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Evaluation of knowledge and awareness levels of drugs used in smoking cessation treatment

Sigara bırakma tedavisinde kullanılan ilaçların bilgi ve farkındalık düzeylerinin değerlendirilmesi

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Abstract

Purpose: Smoking is among the modifiable risk factors for cardiovascular diseases and stroke. In the follow-ups after quitting this habit, it has been shown that there is a decrease in the mortality rate related to the cardiovascular system and an increase in the quality of life of the patients. In this study, it was aimed to investigate the awareness of the drugs used in smoking cessation on patients and healthy individuals.

Materials and methods: Our study was planned as cross-sectional. Patients who applied with any complaints and 198 volunteers from healthcare professionals working in the hospital were included. With the questions in the questionnaire, it was aimed to learn the awareness levels about the drugs used in smoking cessation.

Results: In our study, it was determined that women and other professionals did not have statistically significant information in the question in which the effects of these drugs on pulse and blood pressure levels were evaluated. The statement that individuals in other occupational groups did not know about the effect of bupropion treatment on this system was found to be statistically significantly higher (p<0.01).

Conclusion: In our study, participants' awareness of smoking cessation treatments was found to be low. Knowing these treatments and being able to prescribe these drugs safely if their patients are stable will have a very important place in the fight against smoking.

Key words: Smoking cessation, cardiovascular risk, awareness.

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Öz

Amaç: Sigara kullanımı kardiyovasküler hastalıklar ve inmede değiştirilebilir risk faktörleri içinde yer almaktadır. Bu alışkanlığın bırakılmasının ardından yapılan takiplerde kardiyovasküler sistem ile ilgili mortalite oranında düşme olduğu ve hastaların yaşam kalitelerinde artış olduğu gösterilmiştir. Bu çalışmada sigara bıraktırmada kullanılan ilaçların hastalar ve sağlıklı bireyler üzerinde farkındalığının araştırılması amaçlanmıştır.

Gereç ve yöntem: Çalışmamız kesitsel olarak planlanmıştır. Herhangi bir şikayetle başvuran hastalar ve hastanede çalışan sağlık profesyonellerinden 198 gönüllü çalışmaya dahil edildi. Ankette yer alan sorular ile sigara bırakmada kullanılan ilaçlarla ilgili farkındalık düzeylerinin öğrenilmesi amaçlanmıştır.

Bulgular: Çalışmamızda, bu ilaçların nabız ve tansiyon düzeylerine etkilerinin değerlendirildiği soruda, kadın ve diğer profesyonellerin istatistiksel olarak anlamlı bilgilere sahip olmadığı belirlendi. Diğer meslek gruplarındaki bireylerin bupropion tedavisinin bu sistem üzerindeki etkisini bilmedikleri ifadesi istatistiksel olarak anlamlı derecede yüksek bulundu (p<0,01).

Sonuç: Çalışmamızda katılımcıların sigara bırakma tedavileri konusundaki farkındalıkları düşük bulunmuştur. Bu tedavilerin bilinmesi, hastalar stabil ise güvenle bu ilaçları reçete edebilmek sigara kullanımı ile mücadelede çok önemli bir yer tutacaktır.

Anahtar kelimeler: Sigara bırakma, farkındalık, kardiovasküler risk.

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Introduction

Approximately 1 billion people smoke worldwide resulting in the deaths of more than 6 million people each year [1].

Defined by the World Health Organization as the single most preventable cause of illness and death, tobacco use falls under three principal categories: non-smokers, defined as those who have never smoked; people who have quit smoking, defined as people who have smoked, but have not smoked for a period of time (at least 6 months); and smokers, defined as people who currently smoke regularly or sporadically. According to data from 2016, 40.1% of men in Turkey smoke, while 13.3% of women smoke, with the figure standing at 26.5% for the general population [2, 3].

Although there are many studies on the factors affecting the success of smoking cessation, the results obtained in these studies differ. Motivation and determination, sociodemographic characteristics, addiction, psychological and environmental factors and comorbidities (cancer, chronic cardiopulmonary disease, and chronic diseases) are prominent factors affecting smoking cessation [2].

In studies on smoking, which is one of the modifiable risk factors with respect to cardiovascular diseases (CVD) and stroke, in 2-year follow-up periods after quitting, it has been shown that there is a 36% decrease in cardiovascular-related mortality and a 15-61% decrease in mortality after myocardial infarction in individuals who quit smoking, in addition to a significant increase in the quality of life of the patients [4-7].

There are three types of drug therapies approved by the American Food and Drug Administration (FDA): nicotine replacement therapy (NRT), varenicline (a nicotinic receptor partial agonist) and bupropion (an antidepressant, sympathomimetic amphetamine analog) [8, 9].

To the best of our knowledge, it's the first study that examining the awareness of smoking cessation drugs among physicians and patients. This study aims to investigate the awareness levels of individuals about drugs used for smoking cessation.

Materials and methods

Study population

The data of this study was carried out with the approval of the local ethics committee. In this cross-sectional study, patients who applied to the Cardiology and Neurology clinics of our University Hospital between 01.10.2020-31.01.2021 with any complaints and volunteers from the health professionals working in the same hospital were included. Through the questions in the questionnaire, 198 people were interviewed regardless of their smoking status, and it was aimed to determine the awareness levels of the drugs used for smoking cessation.

Oral and written information in relation to the study was given to potential participants, and volunteers from whom written consent was obtained were included in the study. An information meeting was held with participants before the questionnaires were distributed, with the questionnaire covering the demographic characteristics of participants, their level of knowledge and opinions about their smoking status and the drugs used for smoking cessation.

During the data collection phase of the study, the questionnaires were administered by physicians working in the neurology and cardiology departments via face-to-face interviews.

Statistical analysis

The SPSS 25.0 (IBM Corporation, Armonk, New York, United States) program was used to analyze the variables. Fisher-Freeman-Holton tests were used together with the Monte Carlo Simulation technique to compare categorical variables with each other. Column ratios were compared with each other and expressed according to Benjamini-Hochberg corrected *p*-value results. While quantitative variables were expressed as mean (standard deviation) and median (minimum/maximum) in the tables, categorical variables were shown as n (%). Variables were evaluated at the 95% confidence level, and a *p*-value less than 0.05 was considered significant.

Results

The mean age of the individuals included in the study was 48.4±11.8 years. The demographic data of individuals were summarized in Table 1.

Table 1. Demographic data of the participants

Age, Mean (SD) - Median (min/max)	43.4 (11.8) - 44 (2/77)
	n (%)
Gender, $_{n\ (\%)}$	
Female	83 (41.9)
Male	115 (58.1)
Marital status	
Married	164 (82.8)
Single	26 (13.1)
Divorced	8 (4.0)
Children	
Absent	60 (30.3)
Present	138 (69.7)
Education	
Primary school graduate	10 (5.1)
Secondary school graduate	8 (4.0)
High school graduate	8 (4.0)
College graduate	172 (86.9)
Occupation	
Other	125 (63.1)
Student	20 (10.1)
Physician	53 (26.8)
Place of residence	
City Center	176 (88.9)
County	19 (9.6)
Village or Town	3 (1.5)
Income Level	
Very low	5 (2.5)
Low	19 (9.6)
Satisfactory	65 (32.8)
High	79 (39.9)
Very high	30 (15.2)
Current Smoking Status	
Yes, Daily	102 (51.5)
Yes, but not everyday	28 (14.1)
No	68 (34.3)

The awareness levels of the individuals, who completed the questionnaire about the drugs used in smoking cessation were compared according to their gender, education level and occupation.

In the question which evaluates the reason for starting smoking, individuals who were graduated from college reported any significant reason compared to individuals from other education levels (p=0.39). No difference was seen between gender and occupational groups (p>0.05).

While there was no difference by gender and education level in the comparison of the attitudes of the relatives of the participants about smoking (p>0.05), in the evaluation made according to the occupational groups, it was found that physicians' relatives had a statistically significant effect on smoking cessation (p=0.017).

While no difference was found according to gender and education level in the comparison of drug therapy methods for smoking cessation (p>0.05), it was seen that participants who did

not wish to avail of NRT and bupropion treatment, and who stated that they did not use any method were statistically significantly higher in other professions than physicians and students (p<0.01). In the evaluation of the individual side-effects profiles of drug cessation methods, it was seen that 79.5% of female participants did not know about the side effects of these methods and this rate was statistically significantly higher than in male participants. It was also found that complaints of palpitations and shortness of breath were significantly higher in female participants than in their male counterparts, and headache symptoms were significantly higher in men than in women among those describing side effects (p=0.003). In the comparison made according to occupational groups, it was reported that other occupational groups were statistically significantly less knowledgeable about side effects than physicians and students. Physicians reported that they did not feel any side effects at a significantly higher rate compared to that reported in students (p<0.01). The individuals smoking cessation experiences and their methods were summurized at Table 2.

When asked about the most potent drug to the participants, it was determined that men found bupropion to be significantly more potent than women and female participants did not find any drug potent. (p=0.025) (Table 3). In the comparison made according to occupational groups, it was seen that individuals in other occupational groups reported that they did not have statistically significant knowledge, while physicians found bupropion and students found NRT stronger (p>0.01).

In the question in which the effects of drugs used in smoking cessation were evaluated on pulse and blood pressure levels in normal healthy individuals, it was found that women did not have a significant level of knowledge compared to men in the comparison made according to gender (p=0.003). When the same question was asked to the occupational group, it was determined that the other occupational groups did not have statistically significant information (p<0.01) (Table 3).

In the evaluation of the effects of drugs on the cardiovascular system, the lack of knowledge of female participants and participants from other occupational groups about the effects of NRT and varenicline treatments on this system was found to be statistically significantly higher (p>0.01, p>0.01). The lack of knowledge on the part of participants in other occupational groups about the effect of bupropion treatment on the cardiovascular system was also found to be statistically significantly higher (p<0.01).

Table 2. The individuals smoking cessation experiences and their methods

Smoking Cessation Experience and Reasons	**n (%)**
None	165 (55.2)
Financial reasons	14 (4.7)
Religious reasons	11 (3.7)
Experiencing health problems	25 (8.4)
Fear of having health issues	39 (13.0)
Presence of relatives who had smoking-related health problems	19 (6.4)
Anti-smoking public service announcements	5 (1.7)
Images on cigarette packs	8 (2.7)
Warning phrases on cigarette packs	7 (2.3)
Smoking bans in closed areas	6 (2.0)
Smoking Cessation Methods Knowledge	**n (%)**
Nicotine replacement therapy (NRT)	10 (5.1)
Varenicline(Champix)	24 (12.1)
Bupropion (Zyban)	19 (9.6)
Varenicline (Champix) + Bupropion (Zyban)	5 (2.5)
NRT + Varenicline (Champix)	4 (2.0)
None	136 (68.7)

Table 3. Participants' smoking attitudes and awareness of smoking cessation drugs

	Gender			Education					Occupation			
	Female[A]	Male[B]	p	Primary school [A]	Middle school [B]	High school [C]	College [D]	p		Student[B]	Doctor [C]	
	n (%)	n (%)		n (%)	n (%)	n (%)	n (%)		n (%)	n (%)	n (%)	p
1. How did your relatives' smoking affect you?			0.188					0.876				**0.017**
Didn't affect at all	55 (66.3)	62 (53.9)		6 (60.0)	7 (87.5)	6 (75.0)	98 (57.0)		82 (65.6) [C]	9 (45.0)	26 (49.1)	
Caused me to take care of smoking	18 (21.7)	28 (24.3)		3 (30.0)	1 (12.5)	1 (12.5)	41 (23.8)		28 (22.4)	5 (25.0)	13 (24.5)	
Prevented me from smoking	10 (12.0)	22 (19.1)		1 (10.0)	0 (0.0)	1 (12.5)	30 (17.4)		15 (12.0)	4 (20.0)	13 (24.5) [A]	
Other	0 (0.0)	3 (2.6)		0 (0.0)	0 (0.0)	0 (0.0)	3 (1.7)		0 (0.0)	2 (10.0) [A]	1 (1.9)	
2. Using a smoking cessation method			0.052					0.931				**<0.001**
Nicotine replacement therapy (NRT)	2 (2.4)	8 (7.0)		0 (0.0)	0 (0.0)	1 (12.5)	9 (5.2)		2 (1.6) [BC]	4 (20.0)	4 (7.5)	
Vareniklin (Champix)	10 (12.0)	14 (12.2)		0 (0.0)	0 (0.0)	1 (12.5)	23 (13.4)		10 (8.0)	4 (20.0)	10 (18.9) [A]	
Bupropion (Zyban)	3 (3.6)	16 (13.9)		1 (10.0)	0 (0.0)	1 (12.5)	17 (9.9)		5 (4.0) [BC]	4 (20.0)	10 (18.9)	
None	65 (78.3)	71 (61.7)		9 (90.0)	8 (100.0)	5 (62.5)	114 (66.3)		107 (85.6) [BC]	5 (25.0)	24 (45.3)	
Vareniklin (Champix) + Bupropion (Zyban)	1 (1.2)	4 (3.5)		0 (0.0)	0 (0.0)	0 (0.0)	5 (2.9)		1 (0.8)	1 (5.0)	3 (5.7) [A]	
NRT+ Vareniklin (Champix)	2 (2.4)	2 (1.7)		0 (0.0)	0 (0.0)	0 (0.0)	4 (2.3)		0 (0.0)	2 (10.0) [A]	2 (3.8) [A]	
3. If you have used a smoking cessation method, have you felt any side effects?			**0.003**					0.643				**<0.001**
Does not know	66 (79.5) [B]	73 (63.5)		9 (90.0)	8 (100.0)	5 (62.5)	117 (68.0)		107 (85.6) [BC]	5 (25.0)	27 (50.9) [B]	
Headache	3 (3.6)	12 (10.4) [A]		0 (0.0)	0 (0.0)	0 (0.0)	15 (8.7)		1 (0.8)	7 (35.0) [AC]	7 (13.2) [A]	
Palpitation	2 (2.4)	10 (8.7)		0 (0.0)	0 (0.0)	0 (0.0)	12 (7.0)		4 (3.2)	3 (15.0) [A]	5 (9.4)	
Nausea and or vomiting	2 (2.4)	7 (6.1)		1 (10.0)	0 (0.0)	1 (12.5)	7 (4.1)		3 (2.4)	2 (10.0)	4 (7.5)	
Abdominal pain	5 (6.0)	5 (4.3)		0 (0.0)	0 (0.0)	0 (0.0)	10 (5.8)		3 (2.4)	2 (10.0)	5 (9.4) [A]	
Chest Pain	0 (0.0)	4 (3.5)		0 (0.0)	0 (0.0)	1 (12.5)	3 (1.7)		2 (1.6)	0 (0.0)	2 (3.8)	
Shortness of breath	0 (0.0)	4 (3.5)		0 (0.0)	0 (0.0)	0 (0.0)	4 (2.3)		2 (1.6)	0 (0.0)	2 (3.8)	
Headache + Palpitation	2 (2.4)	0 (0.0)		0 (0.0)	0 (0.0)	1 (12.5)	1 (0.6)		2 (1.6)	0 (0.0)	0 (0.0)	
Palpitation + Shortness of breath	3 (3.6) [B]	0 (0.0)		0 (0.0)	0 (0.0)	0 (0.0)	3 (1.7)		1 (0.8)	1 (5.0)	1 (1.9)	

Fisher Freeman Halton (Monte Carlo); Post Hoc Test: Benjamini-Hochberg correction, [A B C D] express meaning according to the relevant groups.

Table 3. Participants' smoking attitudes and awareness of smoking cessation drugs

	Gender			Education					Occupation			
	Female[A]	Male[B]	p	Primary school [A]	Middle school [B]	High school [C]	College [D]	p	Other [A]	Student[B]	Doctor [C]	p
	n (%)	n (%)		n (%)	n (%)	n (%)	n (%)		n (%)	n (%)	n (%)	
4. What do you think is the effect of these drugs on smoking cessation?			**0.015**					0.816				**<0.001**
No information	66 (79.5) [B]	73 (63.5)		9 (90.0)	8 (100.0)	5 (62.5)	117 (68.0)		107 (85.6) [BC]	5 (25.0)	27 (50.9) [B]	
Ineffective	3 (3.6)	16 (13.9) [A]		0 (0.0)	0 (0.0)	1 (12.5)	18 (10.5)		5 (4.0)	5 (25.0) [A]	9 (17.0) [A]	
Less effective	10 (12.0)	12 (10.4)		0 (0.0)	0 (0.0)	1 (12.5)	21 (12.2)		6 (4.8)	6 (30.0) [A]	10 (18.9) [A]	
Very efficient	4 (4.8)	14 (12.2)		1 (10.0)	0 (0.0)	1 (12.5)	16 (9.3)		7 (5.6)	4 (20.0) [A]	7 (13.2)	
5. Which of these drugs do you think is the strongest?			**0.025**					0.604				**<0.001**
No information	30 (36.1)	41 (35.7)		4 (40.0)	5 (62.5)	3 (37.5)	59 (34.3)		58 (46.4) [BC]	1 (5.0)	12 (22.6)	
Nicotine replacement therapy (NRT)	3 (3.6)	8 (7.0)		0 (0.0)	0 (0.0)	2 (25.0)	9 (5.2)		2 (1.6)	5 (25.0) [AC]	4 (7.5) [A]	
Vareniklin (Champix)	6 (7.2)	13 (11.3)		0 (0.0)	0 (0.0)	0 (0.0)	19 (11.0)		9 (7.2)	4 (20.0)	6 (11.3)	
Bupropion (Zyban)	2 (2.4)	14 (12.2) [A]		1 (10.0)	0 (0.0)	1 (12.5)	14 (8.1)		4 (3.2)	3 (15.0) [A]	9 (17.0) [A]	
None	42 (50.6) [B]	39 (33.9)		5 (50.0)	3 (37.5)	2 (25.0)	71 (41.3)		52 (41.6)	7 (35.0)	22 (41.5)	
6. How do you think these drugs affect normal healthy people on blood pressure and pulse?			**0.013**					0.402				**<0.001**
No information	65 (78.3) [B]	65 (56.5)		9 (90.0)	8 (100.0)	5 (62.5)	108 (62.8)		98 (78.4) [BC]	5 (25.0)	27 (50.9) [B]	
There is, but it is negligible	8 (9.6)	18 (15.7)		0 (0.0)	0 (0.0)	1 (12.5)	25 (14.5)		12 (9.6)	6 (30.0) [A]	8 (15.1)	
There is, it is too much to matter	5 (6.0)	18 (15.7) [A]		0 (0.0)	0 (0.0)	0 (0.0)	23 (13.4)		6 (4.8) [BC]	6 (30.0)	11 (20.8)	
None	5 (6.0)	14 (12.2)		1 (10.0)	0 (0.0)	2 (25.0)	16 (9.3)		9 (7.2)	3 (15.0)	7 (13.2)	

Fisher Freeman Halton (Monte Carlo); Post Hoc Test: Benjamini-Hochberg correction, [A B C D] express meaning according to the relevant groups.

AN INVESTIGATION of AWARENESS of QUITTING SMOKING METHODS BETWEEN PATIENTS AND HEALTHY INDIVIDUALS

SURVEY

Date of Application	**:**	
Pollster	**:**	
The person who controls	**:**	
Survey no	**:**	

ÇANAKKALE – 2020

Demographic Features

1. Gender : 1. Female 2. Male

2. Age :……

3. Marital Status : 1. Married 2. Single 3. Divorced\widow

4. Do you have children? : 1. Yes (How many ? ……) 2. No

5. Education Level. "What is the highest degree or level of education you have completed?"

1. Not Literate	3. Primary School	5. High School
2. Literate	4. Some High School	6. Bachelor's Degree

6. Occupation (your job) (How do you pay cost of living?)

……

7. Where do you live? 1. Center of Çanakkale 2. Town Center 3. Countryside

8. What do you think about your salary?

1. Very Bad	2. Bad	3.Average	4. Good	5. Excellent

Questions about Smoking

9. Do you still smoke?

1. ( ) Yes. Everyday.	2. ( ) Yes. Sometimes.	3. ( ) No.

10. If you smoked in a period of your life, please indicate starting point: ……...

11. If you have smoked at any point in your life, please indicate how many cigarettes you smoked. (except from temporary quitting): …… years

12. What do you think might be your reason for starting smoking?

1. ( ) Curious	2. ( ) Peer influence	3. ( ) Boredom, stress, depression
4. ( ) No reason	5. ( ) To lose weight	6. ( ) Other ……..

13. If you have had previous quitting of smoking experience, please state the reason (you can choose more than one option).

1. Economic Issues
2. Religious Issues
3. Having some health problems.
4. To fear having health problems.
5. Seeing that there are health problems related with smoking around
6.Anti-smoking public service announcements in television and print media
7. Visuals on cigarettes packages
8. Warnings on cigarettes packages
9. Smoking ban applied in closed areas
10. Other anti-smoking studies (If yes, please state ……..)
11. Other …….

14. Do any of your relative smoke?

1. ( ) Yes (If yes, please state your relation) ……	2. ( ) No

If yes, indicate who it is.

1. ( ) Mother	2. ( ) Father	3. ( ) Parents
4. ( ) Brother\sister	5. ( ) Aunt, uncle, niece, nephew, cousin	6. ( ) Other ……..

15. How did your relatives' smoking affect you?

1. Didn't affect at all
2. Encouraged me to smoke
3. Prevented me from smoking
4. Other ……..

16. Have you any friends who smoke?

1. ( ) Yes (Please indicate) …….	2. ( ) No

17. How did your friends' smoking affect you?

1. Didn't affect at all
2. Encouraged me to smoke
3. Prevented me from smoking
4. Other ……..

Questions about Smoking Cessation Methods

18. Which of the following quitting smoking methods do you know?

1. *Nicotine replacement therapy (NRT)*
2. *Vareniklin (Champix)*
3. *Bupropion (Zyban)*
4. none of them

19. How many of the above have you used to quit smoking?

1. *Nicotine replacement therapy (NRT)*
2. *Vareniklin (Champix)*
3. *Bupropion (Zyban)*
4. None of them

20. If you used it, did you feel any side effects?

1. Headache
2. Palpitations
3. Nausea and or vomiting
4. Abdominal pain
5. Chest Pain
6. Shortness of breath

21. What do you think is the effect of these drugs on qutting of smoking?

1. Non effective
2. Less effective
3. Effective

22. Which of these drugs do you think is the strongest?

1. *Nicotine replacement therapy (NRT)*
2. *Vareniklin (Champix)*

3. *Bupropion (Zyban)*

4. None of them

23. How do you think these drugs affect normal healthy people on blood pressure and heart rate?

1. There is, but it is negligible

2. There is, it is too much to matter

3. None

24. *Nicotine replacement therapy (NRT)* Can it be used if there is a history of cardiovascular disease?

1. Yes

2. No

25. *Vareniklin (Champix)* Can it be used if there is a history of cardiovascular disease?

1. Yes

2. No

26. *Bupropion (Zyban)* Can it be used if there is a history of cardiovascular disease?

1. Yes

2. No

27. Which drug is the most used and has study data on adolescents and pregnant women?

1. *Nicotine replacement therapy (NRT)*

2. *Vareniklin (Champix)*

3. *Bupropion (Zyban)*

4. None of them

28. Which of the drugs and methods is recommended for adolescents and pregnant women to quit smoking?

1. *Nicotine replacement therapy (NRT)*

2. *Vareniklin (Champix)*

3. *Bupropion (Zyban)*

4. Solo counseling

It was determined that other occupational groups did not have statistically significant knowledge about the studies on smoking cessation drugs used by adolescents and pregnant women ($p<0.01$).

Discussion

In the current study, it was found that a significant percentage of the participants did not know the side effects of the drugs used for smoking cessation and their effects on the cardiovascular system, and this situation was statistically significantly higher in occupational groups other than female participants, physicians and students.

Medical treatment also plays a very important role in the fight against smoking. Among those who quit smoking, the greatest benefit is seen among individuals in the 4th decade, and for individuals in their 40s, quitting smoking is seen to reduce smoking-related deaths by 90% [8].

NRT is seen as the most studied and safest treatment option. In a study by Mahmarian et al. [10], it was reported that NRT reduced exercise-induced ischemia in patients with CVD, while in the same study, individuals, who took NRT were reported to have an increased risk in terms of all cardiovascular events when compared to non-smokers. Cases of acute MI, coronary vasospasm, aortic dissection, vasculitis, intracranial vasospasm and intracerebral hemorrhage under NRT have been reported in various studies [10-15]. Bupropion is an antidepressant agent that causes an increase in norepinephrine and dopamine levels and is the first alternative to NRT. It was approved for use in smoking cessation in the United States of America in 1997 [16]. Although it is a sympathomimetic amphetamine analogue, it has been shown that its use does not have

a statistically significant effect on major cardiovascular events and has a cardioprotective effect [17]. It is emphasized that this effect occurs by reducing vascular stress due to its antidepressant activity [18, 19]. In a review study by Silva et al. [20], it was reported that there was no statistically significant difference between those patients using NRT, varenicline and bupropion and the placebo group in terms of major cardiovascular diseases (death due to CVD, non-fatal myocardial infarction, and non-fatal stroke). It was also reported that there was no statistically significant difference in terms of heart rate and hypertension between the patients using these three treatment options and the placebo group [21]. Varenicline, which is a partial nicotinic receptor agonist, is thought to be the most powerful active ingredient among smoking cessation treatments. Since it is a sympathomimetic agent, it is the treatment option, which has caused the most concern with respect to its potential for cardiac effects. In a report published by the FDA in 2011, adverse cardiac effects of varenicline were reported in patients with a history of CVD, while meta-analyses comparing bupropion and NRT in the following years and large-scale population-based observational cohort studies showed that varenicline did not increase cardiovascular events [21].

Although increasing compliance with the drug used in the treatment of smoking cessation, ensuring the continuity of the drug and completing the treatment, the absence of any psychiatric disease history and the provision of a free supply of the drug by individuals willing to quit smoking also increase the success of smoking cessation by increasing treatment compliance, it is known that more similar groups need to be compared in order to fully evaluate the factors affecting the success of smoking cessation [22]. In the current study, it was observed that female participants and those from other occupational populations had less knowledge about smoking cessation drugs and that with respect to the individuals included in the study there was no prominent side-effects profile in terms of the cardiovascular system in general.

In another study, it was found that factors such as age, gender, employment status, extent of cigarette consumption, depression questionnaire score and anxiety questionnaire score did not affect the success of smoking cessation. It has been reported that factors such as education level and socioeconomic level affect smoking cessation success [23].

The most commonly used drug therapies for smoking cessation today are varenicline, bupropion and NRT. The 6-month smoking cessation success was found to be 30.7% with varenicline and behavioral therapy, 10% with nicotine replacement therapy and behavioral therapy, and 22.6% with bupropion and behavioral therapy. There are different studies comparing smoking cessation treatments, and in a Cochrane analysis including 10,300 people, it was reported that varenicline was 1.52 times more effective than bupropion and 1.13 times more effective than nicotine replacement therapy [24].

In a study by Gonzales et al. [25], smoking cessation success at week 52 was reported as 21.9% with varenicline, 16.1% with bupropion, and 8.4% with placebo. They reported that the efficacy of varenicline and bupropion in smoking cessation was similar, but the efficacy of varenicline was superior to a placebo.

The most important limitations of the current study are that it was not conducted among patients, who had applied to the smoking cessation outpatient clinic, and the questionnaire we used was not designed to evaluate treatment efficacy.

In conclusıon, drug therapies have an important place in countering smoking addiction, which is a very important public health problem, and it is known that these treatments are safe even in individuals with a history of cardiovascular disease. In our study, participants' awareness of smoking cessation treatments was found to be low. It is very important that physicians be aware of these treatments and be able to prescribe these drugs safely in the fight against smoking, where patients are in a stable condition.

Conflict of interest: The authors declare that they have no conflict of interest.

References

1. Reitsma MB, Fullman N, Ng M, Salama JS, GBD 2015 Tobacco Collaborators. Smoking prevalence and attributable disease burden in 195 countries and territories, 1990–2015: a systematic analysis from the Global Burden of Disease Study 2015. Lancet 2017;389:1885-1906. https://doi.org/10.1016/S0140-6736(17)30819-X
2. Türk Toraks Derneği. Sigara Bırakma Tanı ve Tedavi Uzlaşı Raporu, Ankara 2014. Erişim adresi: https://toraks.org.tr/site/community/library/1655. Erişim tarihi 10.10.2018
3. Türkiye Cumhuriyeti Sağlık Bakanlığı Sağlık Araştırmaları Genel Müdürlüğü Sağlık İstatistikleri Yıllığı 2017. Erişim adresi: http://ohsad.org/wpcontent/uploads/2018/09/27344saglikistatistikleri-yilligi-2017-haberbultenipdf.pdf. Erişim tarihi 01.10.2018
4. Hackshaw A, Morris JK, Boniface S, Tang JL, Milenkovic D. Low cigarette consumption and risk of coronary heart disease and stroke: metaanalysis of 141 cohort studies in 55 study reports. BMJ 2018;360:5855. https://doi.org/10.1136/bmj.j5855
5. Critchley JA, Capewell S. Mortality risk reduction associated with smoking cessation in patients with coronary heart disease: a systematic review. JAMA 2003;290:86-97. https://doi.org/10.1001/jama.290.1.86
6. Wilson K, Gibson N, Willan A, Cook D. Effect ofsmoking cessation on mortality after myocardial infarction: meta-analysis of cohort studies. Arch Intern Med 2000;160:939-944. https://doi.org/10.1001/archinte.160.7.939
7. Buchanan DM, Arnold SV, Gosch KL, et al. Association of smoking status with angina and health-related quality of life after acute myocardial infarction. Circ Cardiovasc Qual Outcomes 2015;8:493-500. https://doi.org/10.1161/CIRCOUTCOMES.114.001545
8. Jha P, Ramasundarahettige C, Landsman V, et al. 21st-century hazards of smoking and benefits of cessation in the United States. N Engl J Med 2013;368:341-350. https://doi.org/10.1056/NEJMsa1211128
9. Mills EJ, Thorlund K, Eapen S, Wu P, Prochaska JJ. Cardiovascular events associated with smoking cessation pharmacotherapies: a network meta-analysis. Circulation 2014;129:28-41. https://doi.org/10.1161/CIRCULATIONAHA.113.003961
10. Mahmarian JJ, Moye LA, Nasser GA, et al. Nicotine patch therapy in smoking cessation reduces the extent of exercise-induced myocardial ischemia. J Am Coll Cardiol 1997;30:125-130. https://doi.org/10.1016/s0735-1097(97)00128-9
11. Ottervanger JP, Festen JM, de Vries AG, Stricker BH. Acute myocardial infarction while using the nicotine patch. Chest 1995;107:1765-1766. https://doi.org/10.1378/chest.107.6.1765
12. Ropchan GV, Sanfilippo AJ, Ford SE. Aortic dissection and use of the nicotine patch: a case involving a temporal relationship. Can J Cardiol 1997;13:525-528.
13. Van der Klauw MM, Van Hillo B, Van den Berg WH, Bolsius EP, Sutorius FF, Stricker BH. Vasculitis attributed to the nicotine patch (Nicotinell). Br J Dermatol 1996;134:361-364.
14. Dacosta A, Guy JM, Tardy B, et al. Myocardial infarction and nicotine patch: a contributing or causative factor? Eur Heart J 1993;14:1709-1711. https://doi.org/10.1093/eurheartj/14.12.1709
15. Pierce Jr JR. Stroke following application of a nicotine patch. Ann Pharmacother 1994;28:402. https://doi.org/10.1177/106002809402800320
16. Rigotti NA, Thorndike AN, Regan S, et al. Bupropion for smokers hospitalized with acute cardiovascular disease. Am J Med 2006;119:1080-1087. https://doi.org/10.1016/j.amjmed.2006.04.024
17. Mills EJ, Thorlund K, Eapen S, Wu P, Prochaska JJ. Cardiovascular events associated with smoking cessation pharmacotherapies: a network meta-analysis. Circulation 2014;129:28-41. https://doi.org/10.1161/CIRCULATIONAHA.113.003961
18. Roose SP. Considerations for the use of antidepressants in patients with cardiovascular disease. Am Heart J 2000;140:84-88. https://doi.org/10.1067/mhj.2000.109977
19. Roose SP, Dalack GW, Glassman AH, Woodring S, Walsh BT, Giardina EG. Cardiovascular effects of bupropion in depressed patients with heart disease. Am J Psychiatry 1991;148:512-516. https://doi.org/10.1176/ajp.148.4.512
20. Silva AP, Scholz J, Abe TO, Pinheiro GG, Gaya PV, Pereira AC, Santos PC. Influence of smoking cessation drugs on blood pressure and heart rate in patients with cardiovascular disease or high risk score: real life setting. BMC Cardiovasc Disord 2016;16:2-6. https://doi.org/10.1186/s12872-015-0180-4
21. Benowitz NL, Pipe A, West R, et al. Cardiovascular safety of varenicline, bupropion, and nicotine patch in smokers. A randomized clinical trial. JAMA Intern Med 2018;178:622-631. https://doi.org/10.1001/jamainternmed.2018.0397
22. Berkesoğlu C, Ozgur ES, Demir AU. Sigara bırakma başarısını etkileyen faktörler. Mersin Univ Saglık Bilim Derg 2018;11:355-365. https://doi.org/10.26559/mersinsbd.473902
23. Osler M, Prescott E. Psychosocial, behavioural and determinants of succesful smoking cessation: a longitudinal study of Danish adults. Tob Control 1998;7:262-267. https://doi.org/10.1136/tc.7.3.262
24. Cahill K, Stead LF, Lancaster T. Nicotine receptor partial agonists for smoking cessation. Cochrane Database Syst Rev 2012;18:CD006103. https://doi.org/10.1002/14651858.CD006103.pub6

25. Gonzales D, Rennard SI, Nides M, et al. Varenicline Phase 3 Study Group. Varenicline, an alpha4beta2 nicotinic acetylcholine receptor partial agonist, vs sustainedrelease buprpion and placebo for smoking cessation: a randomized controlled trial. JAMA 2006;296:47-55. https://doi.org/10.1001/jama.296.1.47

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Contributions of authors

M.Ç. and E.A. set up the main idea and hypothesis of the study. M.Ç. developed the theory and edited the material method section. E.A. made the evaluation of data in results section. The discussion part of the article was written by M.Ç. and E.A. reviewed, made necessary corrections and approved. In addition, all authors diccussed the entire study and approved its final version.