Awareness, Knowledge and Practice of Adult Saudi Females about Cervical Cancer Screening, in Aseer Region, Saudi Arabia

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Abstract

Background: Cervical cancer is the fourth most common female cancer. Lack of knowledge and poor attitude towards the disease and risk factors can affect screening practice and development of preventive behavior for cervical cancer. It accounts for 2.6% of all newly diagnosed cancers in Saudi females.

Aim: To assess awareness, knowledge and practice towards cervical cancer and Pap smear among Saudi females in Aseer Region, Saudi Arabia.

Methodology: A descriptive cross sectional survey was applied targeting women attending the Obstetrics and Gynecology Departments in Aseer Region. Data were collected using a pre-structured direct interview questionnaire. Awareness and knowledge were assessed using seven questions with one single correct answer for each. Practice regarding Pap smear was assessed using three questions.

Results: This survey included 1116 women from Aseer Region, whose ages ranged from 18 to 58 years, with a mean age of 33.5 years. Only 36.6% had heard about cancer of the cervix, and 24.3% knew about screening methods. Very few had good knowledge regarding cancer of the cervix. As for practice, only 27% underwent Pap smear, while only 23.7% were advised to undergo Pap smear by their physicians.

Conclusions: Saudi females' knowledge regarding cancer of the cervix and its screening methods is poor. More attention should be paid to improve their knowledge and practice regarding cervical cancer prevention.

Key words: Cancer of the cervix, Pap smear, Human papilloma virus, awareness, screening, Saudi Arabia.

Introduction

Cervical cancer is the fourth most common cancer in women. In 2018, an estimated 570,000 women were diagnosed with cervical cancer worldwide and about 311,000 women died from the disease (1). A significant drop in its incidence has been reported in developed countries as a result of intensive cervical screening programs (2,3).

Most women with cervical cancer experience a long asymptomatic period before the disease becomes clinically evident. Therefore, early recognition of abnormal cytologic changes through regular screening may prevent progression from pre-invasive to invasive disease. But later on, symptoms may include abnormal vaginal bleeding, pelvic pain or pain during sexual contact (4).

Almost all cervical cancer cases (99%) are linked to infection with high-risk human papilloma virus (HPV), an extremely common virus transmitted through sexual contact (1). This link is strongest for certain HPV types, particularly types 16 and 18 (4). Although most infections with HPV resolve spontaneously and cause no symptoms, persistent infection can cause cervical cancer in women (1).

There are other risk factors for cancer of the cervix including smoking, parity, immunosuppression, starting sex at a young age, but these are less important. The progression from high grade lesion to invasive cancer takes approximately 8 to 12 years (5). Squamous cell carcinomas is the most frequent cancer type (80% to 85%), while 15%-20% are adenocarcinoma (6). Diagnosis is typically by cervical screening followed by a colposcopy and biopsy. Pap smear is universally recommended for all sexually active women (7).

Clinical trials and post-marketing surveillance have shown that HPV vaccines are very safe and very effective in preventing infections with HPV infections. HPV vaccines work best if administered prior to exposure to HPV. Therefore, the WHO recommends to vaccinate girls, aged between 9 and 14 years, when most have not started sexual activity. HPV vaccination does not replace cervical cancer screening (1).

In Saudi Arabia, cervical cancer is ranked the ninth most common cancer in Saudi females. Moreover, it comprises approximately 2.6% of all newly diagnosed cancers in Saudi females (8). Although cervical cancer screening has been upgraded in Saudi Arabia, not all females, especially those at risk, have good awareness regarding it (9). Also the number of females who seek to undergo Pap smear or have been vaccinated against HPV is still unsatisfactory due to their lack of knowledge and negative attitude (9, 10).

This study aimed to assess knowledge and practices of Saudi females in the Southwestern Region of Saudi Arabia regarding cervical cancer and its screening methods.

Methodology

A descriptive cross-sectional survey was applied targeting women attending the Obstetrics & Gynecology departments and also outpatient clinics or inpatient wards in the governmental hospitals in Abha City, Saudi Arabia. Abha City is the capital of Aseer Region, at the Southwestern part of Saudi Arabia, where the main tertiary care hospitals exist.

Data were collected using a pre-structured direct interview questionnaire. The questionnaire was developed by the researchers after intensive literature review and experts consultation. The questionnaire included a section for women's personal data, including age, educational level, marital status, work and parity. Awareness was assessed by seven questions, with one single correct answer for each. Questions covered overall awareness, screening methods, proper age to do a Pap smear and to stop doing it, and the HPV vaccine. Practice regarding Pap smear was assessed using three questions. The data collection tool was validated based on experts' opinion. Internal consistency was assessed by Cronbach's alpha coefficient (0.83). A pilot study was conducted, and test-retest reliability coefficient was 0.72.

Collected data were revised, coded and fed into a computer using the Statistical Package for Social Sciences (IBM, SPSS version 22). All statistical analyses were done using two-tailed tests and alpha error of 0.05. P-values less than 0.05 were considered as statistically significant.

Awareness/knowledge level was assessed after scoring the correct answers by "one point" or "zero" point for all incorrect answers. All discrete scores for the awareness items were summed together and the overall score was categorized into either "poor" for those who had scores less than 60% of the maximum (score range was 0-7 points), or "good" for those with scores of 60% or more. Descriptive statistics were calculated for all variables including awareness and practice items. Univariate relations between the females' bio-demographic characteristics and their awareness were tested using Pearson's Chi-square (X^2) test.

Results

The survey included 1,116 women from Aseer region whose ages ranged from 18 to 58 years, with a mean age of 33.5±8.9 years. More than three-quarters of participants (77.9%) were married. University education was reported for 73.4%, 46.1% were working, while 77.1% had 1-5 children (Table 1).

As for awareness regarding Pap smear (Table 2), 36.6% of the participants had heard about cancer of the cervix, 24.3% know about screening methods for cancer cervix, 17.2% identified the proper time for a PAP smear, and only 5.6% correctly detected age to stop doing PAP smear. A total of 118 (10.6%) had good awareness level about cancer of the cervix.

Regarding participants' sources of knowledge (Figure 1), books and social media were the most common sources (15.4%), followed by physicians (6.6%), study (0.9%), while 75.7% had no specific source.

Considering practice regarding Pap smear, Figure 2 demonstrates that 27% of participants previously underwent Pap smear, while 23.7% were advised to have a Pap smear by their physicians and 9.9% asked their physicians to do it.

Finally, on relating females' awareness level with their personal data, 17.4% of single females had good awareness level regarding cancer of the cervix compared to 5.3% of divorced or widowed participants (P=0.002). Also 12.7% of university graduated females had good awareness level compared to 3.2% of those with lower educational level (P=0.001). Considering parity, good awareness level was recorded among 12.2% of females with 1-3 children, compared to 14.3% of nulliparous females (P=0.004). Also 15.2% of employed females had a good awareness level compared to 6.6% of those unemployed (P=0.001). About 16% of females who underwent Pap smear had good awareness level compared to 8.7% of those who did not (P=0.001), as shown in Table 3 (page 18).

Table 1: Personal characteristics of participant females in Aseer Region, Saudi Arabia

Personal data		No	%
Age (in years)	< 20 years	22	2.0
	20-29	323	28.9
	30-49	710	63.6
	50+	61	5.5
Marital status	Single	190	17.0
	Married	869	77.9
	Divorced/widow	57	5.1
Education	Below secondary	62	5.6
	Secondary	235	21.1
	University	819	73.4
Work	Unemployed	602	53.9
	Employed	514	46.1
Parity	Nullipara	280	25.1
	1-3	435	39.0
	4-5	279	25.0
	6+	122	10.9

Table 2: Participants' awareness and knowledge regarding cervical cancer screening in Aseer Region, Saudi Arabia

Awareness/knowledge items	Correct answer	
	No.	%
Heard about cancer of the cervix	409	36.6
Know about vaccines for HPV	137	12.3
Know about screening methods for cancer of the cervix	271	24.3
Proper time for PAP smear	192	17.2
Frequency of PAP smear	78	7.0
Age to stop doing PAP smear	62	5.6
Difference between PAP smear and vaginal swab	190	17.0

Figure 1: Sources of knowledge regarding cervical cancer screening among women in Aseer Region, Saudi Arabia

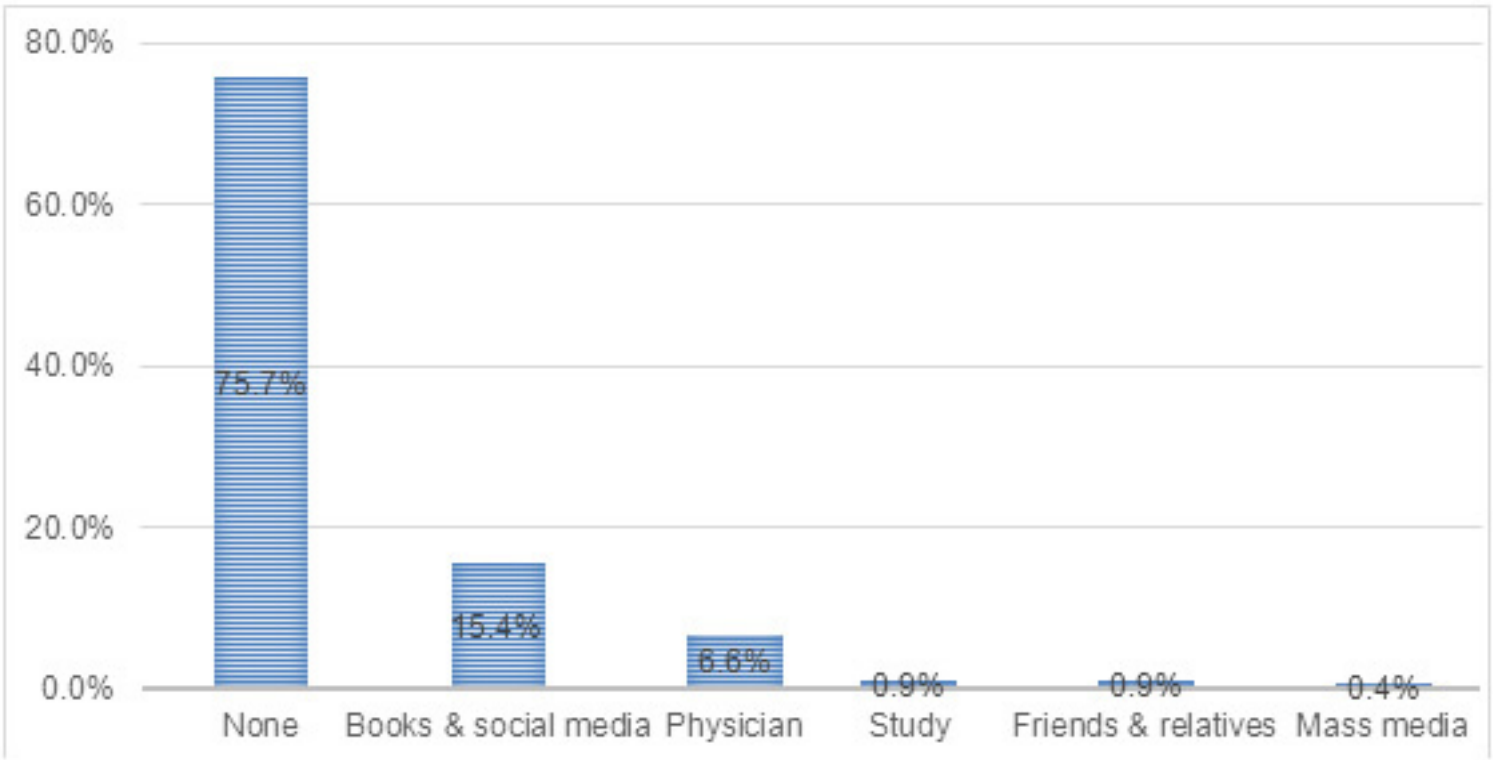
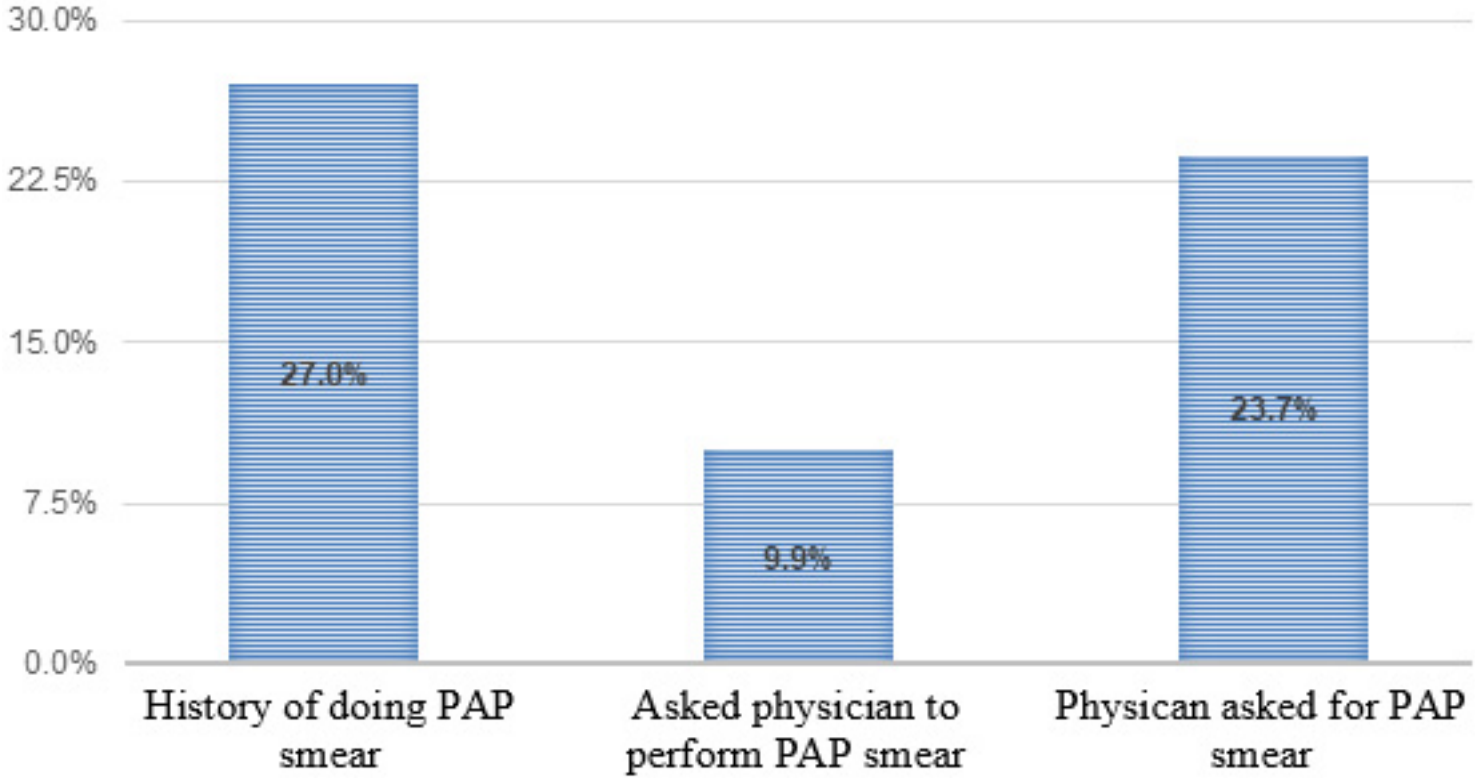


Figure 2: Performing Pap smear by women in Aseer Region, Saudi Arabia



Discussion

Cervical cancer is a preventable gynecological disease. An essential component of its prevention is the early identification of premalignant lesions by Pap smear (2). Nevertheless, more than 40% of women having cervical cancer are diagnosed at advanced stages in Saudi Arabia, compared to 25% in British, Columbia and Canada. The delay in diagnosis among Saudi women is mainly attributed to the lack of effective prevention and screening programs (13,14).

Healthcare staff examine women attending healthcare facilities for various obstetric/gynecologic reasons and may ask them to undergo Pap smear as a screening test for early detection of cervical cancer. The incidence of cancer of the cervix was dramatically reduced in the developed countries over the last few years due to better awareness and screening practices. In addition, the HPV vaccine proved to offer a significant role in reducing the incidence rate of cervical cancer (6,8).

In Saudi Arabia, there are limited studies that explore awareness, knowledge, and practices of women toward Pap smear. No study has been conducted in the southern area of the Kingdom, as most studies were conducted in the capital city (Riyadh) and one study in Al-Ahsa City that involved only medical students (8, 9, 11, 15).

The current survey aimed to assess knowledge and practice of the Saudi females in Aseer Region regarding cancer of the cervix. Findings revealed that only one out of each ten women had good knowledge level regarding cervical cancer. The best areas of knowledge were its screening methods, proper time for performing Pap smear, and the ability to differentiate between Pap smear and vaginal swab. On the other hand, areas of knowledge defect were the proper age and frequency of undergoing Pap smear.

Significant predictors for good knowledge included university educated females, at young age, who had children and previously did Pap smear. Social media and physicians were the most common sources for participants' knowledge about cervical cancer.

Regarding practices, the present study revealed that almost one out of each four females (23.7%) underwent Pap smear which, was due to the request from their physician.

Raising awareness and knowledge about cervical cancer has a crucial role in disease prevention. HPV vaccination and proper screening can significantly minimize the burden of the disease to a great extent (8-12). Early detection of precancerous pathologies can be achieved by cervical cytology examination of smears (Pap test), as the main screening test. Cytology from the transformation zone of the cervix where squamous cells from the outer opening of the cervix and glandular cells from the endocervical canal join is the site for most of the cervical abnormalities and cancers (16).

In Saudi Arabia, Al-Shaikh et al. assessed knowledge of Saudi female health colleges' students regarding cervical cancer and their acceptance of HPV vaccine (11). They reported that 95.7% of students had poor knowledge level. The Pap smear was poorly recognized as a screening tool, with only 46.7% of students having heard of the test. Another study was conducted to evaluate the level of awareness about cervical cancer, Pap smear test and HPV among women in Saudi Arabia (12). Its findings revealed that the overall knowledge

Table 3. Participants' awareness and knowledge regarding cervical cancer screening according to their personal characteristics, Aseer Region, Saudi Arabia

Personal characteristics		Awareness/knowledge level				P-value
		Poor (n=998)		Good (n=118)		
		No.	%	No.	%	
Age in years	< 20 years	20	90.9	2	9.1	0.130
	20-29	281	87.0	42	13.0	
	30-49	638	89.9	72	10.1	
	50+	59	96.7	2	3.3	
Marital status	Single	157	82.6	33	17.4	0.002*
	Married	787	90.6	82	9.4	
	Divorced/ widow	54	94.7	3	5.3	
Education	Below secondary	60	96.8	2	3.2	0.001*
	Secondary	223	94.9	12	5.1	
	University	715	87.3	104	12.7	
Work	No	562	93.4	40	6.6	0.001*
	Yes	436	84.8	78	15.2	
Parity	Nullipara	240	85.7	40	14.3	0.004*
	1-3	382	87.8	53	12.2	
	4-5	260	93.2	19	6.8	
	6+	116	95.1	6	4.9	
History of Pap smear	No	744	91.3	71	8.7	0.001*
	Yes	254	84.4	47	15.6	

P: Pearson *X*2 test
* P < 0.05 (significant)

level regarding cervical cancer was good (78.6%), but was low regarding HPV and Pap smear screening method (16.4%, and 35.9%, respectively).

Generally, it is important to raise females' awareness regarding cancer of the cervix and its early detection by screening. This importance emerges from the fact that cervical cancer is mainly caused by a preventable agent, namely, HPV. Therefore, improving awareness, attitude and screening practices is expected to reduce the burden on the individual and community levels (17).

In conclusion, this study revealed that Saudi females' awareness and knowledge regarding cervical cancer and its screening methods were quite poor. Also screening practices were minimal and mainly based on physician's advice. More attention should be paid to raise women's awareness and improve their practices regarding cervical cancer screening. This can be applied through enforcing the health education role played by physicians in primary healthcare facilities toward mothers who escort their children for vaccinations. Moreover, female university students constitute an important target regarding health education about prevention of cancer cervix. Simple educational posters at healthcare facilities can help transmit important information messages to the public regarding prevention of cancer cervix.

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