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Original Article

A Study to Assess the Effectiveness of Intervention Awareness Programme On Knowledge Regarding Ovarian Cancer and Its Prevention Among 3rd Year B.Sc. Nursing Students in Selected Nursing Colleges, Rajasthan

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Introduction

Cancer is a complex hyper-proliferative disease characterized by uncontrolled cellular growth and differentiation, involving a series of pathological processes such as morphological transformation of cells, disruption of programmed cell death (apoptosis), continuous and unregulated cell division, tissue invasion, angiogenesis, metastasis, and evasion of immune surveillance mechanisms. These malignant transformations result from a sequence of genetic mutations, each conferring a growth advantage to the affected cell, thereby progressively converting normal cells into cancerous ones. The estimated mutation rate is approximately one in every 2×10^7 DNA base pairs per cell division, and considering an average of 10 target cells in the human body, the risk of such transformation is significant.

Materials and Methods: This study was conducted at Institute of Nursing, Rajasthan, to assess the effectiveness of a video-assisted teaching module on the knowledge regarding ovarian cancer among nursing students. An evaluative research approach using a one-group pre-test post-test design was adopted. A total of 60 nursing students were selected through non-probability convenience sampling. A structured knowledge questionnaire on ovarian cancer was used as the tool for data collection.

Results: The findings of the present study clearly indicate a significant improvement in knowledge among 3rd-year B.Sc. nursing students after the administration of the intervention awareness programme on ovarian cancer. In the pre-test, 73.33% of students had inadequate knowledge, while 26.66% showed moderately adequate knowledge, and none demonstrated adequate knowledge. Following the intervention, the knowledge levels improved substantially, with 68.33% of students achieving moderately adequate knowledge and 38.33% reaching the level of adequate knowledge—and importantly, none remained in the inadequate category. The mean knowledge score increased from 20.51 (58.60%) in the pre-test to 26.50 (75.72%) in the post-test, demonstrating a clear enhancement of 17.12%. The paired t-test value of 59.77 was statistically significant at $p < 0.05$, indicating the effectiveness of the intervention. Additionally, the Chi-square test showed a significant association between post-test knowledge and demographic variables such as age, family income, age at menarche, and family history of ovarian cancer. These results validate the effectiveness of the video-assisted awareness programme in increasing awareness and understanding of ovarian cancer and its prevention among nursing students, and reinforce the need to incorporate such strategies into nursing education to support early detection and prevention initiatives.

Conclusion: The results of this experimental study strongly highlight the effectiveness of the intervention awareness programme in improving awareness and understanding of ovarian cancer among nursing students. The significant gain in knowledge after the intervention emphasizes the value of integrating innovative teaching methods into nursing education. Furthermore, the study offers strong evidence that structured

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educational strategies can effectively address knowledge gaps and equip future healthcare professionals to actively contribute to cancer awareness, early detection, and preventive health education.

Keywords: Intervention awareness programme, Knowledge ovarian cancer, 3rd Year B.Sc. Nursing,

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Introduction

Ovarian cancer is a malignant tumor that arises from the cells of the ovary and is recognized as one of the most lethal gynecological malignancies due to its late presentation and nonspecific early symptoms [1]. Globally, ovarian cancer ranks eighth in terms of both incidence and mortality among women, with an estimated 324,603 new cases and 207,252 deaths reported in 2022 [1]. The disease burden is expected to increase significantly by 2040 due to aging populations and rising life expectancy [2]. In India, ovarian cancer is the third most common cancer among women, following breast and cervical cancer. The country reported approximately 47,333 new ovarian cancer cases and 32,978 deaths in 2022, accounting for around 6.6% of all female cancers [2,3]. Within the Indian context, under diagnosis and late-stage detection are major contributing factors to poor prognosis, as there is currently no national screening program for ovarian cancer [3]. In the state of Rajasthan, although population-based cancer registries are limited, studies suggest a rising trend in the incidence of gynecological cancers, including ovarian cancer, particularly in urbanizing regions [4]. Risk factors associated with ovarian cancer include age over 50, family history of breast or ovarian cancer, null parity, obesity, and prolonged use of hormone replacement therapy [1,3]. The prognosis of ovarian cancer is heavily dependent on the stage at diagnosis, with five-year survival rates exceeding 90% for early-stage disease but falling below 30% for advanced-stage disease [1]. Thus, improving early detection, raising awareness, and providing access to quality care are critical in reducing the burden of ovarian cancer, especially in resource-constrained settings like India and its states such as Rajasthan [2,4].Global Perspective: According to GLOBOCAN 2022, there were an estimated 324,603 new cases of ovarian cancer globally, with an age-standardized incidence rate (ASIR) of 6.7 per 100,000 women. The disease accounted for approximately 206,956 deaths worldwide, with an ASIR of 4.0 per 100,000 women. Projections indicate a significant increase in the burden of ovarian cancer, with new cases expected to rise by over 55% to 503,448 and deaths by nearly 70% to 350,956 by 2050.[5]Ovarian Cancer in India: India bears a substantial burden of ovarian cancer, ranking second globally in both incidence and mortality. In 2022, India reported approximately 47,333 new cases, with an ASIR of 6.6 per 100,000 women, and 32,978 deaths, with an ASIR of 4.6 per 100,000 women.[6]In Rajasthan, comprehensive data on ovarian cancer incidence and mortality are limited. However, studies indicate a rising trend in cancer cases in the state. The crude annual incidence rate of all cancers in Rajasthan increased from 58.8 per 100,000 population in 1990 to 72.6 per 100,000 in 2016.[7]

Objectives

1. To assess existing knowledge of nursing students regarding ovarian cancer and its prevention
2. To evaluate the effectiveness of intervention awareness programme on knowledge of nursing students regarding ovarian cancer and its prevention.
3. To find out the association between pre-test knowledge score with selected demographic Variables.

Hypothesis:

To achieve the stated objectives, the following hypothesis was formulated at 0.05 level of significance:

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H_1: -There will be significant different between pre and post-test knowledge score of nursing students regarding ovarian cancer and its prevention

H_2: -There will be significant association between pre-test knowledge of nursing students regarding ovarian cancer and its prevention with their selected socio demographic variables.

Operational Definition:

1. Assess: To systematically measure the level of knowledge about ovarian cancer before and after the awareness programme among nursing students.
2. Effectiveness: The extent to which the awareness programme increases nursing students' knowledge regarding ovarian cancer and its prevention, measured through post-test scores.
3. Knowledge (Operational Definition): In this study, knowledge refers to the awareness and understanding of third-year B.Sc. nursing students regarding ovarian cancer and its prevention, as measured by a structured questionnaire before and after the intervention awareness programme.
4. Intervention Awareness Programme: A structured educational session including lectures, discussions, and visuals aimed at improving knowledge about ovarian cancer among nursing students.
5. Ovarian Cancer: : A malignant condition of the ovaries characterized by uncontrolled cell growth, studied here for its symptoms, risk factors, and prevention.
6. Nursing Students: Third-year B.Sc. nursing students enrolled in selected colleges of Rajasthan who participated in the awareness programme for this study.

Delimitations

1. The study is delimited to third-year B.Sc. nursing students only.
2. It is confined to selected nursing colleges in Rajasthan, hence findings cannot be generalized to other regions.
3. The study focuses solely on ovarian cancer and its prevention, excluding other types of gynecological cancers.
4. The sample size is limited to students available during the data collection period.
5. Only students who are willing to participate and present on pre and post-test days were included.

Materials & Methods

The present study utilized a pre-experimental one-group pre-test post-test design to assess the effectiveness of an intervention awareness programme on knowledge regarding ovarian cancer and its prevention among 3rd-year B.Sc. nursing students in selected nursing colleges of Rajasthan. A total of 60 students were selected using non-probability convenient sampling. A structured, validated knowledge questionnaire was administered before and after the delivery of a video-assisted teaching module focusing on ovarian cancer risk factors, symptoms, early detection, and preventive strategies. Data analysis was conducted using SPSS, employing paired t-tests to compare pre- and post-test scores and ANOVA to determine associations with demographic variables. The findings indicated a significant improvement in post-test knowledge scores, supporting the effectiveness of the intervention. Ethical clearance was obtained from the Institutional Review Board, and informed consent was taken from all participants. Confidentiality and anonymity were maintained throughout the study to ensure the ethical integrity and reliability of the results.

Criteria for sample selection

Inclusion Criteria:

1. 3rd year B.Sc. Nursing students enrolled in selected nursing colleges of Rajasthan.
2. Students who are available and present on the day of pre-test and post-test.
3. Students who are willing to participate and provide informed consent.
4. Students who can understand and respond to the questionnaire in English.

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Exclusion Criteria:

1. Nursing students from other academic years (1st, 2nd, or 4th year).
2. Students who are absent during the intervention or data collection period.
3. Students who have previously received formal training or sessions on ovarian cancer.
4. Students unwilling to participate or who decline to give informed consent.

Results

Table-1: Frequency and percentage distribution of nursing students according to their demographic characteristics.

S.no.	Demographic characteristics	Categories	Frequency	Percentage
1.	Age in years	17-19 years	10	16.66
		20-21 years	34	56.66
		22-23 year	10	16.66
		>23 years	6	10.00
2.	Religion	Hindu	44	73.33
		Muslim	12	20.00
		Christian	4	6.66
3.	Family Income	<15000 Rs	6	10.00
		15001-20000 Rs	10	16.66
		20001-30000 Rs.	24	40.00
		> 30000 Rs.	20	33.33
4	Dietary pattern Dietary pattern Dietary pattern	Vegetarian	26	43.33
		Non vegetarian sent	34	56.66
5	Age at menarche	12 years	19	31.66
		13 years	17	28.33
		14 years or above	24	40.00
6	**Family history of ovarian cancer**	Yes	8	13.33
		No	52	86.66
7	**Number of classe attended on ovarian cancer.**	Not attended any class	28	46.66
		1 classes	14	23.33
		2 classes	8	13.33
		More than 2 classes	10	16.66
8	**Source of information**	Classes and Books	14	23.33
		Internet & Newspaper	36	60.00
		Short certificate course	10	16.66

Table -2: Frequency and percentage distribution of nursing students according to pre test level of knowledge regarding ovarian cancer.

Sno	Levelof Knowledge	Frequency	Percentage
1	Inadequate knowledge(<50%)	44	73.33
2	Moderately adequateknowledge (50-75%)	16	26.66
3	Adequate knowledge (>75%)	-	-
4	Over all	60	100

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Table -3 : Frequency and percentage distribution of nursing students according to post test level of knowledge regarding ovarian cancer.

Sl no	Levelof Knowledge	Frequency	Percentage
1	Inadequate knowledge(<50%)	0	0
2	Moderately adequate knowledge (50-75%)	41	68.33
3	Adequate knowledge (>75%)	23	38.33
4	Over all	60	100

TABLE-3: Mean, Mean%, SD and CV of Overall pre-test, post-test and enhancement knowledge scores regarding ovarian cancer and its prevention. (N=60).

	Minimum	Maximum	Range	Mean	mean %	Std. Deviation	co-efficient of variance	Paired t Test Value
PRETEST	11	28	17	20.51	58.60%	3.14	15.31%	59.77 (S) df=299
POSTTEST	18	32	14	26.50	75.72%	2.64	9.96%	
ENHANCEMENT	3	12	9	5.99	17.12%	1.74	28.98%	

Table-4: Outcomes of Chi-square analyses for association between knowledge regarding ovarian cancer among nursing students with their demographic variables.

S.n	Demographic characteristic	Categories	Sample (n=60)		Levelof Knowledge				Chi square value	p-value
					≤median		>median			
			F	%	F	%	F	%		
1	Age in years	17-19 years	10	16.66	4	40.00	6	10.00	6.81 df=6,NS	p<0.05
		20-21 years	34	56.66	20	58.82	14	41.17		
		22-23 year	10	16.66	6	60.00	4	40.00		
		>23 years	6	10.00	4	66.66	2	33.33		
2	Religion	Hindu	44	73.33	24	54.54	20	45.45	3.98, df=4, NS	p>0.05
		Muslim	12	20.00	8	66.66	4	33.33		
		Christian	4	6.66	2	50.00	2	50.00		
3	Family income	≤15000	6	10.00	4	66.66	2	33.33	8.96, df=6 ,S	P<0.05
		15001-20000	10	16.66	6	60.00	4	40.00		
		20001-30000	24	40.00	15	62.50	9	37.5		
		>30000/-	20	33.33	12	60.00	8	40.00		

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4	Dietary pattern	Vegetarian	26	43.33	15	57.69	11	42.30	3.64, df=2, NS	p>0.05
		Non vegetarian sent	34	56.66	20	58.82	14	41.17		
5	Age at menarche	12 years	19	31.66	10	52.63	9	47.36	10.34, df=4, S	p>0.05
		13 years	17	28.33	9	52.94	8	47.05		
		14 years or above	24	40.00	15	62.50	9	37.50		
6	Family history of ovarian cancer	Yes	8	13.33	5	62.50	3	37.5	6.14, df=2, S	p>0.05
		No	52	86.66	40	76.92	12	23.07		
7	Number of classes attended on ovarian cancer.	Not attended any class	28	46.66	16	57.14	12	42.85	3.84, df=6,NS	p>0.05
		1 classes	14	23.33	9	64.28	5	35.71		
		2 classes	8	13.33	6	75.00	2	25.00		
		More than 2 classes	10	16.66	4	40.00	6	60.00		
8	Source of information	Classes and Books	14	23.33	8	57.14	6	42.85	4.874, df=4,NS	p>0.05
		Internet & Newspaper	36	60.00	22	61.11	14	38.88		
		Short certificate course	10	16.66	7	70.00	3	30.00		

Nursing Implications

The findings of this study highlight a significant improvement in knowledge regarding ovarian cancer and its prevention among 3rd-year B.Sc. nursing students after the administration of an intervention awareness programme. This emphasizes the importance of structured educational tools in enhancing nursing students' awareness on critical health issues, and presents key implications for various areas of nursing.

Nursing Practice: Improved knowledge through awareness programmes equips nursing students to educate patients more effectively about ovarian cancer, its risk factors, early symptoms, and preventive strategies. As future frontline healthcare providers, well-informed nurses can contribute to early detection efforts, promote timely medical attention, and ultimately help reduce the disease burden in communities, especially in underserved areas like rural Rajasthan.

Nursing Education: The study supports integrating intervention-based awareness modules into the B.Sc. Nursing curriculum. Using interactive methods such as video-assisted teaching improves student engagement, retention of complex medical content, and prepares students for community outreach. Faculty should be encouraged to adopt innovative teaching strategies that address real-world healthcare challenges, like rising gynecological cancer rates in India.

Nursing Research: This study opens new pathways for nursing research on educational effectiveness. Future studies can compare different intervention formats (digital vs traditional), assess long-term knowledge retention, and explore impacts on clinical practice. Such evidence-based findings can guide improvements in both nursing pedagogy and health promotion strategies.

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Nursing Administration: Nursing administrators can play a crucial role by promoting the use of technology-enhanced learning methods within institutions. Strategic planning for digital tools, faculty training, and policy inclusion of awareness programmes in the syllabus can lead to a more competent nursing workforce. Supporting such initiatives ensures that nursing education is aligned with current health priorities and national cancer prevention efforts.

Conclusions:

The findings of the present study clearly demonstrate that the intervention awareness programme, delivered through a video-assisted teaching module, was highly effective in enhancing the knowledge of 3rd-year B.Sc. nursing students regarding ovarian cancer and its prevention. The pre-test results indicated that the majority of students had inadequate knowledge, with 73.33% scoring below 50%. Following the intervention, there was a marked improvement, with 68.33% achieving moderately adequate knowledge and 38.33% reaching an adequate knowledge level. The mean post-test score (26.50) was significantly higher than the pre-test score (20.51), and the paired t-test value (59.77) confirmed the statistical significance of this improvement ($p<0.05$). Additionally, chi-square analysis showed a significant association between knowledge scores and demographic variables such as age, family income, age at menarche, and family history of ovarian cancer. These results indicate that structured educational interventions can effectively address knowledge gaps among nursing students and can be incorporated into regular academic training to prepare them for community-based awareness and prevention initiatives. The study highlights the need for innovative, interactive learning strategies in nursing education to support cancer awareness and early detection efforts, especially in regions like Rajasthan where awareness levels are comparatively low.

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References

1. Sung H, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2021;71(3):209–249.
2. IARC. GLOBOCAN 2022: India Factsheet. International Agency for Research on Cancer; 2022. Available from: https://gco.iarc.fr
3. NCRP. Cancer Statistics, India Report 2020. Indian Council of Medical Research; 2020.
4. WCRF. Ovarian cancer statistics. World Cancer Research Fund International; 2022. Available from: https://www.wcrf.org
5. World Ovarian Cancer Coalition. Ovarian Cancer Key Stats. 2022. Available from: https://worldovariancancercoalition.org/about-ovarian-cancer/key-stats/
6. International Agency for Research on Cancer. India Fact Sheet. GLOBOCAN 2022. Available from: https://gco.iarc.who.int/media/globocan/factsheets/populations/356-india-fact-sheet.pdf
7. IndiaStat. Health: Cancer-Neoplasm Statistics and Growth Figures Year-wise of Rajasthan. Available from: https://www.indiastat.com/rajasthan-state/data/health/cancer-neoplasm
8. Nair N, Bellcross C, Haddad L, et al. Georgia primary care providers' knowledge of hereditary breast and ovarian cancer syndrome. J Cancer Educ. 2017;32(1):119–124.