changes through VIA, and 20% of women had cervical changes through VIA. The mean post-test score of 15.9±2.8was higher than the mean pre-test score of 10.2±3.5, indicating that the awareness programme was effective($p<0.001$). Only nine (7.5%) women had an excellent level of knowledge in pre-test and post-test; it increased to 69 (57.5%) women. There is a significant change in women's knowledge regarding their health behaviours towards preventing cervical cancer after attending the awareness programme. **Conclusion:** The knowledge of women on health behaviours regarding cervical cancer prevention is inadequate. Healthcare awareness programs effectively increase women's knowledge regarding health behaviour to prevent cervical cancer.

KEYWORDS : Automated PAP smear screening; Cervical cancer; Human papillomavirus; Routine screening; Visual inspection with Acetic Acid.

INTRODUCTION

Cervical canceramong women in developing countries is caused by a persistent infection with one or more types of Human Papilloma Virus (HPV)(1). The pre-cancer stage can precede over a decade. With ample time and affordable tests, early diagnosis with screening, diagnosis and effective treatment of the condition before its progression to cancer is possible (2).

The visual inspection with acetic acid (VIA) test only requires locally obtainable medical supplies and hence is an affordable solution in developing countries with low-resource areas and difficulties in conducting high-quality cytology tests for screening cervical cancer (3,4).Non-physicians can competently perform it with adequate training (3).It is necessary to evaluate the impact of VIA on service delivery to assess the programme's success level.

Comprehensive cervical cancer prevention and control programmes can create awareness regarding routine screening, early diagnosis and treatment among all the girls with HPV vaccination and all the women who are at risk (5).Due to the lackof awareness about cervical cancer and it's prevalence in Indianwomen community, the current study aims to estimate the prevalence of VIA positivity among women. The study also aims to assess the efficacy of awareness, spread through planned teaching programmes on cervical cancer prevention strategies.

Methods

A descriptive survey study followed by one group pre-test and post-test research study. The study was conducted in six selected sub-centres in West Bengal. More than 20 women (above 30 years) attending wellness clinics for check-ups (non-communicable diseases like-hypertension, diabetes, screening for oral, cervical and breast cancer) were included. Women in the menses period, having a hysterectomy, or being diagnosed with cervical cancer were excluded from the study. In this study, non-probability convenience sampling was followed by a purposive sampling technique.

Data Collection Tools And Techniques

Socio-demographic variables and responses to knowledge-based questions on healthcare measures for preventing cervical cancer were recorded using a standard questionnaire. A standardized observational checklist was used to document the observations on cervical changes. A review of research and non-research materials was done, and experts' opinions were sought to ascertain the clarity and appropriateness of the items. Informed discussions were held with women.

Description Of The Structured Interview Schedule

The structured interview schedule had 20 items regarding knowledge ofcervical cancer prevention. The prepared, structured interview schedule was given to nine experts. The experts were selected based on related fields of speciality and experience from gynaecology, community, obstetric & gynaecological nursing, community nursing, and medical-surgical nursing to establish content validity.

Tool-I Structured Interview

Item No.	Question
1	Meaning of cervical cancer
2	Risk factors of ca cervix
3	Etiological factors of Ca cervix
4	Signs and symptoms of cervical cancer
5,6,8	Diagnostic procedure for Ca cervix
7,9	Prevention of cervical cancer
10	Prognosis of cervical cancer
11-20	Health behaviour for the prevention of ca cervix

Tool-I Part-A consists of a structured interview schedule. There were eight items on the socio-Demographic data of respondents, including age in years, marital status, educational status, residence, type of family, monthly income, religion, and occupation. Tool- I Part-B contained 12 items on the Personal Data of the participant, including the age of marriage, number of children, age of first pregnancy, mode of delivery, place of delivery, family history of cervical cancer, history of the sexually transmitted disease, history of any other gynaecological disease, contraceptive use, smoking habit, alcohol drinking, tobacco chewing.

Tool-II Standardized Observational Checklist

A standardized observational checklist measured cervical changes through visual inspection with acetic acid test. Tool-II contained 15 items for measurement of cervical changes through visual inspection with acetic acid test.

- Ten items for assessing the cervical changes as VIA test Negative.
- Five items for assessing the cervical changes as VIA test positive.

Tool-III Structured Interview Schedule To Assess The Knowledge Regarding Preventing Cervical Cancer.

The structured interview contained 20 items on knowledge regarding the prevention of cervical cancer; each question had four options, with only one correct answer. A correct response will carry a'1' mark and an incorrect answer a'0' mark. The highest possible mark was 20. Knowledge Scoresof thepre-test and post-test of participants were

interpreted by the following gradation-

- ***Excellent (>80%) >16***
- ***Very good (70 %-< 80%) 14-15***
- ***Good (60 %-< 70%) 12-13***
- ***Average (50 %-< 60%) 10-11***
- ***Poor (<50%) <10***

Expert opinion (four medical personnel and five nursing personnel) was taken to validate the tool.

In tool- III structured interview schedule on knowledge regarding the prevention of cervical cancer, out of 20 items, there is 100% agreement in two items only, and 77.78% agreement in 16 items. Most of the experts suggested including the fourthalternative for all items. Previously all items had three options; after validation of the tool, a fourth option was added to all items. 66.67% agreement in two items. According tothe expert's suggestion,two items are modified. The pretesting of the tool was done to check the clarity of the items and the feasibility and practicability of tool III. The tool was administered to five women more than 30 years of age. Internal consistency reliability is established by a split-half method, r = 0.79. The tool was found to be highly reliable.

Statistical Analysis

The data were organized, tabulated, and analysed by using descriptive statistics. The chi-square test was used to evaluate the association of demographic variables with cervical changes through visual inspection with an acetic acid test among women.

RESULTS AND DISCUSSION

The study aimed to identify the cervical changes of women through Visual Inspection with Acetic Acid and assess the effectiveness of awareness programmes on preventing cervical cancer among women above 30 years of age. The sample consists of 150 women above 30 years of age for assessment of cervical changes through visual inspection with acetic acid and 120 women for an awareness program regarding prevention strategies for cervical cancer, those who were VIA test negative (Table 1). Between the two groups, there seems to be a significant difference in the socio-cultural, and educational status of the individuals (Table 1).

Table 1: Socio-demographic Profile And Clinical History Of The Study Participants.

	Total	VIA positive	VIA negative	p-value
N	150	30	120	
Age, in years distribution				
30-39 years	83 (55)	11 (36.9)	72 (60)	<0.0001 ****
40- 49 years	45 (30)	13 (43.3)	32 (26.7)	
>50 years	22 (15)	6 (20)	16 (1.3)	
Marital status, Married	148 (99)	30 (100)	118 (98.3)	*NA
Education status				
No school education	22 (14.7)	10 (33.3)	12 (10)	<0.0001 ****
Primary	53 (35.3)	15 (50)	38 (31.7)	
Secondary	43 (28.7)	3 (10)	40 (33.3)	
Higher secondary and above	32 (13.3)	2 (6.7)	30 (25)	
Rural setting	135 (90)	26 (86.6)	109 (90.8)	0.4144
Semi-urban	6 (4)	2 (6.7)	4 (3.3)	
Urban	2 (6)	2 (6.7)	7 (5.8)	
Type of family				
Nuclear	40.7%			
Joint	16%			
Extended	43.3%			
Monthly family income, in INR.				
<5000	25 (16.7)	6 (20)	19 (15.8)	0.0350*
5001-10000	70 (46.7)	17 (56.7)	53 (44.2)	
>10,000	55 (36.6)	7 (23.3)	48 (40)	
Religion				
Hindu	119 (79)	23 (76.6)	96 (80)	0.0998
Muslin	16 (11)	2 (6.7)	14 (11.7)	
Christian	15 (10)	5 (16.7)	10 (8.3)	
Occupation				
Homemaker	86 (57.3)	17 (56.6)	69 (57.5)	0.0293*
Employee- Government sector	30 (20)	3 (10)	27 (22.5)	
Employee- Private sector	6 (4)	2 (6.7)	4 (3.3)	
Self-employed	28 (18.7)	8 (26.7)	20 (16.7)	
Age at the time of marriage				
< 18 years	69 (46.6)	25 (83.3)	44 (36.7)	<0.0001 ****
≥ 18 years	79 (53.4)	5 (16.7)	74 (61.7)	
Number of children				
None	4.7%		9 (7.5)	<0.0001 ****
1-2	101 (68.3)	13 (43.3)	88 (73.3)	
>2	27%	17 (56.7)	23 (19.2)	
Age at the time of first pregnancy				
< 19 years	59 (41.8)	25 (83.3)	34 (28.3)	<0.0001 ****
19-35 years	82 (58.2)	5 (16.7)	77 (64.2)	
Mode of delivery				
Normal	115 (81.6)	28 (93.3)	87 (72.5)	0.0061**
Caesarean	26 (18.4)	2 (6.7)	24 (20)	
Place where the baby was delivered				
Institution	42 (70.2)	13 (43.3)	25 (20.8)	0.0035**
Home	99 (29.8)	17 (56.7)	86 (71.7)	
Smoking status				
Non-smoker	144 (96)	29 (96.7)	115 (95.8)	>0.9999
Current active smoker	6 (3.3)	1 (3.3)	5 (4.2)	
History of smoking	0.7%			
Alcohol consumption				
Never	138 (92)	25 (83.3)	113 (94.2)	0.0249*
Occasional	7%	5 (16.7)	7 (5.8)	
Regular	1%			
Tobacco chewing	62%	25 (83.3)	68 (56.7)	<0.0001 ****
Contraceptive use	39 (26.4)	8 (26.7)	31 (25.8)	>0.9999
Family history of cervical cancer	10 (7)	3 (10)	7 (5.8)	0.4353
History of Reproductive tract infections	73 (49)	19 (63.3)	54 (45)	0.0157*
History of any other gynaecological diseases	4%			

The result showed that 80% of women had no cervical changes through VIA, and 20% had cervical changes through Visual Inspection with Acetic Acid. A study that shares the experience of the VIA screening test in 18869 women from rural South India indicated a positive result in 10.75% of the study population. With nearly half of the study population in the age group of 31-40 years, 54.4% of high-grade lesions were observed in this age group (6).

The study exemplifies the positive implications of effective screening programs in a low-resources clinical environment. The mean post-test score of 15.9 (SD=2.8) was higher than the mean pre-test score of 10.2 (SD=3.5). These scores indicate that the awareness programme was effective. The significant difference between the two tests was tested using paired t-tests. The level of significance was set at the computed t-value ($p<0.001$), indicating that there was a significant difference in the knowledge of women on the prevention of cervical cancer (Table 2, figure 1and figure 2).

Table 2: Assessment Of Awareness Among The Study Participants Before And After The Program.

Area of knowledge score	Maximum possible score	Pre-test Score Mean (%)	Post-test Score Mean (%)
Meaning of cervical cancer	1	0.19 (19.00)	0.85 (85.00)
Risk factors of cervical cancer	1	0.19 (19.00)	0.77 (77.00)
Etiological factors of ca cervix	1	0.38 (38.00)	0.62 (62.00)
Signs and symptoms of ca cervix	1	0.20 (20.00)	0.70 (70.00)
The diagnostic procedure of ca cervix	3	0.35 (11.67)	1.83 (61.00)
Prevention of ca cervix	2	0.25 (12.50)	0.95 (47.50)
Prognosis of ca cervix	1	0.81 (81.00)	0.96 (96.00)
Health behaviour for the prevention of ca cervix	10	7.80 (78.00)	9.10 (91.00)

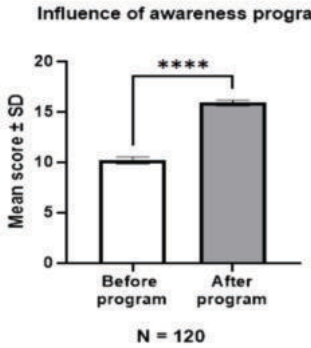

Figure 1: Influence of awareness program based on the scores.

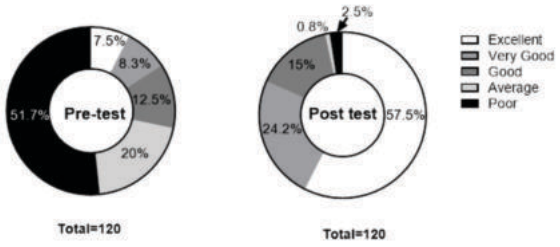

Figure 2: Distribution of the study population according to their level of knowledge

Results showed that among 120 women, only nine (7.5%)women had excellent knowledge in the pre-test, which increased to 69(57.5%) of women with excellent knowledge post-test. Hence, the awareness programme was effective for the respondent. Several other studies that evaluated the effectiveness of planned or structured teaching programmes on cervical cancer observe that the proportion of women with good to excellent knowledge significantly increased post-test. This was also reflected by a significant concomitant increase in the mean test scores after attending the programme (7,8).

Timely screening and prevention strategies have significantly reduced the mortality burden of cervical cancers (9,10). Our study result showed a significant change in women's knowledge regarding health behaviours to prevent cervical cancer after attending the awareness programme.

Limitations:

A small purposive sample and the study being conducted only in six wellness clinics at six sub-centres limits the generalization of the findings to a large, diverse population.

As no standardized tool (for assessment of knowledge regarding the prevention of cervical cancer) was available for the study, the investigator developed the tool. This could be developed further. Selection of women only above 30 years of age-restricted analysis to assess the knowledge regarding cervical cancer prevention.

CONCLUSION:

The results of the study conclude that knowledge of women on health behaviours for the prevention of cervical cancer was inadequate before the administration of the awareness programme. However, after the administration of the awareness programme, there was a gain in knowledge. Hence, the awareness programme effectively increased women's knowledge regarding health behaviour to prevent cervical cancer.

Adopting timely screening measures and promoting healthcare awareness programs, including public education, campaigns, and media, could benefit society by reducing the burden of cervical cancer. As part of the health care services educating women on cervical cancer shall be improved by a self-help group facilitated by nursing personnel.

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