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Original Research Article

The knowledge, attitude, and action of Northern Iranian women about cervical cancer and screening

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ABSTRACT

Background: Cervical cancer is one of the most prevalent cancers in the world among women which its early diagnosis plays an important role in the prognosis. There are many factors that contribute to the participation in the screening programs, most notably the level of knowledge and attitude of people towards cancer. Understanding the level of these factors in the female population and its association with participation in screening programs is important. Therefore, the aim of this study was to determine the knowledge, attitude and practice of women in the north of Iran to compare these factors between two groups with different baseline knowledge.

Methods: This cross-sectional study was carried out among female medical clients and healthcare staff in a healthcare center in the north of Iran. All the eligible patients were interviewed and were asked to fill a questionnaire containing the demographic data, knowledge, attitude, and action about cervical cancer and screening. The data were analyzed by SPSS v24.

Results: A total of 283 females entered our study of which 156(55.1%) were clients of the healthcare center and 127(44.9%) were non-physician healthcare staff. Ninety (60.8%) of clients and 39(56.5%) of the staff have performed pap smear at least once ($p=0.556$). The levels of knowledge and attitude were significantly lower in the clients ($p < 0.001$ and $p=0.003$, respectively). There were no significant differences regarding the level of knowledge and attitude between those who performed pap smear and those who did not (0.621 and 0.788, respectively).

Conclusions: Increasing awareness, especially improving attitudes in the female population, should be the focus of the health care system to encourage more women to participate in screening programs.

Keywords: Attitude, Community participation, Diagnostic screening programs, Knowledge, Uterine cervical neoplasms

INTRODUCTION

In both developed and developing countries, cancer has become a major problem in terms of public health and chronic disease management.¹ It causes a heavy economic and social burden to the health system.²

Cervical cancer is one of the most prevalent worldwide cancers among the female population. Although the

frequency of this cancer is decreasing due to the early detection and treatment of dysplasia, there is still a considerable mortality rate.^{3,4} The mortality rate is even higher in developing countries, therefore, the early detection of this cancer is more crucial.^{5,6}

A wide range of incidence and mortality rates have been reported worldwide. In Iran, the incidence of cervical cancer is low while the mortality rate is significant.⁷

Cervical cancer is mostly caused by the human papilloma virus (HPV) which is a sexually transmitted virus.⁸ HPV is the most common viral infection of the female genitalia.⁹ It is reported that a large proportion of the sexually active individuals at some points will be infected with HPV. The reinfection rate is also high.¹⁰

There are two common modalities for cervical cancer screening including Pap smear test and human papilloma virus (HPV) test.¹¹ Pap smear is usually used to discover the early stages of precancerous and cancerous lesions which can lead to an effective treatment while the HPV test can detect the infections caused by different HPV sub-types leading to cancer.^{11,12}

There are several guidelines introduced for the screening modalities, but in practice to execute the screening plan, it is more important to inform the female population about the risk factors, presentations, and to adjust their attitude to encourage them to follow the screening test.¹³ Lack of knowledge about the disease and risk factors and wrong beliefs about cervical cancer can affect the populations' decision to participate in the screening programs.¹⁴

The community level of knowledge, attitude, and practice about the different aspects of cervical cancer are indispensable.¹⁵ The knowledge and attitude about the disease are influenced by many factors such as socio-demographic factors, media and the accessibility of health care services.¹⁶ However, we must recognize the fact that the screening behavior of each individual is a twisted result of many factors at different levels.¹⁷

Although there are several reports about cervical cancer screening in Iran, due to the geographical variation of the incidence/mortality of this disease, to conduct various studies from different regions of Iran leads to a more comprehensive report about the cervical cancer screening.¹⁸⁻²¹ Furthermore, there are still no reports about the level of knowledge, attitude, and action of cervical cancer screening tests in the north of Iran.^{22,23}

The goal of this study was to measure the level of knowledge, attitude, and the action of women about cervical cancer and screening in a healthcare center in the north of Iran and to compare these factors between two groups of women with different baseline knowledge (women who are clients of the healthcare center and female non-physician healthcare staff).

METHODS

This cross-sectional study was carried out to compare the level of knowledge, attitude, and the action of women who attended the healthcare center for any reason and female non-physician healthcare staff from January 2018 to January of 2019. Since this center is a major outpatient primary care unit, women mostly attend for either their children's vaccination or their routine check-ups and

well-being concerns. Also, the healthcare staff group consists of midwives, female medical students who spend their primary care clinical rotation and other female staff who worked in this center.

This study was approved by the ethical committee of Mazandaran University of Medical Sciences (Code: IR.MAZUMS.REC.1398.H109) and was conducted according to the declaration of Helsinki. Before enrolment, the questionnaire and aim of our study were completely explained to the participants by one of the authors and written informed consent was obtained from all the study population (or their legal representatives in case of being illiterate) who met the inclusion criteria.

Women whose ages ranged from 18 to 60 years old were qualified to enter the study. However, women with a history of cervical cancer or any related diseases and patients who did not want to participate in the study were excluded.

The sample size was calculated using the standard single population formula, $n = (z\alpha/2)^2 p(1-p)/d^2$, n = sample size, z = standard normal deviate set at 1.96 (for 95% confidence level), d = desired degree of accuracy (0.05), and p = proportion of cervical cancer screening practice = 18.4% from previous study.²⁴ The sample size became 230. Allowing a 10% nonresponse rate the sample size comes around 253. A simple randomization technique was used to select the participants.

All eligible patients were interviewed and were asked to fill a structured self-administered questionnaire that was adopted from previous study and was modified according to the aim of our study.^{25,26} Data collection was performed by one of the authors under the full supervision of the investigator.

The questionnaire contains four sections to gather information regarding the socio-demographic data, the knowledge about cervical cancer and screening, the attitude and the action of our study population towards cervical cancer and pap smear test.

There were 21 questions to determine the level of the knowledge and also 8 questions to determine the level of the attitude towards cervical cancer and screening and one question to determine the action of the participants. Each question was scored as 0 or 1 (false or true, respectively for knowledge, disagree or agree, respectively for attitude and yes or no, respectively for action). Every participant was given a score of 0-21 for the level of knowledge and a score of 0-8 for the level of attitude. We compared the mean score of each group and also whether the level of knowledge or attitude affects their action in participating in the screening programs.

The section regarding knowledge consists of the following questions about cervical cancer. Can cause mortality, is preventable, is diagnosable (General

knowledge); socioeconomic status, familial history, smoking history, older age, sexual activity in a younger age, having multiple partners, parity, OCP use, IUD use, HPV infection, other vaginal infections (risk factors); and pain, vaginal bleeding, vaginal discharge, postcoital spotting, menstrual disturbance, weight loss, symptom free (symptoms).

To evaluate the attitude, the items designed for the questionnaire were contained of whether the participants have a positive or negative attitude towards the probability of having cervical cancer; the damage caused by cervical cancer to the body; whether they fear from cervical cancer; the effect of cervical cancer to their personal life; the effect of cervical cancer on marital relationship; the prevention of cervical cancer by condom; the value of diagnosis by pap smear; and the value of HPV infection diagnosis. The barriers for not performing the test and the main sources of information were also asked from each participant.

Statistical analysis

The statistical analysis was performed using the SPSS statistical package version 24. The qualitative variable analysis was presented with numbers and percentages, and the quantitative variables were revealed with mean and standard deviations. The association between the qualitative variables was evaluated by the Chi-Square test. The relation between the quantitative variables was analyzed by one-way ANOVA. P-value < 0.05 was considered statistically significant.

RESULTS

Of 290 questionnaires which gathered for this study, 3 of the healthcare staff's group (medical students who finished their rotation) and 4 of the clients' group were filled in-completely and the participants did not return to complete the questionnaire during the data gathering

phase of our study. As a result, a total of 283 females enrolled in this study of which 156 (55.1%) were clients of the healthcare center and 127 (44.9%) were non-physician healthcare staff. The personal and socio-demographic characteristics of the participants are shown in Table 1. Also, according to the results of our study, newspapers, and magazines were the major source of information about cervical cancer in both groups (43.8% of all the participants).

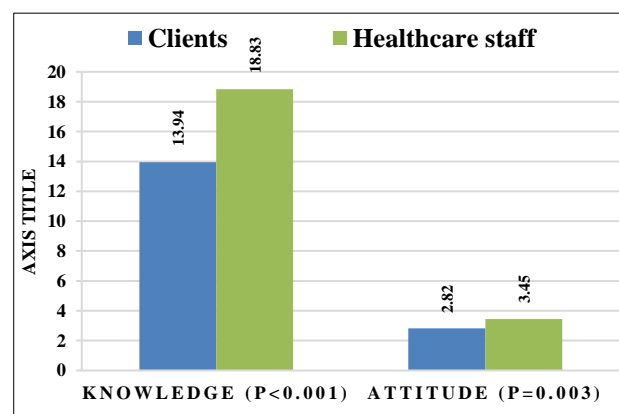


Figure 1: The knowledge and attitude score.

Figure 1 demonstrates the mean score of knowledge and attitude in the studied groups. The mean score of knowledge was significantly different between both groups (P < 0.001).

Furthermore, the results of our study revealed that the mean score of attitudes was significantly higher in healthcare staff, compared to the clients (P = 0.003).

Based on the questionnaire of our study, all the females with the marital status of "single" did not have any sexual activity. So, to analyze the data concerning the action towards cervical cancer screening (Pap smear), we did not include any of the 66 single participants.

Table 1: Personal characteristics.

Variables	Clients (156)	Staff (127)	Total (283)	p-value	
Age, mean (SD)	31.97	30.24	31.19	0.034	
Marriage, n (%)	Single	8 (5.1)	58 (45.7)	66 (23.3)	< 0.001
	Married	144 (92.3)	68 (53.5)	212 (74.9)	
	Divorced	3 (1.9)	1 (0.8)	4 (1.4)	
	Widow	1 (0.6)	0 (0)	1 (0.4)	
Education, n (%)	Illiterate	8 (5.1)	0 (0)	8 (2.8)	< 0.001
	Highschool	64 (41)	8 (6.3)	72 (25.4)	
	Higher education	84 (53.8)	119 (93.7)	203 (71.7)	
Source of information	Radio/TV	8 (5.1)	9 (7.1)	17 (6)	< 0.001
	Paper/magazine	80 (51.3)	44 (34.7)	124 (43.8)	
	Physician	26 (16.7)	34 (26.8)	60 (21.2)	
	Other	42 (26.9)	40 (31.5)	82 (29)	

Table 2: Action towards pap smear divided by groups.

Variable		Clients (148)	Staff (69)	Total (217)	p-value
Action, n (%)	Performed	90 (60.8)	39 (56.5)	129 (59.4)	0.556
	Did not perform	58 (39.2)	30 (43.5)	88 (40.6)	

Table 3: Knowledge mean score and action.

Groups, mean (SD)	Action		p-value
	Performed	Did not perform	
Clients	14.32 (5.09)	13.66 (4.72)	0.425
Staff	18.28 (3.39)	18.13 (3.71)	0.863
Total	15.52 (4.98)	15.18 (4.87)	0.621

Table 4: Attitude mean score and action.

Groups, mean (SD)	Action		p-value
	Performed	Did not perform	
Clients	2.79 (1.73)	2.97 (1.85)	0.545
Staff	3.18 (1.83)	2.60 (1.92)	0.207
Total	2.90 (1.71)	2.84 (1.87)	0.788

Table 5: Barriers for not doing the pap smear.

Variables, n (%)	Clients (58)	Staff (30)	Total (88)
No symptoms	2 (3.4)	0 (0)	2 (2.3)
Not important	6 (10.3)	4 (13.3)	10 (11.4)
No access	1 (1.7)	3 (10)	4 (4.5)
Scares me	17 (29.3)	8 (26.7)	25 (28.4)
Time consuming	8 (13.8)	4 (13.3)	12 (13.6)
Fear of diagnosis	24 (41.4)	11 (36.7)	35 (39.8)

After the mentioned adjustment, the results of our study showed that 90 (60.8%) of clients, 39 (56.5%) healthcare staff and a total of 129 (59.4%) participants performed pap smear at least once (Table 2). According to the table, there are no significant differences regarding performing pap smear test between two groups ($P = 0.556$).

The association between the mean score of knowledge in each group and whether they performed pap smear is shown in Table 3. According to the table, there is no statistically significant difference between the mean score of knowledge and the action of the participants ($P = 0.621$).

Table 4 summarizes the mean score of attitudes in each group divided by the action of the participants. It reveals that there is no significant association between the mean score of attitudes and the action of the participants ($P = 0.788$).

Since a total of 88 (40.6%) participants who were eligible to perform the test, did not participate in the screening program, we asked about the barriers and summarized their answers in Table 5. The most frequent answer

among clients and healthcare staff was “fear of cancer diagnosis” (41.4% and 36.7%, respectively).

DISCUSSION

The findings show that out of a maximum of 21 possible points, the mean score of knowledge for clients and healthcare staff was 13.94 and 18.83, respectively. The results of our study are in line with the outcomes of two studies in Africa by Ogbonna et al and Hoque et al which emphasizes the importance of more cancer-awareness programs for the population especially the non-healthcare women.^{27,28}

The results of our study showed that out of a maximum of 8 points, the mean score for attitude for both groups were relatively low (2.82 and 3.45 for clients and healthcare staff, respectively). However, healthcare staff has a significantly more positive attitude towards cervical cancer compared to the clients. However, Bahri et al, showed that most women had a positive attitude about the pap smear test.²⁹ This indicates that, although healthcare staff has a higher level of attitude compared to the clients,

both groups have a rather negative attitude towards cervical cancer and screening.

According to our findings, 59.4% of our eligible (non-virgin) females have participated in the screening program at least once. Only 60.8% of clients and 56.5% of the healthcare staff performed the test. This shows a lack of participation in a large proportion of our population. However, these percentages were significantly higher than other studies conducted in other parts of Iran.³⁰⁻³²

Additionally, our findings revealed that there were no significant differences in the mean score of knowledge between those who have performed the screening test and those who have not. This shows that having enough knowledge about cervical cancer cannot motivate the population to join the screening tests. This result was completely different from the studies in Africa in which more awareness can motivate females to perform and participate in the screening tests.^{27,28} Also, Hadji et al, and Tehrani R et al, showed that there is a direct association between the higher level of knowledge and participation in the screening tests.^{23,33} The different socioeconomic situations and the different methods of awareness between Iran and Africa can cause this discrepancy of results.

In our study, there was no association between the level of attitude and whether the participants performed the pap smear test or not. This is inconsistent with the results of the study conducted by Islam et al.³⁴ Nevertheless, since the level of attitude was relatively low in both groups, attitude adjustment in the community may cause more females to participate in the screening programs.

Based on our study, the most common barrier for not participating in the screening programs in both groups was “fear of cancer diagnosis” (39.8%). These findings are in line with the study done by Ezem et al, and Amarian et al, that described the most common reason given for not doing the Pap smear was “fear of having cancer”. On the other hand, the perception of people is always affected by cultural beliefs as can be applied by the studies done by Anorlu et al, and Nwankwo et al.³⁵⁻³⁸

Our study showed that newspapers and magazines are the most used sources of information about cervical cancer among the participants of both groups. However, Tran et al and Thorburn et al, indicated that healthcare providers and the internet are the most frequently used sources of information about cervical cancer.^{39,40}

One of the limitations of our study was that the results could not be generalized to the entire population of northern Iran, because our sample was obtained from a major primary health care center that provides free health care services. There are private practices that were not included in our study. The other one is the overestimation or underestimation of the respondents' answers to the

questionnaire. We tried to limit these biases by providing adequate information about the goal and confidentiality of our study. However, this study provided important baseline information for healthcare policymakers for future planning of cervical cancer prevention and screening programs in the north of Iran.

CONCLUSION

This study showed that although in the north of Iran there was no association between the level of knowledge or attitude and the participation in the cervical cancer screening test, raising awareness about risk factors and symptoms and adjusting the attitude towards the screening tests specially in the healthcare personnel and medical students should be considered to encourage more women to participate in the screening tests.

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