

## Original Research Article

DOI: <https://dx.doi.org/10.18203/2394-6040.ijcmph20240873>

# Reasons for non-performing pap smear screening in nurses and midwives working in Ardabil city health centers

Fatemeh Eghbali-Amoughin, Narges Salehi\*, Sima Khavandizadeh-Aghdam

Department of Medicine, Ardabil Branch, Islamic Azad University, Ardabil, Iran

Received: 23 January 2024

Revised: 24 February 2024

Accepted: 26 February 2024

**\*Correspondence:**

Dr. Narghes Salehi,

E-mail: narghessalehi7@gmail.com

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

**Background:** Cervical cancer screening has been introduced a few years ago to prevent harm and death caused by this disease. Our purpose in this study was to determine the reasons for non-performing Pap smear screening in nurses and midwives working in Ardabil health centers.

**Methods:** The current descriptive-analytical research was conducted on 90 nurses and midwives working in health care centers in Ardabil city. The required information was collected through a questionnaire. After additional sampling and data collection from all participants in the research, it was coded and statistically analyzed in SPSS version 25 software.

**Results:** The present study showed that the most common reason for not performing a pap smear test in single people and in the age group of 20-30 years is related to virginity and in married people and in the age group of 30-50 years. It was related to the fear of doing it.

**Conclusions:** considering the cases that most women in the society are aware of cervical cancer and also the necessity of using cancer screening methods, using new educational methods through nurses and midwives to change their attitude and performance and increase their level and help in the timely diagnosis and treatment of this disease.

**Keywords:** Pap smear, Screening, Impossibility, Nurse, Midwife

## INTRODUCTION

Cervical cancer is the fourth most common malignancy among women worldwide and has imposed a serious challenge on the global health system.<sup>1</sup> The most common subtypes of this cancer are squamous cell carcinoma and adenocarcinomas, which account for 70% and 25% of total, respectively.<sup>2</sup> In 2018, more than 570,000 new cases of cervical cancer were diagnosed worldwide and more than 310,000 deaths occurred due to this malignancy.<sup>3</sup> It should be noted that most of the deaths caused by cervical cancer occur in low and middle income countries, so that the death rate in these countries is more than 15 times that of developed countries.<sup>4</sup> The main reason for the decrease in mortality is caused by

cervical cancer in developed countries, the introduction of official screening programs and early diagnosis and treatment of this disease, so that since the introduction of screening programs in these countries, the incidence and mortality rate of cervical cancer within the last 30 years has decreased to more than half.<sup>5</sup> In Iran, based on the results of a study conducted based on national cancer data, the incidence of cervical cancer is increasing, especially in the central regions of the country, and hence early diagnosis through screening and health education for primary prevention, especially in exposed people. The risk is strongly advised.<sup>6</sup>

Pap smear is the first specific test for cervical malignancy screening. The types of cytology findings in the Pap

smear test are as follows: normal; benign changes (infectious and reactive); Abnormal epithelial cell changes. The last one is classified into the following types: atypical cobblestone cells of uncertain importance, low-grade cobblestone intraepithelial lesions, high-grade cobblestone intraepithelial lesions, glandular atypical cells, adenocarcinoma, endocervical, adenocarcinoma, endometrium, and ectopic adenocarcinoma.<sup>7</sup> The time to start the general screening of women with Pap smear test and how far they should be and what age range to include, based on the prevalence of cervical malignancy and the cost-effectiveness of the screening method in different countries, and the same approach in this regard everywhere. Does not exist. In the United States, the recommendation of the College of Obstetrics and Gynecology is to start the Pap smear test at the age of 21 or 3 years after the first sexual contact.<sup>8</sup> According to the suggestion of European malignant diseases institutet, it should start from the age of 30 and the interval between them should be 3-5 years. The interval between pap smear tests is suggested to be 2 years in Australia and 1 year in Germany, while this interval with 5 year is longer in England and the Netherlands.<sup>9</sup> In Iran, according to the guidelines published by the Ministry of Health, pap smear and HPV tests have been recommended for cervical malignancy screening in women aged 30 to 49 years which have passed 3 years since their first sexual contact.<sup>10</sup>

Cervical cancer screening has been introduced for several years as an important way to reduce morbidity and mortality associated with this disease. The main goal of screening is to detect the disease in its early stages.<sup>11,12</sup> However, the coverage and success of screening programs have been insufficient in some areas. In recent years, policymakers in many countries have tried to expand the coverage of screening programs, and each has followed a different path to achieve this goal. Identifying and removing barriers to screening is critical. Barriers to screening are related to various cultural, religious, economic and educational factors.<sup>13,14</sup> Meanwhile, nurses and midwives are an important part of the care and treatment staff who are in direct contact with society. The lifestyle of nurses and midwives in relation to cervical cancer and to what extent they apply early detection methods of this disease for themselves, indicate their personal knowledge about this field. Positive attitude and behavior and adherence of health care professionals towards Pap smear test may help to prevent cervical cancer not only in them but also in society.<sup>13,15</sup> Despite the role of nurses and midwives in cervical cancer screening, there is little knowledge about cervical cancer screening behavior in nurses and midwives, and few studies in the world have addressed this category. Therefore, and considering that no study has been conducted in this field in Ardabil province, the aim of this study was to examine the reasons for not performing Pap smear screening in nurses and midwives working in Ardabil city health centers.

## METHODS

This cross-sectional descriptive-analytical study was conducted on 90 nurses and midwives working in health centers within Ardabil city during Sep 2022 to Sep 2023 who were selected by random sampling method. The necessary samples was calculated by statistical cochrane formula in 95% confidence interval and  $d=0.05$  and power 80% and estimated 90 sample. The inclusion criteria included consent to participate in the study and the exclusion criteria included cervical malignancy and non-cooperation in completing the questionnaires. Required information such as age, major, education level, marital status, family income level, smoking, number of pregnancies, number of births, underlying disease, family history of cancer, age of first marriage, age of first delivery, history of Pap smear, age at the beginning of the first pap smear, how to go for a pap smear, the number of the pap smear, and the last time of the pap smear were collected through a questionnaire. In addition, the reason for not performing a Pap smear was also evaluated. The general classification for determining the reasons for not performing a pap smear was as follows: fear (fear of performing, fear of treatment complications after cancer diagnosis, fear of social consequences of cancer diagnosis and treatment); issues and problems of personal and family life (negligence and forgetfulness, lack of time, neglect of health, etc.); Incorrect beliefs and attitudes (perceived low sensitivity, lack of belief in the accuracy and effectiveness of diagnosis, lack of belief in the usefulness of cancer diagnosis, feelings of shame and embarrassment); and financial and access issues. The collected data were statistically analyzed in SPSS version 25. Mean and standard deviation were used for quantitative variables and frequency and percentage were used to report qualitative variables. The results were presented in the form of tables and graphs.

## RESULTS

Most of the patients were in the age group of 30 to 40 years with 45 people (50%). 71.1% of the samples were married and 6.7% were smoked (Table 1). Among the women, 32.2% were in gravid two. Of all women, 13 (14.4%) had three or more pregnancies. There was a history of underlying disease in 13 people (14.4%) and a family history of cancer in 20 people (22.2%). Of all the samples, 38 people (42.2%) had a history of Pap smear, which was regular in 8 people (21%). Most of the samples, 86.8%, had gone to the office for Pap smear. In 50% of the samples, more than three years had passed since the last pap smear. Of all the people, 52 (57.8%) had not done the pap smear. The most common reason for non-doing a pap smear among people who did not do a pap smear was related to virginity with 21 cases (40.4%) followed by fear of doing a pap smear with 14 cases (26.9%) (Table 2).

Not performing pap smear among working nurses is 1.5 times as much as working midwives. The most common

reason for not performing pap smear in both groups was related to virginity with 10 cases (32.3%) and 11 cases (52.4%), respectively, and there was not a difference in terms of reasons for not performing pap smear between two groups.

**Table 1: Demographic characteristics of the studied patients.**

Variables	N	%
Age groups (years)	20-30	29 32.2
	30-40	45 50
	40-50	14 15.6
	Above 50	2 2.2
Education	Bachelor's degree	83 92.2
	Master's degree	6 6.7
	PhD degree	1 1.1
Field of study	Nursing	62 68.9
	Midwifery	28 31.1
Marital status	Single	26 28.9
	Married	64 71.1
Income (million rials)	5>	3 3.3
	5-10	14 15.6
	10-15	32 35.6
Smoking	Above 15	41 45.6
	Yes	6 6.7
	No	84 93.3

**Table 2: Frequency of the reasons for not performing pap smear among the studied samples.**

Row	Non doing reasons	N	%
1	Fear of doing pop smear	14	26.9
2	Personal and family issues and problems in life	8	15.4
3	Incorrect beliefs and attitudes	2	3.8
4	Inaccessibility	3	5.8
5	Virginity	21	40.4
6	Other causes	4	7.7

**Table 3: Frequency of reasons for not doing pap smear in the studied women based on marital status.**

Reasons	Single		Married		P value
	N	%	N	%	
Personal and family issues and problems in life	0	0	8	29.6	
Incorrect beliefs and attitudes	0	0	2	7.4	0.001
Fear of doing	1	4	13	48.1	
Inaccessibility	2	8	1	3.7	
Virginity	21	84	0	0	
Other causes	1	4	3	11.1	

The most common reason for not doing a pap smear in single people was related to virginity with 21 (84%) and married people related to fear of doing it with 13 cases (48.1%) and there was a difference in terms of the reasons

for not doing a pap smear between single and married people (Table 3). The most common reason for not doing a pap smear in the group of people with an underlying disease related to virginity and fear of doing it was 2 cases each (40%). There was no significant relationship between the reasons for not performing a pap smear and the presence of an underlying disease in people.

**Table 4: The frequency of reasons for not doing pap smear in the studied women based on smoking.**

Reasons	Smoke		Not smoke		P value
	N	%	N	%	
Personal and family issues and problems in life	0	0	8	16	
Incorrect beliefs and attitudes	0	0	2	4	0.018
Fear of doing	0	0	14	28	
Inaccessibility	1	50	2	4	
Virginity	0	0	21	42	
Other causes	1	50	3	6	

**Table 5: The frequency of reasons for not performing pap smear in the studied women based on the age of the studied women.**

Reasons	20-30		Above 30		P value
	N	%	N	%	
Personal and family issues and problems in life	3	11.5	5	19.2	
Incorrect beliefs and attitudes	0	0	2	7.7	0.001
Fear of doing	2	7.7	12	46.2	
Inaccessibility	1	3.8	2	7.7	
Virginity	20	76.9	1	3.9	
Other causes	0	0	4	15.4	

The most common reason for not doing a pap smear in smokers with 50% was related to lack of access and in non-smokers was related to virginity and fear of doing it with 42% and 28%, respectively, and there was a relationship between the reasons for not doing a pap smear among smoking or non-smoking women (Table 4). The most common reason for not performing a pap smear in both groups with and without a history of cancer was 5 cases (50%) and 16 cases (38.1%), respectively, and there was a difference in terms of the reasons for not performing a pap smear between people with a family history of cancer and no family history of cancer. The most common reason for not doing a pap smear in both groups with bachelor's and master's degrees was related to virginity with 20 cases (42.6%) and 1 case (20%), respectively, and there was a difference in terms of the reasons for not doing a pap smear between people with a family history of cancer and no family history of cancer. There were no bachelor's and master's degrees in this study. The most common reason for not performing a pap smear in people with an income of less than ten million tomans and above ten million tomans was related to

virginity in 6 cases (42.9%) and 15 cases (39.5%), respectively, and there was a difference in terms of the reasons for not performing a pap smear between These people were not present in this study. The most common reason for not doing a pap smear in the age group of 20-30 years old with 20 cases (76.9%) was related to virginity and in the age group over 30 years old with 12 cases (46.2%) it was related to the fear of doing it. There was a significant relationship between age and reasons for

not doing Pap smear (Table 5). The most common reason for not doing a pap smear in the age group under 25 years old with 5 cases (41.7%) was related to personal and family life issues and problems in unmarried people was fear of virginity with 21 cases (84%). There was a statistically significant relationship between the age of first marriage and the reasons for non-doing a pap smear (Table 6).

**Table 6: The frequency of the reasons for not doing pap smear in the studied women according to the age of the first marriage.**

Reasons	Not married		Under 25		Above 25		P value
	N	%	N	%	N	%	
<b>Personal and family issues and problems in life</b>	0	0	5	41.7	2	13.3	
<b>Incorrect beliefs and attitudes</b>	0	0	0	0	3	20	
<b>Fear of doing</b>	1	4	4	33.3	9	60	0.001
<b>Inaccessibility</b>	2	8	1	8.3	0	0	
<b>Virginity</b>	21	84	0	0	0	0	
<b>Other causes</b>	1	4	2	16.7	1	6.7	

## DISCUSSION

According to the study conducted, the most common reason for not performing a pap smear in unmarried people was related to virginity ( $p=0.001$ ), while doctors recommend routine screening for cervical cancer regardless of the person's gender, but unfortunately, due to the culture Incorrect information about the hymen, even in the studied educated people, virginity has prevented Pap smear screening, which, if done with a small speculum and carefully, does not harm the hymen of unmarried girls. In married people, the most common reason for not doing a pap smear was fear of doing it ( $p=0.001$ ). The most common reason for not doing a pap smear based on the age of the first marriage in the age group under 25 years old is related to issues and problems of personal and family life, and in the age group over 25 years old, it is related to the fear of doing it, and in the age group over 25 years old, it is related to beliefs and attitudes were incorrect ( $p=0.001$ ). The next finding was the most common reason for not doing a pap smear based on women's age, which was related to virginity in the age group of 20-30 years, and in the age group of 30-40 years and in the age group of 40-50 years, it was related to the fear of doing it ( $p=0.001$ ).

In the study by Halakou et al the main reasons for non-doing pap smear were: not knowing about the need to repeat the pop smear (59%), lack of time (22%) and fear of incurable disease (4%). Despite the efforts of health workers due to the high volume of pap smear tests and other services provided, the size of this index can be a proof of the poor quality of the cervical cancer screening program among women and girls.<sup>16</sup> Also, in Saberi et al study, the most common reason for not taking or irregularly taking the test was lack of knowledge about

the importance of taking the test (39.9%), followed by shame and shyness from doing it (26.3%).<sup>17</sup> In the study of Sharifi et al the most important reasons for non-performing a pap smear or performing it irregularly were lack of knowledge about the necessity of performing the test, lack of time, and fear of a positive test result; So, in the totality of the conducted studies, the lack of knowledge about the necessity of re-smearing and the lack of knowledge about the importance of performing the test are the most important reasons for not performing or irregularly performing Pap smear screening at the community level. While in the present study, the most common reason for non-doing a pap smear among people who did not do a pap smear with 21 cases (40.4%) was related to virginity, followed by the fear of doing a pap smear with 14 cases (26.9%). It was different from the studies conducted inside the country.<sup>14</sup>

In Mohammadi et al study entitled "Cervical cancer awareness among women of reproductive age covered by health centers in Ardabil city", it was shown that general awareness of cervical cancer in 51.6% of women was weak, as well as the level of women's awareness about the Pap smear diagnostic test with (59.3%), awareness of risk factors (55.1%) and awareness of disease symptoms (64%) were poor.<sup>18</sup> In the current study, 38 people (42.2%) had a history of Pap smear, which was regular in 8 people (21%), while nurses and midwives are an important part of the care and treatment staff and are in direct contact with the community. The lifestyle of nurses and midwives in relation to cervical cancer and to what extent they apply early detection methods of this disease for themselves, shows their individual knowledge about this field, which in the study was only 21% of nurses and midwives. They had regular pap smears, which can be a reason for the poor quality of the cervical cancer

screening program. In the study of Shakibazadeh et al the findings showed that factors such as the recommendation of the doctor, friends and family, knowledge of the symptoms and early diagnosis of the disease, taking the risk of cancer seriously, as well as easy and cheap access to the Pap smear test are among the important motivating factors for the Pap smear test. Along with the purpose of the present study, the positive attitude and behavior and adherence of health care professionals towards the Pap smear test may help prevent cervical cancer not only in them but also in the society. It seems that the design of appropriate training programs in order to raise awareness, adjust incompatible beliefs, etc. and present them through mass communication tools and in health care centers, as well as the expansion of facilities, will provide the necessary grounds for as many of them to refer for Pap smear tests.<sup>19</sup> Nurses and midwives are responsible for informing people in the community and guiding them to perform pap smear. The study of Ismailpour et al showed that 91.3% of the target population had "good" knowledge about Pap smear and people had a good and appropriate attitude towards this test. According to the results obtained from the screening test, there is a need for detailed programs to train these personnel to improve the health of the individual and ultimately to improve the health level of the society.<sup>20</sup>

In Swantika et al study, education level, perceived susceptibility, perceived barriers and self-efficacy (p value <0.05). Perceived sensitivity had the highest correlation with action for pap smear.<sup>13</sup> In Yurok et al.'s study, the probability of performing a Pap smear test was higher among smokers (OR=2.028) and among people who considered the risk of cervical cancer to be high (OR=3.6), which was not the aim of this study. In the present study, it was shown that the most common reason for non-doing a pap smear in smokers with 50% is related to lack of access, and in non-smokers, it is related to virginity and fear of doing it, with 42% and 28%, respectively and there was a difference in terms of the reasons for non-doing a pap smear between smoking and non-smoking women.<sup>12</sup>

### Limitations

In the present study, the number of samples was limited due to the fact that they were taken from Ardabil city. Virginity was not predicted as one of the reasons for not doing pap smear in our culture at first, which was pointed out during the study of the samples and mentioned in the results.

### CONCLUSION

In the present study, it was shown that the number of people who regularly perform pap smear test is very limited and health pioneers do not perform pap smear test due to many reasons, including the fear of doing it and virginity due to wrong culture. This situation was seen in nurses and midwives, who are among the most

knowledgeable sections of the society in this area, and this situation is far worse in other members of the society, so there is a need for a great policy to inform people through various means such as mass media and education. It is carried out by doctors and other members of the healthcare staff. It is recommended that similar studies be conducted in other cities with a larger sample size among midwives and nurses so that the results can be obtained more accurately for making strategic decisions in the country. The present study can obtain interesting results in other sectors of society such as doctors and other medical staff.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

### REFERENCES

1. Greer BE, Koh WJ, Abu-Rustum NR, Apte SM, Campos SM, Chan J, et al. Cervical cancer. *J Nat Comprehens Cancer Net.* 2010;8(12):1388-41.
2. Zhang S, Xu H, Zhang L, Qiao Y. Cervical cancer: Epidemiology, risk factors and screening. *Chin J Cancer Res.* 2020;32(6):720.
3. Vu M, Yu J, Awolude OA, Chuang L. Cervical cancer worldwide. *Curr Problems Cancer.* 2018;42(5):457-65.
4. Curry SJ, Krist AH, Owens DK, Barry MJ, Caughey AB, Davidson KW, et al. Screening for cervical cancer: US Preventive Services Task Force recommendation statement. *JAMA.* 2018;320(7):674-86.
5. Vafaeinezhad Z, Kazemi Z, Mirmoeini M, Piroti H, Sadeghian E, Mohammad AVM, et al. Trends in cervical cancer incidence in Iran according to national cancer registry. *J Mazandaran Univ Med Sci.* 2018;28(161):108-14.
6. Bieber EJ, Sanfilippo JS, Horowitz IR, Shafi MI. *Clinical gynecology.* UK: Cambridge University Press; 2015.
7. Moyer VA. Screening for cervical cancer: US Preventive Services Task Force recommendation statement. *Ann Int Med.* 2012;156(12):880-91.
8. Elfström KM, Arnheim-Dahlström L, von Karsa L, Dillner J. Cervical cancer screening in Europe: quality assurance and organisation of programmes. *Eur J Cancer.* 2015;51(8):950-68.
9. Mehrotra R, Yadav K. Cervical Cancer: Formulation and Implementation of Govt of India Guidelines for Screening and Management. *Indian J Gynecol Oncol.* 2022;20(1):4.
10. Dillner J. Recommendations on screening for cervical cancer. *CMAJ.* 2013;185(1):35-45.
11. Krist AH, Owens DK, Barry MJ, Caughey AB, Davidson KW, Doubeni CA, et al. Screening for cervical cancer. *JAMA.* 2018;320:674-86.
12. Yörük S, Açıkgöz A, Türkmen H, Ergör G. Risk factors and relationship between screening

periodicity and risk of cervical cancer among nurses and midwives. A cross-sectional study. *Sao Paulo Med J.* 2019;137:119-25.

- 13. Suantika PIR, Hermayanti Y, Kurniawan T. Factors associated with participation of nurses in early detection of cervical cancer. *Belitung Nurs J.* 2019;5(1):47-53.
- 14. Sharifi M, Mohammadi Z, Makvandi Z, Rostami P, Moradi A. Assessment of cervical cancer screening and its barriers in 18-50 year old women referring to Asad Abad comprehensive health centers. *Pajouhan Sci J.* 2018;16(2):35-45.
- 15. George J. Factors influencing utilization of cervical cancer screening services among women-A cross sectional survey. *Clin Epidemiol Global Health.* 2021;11(1):100752.
- 16. Holakoie NK, Chinichian M, Ghazi ZES, Sadeghi PHR, Rafahei KH. Pap smear follow-up among women who need treatment and repeated Pap smear test. *Payesh J.* 2004;3(2):131-7.
- 17. Farzaneh S, Zohre S, Masoomeh A. Factors associated with cervical cancer screening and its barriers among women: Kashan, Iran. *Payesh J.* 2012;11(3):365-70.
- 18. Mohamadi MA, Mirzaei M, Sepahvand E. Survey of knowledge of cervical cancer in women of reproductive age covered by the Ardabil health-centers. *Caring Today.* 2016;8(28):56-65.
- 19. Shakibazadeh E, Ahmadnia E, Akbari F, Negarandeh R. Barriers and motivating factors related to cervical cancer screening. *J Hayat.* 2009;14(4):83-9.
- 20. Yusefi AR, Kavosi Z, Sadeghi A, Barhaghtalab R. Knowledge, attitude, and practice of nurses in affiliated hospitals of shiraz university of medical sciences about infection control in 2016. *Nurs Midwifery J.* 2017;15(9):667-79.

**Cite this article as:** Eghbali-Amoughin F, Salehi N, Khavandizadeh-Aghdam S. Reasons for non-performing pap smear screening in nurses and midwives working in Ardabil city health centers. *Int J Community Med Public Health* 2024;11:1431-6.