A Study to Assess the Effect of Educational Interventions Regarding Prevention and Early Detection of Cervical Cancer on Knowledge and Attitude among Women Residing in an Urban Community

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ABSTRACT

Background: Cervical cancer has an extreme possibility for secondary prevention but it remains a noteworthy cause of morbidity and mortality in women worldwide. Over 80% of the cervical cancer cases reported in the hospitals in an advanced stage and annually 80,000 deaths are reported in India. The main objective of this study to assess the knowledge and attitude regarding the prevention and detection of cervical cancer

Methodology: The research design was one group pretest-posttest Quasi-Experimental Design. Samples were the age group between 30-60 years attending Gynec OPD. A multi-stage random sampling technique was used. The total sample size was 501. A self-administered tool was used to collect the data.

Results: The majority of the participants were observed in the age group between 30-45 years. Most of the participants had never got the information regarding cervical cancer and screening procedures. The majority of the participants (97 %) had never screened for cervical cancer. Most of the participants had poor knowledge in the pretest and their knowledge increased to excellent in the posttest. There is a positive impact of education on participants in improving the attitude about screening for cervical cancer after attending education. There is a significant association between knowledge and attitude before and after intervention as P<0.0001.

Conclusion: A key strategy is to reduce the prevalence of cervical cancer is making women be educated about cervical cancer by using multimedia communication. Thus, the women are motivated for cervical screening and diagnosed at the precancerous stage. Therefore the systematic treatment can be started at an early stage to save the life of a woman.)

Introduction

Uniformly the finest drivers have a blind spot in their vision, an area in the margin that relics just out of view but may disclose serious threat. In the global health priorities also, blind spots persist. Cervical cancer is a famous example. This condition is the enduring foremost cause for high mortality and morbidity rate among women though it can be preventable, detectable, and treatable. 1

The cervical cancer condition is documented as one of the utmost important cancers and WHO has emphasized the health care professionals to give more priority, but a large proportion of women at high risk remain unseen especially, among low and middle-income women. The reasons may be lack of money to reach the private clinics, fewer pubic clinics available to provide screening at free of cost, difficult return for various appointments, lack of resources at public health clinics, etc.2

Sluggish, progressive changes are taken place in the cells on the surface of the cervix. These changes are called cervical intraepithelial neoplasia (CIN) and are considered to be precancerous lesions. If it is not treated, these precancerous lesions are converted into overt malignancy within 5 - 10 years. The mortality rates due to cervical cancer can be reduced if the cervical screening programs are effective, with suitable referral and treatment options.2

Cervical cancer is one of the typical greatest cancers in Indian women, though breast cancer is the leading cancer globally. According to the global statistics, it is the 3rd highest frequently detected cancer and 4th foremost reason of cancer deaths in women with probable 5,70,000 fresh cases in 2018 representing 6.6 of all female cancers. Nearly 90% of deaths due to cervical cancer had occurred in low and middle-income nations. India accounts for 1/4th of cervical cancer cases and deaths globally. The incidence of cervical cancer cases in India accounts for 23 % (1,22,844) worldwide and India is the second positioned populated country in the world, responsible for 27% (67,477)) of the entire cervical cancer bereavements. There is a great burden for developing and middle-income nations with a high frequency of cervical cancer due to the absence of screening services to detect precancerous

lesions at the initial stage. 3

In India, the number of women with cervical cancer cases has been amplified from 0.11 million in 2000 to 0.16 million in 2010. The proportion of the range is raised from 15 % to 55 % female cancers from diverse parts of India. About 80% of the women with cervical cancers reported in the clinics in an advanced stage of cancer.5 In India, cervical cancer ranks second place among all female cancers, more than 200 women die every day, eight women die every hour and one woman dies every 8 minutes. As per 2012 statistics, after Uttar Pradesh, Maharashtra has shown the increasing trend in the sum of cases with cervical cancer. 4

Cervical cancer is first cancer where the exact causative relationship of the Human Papillomavirus could be established. The idea of pre-invasive disease of the cervix was announced in 1947 when it was documented that the intraepithelial changes could be acknowledged that had the arrival of invasive cancer but were limited to the epithelium. Subsequent studies showed that if these lesions were not treated, they can progress to cervical cancer.5 The conversion of the regular squamous epithelium to pre-carcinogenic lesions and too aggressive malignancy, occur consecutively and develop into recognized stages. Comprehensive development of evident malignancy takes approximately 10–20 years. The idea of cervical intraepithelial neoplasia was announced in 1968 when Richart specified that all dysplasia has the possibility for development. It is now renowned

In review, the researcher has identified that there is no adequate educational material available to the public about cervical cancer, especially in their local regional language. Therefore, the researcher has taken a keen interest to prepare different types of educational materials in terms of verbal, video, and written in the regional language to convey the information about prevention and early detection of cervical cancer and to motivate the women to take part in the cervical screening.

Objectives

To assess the knowledge regarding prevention and detection of cervical cancer
2.To assess the attitude regarding prevention and detection of cervical cancer

Hypothesis

H01: There is no significant difference in the knowledge and attitude regarding prevention and early detection of cervical cancer before and after the intervention..

Ethical Consideration:

The study proposal was approved by the Ethical Committee, MGM Institute of Health Sciences, Kamothe, Navi Mumbai. Permission was obtained from a concerned authority of selected urban health care centers for data collection. Participants were clarified regarding the study and then informed consent was taken before the data collection.

Methods and Materials

Research approach: An evaluative approach was used in an aims to assess the effectiveness of intervention program regarding cervical cancer on knowledge and attitude.

Research design: The design adopted for the present study was one group pretest-posttest Quasi-Experimental Design.

The setting of the study: In this study, Urban Health Centre was selected as a setting. This urban health center is a 1000 bedded hospital with all health care facilities for diagnosis, treatment facilities for cervical cancer. The study was conducted in Gynec Out Patient Department (OPD).

Independent variables: Independent variables are educational interventions.

Dependent variable: Knowledge and attitude in cervical screening are the dependent variables in the present study.

Population The population of the present study covers the women age group between 30-60 years.

Target population: Women age group between 30-60 years was the target population.

Accessible population: Women age group between 30-60 years who were attending Gynec OPD..

Sample and Sampling Technique

In the present study, women age group between 30-60 years attending Gynec OPD recruited as a sample. In this study, Multistage Sampling Technique was used. Pimpri Chinchwad Municipal Corporation Hospitals were identified from the PCMC office. They are YCM Hospital, Bosari Hospital, Talera Hospital, Yamuna hospital, and Sanghvi Hospital.

By using the Simple Radom Sampling technique, two hospitals were selected by adopting the lottery technique. By executing the purposive sampling technique, Gynec OPDs were taken from two Hospitals. Allocated the Systematic Random Sampling Technique, ie the Kth sample was selected as per the average daily attendance at Gynec OPD. The average attendance of women per day was150, total probable attendance at Gynec OPD per month was 3900, per two months was 7800 and this was divided by sample size 501. The Kth sample was 15. Every 5th sample was recruited in the present study..

Sample size: with help of prevalence rate the sample size was obtained by a formula;

$n=Z^2 \times P\ (1-P)/\varepsilon^2$

Where

Confidence level = 95% Therefore Z= 1.96

P = 74.6 (heard about cervical cancer) 63

n= $(1.96)^2$x 74.6 x 25.4 / $(4)^2$

= 454.76

=455

Considering 10%dropout = 10% of 455=45.5= 46

Total sample size (n) = 455+46 = 501

Sampling criteria: In the present study, inclusion, and exclusion criteria were arranged in the following manner;

Inclusion Criteria: Sample includes women who were;
- age group between 30-60 years
- Seeking help for reproductive related health services at the Gynec OPD
- resident of Pune Chinchwad Municipal Corporation
- able to read and understand Marathi /English

Exclusion criteria: Sample includes women who are ;
- having severe medical and gynecological illness
- not cooperative and not willing to participate in the study
- already diagnosed with cervical cancer and are on treatment

Tools and Techniques:

Description of Tool: The tool consists of three sections:

Section I: Demographic variables are age, education, occupation, smoking, source of information, and information about screening.

Section II: Knowledge Questionnaire on prevention and early detection of cervical cancer

A structured questionnaire was prepared to assess the knowledge. It includes 37 items and was divided under the following headings; regarding the introduction and definition of cervical cancer, two questions had 4 options and one option will the right answer.

Three to five questions were designed regarding knowledge on risk factors of cervical cancer, symptoms of carcinoma of the cervix, measures to reduce the risk of cervical cancer, knowledge on screening procedures. All questions had multiple options, the right answer could be more than one, the responses to each option were yes/no and don't know. Question number six to eight had four options and one could be the correct answer. Question number nine was regarding cervical screening, HPV vaccine and had multiple options and the answer should be more than one.

Scoring

1. Right answers score allotted is 1 mark
2. Wrong answers score allotted is 0 mark

Section III: Attitude scale on prevention and early detection of cervical cancer: In this section,

Likert 's scale was used to assess the attitude of women. This scale had a set of 13 statements to assess the attitude. These 13 statements had five options namely; Agree (A), Neither Agree Nor Disagree (NAND), Disagree (D).

Validity: Content validity and face validity of a tool for the conduct of the study was done by the experts of the tool validation committee of Mahatma Gandhi Memorial Institute of Health Sciences. The content validity of three interventions was done by experts of FOGSI, POGS, and PCMC.

Reliability: The reliability was calculated using the value of Cronbach's Alpha (α) method for the knowledge and attitude questionnaire. It was found reliable that is r = 0.98 for knowledge and r=0.85 for the attitude questionnaire. The knowledge and attitude questionnaire was found to be reliable.

Pilot study: This study was found to be feasible and directed in scheduling the pretest, and posttest.

Data collection:

The technique for data collection:

Phase I: Informed written consent, interview

Phase II: Pretest

Phase III: Intervention

Phase IV: Invitation and procedure of cervical screening

Phase IV: Posttest (After 15 to 30 days).

Results

Table 1: Distribution of the samples based on their demographic variable:n= 501

Demographic variables	f	%
Age in years		
30 – 35	178	35.53
36 – 40	87	17.37
41 – 45	98	19.56
46 – 50	62	12.38
51 – 55	32	6.39
56 – 60	44	8.78
Educational status		
Graduate & PG	19	3.79
Intermediate	21	4.19
High school	127	25.35
Middle school	248	49.50
Primary school	83	16.57
Occupation		
Profession	0.20	0.20
Semi-profession	0.40	0.40
Clerical, shop owner, Farmer	3.39	3.39
Skilled worker	3.19	3.19
Semi skilled worker	12.18	12.18

Unskilled worker	35.73	35.73
Unemployed	44.91	44.91
Smoking		
Yes	58	11.58
No	443	88.42

Table No 2: Distribution of participants based on the source of informationn=501

Demographic variables	f	%
Brochures, posters	18	3.59
Health worker	99	19.76
Family, friends, neighbors	108	21.56
Never	276	55.09

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The majority of participants never got the information regarding cervical cancer and screening procedures.

Table No 3: Responses of participants concerning the history of screening for cervical cancern=501

Have ever screened for cervical cancer?		
Response	f	%
Yes	13	2.59
No	488	97.41

Only 3% of participants have participated in the cervical screening program.

The majority of participants have not got the information regarding cervical cancer and screening

Table No 4: Item wise knowledge score on risk factors of cervical cancer

Item	Pretest		Pretest	
	F	%	f	%
Site of the cervix in our body	90	17.96	348	69.46
Define cervical cancer	97	19.36	347	69.26
Smoking	96	19.16	338	67.47
Multiple pregnancies	73	14.57	306	61.08
Multiple sex partners	58	11.58	297	59.28
Over weight	87	17.37	309	61.68
Less intake of fruits and vegetables	86	17.17	301	60.08
Use of oral contraceptives	107	21.36	304	60.68
Teenage pregnancy	83	16.57	316	63.07
Poverty	74	14.77	310	61.88
Family history	74	14.77	277	55.29
Sexual partner , not circumcised	108	21.56	311	62.08

Item wise the knowledge score on site of the cervix and risk factors of cervical cancer has increased in all three experimental groups from pretest to post-test.

Table No 5: Item wise knowledge score based on signs and symptoms of cervical cancer

Items	Pretest		pretest	
Signs and symptoms	F	%	f	%
Irregular vaginal bleeding	75	14.97	315	62.87
Foul smelling discharge	74	14.77	308	61.48
Pain during sexual intercourse	63	12.57	273	54.49
longer or heavier periods	94	18.76	294	58.68
Pelvic pain	69	13.77	281	56.09
Fatigue	87	17.37	316	63.07
Weight loss	76	15.17	283	56.49

Table No 6: Item wise knowledge score based on measures reduce cervical cancer

Items	Pretest		Post-test	
Measures to reduce the risk	f	%	f	%
Avoid multiple sexual partners	68	13.57	317	63.27
Avoid early sexual intercourse	67	13.37	295	58.88
HPV vaccine at the age of 9-13	74	14.77	312	62.28
Avoid too many pregnancies	78	15.57	300	59.88
Use of condoms to reduce STDs	100	19.96	306	61.08
Stop smoking	61	12.18	299	59.68
Avoid using oral contraceptive pills	78	15.57	300	59.88
Regular	86	17.17	304	60.68
Regular Pap smear test	107	21.36	323	64.47

Item wise the knowledge score based on measures to reduce cervical cancer has significantly increased among participants from pretest to post-test.

Table No 7: Item wise knowledge score based on information regarding cervical screening

Items	f	%	f	%
Screening procedures are mostly used to detect the precancerous lesions	86	17.17	302	60.28
Pap test is usually done for	64	12.77	281	56.09
How frequently women have to screened	80	15.97	320	63.87
HPV infection is transmitted from husband to wife	75	14.97	300	59.88
Pap test detects precancerous lesions	90	17.96	324	64.67
Pap tests isdetects the precancerous lesions	92	18.36	330	65.87
Women must avoid intercourse two days before the test	82	16.37	311	62.08
An ideal time of Pap test is when the woman	83	16.57	317	63.27

	f	%	f	%
is not menstruating				
Pap test takes only 2-5 minutes to perform	85	16.97	305	60.88

Item wise the knowledge score based on information regarding cervical screening has significantly increased in all three experimental groups from pretest to post-test. More in verbal and video groups.

Table No 8: Distribution of participants based on knowledge regarding prevention and early detection of cervical cancer

Knowledge score	Pretest		Post-test	
	f	%	f	%
0 – 9 (Poor)	342	68.26	7	1.40
10 – 18 (Average)	113	22.55	60	11.98
19 – 28 (Good)	44	8.78	143	28.54
29 – 37 (Excellent)	2	0.40	263	52.50

About 68.26% of the participants had poor knowledge in the pretest and this figure stoops down to 1.4% in the posttest. Approximately, 53 % of women had excellent knowledge. This indicates that there is a noteworthy enhancement in the knowledge of women after attending educational interventions.

Table No 9: Overall mean knowledge score among participants

Parameter	Pretest			Post-test			Wilcoxon Z Value	P-Value
	n	Mean	SD	N	Mean	SD		
Verbal	501	4.15	5.637	501	25.44	66.29	-5.3028.	<0.0001

Table No 10: Item wise attitude among participants in the posttest
Strongly agree- SA, Neither agree nor disagree-NAND, Disagree –DA

S.No	Items	Agree		Neither agree nor disagree		Disagree	
		f	%	f	%	f	%
1.	It causes pain and discomfort	91	18.16	54	10.78	323	64.47
2.	It is too embarrassing	90	17.96	52	10.38	326	65.07
3.	It exposes me to other infections	84	16.77	60	11.98	324	64.67
4.	It involves testing me for STDs	74	14.77	62	12.38	331	66.07
5.	There is possibility for cancer	78	15.57	65	12.97	325	64.87
6.	If an unmarried woman screens, others think that she is having sex	76	15.17	66	13.17	326	65.07
7.	my friends or neighbors recommend	75	14.97	79	15.77	324	64.67
8.	I get a Pap smear test if my husband recommends	67	13.37	69	13.77	333	66.47

9.	I get a Pap smear test if my health care provider recommends	75	14.97	62	12.38	331	66.07
10.	I get a Pap smear test if the media recommends it.	71	14.17	66	13.17	230	45.91
11.	I tend to forget the schedule	65	12.97	80	15.97	323	64.47
12.	Healthy women, no need	64	12.77	82	16.37	332	66.27
13.	Pap smear test causes harm	70	13.97	85	16.97	323	64.47

Table No 11: Distribution of participants based on attitude regarding cervical cancer

Attitude score		Pretest		Post-test	
		f	%	f	%
27 – 65 (Positive)		122	24.35	423	84.43
13 – 26 (Negative)		379	75.65	45	8.98

The above table indicates the remarkable positive impact of education on improving their attitude towards cervical cancer. Majority of participants 84.43% had a negative attitude and stooped down to 8.98% in the posttest.

Table No 12: Overall Mean attitude score among participants

Attitude score	Pretest		Post-test		Wilcoxon Z Value	P-Value
	Mean	SD	Mean	SD		
	26.34	3.449	49.16	12.805	10.49	<0.0001

Mean values raised significantly from pretest to posttest across all participants.

Discussions

Knowledge score		Pretest		Post-test	
		f	%	f	%
0 – 9 (Poor)		342	68.26	7	1.40
10 – 18 (Average)		113	22.55	60	11.98
19 – 28 (Good)		44	8.78	143	28.54
29 – 37 (Excellent)		2	0.40	263	52.50

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In a present study, about 68.26 % of women had poor knowledge in the pretest and in the post-test, approximately 53% of women gained excellent knowledge. Similar findings were fornd in the study conducted by Devi S and Dasila PK on Verbal, written, and video-based health education on prevention and early detection of cervical cancer. Study results are In the verbal group, 77.84%, in the written group, 62.27%, and in the video group, 64.67% of the participants had the poor knowledge in pretest 6. Other study findings also showed the similar results in a study conducted by Kumar H, about 81.9% of women had poor knowledge. Only 7% of women had screened before the intervention. The researchers have suggested for mass media communication is required to improve the facts of women regarding cervical cancer and its prevention.7
In the present study, pretest results show that all participants had responded that the following risk factors can respectively cause cervical cancer, teenage pregnancy, multiple sex partners, smoking, high parity, poverty as

respectively as follows 12.58%, 11.98, 13.78%, 11.38%, 6.59%   verbal group, 25.15%, 46.41%, 11.98%,8.39%,17.37 by written group, 11.98 %, 12.58%,23.96%, 20.36% by the video group. These results are supported by a study conducted by Dhodapkar SB. The results were young age at first intercourse (13%), multiple sex partners (48%), cigarette smoking (16%), high parity (9%), and lower socioeconomic status (13%) were the responsible factors for the occurrence of cervical cancer.8

In the current study, about 97 % of the participants had never undergone cervical screening, similar findings were seen in a study conducted by Narayana G, results showed that the majority of women about 86.6 % have never screened for cervical screening. However, in this study, most of the participants have never participated in the cervical screening programme.9 In another study, also we can see only a few women had taken part in the cervical screening programmes.10

In the current study, about 90% of participants had replied that they do not know about cervical cancer. Similar findings were seen in a study conducted by Nayak AU, results were, only 3.5 % of women had the head of cervical cancer and 92 % of women do not know about the HPV vaccine.10

In the existing study, about 47 % of participants had a positive attitude regarding cervical screening tests. Similar results are showed in another study conducted by Yitagesu HA (2017) that, near forty-three percent of had inadequate knowledge. Around ninety percent of women had never participated in cervical screening. About 56.2% of participants had a positive attitude.11

In the current study, 17 %of participants have shown a positive attitude towards cervical screening procedures. Similar findings could be found in a study conducted by Ahmed SA, a result shows that the attitude of women regarding screening was not favorable and the majority of women do not get the screening done.12

Conclusion

Cervical cancer has become one of the most important health issues in public health. According to the review of literature and results of the current study, awareness regarding cervical cancer amongst the women found was very poor in the urban community. The majority of the participants had never participated in cervical screening before attending the present educational programme. None of the participants knew about the HPV vaccine. A key strategy to reduce the occurrence of cervical cancer, women and her family need to be educated about primary and secondary preventive measures of cervical cancer by using multimedia communication either by verbal, written and video-based interventional methods.

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