

Original article**Awareness of cervical cancer and effectiveness of educational intervention programme among nursing students in a rural area of Andhra Pradesh.**Poonam R Naik¹, K. Nagaraj², Abhay Subhashrao Nirgude³¹Associate Professor, ²Professor and Head, ³Associate Professor

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Correspondence to : Dr Poonam Naik, E-mail ID - drpoonamnaik@gmail.com**Introduction:**

Cancer of cervix is the commonest genital tract malignancy in the female, and it has been ranked second to breast cancer. Cervical cancer accounts for 8.5% deaths yearly most of which occur in developing countries. About half a million new cases are seen worldwide each year, most occurring in developing countries.^[1, 2] Cervical cancer is the single largest killer of middle-aged women in India. The incidence of cervical cancer per 100,000 Indian women of all ages varied between 30.0 and 44.9 (WHO, 2010). India bears about one fifth of the world's burden of cervical cancer.^[3] The menace of cervical cancer is still haunting India in spite of this being a preventable disease.^[4]

The primary underlying cause for cervical cancer is human papillomavirus (HPV).^[5] Early sexual debut, multiple sexual partners, HPV infection, smoking, genetic predisposition and compromised immunity are associated with development of cervical cancer.^[6] Cervical cancer screening is an important health care programme where precancerous cases could be treated more successfully than the cancer itself.^[7]

A study done in Kolkata among female students reflected 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] Study done by K Jayant in a rural Indian population in Maharashtra recommended that increasing awareness will motivate symptomatic individuals to seek medical consultation and treatment in the early stages and thus result in better survival.^[8] The success and benefit of a public health program to control and prevent cervical cancer will depend to a great extent on the level of awareness of the potential beneficiaries about different basic aspects of the disease.^[4] Comprehensive health education programmes are more likely to be beneficial to encourage screening.^[1]

Therefore, nurses have an important task of imparting information on risk factors, detection of early signs of cervical cancer and encourage women to perform cervical cancer screening regularly. This can be achieved by conducting additional education programmes for nurses.^[2] Currently, scanty information is available on knowledge base of the Indian nurses on cancer of the uterine cervix.

The purpose of the study was to assess knowledge, in terms of cervical cancer aetiology, symptoms, risk factors, screening and prevention among nursing students.

Objectives:

- 1.To assess the awareness of nursing students on aetiology, symptoms, risk factors, screening and prevention of cervical cancer.
- 2.To assess the effect of educational intervention regarding risk factors, screening programmes and prevention of cervical cancer.

Methodology:

An interventional study was conducted amongst B.Sc. Nursing students in Kamineni Institute of Nursing College of Nalgonda district during the period of April 2012 to assess their knowledge on aetiology, symptoms, risk factors, screening and prevention of cervical cancer.

Institutional Ethical committee approval and informed consent of the subjects was obtained prior to the start of the study. Permission to undertake study among nursing students was obtained from the Principal.

All those students who were available on the days of the study and willing to participate in the study were included as study samples which constituted 120 students.

Pre-Test:

To evaluate different aspects of basic knowledge and awareness on cervical cancer, the nursing students were offered a structured questionnaire to collect information. Confidentiality was ensured by asking them

not to write their names. All the students answered the questionnaire voluntarily and independently in their own classes under the supervision of interviewers (authors).

First part of the questionnaire was to collect information on age, socioeconomic status and family size. The second part contained questions pertaining to, knowledge, aetiology, symptoms, different risk factors, screening methods and prevention.

Intervention:

Educational intervention was conducted through one session of 60 minutes. The training was conducted by participatory learning approach which included ice-breaking, lectures using power-point, chalk and talk and question-answers. The topics discussed were related to prevalence and causation of cervical cancer, symptoms, risk factors, screening methods and prevention.

Post-test:

The same questionnaire was administered to the study subjects one week after completion of their training session.

Scoring was done as 2 and 1 for correct and wrong responses respectively for close-ended questions. For open-ended questions scoring was done as 3, 2 and 1 respectively for correct, partially correct and wrong responses respectively. We assume that the conceptual distance between correct and partially correct responses is equal to difference between partially correct and wrong responses. For the purpose of scoring; questions were grouped as pertaining to knowledge on cervical cancer, aetiology of cervical cancer, Human Papilloma virus, risk factors, symptoms, screening methods and prevention of cervical cancer. Maximum score was 60.

Data was analysed using SPSS version 19.0. Paired *t*-test was used to measure the effect of intervention.

Results:

A total of 120 individuals were registered for the study. They belonged to the age group of 17-20 years with a mean age of 18.85 years. As per their socio-economic status by modified B G Prasad classification; around 49.1% of them belonged to middle class.

Knowledge regarding “what cervical cancer is” was very low (30%). Majority of them (71.7%) had heard of cervical cancer and the sources of information were: teachers in 47.5% participants and 20% of them had read in books and newspapers. Although 7.5% of them could correctly answer the aetiology of cervical cancer, only 14.2% of them could correctly tell what Human Papilloma virus (HPV) is. A quarter of the participants (24.2%) were aware of the symptoms of cervical cancer. [Table I]

Higher level of knowledge was observed regarding the different risk factors of cervical cancer. “Multiple sexual partners” was correctly identified as a risk factor by 83.3% of the respondents while 62.5% were aware of the logical follow-up to this, that a partner who has or has had many sexual partners is also a risk factor. Also higher level of correct response was obtained in terms of STD's (85.8%) and genital warts (57.5%) as risk factors. Initiation of sexual intercourse at an early age was mentioned by 52.5% respondents. Around half of the respondents (57.5%) mentioned family history as a risk factor. Smoking and alcohol consumption as a risk factor was answered by 43.3% and 56.7% of the participants respectively.

Only 30% of them were aware of any screening method being available [Table I] and only 3.3% could correctly answer the method available. Another important finding observed was that though 17.5% of them had heard of Pap smear only 0.8% knew about its use. Although 84.2% said that cervical cancer is preventable only 30.8% of them were aware of the vaccine being available. [Table I]

Significant improvement was seen in the knowledge post-intervention and it is statistically significant by application of paired *t*-test ($p < 0.000$). More improvement in their knowledge was seen in areas related to screening methods, Prevention aspects, knowledge of Human Papilloma Virus as an aetiology agent and symptoms with mean paired differences of 4.258, 4.933, 2.767 and 1.067 respectively. The overall mean pre-test score was 39.38 and the post-test score was 56.57 with mean difference of -17.192 and *t* value of -36.370 significant at $p < 0.000$. [Table II]

Table: 1 Knowledge about aetiology, symptoms and prevention of cervical cancer (Pre-test N=120)

Knowledge about	Answer	Frequency (Percentage)
Cervical Cancer	Correct	36 (30)
Human Papilloma	Correct	17 (14.2)
Symptoms	Correct	29 (24.2)
Availability of screening method	Yes	36 (30)
Pap smear	Yes	21 (17.5)
Cervical cancer is preventable	Yes	101 (84.2)
Availability of vaccine	Yes	37 (30.8)

Table 2: Effect of educational intervention among nursing students (N=120)

Characteristics	Mean Score		Paired Differences		t- value	Sig. (2-tailed)
	Pre Test	Post Test	S.D	Mean		
Knowledge of Cervical cancer	1.94	2.28	0.882	-0.333	-4.138	0.000
Knowledge of causative factor of cervical cancer	1.28	2.61	0.780	-1.325	-18.618	0.000
Knowledge of HPV	2.42	5.18	1.158	-2.767	-26.181	0.000
Knowledge of risk factors	18.06	18.40	0.825	-0.342	-4.537	0.000
Knowledge of Symptoms	1.24	2.31	0.786	-1.067	-14.871	0.000
Knowledge of Screening methods	7.26	12.19	2.340	-4.933	-23.097	0.000
Knowledge of Prevention	8.25	12.51	2.144	-4.258	-21.758	0.000
Overall	39.38	56.57	5.178	-17.19	-36.37	0.000

Discussion:

It was observed that very few (7.5%) of the participants could correctly answer the question pertaining to aetiology of cervical cancer. In a study done by Urasa M among nurses in a hospital in Tanzania 38.7% could correctly identify HPV infection as the aetiology.^[6] These results are similar to other studies done elsewhere showing less than satisfactory knowledge about the cause of cervical cancer in the community as well as among the health professionals.^[9] Our study observed that less than a quarter of them could correctly tell what HPV is. Low level of awareness regarding the same was observed in study conducted by Cristina H Rama et al in Brazil.^[10] These results again show insufficient knowledge of HPV infection being the cause of cervical cancer in health professionals, even though 98% of cervical cancer in our part of the world is due to HPV infection, as reported in a study done by Das B C et al in India.^[11] Here we observed that only a quarter of the participants (24.2%) were aware of the symptoms of cervical cancer. On the basis of these findings it can be expected that considering the knowledge about this disease in the nursing students, the knowledge in general population of our country will be even less. This emphasizes the need to increase the awareness about cervical cancer in nursing students who are involved in the primary care of general patient population and form an important source of guidance for them.

Higher level of knowledge was observed regarding the different risk factors of cervical cancer. Similar findings were observed in a study done in Kolkata by A Saha et al^[4] and Teresa Joy et al in their study in India.^[12]

Only 30% of the students in our study were aware of any screening method being available and only 3.3% could correctly answer the method available. Awodele et al in their study among nurses observed that 51.5% of them were aware of Pap smear as a screening test for cervical cancer.^[1] Another important finding observed in our study was that only 17.5% of them had heard of Pap smear. Study done by A Saha et al reflected that only 11% had ever heard of Pap Smear test.^[4] Also similar observations were noted in a study done by Yifru Terefe et al among health clients in hospital in Ethiopia.^[7] These results indicate that information of

cervical cancer screening was inadequate among our study group. It might therefore contribute delaying of establishment of prevention and screening efforts in the community. Furthermore it is important for their health also.

Unlike most other cancers, cervical cancer is readily preventable when effective programs are implemented to detect and treat its precursor lesions.^[9] Majority of them (84.2%) said that cervical cancer is preventable but only 30.8% of them were aware of the available vaccine. Low level of awareness (9%) about vaccine was also observed in a study done in Karachi by Syed Faizan Ali et al.^[9] Similar findings were noted by Muhammad Ehsanul Hoque in their study conducted among university students in South Africa.^[13] Continuing nursing education may contribute to strengthening cervical cancer screening programs.^[14] Public acceptance and usage of a prophylactic vaccine are related to the level of knowledge about the disease, which the vaccine will provide protection from.^[15]

Significant improvement was seen in the knowledge post-intervention by application of paired *t*-test. More improvement in their knowledge was seen in areas related to screening methods, Prevention aspects, knowledge of Human Pappilloma Virus as an aetiological agent and symptoms with mean paired differences of 4.258, 4.933, 2.767 and 1.067 respectively. Papa et al in their study on educational intervention on women also concluded that their knowledge regarding Human Papilloma Virus, cervical cancer and screening statistically improved after the intervention.^[16] Similar results were noted by Lin et al in their study that educational program led to improvement of Taiwanese women's knowledge and practices related to cervical cancer screening.^[17] Al anoud Al Thani et al 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".^[18] Kwan TT in their school-based educational study on adolescent girls stated that after the program, participants had greater knowledge and a more positive attitude (both $p < 0.001$), with more girls having an

intention to accept the vaccine.^[19] Jayant K et al in their study concluded that efforts to improve awareness of the population have resulted in early detection of and improved survival from cervical cancer in a backward rural region in western India.^[8] This therefore highlights the need for continuing educational intervention amongst the nursing students.

Conclusion:

This study highlights inadequate knowledge about cervical cancer, its screening and prevention amongst the nursing students. Implementation of the educational sessions was successful in improving their knowledge. Continuing Educational interventions should be started at the institute level which highlights the importance of screening and prevention of cervical cancer in women. Nursing staff especially if properly aware of this disease can educate masses, increase the health seeking behaviour in women and thus reduce the burden of cervical cancer.

Study highlights the need to undertake similar community based studies about awareness and education interventions.

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**“We now have a global community that calculates how to maximize the benefits for a few at the expense of the majority”
-- Irene Fernandez**