

Knowledge, attitude, and practice about cervical cancer and its screening among community healthcare workers of Varanasi district, Uttar Pradesh, India

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ABSTRACT

Context: Cervical cancer is most common type of cancer in women of rural India. More than 60-70% of cancers are diagnosed in later stages with poor survival rate. Screening helps in early detection of cervical cancer and better survival. Awareness and attitude of women towards cervical cancer screening may determine health-seeking behavior. As per operational framework of cancer screening in India, community health workers will be key mobilizers for encouraging women to undergo cervical cancer screening. **Aim:** This study aims to assess the knowledge, attitude and practice (KAP) of cervical cancer and its screening amongst community health workers of Varanasi district, Uttar Pradesh. **Settings and Design:** Descriptive, cross-sectional study was done to assess the socio demographic profile and KAP for cervical cancer and its screening of community health workers. Scoring for awareness and attitude for cervical cancer screening was done. **Statistical Analysis Used:** Descriptive statistics such as mean±SD, frequency and proportion were used for socio-demographic data and KAP of study population. Determinants of knowledge and practice for screening was determined using Chi-square test. *P* value < 0.05 was considered statistically significant. **Results:** We observed that despite of good knowledge and perception less than 10 percent of workers have undergone screening. Significant association was seen between level of knowledge and practice of screening. **Conclusion:** It is of utmost importance that narrowing of existing gap between the perception and practice of cervical cancer screening should be initiated through introducing more educational programs for workers and encouraging them to participate in screening campaigns.

Keywords: Attitude, awareness, cancer screening, prevention

Introduction

Cervical cancer is globally the second most common cancer among women.^[1] Nearly half a million of women are newly diagnosed with invasive cervical cancer each year, and a majority of them were never screened for the disease. Over 80% of these women are from developing countries.^[2] In India, annually, an estimated 96,922 women are diagnosed with cervical cancer

and 60,078 die from this disease.^[3] India ranks highest in age-standardized incidence of cervical cancer in South Asia^[4,5] and is one of the most common cause of cancer-related deaths in India accounting for nearly 10% of all cancer-related deaths.^[6] The average 5-year survival rate is 48.7%.^[7]

Screening with Papanicolaou (PAP) test led to significant reduction in mortality in developed countries.^[8] Studies have shown that screening with visual inspection with acetic acid reduces mortality due to cervical cancer in developing countries.^[9,10] Utilization of screening in Asian countries varies

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Table 1: Knowledge about cervical cancer and its screening among study participants

Question	Response	Frequency (%)
Cancer can develop in uterine cervix (n=290)	Yes	277 (95.5)
	No/don't know	13 (4.5)
Females can develop cervical cancer who have* (n=277)	Multiple sexual partners	164 (59.2)
	Young age of onset of sexual intercourse	159 (57.4)
	HPV virus infection	93 (33.6)
	Poor genital hygiene	174 (62.8)
	Smoking habit	151 (54.5)
	Eat high fatty food	25 (9.0)
Sign and symptoms of cervical cancer* (n=277)	Intermenstrual bleeding	183 (66.1)
	Foul smelling discharge P/V	226 (81.6)
	Postmenopausal bleeding P/V	184 (66.4)
	Postcoital bleeding P/V	171 (61.7)
	Excess vaginal discharge	187 (67.5)
	Itching in vagina	131 (47.3)
	Who can undergo cervical cancer screening (n=277)	All females irrespective of age and marital status
All married females age above 30 years		47 (16.9)
All married females of any age		95 (34.3)
Only females above 50 years of age		19 (6.9)
Only those women who have any problem		24 (8.7)
Don't know		3 (1.1)
What are the methods of screening cancer cervix, if any (n=277)	PAP or VIA as a method	128 (46.3)
	Don't know	145 (52.3)
	No methods available	4 (1.4)

HPV: Human papillomavirus; P/V: Per vaginal; PAP: Papanicolaou; VIA: Visual inspection with acetic acid *Multiple response questions

from 50% in Singapore to just 2.6%–5% in India.^[11] In India, diagnosis of cervical cancer is commonly based on opportunistic screening or postsymptom development. Screening for cervical cancer is essential as women often do not experience symptoms until the disease has advanced. Prevention and control of cervical cancer depend on awareness about disease, screening procedures, and preventive measures.^[12] Late symptoms include abnormal per vaginal bleeding, foul smelling, or blood-stained vaginal discharge.^[13] Risk factors include sexual habits, reproductive factors, sexually transmitted diseases, coinfection with HIV, smoking, and high parity.^[14] About 99.7% of all cervical cancer are attributed to human papillomavirus infection worldwide.^[15]

In India, screening of cervical cancer can be easily conducted at a primary health center by primary care physicians.^[9] The role of primary care physician is important in screening as the community trust their local physician more than any other healthcare provider and thereby more likely to visit local primary care physician for undergoing screening even when not symptomatic. For this, we need to mobilize the community to make them feel the need for cervical cancer screening.

Accredited Social Health Activist (ASHA) workers are best suited for this job.

The launch of operation framework of India for cancer screening in 2016 has designated ASHA workers as key motivators for cervical cancer screening of women. ASHA are grass-level health workers under National Rural Health Mission, the flagship centrally aided largest health program of India.^[16] Each ASHA covers a thousand population where her key role is healthcare mobilizer.^[17] Thereby this study aims to assess level of knowledge, attitude, and practice (KAP) toward cervical cancer and its screening among ASHA workers of Varanasi district.

Subject and Methods

A community-based descriptive, cross-sectional study was conducted in Varanasi district of Uttar Pradesh, India, during the period of November to January 2019. Study site was purposively selected as one community health center from rural block of Cholahpur and one primary health center from urban ward of Nagwa. All community health workers at these two sites who were willing to participate were enrolled for the study irrespective of their cervical cancer screening status. A total of 290 community health workers were enrolled.

A semi-structured, prevalidated questionnaire was used to gather information regarding sociodemographic characteristics, KAP toward cervical, and its screening. Respondents were asked whether they were aware that uterine cervix may develop cancer. Only those respondents who knew that uterine cervix may develop cancer were assessed for their KAP for cervical cancer and its screening to avoid information bias.

Knowledge about cervical cancer and its screening was assessed using a 12-point scale. There were 20 knowledge-related questions that carried 14 correct responses. Each correct response was given 1 point and wrong answer was given 0. The maximum points expected were 14 and the minimum was 0. Bloom's cut-off points were used to categorize knowledge levels, where 80%–100% correct responses comprise score of 11–14 and meant good knowledge, 60%–79% correct response comprise score of 8–10 and meant moderate knowledge, and <60% correct responses comprise score of ≤7 and meant poor knowledge.^[12]

Attitude was measured by putting eight statements regarding cervical cancer screening on a 5-point Likert's scale. The statements had responses ranging from strongly agree to strongly disagree. Out of eight statements, if participants showed positive attitude to any of the four statements, then they were considered to have positive attitude toward screening. Practice was assessed by response toward ever undergone cervical screening in past. Finally, all participants who had never undergone screening were asked to state the most important reason for not undergoing screening.

Pretesting of questionnaire was done on 10% of sample and necessary modifications were made. Statistical analysis was performed using SPSS version 16.0. Descriptive statistics such as mean, standard deviation (SD), frequency, and proportion were used for sociodemographic data and KAP of study population. Determinants of knowledge and practice for screening were determined using Chi-square test. *P* value <0.05 was considered statistically significant.

Results

Sociodemographic profile

A total of 290 community health workers participated in the study with a mean age of 36.0 ± 7.4 (SD). More than half belonged to rural area (159, 54.8%) and were educated till 12th class and above (171, 59%). The majority were married (270, 93.1%), had joint family (224, 77.2%), and had ≥10 years of work experience (183, 61.7%).

Knowledge

Based on Bloom’s cut-off scoring, more than one-third had poor knowledge (106, 36.6%), followed by moderate level (109, 37.6%) and less than one-fourth had good knowledge (62, 21.4%) for cervical cancer screening [Table 1].

Attitude

Based on the criteria of positive attitude, the majority had positive attitude toward cervical screening (260, 93.9%) [Table 2].

Practice

Less than 10% of participants had undergone screening in the past (24, 8.3%).

Reasons for not undergoing screening

The most common reasons cited for not undergoing screening were “never had a problem/will go for screening only when any complaint” (90, 35.7%) and “scared of pain” (63, 24.6%). Nearly one-fourth stated lack of awareness for facility of screening (61, 23.8%). Lack of time (22, 8.7%), social stigma (10, 4.3%), and embarrassment during procedure (7, 2.9%) were other reasons.

Predictors of good knowledge and practice of screening

ASHA workers with urban residence had significantly better knowledge compared with those from rural area (*P* = 0.0005). No significant difference in knowledge was observed with respect to their education level and work experience. Higher

Table 2: Attitude of study participants regarding cervical cancer and its screening (n=277)

Attitude variables	Level of agreement (Likert scale)				
	Strongly agree, No. (%)	Agree, No. (%)	Neither agree nor disagree, No. (%)	Disagree, No. (%)	Strongly disagree, No. (%)
Cervical cancer is one of the most important cancer in females of India	222 (80.1)	27 (9.7)	7 (2.5)	9 (3.2)	12 (4.3)
Any adult women including you can develop cervical cancer	185 (66.8)	53 (19.1)	22 (7.9)	17 (6.1)	0
All married women age 30–65 years should undergo screening	201 (74.4)	35 (14.1)	10 (3.6)	7 (2.5)	24 (8.6)
Screening can help in early detection and better treatment	193 (69.7)	32 (11.6)	37 (13.4)	11 (4.0)	4 (1.4)
If screening is free and will cause no harm, then you will undergo screening	190 (68.6)	49 (17.7)	21 (7.6)	7 (2.5)	10 (3.6)
It is embarrassing to undergo screening procedure	62 (22.4)	15 (5.4)	41 (14.8)	72 (26.0)	87 (31.4)
Screening will not cause any harm to patient	182 (65.7)	52 (18.8)	17 (6.1)	10 (3.6)	16 (5.8)
Screening procedure can be painful	165 (59.6)	52 (18.8)	21 (7.6)	20 (7.2)	19 (6.9)

Table 3: Predictors of good knowledge and practice about cervical cancer screening among ASHA workers (n=277)

Variables	Level of knowledge		Total, No. (%)	Chi-square test, <i>P</i>
	Good, No. (%)	Moderate-poor, No. (%)		
Urban	38 (30.2)	88 (69.8)	126 (45.5)	$\chi^2=8.04, 0.005$ (df=1)
Rural	24 (15.9)	127 (84.1)	151 (54.5)	
Upto 10 th class	21 (19.1)	89 (80.1)	110 (39.7)	$\chi^2=1.14, 0.286$ (df=1)
Higher education	41 (24.5)	126 (75.5)	167 (60.3)	
≤5 years experience	12 (18.5)	53 (81.5)	65 (23.5)	$\chi^2=0.75, 0.386$ (df=1)
>5 years experience	50 (23.6)	162 (76.4)	212 (76.5)	
Level of knowledge	Screening done		Total, No. (%)	$\chi^2=13.15, 0.0003$ (df=1)
	Yes	No		
Good	11 (21.6)	40 (78.4)	51 (18.4)	
Moderate-poor	13 (5.8)	213 (94.2)	226 (81.6)	

ASHA: Accredited Social Health Activist

proportion of workers with good knowledge underwent screening ($P = 0.0003$) [Table 3].

Discussion

This study explored KAP of ASHA about cervical cancer and its screening in Varanasi district of Uttar Pradesh, India. We observed that the level of education of participants was higher compared with previous studies done in India. The reason being that previous KAP-based Indian studies have been conducted on general female population while we selected ASHA workers who must have secondary level of education for recruitment.^[18,19] Most of ASHA were residing in rural areas, while urban area health workers are called as USHA who have similar duties as ASHA.

We observed that a majority of workers were aware that uterine cervix may develop cancer (277, 95.5%). Prevalence of knowledge for risk factors, symptoms, and screening was higher compared with previous Indian studies done in general population^[18-20] but comparable to studies done on community health workers in Haiti^[21] and Ethiopia.^[22] In our study, nearly one-third had poor knowledge especially for screening. Awareness for screening was higher when compared with the Indian community and facility-based studies done on general population^[18-20] but much lower compared with Indian studies done on healthcare providers with higher qualifications such as staff nurses^[23] and community health workers of other South-East Asian country.^[24]

We observed positive attitude for screening in a majority of workers (260, 93.9%). Our finding was comparable to many Indian-based studies on general female population and to other community health worker-based studies in other countries.^[18,20-24] Despite two-third of the participants having moderate to good knowledge and a majority having positive attitude for screening, still just 8% had undergone screening reflecting a gap between perception and practice. This could be partly due to poor knowledge on screening and other reasons which are barriers to screening. The most important reason cited by workers for not undergoing screening was that since they never had any complaint related to cervical cancer, screening is not needed. This suggests that they do not understand the concept of screening. Development of symptoms in cervical cancer is late stage. The benefit of screening remains unachievable if they wait for symptom development. Many were afraid of anticipated pain during procedure and many did not know where to go for screening. Social stigma, embarrassment, and lack of time were the other reasons. Our finding was in line with previous studies which cited similar reasons as barriers to screening.^[12,18-25]

We observed significantly higher proportion of workers with good knowledge undergoing screening ($P = 0.003$). This suggests that good knowledge will encourage screening. Previous studies have also stated that high level of cervical cancer prevention knowledge and awareness of screening facility location will increase rate of screening.^[26,27] Of 290 workers, 13 ASHA were unaware that uterine cervix may develop cervical cancer. Each

health worker represents at least a thousand of the population, thus a major population remains uncovered for this unawareness.

We observed that urban residing workers (38, 30.2%) had significantly better knowledge compared with those of rural areas (24, 15.9%) ($P = 0.005$). This suggest that urban workers are getting better knowledge exposure which could be partly due to easier geographical access to screening facilities in higher health centers of urban areas. However, no significant difference in knowledge was observed when compared with education level. The Ministry of Health of India has advocated ASHA for mobilizing cervical cancer screening. ASHA are volunteer community health workers who are expected to have at least secondary level of education.^[16] Our study supports ministry guidelines that women even with secondary level of education are sufficient to generate awareness and mobilize females for screening.

The operational framework for cancer screening in India has identified ASHA workers as key motivators for encouraging cervical cancer screening among general population. The rural women once motivated may visit primary health care physician for screening which is the most accessible health center for them. It is thereby of utmost importance that narrowing of the existing gap between the perception and practice of cervical cancer screening should be initiated. This can be done through introducing more educational programs for ASHA workers and encouraging them to participate in screening campaigns.

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Conflicts of interest

There are no conflicts of interest.

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