Educational effect on knowledge, attitude and practice among registered nurses regarding cervical cancer, its prevention and screening in Karachi, Pakistan

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Abstract

Objectives: To determine the effects of education on knowledge, attitude and practice status regarding cervical cancer, its prevention and screening among registered nurses working at tertiary care hospitals.

Methods: The quasi-experimental study was conducted in 2016(15th June-15th July) at Civil Hospital, Karachi, and Dow University of Health Sciences, Karachi, and comprised registered nurses enrolled through non-probability convenience sampling. Baseline demographic characteristics and knowledge, attitude and practice levels of the nurses was gathered using a self-structured pretested and validated questionnaire. An education session on, "prevention and screening of cervical cancer" was conducted and its effectiveness was determined using the same questionnaire post-intervention. The difference in pre- and post-intervention values were determined. P<0.05 was considered significant.

Results: There were 129 subjects with a mean age of 34.2±3.8 years, and 69(53.5%) had work experience of 5 years or less. There was significant mean difference between baseline and post-intervention scores in terms of knowledge and practice (p<0.05), while attitude scores were not significantly different (p>0.05). The difference in knowledge scores were significant in all age groups, marital status, work experience and education (p<0.05 each).

Conclusion: There was a highly significant impact of education on the knowledge level of the subjects.

Keywords: Prevention, Screening, Nursing education, Cervical cancer, Knowledge, Practice of screening, Pap smear, HPV vaccine, HPV, Human papilloma virus. (JPMA 70: 674; 2020) **https://doi.org/10.5455/JPMA.10254**

Introduction

Carcinoma of cervix is the 4th common cancer globally in females and 85% cases happen in underdeveloped countries, like Pakistan. The major risk factor of the cervical cancer is infection of the human papilloma virus (HPV). The other risk factors of cervical cancer are poor sexual hygiene, early age of first intercourse, less gap in child birth, immune deficiency and smoking etc.[1] Cervical cancer was the leading cause of cancer deaths for women in Honduras, and sexual behaviour and low screening uptake were the two major factors contributing to high rates of morbidity and mortality.[2]

Nurses are the key personnel in patients' medical safety, recovery and through counselling in multiple ways.[3] They are the main source for the transmission of knowledge of any disease, especially the cervical cancer. They can motivate female patients to opt for screening procedures for detecting any changes suggesting cancer development which can be easily treated and prevented at an early stage. Pap smear is a simple test that can detect possible changes regarding the development of cancer. However, in developing countries, patients come for treatment at a very late stage of the disease when treatment becomes impossible.[4] A study[5] concluded that the nurses' programme significantly improved understanding of the correct use of the Pap smear, the age-related risk of dysplasia, and the proper triage of abnormal results. But for this purpose it is essential to enhance the knowledge, attitude and practice (KAP) pattern of nurses regarding screening and preventive procedures regarding cervical cancer which can be easily prevented through vaccination and Pap smear.[6]

A study[7] conducted in Pakistan observed that the knowledge of the nurses for cervical cancer was below the standard. Further, their attitude and practice were very low, showing that they needed continuous education of the problem for better prevention. In this situation it is necessary to determine the effect of education to the nursing staff on proper management and guidance to the general public regarding cervical cancer and its screening and prevention. The current study was planned to determine the effects of education on KAP status regarding cervical cancer, its prevention and screening among registered nurses working in a tertiary care hospitals.

Subjects and Methods

The quasi-experimental study was conducted at Civil

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Table-1: Questionnaire for assessment of the knowledge, attitude and practice pattern of the nurses.

Question no	Knowledge assessment
1.	Which age group is most commonly involved in ca cervix?
2.	Which infection is necessary factor in the development of cervical cancer?
3	What is the treatment of ca cervix in Pakistan?
4	Which screening test is used for cervical cancer?
5	Do all women need cervical screening?
6	What is recommended age for cervical cancer screening?
7	Which women should not be recommended for cervical screening test?
8	Which women should not be recommended for cervical screening test?
9	What are the most common sign and symptoms of ca cervix?
10	If a woman is having abnormal vaginal bleeding with pain, Could she have cervical screening?
11	What is recommends interval for screening of cervical cancer?
12	Who should be screened for cervical cancer?
13	Is there any vaccine available for cervical cancer?
14	Do you think cervical cancer is a disease of public health concern?
15	In your opinion how common is ca cervix?
	Attitude assessment
16	Are you interested in obtaining more information regarding cervical Cancer?
17	Who can provide cervical screening knowledge to the patient?
18	Do you ask patients routinely whether screened for cervical cancer?
	Practice assessment
19	Have you ever discussed any screening methods for cervical cancer with the client?
20	Have you ever referred any patients for cervical screening?
21	At what extent you are comfortable to provide cervical cancer screening knowledge to your clients?
22	Have you ever been screened for cervical cancer?

Hospital, Karachi, and Dow University of Health Sciences (DUHS), Karachi, in 2016 (15th June-15th July), and comprised registered nurses enrolled through non-probability convenience sampling. The sample size was calculated through Power Analysis and Sample Size (PASS) version 15.0, using a two sided paired z-test with 80% power to detect a mean of paired differences of practice 0.3 with a known standard deviation (SD) of differences of 1.1 and significance level of 0.05.[8]

After getting written consent from each participant, baseline demographic characteristics along with assessment of the existing KAP level was noted using a self-structured pretested and validated English-language questionnaire (Table-1). An education session on, "prevention and screening of cervical cancer" was conducted and its effectiveness was determined using the same questionnaire. Wilcoxon Signed Ranks Test was applied to determine KAP difference between baseline and post-intervention scores. P<0.05 was considered significant.

Result

There were 129 subjects with a mean age of 34.2±3.8 years and with 80(62.0 %) nurses aged 25-35 years, and 83(64.3%) being diploma-holders (Table-2).

Table-2: Demographic characteristics of study participants.

Demographic characteristics	Number with percentage
Age (years)	
25-35	80(62.0%)
36-45	21(16.3%)
> 45	28(21.7%)
Marital status	
Single	59(45.7%)
Married	70(54.3%)
Number of children	
0	23(32.9%)
1 - 2	31(44.3%)
>2	16(22.8%)
Work experience(years)	
≤ 5 years	69(53.5%)
6-10 years	23(17.8%)
> then10 years	37(28.7%)
Nursing Education	
Diploma	83(64.3%)
Diploma and Midwife	21(16.3%)
Bachelor of Science (Nursing)	25(19.4%)

Post-intervention results showed significant mean difference in terms of knowledge and practice pattern, but the attitude mean score difference was not significant (Table-3).

Table-3: Characteristics of participants and impact of education session on cervical cancer knowledge, attitude and overall practice score.

Cervical cancer Score	Pre-test-score practice		Post-test-score practice		Mean difference	P-value
	Mean	SD	Mean	SD		
Knowledge	5.1938	3.69137	12.4419	2.92860	7.24	0.001
Attitude	2.876	1.49	2.9535	1.45162	.643	0.424
Practice	1.031	0.819	1.3023	1.1632	.0.271	0.006

P-value was estimate by Wilcoxon Signed Ranks Test.
SD: Standard deviation.

Table-4: Characteristics of participants and impact of education session on nurses' knowledge score.

Characteristics	Pre-test score knowledge		Post-test score knowledge		Mean difference	P-value
	Mean	SD	Mean	SD		
Age (years)						
25-35	6.0500	3.45276	11.9875	2.79916	-5.93750	<0.001
36-45	5.2381	3.41913	14.5238	2.31558	-9.28571	<0.001
>45	2.7143	3.53666	12.1786	3.11571	-9.46429	<0.001
Marital status						
Single	5.1695	3.40462	11.8136	2.87962	-6.64407	<0.001
Married	5.2143	3.94121	12.9714	2.88410	-7.75714	<0.001
Work experience(years)						
≤ 5 years	5.5797	3.51219	11.9855	2.68708	-6.40580	<0.001
6-10 years	6.0870	3.48911	13.4783	2.85831	-7.39130	<0.001
>then10 years	3.9189	3.90426	12.6486	3.27631	-8.72973	<0.001
Nursing Education						
Diploma	5.0964	3.80825	12.2289	2.96864	-7.13253	<0.001
Diploma with Midwife	4.1905	3.45860	12.6190	2.88922	-8.42857	<0.001
Bachelor of Nursing	6.3600	3.28988	13.0000	2.85774	-6.64000	<0.001

P-value was estimate by Wilcoxon Signed Ranks Test.
SD: Standard deviation.

Table-5: Characteristics of participants and impact of education session on nurses' cervical cancer attitude score.

	Pre-test score Attitude		Post-test score Attitude		Mean difference	P-value
	Mean	SD	Mean	SD		
Age (years)						
25-35	3.0500	1.49175	3.1125	1.41416	-.06250	0.681
36-45	2.8095	1.56905	2.7143	1.52128	.09524	0.670
>45	2.4286	1.39917	2.6786	1.49204	-.25000	0.134
Marital status						
Single	3.2542	1.43351	3.2373	1.26408	.01695	0.808
Married	2.5571	1.48066	2.7143	1.56171	-.15714	0.177
Work experience(years)						
≤ 5 years	3.0000	1.51463	3.1159	1.51983	-.11594	0.382
6-10 years	2.8696	1.63219	2.8261	1.52709	.04348	0.821
> then 10 years	2.6486	1.37873	2.7297	1.26158	-.08108	0.559
Nursing Education						
Diploma	2.8916	1.47344	3.0602	1.38238	-.16867	0.139
Diploma with Midwife	3.1905	1.53685	3.0476	1.62715	.14286	0.461
Bachelor of Nursing	2.5600	1.52971	2.5200	1.50333	.04000	0.791

P-value was estimate by Wilcoxon Signed Ranks Test.
SD: Standard deviation.

Table-6: Characteristics of participants and impact of education session on nurses' practice score.

	Pre-test score practice		Post-test score practice		Mean difference	P-value
	Mean	SD	Mean	SD		
Age (years)						
25-35	1.0125	.92084	1.2875	1.17132	-.27500	0.020
36-45	.9048	.53896	1.1429	1.15264	-.23810	0.415
>45	1.1786	.66964	1.4643	1.17006	-.28571	0.183
Marital status						
Single	.9661	.82975	1.1356	1.18114	-.16949	0.210
Married	1.0857	.81192	1.4429	1.13745	-.35714	0.007
Work experience(years)						
≤ 5 years	.9130	.88682	1.2174	1.12288	-.30435	0.015
6-10 years	1.2174	.79524	1.2174	1.20441	.00000	0.98
> then 10 years	1.1351	.67339	1.5135	1.21613	-.37838	0.076
Nursing Education						
Diploma	.9398	.84607	1.3133	1.18864	-.37349	0.003
Diploma with Midwife	1.1905	.74960	1.3333	1.27802	-.14286	0.580
Bachelor of Nursing	1.2000	.76376	1.2400	1.01160	. -.04000	0.817

P-value was estimate by Wilcoxon Signed Ranks Test.
SD: Standard deviation.

There was a significant impact of education on the nurses' knowledge scores in all groups related to age, marital status, work experience and nursing education (Table-4).

The nurses' attitude towards cervical cancer was not statistically significant with all the variables (Table-5).

The nurse's educational level was found to be significantly different in 25-35 years age group, marital status of nurses, work experience <5 years and nurses having only diploma education (Table-6).

Discussion

Worldwide, nearly 85% of the deaths from cervical cancer occur in less-developed countries where the cervical cancer is among the most common causes of cancer deaths.[7] In a study[9] conducted in Quetta Pakistan, most of the nurses (43.3%) were interns having less than one year experience (43.7%). Their mean knowledge score was 18.52±4.84 showing adequate knowledge of cervical cancer and its screening methods.If we compare less developed countries with developed countries, age-standardised mortality rate is 11.2/100,000 in less-developed countries compared 4.0 in the more developed countries.[10] One of the reasons of this high mortality of cervical cancer in less-developed countries may be the late presentation of cancer and lack of knowledge about cervical cancer.

In a study[7] conducted in Quetta, Pakistan, most of the nurses (43.3%) were interns having less than one-year experience (43.7%). Their mean knowledge score was 18.52±4.84 showing adequate knowledge of cervical cancer and its screening methods. Similar findings were also reported by various studies in different countries, like the United States, Turkey and Nigeria, which showed that knowledge and attitude about HPV disease and prevention were inadequate at baseline.[11-14] A study in India[15,16] also showed that in our region the knowledge of rural women regarding cervical cancer and its screening and prevention is very poor as 98.5% had lack of knowledge about it. A study[17] conducted in Peshawar, Pakistan, concluded that only 23.20% females knew that cervical cancer is a gynaecological cancer and nearly all study participants (93.5%) had never heard about smear testing. It was also found that awareness level of HPV and vaccine availability was only 11.53% and 10.87%, indicating that the overall knowledge of females about cervical cancer was inadequate. In our study, the mean knowledge regarding cervical cancer and its screening methods was just 5.1938±3.6913 at baseline which improved to 12.4419±2.9286 after educational intervention (p<0.001).

A study[18] conducted at the University of Texas to assess the ability of presentation for the purpose of improvement of provider knowledge of the HPV vaccine, the results showed that on average knowledge regarding HPV vaccine among all study participants improved significantly (knowledge scores 8-15) after the presentation (p<0.001), regardless of gender, age, race, ethnicity and specialty. In our study, education's effect on knowledge was found to be statistically significant with age, marital status, religion, experience and qualification. Studies[19-21] conducted elsewhere showed that

knowledge regarding cervical cancer prevention significantly increased after the education, which also confirms our study findings.

Conclusion

Baseline knowledge of healthcare workers regarding cervical cancer and its prevention was inadequate, but the overall impact of education on knowledge and practice in nurses regarding cervical cancer, its screening and prevention was statistically significant. While their attitude improved, but it was not statistically significant.

Disclaimer: The text is based on a thesis submitted for Master of Science in Nursing.

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