

An Assessment of Awareness, Barriers in Perception of Cervical Cancer and Effect Estimation of Educational Intervention Programme in Females

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ABSTRACT- Background: Women of all races and ethnicities are at risk of cervical cancer. India, around 0.95 million new cases are detected yearly with high burden of 0.63 million. India bears about one fifth of the world's burden of cervical cancer. Although fatality is high, but cancers are largely preventable by effective screening programs.

Methods: The present quasi-experimental study was conducted among female students studying in degree colleges from Feb 2013 to Sept 2013. Educational intervention was conducted through sessions of participatory learning approach, which included lectures using power-point, chalk and talk and question-answers method. Data was collected twice by administering predesigned questionnaire and conducting focus group discussion. Data entered and data analyzed by using Epi Info 2000. To analyze qualitative information Atlas ti software was used. The paired t-test was used to measure the effect of intervention.

Results: Total 149 students were the part of the study and successfully followed. Mean age of the participant was 18.5 years. Out of the 149 participants, 4.1% had family history of the cancer. In the study, it was observed that 18.8% had not ever heard about the cancer. In the post intervention test, significant improvement was seen in all three parameters viz knowledge, attitude and practices.

Conclusion: Continuing Educational interventions should be started at all level, which highlights the importance of screening and prevention of cancer in women.

Key-words- Cervical Cancer, Effectiveness, Perception Barriers, Women

INTRODUCTION

Cancer is a leading cause of mortality among adults with new cases is increasing all over the world. It is expected by 2020 the world population will increase to 7.5 billion; of these, approximately 15 million new cancer cases will be diagnosed and 12 million cancer patients will die ^[1].

Women of all races and ethnicities are at risk of cervical cancer. In India, yearly around 0.95 million new cases are detected with 0.63 million deaths. Cervical cancer accounts for 8.5% deaths yearly and most of which occur in developing countries. Cervical cancer is the single largest killer of middle-aged women in India.

India bears about one fifth of the world's burden of cervical cancer. ^[2,3]

Although fatality is high, but cancers are largely preventable by effective screening programmes. ^[4] Papanicolaou smears (Pap test) provide a simple, basic and inexpensive technique for detection of early cancers and precancerous lesion in otherwise asymptomatic women ^[18]. The decision to participate in such cancer screening programs depends upon the knowledge, beliefs and attitudes about the disease and the screening tests. A study done in Kolkata among female students reflected the low level of knowledge of cervical cancer and its risk factors and only 11% and 15% were aware of Pap smear and HPV respectively. ^[4] Moreover, many women still go unscreened, even where screening is freely available ^[5].

Unfortunately, in a developing country like India there is a lack of awareness about risk factors and early detection through screening and treatment of precancerous lesions. It's well documented that Religious and cultural

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differences that shape perceptions about health prevention may reduce the incidence of screening practices. [6] Jayant *et al.* [7] and Saha *et al.* [8] were recommended that increasing awareness motivates symptomatic individuals seek medical consultation and treatment in the early stages, which result in better survival.

MATERIALS AND METHODS

Study design- The present quasi-experimental study was conducted among female students studying in degree colleges (Engineering, Polytechnic College, Melmaruvathur and Arts and Commerce college Vandhawasi, Dist: Kanchipuram, India) in and around the field practice area of the Department of Community Medicine Adhiparasakthi Institute of Medical Sciences and Research, Melmaruvathur. Study duration was from 1 February 2013 to 30 September 2013. Data collection was done twice as before and after educational intervention. Meantime educational interventions were carried out. And posttest data was collected at least 30 days after carrying out the intervention.

Saha *et al.* [8] documented 11% of level of awareness among female students attending degree colleges. With the prevalence of awareness as 11% and based on 95% of confidence intervals with 5% of absolute error the total sample size comes to 144. Considering non response up to 10%, the final sample size was 158. But we could not follow all the students till the post test and after thorough verification researcher could analyze data for 149 students. The total numbers of students from each college were determined by PPS sampling and further systematic sampling was employed at the college level.

Inclusion criteria- Those, who was willing to participate and providing written consent.

Exclusion criteria- Students, who was not willing to participate and unable to give the consent.

Institutional Ethical committee approval and informed consent of the subjects was obtained prior to the start of the study. Permission to undertake study among students was obtained from the respective college Principal (Engineering, Polytechnic College, Melmaruvathur and Arts, and Commerce college Vandhawasi, Dist: Kanchipuram, India)

Pre-Test- To evaluate different aspects of basic knowledge and awareness on cervical and breast cancer students were offered a structured questionnaire to collect information. Confidentiality was ensured by asking them not to write their names. All the students were asked to write the questionnaire voluntarily and independently.

In the First part data was collected for age, socioeconomic status and family size. The second part contained questions pertaining to knowledge of aetiology, symptoms, screening methods and prevention of cancer. To identify the barriers and misconceptions among the participants, Focused Group Discussion sessions were conducted.

Intervention- Educational intervention was conducted through sessions. The training was conducted by participatory learning approach, which included lectures using power-point, chalk and talk and question-answers method. The topics discussed were related to prevalence, causation of cervical cancer, symptoms, risk factors, screening methods and prevention.

Focus group discussion was conducted under following Framework- Before starting up the focused group discussion Aims and Objectives of the study were informed and duly consent was sought.

Framework- Common topics discussed during the Hospital meetings/ visits. Question design like, If they know about the Common Health Ailments women suffers from? Have they heard about cancers? Can they name few of them?

Their Perception about common cancers among females during talk observed. Information received about Cervical cancer from them.

Perception about Cervical Cancer Screening (Pap's Smear). The perceived role of the Cancer Screening in preventing deaths from the diseases. Perception about early detection of the cancer through cancer screening. Impression about Cancer screening services. Perceived reasons for poor utilization of the available Screening services. Suggestions or ways that screening uptake can be improved were the information collected from female.

Post-test- The same questionnaire was administered to the study subject one month after completion of their training sessions.

Statistical Analysis- Data entered and analyzed using Epi Info 2000. To analyze qualitative information Atlas ti software version 5.0 was used. Univariate analysis was done to analyze descriptive data whereas to identify association bivariate analysis was done. The paired t-test was used to measure the effect of intervention.

Background Characteristics of the participants-

Mean age of the participant was 18.5 Years (SD±0.78). Maximum no of the participants 51.4% (n=76) were in the age group of 18–19 years followed by 39.9% (n=59) in the age group of 19–20 years. Most of the participants were from low income group accounting for 39.9% (n=58) followed by middle income group 32.9% (n=49) and others 16.1% (n=24). Out of the 149 participants, 4.1% had family history of the cancer. In the study it was observed that 18.8% had not ever heard about the cancer.

Knowledge regarding cervical cancer- Table 1 has shows, the comparison between pretest and post test responses of knowledge regarding cervical cancer. It was observed that 10.1% of the participants ever heard about cervical cancer. When asked about causative agent for cervical cancer only 2.1% were able to give correct answer which rose to 97.9% after the intervention. Similarly, 10.1% had knowledge of risk factors, 9.4% knowledge of symptoms and 0.7% about preventive

measures like HPV vaccine, which increased to 90.6%, 93.3% and 94.3% respectively.

Table 1: Knowledge regarding Cervical Cancer among Participants

Knowledge Based Questions on Cervical Cancer	Pre-Test Response		Post-Test Response	
	Yes	No	Yes	No
Have you Ever Heard about Cervical Cancer?	15(10.1)	134(89.9)	126(84.6)	23(15.4)
Do you have knowledge of causative factors for cervical cancers? (As HPV)	03(2.1)	146(97.9)	146(97.9)	03(2.1)
Do you have any knowledge of risk factors for cervical cancer? (eg; Early sexual Activity)	15 (10.1)	134(89.9)	135(90.6)	14(9.4)
Do you have any knowledge of symptoms of cervical cancer? (eg. Genital Warts)	14(9.4)	135(95.6)	139(93.3)	10(6.7)
Do you know of preventive measures of cervical cancer? (eg. HPV Vaccination)	01(0.7)	148(99.3)	142(94.3)	07(4.7)

Figures in the parenthesis shown percentages

Attitude of the Participants on Cancer- In present study, we observed up to 50.3% of the participants perceived cancer as curable and 70.5% perceived it to be preventable, which was increased to 91.9% and 93.3% respectively after the intervention (Table 2).

Table 2: Perception of the Participants regarding Cancer

Perception About Cancer	Pre-test Responses		Post-Test Response	
	Yes	No	Yes	No
Do you perceive that cancer is curable?	75(50.3)	74(49.7)	137(91.9)	12(8.1)
Do you perceive that cancer is preventable	105(70.5)	28(29.5)	139(93.3)	10(6.7)

Figures in the parenthesis shown percentages

Knowledge and attitude regarding Cancer screening-

It was observed that only 10.1% of the participants ever heard about cancer screening methods, this increased to 98.7% after the intervention. While when specifically asked to enumerate any of the screening methods to detect either cervical only 1.3% answered correctly, which increased to 42.3% after the intervention. In present study after intervention, we observed that 91.5% of the participants perceived as regular screening will help in prevention and 89.3% perceived that it will improve treatment outcome (Table 3).

Table 3: Knowledge and Perception regarding Cancer Screening

Questions related with Screening	Pre-test Responses		Post-Test Response	
	Yes	No	Yes	No
Have you ever heard of cancer screening?	15(10.1)	134(89.9)	147(98.7)	2(1.3)
Which of the screening method you know to detect the cancer? (any of Pap's Smear/ SBE/ CBE/ VILI)	02(1.3)	147(98.7)	63(42.3)	86(57.7)
Do you perceive that regular, screening will help in prevention and early detection of cancer?			137(91.5)	12(8.5)
Do you perceive that early cancer screening is improves the treatment Outcome?			133(89.3)	16(10.7)

Figures in the parenthesis shown percentages

Information Regarding Cancer Screening and Feedback- Total 70% of the participants feel that mass media is the best source to get information regarding cancer followed by friends 18.7%. When asked about

whether this type of educational activities will be helpful in diagnosing early cancerous changes 90.6% responded positively.

Effectiveness of the Educational Intervention- Paired t test was applied to compare the effectiveness of the educational activities on all the three parameters viz. knowledge, attitude and practices. The means of the total

responses were derived and then compared by applying t-test. Significant improvement was seen in all three parameters post intervention and it was statistically significant.

Table 4: Effect of Educational Intervention among Participants

Variables	Paired Difference				t-test	p-value (2-tailed)
	Mean	Std Dev	Std Error	CI		
Post test Knowledge- Pre test knowledge	9.06	1.83	0.15	8.7-9.3	60.38	0.000
Post test Attitude- Pre test Attitude	0.79	1.24	0.10	0.58-0.99	7.74	0.000
Post test Practice- Pre test Practice	2.59	1.1	0.9	2.4-2.7	28.76	0.000

RESULTS

In the present study, we underwent through sessions of Focus Group Discussion with the female participants. This was carried as per the frame work explained by the methodology.

Common topics during health talks/ hospital visit-

The findings shown that cervical or breast cancer screening was never a topic for discussion. Some of the participants stated: "We are told to take care of the body. We are told not to be lazy. Eat good food such as egg, vegetables, fish, liver, and so on".

An awareness of Cancer, the majority of the participants did not hear about cervical cancer, only a few admitted to have heard about Breast Cancer. Some of the participants gave responses like this: "We don't know about it; I have not heard about cancer of cervix; I only heard of Breast cancer; I am hearing it for the first time". Only a few women said that: "I heard it destroys the mouth of the womb and the person will not be able to deliver a baby and will eventually lead to the evacuation of the womb".

Awareness of cervical cancer screening methods-

The majority has not heard about any screening method. They made the statements: "Not heard about any test; don't know; have not really been taught. I just heard that one can go for scan. It is always being announced on the radio/tv that women should go for screening but I have not heard of methods".

Women's perception about positive result at early stage of the disease-

Though the participants did not know much about cervical and breast cancer but since it is a disease they believe it is better to treat early. They believe that cervical cancer like other cancers will get worse if not detected and treated early.

"Better to treat immediately to prevent complication; to stop the spread of the disease; Prepare the mind of the person going for screening if not, the person may even die before the disease kills her; I don't think they can manage cancer of the cervix and if it is detected early, the cervix of the person will have to be cut; When an early stage of the disease is detected, it now depends on the expertise of the health personnel on how to talk to people and give them hope". The majority of the participants stated that early diagnosis and treatment will reduce death.

Perceived utilization of cervical cancer screening services-

The women stated that the screening services are not really being utilized. Their statements were as follows: "People have not been utilizing it; Will utilize services if asked to e.g. when asked to do tests we do it. It is not common like HIV or TB; Only literates utilize screening services while illiterates usually feel that something you don't know cannot kill you. We think people will turn up if such programmes are organized for women; Most people in India are complacent about screening but the presentation of these screening services will determine the utilization of such services. We have not been to a hospital where they are doing it. We personally have not gone for such screening. It is possible that most people have not been exposed to it so they have not been using it. We have not seen anyone use such service before".

Suggestions by the women on the ways screening uptake can be improved. Table 5 provides summary of the suggestions made by the women. Most of their suggestions were centered on increasing awareness and making the services available.

Some of their statements were: "As HIV is being advertised on TV and radio, it should also be done for

Cervical Cancer. It should be advertised on the Radio so that people will go for screening and those who are positive will know about the disease and get treatment for it. Screening can be improved through orientation and awareness by ANM in villages and weekly markets like immunization programmes; Information can be taken to schools and offices, hospitals and even to the market women. It should be explained to both uneducated and educated people; Education on cervical cancer should begin from primary and secondary. Should be discussed at the clinics, posters should be made and public campaign should be done so that people can know about it.

Table 5: Suggestions Measures to Improve Uptakes

Variables	Responses
Suggestions on ways that screening uptake can be improved	Increase Awareness of cancer of the cervix and screening through:
	• Media enlightenment as done for HIV
	• Public awareness in the market places and through household visits
	• Government should try to publicize the disease so that people will know about it and should make compulsory
	• Increased orientation and awareness by nurses in clinics, use of posters should be made and public campaign should be done so that people can know about it
	• Education on cancer should begin from Early elementary
	• It should be included as part of the screening procedure for pregnant women when registering for ANC
	• Services should be available- clinics or community based services

DISCUSSION

Cancers largely preventable by effective screening programmes^[4] but decision to participate in such cancer screening programs depends upon the knowledge, beliefs and attitudes about the disease and the screening tests. Leininger^[9] defined culture as “the learned, shared, and transmitted values, beliefs, norms and life ways of a particular culture that guides thinking, decisions and actions in patterned ways and often intergenerationally”. An appreciation of cultural factors is important in recognizing and understanding how individuals conceptualize health and illness and how these conceptualizations affect their health behaviours.^[10]

It was observed that only 10.1 % of the participants ever heard about cervical cancer. Similar finding was documented by Saha *et al.*^[8] where 11% of awareness was observed among students attending degree colleges. In the present study, we observed 10.1% had knowledge of risk factors for cervical cancer, 9.4% knowledge of symptoms. This was comparable to the study findings in Kolkata where 11% had knowledge about risk factors.

Whereas in the same study, they documented 15% of participants had awareness about Pap Smear, and HPV, which was only 0.7% in our study.^[4]

Unlike most other cancers, cervical cancer is readily preventable when effective programs are implemented to detect and treat its precursor lesions^[11]. We observed up to 50.3% of the participants perceived cancer as curable and 70.5% perceived it to be preventable whereas Kumar *et al.*^[12] found 84.2% participants in Mumbai perceived cervical cancer to be preventable was higher than present study findings, it may be because of variation in the setting and study group.

Screening has shown to effectively reduce the incidence of this malignancy in developed countries but in developing countries screening coverage is still low ranging from 2.0% to 20.2% in urban areas and 0.4% to 14.0% in rural areas.^[13] In the present study, we found only 10.1% of the participants ever heard about cancer screening method which is comparable to earlier studies^[13].

Thani *et al.*^[14] in their study done on school teachers concluded that the study intervention had a significant positive impact on women’s knowledge about cervical cancer and screening and also they commented, “those exposed to educational sessions showed some improvement in their knowledge regarding Pap smear test”.

In the focus group discussion observed that cancer is not discussed during their routine health talk. Further cancer awareness was found to be minimal among the study participants. Prominent in their finding was the fact that patients are not given adequate information on cervical cancer and screening^[15].

Women were not using the services as they did not know about the services or where to obtain such services. “Cervical cancer screening based on cytologic examination is largely unavailable in developing countries or made available to a small, select group of women in private facilities, maternal child health sites or family-planning clinics, missing the age groups at highest risk for precancerous lesions”.^[16]

The major factors identified by the women in the study are lack of awareness about the screening, lack of accessibility, quality of care, absence of screening facilities and economic barriers. Financial constraint is another problem as the available services are not free. This finding is supported by various studies. A Swedish Study reported that non attendance to cervical screening was positively associated with time-consuming and economic barriers^[17].

CONCLUSIONS

The present study showed low level of knowledge, negative attitude towards cancer and negligible amount of use of screening method which set the tone for population education. We showed significant improvement post intervention in all the three parameters. Qualitative analysis magnified the barriers in gaining correct knowledge and population perception regarding cancer. Continuing Educational interventions should be started

at all level, which highlights the importance of screening and prevention of cancer in women. Further, this study advocates larger community based studies involving broader range of population addressing the issue at all levels.

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