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Research Article

Effectiveness of Organised Teaching Programme on Knowledge regarding the Risk Factors and Prevention of Cervical Cancer among BSc Nursing First-year Students of Selected Institute of Srinagar

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I N F O

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A B S T R A C T

Background: India has the highest number of cervical cancer cases worldwide, according to the International Agency on Cancer (IARC). In India, cervical cancer accounts for an estimated 1,32000 new cases and 74,000 fatalities per year.

Method: The study used a quantitative pre-experimental strategy with a one-group pre-test post-test design. Using a non-probability purposive sampling technique, 60 BSc students at the Madre-Mehran Institute of Nursing Research and Science, SKIMS, Soura, District Srinagar, were chosen.

Results: The mean knowledge score after the test was higher than the mean knowledge score before the test. This demonstrates the efficacy of the structured teaching programme in improving the students' understanding of the risk factors and prevention of cervical cancer. The pre-test knowledge score showed a significant relationship with demographic variables such as father's educational status and information source, but no statistically significant relationship was seen with gender, mother's educational status, type of family, family's monthly income, or residence at the 0.05 level of significance.

Conclusion: According to the study's findings, first-year BSc nursing students lacked sufficient understanding of the causes and methods for preventing cervical cancer. It was discovered that the structured teaching programme was successful in enhancing their knowledge.

Keywords: Teaching Programme, Knowledge, Effectiveness, Cervical Cancer

Introduction

India has the most cervical cancer cases worldwide, according to the International Agency on Cancer (IARC). In India, cervical cancer accounts for 74,000 annual fatalities and an estimated 1,32,000 new cases. Human Papilloma Virus (HPV) infection acquired through sexual contact is a key factor in the development of cervix cancer. Multiple sexual partners and poor genital cleanliness both raise HPV prevalence. Out of the 100 HPV types, 18 have been identified as high-risk of cervical cancer, with the remaining types being low-risk.[1] Cervical cancer continues to be a leading cause of death in young women around the world. Nearly 260,000 women worldwide passed away from cervical cancer in 2005. The majority of deaths-nearly 95%-occur in underdeveloped nations. In Nigeria, a woman has a 2.1% and a 1.7% lifetime probability of acquiring and dying due to invasive cancer, respectively. If detected at all, 60 to 80% are in advanced stages with a minimal chance of long-term survival. Each year, there are at least 5,000 new cases reported, with more than 90% of those occurring in developing nations, with rates highest in Central America, Sub-Saharan Africa, and Melanesia. As a result, one of the greatest dangers to women's life is cervical cancer.[2] Cervical cancer, in contrast to many other malignancies, can be avoided. This is due to the cervix's accessibility. The detection of aberrant cervical tissue before it develops into invasive cervical cancer can be accomplished by utilising reasonably affordable technology. When cervical cancer reaches the aggressive stages, it is fatal. Population-based Pap smear screening is a crucial secondary prevention strategy for cervical cancer and has a high cure rate for cervical cancer patients.[3]

A recent qualitative study reported a low level of knowledge on HPV and cervical cancer among children, parents, and teachers of four developing countries (India, Peru, Uganda, and Vietnam). Very similar results, i.e. lack of proper knowledge regarding cervical cancer, were found in several studies conducted in other countries of the world.[4] Cervical cancer is the most common cancer among Indian women of reproductive age. Unfortunately, despite the evidence of methods of prevention, most of the women remain unscreened. The reported barriers to screening include unawareness of risk factors, symptoms and prevention; stigma and misconceptions about gynaecological diseases and lack of national cervical cancer screening guidelines and policies. Knowledge of women about cervical cancer and awareness of its prevention are the key factors that determine their utilisation of screening services. A cross-sectional study conducted at King Fahad Medical City (KFMC), Saudi Arabia to assess the knowledge, attitude and practices of cervical cancer among female health workers suggested that only 4% of the participants appeared to have a good knowledge level of cervical cancer in terms of risk factors, vulnerability, signs, symptoms, ways of prevention, and screening. A total of 86.8% of participants believed that the Pap smear test is a useful test for the detection of cervical cancer and 26.2% had undergone Pap smear testing. The study population showed poor knowledge of cervical cancer as a disease.[5]

According to the International Journal of Research in Medical Sciences, a study was conducted to assess the knowledge and attitude of female graduate students including medical, nursing, engineering and general students on cervical cancer. The study revealed that 93% of medical, 75% of nursing, 29% of engineering, and 9% of other students were aware of the term cervical cancer. Assessment of knowledge regarding the risk factors of cervical cancer revealed that 13 medical, 9 nursing, 75 engineering, and 85 other graduates weren't aware of any risk factors of cervical cancer.[6]

Shekhar S et al. conducted a cross-sectional, descriptive interview-based survey among 262 nursing students of a tertiary care teaching institute in the rural area of Rajasthan. In this survey, 77% of respondents were aware that Pap tests are used to find cervical cancer, but less than 50% were aware that Pap tests can find precancerous lesions on the cervix as well. Only 23.4% of respondents were aware that HPV infection is a risk factor. Based on the results of the questions assessing respondents' awareness of cervical cancer, only 26.7% of the respondents were deemed to have the appropriate knowledge. The majority of students had inadequate awareness of cervical cancer, and it was difficult to characterise their attitudes and screening practices as positive.[7]

Cervical cancer, one of the most prevalent malignancies in women globally, has the greatest fatality rate in India, where there are 72,600 annual fatalities from the disease, accounting for one-fifth of the global burden. Globally, there are roughly 468,000 instances per year on average. By checking women for precancerous lesions and giving teenage girls the HPV vaccine, the incidence and death of the disease can be decreased. The main determinants of how often women use screening services are their knowledge of cervical cancer and their awareness of its prevention. Since the UK's cervical cancer screening programme was implemented in the 1980s, there have been 7% fewer instances of cervical cancer annually.[8]

There is no doubt that the reproductive age group needs to be educated enough to understand the disease, its risk factors, indications and symptoms, and most significantly, how to prevent it. Only an educated and healthy female population can vouch for an upcoming healthy country. Young people must be given the tools they need to take responsibility for their own health, including sexual health,

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screening initiatives, and cervical cancer prevention strategies. The first stage in illness control with a view to its eradication must entail educating girls of reproductive age about the disease at the high school and college levels. Every January, cervical cancer awareness month is a crucial reminder that how many lives could be saved by understanding the disease and the factors that put you at risk. Many occurrences of this condition, which affects thousands of women annually, are caused by the HPV (Human Papillomavirus). Since cervical cancer is a sexually transmitted disease, spreading sexual health awareness among the populace can help prevent it. Cervical cancer screening and the HPV vaccine are the two main methods of prevention, and the best strategy is to implement both programmes and educate kids about them before their participation.[9]

The World Health Organization estimates that an annual reduction of 1 million cases might be achieved by HPV vaccination. This goal needs to be supported, ensured, and promoted among the populace so that as many people as possible can participate in the national prevention programmes. Despite the fact that cervical cancer is almost certainly preventable, the smear test rates are low, and understanding why this is so will aid in the fight against the illness. The fear and embarrassment of susceptibility is one of several factors that contribute to people's ignorance of the disease and its prevention.[10]

Objectives

The objectives of the study were:

- To assess the pre-test knowledge score among BSc Nsg 1st year students of MMINSR, SKIMS, Soura regarding risk factors and prevention of cervical cancer
- To assess the post-test knowledge score among BSc Nsg Ist year students of MMINSR, SKIMS, Soura regarding risk factors and prevention of cervical cancer
- To compare the pre-test and post-test knowledge scores among BSc Nsg Ist year students of MMINSR, SKIMS Soura regarding risk factors and prevention of cervical cancer
- To determine the association of pre-test knowledge score with selected demographic variables (gender, educational status, residence, family type, family income, and source of information)

Research Methodology

Research Design

Pre-experimental one group pre-test and post-test design was used.

A structured knowledge questionnaire was used to assess the knowledge of students by using non-probability purposive sampling technique.

Setting: MMINSR SKIMS, Soura, Srinagar.

Sample Size: 60 study subjects.

Sampling Criteria

Inclusion Criteria

- All the students of BSc Nsg 1st year in the age group of 18 to 25 years
- Students who were willing to participate in the study
- Students who were available during the time of study

Exclusion Criteria

- Students below the age of 18 years and above 25 years
- Students who were not willing to participate in the study
- Students who were not available during the study

Data Collection Tool and Technique

The goal of the current study was to "assess the effectiveness of organised teaching programme on knowledge of BSc Nsg Ist year students of MMINSR, SKIMS, Soura Srinagar, Kashmir regarding the risk factors and prevention of cervical cancer". A quantitative research approach with a pre-experimental one group pre-test post-test research design was used. A non-probability purposive sampling strategy was utilised in the current study to gather data from 60 study participants who met the inclusion requirements. Demographic information, as well as an evaluation of knowledge-related risk factors and cervical cancer prevention, were collected using a self-structured knowledge questionnaire. Six professionals validated the interventional instrument. The tool trial was conducted on five study subjects starting on August 1 of 2021 in order to assess its clarity and relevance as well as to gauge how long it took to get the data. The test-retest approach was used to determine reliability. The reliability coefficient was "r" = 0.8. The instrument was therefore deemed to be trustworthy. To determine the viability and tractability of the main study, which was conducted on 60 chosen people from August 13 to August 21, 2021, a pilot study involving six study participants was done. Descriptive and inferential statistics were used to examine the data results, which were entered into a master data sheet.

Description of the Tool

The tool used for the study was a self-structured knowledge questionnaire. The tool consisted of two sections:

Section 1: Demographic data consisting of seven items seeking information about gender, educational status of father, educational status of mother, type of family, monthly income of family, place of residence, and source of information.

Section 2: A self-structured knowledge questionnaire comprising 42 items on knowledge regarding risk factors and prevention of cervical cancer.

It was further divided into four sections:

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- **Section 2.1:** Knowledge regarding general information about cervical cancer
- **Section 2.2:** Knowledge regarding the causes and risk factors of cervical cancer
- **Section 2.3:** Knowledge regarding signs and symptoms and diagnosis of cervical cancer
- **Section 2.4:** Knowledge regarding preventive measures for cervical cancer

Scoring Criteria

Section 1: A scoring key was prepared by coding demographic variables.

Section 2: For knowledge regarding risk factors and prevention of cervical cancer, a score of 1 was assigned to each correct response and a score of 0 was given to each incorrect response. According to the scores obtained, the following criterion was developed for interpreting the scores.

Total number of items = 43, maximum score = 43, and minimum score = 0.

The level of knowledge is categorised as

Knowledge Level based on Scores:

01-15: Average

16-30: Good

31-43: Very good

A pilot study was conducted on six study subjects to assess the feasibility and tractability of the main study which was conducted from 13th to 18th August 2021. The purpose of the study was explained to each subject and written consent was obtained from them. A self-structured questionnaire was used to assess their knowledge regarding cervical cancer.

Ethical Consideration

Ethical clearance was obtained from the Principal, MMINSR SKIMS, Soura. Written informed consent was obtained from the participants before their participation. The participants were assured that their participation was totally voluntary and would be used for research purposes only. Information obtained was treated with the utmost confidentiality.

Data Collection Procedure

Formal administrative permission was obtained from the Principal, MMINSR SKIMS, Soura to conduct the study. Data were collected with the help of a self-structured questionnaire from 21st - 30th August 2021. Before administering the tool, the subjects were explained the purpose of the study and were assured confidentiality. The tool was handed over to each student during a relatively less busy time so that they will be more responsive. It took about 45 min to complete the questionnaire which was followed by a 15 min break; after that, the organised teaching programme was administered for 1 hour and the post-test was taken after seven days of pre-test. The organised teaching programme was administered to 60 subjects (BSc Nursing 1st-year students) on the same day as the pre-test. After 7 days, a post-test was conducted to assess the knowledge score of BSc Nsg. 1st-year students who participated in the study.

Result

The data were tabulated, analysed, organised, and presented under the following headings:

Section A: Findings on socio-demographic characteristics (gender, educational status of father, educational status of mother, type of family, monthly family income, residence, and source of information) of study subjects.

Section B: Findings to assess the pre-test and post-test knowledge scores of study subjects.

Section C: Findings related to the association of pre-test knowledge scores about risk factors and prevention of cervical cancer of the participants with their selected demographic variables.

Section A: Description of Demographic Variables of Study Subjects (Gender, Educational Status of Father, Educational Status of Mother, Type of Family, Monthly Income of Family, Place of Residence, and Source of Information

The data presented in Table 1 reveal that out of 60 subjects, maximum (47, 78.3%) study subjects were female and 13 (21.7%) were male. The fathers of 21 (35%) participants were middle pass, 20 (33.3%) were undergraduate, 10 (16.7%) were illiterate, and 9 (15%) were graduate and above. The mothers of 34 (56.7%) participants were graduate, and those of 28 (43.3%) were undergraduate. Maximum subjects (48, 76.7%) belonged to nuclear families and 14 (23.3%) belonged to joint families. Monthly income of family members of 25 (41.7%) subjects was between INR 10000 and 15000, and that of 8 (13.3%) was more than INR 25000. Out of 60 subjects, majority (42, 70%) belonged to rural areas. Most of the subjects (35, 58.3%) had gained knowledge from the internet, 20 (33.3%) from books and only 5 (8.3%) from newspapers.

Table 1.Frequency and Percentage Distribution of Study Subjects according to Demographic Variables n = 60

Gender	Frequency	Percentage
Female	47	78.3
Male	13	21.7
Educational status of father		
Middle	21	35.0
Undergraduate	20	33.3

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Illiterate	10	16.7
Graduate and above	9	15.0
Educational status of mother		
Graduate & above	34	56.7
Undergraduate	26	43.3
Middle	0	0.0
Illiterate	0	0.0
Type of family		
Joint	14	23.3
Nuclear	46	76.7
Monthly income of family (INR)		
10000-15000	25	41.7
16000-20000	11	18.3
21000-25000	16	26.7
> 25000	8	13.3
Place of residence		
Rural	42	70.0
Urban	18	30.0
Source of information		
Books	20	33.3
Internet	35	58.3
Newspaper	5	8.3
Total	60	100.0

Section B: Description and Comparison of Pre-test and Post-test Knowledge Scores of Study Subjects Regarding Risk Factors and Prevention of Cervical Cancer

The section deals with the analysis and interpretation of data obtained from scores of study subjects. The knowledge scores were assessed using a structured knowledge questionnaire. The obtained knowledge scores were divided into three categories, that is, average (1%-15%), good (16%-30%), and very good (31%-43%).

Table 2.Distribution of Study Subjects according to their Pre-test Knowledge Scores regarding Risk Factors and Prevention of Cervical Cancer n = 60

Pre-test Score Grading	Frequency	Percentage
Average	39	65.0
Poor	16	26.7
Good	5	8.3
Total	60	100.0
Mean	Median	Std deviation
22.13	21.50	2.703
Minimum	Maximum	Range
17	30	13

Table 3.Distribution of Study Subjects according to their Post-test Knowledge Scores regarding Risk Factors and Prevention of Cervical Cancer n = 60

Post-test Score Grading	Frequency	Percentage
Good	60	100.0
Poor	0	0
Average	0	0
Mean	**Median**	**Std deviation**
35.75	36.00	3.018
Minimum	**Maximum**	**Range**
30	41	11

Descriptive Statistics of Pre-test and Post-test Knowledge Scores of Study Subjects regarding Cervical Cancer

Paired 't' test was used to find out the significance of difference between the mean pre-test and post-test knowledge scores.

Table 4.Comparison between Pre-test Knowledge level & Post-test Knowledge Level of Study Subjects regarding Risk Factors and Prevention of Cervical Cancer n = 60

		Mean	T Value	Std Deviation	Mean Diff.	P Value
Paired test	Pre-test knowledge score	22.13	54.352	2.703	13.16	0.001
	Post-test knowledge score	35.75		3.018		

Table 4 demonstrates that at 0.05 level of significance, the study respondents' mean post-test knowledge score regarding risk factors and prevention of cervical cancer was considerably higher (35.75) than their mean pre-test knowledge score (22.13).

Data presented in Table 5 shows that the pre-test mean percentage was 36.88, post-test mean percentage was 59.58 and the effectiveness of teaching was 22.7%.

Table 5.Comparison of Pre-test Mean Percentage and Post-test Mean Percentage of Knowledge of Study Subjects regarding Risk Factors and Prevention of Cervical Cancer and Effectiveness of Teaching n = 60

Effectiveness Percentage	
Pre-test mean %	36.88
Post-test mean %	59.58
Effectiveness %	22.7

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Section C: Association of Pre-test Knowledge Score with Selected Demographic Variables of Subjects

This section deals with the analysis and interpretation of data to find out the association of pre-test knowledge scores regarding the knowledge of risk factors and prevention of cervical cancer with their selected demographic variables. Chi-square test was used to find this association. There was a significant association of pre-test knowledge scores with demographic variables like educational status of father ($p = 0.046$) and source of information ($p = 0.034$), and no association was found with other demographic variables, i.e. gender ($p = 0.577$), educational status of mother ($p = 0.218$), type of family ($p = 0.379$), monthly income of family ($p = 0.766$), and place of residence ($p = 0.277$) at 0.05 level of significance.

Table 6.Association of Pre-test Knowledge Score of Study Subjects with their Selected Demographic Variables (Gender, Educational Status of Father, Educational Status of Mother, Type of Family, Monthly Income of Family, Place of Residence and Source of Information)

Variables			Pre-test Score Level					P Value	Remarks
			Average	Good	Poor	Total	Chi-square		
Gender	Female	n	31	3	13	47	1.077	0.577	Insignificant
		%	51.7	5.0	21.7	78.3			
	Male	n	8	2	3	13			
		%	13.3	3.3	5.0	21.7			
	Total	n	39	5	16	60			
		%	65.0	8.3	26.7	100			
Educational status of father	Graduate and above		5	1	3	9	14.82	0.046	Significant
			8.3	1.7	5.0	15.0			
	Illiterate		4	3	3	10			
			6.7	5.0	5.0	16.7			
	Middle		14	0	7	21			
			23.3	0	11.7	35.0			
	Undergraduate		16	1	3	20			
			26.7	1.7	5.0	33.3			
	Total		39	5	16	60			
			65	8.3	26.7	100			
Educational status of mother	Graduate and above		23	1	10	34	3.144	0.218	In significant
			38.3	1.7	16.7	56.7			
	Undergraduate		16	4	6	26			
			26.7	6.7	10.0	43.3			
	Total		39	5	16	60			
			65.0	8.3	26.7	100			
Type of family	Joint		10	2	2	14	1.94	0.379	In significant
			16.7	3.3	3.3	23.3			
	Nuclear		29	3	14	46			
			48.3	5.0	23.3	76.6			
	Total		39	5	16	60			
			65.0	8.3	26.7	100			
Monthly family income (INR)	10000-15000		15	2	8	25	3.337	0.766	In significant
			25.0	3.3	13.3	41.7			
	16000-20000		6	2	3	11			
			10.0	3.3	5.0	18.3			
	21000-25000		12	1	3	16			
			20.0	1.7	5.0	26.7			
	> 25000		6	0	2	8			
			10.0	0	3.3	13.3			
	Total		39	5	16	60			
			65.0	8.3	26.7	100			
Place of residence	Rural		30	3	9	42	2.569	0.277	In significant
			50.0	5.0	15.0	70.0			
	Urban		9	2	7	18			
			15.0	3.3	11.7	30.0			
	Total		39	5	16	60			
			65.0	8.3	26.7	100			

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Source of information	Books	16	1	3	20	16.435	0.034	Significant
		26.7	1.7	5.0	33.3			
	Internet	19	4	12	35			
		31.7	6.7	20.0	58.3			
	Newspaper	4	0	1	5			
		6.7	0	1.7	8.3			
	Total	39	5	16	60			
		65.0	8.3	26.7	100			

Discussion

The findings of this study are supported by Nayak PR et al., who in 2012, conducted a quasi-experimental study on the awareness and effectiveness of a structured educational intervention programme among 50 nursing students in a rural area of Andhra Pradesh. They discovered that the majority of the students (71.7%) knew about cervical cancer and 84.2% knew how to prevent it. The investigator found that the mean post-test knowledge score of the study subjects regarding risk factors and prevention of cervical cancer was significantly higher (33.75) than that of the mean pre-test knowledge score (22.13) at 0.05 level of significance, which is consistent with the findings of the previous study.

Conclusion

The structured teaching programme helped in the improvement of the knowledge scores of the students of Bsc nursing 1st year students. Thus it could be concluded that knowledge is dependent and can be improved by planned teaching. If knowledge improves, it may aid in improving practices.

Limitations

- The study had a small sample size (60) which imposes a limitation on generalisation
- The study was confined to BSc Nursing 1st year students of MMINSR SKIMS, Soura, hence generalisation can only be made for the sample studied

Recommendations

The following recommendations/ suggestions have been proposed by the researchers:

- The study can be replicated on a larger sample to validate the findings and for generalisation
- Similar studies can be conducted in different settings
- A comparative study can be done to evaluate the effectiveness of the self-instructional module on risk factors and prevention of cervical cancer in terms of knowledge in nursing students

Conclusion

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Conflict of Interest: None

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