

## Exploring Effective Contextual Factors for Regular Cervical Cancer Screening in Iranian Women: A Qualitative Study

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### Abstract

**Background:** Adherence to regular screening programs for cervical cancer in Iranian women is not common. The aim of this study was to explore contextual factors influencing behavior and compliance with guidelines. **Methods:** This qualitative content analysis study was conducted in 2016-2017 in Hamadan city, Iran. Semi-structured in-depth interviews were conducted with 31 participants who were selected purposefully on referring to health centers. Twenty-three were women with various experiences of cervical cancer screening and 8 were health care providers (4 midwives, 1 gynecologist, 1 general practitioner and 1 family health expert). Guba and Lincoln criteria were used for trustworthiness. MAXQDA10 software was employed for data analysis. **Results:** Four themes were extracted from the data: an opportunity maker system, opportunities to become acquainted, concerns for healthy living, and perception of cancer. **Conclusion:** The results showed sensitivity of health care providers and their appropriate performance in relation to regular screening behavior of women is very important. Women's perception of cancer and its curability is another factor with a major effect on screening behavior. Opportunities for people to become acquainted with the Pap smear in a variety of ways and concern for healthy living and the need to have a healthy life to ensure quality of life were also found to be important.

**Keywords:** Uterine cervical neoplasms- papanicolaou test- regular screening- Iran

*Asian Pac J Cancer Prev*, 19 (2), 533-539

### Introduction

Cancer is one of the leading causes of death globally and the number of cases and deaths is growing rapidly (Torre et al., 2016). Cervical cancer is the fourth most common cancer among women in the world. Annually almost 1,000 (947) new cervical cancer cases are diagnosed in Iran and the annual death rate of this cancer has been reported about 370 cases (Bruni et al., 2017). Cervical cancer is the only cancer of female reproductive system that is preventable, and curable by regular screening tests (Centers for Disease Control and Prevention, 2012). Pap smear is the only test that reduces the incidence and mortality of cervical cancer (World Health Organization, 2014). Serial tests offer high sensitivity in the diagnosis of this disease (Centers for Disease Control and Prevention, 2009). So, cervical cancer is a preventable disease if regular screening is applied (American Cancer Society, 2012). According to the guideline that has been published by the Ministry of Health of Iran, screening for cervical cancer begins after marriage in all women, after three normal and reliable Pap smear samples, without the presence of risk factors,

this test can be repeated every 3 years (Iran Ministry of Health, 2004). According to the Healthy People 2020 program, at least 93% of qualified women should do this test regularly (Brown, 2014). Surveys have shown that regular cervical cancer screening is not desirable in Iranian women. Jalilian et al., (2011) reported only 28% of women have performed this test regularly in Hamadan. Moreover, other studies in Kashan, Arak and Yazd (other cities of Iran), reported this amount respectively 11.3, 17.5 and 14.8 percent (Baghiani-Moghadam, 2003; Jalalvand, 2005; Sabery, 2012).

Behavior has a fundamental effect on the health of the community (Kobrin et al., 2015). More successful programs and initiatives in the field of public health are based on understanding health behaviors and their context. A large number of cultural and socio-economic factors contribute in evolution, maintaining and changing health behavior patterns (Glanz and Bishop, 2010). Doing Pap smear is accounted as a healthy behavior (Jowzi et al., 2013). Studies stated that many factors contribute to women's participation in cervical cancer screening (Fernández Esquer et al., 2003; Winkler et

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al., 2008). No study has ever been done to explain the contextual factors affecting the regular screening of cervical cancer in Iranian women. Identifying the factors affecting behavior is effective in designing an effective health program (Jalilian and Emdadi, 2011). Understanding the factors affecting women's participation in cervical cancer screening programs is an important element in the design and implementation of a program appropriated to the needs of women; a program that encourages women to participate in screening and thus leads to a reduction in the overall burden of the disease (Winkler et al., 2008).

Hence, this study aimed to explain the contextual factors influencing the behavior of regular cervical cancer screening in Iranian women. Qualitative approach was used in this study as screening behavior is a complex behavior and is influenced by multiple factors.

## Materials and Methods

This qualitative study was conducted in 2017 in Hamadan, one of the western cities of Iran where doing regular Pap smear is not common (Jalilian and Emdadi, 2011). Participants were selected using purposive sampling. At first, samples were recruited from women referring to health centers and then for diversification of sampling, it was expanded to mosques, schools and a gym, the places we can usually meet women. Inclusion criteria included: desire to participate in the study and the ability to communicate appropriately. In addition, health care providers, for inclusion in the study must have had at least one year of work experience associated with cervical cancer screening. In this study 31 participants including 23 women and 8 health care providers participated. None of the participants refused to participate in the study.

A demographic questionnaire was used to obtain some characteristics of participants. These characteristics included: age, level of education, employment status, marital status, the number of years being married, the number of children, the number of Pap smear tests, the time of last Pap test and menopause status. We also used a demographic questionnaire to obtain some characteristics of health care practitioners (age, level of education, occupation, work place and work experience) (Table 1).

We conducted deep and semi-structured interviews to collect data. Interview length ranged from 20 to 60 minutes. After presenting the explanations on the purpose of the study and obtaining written consent, all interviews were conducted at the place and time determined by the participants (one of the rooms in the health center, gym, school or at the home of the participants). Some of the interview questions according to the history of Pap smear were: Please talk about the first time you performed the Pap smear test? What made you decide to do the test? What made you repeat the test? What factors prevent you from repeating the test? What caused you to repeat the test with a delay? What has prevented you from doing the test so far? In an interview with the health care practitioners, the first question was: What factors influence doing the test and its repetition in women? We also used some probing questions: Can you make your statement clearer?

## Data analysis

Researchers used Graneheim and Lundman analysis approach to analyze the data (Graneheim and Lundman, 2004). At first, all interviews were transcribed. Each interview was read several times by a researcher, after that they were conceptualized by identification of the words, sentences or paragraphs as meaning unit. The extracted concepts were labeled as codes; codes based on their similarities and differences were classified as subcategories and then this procedure continued for subcategories and main categories. Finally, the themes were achieved by comparing the main categories (Table 2). The researchers used MAXQDA10 software to facilitate data analysis.

## Trustworthiness

Guba and Lincoln's criteria were used for the trustworthiness of the data (Shenton, 2004). Credibility: the researchers tried to ask this question: "How congruent are the findings with reality?" For this purpose the researchers tried to use various data resources. They spent a long time on collecting and analyzing data and also used maximum variation strategy in the selection of participants (in terms of age, menopause status, employment, education, marital status, number of children and socioeconomic status). The use of probing questions, holding frequent debriefing sessions with research team, member checking by participants and external checking by an external researcher helped to increase the credibility of the study. Confirm ability: the researcher tried to describe a method with details. Transferability: the investigators provided sufficient contextual information such as: participants' characteristics, sampling and data collection method. Dependability: the researchers tried to record and report all the steps of research in detail.

## Ethical considerations

This study is a part of a PhD thesis approved by the ethics committee of Tehran University of Medical Sciences (code: 1395.2776). Voluntary participation and the confidentiality of their information were explained to the participants. Written informed consent was obtained. Interviews were recorded with the permission of the participants.

## Results

Four themes were extracted from data analysis (Table 3). Each of the main themes was extracted from the initial codes, subcategories and categories which are addressed below.

### *Theme 1: opportunity maker system*

Based on the findings, the health system plays an important role in the behavior of cervical cancer screening in women.

### *Effective health care practitioners:*

Our findings showed the high quality performance and beliefs of the healthcare practitioners play an important role in the regular screening behavior. Having

Table 1. Demographic Characteristics of Participants

WOMEN		healthcare practitioners	
Cervical cancer screening status (n <sup>a</sup> )		Healthcare practitioners (n)	
		Midwife	4
Women with regular screening	11	Gynecologist	1
Women with irregular screening	7	General practitioner	1
Women with no screening	5	Family health expert	1
		Pathologist	1
Age (y <sup>b</sup> )	37.76 (54-24)	Age (y)	44.37 (54-34)
Education (n)		Work experience (y)	18.5 (5-27)
Diploma	9		
Less than Diploma	3		
More than Diploma	11		
Employment status (n)		Work place (n)	
Employed	11	Public health care facility	4
Unemployed	12	Private clinic	4

<sup>a</sup>, number; <sup>b</sup>, year

Table 2. An Example of Analysis Steps

Meaning unit	Code	Subcategory	Category	Theme
"I do the test to stay healthy, I think, if I feel healthy, I can better handle my kids. Well, I'm a mother", (P3)	Ability for presenting the mother's role	Need of health for good presentation of roles	Necessity of health	Concern for healthy living

a comprehensive look at women's health is an important factor that is effective on screening behavior.

We realized some healthcare practitioners' features such as: work motivation, work commitment, coherent performance, positive interaction with clients, trust in the efficiency and effectiveness of Pap smear and giving priority to Pap smear are factors that are effective on how health care practitioners perform in the field of guiding women for doing regular testing. For example, about the role of the work commitment an expert midwife said:

"I always spend enough time with clients and pay attention to them. I'm sensitive to my work, it's hard but I do it", (P27, 43Y, 23Y work experience, public health center).

Our findings showed health care practitioners' perception about the correctness of the technique of taking Pap Smear and also the correctness of examining sample by pathologist are two of the most important factors influencing regular screening.

#### Health system acceptance from women's views:

Trust in the healthcare providers and believing in the valueability of the services provided by them are factors for referring to health system and the use of services. Most participants who undergo regular testing are familiar with the test through health centers; these centers are acceptable for them in terms of cost, access and confidentiality. One participant said:

"It is necessary that you trust in the healthcare practitioner who takes the Pap smear. The fear of creating a problem due to testing may be a barrier for undergoing the test", (P20, 48 years, with history of irregular screening).

*Theme 2: an opportunity to become acquainted*

Our results showed having previous acquaintance with the test was an important factor in screening process.

#### Seeing other women's performance:

Seeing the women who consider Pap smear as an important test and those who do it and adhere to this behavior was an important factor affecting on awareness and sensitization to the test. Health care practitioners' experiences also highlighted the important role of other people in the regular screening of cervical cancer. A gynecologist said:

"One of the important factors for testing is positive family encounter with screening; I mean they have seen people who do regular screening", (P 29, 49 years, gynecologist, 23 year work experience).

#### Social discourse:

We realized sharing of information with other people about the test and their viewpoints on testing were important factors in the movement of individuals towards doing this behavior or, vice versa, created reluctance to act. Advising other people such as: relatives, peers, healthcare practitioner to do the test was a significant factor to becoming familiar with the test and sensitivity to Pap smear; also, being reminded by others to repeat the test, was effective in regular screening behavior.

#### Education:

According to findings, the availability of educational opportunities was an effective factor in the familiarity of the person with the test. Both formal (such as education in university or pre marriage classes) and informal education (education through the media, reading medical books and educational brochures) were effective in this

Table 3. Subcategories, Categories and Themes

Subcategory	Category
Theme 1: opportunity maker system	
Comprehensive look at women's health	Effective health care providers
Work motivation	
Coherent performance	
Work commitment	
Positive interaction	
Trust in the efficiency and effectiveness of Pap smear	
Giving priority to Pap smear	
Trusting in health care providers	Health system acceptance from women's views
Believing in the value of services	
Theme 2: an opportunity to become acquainted	
Adherence to regular screening among important people in life	Seeing other women's performance
Adherence to regular screening among friends	
Discussion with others	Social discourse
Others' advice	
Formal education	Education
Informal education	
Theme 3: concern for healthy living	
Special sensitivity to health	Necessity of health
Need of health for good presentation of roles	
Need of health for qualitative living	
Acquiring health knowledge	Seeking for health
Answering health needs	
Do health basics	
Theme 4: perception of cancer	
The bad nature of the cancer	Horrible cancer
A disease with unpleasant outcome	
Believing in the importance of early detection of cancer	Believing in the controllability of cancer
Believing in the treatability of the cancer	

field.

#### *Theme 3: concern for healthy living*

"Concern for healthy living" was one of the themes extracted from data.

#### *Necessity of health:*

Participants who had performed the test regularly were very sensitive to their health and paid considerable attention to it. One of the important reasons was their strong belief in the importance of being healthy to fulfill their social roles (Table 3). They believed that disease and its consequences can affect the woman and others and can reduce the quality of life.

#### *Seeking health:*

The participants, who do the test regularly, believed they had to try to maintain their health, and always do something to keep themselves healthy. Efforts to gain health knowledge, responding to others or their

own health needs by referring to private or public health centers, following up on health issues, lack of negligence towards health and performing basic health measures for prevention of disease or preventing the progression of the disease were the examples of these actions.

#### *Theme 4: perception of cancer*

Person's perception of cancer and her beliefs about its preventability or treatability have a significant impact on how she behaves with regard to about cervical cancer screening.

#### *Horrible cancer*

Women who do the Pap smear regularly believed that cancer is a dangerous, common, sudden, severe and progressive disease. Also, their feelings about the bad and unpleasant outcomes of the cancer, including the difficulties of treatment and death, were the factors that encouraged them to do the test.

#### *Belief in the control of cancer:*

In the experiences of those who performed the test regularly, there was a certainty that the cancer was preventable and treatable. While most people who have not done the test or have done the test irregularly, believed that getting or not getting cancer is their fate, they also believed that cancer is a disease without a cure. Because of these beliefs, they did not desire to be informed of the condition of their illness or their health by the test.

According to data from the study, effective health care providers who have trust in the Pap smear test and considered it as a valuable test and also an acceptable health system from the perspective of women were factors influencing regular screening. Also, the opportunities for people to become acquainted with Pap smear in a variety of ways were important factors for starting and continuing to do the screening. The concern for healthy living and the need to have a healthy life in order to have a high quality life also affected screening behavior. Another important factor was the perception of cancer; it is important that women believe that this disease is curable and early detection of it is important.

## Discussion

The aim of this study was to explain the factors affecting the behavior of regular screening of cervical cancer. An important factor was the opportunity maker system. The positive interaction of health care providers with women, such as normalization of the issue, speaking honestly and compassionately along with sympathy and encouragement had a significant role in accepting and performing cervical cancer screening behaviors. Wiley et al., (2012) argued health care providers' support and encouragement for doing the test is one of the facilitating factors for screening in women. Schoenberg et al., (2013) reported the health care providers' recommendation for doing the test is one of the key elements in adhering to this test.

Other studies, like our study, have highlighted the



role of work motivation and coherent performance of the sectors as the factors that influence on cervical cancer screening (Rosser et al., 2015). Maseko and Mccree (2015) stated the participation of the sectors is an opportunity to expand screening in the country. Our study showed, apart from the importance of participation of the other sectors, it is necessary that these units be coordinated with each other.

The attitudes of health care providers about Pap smear were effective in their performance to encourage and recommend women to do the test. Negative attitude of caregivers towards the process of screening for cervical cancer (Kivuti-Bitok et al., 2013), healthcare providers' beliefs about performing the test annually, test cost and alternative tests reduce the likelihood of women being encouraged to do the test (Townsend et al., 2014). In our study, a comprehensive look at women's health and the work commitment of caregivers were also mentioned as factors affecting the screening behavior that were less addressed in other articles. Refaei et al., (2017) concluded that it is necessary to train health personnel, and professional features such as accountability, commitment and work sensitivity with an emphasis on communication skills be considered. Our study showed trust in the performance of health care providers and believing in the value of the services provided by them affect the way people function in the use of services. Ports et al., (2015) stated getting information from trusted sources will help promote screening behavior. In the study by Daley et al., (2011) the mistrust of the system and the health personnel were the barriers to screening.

Our result showed the performance of others, discussion with them, and screening education were factors that influenced a person's familiarity with the test and her performance in screening. In other studies recommendations from friends and family, social communication, auditory signals about the test, (Whynes et al., 2007; Shakibazadeh et al., 2009; Matejic et al., 2011), and formal and informal messages from various sources are effective in promoting screening behavior in women. Receiving information from multiple resources increases the chances of participating in screening. (Matejic et al., 2011). Tay et al., (2015) argued that dissemination of information about cervical cancer and its screening program should be given to the community and to all women, not only some of them, this helps to promoting screening behavior in the community by increasing audible signals. This study showed knowing the cause and the importance of screening is an effective factor in performing and repeating the test. Daley et al., (2011) showed women who knew more about the screening guideline were more likely to have done the test in the past year.

Our study showed education is an effective factor in screening behavior. Increasing women's health literacy through general education may increase their screening health seeking behavior (Mwaka et al., 2013). Also, individual education, media and men's awareness have an effective role in doing the test (Gan and Dahlui, 2013). In our study the importance of public awareness was shown not only to women, but sensitizing men to the

issue and men's support of their wives can be effective in screening. Dahlui and Gan (2013) mentioned social support and men's awareness are effective factors in doing the test. The lack of involvement of spouses in screening was mentioned as a barrier to doing the test (Munthali et al., 2015).

This study showed healthy living was a concern for women who do the test regularly. Other studies have shown the high utilization of health services, the positive history of medical screening and consultation with a gynecologist or an expert physician and the constant referral to gynecologist is related to screening behavior (Olesen et al., 2012; Labeit et al., 2013).

Women who do the test regularly consider themselves at risk and they consider cancer as a reality that may happen for them. They do the test regularly because they are afraid of the consequences of cancer and they want to avoid the consequences of this disease. Other studies have found women's perception of being at risk is effective on screening behavior and stated low perception of risk is the most common obstacle to follow-up screening (William et al., 2013). Therefore, it seems emphasizing the consequences of not doing the test or the consequences of the disease can be effective in promoting screening behavior. Munthal et al., (2015) found lack of knowledge about the disease and misconceptions about it are barriers to doing the test. Our results showed women who do the Pap smear regularly, believe the cancer is controllable and also Pap smear is a valuable test and they trust this test. Perng et al., (2013) showed women who had a positive attitude to the Pap smear are more likely to perform the test. In this study, belief in the uncontrollability and belief in the inability to cope with cancer were powerful factors in ignorance of possible disease and, so, reluctance to do the test.

In this research we used the qualitative approach; this approach has some limitations such as problems in generalizing. The researchers tried to overcome this problem by using maximum variation and rich descriptions of the details.

Our finding showed sensitivity of health care providers and their proper performance in relation to regular screening behavior in women is very important. Women's perception of cancer and its curability is another factor affecting screening behavior. It seems to improve cervical cancer screening behavior women must understand the importance of early detection in controlling and treating the disease. Also, the opportunities for people to become acquainted with Pap smear in a variety of ways and concern for healthy living and the need to have a healthy life in order to have quality of life also affected screening behavior. So Improvement of this behavior requires the proper management of screening process. The sensitivity of health care providers to the screening should be increased. It is important that apart from women, all people be sensitive to the issue of cervical cancer screening; getting help from local health workers (health volunteers) can be useful in this process. Using strategies that focus on messages that increase individual responsibility for health will be effective. The researchers suggest that doing some quantitative studies to determine

the relevance of each of the contextual factors with doing regular screening of cervical cancer in a larger population will demonstrate the importance of each of these factors.

## Acknowledgments

This research is a part of the thesis for getting a PhD in reproductive health. The authors thank the participants in the study, the authorities of Tehran University of Medical Sciences and those who helped us with this research.

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