Brief Communication

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Investigating Effective Factors in Performing Screening Mammography among Women Referring to Mammography Center

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ABSTRACT

Background:Breast cancer is the most prevalent cancer among women. This cancer could be easily intervened and even treated if it is diagnosed in the early stages. A screening program has been provided by the World Health Organization (WHO) to diagnose this cancer in the early stages and treat it successfully. Women refuse to undergo mammography for various reasons such as lack of knowledge about the necessity of doing mammography, low educational level, low household income, and woman's unemployment, having no medical insurance, having no family history of breast diseases, and a woman's lack of breast problems. This study aims to investigate the effective factors in performing screening mammography among women.

Methods: All the clients referring to the mammography center were included in the study to determine the desired sample size. In total, 150 individuals were selected and questions were asked of them. The questionnaire consisted of 17 items. In the first part of the questionnaire, demographic information including age, educational level, occupation, place of residence, insurance status, and monthly household income was asked. The second part included women's fertility history in terms of number of children, using hormonal methods of contraception, and other information like history of breast cancer and family history of breast cancer. In the last part, women under study were divided into 2 groups, one of them had done screening mammography before coming to the hospital and another group did not. We asked the second group about their reasons for refusing to do mammography in the past and we asked from first group about the source of information they had about doing mammography. The data were entered into SPSS software and analyzed.

Results: There was no significant correlation between doing screening mammography and educational level, age, place of residence, having health insurance, being employed and type of occupation, number of children, income level, using contraceptive methods, and family history of breast cancer. A significant correlation was observed between performing screening mammography and women's history of benign tumors (p<0.05, X2=7.44). A significant correlation was found between performing screening mammography and women's history of a malignant tumor (p<0.05 and X2=7.143)

Keywords: screening mammography, women's awareness, breast cancer

INTRODUCTION:

Breast cancer is the most prevalent cancer among women and is considered the first cause of cancerrelated deaths among women (1). Breast cancer is the second leading cause of cancer death after lung cancer (2), accounting for approximately 30% of women's cancers and more than 40,000 deaths per year. Furthermore, 15% of breast cancers are diagnosed in women younger than 40 years old, and the probability of breast cancer in an 80-year-old woman is one per ten cases (3).

Women, playing an essential role in raising children, constitute half of the population and are the backbone of families and society. Thus, their health is considered the society's health and is of great importance. Considering that breast cancer could be intervened and even treated if it is diagnosed in the early stages, a screening program has been organized by WHO in order to diagnose this cancer in the early stages and successfully treat it. Accordingly, women aged 20-30 years old should do breast self-examination every month and women over the age of 40 years old should do mammography every year, in addition to breast examination (4).

Self-examination, mammography and breast clinical examination are the most effective early diagnosis methods. Breast self-examination is the easiest and cheapest method for early disease diagnosis and is the best technique for timely diagnosis of breast cancer (5).

Although breast self-examination by the patient and physical examination by the physician could be used to detect breast cancer, using only these methods does not have a significant impact on early diagnosis of cancer. Mammography along with physical examination increases the accuracy of breast cancer diagnosis. Today, mammography along with other methods is a means to reduce the breast cancer death rate. Studies have demonstrated the success rate of breast cancer treatment is high among women whose breast cancer is diagnosed in the early stages by doing mammography screening, and the mortality of women participating in breast cancer screening decreases by 40%. Screening, which includes clinical examinations and mammography, significantly decreased the death rate from breast cancer among women aged 50-74 years old (6). Ohuchi et al. in a study on early detection of breast cancer concluded that through screening along with mammography, approximately 73 percent of breast cancers were detected and in screening test without mammography only 39 percent were detected (8).

Despite the effectiveness of screening mammography in the early diagnosis of breast cancer, a small number of women in our society are willing to do this procedure, so that results of a preliminary study conducted on 200 women referring to Al-Zahra Medical Education Center showed 69% of the participants did not use any screening method, 25% performed self-examination, 17% performed annual examinations by the physician and 5% underwent mammography. Moreover, there is not much information available about the correct implementation of the methods. The main reason why women avoid to do mammography is fear resulting from having incomplete information. Some women state that they are scared of finding undesirable results in their mammogram. However, only 20% of the tumors detected by mammograms are cancerous. Other reasons for avoiding to do mammography include low educational level, low household income and woman's unemployment, having no medical insurance, having no family history of breast diseases and woman's lack of breast problems (6).

In non-communicable disease control programs, breast cancer screening is recommended using mammography, and women (female teachers in different areas in Tehran) are received training in this regard at health centers. Although there is access to mammography centers in all cities in Tehran, studies have indicated public acceptance of these facilities is very low (10). Therefore, this study was conducted to identify the factors involved in performing screening mammography. The results could reveal the effective factors in doing mammography among women as well as reasons for avoiding this procedure.

Materials and methods:

In total, 150 women were selected among those who referred to the mammography center and asked to respond to the questionnaire. The initial questionnaire was developed by reviewing the literature related to mammography and experts' opinions in this field. Then, the developed questionnaire was completed as a pilot by 10 individuals from different radiology departments of Zanjan Ayatollah Mousavi Hospital, and examined in terms of clarity, transparency and simplicity of questions. The initial questionnaire defects were corrected. The questionnaire included 17 items. The first part of the questionnaire consisted of demographic information, including age, educational level, occupation, place of residence, insurance status and monthly household income. The second part included women's fertility history in terms of number of children, using hormonal methods of contraception and about other topics like family history of breast cancer. In the last part, there is a question which ask: Have you ever gone for a screening mammography? if the answer was yes, they had to answer this question: What was the source of your information about the need to do screening mammography? and if the answer was No, and they did not do any screening mammography in the past, they had to answer this question: What factors prevent screening mammography? The data were collected through the pre-prepared questionnaire and interviews. The inclusion criteria were being over 40 years old and women's consent to participate in the study. The exclusion criterion was suffering from breast, uterine, ovarian and cervical cancers at the study period. The data were entered into SPSS software and analyzed.

Data analysis method:

Descriptive statistics was used to show the absolute and relative frequency distribution of data and mean and standard deviation of quantitative data. Chi-square and regression tests were employed to investigate the correlation between the dependent variable (screening mammography) and independent variables.

Ethical considerations:

This study was conducted after getting approval from Ethics Committee of Zanjan University of Medical Sciences. The individuals voluntarily participated in the study and informed consent was obtained from them. The participants' information was kept confidential and used only for the purposes of the study.

Results:

There was no significant correlation between doing screening mammography and educational level, age, place of residence, having health insurance, being employed and type of occupation, number of children, income level, history of breast cancer, using contraceptive methods and family history of breast cancer. A significant correlation was observed between performing mammography and having the history of benign tumor (p<0.05 and X^2 =7.44). A significant correlation was found between performing mammography and having a history of a malignant tumor (p<0.05 and X^2 =7.143).

Following information investigates the criteria separately.

1.Distribution of absolute frequency and percentage of relative frequency of educational level

Level of education was divided into 6 groups, namely: illiterate, elementary school, junior school, senior school, BSc, MSc and PHD. Percentage of relative frequency was 21.3, 28, 10.7, 20, 16 and 4 respectively. Absolute frequency for each group was 32, 42, 16, 30, 24, 6 respectively. The findings show that a higher percentage of people participating in the study had their education in elementary school, 42 out of 150 people.

2. Distribution of absolute and relative frequency of screening mammography according to the level of education in women under study

Among 150 people, 70 people had done screening mammography, before coming to Ayatollah musavi hospital for mammography. Among these 70 people, absolute frequency and percentage of relative frequency for illiterate group were 13 and %18.6, for elementary school were 17 and %24.3, for junior school were 6 and %8.6, for senior school were 18 and %25.7, for BSc were 14 and 20% and for MSc and PHD group were 2 and 2.9 % respectively.

Among 150 people, 80 people had not done screening mammography, before coming to Ayatollah musavi hospital for mammography. Among these 80 people, absolute frequency and percentage of relative frequency for illiterate group were 19 and 23.8 %, for elementary school were 25 and 31.2 %, for junior school were 10 and 12.5%, for senior school were 12 and 15%, for BSc were 10 and 12.5% and for MSc and for PHD group were 4 and 5% respectively.

The P value was 0.354 and the X^2 was 5.54.

The difference would be significant when Chi-square value is less than 0.05 and not be significant when Chi-square value is above 0.05.

The above information shows those who had a Diploma degree more frequently performed screening mammography. However, X^2 statistical test results indicated this difference was not significant and there was no correlation between educational level and doing screening mammography.

3. Distribution of absolute and relative frequency of living place in women under study

Location of living was divided into 2 groups, namely: urban area and rural area. Among 150 people, 127 people lived in urban area with relative frequency of 84.7 % and 23 people lived in rural area with relative frequency of 15.3 %.

The findings show that a higher percentage of people participating in the study live in the urban area.

4. Distribution of absolute and relative frequency of screening mammography according to place of residence in women under study

Among 70 people who had done screening mammography, before coming to Ayatollah musavi hospital for mammography, 62 people lived in urban area and Percentage of relative frequency for this group was 88.6 %. Others who were 8 people lived in rural area and percentage of relative frequency for this group was 11.4 %. Among 80 people who had not done screening mammography, before coming to hospital for mammography, 65 people lived in urban area and percentage of relative frequency was %81.2 for them and only 15 people lived in rural area. The percentage of relative frequency was %18.8 for them.

Calculated P value is 0.155 and X^2 is equal to 1.541. Moreover, the differences would be significant when Chi-square value is less than 0.05 and not be significant when Chi-square value is above 0.05.

So, the above information shows that among the places of life, people who lived in the city had done more mammography screening. But according to the chisquare test, this difference is not significant and there is no relationship between the place of residence and the screening mammography.

5. Distribution of absolute and relative frequency of having health insurance in women under study

People under study divided in to 2 groups in aspect of having health insurance. One of them had health insurance and another one did not have. 142 people from 150, had health insurance and relative frequency was %94.7 for them. 8 people did not have insurance and percentage of relative frequency was 5.3 % for them.

The findings show that a higher percentage of people participating in the study had health insurance.

6. Absolute and relative frequency distribution of screening mammography

according to having health insurance

Among 70 people who had done screening mammography, before coming to Ayatollah musavi hospital for mammography, 68 people had health insurance and 2 people did not have. Percentage of relative frequency was 97.1% and 2.9% respectively. Among 80 people had not done screening mammography, before coming to Ayatollah musavi hospital for mammography, 74 people had insurance

and 6 people did not have. Percentage of relative frequency was 92.5% and 7.5% respectively. p value is 0.186 and X^2 is equal to 1.594.

The difference would be significant when Chi-square value is less than 0.05 and not be significant when Chi-square value is above 0.05. So, the above numbers show that people who had health insurance had done more screening mammography. But according to the chi-square test, this difference is not significant and there is no relationship between having health insurance and doing screening mammography.

7. Distribution of absolute and relative frequency of job type in women under study

We asked about their jobs. In this regard, we divided different occupations into 3 groups for women, namely: housewife, medical department employee and non-medical department employee. 116 of them were housewives, 11 of them worked in medical department and 23 of them had careers in non-medical department. The Percentage of relative frequency for them were 77.3%, 7.3% and 15.3% respectively.

The findings show that a higher percentage of people participating in the study were housewives.

8. Distribution of the absolute and relative frequency of screening mammography according to the type of occupation among women under study

Among 70 people who had done screening mammography, before coming to Ayatollah musavi hospital for mammography, 53 people were housewife, 5 people were medical department employees and 12 people were non-medical department employees. Percentage of relative frequency was 75.77%, 7.1% and 17.1% respectively. Among 80 people who had not done screening mammography, before coming to Ayatollah musavi hospital for mammography, 63 people were housewife, 6 people were medical department employees and 11 people were non-medical department employees. Percentage of relative frequency was 78.8%, 7.5% and 13.8% respectively. P value is 0.847 and X² is equal to 0.331.

The above finding shows that among the occupational groups, more housewives had done screening mammography. But according to the Chi-square test, this difference is not significant and there is no relationship between the type of job and the screening mammography.

9. Distribution of absolute and relative frequency of use of contraceptive methods in women under study

Among 150 people, 84 people used contraceptive (56%) and 66 people did not use (44%).

The findings show that a higher percentage of people participating in the study have used contraceptive methods.

10. Absolute and relative frequency distribution of screening mammography in terms of pregnancy prevention in women under study

Among 150 people, 70 people had done screening mammography, before coming to Ayatollah musavi hospital for mammography. Half of these 70 people, used contraceptive methods and half of them did not use. So, percentage of relative frequency for both of them were 50%. Among 80 people who had not done screening, 49 people (61.2%) used contraceptive and 31 people (38.88%) did not use.

P value is 0.111 and X^2 is equal to 1.918.

The above information shows that people who have used contraception and have done screening mammography are compared to people who have not used contraception and have done screening mammography. But according to chi-square test, this difference is not significant and there is no relationship between performing pregnancy prevention and performing mammography screening.

11. Distribution of absolute and relative frequency of family and acquaintances having a history of cancer in women under study

16 people out of 150(10.7%), had cancer experience and 134 people did not have (89.3%).

The findings show a smaller percentage of people participating in the study had a history of breast cancer

in their family and acquaintances.

12. Distribution of the absolute and relative frequency of screening mammography according to the presence of breast cancer history in family and acquaintances in women under study

6 people among 70, had cancer experience in their family and acquaintances (8.6%) while 64 people did not have (91.4%). 10 people among 80, had cancer experience in their family and acquaintances (12.5%) while 70 people did not have (87.5%).

P value is 0.306 and X^2 is equal to 0.605.

* The above information shows that people who did not have a history of breast cancer in their family or acquaintances have done more screening mammography. However, according to the chi-square test, this difference is not significant and there is no relationship between having a history of cancer and performing a screening mammogram.

13. Distribution of absolute and relative frequency of presence of benign mass in women under study

15 people among 150, had a history of benign mass (10%) and 135 people did not have (90%). The findings show that a smaller percentage of people participating in the study had a history of benign mass.

14. Distribution of the absolute and relative frequency of screening mammography according to the presence of a history of benign mass in women under study

12 people among 70, had a history of benign mass (17.1%) while 58 people did not have (82.9%). 3 people among 80, had a history of benign mass (3.8%) while 77 people did not have (96.2%).

P value is 0.006 and X^2 is equal to 7.440.

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* The above information shows that people who have a history of benign mass have more screening mammography. And according to the chi-square test, this difference is significant and there is a relationship between the presence of a history of benign mass and screening mammography.

15. Distribution of absolute and relative frequency of presence of malignant mass in women under study 6 people among 150, had a history of malignant mass (4%) and 144 people among 150, did not have (96%). The findings show that a smaller percentage of people participating in the study had a history of malignant mass.

16. Distribution of the absolute and relative frequency of screening mammography according to the presence of a history of malignant mass in women under study 6 people among 70, had a history of malignant mass (8.6%) while 64 people did not have (91.4%). 0 people among 80, had a history of malignant mass (0%) while 80 people did not have (100%). Calculated P value is 0.009 and X^2 is equal to 7.143.

The above information shows that people who have a history of malignant mass have more screening mammography. And according to the chi-square test, this difference is significant and there is a relationship between the presence of a history of malignant mass and screening mammography.

17. Distribution of absolute and relative frequency of mammography in women under study

70 people among 150, performed screening mammography (46.7%) and 80 people did not do (53.3%).

The findings show: A smaller percentage of people participating in the study have performed screening mammography.

17. Distribution of absolute and relative frequency of age in women under study

Women under study were divided into 4 groups in aspect of age, namely: 30-40, 41-50, 51-60 and over 60 years old. 45 people out of 150 belonged to first group (30%). 75 people out of 150 belonged to second group (50%). 23 people out of 150 belonged to third group (15.3%) and only 7 persons were over 60 years old (4.7%). The findings show that a higher percentage of people participating in the study were in the age group of 41-50 years. 18. Distribution of absolute and relative frequency of screening mammography according to age in women under study

Among 70 people who had done screening mammography, before coming to Ayatollah musavi hospital for mammography, 17 people (24.3%) were 30-40 years old, 40 people were 41-50(57.1%) years old, 10 people were 51-60(14.3%) years old and 3 of them were over than 60 years old (4.3%).

Among 80 people who had not done screening mammography, before coming to Ayatollah musavi hospital for mammography, 28 people (35%) were 30-40 years old, 35 people were 41-50(43.8%) years old, 13 people were 51-60(16.2%) years old and 4 of them were over than 60 years old (5%).

P value is 0.407 and X^2 is equal to 2.903. The above information shows that among the age groups, people who were 41 to 50 years old have done screening mammography more often. But according to chi-square test, this difference is not significant, and there is no relationship between age and screening mammography.

19. Distribution of the absolute and relative frequency of the number of children in women under study

Women under study were divided into 3 groups in aspect of number of children, namely: no children group, 1-4 children and more than 4 children. 3 people out of 150 belonged to first group (2%). 123 people out of 150 belonged to second group (82%). 19 people out of 150 belonged to third group (12.7%). we should mention that, we had 5 missing data (3.3%).

The findings show that a higher percentage of people participating in the study had 1-4 children.

20. Distribution of the absolute and relative frequency of screening mammography according to the number of children in women under study

Among 68 people (2 missing data) who had done screening mammography, before coming to Ayatollah musavi hospital for mammography, 2 people (2.9%) had no children, 59 people (86.6%) had 1 to 4 children,7 people (10.3%) had more than 4 children.

Among 80 people (3 missing data) who had not done screening mammography, before coming to Ayatollah musavi hospital for mammography, one person (1.3%) had no children, 64 people (83.1%) had 1 to 4 children and 12 people (15.6%) had more than 4 children.

P value is 0.522 and X^2 is equal to 1.299.

* The above information shows that people who have had between 1 and 4 children have done screening mammography more often. But according to the chisquare test, this difference is not significant and there is no relationship between the number of children and the screening mammography.

21. Distribution of absolute and relative frequency of household income in women under study

Women under study were divided into 3 groups in aspect of income, namely: Under 500,000 (low), 500,000-1000000(intermediate) and over 1000000(high). 26 people out of 150 belonged to first group (17.3%). 64 people out of 150 belonged to second group (42.7%). 25 people out of 150 belonged to third group (16.7%). we should mention that, we had 35 missing data (23.3%). The results show that the highest percentage of income in the people under study is related to the incomes of 500,000-1,000,000.

22. Distribution of the absolute and relative frequency of screening mammography according to the household income of the women under study

Among 58 people (12 missing data) who had done screening mammography, before coming to Ayatollah musavi hospital for mammography, 11 people (19%) had low income, 34 people (58.6%) had intermediate income and 13 people (22.4%) had high income.

Among 57 people (23 missing data) who had not done screening mammography, before coming to Ayatollah musavi hospital for mammography, 15 people (26.3%) had low income, 30 people (52.6%) had intermediate income and 12 people (21.1%) had high income.

P value is 0.639 and X2 is 0.897.

The above information shows that people whose family income was between 500,000 and 1,000,000 have

Table 1. Distribution of the absolute and relative frequency of factors recommended by doctors, medical personnel, television, m	nagazines,
friends, and other factors in screening mammography in women under study	

frequency	Percentage of relative frequency	Absolute frequency
advice s'Doctor	38.7	58
Medical personnel	2	3
TV	2.7	4
Magazines	0.7	1

The findings show that the doctor's recommendation has the highest percentage among the factors affecting screening mammography.

Table2. Distribution of absolute and relative frequency of worrying about the result, self-examination, lack of doctor's advice, lack of knowledge, fear of radiation risks, time-consuming, painful, cost, and other factors in not performing screening mammography in women

frequency	Percentage of relative frequency	Absolute frequency
result the about Worry	4	б
examination-Self	1.3	2
Lack of doctor's advice	12	18
Ignorance	30	45
Fear of radiation hazards	2	3
being time consuming	0	0
being painful	2.7	4
Cost	1.3	2
Other cases	5.3	8
Sum	58.6	88

The findings show that lack of awareness has the highest percentage among the factors influencing the failure to perform screening mammography.

done screening mammography. But according to chisquare test, this difference is not significant and there is no relationship between household income and mammography screening.

Discussion:

Results of this study conducted on 150 women aged 30 to over 60 years old showed 53.3% of the women performed screening mammography and reported that doctor's recommendation was the most informative source for doing screening mammography. Lack of information was the most common reason for avoiding screening mammography. Salimi Pormehr et al. (2009) conducted a descriptive and analytical study on 300 women, entitled "Investigating Breast Cancer Screening Tests and Corresponding Effective Factors among Women Referring to Health Centers in Ardabil" and reported breast self-examination, clinical examination and mammography statistics as 4%, 4.7% and 3.7%, respectively. In line with our results, no significant correlation was found between insurance status, history of hormone therapy and breast cancer screening tests. The low rate of breast cancer screening tests in Ardebil and identified effective factors highlighted the importance of providing appropriate educational programs and conducting interventional studies.

Given that this study was conducted at a mammography center and the population included all the women referring to the mammography center, the rate of doing screening mammography was high in this study (11). In our study, most of the women referring to the center performed mammography and women with history of benign tumor performed screening mammography. The Chi-square test results indicated this difference was significant and there was a correlation between having the history of benign tumor and doing screening mammography. Women with the history of malignant tumor underwent screening mammography. The Chisquare test showed this difference was significant and there was a correlation between having the history of malignant tumor and undergoing screening mammography.

Farshbaf Khalili et al. conducted a study (2008) on 400 women aged 20-50 years old, entitled "status of breast cancer screening methods and factors affecting it among women referring to health centers in Tabriz". The results revealed only 18.8% of women performed breast self-examination, 19.1% performed clinical breast examination and 3.3% performed mammography. The rate of screening mammography in their study was significantly lower than the rate reported in our study in Zanjan, the reason for which was previously discussed. In our study, breast self-examination and clinical examination were not addressed. In the study conducted in Tabriz, the main reasons for women who did not perform screening included lack of information about screening methods, lack of breast problems and failure to perceive the necessity of doing mammography. However, in our study conducted in Zanjan, lack of information was the only reason for ignoring screening mammography.

In the study conducted in Tabriz, the statistical test showed a significant correlation between performing breast self-examination and educational level, employment, income, number of children, history of breastfeeding, quality of breastfeeding and family history of breast cancer. However, no significant correlation was found between these factors and screening mammography in our study. In line with our results that there was a significant correlation between undergoing mammography and having the history of benign mass and having the family history of breast cancer (p<0.05), they found a statistically significant correlation between performing clinical breast examination and having the history of benign breast mass as well as undergoing mammography and having the history of benign breast mass. The investigation conducted in Tabriz showed the status of breast cancer screening among the studied women was not satisfactory. Thus, health workers should provide training about breast cancer screening methods, especially during pregnancy and post-delivery, even in premarital counseling sessions (6).

Abadian Kasgari et al. (2004) conducted a study on 400 women aged over 40 years old, entitled "Women's health beliefs about mammography at health centers in Sari". The majority of the women (69.5%) had never done mammography, 13.9% stated that only their first-degree relatives have done mammography, 55.8% completely agreed that doing mammography makes them confident about their breast health and 41.6% totally agreed that early detection of breast cancer could prevent complete removal of the breast. The most common barrier to performing mammography was that they believed performing breast self-examination to find a breast mass is sufficient and there is no need to perform mammography. There was no statistically significant correlation between women's job and their opinions regarding the benefits and obstacles of mammography and risk of getting cancer and severity of breast cancer. There was a significant correlation between women's educational level and their opinions regarding the benefits and obstacles of mammography (12). However, no significant correlation was observed between these factors and screening mammography in our study.

Banaeian et al. (2006) conducted research, entitled "Investigating Awareness, Attitude and Performance of Women Referring to Health Centers towards Breast Cancer Screening Methods and Effective Factors in Borujen". In this study, 52.5% of women were aware of one of the screening methods, only 16.7% had a positive attitude towards mammography, 43.7% believed in early detection of mass by mammography,

39.8% knew about self-examination and only 4.5% regularly and monthly performed self-examination and referred to do mammography. Mammography was only associated with having the history of breast diseases and educational level. Compared to our study, a smaller percentage of women referred for screening mammography (13).

Conclusion:

The obtained results revealed that the doctor's recommendation has the highest percentage among the factors affecting screening mammography. Lack of information was reported as the most important reason for avoiding screening mammography. Thus, it is suggested to raise women's awareness in the society and necessary measures should be taken by Ministry of Health and Medical Education to raise women's awareness of breast cancer screening, prevent breast cancer progression and diagnose the disease in the early stages. Among the factors affecting screening mammography, doctor's recommendation played a major role, and other factors (medical personnel, TV and magazine) contributed less. Therefore, further efforts should be made on the influence and role of these factors.

Limitation:

Considering that this research was conducted in a government hospital. So, people with lower income or literacy or a certain social level may refer to it, due to the provision of medical services at a lower cost. It would be better if the number of people under study were increased and conducted in several public and private centers in different parts of the city, so, the results would be more reliable. However, our budget and time did not allow us to do this.

Data Availability:

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The data used to support the findings of this study are available from the corresponding author upon reasonable request.

Conflict of interest:

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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