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RESEARCH

EFFECTIVENESS OF TREATMENT FOR QUITTING SMOKING AND MARAS POWDER USE IN PATIENTS AGED SIXTY YEARS OR OLDER

ABSTRACT

Introduction: The aim of this study was to investigate the effectiveness of treatment for quitting smoking and Maras powder use in patients aged 60 years or older, and to examine factors likely to be effective in stopping tobacco use.

Materials and Method: Out of 178 patients aged 60 years or older, who presented to our outpatient clinic for quitting smoking and Maras powder use, 115 for whom there were no missing data were enrolled in this study.

Results: Out of 100 patients who presenting to quit smoking, 76 (76.0%) were male and 24 (24.0%) were female. Fifteen patients who presenting to quit Maras powder use were all male. The mean age of the participants was 62.98±4.30 years (min=60, max=81) and did not differ between the female and male participants (p=0.351). Forty-eight smokers (48.0%) gave up smoking during treatment, but 52 smokers (52.0%) were still smoking during treatment. Eight Maras powder users stopped using the powder after treatment, but seven Maras powder users continued using Maras powder despite treatment.

Conclusion: We found that a high proportion of patients aged 60 years or older stopped using tobacco after treatment. Determination to stop tobacco use, appropriate treatment and regular follow-up play an important part in quitting tobacco use.

Key Words: Smoke; Tobacco Smokeless; Smoking Cessation

ARAŞTIRMA

SİGARA VE MARAŞ OTU BIRAKMA TEDAVİSİNİN 60 YAŞ VE ÜZERİ HASTALARDA ETKİNLİĞİ

ÖZ

Giriş: Bu çalışmada 60 yaş ve üzeri hastalarda sigara ve maraş otu (dumansız tütün) bırakma tedavisinin etkinliği ve tütün ürünlerini bırakmada etkili olabilecek faktörlerin incelenmesi amaçlanmıştır.

Gereç ve Yöntem: Sigara Bırakma Polikliniğine sigara ve maraş otu bırakmak için başvuran 60 yaş ve üzeri 178 hastadan, dosya verileri tam olan 115 hasta çalışmaya dahil edildi.

Bulgular: Çalışmada sigara bırakma için başvuran 100 hastanın 76'sı (%76.0) erkek, 24'ü (%24.0) kadındır. Maraş otu bırakmak için başvuran 15 kişinin tamamı erkekti. Katılımcıların yaş ortalaması 62.98±4.30 (min=60, max=81) idi. Kadın ve erkeklerin yaş ortalaması benzerdi (p=0.351). Sigara kullanıcılarının 48'i (%48.0) tedavimiz sonrasında sigarayı bırakmışken, 52'si (%52.0) sigara alışkanlığını devam ettiriyordu. Maraş otu kullanıcılarının 8'i tedavi sonrasında maraş otunu bırakmışken, 7'si maraş otu kullanmaya devam etmekteydi.

Sonuç: Çalışmada sigara ve maraş otu bırakmak için başvuran 60 yaş ve üzeri olguların tedavi sonrasında tütün ürünlerini yüksek oranda bıraktığı görülmektedir. Tütün ürünleri kullanımını bırakmada bireyin göstermiş olduğu kararlılık, uygun tedavi yöntemi ve düzenli hasta takibi büyük öneme sahiptir.

Anahtar Sözcükler: Sigara; Dumansız Tütün; Sigara Bırakma.

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Introduction

There has been a sharp increase in the size of the elderly population throughout the world in recent years. The proportion of people aged 60 years and older is increasing every year. It is estimated that the world's elderly population aged ?60 years will be 1.2 billion in 2025 and 1.9 billion in 2050 (1), and that one of every three people will be 60 years or older in Europe in 2050 (2). According to data from the Turkish Statistical Institution, 7.7% of the Turkish population was ≥65 years old in 2013. It is estimated that the proportion of the population aged ≥65 years will be 10.2% in 2023, 20.8% in 2050 and 27.7% in 2075 (3).

The proportion of smokers aged 65 years or older is 8.3%-9.1% in the USA (4,5), 6.6%-30.3% in European countries (6) and 9.3%-13.2% in Turkey (7,8). Barriers to smoking cessation in elderly people have been reported to be long duration of smoking, a higher number of cigarettes smoked daily, fewer attempts and weaker intention to stop smoking, and lower levels of education (9,10). Stopping smoking, even at advanced ages, is of great importance for health.

In this study, we aimed to investigate the effectiveness of treatments directed toward quitting smoking and factors likely to affect smoking cessation in elderly people aged 60 years and older.

Materials and Method

This is a retrospective study performed in the outpatient clinic for quitting smoking at Kahramanmaraş Sütçü İmam University Hospital between January 2008 and December 2012. A hundred and seventy-eight patients aged 60 years or older presented to the outpatient clinic during the study period. Out of 178 patients, 115 for whom data were available in the patient records were included in the study sample. The patients were interviewed for 40-60 minutes when they presented to the outpatient clinic. Socio-demographic features, information about smoking and Maras powder (MP) use, results of the Fagerström Nicotine Dependence Scale (FNDS) and notes from a one-year follow-up were recorded. The FNDS was developed by Heatherton et al. (11) and its validity and reliability for the Turkish population were established by Uysal et al. (12); its Cronbach's alpha was found to be 0.56. The scale is composed of six questions and responses to each question are scored between 0 and 10. A score of ≤4 indicates mild addiction, 5 indicates moderate addiction and a score of ≥6 indicates severe addiction.

The patients were provided with support to give up tobacco and offered methods to refrain from and to replace tobacco. Following an initial examination, 15-min interviews at two week intervals were planned. Appropriate medications were recommended for their illnesses and they were involved in their treatment decisions. Those for whom nicotine replacement treatment (NRT) was recommended received this for two months (21mg/day for 4 weeks followed by 14mg/day for two weeks and 7mg/day for two weeks), and were advised to give up smoking on the day when the treatment was initiated. The patients who were prescribed Bupropion were informed that the treatment would last three months (150 mg/day for three days followed by 300 mg/day between the fourth day and twelfth week of treatment) and were advised to stop smoking on the tenth day of treatment. Treatment with Varenicline was given for 12 weeks (0.5mg/day for 1-3 days followed by 1mg/day starting on the fourth day of treatment and continuing till the twelfth week) and patients receiving this treatment were advised to quit tobacco use on the tenth day of treatment.

Patients were requested to rate their self-confidence in quitting smoking on a six-point scale. They were informed about the side-effects of treatment and their informed consent was obtained with respect to the treatment they received. The patients were followed in face-to-face interviews every two weeks for the first three months of treatment, followed by face-to- face monthly interviews for nine months. Patients who reported no use of tobacco after twelve weeks of treatment were considered to be "patients who quit smoking". Those who reported that they used tobacco at the end of the 12-month treatment period were advised to present to the outpatient clinic again.

Statistical Analyses

Statistical analyses were carried out with SPSS 20.0. Mean values, frequencies and standard deviations were used for analyses of the data. The Kolmogorov–Smirnov test was used to determine whether the data were normally distributed. Chi-square tests and Student's t tests were used to determine differences between the groups; $p<0.05$ was considered significant.

In accordance with Helsinki Declaration (Seul, 2008), approval was obtained from the ethical committee of the Medical School of Kahramanmaraş Sütçü İmam University.

Results

Out of 100 patients who presented to quit smoking, 76 (76.0%) were male and 24 (24.0%) were female. Fifteen

Table 1— Socio-demographic Features of the Participants

Features	n	%
Occupation		
Retired	72	62.6
Housewife	19	16.5
Worker	12	10.4
Farmer	8	7.0
Tradesman	4	3.5
Education		
Literate	13	11.3
Primary school	49	42.6
Secondary school	11	9.6
High school	24	20.9
University	18	15.7
Marital status		
Married	111	96.5
Single	4	3.5
Disease		
Hypertension	28	24.3
COPD	7	6.1
Diabetes	21	18.3
Asthma	8	7.0
Coronary artery disease	24	20.9

Table 2— Causes of Stopping Tobacco Use and Restarting Tobacco Use and Previous Attempts to Stop Tobacco Use

Variables	n	%
Causes of stopping smoking		
Doctors' recommendations	5	4.3
Because smoking is harmful to health	74	64.3
Because of a disease already present	33	28.7
Financial reasons	14	12.2
Because smoking disturbs others	11	9.6
Familial pressure	14	12.2
Because smoking is illegal	1	0.9
Causes of restarting tobacco use		
Increased stress	22	19.1
In a moment of anger	12	10.4
Recommendations by people around	14	12.2
Attempting to stop smoking in the year before the study was performed	43	43.0

patients who presented to quit MP use were all male. The mean age of the participants was 62.98±4.30 years (min=60, max=81). The mean age of patients wanting to stop smoking was 62.81±4.27 years and the mean age of patients wanting to quit MP use was 64.13±4.51 years. There was no significant difference in mean age between males and females (p=0.351). Socio-demographic features of the participants are shown in Table 1. Seventy-four participants (64.3%) reported that they wanted to quit tobacco use because they thought that it was harmful to their health.

The mean number of cigarettes smoked daily use the patients who wanted to quit smoking was 22.94±9.60 and the mean age of the smokers was 19.64±7.52 years. Cigarette consumption was 39.25±16.80 packages/year. The mean score on the FNDS was 6.23±2.12 (6.18±2.09 in males and 6.37±2.28 in females). There was no significant difference in mean FNDS scores between males and females (p=0.908). In addition, addiction to nicotine was mild in 20 participants (20.0%), moderate in 13 participants (13.0%) and severe in 67 participants (67.0%). The mean score for self-confidence in quitting smoking was 3.16±1.36 (min=0, max=5).

Forty-eight smokers (48.0%) stopped smoking during treatment, but 52 smokers (52.0%) continued their habit during treatment. Thirty-six male smokers (47.4%) and 12 female smokers (50.0%) gave up smoking; there was no significant difference between these groups (p=0.822). Of the patients who received only behavioral therapy, one (16.7%) stopped smoking. However, 23 (52.3%) patients who received Varenicline in addition to behavioral therapy, 18 (45.0%) patients who received Bupropion in combination with behavioral therapy, and six (60.0%) patients who received NRT as well as behavioral therapy quit smoking (Table 3). There no significant relation between types of treatment and success in quitting smoking (p=0.334). The relationship between education and success in quitting smoking was not significant either (p=0.974).

The distribution of features of tobacco use by the patients who quit smoking and those who continued to smoke is presented in Table 4.

The mean number of times per day MP was used was 19.13±7.82, the annual consumption of MP (packages/year) was 35.2±9.05 and the mean age of starting to use MP was 19.73±9.36 years. The mean score for self-confidence in quitting MP use was 4.20±0.94 (min=2, max=5).

Eight MP users stopped using the powder by the end of the treatment offered, but seven users continued to use the powder. The distribution of the patient who quit and those who did not quit MP use by treatment methods is shown in Table 5. Features of MP use in patients who quit and did not quit are shown in Table 4.

Table 3— Distribution of Patients Stopping and Not Stopping Smoking by Treatment Alternatives

Treatment Alternatives	Patients Stopping Smoking n(%)	Patients Not Stopping Smoking n(%)
Behavioral therapy	1 (16.7)	5 (83.3)
Varenicline + Behavioral Therapy	23 (52.3)	21 (47.7)
Bupropion + Behavioral therapy	18 (45.0)	22 (55.0)
NRT+ Behavioral Therapy	6 (60)	4 (40)
P	0.334	

Table 4— Characteristics of Patients Stopping and Not Stopping Smoking and MP Use

Characteristics	Patients Stopping Smoking Mean ±SD	Patients Not Stopping Smoking Mean ±SD	p
Mean age	62.10±3.78	63.46±4.61	0.113
Mean score for FNDS	6.20±2.17	6.25±2.10	0.923
Mean number of attempts to stop smoking	3.06±3.31	3.14±3.19	0.906
Mean number of cigarettes smoked a day	23.81±10.31	22.13±8.92	0.385
Mean age of starting smoking	19.60±7.19	19.67±7.89	0.964
Mean number of cigarette packets consumed a year (Packets / year)	3.16±18.40	39.32±15.36	0.962
Mean score for self-confidence in stopping smoking	3.22±1.29	3.09±1.44	0.630
Characteristics	**Patients Stopping MP Use**	**Patients Not Stopping MP Use**	**p**
Mean age	63.50±4.65	6.85±4.59	0.581
Mean age of starting to use MP	19.50±6.32	20.00+12.56	0.922
Consumption of MP (Packets / year)	32.75±8.79	38.00±9.16	0.278
Mean number of attempts to stop MP use	2.28±1.49	2.80±2.48	0.663
Mean number of MP use a day	21.87±9.23	16.00±4.69	0.153
Mean score for self-confidence in stopping MP use	4.37±.74	4.00±1.15	0.462

Discussion

In the present study, of all the patients who presented to quit smoking, 76.0% were male and 24.0% were female, which is consistent with the literature. Other studies from Turkey have also revealed that 25.3%-17.9% of smokers aged 65 years and older are male and 2.6%-1.6% of the smokers aged 65 years and older are female (7,8). In a study in Ankara, Turkey, of the elderly individuals who presented to stop smoking, 75.0% were male and 25.0% were female (13). The higher rate of the elderly male population in this study can be attributed to the fact that the rate of male smokers in the Turkish population is higher.

We found that the fact that tobacco use is harmful to health and that individuals develop chronic diseases were important causes of quitting smoking, while doctors' recommendations to stop smoking had a lower degree of importance. In a study on individuals aged ≥50 years in Canada, the rate of quitting smoking was found to increase after patients were diagnosed with chronic diseases (14). In a study on the causes of quitting smoking in individuals aged ≥65 in Turkey, it turned out that 33.0% of the participants stopped smoking due to diseases they already suffered, 34.7% stopped smoking due to fear of getting ill and 6.9% gave it up because of their doctors' recommendations (13). In the present study, the finding that health professionals' recommendations caused a low rate of smoking cessation indicates that health professionals' attempts to persuade smokers are not sufficient and are required to be more effective in our country.

Of all the patients in this study, 43.0% had attempted to quit tobacco products one year before they presented to our outpatient clinic, which is consistent with the research. In a study in the USA, 43.5% of people aged ≥65 years attempted to give up smoking one year before they participated (15).

In a study from Germany, 74% of the men aged 60-69 years and 72% of the women aged 60-69 years had an attempt to stop smoking before they were enrolled in the study (16).

Most patients who stopped smoking had a severe addiction to nicotine. Those patients who stopped smoking and those who failed to stop the habit were similar in terms of FNDS scores and amount of smoking (packets/year). The higher degree of nicotine addiction in the present study can be attributed to a long duration of tobacco use and inclusion of patients with addiction refractory to treatment, in contrast to the inclusion of patients with less severe addiction in previous studies. In a study on elderly patients by Darılmaz-Yüce et al., FNDS scores were not found to be significantly correlated with duration of smoking and success of treatment for quitting smoking (13). However severe the nicotine addiction is, behavior therapy and pharmacotherapy will increase both willingness and success of smoking cessation.

In this study, 48.0% of the smokers quit smoking after the treatment offered. The rates of male and female patients who quit smoking were similar. In a study in Singapore, the rate of smoking cessation after a 12-week treatment was found to be 36.0% (17). In a study from Turkey, 50.0% of the elderly patients gave up smoking one year after treatment (13). Many studies did not show a significant difference in rates of smoking cessation between males and females (13,18). The high rate of the smoking cessation in the present study may be due to the behavioral therapy and pharmacotherapy offered, and strict follow-up of the patients.

It has been reported in the literature that as education levels increased, so did success in stopping smoking (19). However, in the present study, we found that there was no significant relationship between education and success in stopping smoking. Another study from Turkey did not show a significant relationship between education and smoking cessation in patients aged ≥65 years (13). Lack of a significant relationship between education and success in stopping smoking can be explained by the fact that knowledge of methods used to stop smoking is independent of education level, and might have been due to our attempts to increase awareness of the issue in our outpatient clinic.

The pharmacological treatment alternatives used in the present study had similar rates of success in stopping smoking, which is consistent with the literature. In a study in Singapore, the rate of smoking cessation was 36.0% after 12 weeks of treatment with Bupropion and 36.0% after treatment with NRT (17). In a study in the USA, 28.5% of the elderly quit smoking six weeks after receiving behavioral treatment combined with nicotine patches (20). In a study from Italy, 33.2% of the people on Varenicline, 26.5% of the people on NRT and 24.2% of the people on Bupropion stopped smoking in the sixth week of treatment (21). In a study conducted in Ankara, Turkey, 41.0% of the patients receiving behavioral therapy only, 55.0% of the patients receiving both behavioral therapy and NRT, 46.0% of the patients receiving both behavioral therapy and Bupropion and 47.0% of the patients receiving both behavioral therapy and Varenicline stopped smoking (13). A combination of support therapy and pharmacological treatment plays an important role in stopping tobacco use. Pharmacological agents are of great importance in eliminating withdrawal symptoms experienced by individuals wanting to quit smoking, and in helping these people to bear the process of stopping smoking.

Maras Powder, i.e. *Nicotiana rustica linn*, is smokeless tobacco widely used in all cities of the East Mediterranean Region in Turkey, especially in Kahramanmaraş. MP is obtained by crushing the leaves of a plant called Nicotiana rustica linn and mixing it with ash (22). It is either moistened, put in a piece of paper and smoked or put in the inner side of the lips without using paper, and absorbed.

In the present study, the participants presenting to quit MP use were all male, which is congruent with the literature. In a study performed in USA, 6.2% of the healthy male population and 0.2% of the healthy female population were found to use smokeless tobacco (23). Higher rates of males using smokeless tobacco may be due to the fact that smokeless tobacco use is considered a male behavior. All the participants presenting to stop MP use in this study were male. It may be that the rate of MP use is higher in males than in females in Kahramanmaraş province.

Effects of pharmacological therapies on quitting MP use were similar. In addition, the proportion of patients who quit MP use was similar to that of patients who stopped smoking. In addition, patients who quit MP use and those who stopped smoking were similar in terms of their characteristics of tobacco use. In addition, the findings of this study with respect to patients who stopped smoking were consistent with the findings reported in the literature (13).

Conclusion

This study revealed that a high proportion of patients aged 60 years or over stopped smoking and using MP after receiving treatment. Determination to stop smoking, appropriate treatments and strict follow-up of patients are of signif-

icance in stopping the use of tobacco products. Stopping tobacco use will contribute to reduction of morbidity and mortality in the population, especially in the elderly. All patients presenting to health centers should be questioned about their tobacco use and advised to stop it, which will reduce the number of tobacco users in the population.

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