

## Research Article

# Knowledge, Attitude and Practice on screening of cancer cervix among women in Minia Governorate



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## Abstract

**Background:** Globally, cervical cancer is the fourth most commonly diagnosed cancer among women, with about 570,000 new cases in 2018, representing 6.6% of all female cancers. Approximately 311,000 women died from cervical cancer worldwide in 2018, with over 85% of these deaths occurring in low- and middle-income countries, **Aim:** to assess knowledge, attitude and practices about screening of cancer cervix among women in Minia governorate. **Methods:** This descriptive cross-sectional study was conducted on 6300 women attending the outpatient clinics of Minia Maternity University Hospital. Face to face interview schedule with structured and semi-structure questionnaires was conducted to assess the demographic characteristics, knowledge, attitude, and practice regarding screening of cancer cervix. **Result:** 66.9% of the subjects will advise another woman to do visual inspection with acetic acid (VIA), 48% recommend a VIA for all women, 41.1% were Willingness of nearest female neighbors to get VIA, 53.3% will undergo a VIA test in future, 50.7% will plan to do VIA however, knowing the risk. 28.1% thing they have risk of cancer cervix, and 16.1% knew that Pap smear can predict another disease than cancer cervix, **Conclusion:** knowledge, attitude and practice regarding cervical cancer screening among females were significant to decrease the burden and to prevent the incidence of Cervical Cancer. Effective information, education and communication strategies are required to improve the level of awareness of women on Cervical Cancer.

**Keywords:** screening, cancer cervix, visual inspection with acetic acid (VIA).

## Introduction

Globally, cervical cancer is the fourth most commonly diagnosed cancer among women, with about 570,000 newcases in 2018, representing 6.6% of all female cancers<sup>(1)</sup>. Approximately 311,000 women died from cervical cancer worldwide in 2018, with over 85% of these deaths occurring in low- and middle-income countries<sup>(1-4)</sup>.

In Egypt, cervical cancer ranks as the 14th leading cause of female cancers in all ages, and the 11th most common female cancer in women aged 15 to 44 years with an estimated age-standardized incidence rate

of 2.3 per 100,000 individuals per year<sup>(1-3)</sup>. Cervical cancer is also the 12th leading cause of cancer deaths in women aged 15 to 44 years in Egypt<sup>(1)</sup>.

Many risk factors were associated with increasing risk for cervical cancer However, HPV infections remain the most common well-established cause of cervical cancer<sup>(5)</sup>. Although infection with high-risk HPV types is the underlying cause of cervical cancer, HPV infection is also causally related to the development of other cancers .Cervical cancer prevention has relied on cytological testing using the conventional Papanicolaou's (Pap) test<sup>(6-7)</sup>.

Healthcare professionals play an essential role in raising awareness and enhancing the attitude and practices of the public as if they had an adequate and updated level of knowledge and positive attitude<sup>(8)</sup>. However, few studies have addressed the level of knowledge, attitude, and practices among healthcare professionals, particularly in the Arab countries. Therefore, this study aimed to assess the knowledge, attitude, and practice of cervical cancer screening.

The aim of this study was to assess knowledge, attitude & practices about screening of cancer cervix among women in Minia governorate.

### Patients and Methods

This descriptive cross-sectional study was conducted on women attending the outpatient clinics of Minia Maternity University Hospital.

**Inclusion criteria:** Women in age group of 20-60 years associated with: Persistent vaginal discharge, post coital bleeding, cervical hypertrophy, cervical erosion/ulceration/ growth/ oozing surface, contact bleeding, cervix flushed with petechial spot and unexplained occasional foul-smelling discharge per vagina.

**Exclusion criteria:** Pregnant or postpartum or post abortive patients, patient having any history of treatment for either cervical dysplasia or vulval warts, patient who had underwent to recent endometrial curettage, hysterosalpingography, cervical biopsy or hysterectomy and Immunocompromised patients (HIV patient on corticosteroids).

**All patients were subjected to:** Face to face interview schedule with structured and semi-structure questionnaires was conducted to assess the demographic characteristics, knowledge, attitude, and practice regarding screening of cancer cervix, the questionnaire includes: Demographic data of the respondents, knowledge regarding Cancer cervix, risk factors (Viral Infections, Early sexual intercourse, Family history, Poor hygiene, multi-parity, use of oral contraceptive), knowledge regarding screening & usage of pap smear, attitude towards screening as it

is cervical cancer could be early detected and practice of Pap smear.

Socio-demographic characteristics included age of patients, address and educational status, marital status, duration of marriage and parity.

In order to assess the knowledge of patients, questions like if they had any idea about cervical cancer, about screening for cervical cancer, if they had heard about pap smear test or any other tests used for screening, how frequently they should be screened, if they had knowledge, how they had acquired the knowledge, were asked. Their attitude was evaluated by asking them if they thought it was necessary to screen every woman.

In order to review the practice of screening they were asked if they had undergone any screening test like pap smear test, if they had how many times, they had undergone such test and if they had not undergone such test, what was the reason behind it. In order to evaluate the level of their knowledge, attitude and practice,

Knowledge, Attitude and Practice (KAP) score was also calculated. There were four questions in the questionnaire which determined the level of knowledge of patients, "have you heard about cancer cervix? have you heard about screening for cancer cervix? have you heard about pap smear test? and have you heard about other screening test for pap smear test?". For these questions pertaining, score 1 was given for positive answer and score 0 was given for negative answer.

**Ethical Consideration:** Study protocol had been submitted for approval by Institutional Review Board, Minia University. Confidentiality and personal privacy had been respected in all levels of the study. Informed consent was obtained from the respondents, Privacy and confidentiality was maintained by not disclosing the name of the respondents.

### Statistical Analysis:

Data collected throughout history, basic clinical examination, laboratory investi-

gations and outcome measures coded, entered and analyzed using Microsoft Excel software. Data were then imported into Statistical Package for the Social Sciences (SPSS version 20.0) (Statistical Package for the Social Sciences) software for analysis. According to the type of data qualitative represent as number and percentage, quantitative continues group represent by mean  $\pm$  SD , the following tests were used to test differences for significance;., correlation by Pearson's correlation or Spearman's . P value was set at  $<0.05$  for significant results &  $<0.001$  for high significant result.

### Results

The mean age was  $32.56 \pm 8.39$  years and 31% of subjects aged between 30 – 40 years, with mean BMI of  $26.47 \pm 3.54$  kg/m<sup>2</sup> the most common education level was university (40.6%) while 77.4% of the subjects were married, 60.3% were housewife, and 39.7% were employed or working. Moreover, 56.6% were rural (Table1). The majority of the subjects were  $\geq 4$  parity while 67.2% of them had no history of previous miscarriages (Table 2).

In table 3, it was shown that 83.2% of the subjects had knowledge about cancer cervix, and the common source of information was doctors or nurse (28.3%). the most known risk factor was STD

(23.4%) while the popular incidence known was the less common (38.3%).

I was found that the most known prevention method was prevention of chronic infection while the most known symptom was weight loss (21.9%) followed by foul smelling vaginal discharge (18.2%). Moreover, 28.3% of the subjects had knowing of treatment of cancer cervix and 23.1% of the subjects had knowing of screening of cancer cervix. Meanwhile, 68.4% heard about Pap smear test or VIA (table 4).

Regarding the attitude about the cancer cervix among the studied groups, table 5 shows that 66.9% of the subjects will advise another woman to do VIA, 48% recommend a VIA for all women, 41.1% were Willingness of nearest female neighbors to get VIA, 53.3% will undergo a VIA test in future, 50.7% will plan to do VIA however, knowing the risk. 28.1% thing they have risk of cancer cervix, and 16.1% knew that Pap smear can predict another disease than cancer cervix.

About 5% of the subjects receive HPV vaccine, 3.6% had participated in an awareness program regarding Cancer cervix and VIA test, 13.5% had a VIA test or Pap smear, 62.8% wish that screening program being a national program, and 87.3% wish that the program being national regardless high cost if that screening program is costly.

**Table (1): Demographic characteristics between the studied subjects**

		<b>Studied subjects.</b> (n=6300)
<b>Age (years)</b>	<b>Mean ±SD</b>	32.56 ± 8.39
	<b>20 – 30 years</b>	1575 (25%)
	<b>30 – 40 years</b>	1953 (31%)
	<b>40 – 50 years</b>	1764 (28%)
	<b>&gt; 50 years</b>	1008 (16%)
<b>BMI (kg/m<sup>2</sup>)</b>	<b>Mean ±SD</b>	26.47 ± 3.54
<b>BMI categories</b>		
	<b>Underweight</b>	953 (15.1%)
	<b>Normal weight</b>	2572 (40.8%)
	<b>Overweight</b>	2117 (33.6%)
	<b>Obese</b>	658 (10.4%)
<b>Education level</b>		
	<b>Illiterate</b>	245 (3.9%)
	<b>Primary</b>	806 (12.8%)
	<b>Secondary</b>	1922 (30.5%)
	<b>University</b>	2621 (40.6%)
	<b>Postgraduate</b>	706 (11.2%)
<b>Marital status</b>		
	<b>Married</b>	4876 (77.4%)
	<b>Single</b>	573 (9.1%)
	<b>Divorced</b>	460 (7.3%)
	<b>Widow</b>	391 (6.2%)
<b>Employment</b>		
	<b>Housewife</b>	3802 (60.3%)
	<b>Employed</b>	2498 (39.7%)
<b>Residence</b>		
	<b>Rural</b>	3564 (56.6%)
	<b>Urban</b>	2736 (43.4%)

**Table (2): Clinical characteristics between the studied subjects**

	<b>Studied subjects.</b> (n=6300)	
	<b>N</b>	<b>%</b>
<b>Parity</b>		
<b>Nullipara</b>	775	12.3%
<b>1</b>	781	12.4%
<b>2</b>	1147	18.2%
<b>3</b>	1297	20.6%
<b>≥ 4</b>	2300	36.5%
<b>Previous miscarriages</b>		
<b>0</b>	4234	67.2%
<b>1</b>	1103	17.5%
<b>2</b>	598	9.5%
<b>≥ 3</b>	365	5.8%

**Table (3): Knowledge about cancer cervix and its risk factors of the studied subjects**

	Studied subjects. (n=6300)	
	N	%
<b>Know about cancer cervix</b>		
Yes	5241	83.2%
No	1059	16.8%
<b>Source of information about cancer cervix</b>		
Mass media	827	13.1%
Doctors or nurse	1784	28.3%
Family or friends	1123	17.8%
School or university	471	7.5%
Other	1036	16.4%
<b>Know about the risk factors that can lead to cervical cancer</b>		
Early marriage (<18 years)	447	7.1%
History of sexually transmitted disease	1472	23.4%
Smoking	741	11.8%
Multiple partners	611	9.7%
HPV infection	712	11.3%
Poor menstrual hygiene	504	8%
Prolonged use of contraceptive (>5 years)	945	15%
Multiple pregnancy	340	5.4%
Alcohol or substances abuse	297	4.7%
<b>Know about incidence of cervical cancer</b>		
Common	419	6.7%
Less common	2411	38.3%
Rare	602	9.6%

**Table (4): Knowledge of cancer cervix screening and treatment of the studied subjects**

	Studied subjects. (n=6300)	
	N	%
<b>Know about prevention of cancer cervix</b>		
Prevention of chronic infection	2016	32%
HP vaccine use	510	8.1%
Avoid multiple sexual partners	1600	25.4%
<b>Know about symptoms of cancer cervix</b>		
With no symptoms	1701	27%
Heaviness in lower abdomen	851	13.5%
Foul smelling vaginal discharge	1147	18.2%
Weight loss	1380	21.9%
Bleeding in between periods	1040	16.5%
Abdominal pain after intercourse	403	6.4%
Bleeding after intercourse	951	15.1%
Vaginal bleeding after menopause	460	7.3%
<b>Know about tests and treatments</b>		
Knowledge of treatment of cancer cervix	1783	28.3%
Knowledge of cancer cervix screening	1455	23.1%
<b>Know about precancerous lesion of cancer cervix</b>		
Know about precancerous lesion	195	3.1%
Heard about Pap smear test or VIA	4309	68.4%

**Table (5): Attitude about cancer cervix of the studied subjects**

	Studied subjects. (n=6300)	
	N	%
<b>Attitude regarding screening</b>		
<b>Will you advise another woman to do VIA</b>	4213	66.9%
<b>Do you ever recommend a VIA for all women</b>	3024	48%
<b>Willingness of nearest female neighbors to get VIA</b>	2587	41.1%
<b>Willing to undergo a VIA test in future</b>	3358	53.3%
<b>After knowing the risk, Will you plan to do VIA?</b>	3194	50.7%
<b>Do you think you have any risk of cancer cervix?</b>	1769	28.1%
<b>Do you know that Pap smear can predict another disease than cancer cervix?</b>	1013	16.1%

**Table (6): Practice regarding cancer cervix of the studied subjects**

	Studied subjects. (n=6300)	
	N	%
<b>Practice regarding screening of cancer cervix</b>		
<b>Do you ever receive HPV vaccine</b>	321	5.1%
<b>Have you participated in an awareness program regarding Cancer cervix and VIA test?</b>	227	3.6%
<b>Have you ever had a VIA test or Pap smear?</b>	851	13.5%
<b>Do you wish screening program being a national program</b>	3956	62.8%
<b>if you know that screening program is costly, are you wish the program being national regardless high cost</b>	5500	87.3%

## Discussion

Cervical cancer is a cancer of uterine cervix. It is the second most common cancer in women worldwide and the leading cause of cancer deaths in developing countries. It is almost always associated with human papilloma virus (HPV) infection. In addition to this infection, factors including multiparity, smoking, prolonged use of oral contraceptives, low socioeconomic status, sexual transmitted infections, 1st sexual intercourse at younger age, low immune status and factors related to poverty are associated with cervical cancer <sup>(9)</sup>.

Despite sufficient evidence supporting the use of screening as an effective intervention, there are still few large-scale screening programs being implemented in Egypt. Knowledge about disease and early screening is the most effective measure for Cervical Cancer prevention. Lack of awareness, negative attitude, and poor practice

about Cervical Cancer and screening and preventive methods are the major causes to increase the incidence of disease.

The main aim of this study was to assess knowledge, attitude & practices about screening of cancer cervix among women in Minia governorate.

This descriptive cross-sectional study was conducted on 6300 women attending the outpatient clinics of Minia Maternity University Hospital.

Regarding the sociodemographic characteristics between the studied subjects, it was found that the mean age was  $32.56 \pm 8.39$  years and 31% of subjects aged between 30 – 40 years, with mean BMI of  $26.47 \pm 3.54$  kg/m<sup>2</sup>. We also found that the majority of the subjects were  $\geq 4$  parity while 67.2% of them had no history of previous miscarriages. As well, we found that the most common education level was university

(40.6%) while 77.4% of the subjects were married, 60.3% were housewife, and 39.7% were employed or working. Moreover, 56.6% were rural.

Regrading income; the majority were enough (43%), and regarding socio-economic level the majority were middle (44.6%). Moreover, the most common education level of the husband was university (50.1%).

Delam et al., <sup>(10)</sup> reported that the most important risk factors for cervical cancer included human papillomavirus, viral, fungal and bacterial infections, sexual behavior, smoking, pregnancy and childbirth, and other factors (family history and menopause earlier than 45 years). Also, Hajian-Tilaki and Kaveh-Ahangar <sup>(11)</sup> have stated that late age at the 1st birth and abortion were the most important reproductive factors associated with cancer risk; Consequently, the author proposed early cervical cancer screening tests for women with such risk factors. Moreover, Torres-Mejía and Angeles-Llerenas <sup>(12)</sup> documented that early age at menarche, late age at first pregnancy, and late age at menopause have been associated with an increased risk of cancer.

As the results of the current study revealed that over 44% hence, it was very important to implement an educational program for these women to minimize the risk of incidence for them.

In line with the current study Zagloul et al., <sup>(13)</sup> revealed that, the factors of educational level would certainly have an impact on the knowledge, attitude, and practices of these women regarding cervical cancer. This finding is in accordance with, Arshad et al., <sup>(14)</sup> who has stated that; consideration of women's educational status is an important factor in planning educational programs to improve knowledge on cervical cancer screening and prevention. Furthermore, Weng et al., <sup>(15)</sup> revealed that women's knowledge of cervical cancer was generally inadequate and was persistently associated with education, family income and family cancer history. Self-paying screening

willingness was largely influenced by family income.

Regarding knowledge about cancer cervix of the studied subjects, the current study showed that there were 83.2% of the subjects had knowledge about cancer cervix, and the common source of information was doctors or nurse (28.3%). In line with the current study Tilahun et al., <sup>(16)</sup> showed that more than half, 54.4%, of participants had heard about cervical cancer and its risk factors. The sources of information about cervical cancer were mass-medias such as television and radio (36%), brochures and posters (12.4%), health workers (7.3%) and teachers (0.7%). Also, Mohamed et al., <sup>(17)</sup> showed that half of the respondents (50.0%, 155/310) in this study heard about cervical cancer. However, the review by Taneja et al., <sup>(18)</sup> found that only 40.22% of population had heard about Cervical Cancer.

Regarding the knowledge of cancer cervix risks, it was found that the most known risk factor was STD (23.4%) while the incidence "knows about incidence of cervical cancer" that it was the less common (38.3%). This was supported by Tilahun et al., <sup>(16)</sup> who showed that 37.9%, 49.5% and 12.5% of study participants believed that having many sexual partners, early initiation of sexual intercourse and human papilloma virus respectively were the major risk factors for cervical cancer. When asked about methods to prevent cervical cancer, they reported avoidance of multiple sexual partner (54.8%), prevention of infection with HPV (24.5%) and use of condom during sexual intercourse (20.7%). Only 6.3% of the participants reported that cervical cancer can cause death.

As regard knowledge of cancer cervix screening and treatment, we found that the most known prevention method was prevention of chronic infection while the most known symptom was weight loss (21.9%) followed by foul smelling vaginal discharge (18.2%). Comparable with the current study Taneja et al., <sup>(18)</sup> revealed that 38% knew bleeding per vaginum, 30.75%

knew intermenstrual bleeding, 29.72% knew loss of weight, and 28.87% knew foul smelling discharge as common symptoms of Cervical Cancer. Mohamed et al.,<sup>(17)</sup> revealed that the most reported symptoms in this study were: abnormal vaginal bleeding between periods (35.8%, 111/310) and malodorous vaginal discharge (28.1%, 87/310). Similarly, a study done by Singh et al.,<sup>(19)</sup> reported that 79% females knew vaginal bleeding between menses as symptom of Cervical Cancer and 66% knew symptom as foul-smelling vaginal discharge. Moreover, 28.3% of the subjects had knowing of treatment of cancer cervix and 23.1% of the subjects had knowing of screening of cancer cervix. Meanwhile, 68.4% heard about Pap smear test or VIA.

In line with the current study Tilahun et al.,<sup>(16)</sup> showed that only 35.8% of participants knew about screening procedures like Pap smear (61.1%) and visual inspection with application of acetic acid (38.8%). Sources of information on screening procedures were mass-medias like TV and radio (96.1%), reading different books (3.5%) and teachers (0.34%). Also, Mohamed et al.,<sup>(17)</sup> showed that 27.7% (86/310) of women heard about Pap smear/VIA.

Attitude plays an important role in formulating health seeking behavior. Even in the absence of clinical features, perceived risks may encourage women to go for cervical cancer screening<sup>(20)</sup>. Regarding attitude about cancer cervix of the studied subjects, the current study showed that 66.9% of the subjects will advise another woman to do VIA, 48% recommend a VIA for all women, 41.1% were Willingness of nearest female neighbors to get VIA, 53.3% will undergo a VIA test in future, 50.7% will plan to do VIA however, knowing the risk. 28.1% thing they have risk of cancer cervix, and 16.1% knew that Pap smear can predict another disease than cancer cervix.

The study by Tilahun et al.,<sup>(16)</sup> showed that less than half of the study participants (44.1%) had a positive attitude towards cervical cancer screening. Only 10.6% and 16% of the participants agreed on the importance of a national screening program

for precancerous lesions and HPV vaccination to prevent cervical cancer respectively. Year of study and age of participants were significantly associated with positive attitude. The difference in attitude between different studies may be attributed to the difference in sample size, educational level, total knowledge and inclusion criteria as well as socioenvironmental factors.

Regarding practice regarding cancer cervix of the studied subjects, it was found that 5.1% of the subjects receive HPV vaccine, 3.6% had participated in an awareness program regarding Cancer cervix and VIA test, 13.5% had a VIA test or Pap smear, 62.8% wish that screening program being a national program, and 87.3% wish that the program being national regardless high cost if that screening program is costly. The previous findings reflected their poor awareness about cervical cancer and Pap smear/VIA.

Comparable with the current study, Mohamed et al.,<sup>(17)</sup> revealed that only 2.3% (7/310) of the respondents had ever undergone screening tests for cervical cancer (Pap smear/VIA). Also, only 2.3% (7/310) of them have ever received vaccine for human Papilloma virus. The mean total practice score was 0.09 ( $\pm$  0.41 SD). All of the respondents had poor practice (100.0%, 310/310). Furthermore, A multiple linear regression was calculated to predict practice score based on: educational level, contraceptives' usage and knowledge score.

In the review by Taneja et al.,<sup>(18)</sup> observed that 20.14% participants had knowledge of HPV vaccination and 35.68% practiced HPV vaccination. Similarly in a study by Narayana et al.,<sup>(21)</sup> participants believed that early screening and HPV vaccination could prevent Cervical Cancer; yet, the majority of the women (86.6%) had never been screened.

#### **Limitations:**

This study was a cross-sectional study and may not show the cause-and-effect relationship.



### Conclusion

In conclusion, knowledge, attitude and practice regarding cervical cancer screening among females were significant to decrease the burden and to prevent the incidence of Cervical Cancer. Effective information, education and communication strategies are required to improve the level of awareness of women on Cervical Cancer.

Thus, different governmental and nongovernmental stakeholders need to give special attention on raising awareness about cervical cancer, its screening and preventive strategies.

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