RESEARCH ARTICLE

Awareness, screening, practices and attitudes of cervical cancer among doctors and nursing staff working at a tertiary care centre

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Abstract

Objectives: To assess knowledge, attitude and practice of medical and paramedical staff about cervical cancer as well as its screening and prevention.

Methods: The descriptive cross-sectional study was conducted at the Jinnah Post-graduate Medical Centre, Karachi, from March 1 to August 30, 2019, and comprised women medical and paramedical staff randomly selected from different specialties. Data was collected using a structured questionnaire. Data was analysed using SPSS 20.

Results: Of the 347 participants 144(41.5%) were nurses and 203(58.5%) were doctors. The overall mean age was 26.22±6.38 years. Of the total, 108(30%) respondents were married and 239(68%) were single. Overall, 239(68.8%) were well aware of Pap smear being the screening test; 85(24.5%) were aware of the true guidelines to repeat the test; 152(43.8%) had an idea of the exact use of visual Inspection with acetic acid; 61(17.6%) had got a Pap smear done; and 156(45%) thought they were at risk of developing carcinoma cervix. The common risk factors identified were multiple sexual partners 254(73.2%), age at first sexual intercourse 160(46%), smoking 131(37.8%), foul-smelling discharge 221(63.7%), and post-coital bleeding 231(66.6%).

Conclusion: Cervical cancer prevalence is rising due to inadequate knowledge and awareness among healthcare personals. Improvement can be brought by regular use of Pap smear.

Keywords: Cervical cancer, Pap smear, Healthcare professionals, Visual inspection with acetic acid.

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Introduction

Cervical cancer is the second most prevalent female cancer in women aged 15-44 years in Pakistan.[1] The prevalence of cervical cancer is increasing in Pakistan, as 20 cases are diagnosed daily.[2] Studies show that accumulative risk of mortality due to cervical cancer at age 75 is 0.8% in a Pakistani woman.[1]

Higher prevalence of new cases (83%) is found in developing countries, making it the leading cause of mortality among women.[3,4] It is the second leading cancer causing death worldwide, and stands the third prominent cause of death in Asia.[5] Many women have precancerous conditions that need to be picked up at the right time and managed accordingly. If screening is regularly done in gynaecological clinics, the incidence will certainly decrease. The addition of vaccination will reduce the prevalence further, but implementing a screening programme in any society is a difficult task.[6,7]

Focussing on early detection of the condition is the key to controlling the prevalence.[8]

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Pap smear has shown promising result as it is quite inexpensive and effective in identifying the disease.

The current study was planned to assess knowledge, attitude and practice (KAP) of medical and paramedical staff about cervical cancer as well as its screening and prevention.

Subjects and Methods

Approved by the IRB department It was an Institutional designed prospective cross-sectional survey. It was conducted at a tertiary care hospital (Jinnah Postgraduate Medical Centre Karachi) for period of 03 months from 1st March 2019 to 30 August.

A total of 347 participants were included in the study by using non probability consecutive sampling technique, (203 doctors 144 paramedical staff). The study included Nurses, Paramedical staff and doctors, working at JPMC.

There was a random selection of nurses & doctors Excluded were Doctors, Nurses and Paramedical staff working outside JPMC.

A questionnaire was designed by reviewing the literature. It consisted of the socio demographic details, knowledge, attitude and awareness of Pap smear among the health care professionals. Voluntary consent was taken and it was assured, there was no compulsion in filling the

questionnaire. The respondents were asked to fill in the questionnaire by ticking the boxes.

Data was collected by six assigned house officers, who were responsible to fill the form correctly. If there was any query regarding the questionnaire it was addressed by the house officer there and then.

Knowledge was assessed by asking symptoms (such as foul smelling discharge, postcoital bleeding, menorraghia, post menopausal bleeding), risk factors (age at first sexual intercourse, multiple sexual patners, smoking, family history of carcinoma cervix) and the purpose of Pap smear & VIA. Knowledge was considered good if the participants answered 03 questions correctly in symptoms, risk factors, and asking questions like how often Pap smear should be repeated.

Practices of the candidates were judged by questions as, if they have ever referred a patient for screening and have they got themselves screened for the disease.

Data was entered and analyzed using SPSS version 20. The sample size was determined by using online Open Epi calculator.[9] The calculation was based on the awareness proportion of disease symptoms (33.33%) in women with 95% confidence interval and 5% margin of error. The calculated sample size was 342. Although, five more participants included, so the final sample size of our sample was 347.

A descriptive analysis was done for demographic and results were presented as Mean ± Standard deviation for quantitative variables while, frequencies and percentages were presented for categorical variables. Chi-square or Fisher exact test was initially applied for assessment of knowledge, symptoms, prevention, screening and attitude among medical and paramedical staff. Association between medical and paramedical staff was assessed by Chi-square or Fisher exact test, where appropriate. Univarate logistic regression was applied to evaluate the risk factors of cervical cancer. A P value of <0.05 was considered statistically significant.

Result

Of the 347 participants 144(41.5%) were nurses and 203(58.5%) were doctors. The overall mean age was 26.22±6.38 years and 12(3.5%) were aged >40 years. There were 279(80.4%) Muslims, followed by 43(12.4%) Christians and 25(7.2%) Hindus. Of the total, 108(30%) respondents were married and 239(68%) were single. The majority 287(82.7%) had working experience <10 years, 26(7.5%) had 10-20 years, and 34(9.8%) had experience >20 years.

Table-1: Responses of nurses and doctors about Pap smear.

Assessment Questions		Nurse	Doctor	p-value
Have you ever heard of Pap smear?	Yes	106 (73.6%)	194 (95.6%)	< 0.001*
	No	38 (26.4%)	9 (4.4%)	
Have you ever heard of Carcinoma cervix Vaccination?	Yes	104 (72.2%)	147 (72.4%)	0.969
	No	40 (27.8%)	56 (27.6%)	
Would you like to receive Carcinoma cervix vaccination?	Yes	103 (71.5%)	131 (64.5%)	0.171
	No	41 (28.5%)	72 (35.5%)	
Have you ever got a Pap smear done?	Yes	31 (21.5%)	30 (14.8%)	0.104
	No	113 (78.5%)	173 (85.2%)	
Cervical Cancer can be detected even before symptoms appear?	Yes	60 (41.7%)	155 (76.4%)	< 0.001*
	No	84 (58.3%)	48 (23.6%)	
Is screening necessary after menopause?	Yes	104 (72.2%)	134 (66.0%)	0.219
	No	40 (27.8%)	69 (34.0%)	
Do you think you are at risk of getting cervical carcinoma?	Yes	79 (54.9%)	77 (37.9%)	0.002
	No	65 (45.1%)	126 (62.1%)	
Do you think all women should undergo screening of cervical cancer?	Yes	117 (81.3%)	170 (83.7%)	0.545
	No	27 (18.8%)	33 (16.3%)	
Pap smear is used for?	Treatment of CC	11 (7.6%)	2 (1.0%)	< 0.001*
	Screening	76 (52.8%)	163 (80.3%)	
	Both	39 (27.1%)	34 (16.7%)	
	Don't Know	18 (12.5%)	4 (2.0%)	
Uses of visual inspection with acetic acid (VIA) and visual inspection with Lugol's Iodium (VILI)	Treatment of CC	30 (20.8%)	29 (14.3%)	< 0.001*
	Screening of CC	45 (31.3%)	107 (52.7%)	
	Both to screen and treat cervical cancer	69 (47.9%)	67 (33.0%)	

Categorical variables were presented as Frequency and Percentage. Chi square's test was applied
*p-value < 0.05 was considered as significant. CC: Cervical Cancer.

Table-2: Symptoms and risk factors identified.

Symptoms of cervical cancer are		Nurse	Doctor	p-value
Foul-smelling discharge	Yes	105 (72.9%)	116 (57.1%)	0.003*
	No	39 (27.1%)	87 (42.9%)	
Post-coital Bleeding	Yes	78 (54.2%)	153 (75.4%)	< 0.001*
	No	66 (45.8%)	50 (24.6%)	
Menorrhagia	Yes	73 (50.7%)	43 (21.2%)	< 0.001*
	No	71 (49.3%)	160 (78.8%)	
Abdominal pain	Yes	92 (63.9%)	58 (28.6%)	< 0.001*
	No	52 (36.1%)	145 (71.4%)	
Post-Menopausal bleeding	Yes	94 (65.3%)	94 (46.3%)	< 0.001*
	No	50 (34.7%)	109 (53.7%)	
Knowledge regarding risk factors of cervical carcinoma				
Family history of cervical carcinoma	Yes	106 (73.6%)	140 (69.0%)	0.348
	No	38 (26.4%)	63 (31.0%)	
Pruritus Vulvae	Yes	53 (36.8%)	55 (27.1%)	0.054
	No	91 (63.2%)	148 (72.9%)	
Is Age at first sexual contact important	Yes	47 (32.6%)	113 (55.7%)	< 0.001*
	No	97 (67.4%)	90 (44.3%)	
Multiple sexual partners	Yes	96 (66.7%)	158 (77.8%)	0.021*
	No	48 (33.3%)	45 (22.2%)	
Smoking	Yes	38 (26.4%)	93 (45.8%)	< 0.001*
	No	106 (73.6%)	110 (54.2%)	

Categorical variables were presented as Frequency and Percentage. Chi square's test was applied.
*p-value < 0.05 was considered as significant.

In terms of awareness, 239(68.8%) participants were aware of Pap smear. More doctors were aware of the need for early detection of cervical cancer than the staff (p<0.001). Knowledge about Pap smear was better among the doctors than the nurses (p<0.001). Neither the doctors nor the nurses knew the ideal frequency at which Pap smear needs to be repeated (Table-1)

Significant symptoms and risk factors of cervical cancer identified were foul-smelling discharge, post-coital bleeding, menorrhagia, abdominal pain, post-menopausal bleeding, sexual contact, multiple sexual partners and smoking (Table-2; Figure-1).

Logistic regression analysis showed that the chances of those with post-coital bleeding were 5.54 times significantly higher to develop cervical cancer (Table-3).

Of the total, 61(17.6%) subjects had got a Pap smear done, and 156(45%) thought they were at risk of developing carcinoma cervix. The reasons for not having the smear done were also noted (Figure-2).

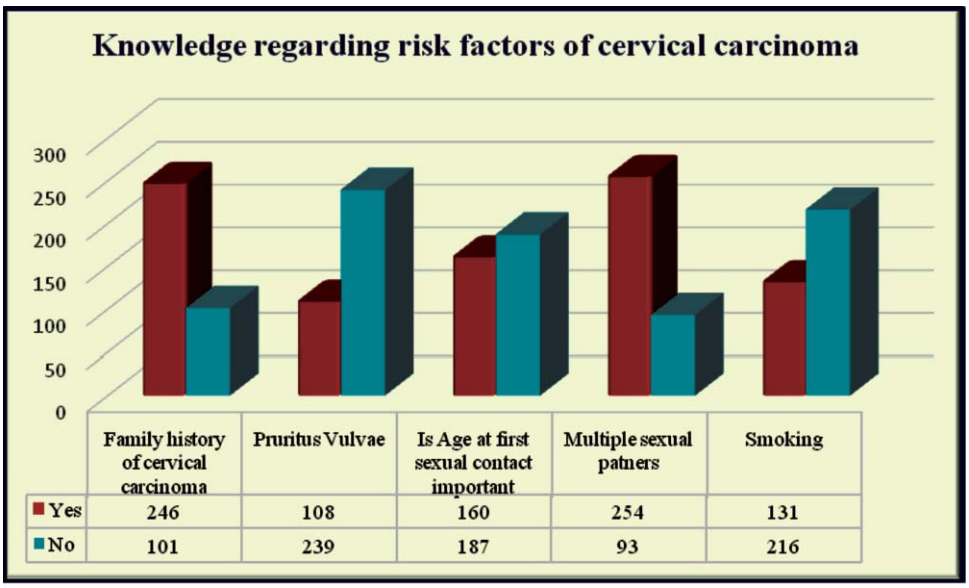

Figure-1: Risk factors of cervical carcinoma.

Discussion

This cross sectional study was conducted among nursing staff and the doctors of Jinnah Post Graduate Medical Center in order to know there basic knowledge, attitude and perception towards pap smear and cervical cancers. Adequate

Table-3: Logistic regression analysis.

Factors of Cervical cancer	OR (95% C.I)	p-value
Symptoms of cervical cancer are?		
Foul smelling discharge	0.86 (0.48 - 1.52)	0.610
Post-coital Bleeding	5.54 (3.1 - 9.88)	< 0.001*
Menorrhagia	0.36 (0.21 - 0.67)	0.001*
Abdominal pain	0.28 (0.15 - 0.53)	< 0.001*
Post Menopausal bleeding	1.42 (0.81 - 2.51)	0.215
Uses of VIA / VILI (visual inspection with acetic acid and lugol's Iodium		
Treatment of CC	0.99 (0.54 - 1.83)	0.989
Screening of CC	2.44 (1.51 - 3.97)	< 0.001*
Knowledge regarding risk factors of cervical carcinoma		
Is Age at first sexual contact important	2.59 (1.66 - 4.01)	< 0.001*
Multiple sexual partners	1.75 (1.08 - 2.83)	0.021*
Smoking	2.35 (1.486 - 3.74)	< 0.001*

OR: Odds Ratio, CI: Confidence interval, VIA: Visual inspection with acetic acid, VILI: Visual inspection with Lugol's Iodium. *Significant p-value < 0.05.

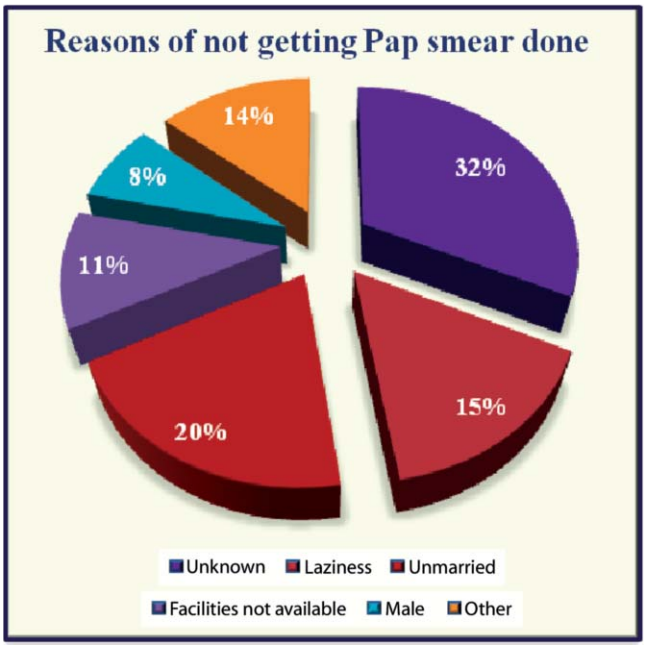

Figure-2: Reasons of not getting Pap smear done.

knowledge of the doctors and more importantly of the paramedical staff of cervical cancer is the only possible way to stop the disease. Mass awareness programmes in the general population are needed emphasizing the importance of Pap smear screening. America has reduced the mortality by cervical cancer to 70% between 1975-2016. This is by using Pap smear as a screening test.[10]

Pap smear is a very cheap test widely available across Pakistan. Approximately 80% reduction can be achieved by implementing this simple test as a routine gynaecological checkup in every sexually active women. Guidelines regarding Pap smear must be clear to all the health care professionals.

The main focus of our study was to bring awareness at Jinnah postgraduate Medical Center which is a tertiary care hospital catering people of Sind and Baluchistan. The main bulk of patients belong to poor socioeconomic areas. As education plays pivotal role for the spread of the disease cervical cancer is more prevalent in this group of people.

It was observed from this study that 239 (68.9%) were well aware of Pap smear being the screening test. These findings are in contrast to the study conducted at Chennai,[11] in 2013, in which all the workers were well aware of pap smear. Our findings are similar to another study,[12] in which 77% respondents knew Pap smear is used for detection of cervical cancer but less than half knew that it is used as screening test. In another study[13] 79% were aware of cervical carcinoma screening. This was a worrisome issue which needs special attention. Only 24.5% were aware of the true guidelines to repeat the test. 68.6% knew that screening is necessary even after menopause, while 31.4% were unaware of the fact.

A total of 152(43.8%) had an idea of the exact use of VIA but majority were still unaware these findings are in contrast to a to a study in which 95.3% of participants were aware of VIA/VILLI. Islamabad reported[14] that visual inspection of cervix with acetic acid (VIA) has comparably more sensitivity 78.5% than Pap smear 61.1%.

Altogether 239 (82.7%) of HCPs were aware that Pap smear should be done as screen test in every sexually active women. These findings are similar to a another[15] study where 81.7% of the respondents mentioned that screening should start in all sexually active women.

In our study knowledge of health care professionals was suboptimal, and it needed understanding of the disease process. To do this we need to develop regular educational strategies, as basic level of knowledge is expected from health care professionals. Junior doctors and staffs are the first to encounter the patients so continued medical education is imperative to help them.

Only 17.5% had got a Pap smear done. These findings are similar to a study[12] in which only 7% of the staff nurses had themselves been screened by pap smear. These findings are similar to study conducted[11] in 2013 in which 18.7% participants have undergone screening themselves. Majority 82.4% were just too careless to get a pap smear done. 18% were unmarried and 3.2% did not have the facility to get a pap smear done.

In all, 55% (117 nurses and 170 doctors) have recommended screening of cervical cancer to others while 48 % (78 doctors and 78 nurses) did not recommend the test. These figures were better than the study conducted by Abu Khalid at Saudi Arabia which showed only 35% participants referring patients for screening.[16]

A total of 45% thought they are at risk of developing carcinoma cervix while 55% thought they are not at risk of carcinoma cervix. These results are unsatisfactory, lack of knowledge and awareness shows the non serious attitude towards a deadly preventable disease. Over all 82.1% belief that all women should undergo screening for carcinoma cervix which gives us a relatively better outcome.

Regarding knowledge on the risk factors of carcinoma cervix, majority were aware of the two common risk factors, multiple sexual partners (73.2%,244) and age at first sexual intercourse (46%,160). Smoking although being a risk factor but only 37.8% (131) believed it to be a risk factors. These findings are in contrast to the study conducted in India in 2012 which 89.6% were aware of the risk factors.[16] These findings are also in contrast to the study conducted at South Asia among nursing staffs,[17] in which young age at first intercourse, multiple sexual partners, smoking showed, 13%, 48%, & 16% results respectively. In another study conducted in India,[18] 18.94% (244) gave multiple sexual partners along with early coitus (7.89%), STD (24.21%) & HPV (35.78%).

Knowledge about Symptoms of cervical carcinoma was fair in 221 (63.7%) participants who believed believed that foul smelling discharge is one of the symptom of cervical carcinoma, while 36% believed that postcoital bleeding is another symptom of cervical carcinoma.

In the study conducted in India[18] similar results were obtained. The main symptom of cervical carcinoma was pervaginal discharge (65.78%). postmenopausal bleeding (54.73%) & Post coital bleeding (44.73%) being second and third most common symptoms. This is in variant to another study conducted[19] among women staff of secondary care referral Hospital, in which 27% believed PV discharge, post coital bleeding 20%, being the two main symptoms. Another study[20] reported vaginal discharge (20%), lower abdominal pain 42% and menstrual abnormalities (39%) to be the main symptoms.

In our study, 62% of respondents believed believed that carcinoma of cervix can develop even before symptoms develop necessitating the need for regular Pap smear screening. These findings are in contrast to the study of Ananthaaranem et al[11] in which (81.3%) large majority considered that cervical carcinoma can develop before symptoms.

Vaccination of Cervical Carcinoma

Among our study participants, 72% had heard of carcinoma of carcinoma cervix vaccination and 67.4% wanted to receive the vaccination, 32% did not want to receive the vaccination. In a study carried out at Pakistan[21] only 37 out 400 respondents were aware if the vaccine in 2010. This was because the study was carried out 09 years back when the vaccine was not available in Pakistan.

Our findings are in line with the study conducted by medical and nursing students[22] in 2017 in which 38.25% of the participants had complete knowledge about HPV vaccine.

For successfully controlling the condition we need to implement the vaccination in immunization programme and government should bear the expenses in order to see the decline of this malignancy in our country.

Conclusion

Our study shows a very low uptake of Pap smear among doctors and paramedical staff. The referral screening among general population will be even lower. This shortfall of knowledge needs to be addressed by carrying out mass awareness programmes in hospitals and to the general population by doctors and using media to spread information. The lack of knowledge and negative attitude of the staff members was a worrisome issue. JPMC being a tertiary care center should not show this attitude. Pap smear is done freely in our outpatient departments, still the results of knowledge, attitude, and practices are not satisfactory.

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Conflict of Interest: None.

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