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KNOWLEDGE AND ATTITUDE OF CERVICAL CANCER PREVENTION AMONG HEALTH WORKERS OF A PRIVATE HOSPITAL OF LAHORE

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Abstract

Private Hospital.
Study Design: *Cross-sectional study*
Study place and duration: *Department of Obstetrics and Gynecology, Hameed Latif Hospital, Lahore, Pakistan, from October 2024 to April 2025*
Methodology: *After meeting selection criteria, 189 healthcare workers were included. They were given a Proforma and were requested to fill; the responses were noted. Responses of knowledge and attitude were calculated. Adequate, or inadequate, knowledge and positive or negative attitudes were labelled. All the data was analyzed in SPSS version 26.*
Results: *In this study, the mean age of the respondents was 40.72 ± 11.58 years. The median knowledge assessment score was 21.00 (IQR: 5.00), while the median attitude score was 49.00 (IQR: 18.00). Adequate knowledge assessed in healthcare workers was noted in 81% respondents whereas positive attitude for prevention of cervical cancer was found in 32.3% respondents*
Conclusion*: It is concluded that 81% of health workers at a private hospital in Lahore demonstrated adequate knowledge of cervical cancer prevention, while 32.3% exhibited a positive attitude toward it.*

INTRODUCTION

Among females, cervical malignancy or cancer is the world's fourth most prevalent problem.[1] It is the 3rd most frequent malignancy among females in Pakistan. However, due to a lack of proper education, actual screening, and vaccination, around 70% of cases are diagnosed at a late stage of the illness. [2] Cervical cancer risk factors include human papillomavirus (HPV), poor socioeconomic level, smoking, marriage before the age of 18, early age of first coitus, several sexual partners, many spouses, and multiple pregnancies.[3] Cancers with significant public health implications, such as breast, oral, cervical, gastric, lung, and colorectal cancer, can be cured if discovered and treated early.[1] It is crucial for medical personnel in poor nations like Pakistan

to possess thorough information about cervical cancer. They discovered that Pakistani Punjabi women's knowledge and attitudes on cervical cancer and its prevention were lacking. Cervical cancer should be prevented and controlled in Pakistan by implementing appropriate measures, such as media backing and health education initiatives run by healthcare professionals.[4]

In the comprehensive campaign against cervical cancer, the involvement of healthcare personnel becomes crucial[5]. Effective screening and treatment are largely dependent on their methods, expertise, and attitude. Positive patient outcomes are a result of a combination of a sympathetic approach, rigorous adherence to screening protocols, and a detailed understanding of the illness. Healthcare professionals play crucial roles in planning and carrying out screening programs, giving immunizations, and teaching patients about preventive care. Their ability to communicate effectively and be culturally sensitive becomes crucial when interacting with a variety of demographics and encouraging involvement in screening programs. A comprehensive approach to cervical cancer care is ensured by cooperative efforts within multidisciplinary teams headed by medical professionals, with an emphasis on prevention, early identification, and patient-centered treatment approaches[6, 7]. Obol conducted a cross-sectional study in Northern Uganda and observed that knowledge of cervical cancer was adequate in about 60% of patients.[8] While in Pakistan, only 41.2% of females are aware of cervical cancer, but only 33.6% are aware of cervical screening, while only 15.9% practice cervical screening.[9]

The current study aims to assess the attitudes and knowledge of medical staff at the Private Hospital of Lahore on cervical cancer prevention. Despite research on attitudes, knowledge, and awareness around cervical cancer, but these studies are done either on general population of females, or specific subjects like nurses using some intervention, or there is lack of validated questionnaire use. Hence, this study will be done using validated questionnaire, a group of health care professionals, including nurses, paramedical staff, and doctors. If knowledge and attitude is not found up to the mark then, they will be educated about risk factors, signs and symptoms and other related aspects to improve their knowledge. So, that they can communicate well to their contacts and this will help to reduce the disease by early screening practices, then diagnosis and treatments. This study set out to evaluate the attitudes and knowledge of healthcare professionals in a private hospital in Lahore on cervical cancer prevention.

METHODOLOGY

This descriptive cross sectional study was done in the department of Obs/Gynecology at Hameed Latif Hospital / Rashid Latif Medical College, Lahore, Pakistan over a period of six months from October 2024 to April 2025. By using WHO calculator, named as Ssize, sample size was calculated by percentages of adequate knowledge of cervical cancer as 60%,[8] 95% confidence level, and 7% margin of error. All the respondents were selected by applying a non-probability consecutive sampling technique.

Inclusion Criteria: Female health care workers aged 20 to 60 years, working since 6 months in the study setting hospital were included. In this study paramedical staff, nurses and clinicians were considered as healthcare workers.

Exclusion Criteria: Healthcare professional have taken any certified training on cervical cancer, and any healthcare worker's family member diagnosed with cervical cancer were excluded.

The study was started after taking approval of Institutional Review Board (HLH/ADM/IRB/2025-009, dated 8th April 2025). Informed consent was taken from the participants. Their demographic information like age, contact details, education and designation was noted. They were given Proforma and were requested to fill, the response to Proforma was analyzed by senior consultant and response of knowledge was labelled as correct or incorrect. The responses of attitude were also analyzed, and scoring was done for both knowledge and attitude was done. Adequate, inadequate knowledge and positive or negative attitudes was labelled.

Knowledge of respondents was evaluated using 25 question items with a "correct" or "not correct" response. [key of questions is correct to all questions] Each correct response was awarded one mark, and a wrong response was given zero marks. There were 9 questions on cervical cancer risk factors; 5 on cervical cancer signs and symptoms; and 11 questions on cervical cancer prevention and control. The scores from all the 25 items were summed and the mean sum of total scores was calculated. Any participant who scored equal or above the mean (≥18 marks) was categorized as having adequate level of cervical cancer knowledge and participants who scored below the mean (less than 18 marks) was categorized as having inadequate knowledge for cervical cancer.[8] Similarly attitude was measured using 13 statement items measured on 5-point Likert scale (1 strongly disagree, 2 disagree, 3 neutral, 4 agree and 5 strongly agree) to measure proxy variables of willingness to participate in cervical cancer training, screening, and other prevention activities. The participants' scores from all the 13 statements were summed up and the average score was calculated. Participants who scored equal or above the mean (≥56) were considered as having positive attitudes while participants who scored below the mean was considered as having negative attitudes.[8] Total 189 healthcare workers were included in this survey.

All data was collected through a pre-designed proforma(attached). The collected information was entered and analyzed using Statistical Package for Social Sciences version 26. Median with IQR was calculated for age, score for knowledge and attitude. Frequency and % was used for education level, designation and type of health care professional (paramedical staff, nurses and clinicians). Knowledge (adequate i.e. score above 18 points and inadequate i.e. score <18), attitude (positive and negative) was presented as frequency and percentage as well. Data was stratified for age, duration of experience, education level, designation and type of health care professional (paramedical staff, nurses and clinicians). Post stratification chi-square test was applied keeping p-value $\leq$ 0.05 was significant.

RESULTS:

In this study, a total of 189 healthcare professionals were enrolled to assess their knowledge and attitude. The respondents had a mean age of 40.72 ± 11.58 years, with ages ranging from 20 to 60 years. The median knowledge assessment score was 21.00 (IQR: 5.00), while the median attitude score was 49.00 (IQR: 18.00). Regarding educational background, 22 (11.6%) respondents had intermediate education, 89 (47.1%) had technical education, and 13 (6.9%) and 65 (34.4%) were graduates and postgraduates, respectively. Among the participants, 58 (30.7%) were paramedical healthcare professionals, 60 (31.7%) were nurses, and 71 (37.6%) were clinicians. The most common designation was technician, followed by senior nurse, associate professor, and junior nurse. Of the 189 respondents, 153 (81.0%) demonstrated adequate knowledge, while 61 (32.3%) exhibited a positive attitude (**Table-I**).

Table-I: Descriptive statistics of demographic and assessment variables of the respondents (n=189)

		Frequency (%)
Age (Years)		40.72 ± 11.58
Education	Intermediate	22 (11.6%)
	Technical studies	89 (47.1%)
	Graduate	13 (6.9%)
	Postgraduate	65 (34.4%)
Type of healthcare professional	Paramedical	58 (30.7%)
	Nursing	60 (31.7%)
	Clinician	71 (37.6%)

Designation	Technician	58 (30.7%)
	Junior Nurse	26 (13.8%)
	Senior Nurse	34 (18.0%)
	Postgraduate Resident	6 (3.2%)
	Assistant Professor	9 (4.8%)
	Associate Professor	31 (16.4%)
	Registrar / Senior registrar	18 (9.5%)
	DMS / AMS	7 (3.7%)
Knowledge Score		21.00 (IQR: 5.00)
Knowledge Assessment	Adequate	153 (81.0%)
	Inadequate	36 (19.0%)
Attitude Score		49.00 (IQR: 18.00)
Attitude Assessment	Positive	61 (32.3%)
	Negative	128 (67.7%)

Among respondents aged ≤40 years, adequate knowledge about cervical cancer was observed in 75 (80.6%), while in those aged >40 years, it was noted in 78 (81.2%) (p-value=0.916). Regarding educational background, adequate knowledge was found in 15 (68.2%) of respondents with an intermediate education, 63 (70.8%) of those with technical education, and all 65 (100.0%) postgraduate respondents (p-value <0.001). Among different professional roles, adequate knowledge was observed in 41 (70.7%) technicians, 41 (68.3%) nurses, and all 71 (100.0%) respondents in other designations (p-value < 0.001)

(Table-II).

Table-II: Association of adequate knowledge with age, educational status, designation, and healthcare professionals

		Knowledge Assessment		p-value
		Adequate n = 153	Inadequate n = 36	
Age Groups	≤ 40	75 (80.6%)	18 (19.4%)	0.916 NS
	>40	78 (81.2%)	18 (18.8%)	
Educational Status	Intermediate	15 (68.2%)	7 (31.8%)	<0.001*
	Technical Studies	63 (70.8%)	26 (29.2%)	
	Graduate	10 (76.9%)	3 (23.1%)	
	Postgraduate	65 (100.0%)	0 (0.0%)	
Designation	Technician	41 (70.7%)	17 (29.3%)	<0.001*
	Nurses	41 (68.3%)	19 (31.7%)	
	Others	71 (100.0%)	0 (0.0%)	
Healthcare professional	Paramedical	41 (70.7%)	17 (29.3%)	<0.001*
	Nursing	41 (68.3%)	19 (31.7%)	
	Clinician	71 (100.0%)	0 (0.0%)	

*=significant NS=Not significant

Among respondents aged ≤40 years, positive attitude towards cervical cancer was observed in 32 (34.4%), while in those aged >40 years, it was noted in 29 (30.2%) (p-value=0.537). Regarding

educational background, positive attitude was found in 9 (40.9%) of respondents with an intermediate education, 25 (28.1%) of those with technical education, graduate students had positive attitude in 5 (38.5%) and 22 (33.8%) of postgraduate respondents (p-value=0.891). Among different professional roles, positive attitude was observed in 15 (25.9%) technicians, 22 (36.7%) nurses, and all 24 (33.8%) respondents in other designations (p-value=0.428). Among paramedical healthcare professional 15 (25.9%) exhibit positive attitude, nurses exhibit positive attitude in 22 (36.7%) respondents and clinicians' exhibit positive attitude in 24 (33.8%) respondents (p-value=0.428) **(Table-III)**.

Table-III: Association of attitude assessment between age, educational status, designation, and healthcare professionals (n=189)

		Attitude Assessment		p-value
		Positive n = 61	Negative n = 128	
Age Groups	≤ 40	32 (34.4%)	61 (65.6%)	0.537 NS
	>40	29 (30.2%)	67 (69.8%)	
Educational Status	Intermediate	9 (40.9%)	13 (59.1%)	0.891 NS
	Technical Studies	25 (28.1%)	64 (71.9%)	
	Graduate	5 (38.5%)	8 (61.5%)	
	Postgraduate	22 (33.8%)	43 (66.2%)	
Designation	Technician	15 (25.9%)	43 (74.1%)	0.428 NS
	Nurses	22 (36.7%)	38 (63.3%)	
	Others	24 (33.8%)	47 (66.2%)	
Healthcare professional	Paramedical	15 (25.9%)	43 (74.1%)	0.428 NS
	Nursing	22 (36.7%)	38 (63.3%)	
	Clinician	24 (33.8%)	47 (66.2%)	

*=significant NS=Not significant

DISCUSSION:

In this study adequate knowledge assessed in healthcare workers was noted in 81% respondents whereas positive attitude for prevention of cervical cancer was found in 32.3% respondents.

Obol et al., showed in their study that 286 individuals filled out the questionnaire, with women making up the majority (188, 66%). There were 153 nurses (54%). Of the female participants, 141 (75%) self-reported having undergone cervical cancer screening. Of the participants, 171 (60%) knew enough about cervical cancer. 187 (66%) of the participants had favorable opinions[10].

Cervical cancer is a serious public health concern that affects millions of people globally. As one of the top five malignancies that afflict women, it places a substantial demand on public health systems, necessitating the implementation of effective prevention, early diagnosis, and treatment techniques[11].

Studies done in different countries showed knowledge assessment about cervical screening as in Ethiopia (86.9%)[12], India (85%)[13], Nigeria (98.6%)[14], Pakistan (88.1%)15, and Burundi (76.3%)[16]. Participants in the Indian study were considered to have strong knowledge if they could correctly identify any three recognized risk factors for cervical cancer[17]. The studies conducted in Ethiopia[12], Nigeria[14] and Pakistan[15] all used scores of 50% or more to categorize participants as having good knowledge. General practitioners were among the participants in the Burundian research[16], They are anticipated to be

more knowledgeable as a result of their cervical cancer training.

Chellapandian et al., carried out a study on general females, 86.2% of the 318 respondents recognized that HPV causes cervical cancer; 90.6% knew that HPV causes cervical cancer; and 83.3% knew that the PAP (Papanicolaou) smear test can identify cervical cancer. About 29.2% of eligible responders completed a cervical cancer screening, while 19.8% of research participants received an HPV vaccination.[18] A local study found that education improved nurses' knowledge and practice of cervical cancer, but there was no significant difference in attitude scores ($p>0.05$).[19] Health professionals' knowledge, attitudes, and practices about screening were 86.20%, 85.47%, and 12.70%, respectively, according to a systematic study conducted in India.[20] Obol et al., used a standardized questionnaire and found that 171 (60%) of the participants knew enough about cervical cancer. About (66%) of the participants had favorable opinions.[8]

Similar to our study findings, Tchounga et al., reported positive attitude in healthcare workers as (38%)[21]. Numerous issues impede the implementation of cervical cancer preventive programs in SSA, including limited supplies and equipment needed for cervical cancer screening and treatment, as well as a lack of diagnosis and treatment start due to a lack of service capacity[22-24].

CONCLUSION:

Based on this study, it is concluded that 81% of health workers at a private hospital in Lahore demonstrated adequate knowledge of cervical cancer prevention, while 32.3% exhibited a positive attitude toward it.

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CONFLICT OF INTEREST

None

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AUTHORS' CONTRIBUTION

AA: Conception and design, acquisition of data, article writing, statistical analysis, proofreading
RM: Conception and design, acquisition of data, article writing, statistical analysis, proofreading
KN: Conception and design, acquisition of data, article writing, statistical analysis, proofreading
MI: Conception and design, acquisition of data, article writing, statistical analysis, proofreading
FZ: Conception and design, acquisition of data, article writing, statistical analysis, proofreading
AN: Conception and design, acquisition of data, article writing, statistical analysis, proofreading

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