



Evaluation of Smoking Cessation Success Rate and Its Effective Factors in Patients Referring to the Smoking Cessation Clinic of Farshchian Specialized Heart Hospital in Hamadan, Iran

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Abstract

Introduction: The success or failure of quitting smoking is determined by various factors in smoking cessation clinics. This study aimed to evaluate the rate of smoking cessation success in smoking cessation clinic patients.

Method: This cross-sectional study was conducted on all smokers referring to the smoking cessation clinic of the Farshchian Specialized Heart Hospital, Hamadan, Iran, during 2017-2021. Patient's demographic and smoking information were included in checklists, the Fagerström questionnaire, and the Patient Health Questionnaire (PHQ) by the clinic physician. The smoking cessation interventions, including CBT behavior therapy and drug therapy, were conducted based on the patient's preference and the physician's discretion. The sessions were continued for at least four sessions with an interval of one week. After the sessions, the patients were followed up four times: One, three, six, and twelve months later.

Findings: The present study was conducted on 136 patients (95.6% male) who completed the sessions. The average smoking duration was 23.33 years, with a cigarette consumption rate of 21.83 cigarettes per day. One-year quit success rate was 60.2%. Significant associations were also found between successful quitting and older age of smoking initiation, presence of non-communicable diseases and psychiatric disorders, and urban residence ($P < 0.05$). Logistic regression identified that achieving early complete abstinence (OR: 0.23, $P = 0.003$) and not using e-cigarettes (OR: 3.89, $P = 0.012$) significantly increased the odds of success. Varenicline was the primary medication, with 32.4% reporting side effects, mainly nausea.

Conclusion: According to the results, the academic clinic can be effective in helping patients to quit smoking as a major risk factor in many non-communicable diseases.

Keywords: Smoking cessation, Achievement, Hospital medicine, Iran

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Introduction

Smoking is one of the unhealthy behaviors that not only threatens the health of individuals and society but also is a significant cause of death. Meanwhile, premature death in the world is often caused by smoking, which is a preventable cause.^{1,2}

According to the World Health Organization (WHO) report, the Age-standardized prevalence of current tobacco use among people aged 15 years and older (2020) in Iran is estimated to be 13.6%, which is reported as 24.1% among men and 3.1% among women. The Age-standardized prevalence of current tobacco smoking in the same age

group for both sexes is 9.8%, while the cigarette smoking rate is 8.1%. It is expected that the prevalence (not age-standardized) of tobacco use in Iran will decrease with the implementation of tobacco control programs from 19.1% in 2020 to 13.3% in both sexes in 2025. The goal of the Global Action Plan for the Prevention and Control of Noncommunicable Diseases (NCD GAP) is to reduce the prevalence of tobacco use (smoked and smokeless tobacco) by 30% by 2025 relative to 2010.

It is predicted that the prevalence of tobacco use in Iran will decrease by 17% between 2010 and 2025.³ Cigarette smoke contains many carcinogenic chemicals. Smoking is



responsible for about 20% of cancer deaths worldwide and is the most important cancer risk factor. Also, smoking contributes to approximately 70% of deaths related to lung cancer.

The National Document for the Prevention of Noncommunicable Diseases in Iran has estimated about 1,500 DALYs per 100,000 people for smoking in 2010, while the global rate at that time was about 2,100 per 100,000 people.⁴

There are approximately 250 million smokers worldwide, the majority of whom also use other substances. Every year, tobacco usage causes at least one million deaths worldwide.⁵ Smoking places a substantial economic burden on Iranian society.⁶ According to the WHO report, more than 17.5% of Iranian adolescents aged 13 to 15 years (23.7% of males and 11% of females) smoke cigarettes.⁷

In 2013, the WHO committed the countries of the world to reduce the prevalence of tobacco use to a third of the current level by 2025.³ In line with this objective, the National Committee for the Prevention and Control of Non-Communicable Diseases of the Islamic Republic of Iran was established by the WHO to decrease mortality by 25% by 2025. In this regard, reducing risk factors such as smoking is a priority.⁸

One of the tobacco control programs is helping smokers to quit smoking. To be successful in this program, it is necessary to identify the factors affecting the dropout and plan accordingly.²

Until now, various studies have been conducted on smoking cessation clinics and the variables influencing cessation in several clinics around the world. These studies have evaluated the rate of success in quitting smoking at different time periods of one, three, and six months, and one year. These studies showed that this rate has varied from 20.6 to 95.7%, depending on the viable variables such as nicotine dependence, side effects of deprivation syndrome, type of quitting medicine, follow-up after stopping, and using electronic cigarettes.⁹⁻¹¹

Previous studies have indicated an inverse relationship between the degree of nicotine dependence and success rate in smoking cessation. There is still disagreement on other issues, such as the symptoms of deprivation syndrome and different effects of these symptoms, the type of drug withdrawal, and many other influencing factors. Considering the significance of investigating the components affecting the success rate of smoking cessation, this study aimed to evaluate the different variables affecting the success rate of smoking cessation within the smoking cessation clinic of the Farshchian Specialized Heart Hospital, Hamadan, Iran.

Methods

The samples of this cross-sectional study were included in the study using a census method. All smokers who referred to the smoking cessation clinic of Farshchian Specialized Heart Hospital or to other specialists in Hamadan city were included between September 2017 and September

2021.

The inclusion criteria were age greater than 15 years and smoking one cigarette per day for more than 6 months. Patients who did not complete the required sessions (at least 4 sessions) were excluded from the study. The data were collected using the checklist available in the clinic, which was prepared based on the smoking cessation guidelines in Iran.

The checklist included demographic information (age, gender, education level, occupation, and residence), medical history, drugs used, number of cigarettes consumed per day, years of smoking, use of electronic cigarettes, previous history of quit attempts and consumption, the previous history of trying to quit smoking, alcohol and other substances, and the reason and motivation to quit smoking in this referral were asked in the form of open-ended questions. Finally, based on the answers, the participants' answers were categorized. The participants' answers were categorized as suffering or worrying about disease-related smoking, both in participants and their relatives, concerning their children's attitudes, personal issues (health concerns, price, etc.), social stigma, pressure from families, etc.

Two questionnaires were provided at the time of referral, including Fagerström's 7-question Persianized questionnaire (FTND) and the mood questionnaire (PHQ)⁸. The Fagerström's questionnaire showed the level of nicotine dependence, and the answers to some questions were in the range of 0-1, and other questions were in the range of 0-2. The final result was in the range of 1-2, which indicated low dependence, 3-4 low to moderate dependence, 5-7 medium dependence, and 8 and above indicated high dependence. The second questionnaire (Persian PHQ: Patient Health Questionnaire) examined the mood of the participants during the last two weeks⁸.

This questionnaire consisted of nine questions with four answers, ranging from never (score: 0), sometimes days (score: 1), more than half of the days (score: 2), and almost every day (score: 3). The questions of this questionnaire were about the feeling of interest and pleasure in conducting works, feelings of sadness, depression, and hopelessness, sleep problems, feeling tired and low energy, abnormally low or high appetite, feeling bad about oneself, concentration problems, slowness of movements and suicide thoughts, which were evaluated based on the scores from completely normal to severe depression:

0-4: Normal or full recovery

5-9: Presence of depression symptoms

10-14: Mild depression

15-19: Moderate depression

20 ≤ : Severe depression

If a person were diagnosed with moderate to high depression, they would be referred to a psychiatrist before quitting smoking.

The demographic information form and the Fagerström and PHQ questionnaires were completed by the individuals themselves, and then the other information checklist was completed by a preventive medicine physician in the first

session, while starting the cessation interventions.

Recommendations and behavioral support were presented from the first session for at least 30 min as individual counseling (face-to-face) or group counseling (considering the individual's conditions and requests) in accordance with the 5A and 5R strategies (introduced by Prochaska and Goldstein in 1991).¹²

Then, the counseling sessions were continued for at least 4 sessions according to the patient's cooperation. In these sessions, various measures are conducted, including the continuation of behavioral support, helping to solve patients' problems, symbolic quit, counseling on coping with cravings, and recommending lifestyle improvements such as physical activity. The complete smoking cessation was usually done in the second or third session according to the arrangement with the individual. After the end of the counseling sessions, the participants were asked to be visited for follow-up at one, three, six, and twelve months after the final cessation. If a person was not able to attend the follow-up sessions for any reason, the closest possible date was considered and coordinated again. In the follow-up sessions, issues such as emphasizing on continuation of smoking cessation, smoking cessation symptoms, and ways to deal with them were discussed. If the participants did not want to be visited in person for follow-up, they were asked over the phone about the continuation of smoking cessation and possible problems by the health care provider (secretary of the smoking cessation clinic). Quitting results were recorded in the last quitting session and follow-up sessions in the form of complete withdrawal, failure, and harm reduction, which means reducing the number of cigarettes consumed to less than half of the amount consumed¹³. The participants who smoked more than 10 cigarettes per day or whose Fagerström score was more than 5, in addition to existing behavioral therapies, received medication in accordance with the individual's desire and the physician's discretion. This method was also applied to the participants who had a lot of anxiety about quitting or who had failed to quit smoking many times before. The duration of medication use was considered to be 12 weeks. The only drugs available with easy access for quitting in the country's pharmacies were Nicotine Gum, Bupropion 150 SR, and Varenicline, all of which are not covered by insurance. If the patients had registered the wrong contact number in the file or if they did not respond after 5 calls for follow-up at different times, they were considered as not informed (failure). In this study, counseling and behavioral support were covered by health insurance, but the cost of medicine was paid by the individual without insurance coverage.

Finally, the obtained data were analyzed using SPSS software (Version 24, Chicago, IL, USA). Data were reported as percentages, means and standard deviation, median, mode, and range.

Statistical analyses were performed using SPSS software version 27. The relationships between variables were assessed using Chi-squared tests, independent samples t-tests, one-way ANOVA, and the Mann-Whitney U test.

Stepwise logistic regression was then used to identify independent predictors of one-year smoking cessation success. Statistically significant level was considered at $P < 0.05$.

Results

In this study, the total number of participants referring to the smoking cessation clinic was 384. Among them, 136 people (35.5%) finished their required quitting sessions. Table 1 provides a summary of participant characteristics, including both categorical and continuous variables. The sample consisted predominantly of men (95.6%), with the majority falling within the 31-50 age group and being married (64%). Educational attainment varied, with 44.1% holding a university degree. The majority were employed (83.1%) and living in urban areas (77.9%). Regarding smoking habits, participants smoked 21.83 cigarettes per day on average ($SD = 10.36$) for a mean duration of 23.33 years ($SD = 12.95$). A significant proportion (66.9%) had a history of previous quit attempts. Treatment characteristics revealed that most participants had a history of medication use for smoking cessation (77.2%) and had attended four or more cessation sessions (69.1%). Additionally, the average of the weight, height, and BMI was 78.7 ± 14.8 , 173 ± 8.8 , and 26.1 ± 4.2 , respectively. Figure 1 presents the reasons participants reported for their willingness to quit smoking. The reasons were categorized as: Suffering from or worrying about smoking-related diseases, general concerns about smoking (health, price, social stigma), social stigma, relatives suffering from or worrying about smoking-related diseases, worrying about setting a negative role model for children, family pressure, and willingness to change lifestyle.

Table 2 details the substance use history of participants, revealing that most had no history of hookah use (86.8%) or other substance use (68.4%). Among those who did, opioid use was the most commonly used substance (27.9%). While 36.8% had a history of alcohol consumption (mostly nondependent), most participants had a history of chronic diseases (55.1%) and did not use e-cigarettes (82.4%). A significant number of participants had previously attempted to quit smoking (62.5%). Table 3 outlines adverse effects related to varenicline, with mild nausea and vomiting being the most frequently reported (36.4%), followed by severe nausea and vomiting (13.6%) and drowsiness (11.4%), respectively. At the last counseling session, nearly all participants reported success (94.8%) or harm reduction (5.2%). However, the success rate decreased over time, with 60.2% reporting success at the one-year follow-up, 19.1% reporting harm reduction, and 20.7% classified as failures (Table 4). Table 5 presents the relationship between various study variables and smoking cessation success. Significant associations were found between age of smoking initiation and quitting success at the first month follow-up, presence of underlying disease and psychiatric disorder, residence place, use of e-cigarette, and BMI increase after quitting at the first month, third month, six months, and twelve-

Table 1. Demographic characteristics and smoking information of 136 patients who referred to the Smoking Quit Clinic of Farshchian Heart Center (2017-2021)

Variable		Frequency (%)
1a. Categorical variables		
Marital status	Single	20 (14.7%)
	Married	109 (80.1%)
	Divorced	1 (0.7%)
	Unclear	6 (4.6%)
Education level	Illiterate	1(0.7%)
	A diploma or less	73 (53.7%)
	Associate's degree and bachelor's degree	55 (40.4%)
	Master's degree and above	6 (4.4%)
	Unclear	1(0.7%)
Place of residence	Hamadan city	110 (80.8%)
	Other cities of the province	13 (9.6%)
	The villages of the province	2 (1.5%)
	Cities outside of the province	5 (3.7%)
	Unclear	6 (4.4%)
Job	Unemployed	4 (2.9%)
	Self-employed	69 (50.7%)
	Government	19 (14%)
	Retired	33 (24.3%)
	Housewife	4 (2.9%)
	University student	5 (3.7%)
	Unclear	2 (1.5%)
1 b. Continuous variables		
Variable	Average (SD)	Range
Age (years)	48.12 (13.49)	-
Duration of smoking (years)	28.41 (13.73)	-
Number of cigarettes	20.11 (10.83)	2-60
Duration of hookah use (years)	1.58 (5.24)	0-35
Age of smoking initiation (years)	19.63 (5.37)	10-36
Previous history of quit attempts	1.68 (2.16)	0-10
Number of days of electronic cigarette use (days)	2.06 (9.91)	0-90
Fagerstrom score	4.78 (2.42)	1-9
PHQ score	10.91 (6.79)	-
Cessation sessions in participants	4.11 (1.40)	1-18
Duration of varenicline consumption (weeks)	8.25 (4.02)	0-14
Adherence to recommended behaviors (mean percentage of patient compliance)	76.61 (16.6)	10-90
The rank of the session in which the person quit smoking	2.90 (0.82)	0-5

month follow-ups ($P < 0.05$).

There was a statistically significant relationship between the age of smoking initiation, presence of non-communicable diseases, psychiatric disorder, place of residence (OR = 3.3, CI = 1.25-7.32), electronic cigarette, and BMI increase after quitting with the success of quitting in different months (Table 5).

Logistic regression analysis revealed that the odds of successful smoking cessation were significantly higher when complete abstinence was achieved in earlier treatment sessions (OR: 0.23, 95% CI: 0.09-0.61, $P = 0.003$).

Furthermore, individuals with no history of e-cigarette use demonstrated a significantly greater probability of successful quitting compared to those who had used e-cigarettes (OR = 3.89, 95% CI: 1.35-11.18, $P = 0.012$).

Discussion

The study was performed on 136 individuals visiting the smoking cessation clinic of Farshchian Heart and Vascular Hospital who participated in all smoking cessation sessions. The patients were observed and examined in person for one year after stopping the drug use at intervals of one,

Table 2. Substance use history and cessation patterns among patients at the Smoking Cessation Clinic of Farshchian Heart Center (2017-2021)

Variable		Frequency (%)
History of hookah use	Yes	18(13.2%)
	No	118(86.8%)
Alcohol consumption pattern	Occasionally	18(100%)
	Continuously (daily)	0
History of alcohol consumption	No	86(63.2%)
	Yes (independent)	47(34.6%)
	Yes (dependent)	3(2.2%)
	Total	136(100%)
Use other substances	No	93(68.4%)
	Opioid	38(27.9%)
	Stimulants	5(3.7%)
	Total	136(100%)
History of chronic underlying disease	Yes	75(55.1%)
	No	61(44.9%)
	Total	136(100%)
History of electronic cigarette use	Yes	24(17.6%)
	No	112(82.4%)
	Total	136(100%)
History of pipe use	Yes	1(0.7%)
	No	135(99.3%)
Previous history of smoking cessation	Yes	85(62.5%)
	No	51(37.5%)
History of alcohol quit in dependent patients	Yes	1(33.3%)
	No	2(66.7%)
History of substance quit in drug users	Yes	26(60.5%)
	No	17(39.5%)
Satisfaction with electronic cigarette consumption	Yes	2(8.3%)
	No	22(91.7%)

Table 3. Varenicline-associated adverse effects in patients at the Smoking Cessation Clinic of Farshchian Heart Center (2017-2021)

Side effect	Frequency	Percentage (%)
Mild nausea and vomiting	16	36.4
Severe nausea and vomiting	6	13.6
Drowsiness	5	11.4
Constipation	3	6.8
Dyspnea	2	4.5
Low Mood	2	4.5
Vertigo	2	4.5
Headache	2	4.5
Out-of-body experience	1	2.3
Abdominal pain	1	2.3
Insomnia	1	2.3
Urticaria	1	2.3
Sweating	1	2.3
Decreased libido	1	2.3
Total	44	100

Table 4. Smoking cessation outcomes and follow-up results for patients at the Smoking Cessation Clinic of Farshchian Heart Center (2017-2021)

Follow-up Period	Outcome	Frequency (%)
Last session	Success	129 (94.8%)
	Harm Reduction*	7 (5.2%)
One-month follow-up	Failure	129 (94.8%)
	Harm Reduction	7 (5.2%)
Three-month follow-up	Success	119 (87.5%)
	Harm Reduction	15 (11%)
	Failure	2 (1.5%)
Six-month follow-up	Success	112 (82.3%)
	Harm Reduction	19 (13.9%)
	Failure	5 (3.8%)
One-year follow-up	Success	82 (60.2%)
	Harm Reduction	26 (19.1%)
	Failure	28 (20.7%)

*Reducing the number of cigarettes consumed to less than half (7).

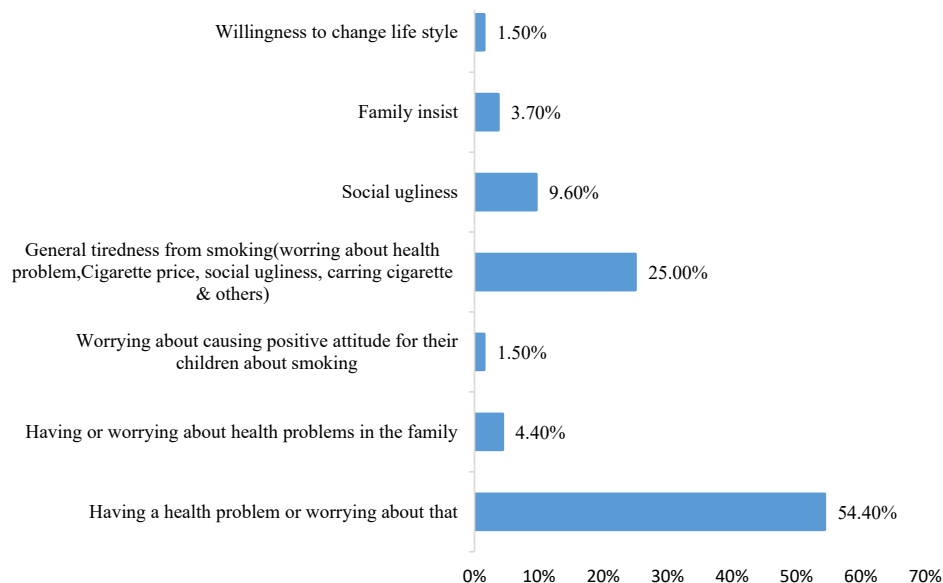
**Figure 1.** Motivating factors for smoking cessation among 136 participants at the smoking cessation clinic of Farshchian Heart Center (2017-2021)

Table 5. The relationship between smoking cessation success and study variables in patients attending the Smoking Cessation Clinic of Farshchian Heart Center (2017-2021)

Variable	Follow-up period	Successful Quitters (Mean/Percentage)	Unsuccessful Quitters (Mean/Percentage)	P-value
Age of smoking initiation	First month ^a	19.89 ± 5.39	15.71 ± 3.14	0.02
The presence of an underlying disease	First month ^β	53.4%	46.6%	0.04
Psychiatric disorder	First month ^β	85.7%	97.5%	0.02
	The third month ^β	64.3%	90.2%	0.005
	The six month ^β	64.3%	84.4%	0.04
Place of residence	The twelve month ^β	87.7%	64.3	0.01
Electronic cigarette	The six month ^β	33.3%	66.1%	0.02
	The twelve month ^β	66.7%	85.7%	0.02
BMI increase after quitting	The twelve month	0.2 ± 0.6	0.3 ± 0.6	0.007

α: Mann-Whitney U test, β: Chi².

three, six, and twelve months to check their success rate and the factors related to smoking cessation. The findings indicated that the majority of those visiting the clinic were men who lived in Hamadan city, and most of them were married and lived in low socioeconomic areas, holding a diploma or lower degree of education, and primarily worked in non-governmental positions. The patients had an average age of 48.12 ± 13.49 years. The average duration of smoking, number of cigarettes, age of starting smoking, and the Fagerström score were 28.41 ± 13.73 , 20.11 ± 10.83 , 19.63 ± 5.37 , and 4.78 ± 2.42 , respectively. The patients generally mentioned a health-related problem or health-related concern as the main reason for quitting smoking. Varenicline alone or Varenicline with Nicotine Gum were prescribed to reduce symptoms of smoking cessation. The most common side effect reported for Varenicline was mild nausea and vomiting. The success rate of one-year quitting was 60.2%, and the influencing factors on the success of quitting were older age of starting smoking, presence of non-communicable disease, absence of psychiatric disorder, being a resident of Hamadan city, not using electronic cigarettes, and not increasing BMI.

In the present study, it was not possible to compare the effect of follow-up and non-follow-up due to the in-person follow-up of all participants. However, in a similar study that was conducted on 547 smokers who referred to a smoking cessation clinic in China, the effect of telephone follow-up in the first week, first, third, sixth, and twelfth month was examined with no follow-up after counseling, and it was found that telephone follow-up showed a significant effect on the outcome of staying on quitting for up to 6 months (10.7% vs. 19.6%) ($P=0.006$). Also, in another study in China on 344 people in a smoking cessation clinic, the rate of quitting was 98.2% for those who had been followed up 3-4 times, and 1.8% for others with less follow-up.^{14,15}

In a one-year study on 505 patients who referred to a smoking cessation clinic in Turkey, the demographic and smoking information of the patients were rather similar to our study, as most of the patients (61.2%) were male. Their average age was 38.9 ± 10.3 years. Totally, 348 (68.9%) people were married. The average number of cigarettes consumed by clients was 27.0 ± 10.2 . The average age

of starting smoking was 17.6 ± 5.0 years. The average number of years of smoking was 20.9 ± 10.3 , and the Fagerström's average score was 6.5 ± 2.2 . Unlike our study, in which the Fagerstrom score did not affect the success rate of quitting, in this study, people whose Fagerstrom score was less than 6 quit smoking significantly more than patients with a Fagerstrom score equal to or greater than 6 ($P=0.008$) (70.4% versus 58%). But there were no differences in smoking cessation and relapse between different age groups, which is consistent with the results of the present study. And finally, the one-year success rate of quitting smoking was 45.3%. Quitting was reported significantly less in men than in women ($P=0.019$) (57.9% vs. 68.4%). But on the other hand, the rate of relapse in men was significantly lower than in women ($P=0.017$) (12.9% vs. 20.9%). Compared to our study, the one-year quitting success rate was 60.2%, the success rate was lower.¹⁶ In another similar study, the total one-year smoking cessation rate was reported to be 35%, which was lower than our study, and a statistically significant difference was reported between the smoking cessation rate in men and women, with the rate of quitting being higher in men than that of women.¹⁷

In our study, considering that most patients started with varenicline or varenicline with nicotine gum, it was not possible to compare other drugs, and no significant difference was observed between these two types of treatment in the follow-up times. However, in previous studies, it has been reported that varenicline had a higher success rate in smoking cessation than bupropion (67.9% vs. 58.4%, respectively) ($P=0.033$). In another study in Turkey, the quit rate for Varenicline, Bupropion, and NRT was reported to be 32.5%, 23%, and 52.8%, respectively. The overall rate of relapse in this study was 21.6%, with the highest rate observed in the bupropion (32%), the varenicline (22.9%), and the NRT groups (5.6%), respectively. Also, the highest quit rate in a study that was conducted in the Czech Republic was reported to be 47.7%, which was related to the use of Varenicline, and the lowest quit rate (13.1%) was related to people who did not take the medicine. In another study, Varenicline and Bupropion had higher quit success rates compared to NRT. In general, in a study in South Korea, people who

had better compliance with medication had a higher quit rate.¹⁶⁻²⁰

Moreover, in the study conducted in the Czech Republic, the highest rate of quitting was reported among people who did not have depression (40.5%). In a study in Tunisia, 315 of them had anxiety-depressive disorders, and the rate of smoking cessation was significantly higher in healthy people than in people with anxiety disorders. The results demonstrated the success rate in the first month (69.5% vs. 51.2%), the sixth month (30.4% vs. 23.2%), and the twelfth month of follow-up (25% vs. 18.3%).¹⁹⁻²¹ In this respect, the higher rate of quitting was reported in people without psychiatric disorders, which is similar to the results of the present study, and it seems that this can be influenced by the simultaneous use of cigarettes with psychiatric diseases.

The success rate of quitting in some studies, such as a study in China on 328 patients at smoking cessation clinic, as in the present study, showed a statistically significant relationship with the presence of physical problems (chronic or non-communicable disease), that was the higher success rate of quitting in people with these problems compared to healthy people (52.2% vs. 26.9%).⁷ This seems to be due to the risk perception of smoking by these people.

The success rate in some studies is different. In a study at a smoking cessation clinic in a hospital in South Korea, the six-month quit success rate was reported to be 64.83% for 139 patients, which is close to the one-year quit success rate in our clinic.²² In another study on 151 American Indian and Alaska adults, the rate of quitting in 6 weeks was estimated to be 25%, and no demographic factor affected the success of quitting, which is inconsistent with the result of the present study.¹⁸

Our present study demonstrated no statistically significant relationship between the rate of quitting with a previous attempt to quit smoking and the time of the definitive quitting session (immediately, second session, third session). But in two studies in China, people with a previous history of quitting smoking had a higher chance of success compared to those who did not mention this history, and the rate of quitting close to the first visit increases the probability of quitting success, as in a study by Xie et al the success rate of quitting within a short period of time (within 7 days) was higher than that on the 30th day, and in another study, immediate quitting had the highest rate (37.6%) and quitting after more than 30 days had the lowest rate (8.2%).¹⁵

Despite our study that found the use of electronic cigarettes to be ineffective in quitting smoking, a study in the United States investigated the effect of these types of cigarettes on quitting among young people, indicating different variable effects of sustained dual use, including the use of regular cigarettes and electronic cigarettes, until quitting both of them. It was reported that this changed according to the concentration, taste of nicotine, and change of use of different devices.²²

As stated in various reports, the success rate of quitting is

reported differently because of differences in demographic characteristics, use and non-use of medicine, history of chronic and psychiatric diseases, use of electronic cigarettes, number of referral sessions, and type of follow-up patients, etc.

Conclusion

It seems that behavioral consultation and drug therapy in the academic smoking quit clinic, by considering the different impacts of different variables in the final results, like many other clinics, can be effective in helping patients to quit smoking as a major risk factor in many non-communicable diseases.

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Competing Interests

The authors declare that they have no conflict of interest.

Ethical Approval

The Ethics Committee of Hamadan University of Medical Sciences approved this study (Ethical code: IR.UMSHA.REC.1397.37).

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