

Research in Pharmacy and Health Sciences

Research Article

Nurse's knowledge and Awareness Regarding Cervical Cancer and its Prevention in Different Hospitals of Quetta, Pakistan

Saba Haider¹, Noman Ul Haq¹, Sohail Riaz^{2*}, Aqeel Nasim¹, Muhammad Saood¹, Riffat Yasmin¹

¹Faculty of Pharmacy and Health Sciences, University of Balochistan, Quetta, Pakistan

²Akson College of Pharmacy, Mirpur University of Science and Technology, Mirpur, Pakistan

ABSTRACT

Objective: This study aimed to assess the knowledge and awareness regarding cervical cancer and its prevention among nurses working in different hospitals of Quetta, Pakistan.

Methodology: The cross sectional, descriptive study was conducted by using structured questionnaire in different hospitals of Quetta from January to September 2016. Convenient sampling technique was applied by targeting all the nurses working in different hospitals of Quetta city. Study questionnaire was developed and tested for validity and reliability. Descriptive and inferential statistics (Mann Whitney U test and Kruskal Wallis tests, $p < 0.05$) were used to assess the significance among study variables and were performed by using IBM SPSS v.20. **Results:** Out of 415 distributed questionnaires 324 were returned (response rate of 78%). The mean Age of respondents was 28.18 \pm 9.5 years. Majority (n=127, 43.3%) of participants were interns and had no or less than one year of experience (n=128, 43.7%) with negative family history of any cancer (n=275, 93.9%). Mean knowledge score was 18.52 \pm 4.84 with majority (n=258, 88.1%) had adequate knowledge regarding cervical cancer. Respondent sage, current area of practice, qualification, Institute of degree and past family history were contributing factors ($p > 0.05$) in adequate knowledge in this study. The results also revealed that not only 68.3% (n=200) and 65.5% (n=192) respondents knew that cervical cancer is vaccine preventable and availability of the vaccine for it. **Conclusions:** Nurses working in different hospitals of Quetta city had better understanding of the disease cervical cancer and its prevention. Yet many of the respondent are not aware of it vaccine and its availability.

Received: 19-11- 2017

Revised: 28-12-2017

Accepted: 17-01-2018

***Correspondence to:**

Dr. Sohail Riaz, MPhil

Email:

sohailriaz361@gmail.com

Funding: Nil

Competing Interests: None

Keywords: knowledge, Awareness, Cervical Cancer, Prevention, Nurses

INTRODUCTION

Malignancy of the narrow lower part of female reproductive system i.e., cervix largely due to infection is called cervical cancer. Cervical cancer, being an important cause for hospitalizations and for increased death rates amongst the gynecological cancers globally, is a public health problem accounting for 230,000 deaths every year [1], of which more than 80% occur in developing countries of the world [2]. It is the second most frequent gynecological cancer worldwide with over 470,000 incidents documented every year. The Southern region of Asia accounts one quarter of the liability of cervical cancer and only in India approximately 132,000 new cases and 74,000 demises each year due to cervical cancer is reported [3].

The incidence rate and prevalence of cervical cancer in Pakistan is mainly unidentified due to the absence of complete data about the deaths from the disease and the only information available is through hospital and

regional cancer registries obtained from only one region of whole country which may not be enlightening the exact burden of the disease [4]. On the basis of such a similar records from the metropolitan background cervical cancer has been placed as the fourth cancer among Pakistani females with an (ASIR) of 6.5 per 100,000 [5].

Knowledge is stated as an individual's capability to gain, to remember and utilization of information; a mixture of understanding, experience, discrimination and practices [6]. Traditionally knowledge is evaluated by asking questions through a structured questionnaire which consists of questions about disease general description, reasons, indications, management for the disease and preventive or protective methods [7].

The disease cervical cancer is nowadays has been more dominant and common among females and it is

2nd most frequently occurring gynecological cancer after breast cancer. As it is known nurses being health care providers are more involved and have direct contact with patients so they should have sufficient knowledge about the disease so they can educate and counsel the patients hence increase health-seeking behaviour in patients as well in healthy women.

Different KAP studies were conducted to assess the knowledge about cervical cancer and protection from cervical cancer in various parts of the world 8 [10] and there result indicated the need for further education provision to nurses and interns about the disease. In India cervical cancer has been found as the most common malignancy among females but the knowledge of health providers especially nurses was

Methodology

Study Design: A cross sectional, questionnaire based design was used to conduct the study. **Study Settings:** The study was conducted in different Government and Private hospitals of Quetta Pakistan including Bolan Medical Complex, Sandeman Provincial hospital, Sheikh Khalifa Bin zayed hospital, Lady Duffern hospital, Shaheed Mohatrama Benazir Hospital, Christian hospital and Helpers eye hospital.

Study Duration: The study was conducted from January 2016 to September 2016. **Sampling Technique:** The study has adopted convenient sampling technique to fill questionnaire from the study sample.

Sample Size: Sampling population was 324 nurses and interns who were working in different government and private hospitals.

Study Tool: A structured questionnaire was used as a research instrument. Questionnaire consisted of closed ended questions. The questionnaire designed consisted of total 25 close ended questions with option of Yes, No and don't know. It had three portions, first portion was of demographics characteristics, second section consisted of questions about cervical cancer general information, risk factors, causes, symptoms, treatment and vaccines and third section consisted of sources of knowledge from where the respondents attained information about this disease.

Scoring: Every answer was reported as 'yes' 'no' and 'don't know. The correct answer carried one mark and wrong answer carried 0 marks giving a total score range of 0-25. A cut off level of < 13 reflected poor knowledge while ≥ 13 adequate knowledge.

Data Analysis: Coded data was entered in SPSS version 20 10. Descriptive statistics were used to demonstrate the characteristics of the study population. Categorical variables were measured as frequency and percentages where continuous variables were expressed as mean \pm standard deviation. Multiple responses were applied for

quite insufficient and therefore it was recommended that the knowledge of healthcare providers must be enhanced regarding cervical cancer and primary and secondary preventive measures should be taken or upgraded [9].

As per our knowledge only one study has been conducted in Pakistan regarding the evaluation of nurses' knowledge and awareness of cervical cancer and its prevention as such no study has been conducted or reported before which explored current awareness regarding cervical cancer and its prevention in health care providers in Quetta Pakistan therefore the main goal of this study is to evaluate the knowledge of health care providers especially nurses about cervical cancer and its prevention.

evaluating which of the source of information was highly used for attaining knowledge.

Data Collection: The data was collected through convenient sampling technique from different government and private hospitals where the nurses and interns could be approached. After explaining the purpose of study briefly the questionnaire were distributed along with the consent form. After one day the questionnaires were collected by the researcher.

Ethical Considerations: According to national bioethics committee Pakistan guidelines 11 study was approved by research committee from Department of Pharmacy Practice, Faculty of Pharmacy and Health Science, University of Balochistan, Quetta, Pakistan. According to standards written and oral consent was taken from the study respondents before data collection. The study subjects were ensured about the confidentiality of their responses and they were also informed of their right to leave the study anytime.

Results

The descriptions of demographics of respondents are presented in the table 1. Average age of the participants was 28.18 \pm 9.5 years. Regarding their marital status majority of the nurses were un married (n=181). Most of the respondents were interns (n=127, 43.3%) and have no experience (n= 128, 43.7%). Majority of the studied respondent had done general nursing (n=274, 93.5%) from provincial nursing school BMC Quetta (n=146, 49.8%). Majority of the respondents were from government hospitals (n=222, 75.8%) with monthly income more than 10000 (n=167, 57.0%). Most of the respondents have negative family history of cancer (n= 275, 93.9%).

Table 1: Demographic Characteristic of Respondents (n= 324)

Character	Frequency	Percentage
Age(years)		
17-26	154	52.6
27-36	85	29.0
37-47	38	13.0
48-57	14	4.8
58-67	02	0.7
Marital status		
Married	112	38.2
Un married	181	61.8
Experience(years)		
1-5	52	17.7
6-10	48	16.4
11-15	23	7.8
16-20	13	4.4
21-25	19	6.5
26-30	04	1.4
31-35	06	2.0
No experience	128	43.7
Education		
General nursing	274	93.5
BSc nursing	18	6.1
Diploma in midwifery and nursing	01	0.3
Current position		
Internee	127	43.3
Nurse	47	16.0
Staff nurse	117	39.0
Matron	02	0.7
Current area of practice		
Government hospitals	222	75.8
Private hospitals	71	24.2
Past family history of cancer		
positive	18	6.1
Negative	275	93.9
Monthly income		
Less than 10000	126	43.0
More than 10000	167	57.0

Table 2 describes the response of nurses towards cervical cancer knowledge. Majority of the nurses 290(99.0%) have heard about cervical cancer 237(80.9%) and knew that mostly causative agent is HPV (human papilloma virus). 247(84.3) respondents knew that HPV related cervical cancer was associated with the infection in cervix.

181(61.8%) respondents knew the susceptible range of cervical cancer i.e. 11 -26. Highly identified risk factors recognized by the nurses was sexual practice at an early age 241(84.3%) followed by the second most identified risk factor which is long term use of contraceptive 206(70.3%). multiple pregnancies 157(53.6%) being one of the causes of cervical cancer was not known by majority of the respondents but majority 184(62.8%) of nurses knew that excessive smoking as a risk factor for cervical cancer.

Majority of the respondents have enough knowledge about sign and symptoms of cancer of cervix. 236 (80.5%) correctly identified bleeding of vagina after menopause as a symptom of cervical cancer. Among the other symptoms persistent lower back pain were the symptoms of cervical cancer. Two hundred and twenty three (76.1%) respondents knew that persistent vaginal discharge with foul smell 223(76.1%) vaginal bleeding between two periods 202 (68.9%). Majority of the respondents 236(80.5%), 213(72.7%) know that vaginal bleeding after menopause and vaginal bleeding during sexual practice was the symptom 202(68.9%) and persistent lower back pain 217(74.1%) were mostly recognized symptoms among nurses.

Majority of the respondents 226(77.1%), 225(76.8%) knew that Pap Test was used to diagnose the malignancy of narrow lower part of female reproductive system i.e., cervix and it was used to detect precancerous and cancerous cells in the cervix. 290(99.0%) study subjects knew biopsy is used for the diagnosis and 237(80.9%) nurses knew that colposcopy is done for the diagnosis of cervical cancer. Majority of the respondents, 270(92.2%), knew that the therapy for cervical cancer depends upon the stage of cancer. Two hundred and fifty four participants (86.7%) know that radiation and chemotherapy was given to the patients of cervical cancer. Whereas, 241(86.7%) knew that hysterectomy is done in the treatment of cervical cancer.

The study subjects had sufficient awareness regarding the prevention of cervical cancer. 200(68.3%) respondents knew that cervical cancer was the only cancer which is vaccine preventable. One hundred and ninety two (65.5%) respondents was familiar with the availability of vaccine as a preventive measure for cervical cancer. Majority of the respondents 203(69.9%) knew that the vaccines are given at the age of 9-26.

Table 2: Responses of Nurses toward cervical cancer and its prevention

Question	Yes	No	Don't know
Have you ever heard a disease termed as cervical cancer?	290(99.0)	0(0)	3(1.0)
Most of the cervical cancer is caused by HPV?	237(80.9)	30(10.2)	26(8.9)
Is HPV related cervical cancer is associated with the infection in cervix?	247(84.3)	28(9.61)	18(6.1)
The females between the age group of 11-26 are most susceptible to cervical cancer?	181(61.8)	73(24.9)	39(6.1)
Long term use of contraceptive intake can increase the risk of cervical cancer?	206(70.3)	58(19.8)	29(13.3)
Excessive smoking can cause cervical cancer?	184(62.8)	80(27.3)	29(9.9)
Sexual practice at early age can cause cervical cancer?	241(82.3)	32(10.9)	20(6.8)
Multiple pregnancies can cause cervical cancer?	157(53.6)	107(36.5)	29(10.6)
Vaginal bleeding between two periods could be a sign of cervical cancer?	202(68.9)	60(20.5)	31(10.6)
Persistent lower back pain could be a sign of cervical cancer?	217(74.1)	39(13.3)	37(12.6)
Persistent vaginal discharge that smells unpleasant could be a sign of cervical cancer?	223(76.1)	50(17.1)	20(6.8)
Vaginal bleeding after the menopause could be a sign of cervical cancer?	236(80)	31(10.6)	26(8.9)
Menstrual periods that are heavier and longer than usual could be a sign of cervical cancer?	187(63.8)	76(25.9)	30(10.2)
Vaginal bleeding during or after sexual practice could be a sign of cervical cancer?	213(72.7)	46(15.7)	34(11.6)
Pap smear can be used to detect cervical cancer?	226(77.1)	15(5.7)	52(17.7)
Pap smear is used to detect precancerous and cancerous cells in the cervix?	225(76.8)	9(3.1)	59(20.1)
Biopsy is used to detect cervical cancer?	252(86.0)	9(3.1)	32(10.9)
Colposcopy is also done to diagnose cervical cancer?	253(86.3)	16(5.5)	24(8.2)
Treatment of cervical cancer depends upon the stage of cervical cancer?	270(86.7)	12(4.1)	11(3.8)
Radiation therapy and chemotherapy is given to patients having cervical cancer?	254(86.7)	16(5.5)	23(7.8)
Hysterectomy can be done in the treatment of cervical cancer ?	241(82.3)	34(11.6)	18(6.1)
Is HPV related cervical cancer is the only cancer which is vaccine preventable?	200(68.3)	38(13.0)	55(18.8)
Is any vaccine present for the prevention of cervical cancer?	192(65.5)	36(12.3)	65(22.2)
If a person is infected with HPV then vaccine can treat cervical cancer?	156(53.2)	94(32.1)	43(14.7)
HPV vaccines are typically given at the age of 9-26?	203(69.3)	32(10.9)	58(19.8)

Table 2 demonstrates the current of nurses about cervical cancer. Every answer was noted as 'YES' 'NO' and 'DON'T KNOW'. The correct answer carried one mark and wrong answer carried 0 marks giving a total score range of 0-25. A cut off level of < 13 reflected poor knowledge and ≤13 adequate knowledge. Average knowledge score was 18.52 ±4.84. Out of 293 nurses and interns 258(88.1%) have adequate knowledge and 35(11.9%) have poor knowledge.

Table 3: Overall knowledge

Knowledge	Frequency	Percentage
Poor	35	11.9
Adequate	258	88.1

Poor knowledge source= >13
Adequate knowledge=≤13

Table 4 demonstrates Health care professionals being the most common source of knowledge (n=174 59.4%) followed by internet (n=104 64.5%). newspaper/ magazines and other which

included books, seminars were also mentioned by the participants (n=35 11.9%). Radio, television and newspapers/magazines considered as least informative source.

Table 4: Source of knowledge

Source	Frequency	percentage
Internet	104	64.5
Newspaper/magazines	12	4.1
Healthcare professionals	174	59.4
Radio	10	3.4
T.V	10	3.4
Friends and family	10	3.4
Others	35	11.9

Discussion

The respondents of current survey had satisfactory knowledge about cervical cancer which is contrary to the similar studies 1, 8, 12 conducted elsewhere which showed poor knowledge about a major public health problem i.e cervical cancer. This may be due to their source of information which was mainly health professionals, in their case their head nurses provided complete information to all working nurses about the disease prior to the data collection. majority of the studied health providers knew the major cause of cervical cancer which is HPV and its infection¹³. These findings are disagreeing to other studies which have showed poor knowledge about the cause of cervical cancer 8, 14-17.

Nurses and interns of the current study quantified that smoking, excessive use of oral contraceptive, multiple pregnancies and sexual practice at younger age, as common risk factors. The current study found that the respondents correctly identified that vaginal bleeding between two periods postcoital bleeding, vaginal bleeding after menopause as symptoms of cervical cancer. In current study it was seen that the interns have good knowledge about the disease the reason behind this was there course and most of the respondents mention health care professionals and internet as a most common source of

knowledge from where they can get knowledge about the disease and in this way they get updated about the disease and its management and prevention. In contrary it was seen that the nurses of elderly age have less knowledge because they don't update themselves and are not in touch with any educational programs or the duration or era when they were studying there was no concept of gaining information though internet and these diseases were quite uncommon at those times.

In the current survey the knowledge of health provider regarding screening of cervical cancer i.e., Pap smear and most of the respondents were aware of it. Other studies done in developed and developing countries showed better knowledge regarding screening test as same as of this study. Appropriate time of screening of cervical cancer in Pakistan after marriage as suggested by the guidelines 18pap smear could be done after every three years. This can be helpful in early diagnosis of cervical cancer and reduce the deaths. Most of the interns and nurses did know that screening can be done.

Prevention from HPV infections can reduce the risk of cervical cancer. The development of human papilloma virus HPV vaccination is a major advancement in medical sciences to eradicate cervical cancer and different studies have been conducted globally to check the knowledge, attitude and practices level regarding this vaccine. The knowledge of HPV vaccine was relatively higher in developed countries as compared to developing countries^{8, 19-23}.This vaccine is also available in Pakistan and it was introduced in Pakistan (in 2010) ¹. Unlike to the knowledge in developing countries majority of the participants of the current study had sound knowledge about HPV vaccine and the participants who did not knew about the vaccine were interested to know.

Conclusion

The current highlighted that the large number of working health professionals had satisfactory knowledge about cervical cancer. It was seen in the study that young nurses and interns have better knowledge than elder nurses so refresher education programs should be conducted to educate those nurses about disease and its prevention.

References:

1. Ali SF, Ayub S, Manzoor NF, Azim S, Afif M, Akhtar N, et al. Knowledge and awareness about

- cervical cancer and its prevention amongst interns and nursing staff in Tertiary Care Hospitals in Karachi, Pakistan. *PloS one*. 2010; 5(6): e11059.
2. Badar F, Anwar N, Meerza F, Sultan F. Cervical carcinoma in a Muslim community. *Asian Pacific J Cancer Prevention*. 2007; 8(1): 24.
 3. Laikangbam P, Sengupta S, Bhattacharya P, Duttgupta C, DHABALI SINGH T, Verma Y, et al. A comparative profile of the prevalence and age distribution of human papillomavirus type 16/18 infections among three states of India with focus on northeast India. *International Journal of Gynecological Cancer*. 2007; 17(1): 107-17.
 4. Bhurgri Y. Karachi cancer registry data--implications for the national cancer control program of pakistan. *Asian Pac J Cancer Prev*. 2004; 5(1): 77-82.
 5. Boyle P, Ferlay J. Cancer incidence and mortality in Europe, 2004. *Annals of Oncology*. 2005; 16(3): 481-8.
 6. Tahir M, Iqba Q, Naseem A. Exploration of Osteoporosis Knowledge and Perception among Young Women in Quetta, Pakistan. *Journal of Osteoporosis and Physical Activity*. 2015; 2015.
 7. Kaliyaperumal K. Guideline for conducting a knowledge, attitude and practice (KAP) study. *A ECS Illumination*. 2004; 4(1): 7-9.
 8. Nganwai P, Truadpon P, Inpa C, Sangpetngam B, Mekjarasnapa M, Apirakarn M, et al. Knowledge, attitudes and practices vis-a-vis cervical cancer among registered nurses at the Faculty of Medicine, Khon Kaen University, Thailand. *Asian Pac J Cancer Prev*. 2008; 9(1): 15-8.
 9. Shah V, Vyas S, Singh A, Shrivastava M. Awareness and knowledge of cervical cancer and its prevention among the nursing staff of a tertiary health institute in Ahmedabad, Gujarat, India. *India Ecancermedalscience*. 2012; 6: 270.
 10. SPSS I. *IBM SPSS Statistics Base 20*. Chicago, IL. 2011.
 11. Pakistan NBC. *Ethical Research Committee Guidelines*. 2011.
 12. Mutyaba T, Mmiro FA, Weiderpass E. Knowledge, attitudes and practices on cervical cancer screening among the medical workers of Mulago Hospital, Uganda. *BMC medical education*. 2006; 6(1): 13.
 13. Das BC, Hussain S, Nasare V, Bharadwaj M. Prospects and prejudices of human papillomavirus vaccines in India. *Vaccine*. 2008; 26(22): 2669-79.
 14. Mosavel M, El-Shaarawi N. I have never heard that one: Young girls' knowledge and perception of cervical cancer. *Journal of Health Communication*. 2007; 12(8): 707-19.
 15. Vrscaj M, Vakselj A, Strzinar V, Bebar S, Baskovic M, Fras A, et al. Knowledge about and attitudes to pap smears, cervical cancer and human papillomavirus among women in Slovenia. *European journal of gynaecological oncology*. 2007; 29(2): 148-53.
 16. Vanslyke JG, Baum J, Plaza V, Otero M, Wheeler C, Helitzer DL. HPV and cervical cancer testing and prevention: knowledge, beliefs, and attitudes among Hispanic women. *Qualitative Health Research*. 2008.
 17. Giles M, Garland S. A study of women's knowledge regarding human papillomavirus infection, cervical cancer and human papillomavirus vaccines. *Australian and New Zealand journal of obstetrics and gynaecology*. 2006; 46(4): 311-5.
 18. Huh WK, Ault KA, Chelmow D, Davey DD, Goulart RA, Garcia FA, et al. Use of primary high-risk human papillomavirus testing for cervical cancer screening: interim clinical guidance. *Gynecologic oncology*. 2015; 136(2): 178-82.
 19. Lee PW, Kwan TT, Tam KF, Chan KK, Young PM, Lo SS, et al. Beliefs about cervical cancer and human papillomavirus (HPV) and acceptability of HPV vaccination among Chinese women in Hong Kong. *Preventive Medicine*. 2007; 45(2): 130-4.
 20. Donders GG, Gabrovska M, Bellen G, Van Keirsbilck J, Van Den Bosch T, Riphagen I, et al. Knowledge of cervix cancer, human papilloma virus (HPV) and HPV vaccination at the moment of introduction of the vaccine in women in Belgium. *Archives of gynecology and obstetrics*. 2008; 277(4): 291-8.
 21. Rosenthal D, Dyson S, Pitts M, Garland S. Challenges to accepting a human papilloma virus (HPV) vaccine: a qualitative study of Australian women. *Women & health*. 2007; 45(2): 59-73.
 22. Baykal C, Al A, Ugur M, Cetinkaya N, Attar R, Arioglu P. Knowledge and interest of Turkish women about cervical cancer and HPV vaccine. *European journal of gynaecological oncology*. 2008; 29(1): 76.
 23. Kwan TT, Chan KK, Yip AM, Tam K, Cheung AN, Lee P, et al. Barriers and facilitators to human papillomavirus vaccination among Chinese adolescent girls in Hong Kong: a qualitative-quantitative study. *Sexually transmitted infections*. 2008; 84(3): 227-32.