



# The Pap Smear Test Experience of Iranian Women: A Qualitative Study

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## ABSTRACT

**Aims** The Pap smear test as the primary screening test for cervical cancer has a low application rate among Iranian women. This study aimed to explore Iranian women's Pap smear test experiences at healthcare centers.

**Participants & Methods** This qualitative study was conducted in Varamin City in 2018. To this end, 15 women admitted to healthcare centers were selected using purposive sampling. Inclusion criteria consisted of married women aged 20-50 years with a history of Pap smear, willingness to participate in the study, Iranian nationality, and ability to speak. To explore the women's views and experiences, semi-structured interviews were conducted, recorded, transcribed, and analyzed using content analysis. Four criteria, namely credibility, confirmability, dependability, and transferability, were used to verify the accuracy and consistency of the data.

**Findings** The data analysis yielded five main categories, including "intention to perform the test", "policies and the administrative system", "social factors helping to perform the test", "barriers to perform the test", and "motivational factors to perform the test". From the participants' perspective, risk concepts and supportive policies were critical in enhancing test performance.

**Conclusions** The results showed that the women's Pap smear test performance depended on some factors, including convenient and friendly interactions with healthcare providers, family support, encouraging policies and laws, and awareness. The cooperation of other organizations to perform a Pap smear test is also emphasized.

**Keywords** Papanicolaou Test; Uterine Cervical Neoplasms; Women; Qualitative research

## CITATION LINKS

[1] Human papillomavirus genotypes in cervical cancer ... [2] Global strategy towards eliminating cervical cancer ... [3] Global burden of cervical cancer: A literature ... [4] Human papilloma virus prevalence and types among ... [5] Health behaviour regarding cervical cancer ... [6] The effect of health belief model on rural women's ... [7] Berek & Novak's gynecology ... [8] Agreement between visual inspection with acetic acid and ... [9] Use of primary high-risk human papillomavirus ... [10] Practice bulletin no. 157: cervical cancer ... [11] Exploring Iranian women's perceptions and ... [12] Priority setting for improvement of cervical cancer ... [13] Effects of group training based on the health ... [14] Structural and sociocultural factors associated ... [15] Three approaches to qualitative content ... [16] Sampling in qualitative research. Purposeful ... [17] Qualitative content analysis in nursing research ... [18] Promoting attendance at cervical cancer ... [19] Guidelines for conducting rigorous health care ... [20] The theory of planned behaviour as a framework ... [21] Cervical cancer screening: Current knowledge ... [22] Chinese women's motivation to receive future screening ... [23] Explaining process of dental caries from women's ... [24] Motivations and challenges of community-based ... [25] Knowledge, awareness and attitudes about cervical ... [26] Associations between women's perception of their ... [27] Factors influencing pap smear practice among ... [28] Exploring the impact of individual factors in taking ... [29] Perception and opinion of medical students ... [30] The pap-smear test experience of women in Turkey ... [31] Improving physicians' communication skills and reducing ...

## Introduction

Cervical cancer is the second most common cancer among women globally [1]. The annual number of new cases of cervical cancer is expected to increase from 570,000 to 700,000, and the yearly number of deaths will grow from 311,000 to 400,000 by 2030 [2]. About half a million new cervical cancer cases are detected annually globally, and a great number belong to developing countries [3]. In Iran, as a developing country, cervical cancer is the fourth common cancer among women, and the incidence rate of cervical cancer is 2.2 per 100,000 women annually [4]. The incidence rate of cervical cancer increases after 30 years of age, reaching its peak at 65-69 years [5]. This cancer has the highest incidence rate among middle-aged Iranian women in their fourth decade of life, ten years less than the global statistics [6].

The most common symptom of cervical cancer is vaginal bleeding. In most cases, vaginal bleeding occurs after intercourse, but it may occur irregularly or after menopause. Patients with advanced disease may have a vaginal odor, weight loss, or obstructive uropathy [7]. The most significant risk factors of affliction with this cancer are young age at first intercourse (16 years), multiple sexual partners, cigarette smoking, race, high parity, and lower socioeconomic status [7]. Despite therapeutic advancements and the application of treatment protocols, the disease progresses in some patients and does not respond to therapies such as radiotherapy and surgical procedures [8]. Although cervical cancer is deadly, it can be prevented using screening programs [9]. The incidence of cervical cancer has decreased by more than 50% in the past 30+ years due to the increasing use of cervical cancer screening with cervical cytology [10]. All women aged 35-54 years are at risk of cervical cancer. According to the national population-based screening program in Iran, a Pap smear test should be performed for all married Iranian women for three years after marriage. After three normal tests, it could be repeated every three years. Despite the emphatic advice of health providers, only a small percentage of eligible Iranian women underwent the Pap smear test (14.8% - 28.3%) [11]. There are reasons for this low rate, such as low or lack of knowledge about the test's significance, fear, cost, embarrassment, and so on [11-13].

Identifying factors affecting the Pap smear test is especially crucial in Iranian women because of the high prevalence of mortality and morbidity of cervical cancer in Iran [6] and the significance of the Pap smear test for early detection of cancer [14]. Thus, describing facilitators and barriers to performing the Pap smear test from Iranian women's perspective will be helpful in better understanding their perceptions about the Pap smear test. This can lead to improved programs related to increasing screening for cervical cancer. Concerning the significance of qualitative studies in clarifying

women's viewpoints toward performing the Pap smear test and effective factors on this behavior, the present study focused on explaining Iranian women's experiences admitted to healthcare centers to perform the Pap smear test. It is hoped that the findings of this study could help women perform the Pap smear test and promote their health worldwide.

## Participants and Methods

We conducted in-depth semi-structured interviews with 15 women admitted to the healthcare centers of Varamin City, which is located in the center of Iran, in 2018, using the content analysis method, i.e., a research methodology used for describing life experiences and insight and giving meaning to them [15]. After obtaining the approval of the Committee of Ethics and Research Council of the Kurdistan University, we described the research objectives to the authorities and the participants at the healthcare centers. The first author who passed courses on interview skills initiated the interviews. The inclusion criteria were married women with a history of the Pap smear test, willingness to participate in the study, and ability to speak. Our study setting was to healthcare centers of Varamin City. Using purposive sampling, we selected eligible women to participate in the study. Since the purpose of sampling in most cases is gaining the most information possible, the usual sampling method should include various samples to the extent possible [16]. To create maximum variety in samples and obtain the highest amount of information, we attempted to include a sample of women of varying ages with possibly different socio-economic statuses that were willing to participate in the study. In this way, a sample was obtained, consisting of married women aged 20-65 years with different socio-economic statuses.

Before conducting the interviews, the interviewer informed the participants about the purpose and procedures of the study. Informed consent procedures were used for participation. Data were collected through in-depth semi-structured individual and group interviews, behavior observation, and note-taking. Seven stages of the interview, including thematizing, designing, interviewing, transcribing, analyzing, verifying, and reporting, were considered. Some questions were asked on the Pap smear experience of women admitted to the healthcare centers. Then, more questions were co-constructed during the interview concerning the quality of their Pap smear test performance and their needs and barriers to performing the test. The interviews started with these primary items: "please kindly express your experiences of Pap smear" and "based on your experiences, what needs you had while performing the Pap smear test?" Soon after each interview session (conducted in their houses or the counseling room of each healthcare facility), we listened to the interview several times and transcribed it. Moreover,

a summary of verbal and non-verbal interactions of the participants was collected as a supplement to the interviews.

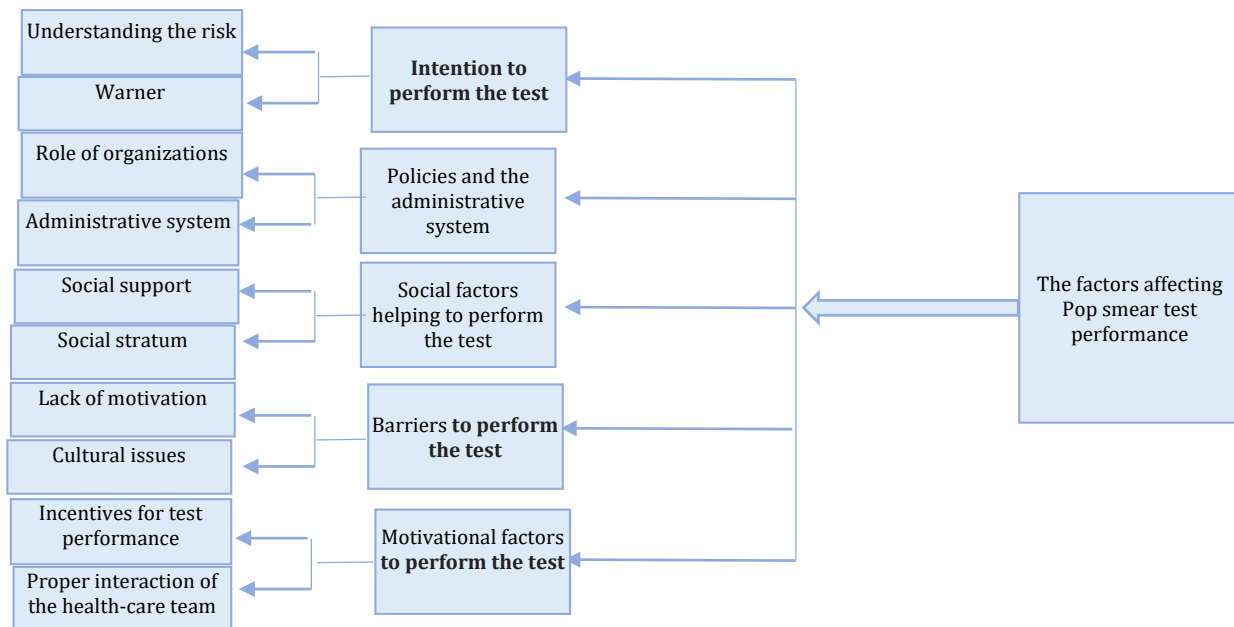
We recorded all the interviews and transcribed them verbatim for analysis. We analyzed the data using the conventional qualitative content analysis method and the data collection process [17]. To do this, we first determined the analysis unit, including all interviews, field notes, and behavior observations, and then distinguished semantic units containing meaningful words and sentences. We extracted codes via the compression and reduction process. We categorized similar codes together and then combined similar categories into final categories. The average duration of individual and group interviews was 17 and 21 min, respectively. We reached data saturation by 15 interviews [18]. MAXQDA (version 10) software was used to facilitate data analysis in the import and export process, listing and classification, repeated comparison of various data, and recovery of quotations.

To evaluate the credibility of the data, the participants revised codes obtained through repeated interviews in the review and advisory

meetings. Moreover, to determine the confirmability of the data, we used complementary opinions of experts, qualitative method researchers, and health education specialists. Moreover, we used a continual comparative analysis of the data and analysis of negative cases to ensure the dependability of the findings. Finally, we used sampling with maximum variance to assess the transferability of the data [19].

**Findings**

A total of 15 women with a mean±SD age of 36.4±4.2 years experiencing at least one Pap smear test participated in the study. We collected data with six individual interviews, two group interviews (four participants in each group), and an interview with a midwife. Six of the participants had 1 Pap smear test, two had 2 Pap smear tests, three had 3 Pap smear tests, and four had more than 4. The participants included employed women and homemakers, with the educational status ranging from illiterate to Master's degree. The data analysis yielded five main categories and ten sub-categories. Diagram 1 demonstrates factors affecting the Pap smear test based on the participants' viewpoint.



**Diagram 1)** Participants' viewpoint about factors affecting the Pap smear test performance

**Intention to perform the test:** The category "intention to perform the test" included two sub-categories: "understanding the risk" and "warners." The participants stated that understanding the risk was an influential factor in performing the test. This could be achieved through educational programs, modeling, and imitating family members, including mothers, sisters, relatives, friends, and companions sensitizing individuals and increasing their awareness and training. One of the participants mentioned: "My maternal uncle's wife experienced cancer previously, she had cervical cancer, she died, later, I was scared and performed the diagnostic test"

(Participant 3, a 55-year-old woman). One of the participants also asserted that she might be exposed to affliction with cancer or may have been already afflicted with it: "Cancer is widespread now, you know, people are afraid of cancers, they go to the doctor quickly fearing that, God forbid it, they may be affected with cancer..." (Participant 14, a 25-year-old woman). Factors such as abnormal bleeding and increasing age served as warners and alarms, driving individuals toward performing the test. This proves that women in Iranian society do not perform health-related behaviors unless they observe abnormal symptoms in their bodies and understand them as

severe threats. One of the participants stated that: "I suffered from a severe infection after delivery...my doctor ordered the test for me, and I performed it" (Participant 13, a 35-year-old woman). Although the participants considered increasing age a warning factor, the test performance rate was low among women over 40 years.

**Policies and the administrative system:** The category "policies and the administrative system" included two sub-categories of "role of organizations" and "the administrative system." The participants frequently referred to the significant role of the Administration of Health, Treatment, and Medical Education and the Islamic Council Parliament responsible for law enforcement, emphasizing that these two organizations should provide more primary care and prevention, specifically about women their diseases. In this regard, one of the participants said: "The Ministry of Health, It is an organ that can ask the Parliament to dedicate a special budget to this issue and the Parliament will certainly do it" (Participant 9, a midwife). The participants also frequently highlighted the role of other organizations, including the Education and Training Organization and the Islamic Republic of Iran Broadcast Organization (IRIB), municipals, and healthcare centers in this regard. They also demanded the provision of educational and informative programs for the community, especially for women and their husbands' involvement in their health-related issues. The participants further underlined the role of the Education and Training Organization in informing children and the significance of preventive medicine, especially for early cervical cancer detection and treatment. The participants also enumerated duties of the administrative system, including enacting motivating policies, providing insurance with low costs and tariffs, obliging to perform the test, dedicating a day off work to perform the test, and increasing the number of facility personnel. Some participants believed that a reduction in the test cost was necessary for its performance: "The state should lower the expenses and tariff of the test so that people can perform the test easily" (Participant 10, a 42-year-old woman). Additionally, another participant of the study highlighted the significance of patient follow-up on the part of the health system and bitterly criticized the personnel's negligence in inpatient follow-up due to the shortage of staff.

**Social factors helping to perform the test:** The category "social factors helping to perform the test" consisted of two sub-categories of "social support" and "social stratum". The participants expressed the following concerns about the role of husband and father: obligation to perform the test on the part of the husband, payment of the test fee by the husband, the husband's concern about the wife's health, and encouragement of family members, especially females, to commit themselves to health-related

preventive measures performed by the father. One of the participants described the supportive role of the husband in performing the test in this way: "I wish my husband knew about this test, and he asks me to do the test" (Participant 2, a 31-year-old woman). Emphasis was placed on childhood education for performing the test by family members. Accordingly, one of them said: "Families play an important role. For example, my daughter always tells me to go for the test. She encourages me greatly" (Participant 12, a 45-year-old woman). Moreover, the participants defined the sub-category "social stratum" to have two subclasses: "economic status" and "educational status." They believed that these two were effective in performing the test. "If the person is educated, then they will have a greater intention for test performance" (Participant 15, a 26-year-old woman).

**Barriers to performing the test:** In this study, "barriers to performing the test" manifested themselves as "lack of motivation to perform the test" and "cultural issues". Lack of motivation to perform the test hinders one from performing the test. Factors affecting the motivation include high costs, those preventing performing the test, conditions preventing performing the test, the preference to do daily routines, lack of time to perform the test, fear of the test result, and a negative attitude toward one's health. Another participant of the study considered her fear of the test result as a hindrance to performing the test, as she feared having cancer: "If you perform a test and they take a biopsy, and the results indicate that you've got cancer, then, you won't go and do it." (Participant 11, a 41-year-old woman). Based on the participants' viewpoint, lack of concern about one's health, a negative attitude about it, and preventive behaviors cause to reduce the motivation to perform the test. Human behaviors mostly originate from human culture. Two participants in the study mentioned embarrassment as the main reason not to perform the test. "I feel as I am aged, I can't do the test for my shame and prudence as it is present in all women" (Participant 1, a 48-year-old woman). The participants of this study further mentioned that beliefs played a major role in their lives. Among the beliefs as the reasons not to perform the test were wrong beliefs that unmarried women would not be affected with cancer, the unavoidability of cervical cancer, and affliction with cancer due to performing the test. In this regard, one of the participants said: "I think that these things cannot prevent cancer." (Participant 14, a 25-year-old woman).

**Motivational factors to perform the test:** Based on the participants' claim, the two sub-categories of "incentives to perform the test" and "proper interaction of the healthcare team" fall under the category of "motivational factors to perform the test", leading to increased motivation toward performing the Pap smear test. Codes categorized under the subclass of "incentives to perform the test" included

confidence in and reliance on test results, satisfaction with the lab functioning, lack of fear and eagerness to perform the test, patient's lively mood, financial capacity, and a positive family history of cancer. Another participant in the study considered the validity of the test result as a motivator to perform the test and explained: "I know Laboratory that is a well-known reliable lab. They say the results given by that lab are very accurate and exact" (Participant 2, a 31-year-old lady). The participants emphasized their expectation be treated respectfully and sympathetically throughout their journey to the health system and be consulted about decision-making on their treatment. Proper behavior, personnel's and physician's intimate rapport with the patient, the devotion of time to clients, and prioritizing prevention compared to treatment by the physician were among codes enumerated by the participants as the interactivity of the healthcare team and as one of the motivational factors. Since any type of decision-making about the patient by the physician and the healthcare team ultimately affects the patient's life, suitable interaction and communication with patients can guarantee decision-making success.

## Discussion

The present study was a qualitative content analysis describing women's experiences with the Pap smear test performance. Most studies adopting a quantitative approach have focused on barriers and ignored mental, cultural, and environmental challenges from the women's perspective based on a qualitative frame. The findings of this study suggested that the intention to perform the test was influenced by two factors: understanding the risk and warners. Based on the planned behavior model, the intention is influenced by attitudes, normative beliefs, and perceived control [20]. Our study achieved understanding the risk through increased awareness, training, and guidance by relatives, companions, and warners by increasing age and observing disease symptoms. In line with our findings, the study showed that women's increased awareness about the benefits of performing the test led to their increased intention to perform the screening test [21]. Another study reported that Turkish women were not aware of the Pap smear test as an effective method for early diagnosis of cancer and that they felt no fear in this regard as they did not believe to be at risk. They also stated that they would perform it if they knew about the test [18]. It could be inferred that the Pap smear performance is not limited to only one factor. Rather, it is a complex multi-factorial process with many mental, social, and environmental contributing factors. Hence, the significance of many factors should be considered in planning any educational programs for preventing cervical cancer. Based on the present study's findings, intention to perform the test decreased with increasing age due to feelings of

shame and embarrassment. In contrast to our study, research revealed that women at higher ages had more free time to care for their health and practiced more health behaviors; thus, they were less worried about the incidence of diseases [22]. Further studies are needed to explore the absence of healthcare behaviors among older women in Iran.

The participants in our study believed that organizations and the administrative systems were facilitators and motivators for performing preventive behaviors like Pap smear. Consistent with our findings, other studies considered the administrative system a motivating factor and an incentive for practicing healthy behaviors [23, 24]. Another motivator was considered to be health insurance coverage. Moreover, inaccessibility to health insurance was regarded as a barrier to performing the test [11]. Insurance organizations serve as facilitators to perform the test by paying a portion of the test fee [25]. Various organizations may lead to an increased chance to perform the test by enhancing female personnel's awareness, establishing the culture to perform the test, and providing facilities to perform the test at the workplace. Despite the participants' confidence in educational organizations, specifically TV and radio, they spend little time listening and watching educational programs. Health education instructors and specialists need to consider all measures related to organizations, economic structure, and environmental factors contributing to the pedagogy of health-related behaviors, especially about the Pap smear test performance.

Additionally, there should be coordination between the government and private sections to enjoy the environmental, organizational, and economic support for actualizing health behaviors. As observed, social factors were categorized by the participants as social support and social stratum toward performing the test. A study investigated the effect of family support, especially on the husband and their concern with women's health, on the maintenance of behavioral changes like performing the Pap smear test [26]. Involving men as a source to provide support and motivation in interventional educational programs for women's health appears to be mandatory. According to our findings, a study indicated that the implementation of the Pap smear test was influenced by education level, increased income, and use of health services [21]. In line with our finding, fear of test results indicating affliction with cervical cancer was reported as a factor for lack of motivation to perform the test [27, 28].

Barriers include internal and external types. Increased perceived control in encountering a problem decreases the fear phenomenon, and lack of problem control induces fear as an emotional reaction. Additionally, the desired behavior's performance can be facilitated by increasing self-efficacy and reducing internal barriers. In line with

this study, a study showed that religious beliefs and cultural values, especially among Muslim women, were the causes of avoiding the performance of the test [11, 29].

Similar to our finding, studies have demonstrated that physician's advice [27], cheerfulness and good treatment, interest, attention, and provision of information by the healthcare team and personnel, as well as consultation and good rapport with women admitted to the healthcare facility are among the most significant motivational factors to perform the test [30]. Sympathy, the dedication of time and energy, sharing knowledge, and noticing cultural differences facilitate interaction in prevention and therapeutic conditions [31].

The Non-generalizability of the findings was a limitation of the current study. However, the results showed that the women related the performance of the Pap smear test to multiple factors. The findings of this study can be used in designing educational programs and administrative policies by health specialists, physicians, and policymakers to prevent cervical cancer. It is recommended to develop a questionnaire concerning factors affecting Pap smear screening behavior. Moreover, further qualitative research is recommended to carry out various population groups using other qualitative approaches in the future.

## Conclusion

The women's Pap smear test performance depends on convenient and friendly interactions with healthcare providers, family support, encouraging policies and laws, and raising awareness. The coordination of other organizations to perform a Pap smear test is also emphasized.

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**Conflicts of Interests:** This study has been derived from a dissertation entitled "Exploring women's experiences regarding the Pap smear test".

**Authors' Contribution:** Fallahi A. (First Author) Main Researcher/Methodologist (30%); Taymoori P. (Second Author) Main Researcher/Methodologist (30%); Aslibeigi F. (Third Author) Introduction Writer/Methodologist/Assistant Researcher (20%); Khoshravesh S. (Fourth Author) Introduction Writer/Methodologist/Discussion Writer (20%).

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