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ARAŞTIRMA/RESEARCH

Knowledge, attitudes and behaviors of patients with chronic diseases about smoking and use of Maras powder

Kronik hastalığı olan hastaların sigara ve Maraş otu kullanımı konusunda bilgi tutum ve davranışları

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Abstract

Purpose: This study aims to find out the frequency of smoking and use of Maras powder, which are commonly used in our region, among patients with chronic disease and evaluate knowledge, attitudes and behaviors of patients with chronic disease about smoking and use of Maras powder.

Material and Methods:A total of 859 patients with a chronic disease admitted to 12 Family Health Centers in Kahramanmaras were included in the study. Hypertension, diabetes mellitus, chronic renal failure, asthma, and heart diseases were among included chronic disease. There were 15 questions used to evaluate knowledge of smoking.

Results: Ages of participants ranged between 18 and 86 years, with a mean age of 45.7±14.1 years (min.=18, max.=86). Among 859 participants 481 (56.0%) were male and 378 (44.0%) were female. Two-hundred and nine patients (24.3%) were regular smokers, 24 patients (2.8%) were occasional smokers, 222 patients (25.8%) were ex-smokers and 404 patients (47.0%) were never smokers. 81 patients (9.4%) were using Maras powder and 18 patients (2.1%) were both smoking and using Maras powder. There was not a significant relation between smoking and Maras powder use.

Conclusion: Obtained findings revealed that smoking and use of Maras powder were quite common among chronic disease patients who need to be free from tobacco products use. Furthermore, knowledge, attitudes and behaviors of these patients were detected to be insufficient.

Key words: Smoke, tobacco, chronic disease

Öz

Giriş: Bu çalışmada bölgemizde yaygın olarak kullanılan sigara ve Maraş otunun kronik hastalığı olan hastalarda kullanım sıklığı ile kullanıcıların bilgi, tutum ve davranışlarının değerlendirilmesi amaçlanmıştır.

Gereç ve Yöntem: Bu çalışmaya Kahramanmaraş ilindeki 12 aile sağlığı merkezine başvuran hastalardan kronik hastalığı olan 859 hasta dahil edildi. Hipertansiyon, diyabetes mellitus, kronik böbrek yetmezliği, astım ve kalp hastalığı kronik hastalık olarak kabul edildi. Katılımcıların sigara konusunda bilgi durumu 15 soru ile degerlendirildi.

Bulgular: Katılımcıların yaş ortalaması 45.7±14.1 (min.=18, maks.=86) idi. Çalışmaya katılan 859 olgunun 481'i (%56.0) erkek, 378'i (%44.0) kadın idi. Katılımcıların 209'u (%24.3) düzenli, 24'ü (%2.8) ise ara sıra sigara kullandığını, 222'si (%25.8) sigara içmeyi bıraktığını ve 404'ü (%47.0) hayatında hiç sigara içmediğini belirtti. Hastaların 81'i (%9.4) Maraş otu, 18'i (%2.1) ise hem sigara hemde Maraş otu kullanmaktaydı. Sigara kullanımı ile Maraş otu kullanımı arasında anlamlı bir ilişki yoktu. Sigaranın zararları konusunda bilgi skoru ortalaması sigara içen grupta 11.5±2.4, sigara içmeyen grupta ise 11.7±2.4 olarak tespit edildi.

Sonuç: Çalışmamızda kesinlikle tütün ürünleri kullanmamaları gereken kronik hastalığı olan hastaların sigara ve Maraş otunu önemli oranlarda kullandıkları ve bu maddeler konusunda bilgi tutum ve davranışlarının yetersiz olduğunu belirledik.

Anahtar kelimeler: Sigara, tütün, kronik hastalık

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INTRODUCTION

Tobacco use is one of the most important causes of morbidity and mortality[1]. According to data from the World Health Organization (WHO), 1.3 billion people smoke in the world. It is estimated that 47% of the males and 12% of the females smoke[2]. Based on a report "Global Tobacco Epidemics" issued by the WHO in 2009, the rate of smokers aged over 18 years in Turkey is 33.4%, and 50.6% and 16.6% of the smokers are male and female respectively[3]. The WHO estimated that over 25% of the male smokers and 5% of the female smokers in Turkey will die from tobacco use[4]. Several studies from Turkey revealed that 15.6%-33.3% of the patients with chronic diseases were smokers[5,6].

Maras powder is a kind of smokeless tobacco most frequently used in the Mediterranean region of Turkey[7]. It is obtained by crashing leaves of the tobacco plant Nicotiana rustica linn, mixing obtained powder with ashes of oak and slightly moistening the obtained mixture[8]. About one tea spoon of Maras powder is slightly moistened, wrapped in a piece of paper used in cigarette manufacturing and smoked or the powder is placed in the inner part of the lower lip or upper lip and absorbed. A study performed in Kahramanmaraş, Turkey, showed that 16.8% of the people living in this city (25.1% of the males and 1.4% of the females) were using Maras powder[9].

'While there are several studies investigating prevalance of smoking among patients with chronic diseases, there exists no studies regarding the prevalance of Maras powder usage among patients with chronic diseases and the patients' knowledge, attitude and behaviors about Maras powder. In the present study, the prevalance of Maras powder usage as well as smoking among patients with chronic diseases was researched for the first time in the literature. Furthermore, the patients' knowledge, attitude and behaviors of Maras powder and smoking were investigated, and we also aimed to contribute to preventive healthcare measures against tobacco consumption.

MATERIAL AND METHODS

Study design

This study was conducted in Kahramanmaras city wich is a province in the South region of Turkey with an approximate population of one million. In 12 regions of Kahramanmaras city, 36 family health centers give service. A total of 12 family health centers representing one from each 12 regions was assigned as data collection centers. The patients with chronic diseases who applied to these family health centers for medical examination between 01.01.2013 and 01.06.2013 were informed about the study. The illiterate and visually handicapped ones, the ones with mental diseases, generally poor condition and chronic diseases of two or more were excluded from the study.

Of 1659 patients with chronic diseases who were informed about the study, 859 (51.7%) accepted to take part in the study. Hypertension, diabetes mellitus (DM), chronic renal failure (CRF), asthma and heart disease (HD) were considered as chronic diseases. Patients with more than one chronic disease were not included in the study. All the patients included gave written informed consent. Ethical committee for Clinical Research in Medical Faculty at Kahramanmaras Sütçü İmam University approved the study in accordance with Helsinki Declaration.

Data collection

A questionnaire developed by the researcher and composed of open-ended and yes-no questions was used to collect data. The first part of the questionnaire included questions about sociodemographic features and disease history and the second part included questions about knowledge of harmful effects of Maras powder. The final part of the questionnaire was composed of questions about features of smoking and Maras powder use. The classification system created by the WHO was adapted to classify smoking status as in the following10: the patients smoking at least one cigarette a day for the past 30 days were considered as a regular smoker, those smoking less frequently than smoking a cigarette every day as occasional smoker, those who did not smoke more than 100 cigarettes in their life and still did not smoke at the time of the study as never smoker and those who smoked more than 100 cigarettes in their life but did not smoke in the previous 30 days as ex-smoker. There were 15 questions used to evaluate knowledge of smoking. Each correct answer was scored as 1 point and the total score to be obtained for this part is 15.

Statistical analysis

Obtained data were analyzed with SPSS 20.0. Mean values, frequencies and standard deviations were determined. Chi-square test was used to determine differences in behavior and attitudes between smokers and Maras powder users. One-way ANOVA was used to determine differences between three or more groups. $p<0.05$ was accepted as significant.

RESULTS

The mean age of the patients was 45.7±14.3 years (min=18, max=86). Out of 859 patients, 481 (56.0%) were male and 378 (44.0%) were female. Of all the patients included, 305 (35.5%) had hypertension, 229 (26.7%) had DM, 155 (18.0%) had asthma, 92 (10.7%) had HD and 78 (9.1%) had CRF. The mean duration of chronic diseases was 6.5±5.1 years (min=1, max=45). Socio-demographic features of the patients are presented in Table 1.

Table 1. Sociodemographic features of the participants (n=858)

Sociodemographic variables	**n**	**%**
Gender		
Male	481	56.0
Female	378	44.0
Marital status		
Married	633	73.7
Single	133	15.5
Divorced	32	3.7
Widow/widower	61	7.1
Place of living		
Urban	768	89.4
Rural	91	10.6
Financial status		
Low	348	43.4
Moderate	404	50.4
High	49	6.1
Education level		
Lower than High school	365	42.5
High school and higher than high school	494	57.5
Occupation		
White collars	170	19.8
Blue collars	145	16.9
Tradesman	135	15.7
Retired	147	17.1
Housewife	175	20.4
Farmer	87	10.1

Two-hundred and nine patients (24.3%) were regular smokers, 24 patients (2.8%) were occasional smokers, 222 patients (25.8%) were ex-smokers and 404 patients (47.0%) were never smokers. Two-hundred and thirty-three patients (27.1%) were smoking, 81 patients (9.4%) were using Maras powder and 18 patients (2.1%) were both smoking and using Maras powder. There was not a significant relation between smoking and Maras powder use ($p=0.297$). The distribution of smoking frequencies by types of chronic diseases is presented in Table 2.The number of cigarettes consumed daily was 17.2±11.2 SD (min=1, max=80). According to data collected with Fagerström Nicotine Dependency Scale, of all the patients smoking, 51 (22.4%) had very severe dependency, 66 (28.9%) had severe dependency, 23 (10.1%) had moderate dependency, 47 (20.6%) had mild dependency and 41 (18.0%) had very mild dependency.

Table 2. Distribution of frequencies of smoking and maras powder use by sociodemographic features and chronic diseases

Sociodemographic features and chronic diseases		Smoking		p*	Maras powder use		p**
		n	%		n	%	
Gender							
	Male	153	31.8	<0.001	77	16.0	<0.001
	Female	80	21.2		4	1.1	
Financial status							
	Low	86	24.7	0.223	38	10.9	0.317
	Moderate	122	30.2		39	9.7	
	High	15	30.6		2	4.1	
Education levels							
	Lower than high school	72	19.7	<0.001	51	14.0	<0.001
	High school and higher than high school	161	32.6		30	6.1	
Place of living							
	Urban	212	27.6	0.358	65	8.5	0.005
	Rural	21	23.1		16	17.6	
Chronic diseases							
	Hypertension	75	24.6	0.228	24	7.9	0.010
	CRF	17	21.8		16	20.5	
	DM	70	30.6		18	7.9	
	Asthma	40	25.8		13	8.4	
	HD	31	33.7		10	10.9	
Occupation							
	Tradesman	56	41.5	<0.001	14	10.4	<0.001
	White collars	49	28.8		10	5.9	
	Blue collars	46	31.7		26	17.9	
	Retired	36	24.5		17	11.6	
	Housewife	20	11.4		1	0.6	
	Farmers	26	29.9		13	14.9	

*Intragroup significance for smokers. ; ** Intragroup significance for Maras powder users. P<0.05 was considered significant.

A hundred and eighty-one smokers (77.6%) tried to quit smoking till the time of the study, 27 smokers (11.5%) received medical help to quit smoking and 118 smokers (48.4%) were wanted to quit smoking. The mean score for knowledge of harmful effects of smoking was 11.5±2.4 in the smoking group and 11.7±2.4 in the non-smoking group without a significant difference (p=0.388).

The patients with hypertension got 11.6±2.3, the patients with CRF got 11.9±2.1, the patients with DM got 11.4±2.4, the patients with asthma got 11.7±2.6 and the patients with HD got 11.9±2.1. Types of chronic diseases did not significantly affect the mean score for knowledge of harmful effects of smoking (p=0.293). The answers to questions about harmful effects of smoking are presented in Table 3. Features of attitudes and behavior in the smokers are shown in Table 4.

Eighty-one patients (9.4%) were Maras powder users and 18 (2.1%) were both smoker and Maras powder users. The distribution of frequencies of Maras powder use by types of diseases is presented in Table 2. The number of Maras powder use a day was 12.0±8.2 (min=2, max=50). Duration of Maras powder use was 16.7±13.1 years (min=1, max=44).

Table 3. Rates of correct answers to questions about harmful effects of smoking

Items	Smokers n (%)	Non-smokers n (%)	All participants n (%)	p
Smoking is harmful to health. (A*)	230 (98.7)	619 (98.9)	849 (98.8)	0.736
Smoking increases the incidence of lung cancer. (A)	228 (97.9)	611 (97.6)	839 (97.7)	0.829
Smoking damages the lungs and causes cough with sputum. (A)	231 (99.1)	613 (97.9)	844 (98.3)	0.378
Smoking causes heart disease. (A)	225 (96.6)	574 (91.7)	799 (93)	0.013
Smoking by pregnant women is harmful to their babies in their womb. (A)	225 (96.6)	599 (95.7)	824 (95.9)	0.562
Smoking increases the risk of development of larynx cancer. (A)	219 (94.0)	578 (92.3)	797 (92.8)	0.403
Smoking reduces duration of living. (A)	217 (93.1)	581 (92.8)	798 (92.9)	0.870
Smoking increases the incidence of oral cancer. (A)	208 (89.3)	526 (84.0)	734 (85.4)	0.053
Smoking is addictive like heroine. (A)	197 (84.5)	499 (79.7)	696 (81.0)	0.108
Cigarettes with filters are less harmful than those without filters. (W*)	73 (31.3)	204 (32.6)	277 (32.2)	0.726
If you do not inhale the smoke of cigarettes, smoking is not very harmful. (W)	133 (57.1)	395 (63.1)	528 (61.5)	0.107
Smoking fewer than five cigarettes a day is not very harmful. (W)	141 (60.5)	435 (69.5)	576 (67.1)	0.013
Cigarettes with low nicotine (light cigarettes) are considerably less harmful. (W)	107 (45.9)	309 (49.4)	416 (48.4)	0.370
Smoking increases the risk of stroke. (A)	199 (85.4)	475 (75.9)	674 (78.5)	0.003
It is easy to give up smoking. (W)	52 (22.3)	293 (46.8)	345 (40.2)	<0.001

*A= Accurate information, W=Wrong information

Table 4. The smokers' attitudes and behavior about their smoking habits (n=228)

Items	Agree n (%)	Neutral n(%)	Disagree n (%)
I know how my diseases will be affected if I continue smoking.	171 (75.0)	31 (13.6)	26 (11.4)
I get very nervous when I do not smoke.	192 (84.2)	2 (0.9)	34 (14.9)
I feel that my life is meaningless and tasteless when I do not smoke.	175 (76.8)	5 (2.2)	48 (21.1)
I feel as if I have no support in life.	186 (81.6)	4 (1.8)	38 (16.7)
I think that receiving medical help will make it will be easier to stop smoking.	91 (39.9)	60 (26.3)	77 (33.8)

Forty-three patients (53.1%) started to use it to stop smoking, 26 patients (32.1%) started to use it after a friend offered it, 8 patients (9.9%) started to use it because they wondered about it and 4 patients (4.9%) started to use it due to stress. Of all the patients using Maras powder, 32 (39.5%) tried to quit the powder and 38 (46.9%) wanted to quit Maras powder use. Two patients (2.5%) received medical help to stop Maras powder use. Knowledge, attitudes and behavior related to Maras powder use are presented in Table 4.

DISCUSSION

In the present study on patients with chronic diseases, 24.3% of the patients were regular smokers and 2.8% of the patients were occasional smokers, which is consistent with the literature. In a study from Turkey, 20.2% of the patients diagnosed as hypertension were found to have smoking

dependence[11]. Twenty-three point five percent of the patients with DM from China[12], 12.1% of the patients with DM from Kenya[13], 23% of the patients with DM from Denmark[14] and 23.8% of the patients with DM from Canada[15] were found to be smokers. The rate of smokers among patients with CRF was 16.4% in Japan[16] and 28.2% in the USA[17]. İnan et al. from Turkey reported that 33.3% of the patients with asthma were active smokers[6].

In a study in Latin America, the rate of male and female smokers among the patients at risk of cardiovascular diseases (patients with DM, hypertension, obesity and hyperlipidemia) was 32.2% and 19.5% respectively[18]. In a study by Tohidi et al. from Iran, 27% of the males with CRF and 5.9% of the females with CRF were smokers[19]. Consistent with the literature, this study revealed that the rate of male smokers with chronic diseases was higher than that of the female smokers. In this study, high education levels were found to be a risk factor of smoking, which is compatible with the literature. Another study in Kahramanmaraş, Turkey, also revealed that as education levels increased so did the rate of smoking[9].

In this study, 77.6% of the smokers noted that they tried to quit smoking and 48.4% of the smokers said that they wanted to stop smoking. Cory et al. reported that 50.8% of the smokers with chronic diseases tried to give up smoking[20]. In a study on patients with DM in Canada, 49.5% of the participants attempted to give up smoking after they were diagnosed as diabetes and 18.9% of them succeeded in quitting smoking, but 30.6% of the participants failed to do so[15]. In addition, in another study by Newson et al. from Canada, the rate of the smokers diagnosed with a chronic disease decreased from 14.4% before the diagnosis to 10.8% after the diagnosis[21]. It is obvious that the rate of the smokers with chronic diseases attempted to stop smoking was higher in the present study than that reported in the literature.

The items "Cigarettes with low nicotine are considerably less harmful" and "Cigarettes with filters are less harmful than those without filters" were the ones correctly responded by the lowest rate of the patients. This finding shows that the patients did not have accurate information about cigarettes and harmful effects of smoking. It may be that in Turkey new cigarettes are introduced by cigarette manufacturers as if they were innocent (cigarettes with filters and cigarettes with low nicotine).

In the present study, the smokers and the non-smokers had nearly the same scores for knowledge of harmful effects of smoking. In addition, the smokers had higher education levels. These findings suggest that smokers need more information about harmful effects of smoking and continue to smoke although they know effects of smoking since it is addictive.

In this study, the rate of the male Maras powder users was higher than that of the female Maras powder users. In another study[9] in Kahramanmaras, the rate of the male Maras powder users was 25.1% and the rate of female Maras powder users was 1.4%. Toombak is another type of smokeless tobacco widely used in the world. In a study from Sudan[22], the rate of male Toombak users was 23% and the rate of female Toombak users was 1.7%. Another type of smokeless tobacco is snus. In a study from Sweden[23], the rate of male snus users was 16% and the rate of female snus users was 3%. It is obvious that the rates of male and female smokeless tobacco users determined in the present study are lower than those reported in the literature. This can be explained by the fact that the participants in this study had chronic diseases and had attempts to stop using Maras powder. The findings that the rate of the male Maras powder users was higher than that of the female Maras powder users can be due to the fact that using smokeless tobacco is male behavior.

In this study, we also found that a higher rate of the patients with lower education levels used Maras powder. In addition, the rate of the Maras powder users living in rural areas was higher than that of the Maras powder users living in urban areas. Compatible with the results of this study, Kafas reported that a higher rate of Maras powder users had low education levels[9]. This suggests that people with low sociocultural status tend to consume Maras powder.

In this study, the rate of Maras powder use was the highest among patients with chronic renal failure. It may be that these patients stay indoors for long periods of time and tend to use Maras powder since smoking is forbidden indoors. Most of the Maras powder users noted that they started using this smokeless tobacco to be able to quit smoking. They used it as a method of stopping smoking. This

suggests that patients should be offered appropriate education programs to convince them that using Maras powder is not a way to quit smoking and has serious negative effects on health.

It was striking that the rate of Maras powder users who knew that the powder is harmful to health and that it is difficult to give it up was low. In addition, the rate of Maras powder users who thought using the powder is less harmful than smoking was considerably high. In fact, this powder is addictive like cigarettes and cannot be considered less harmful than cigarettes. The idea that Maras powder is less damaging than smoking might have caused the powder to be used as an alternative to stop smoking.

In the present study we detected that Maras powder and cigarette are consumed in significant frequency among patients with chronic diseases. Besides, it was determined that the male consumed cigarette more frequently than the female.

We revealed that the knowledge level, attitudes and behaviors of patients with chronic disease about smoking and use of Maras powder were inadequate. It was found that the people consuming Maras powder did not know sufficiently about the harm of Maras powder and that they considered Maras powder as an alternative method to quit smoking. It was determined that preventive health policies of the physicians were not adequate in terms of prevention of tobacco and tobacco product usage in patients with chronic disease. It is of great significance to announce the risks of Maras powder and cigarette consumption on health by the media, courses or conferences.

Table 5. The Maras powder users' knowledge, attitudes and behavior about their maras powder use habits

Items	Agree n (%)	Neutral n (%)	Disagree n (%)
I know how my disease will be affected if I continue to sue Maras powder.	36 (44.4)	29 (35.8)	16 (19.8)
I get very nervous when I do not use Maras powder.	43 (53.1)	4 (4.9)	34 (42.0)
I feel that my life is meaningless and tasteless when I do not use Maras powder.	36 (44.4)	4 (4.9)	41 (50.6)
I feel as if I have no support in life when I do not use Maras powder.	40 (49.4)	1 (1.2)	40 (49.4)
I think receiving medical help will make it easier to stop using Maras powder.	29 (35.8)	15 (18.5)	37 (45.7)
I do not stop using Maras powder since it is less harmful than smoking.	38 (46.9)	6 (7.4)	37 (45.7)
Using Maras powder in indoors such as schools, cinemas, libraries and hospitals is forbidden.	25 (30.9)	12 (14.8)	44 (54.3)
Maras powder is harmful to health.	63 (77.8)	2 (2.5)	16 (19.8)
I can stop using Maras powder if I like.	47 (58.0)	6 (7.4)	28 (34.6)
It is easy to stop Maras powder.	25 (39.4)	6 (7.4)	50 (61.7)

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