# Knowledge of Cervical Cancer: A Cross Sectional Study among Women's in the West of Iran

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**Abstract:** Cervical cancer is the second most common cancer in women. In other hand, Pap smear test is an effective screening method for investigating cervical cell changes before occurrence of invasive cervical cancer. The aim of this study was to determine the status of Pap smear tests and knowledge of cervical cancer in women Kermanshah County. In this cross-sectional study, conducted in Kermanshah County, the west of Iran, a total of 340 women's. Participants selected in random sampling and data were collected by using self-report questionnaire. Data were analyzed by SPSS version 20 using appropriate statistical tests including chi-square, t-test and bivariate correlations at 95% significant level. Almost 39.4 % of volunteers had followed a regular Pap smear program. The mean score of knowledge about cervical cancer was 4.67 (95% CI: 4.45, 4.89) ranged from 0 to 10. There was a significant correlation between undergoing regular Pap smear test and age, family history of cervical cancer, knowledge about cervical cancer and menopause ($p<0.05$). In addition, there was a significant correlation between knowledge about cervical cancer with age and positive family history of cervical cancer ($p<0.05$). Based on our findings, designing and implementing educational program to increase knowledge about cervical cancer may be usefulness of the results in order to promotion Pap smear test among women's.

**Key words:** Cervical cancer, pap smear, knowledge, menopause, promotion

## INTRODUCTION

Cervical cancer is the second most common cancer in women. Sexual activity at a lower age, sex with a high number of sexual partners without condom and smoking are the risk factors for this disease (Aldrich *et al.*, 2005; Jalilian and Emdadi, 2011). Invasive cervical cancer is considered as a preventable cancer due to having a long period before invasion, availability of appropriate screening program and effective treatment of initial lesions. However, unfortunately about half a million women are diagnosed with invasive cervical cancer each year in the world and about 80% of these cases occur in developing countries (Nieminen *et al.*, 1995; Winkler *et al.*, 2008; Siegel *et al.*, 2015). An effective act for prevention of this disease is Pap smear test. Pap smear test is an effective screening method for investigating cervical cell changes before occurrence of invasive

cervical cancer and this test is usually recommended in one-year, two-year or three-year intervals in women ages 20-65 and can reduce the reduce the death rate of cervical cancer as much as 90%. Therefore, all sexually-active women are recommended to undergo Pap smear test as a public health policy. Generally, the aim of this test is finding out whether the disease has begun or not. In terms of cost, cervical cancer imposes high costs on families and the society; these costs include the costs of diagnostic radiological imaging, blood tests, surgeries, radiotherapy, operating room and other medical and health cares. Also, in comparison with the aforementioned costs, the cost of Pap smear test is low and on the other hand, the life expectancy of these patients too is dependent on the stage in which the disease has been diagnosed (Jalalvandi and Khodadostan, 2005). Also, regarding the importance of Pap smear it should be pointed out that the lack of appropriate screening is

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related to 2-6 time increase in the risk of cervical cancer incidence (Nieminen *et al.*, 1995). However, unfortunately a high number of women do not undergo Pap smear screening, the main reason of which are fear of having cervical cancer, the painfulness of this test and shame (Fylan, 1998). Globally, cervical cancer is responsible for about 1.6% of cancer-related deaths in women and 15% of deaths due to reproduction system cancers in women. According to studies factors such as the lack of organized screening programs, lack of knowledge ad incorrect and superstitious beliefs have a role in the low-level use of Pap smear (Vasheghani *et al.*, 2012). The necessity of planning and creating intervening measures to promote Pap smear test with the aim of preventing the incidence of cervical cancer in women is felt. However, the requirement for any planning is knowledge of the existing conditions and the factors impacting the intended behavior and in this regard, experts believe that comprehensive studies are the first steps in designing educational interventions (Jalilian *et al.*, 2015a, b; Ataee *et al.*, 2014; Alavijeh *et al.*, 2015). In other hand, having knowledge or estimation of cancer incidence is necessary for planning and implementation of any cancer prevention and control programs (Jarrahi *et al.*, 2013). Due to the importance of the issue, the present study has been conducted with the aim of exploring Pap smear tests status and knowledge of cervical cancer in women visiting health centers of the city Kermanshah and this study is expected to provide useful results on the appropriate solutions for increase of women's participation in doing Pap smear test and consequently improvement of health in women and the society.

## MATERIALS AND METHODS

The present study is a cross-sectional study that was conducted on 340 married women who visited health care centers for gaining services in the City Kermanshah. For conducting the study, first, different districts of Kermanshah which classified based on the division of the geographical region. Then, two medical centers were selected from each stratum. Afterwards, the samples of women were selected from the women visiting these centers using simple random sampling and the designed questionnaire was distributed among them. It should be pointed out that the subjects of the study were talked to regarding the confidentiality of the information and the aim of the study and all of them entered the study willingly. The married women who were not willing to cooperate in the study or who did not fill out the questionnaire completely were excluded from the study.

This study has been approved by the Institutional Review Board at the Abadan School of medical sciences, Abadan, Iran (IR.ABADANUMS.REC.1395.71). The data information tool was collected from the women in the form of self-reports which included two sections:

**First section:** Demographic and background information: this study was consisted of 10 questions and evaluated the participants' information on age, education level, number of children, number of pregnancies, occupation, menopause, having a family member with cervical cancer, familiarity with Pap smear test, history of undergoing Pap smear screening and regularly doing Pap smear test.

**The study:** Related to knowledge of cervical cancer and its screening methods: this section too was consisted of 10 questions and gave a score between 0 and 10; the higher scores indicated the respondents' higher level of knowledge. The Cronbach's alpha coefficient for knowledge questionnaire was equal to 0.75.

Data were analyzed by SPSS version 20 using appropriate statistical tests including chi-square, t-test and bivariate correlations at 95% significant level.

## RESULTS

The mean age of the participants was 41.91 years with standard deviation of 4.94 years. Regarding the educational status: 7.9% (n = 23) had in primary school, 26.4% (n = 77) secondary school, 55.8% (n = 163) were high school diploma and 9.9% (n = 29) were academic education. Based on the results, 26 of the participants (8.9%) were employed and 266 of the individuals (91.1%) were housewife. Almost, 22 individuals (7.5%) reported that they were in menopause. In addition, 16 individuals (5.5%) had mentioned having a women with cervical cancer in their family. About, 238 individuals (81.5%) reported that they are familiar with Pap smear test. Regarding doing Pap smear test behavior, our findings indicated, only 115 of the participant (39.4%) reported doing Pap smear test regularly. The findings indicted that the main encouraging source for doing Pap smear test in the explored individuals was physicians.

Association between background variable and doing Pap smear test regularly was showed in Table 1. Based on the results, the mean age of women who had done Pap smear test was higher (p = 0.002). Also, a significant statistical relationship was seen between having a family member with cervical cancer and doing Pap smear test regularly (p = 0.013) in a way that a higher number of the

Table 1: Demographic characteristics influencing on doing Pap smear test regularly

| Demographic chriteria | Doing Pap smear test regularly | | |
| --- | --- | --- | --- |
| | Mean (SD)N(%) Yes | Mean (SD) N(%) No | p-value |
| Age | 43.01 (5.38) | 41.19 (4.50) | $t = 3.121$, $p = 0.002$ |
| Knowledge about cervical | 6.08 (1.22) | 3.75 (1.70) | $t = 12.695$, $p<0.001$ |
| Primary school | 6 (26.1) | 17 (73.9) | $\chi^2 = 3.560$, $p = 0.313$ |
| Education level, secondary school | 30 (39) | 47 (61) | |
| Diploma | 64 (39.3) | 99 (60.7) | |
| Academic education | 15 (51.7) | 14 (48.3) | |
| Yes | 7 (31.8) | 15 (68.2) | $\chi^2 = 8.265$, $p = 0.004$ |
| Menopause no | 170 (63) | 100 (37) | |
| Employed | 12 (46.2) | 14 (53.8) | $\chi^2 = 0.548$, $p = 0.459$ |
| Occupation of housewife | 103 (38.7) | 163 (61.3) | |
| Positive family history of cervical cancer (yes) | 11 (68.8) | 5 (31.3) | $\chi^2 = 6.115$, $p = 0.013$ |
| No | 104 (37.7) | 172 (62.3) | |

Table 2: Association between background variable and knowledge of cervical cancer

| Variables | Mean (SD) | p-value |
| --- | --- | --- |
| Primary School | 4.21 (1.95) | $p = 0.242$ |
| Education level, secondary school | 4.74 (2.03) | |
| Diploma | 4.60 (1.86) | |
| Academic education | 5.24 (1.76) | |
| Yes | 5.09 (1.77) | $p = 0.285$ |
| Menopause, no | 4.63 (1.92) | |
| Employed | 5.26 (1.53) | $p = 0.095$ |
| Occupation of housewife | 4.61 (1.93) | |
| Positive family history of cervical cancer, yes | 5.62 (1.31) | $p = 0.040$ |
| No | 4.61 (1.92) | |

women who had a history of cervical cancer in their family reported doing Pap smear test regularly. However, no significant relationship was seen between variables such as occupation, education level and menopause and doing Pap smear test regularly (Table 1).

Our findings indicated, the mean score of knowledge about cervical cancer among the participants was 4.67 with standard deviation of 1.91. Furthermore, the association between background variable and knowledge of cervical cancer was showed in Table 2. Additionally, knowledge about cervical cancer was significantly related to the age ($r = 0.118$ and $p = 0.043$).

## DISCUSSION

The aim of the present study was determining the status of having Pap smear test and knowledge of cervical cancer among women who referred to health centers in Kermanshah County, the west of Iran. Our findings indicated, 39.4% of the participants regularly undergo Pap smear test. Jalalvandi and Khodadostan (2005), in a study conducted on women visiting health centers in the city Arak, reported that 17.7% of the subjects in that study regularly underwent Pap smear test. In addition, Jalilian and Emdadi in their study reported about 28.3% of volunteers had followed a regular Pap smear program in Hamadan County (Jalilian and Emdadi, 2011). These statistics are lower compared with the studies conducted

outside Iran in a way that Yu (1998) reported that the regular doing of Pap smear test in women ages 15-78 years in London was 71.5%. Tung *et al.* (2008) reported that 46.3 % of the Vietnamese-American women regularly undergo Pap smear test. Comparison of the results of the aforementioned studies with those of the present study indicates that the rate of undergoing Pap smear test in Iranian women is significantly lower, compared with the women in other countries. These results can be alarming to the health care system authorities in Iran and the obstacles for having Pap smear test in women should be explored in order to make efforts for eliminating them. Identification of these factors helps health researchers and planners to create appropriate strategies for regularly doing Pap smear test.

Our results showed, 81.5% of the studied women reported that they are familiar with Pap smear and know what it is. The results of the present study in this regard are highly consistent with the results of the other studies. Cheek *et al.* (1999) in their study on Vietnamese-Australian women reported that 87% of the explored women knew this cancer. Barghouti *et al.* (2008) too reported that 68.1% of the studied women knew this cancer. The findings of the present study indicated that women mentioned physicians as the main source of encouragement for undergoing Pap smear test. These results are consistent with the results of the studies conducted on this subject (17, 18). Therefore, it seems that providing educational programs for physicians and health care personnel for encouraging women to do Pap smear test regularly can lead to useful results.

A significant relationship was seen between age and undergoing Pap smear in a way that with the increase of age, undergoing Pap smear regularly was increased too in women. In this regard, different studies indicate that younger individuals have lower level of beliefs regarding vulnerability to the dangers around them, consider themselves somehow immune to health threats and dangers and do not feel a need for adopting preventive

behaviors. In fact the individual believes that she is at risk of diseases less than others are and this belief weakens adoption of any preventive behavior (Fontaine and Smith, 1995; Weinstein, 1980; Weinstein, 1987). The results of the present study too verify the existence of the aforementioned belief and are consistent with the results of similar studies (Cheek *et al.*, 1999; Leyva *et al.*, 2006). No significant statistical relationship was found between different education levels and doing Pap smear test; this result is not consistent with the results of similar studies as Cheek *et al.* (1999), Leyva *et al.* (2006) and Qi *et al.* (2006) reported a significant relationship between education and undergoing Pap smear in a way that undergoing Pap smear was seen more in women with higher education levels. As it was mentioned in the results, most (90.1 %) of the studied women had diploma or an education level lower than diploma. The lack of significant relationship between education level and doing Pap smear in the present study may be due to the fact that most of the participants in the present study lacked university education.

The findings of this study indicated that the participants did not have an appropriate knowledge on cervical cancer and its screening method. Knowledge of cervical cancer and Pap smear impacts cancer screening cervices and strong evidences indicate that the knowledge level regarding cervical cancer and its risk factors significantly related to screening behaviors (Hislop *et al.*, 2004). Amarian *et al.* (2008) pointed out in their study that knowledge, attitude and beliefs are determining factors for participation of individuals in Pap smear screening programs in developed countries and that women should be aware of the disease and the ways for early diagnosis and prevention (Amarin *et al.*, 2008). Kim, in a study on exploring the knowledge of Korean-American women on doing Pap smear test, showed that a significant number of women do not have necessary knowledge on this issue (Kim *et al.*, 1999). Also, Allahverdipour and Emam pointed out in their study that a the individuals who had a higher level of knowledge on the disease, risk actors and prevention methods had undergone Pap smear test more than others (Allahverdipour and Emami, 2008). The findings of the present study and other studies reveal the necessity of providing educational programs with the aim of improving women's knowledge on cervical cancer and prevention methods in Iranian women.

The present study had limitations such as collection of data through questionnaire (which may have a percentage of error) and from medical centers (that may not be appropriate for generalization to the women in the society).

## CONCLUSION

Our findings indicate the participants obtained 46.7% of the maximum attainable score for knowledge about cervical cancer. In addition, about 39.4% of volunteers had followed a regular Pap smear program. Considering the results, the necessity of providing appropriate education for improvement of the Iranian women's knowledge on cervical cancer and prevention methods is necessary.

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