Knowledge and awareness among Iranian women regarding the pap smear

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Abstract

Background: Screening is a necessity for country health systems. In undeveloped countries that have no screening programs, cervical carcinoma is one of the major causes of mortality and morbidity. Although cervical cancer is preventable it is poorly controlled in some countries. The main cause of it is unawareness of people from cervical cancer and screening methods.

Methods: The target population consisted of a consecutive sample of 1002 female patients, 15-45 years old, visiting the city health care centers in Tehran for any reason between January 2006 and January 2007. We used a self-administered, written, anonymous, multiple choice questionnaire that was developed by the study authors. Statistical significance was defined as P<0.05.

Results: The mean of age was 31.23 ± 4.3 years. Five-hundred and twenty-two cases (52.1%) had knowledge about Pap smear test. Only 230 cases (44.1%) knew the correct time of the first Pap smear that should be done in women. And 408 cases (77.9%) knew Pap smear can detect cancer of the cervix. 364 cases (71.9%) had heard about cervical cancer, 314 cases (59.9%) had heard something about symptoms of cervical cancer.

Conclusion: It is obvious that in Iran (and especially in Tehran), Pap smear awareness (52.1%) is statistically similar to other developing countries, and only 45.9% had had at least one Pap smear test till the time of the interview. Thus, there is a need for an awareness campaign to increase the uptake of Pap smear testing.

Keywords: knowledge, pap smear, cervical carcinoma

Introduction

Cervical cancer is the second most prevalent cancer among women worldwide with an estimated 493,000 new cases and 274,000 deaths in 2002 [1]. Eighty percent of these cases and deaths occur in developing countries [2]. However, the prevalence of cervical cancer in Iran seems to be much lower than in other developing countries [3]. Compared with other types of cancer, cervical cancer is one of the most treatable if detected early [4]. The 5-year survival rate is 66% if the cancer is diagnosed at a regional stage, but increases to 96% if diagnosed at an early stage[5]. Human papillomavirus (HPV) is the etiologic agent of virtually all cases of cervical cancer worldwide and is responsible for a high proportion of preinvasive cervical disease as well as genital warts and other non-

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F. Javanmanesh et al.

genital cancers [6]. Cervical cancer has been preventable since the introduction of the Pap smear in 1941. In developed countries, Pap smear programs have reduced cervical cancer deaths by 70% [7]. It is estimated that worldwide 291 million women harbor HPV-DNA and that among asymptomatic women the prevalence ranges from 2% to 44%. In addition, screening services have been shown to be extremely cost-effective when compared with services that treat cases of invasive disease [8].

The objective of this project was to evaluate the level of knowledge of cytology screening among women who attend health care provider facilities in Tehran.

Methods

The goal of the present study was to assess of knowledge and attitude of Iranian women toward Pap smear. The target population consisted of a consecutive sample of 1002 female patients, 15-45 years old, visiting the city health care centers in Tehran for any reason between January 2006 and January 2007. Data of this study was gathered by multi-stage random sampling. Three medical universities (Tehran, Shahid Beheshti and Iran) manage and supervise the health care centers distributed in Tehran city. So questionnaires were distributed in health care centers according to the number of people under coverage of each university. Three health care centers were randomly selected for each university. The questionnaires were completed consecutively by females. Totally 1002 females completed the questionnaires. The number of people according to universities were as below: Shahid Beheshti 502 (50%), Iran 330 (32.9%), Tehran 170 (16.9%). In this descriptive study, we used a self-administered, written, anonymous, multiple choice, single-best answer questionnaire that was developed by the study authors. Patients were informed of the nature, content, and purpose of the study and were asked to give their verbal consent to participate. The protocol of this study was re-viewed and approved by the Iran University of Medical Sciences Research Committee. We created a draft questionnaire and pilot tested it in October 2005 on a convenience sample of fifty females. We revised the survey based upon their comments and our observations, e.g., poorly worded questions were rewritten, terms of confusion clarified, typographical errors corrected, etc. Statistical analyses have been conducted by SPSS statistical software version 14.0 using analyzing tests e.g. frequency, chi-square and t-test. Statistical significance was defined as $P<0.05$. Logistic regression has been employed for analyzing the predict awareness of pap smear.

Results

The mean age of the interviewed population was 31.2 ± 4.3 years with mean parity of 2.06 ± 1.8 (0-12). Over half of the women (51.5%) were 29-49 years old and 67% were either married or living with a partner. Regarding the level of education, 15.6% were illiterate, 65.4% had diploma or lower education degree and 19% had a university degree. Most of the women (74.8%) were not employed. The majority of the women (61%) reported a low income (household income < 200$/month according to average economic level of Iranian salary). The sources of knowledge about the pap smear test were as follows: physicians, obstetricians, and health care workers (61%), family and friends (13.5%), books and magazines (13.1%), and TV and radio (12.4%). The responses to the time of undergoing Pap smear test were as below:

With beginning of sexual activity 230 (44.1%), after first delivery 136 (26.1%), after menopause 12 (2.3%), and not known 144 (27.6%). The responses to time period between two Pap smears were as below:

One time is enough 16 (3.1%), undergoing pap smear annually 356 (67.9%), every 3-5 years 66 (12.6%), and not known 86 (16.4%). 364 (71.9%) of them declared that they knew

	Having knowledge about pap smear test		P values
Parameters	Yes	No	
Age	30.4 ± 7.4	32.1 ± 9.3	N.S*
Parity	1.67 ± 1.4	2.5 ± 2.2	0.011
Education level	3.8 ± 1	2.7 ± 1.3	0.001
Employment	72.4%	27.6%	0.001
Income	1.7 ± .57	1.4±.52	0.035

* N.S: Not significant

Table 1. Parameters according to the knowledge about pap smear test.

something about cervical cancer; and 314 (59.9%) knew something about cervical cancer symptoms. The responses to the risk factors of cervical cancer were as follows:

Sexual activity from low ages 184 (35.4%), multiple sex partners 20 (61.3%), smoking 204 (39.8%), positive family history of cervical cancer 328 (62.8%), multiparty 150 (28.6%), low socioeconomic state 170 (32.6%), genital warts 222 (42.7%). The responses to the harms of pap smear test were as follows:

Pap smear test somehow harms, 32 (6.1%), it has no harm, 424 (80.9%), no idea about the harms of pap smear test 68 (13%). The results in the part of questionnaire regarding attitude of subjects toward pap smear test have been cited here. They have shown their agreement with below items:

Pap smear test can diagnose cervical cancer 408 (77.9%), it can prevent cervical cancer 286 (54.8%), it can prevent other kinds of genital cancers 174 (33.5%), it can help diagnose and treat sexually transmitted diseases 216 (41.5%), it can help to treat infertility 116 (22.3%).The responses to agreement with undergoing Pap smear test at the right time and regularly were as follows:

Agreement 482 (91.6%), disagreement 4 (0.8%), no idea about 40 (7.8%). The responses to the etiologies of having not undergone Pap smear test in proper time were as follows:

Not proposed by medical care system 130 (25.3%), dread and shyness 182 (35.5%), religious and cultural limitations 32 (6.2%), being apparently healthy 186 (36.3%), No information about the location of doing the test 32 (6.25), no information about the advantages of pap smear test 116 (22.7%), not confident to

	Having knowledge about cervical cancer		P values
Parameters	Yes	No	
Age	30.3 ± 7.6	30.6 ± 7.05	N.S.*
Parity	1.57±1.4	1.9±1.5	.011
Education level	4.02±.95	3.3±1.11	.000
Employment	82.7%	17.3%	.000
Income	1.7±.56	1.6±.59	.035

* N.S.: Not significant

Table 2. Parameters according to the knowledge about cervical cancer.

health care services 54 (10.6%), busy and not having enough time to undergo pap smear test 116 (22.7%), limitations of service hours in health care services 66 (12.8%). The responses to adverse consequences of undergoing pap smear test very late were as follows:

Adverse consequences considered 352 (66.9%), no adverse consequences considered 62 (11.8%), no idea about it 112 (21.3%). Demographic data according to the knowledge about Pap smear test and cervical cancer have been shown respectively in Table 1 and Table 2. As shown, education level score, frequency of occupation and income score is significantly higher in subjects who had some information about pap smear test and cervical cancer; but the mean of parity is significantly higher in subjects without any information about pap smear test and cervical cancer. In logistic regression multivariable analysis, higher education score independently and significantly predicted awareness of pap smear test and cervical cancer among studied females (r² = 0.45).

Discussion

The average age of the individuals was (31.23±4.3), indicating a young population, which could be a probable cause of the small percentage (45.9%) of the people who had at least one Pap smear test. The average number of childbirths is low (2.06±1.8) and it correlates to the low mean age. Other probable causes of the small number of childbirth include highly educated population (19% college and 34.4% high school students) and employed individuals (23.2%).

44.7% of them had less than 100$ per month, 48.7% had 100-500$ per month and 3.8% had more than 500$ per month. 52.1 % of the population had knowledge about the pap smear test, and it was 63.6% in a similar study performed by Lartey and colleagues in South Africa in 2003 [9], and that was 73.1 % in another study performed by Seow and colleagues in Singa-

pore in 1995 [10]. In a study performed by Rymer in England [11], 80.5% of the women had experienced at least one Pap smear test during their lifetime. It is noticeable that awareness about the smear test in Tehran is approximately similar to those in Singapore and South Africa, while the awareness level is remarkably higher in England. In the population under study, the current sources of knowledge about the smear test were physicians, obstetricians, and health care workers (61%), family and friends (13.5%), books and magazines (13.1%), and TV and radio (12.4%). While the study in Singapore in 1995 had 49.7% of the knowledge source originating from physicians and nurses. This could be because of further referral to physicians and health centers in our population compared to the Singapore population. 44.1% of our population had had first time Pap smear test with the beginning of sexual activity but this figure was 33% in the study performed in South Africa in 2003 and it was just 23.5% in another survey. Only 12.6% reported having regular smear tests with 3 to 5 year intervals and 67.9% had regular 1 year periodical smear tests, while in another similar study [11] 71.5%, and in a study performed in Zahedan just 3.57% had regular 3 to 5 year intervals between Pap smear tests. It is noticeable that there is a significant difference between these figures. 71.9% of the individuals had heard about cervical cancer. 35.4% of this group thought early age sexual debut to have the most affect on cervical cancer. 61.3% thought that there is a link between the number of sexual partners and cervical cancer and 39.8% recognized smoking to be a contributing factor while positive family history of cervical cancer, multiple parturitions, low socioeconomic status, and genital warts were chosen by 62.6, 28.6, 32.6, and 42.7 percent respectively as leading causes of cervical cancer. Findings were as follows in another similar study: early age sexual debut (42.1%), multiple sexual partners (40.6%), smoking (29.5%), and positive family history of cervical cancer

(32.5%), genital warts (18.4%), and other causes (2.1%) [9]. Therefore there is a similarity and correlation between both results which is remarkable considering awareness and social condition. 59.9% of the individuals had heard about signs of cervical cancer and 6.1 % declare that the Pap smear test could have complications whereas 80.9% state that it has no complication and 13% were unaware which is highly remarkable. 77.9% of the respondents thought Pap smear test is capable of diagnosing cervical cancer, 54.8% believed that the smear test could prevent cervical cancer, 48.5% had found the smear test as a procedure to aid diagnosing and treating sexually transmitted diseases (STDs), and 22.3% consider the smear test as an effective method to treat infertility. Findings about Pap smear test were as below in another similar study: it is capable of diagnosing cervical cancer(83.8%), could prevent cervical cancer (24%), could diagnose other kinds of cancers (4.4%), could treat STDs (30.7%), could treat infertility (16.1%), other uses of smear test(1.5%) [9]. It's perceivable that both results are almost the same. Chief barriers to regular screening were low perceived susceptibility (36.3%), fear or embarrassment (35.5%), no recommendation from physician or obstetrician (25.3%), unawareness about the advantages of smear test (22.7%), shortage of time (22.5%), health care centers limited hours of admission (12.8%), distrust (10.6%), cultural and religious excuses (6.2%), and unawareness about the location where they could have a smear test (6.2%). The results of a similar study in south Africa was the same: no recommendation from physician (40.4%), low perceived susceptibility (37.8%), fear or embarrassment (32.5%), and cultural and religious excuses (1.3%) were main cause of irregular smear tests [9]. The majority, 66.9%, believed that they were at risk if they don't have regular pap smear tests, but 11.8% denied the presence of this risk while 21.3% were unaware. Thus, 91.6% were compatible to use the smear test regularly

whereas 0.8% was incompatible and 7.8% were unaware. Of those with this knowledge, only 45.9% had had a smear which is considerable regarding informing plans to improve knowledge of the people. Unlike other studies [9], those who were aware of the smear test had lower mean age than those who were unaware and younger age was probably the cause of lower parity which is also against other studies. Regarding education, like other studies [9], the ones who were aware of the pap smear test had higher level of education and they included more employed individuals. As we expected, those who were aware of the smear test had higher income and socioeconomic status and this finding was the same as other similar studies [9]. There were no significant differences between median ages of aware and unaware individuals concerning cervical cancer, but aware individuals had higher parity, higher education level, higher income and the majority were employed. Unfortunately the information above hasn't been studied in other surveys. Those who had heard about signs of cervical cancer had higher mean age than those who had not but this difference wasn't statistically significant. The aware ones had higher parity, higher education level, and the majority were employed while there were no differences concerning income.

Conclusion

It's observable that in Iran (and especially in Tehran), pap smear awareness (52.1%) is statistically similar to other developing countries, and only 45.9% had had at least one smear test till the time of the interview. Thus, there is a need for an awareness campaign to increase the uptake of pap smear testing. It appears that physicians and health care workers have an important role in women's awareness so they should highly cooperate in this program. Our plans should highly concentrate on individuals with lower socioeconomic status, lower education level and inappropriate occupational condition as they constitute the majority of the un-

F. Javanmanesh et al.

aware group. We should use reasonable methods to improve public knowledge and point of view to make pap smear an acceptable and regular screening test so we could diagnose and treat cervical cancer in early stages and put steps ahead to improve public hygiene.

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