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ORIGINAL PAPER

# Evaluation of the Opinions of Family Physicians on Some Tobacco Products

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## Abstract

This study aimed to evaluate the opinions of family physicians, who have an important place in preventive health services, on some tobacco products. The sample of the descriptive study was composed of family physicians working in 408 family health centers serving Samsun, Turkey. The data were obtained by distributing a questionnaire prepared by the researchers to volunteer family physicians during in-service trainings organized by the Samsun Provincial Directorate of Health in February and March 2019. In all, 322 (79%) family physicians who participated in the trainings were included in the study. The average age of the participating physicians was 45.0 ± 7.6 years; 61.5% of them were male. More than one third (36.0%) of family physicians said that they had never smoked, while 23.6% of them were current smokers. Most (85.0%) said that they knew what an electronic cigarette was, 94.7% of them were familiar with hookahs, and 9.0% knew about I Quit Ordinary Smoking (IQOS). It is important to inform all healthcare professionals, and especially family physicians, about those products marketed by the tobacco industry as "less harmful" than cigarettes. It is thought that providing appropriate counseling services to these professionals will contribute to the fight against tobacco use.

**Keywords** Cigarette · Electronic cigarette · Family physician · Hookah · IQOS

## Introduction

The tobacco epidemic is one of the biggest public health threats facing the world. It kills more than 8 million people every year. More than 7 million of these deaths are the result of direct tobacco use, while about 1.2 million are non-smokers exposed to second-hand smoke [1].

The products made entirely or partly from the leaves of tobacco as raw materials manufactured to be used for "smoking, sucking, chewing or snuffing" are defined as tobacco products. Cigarettes, hookahs, pipes, cigars, bidis (small thin hand-rolled cigarettes), snuff, kreteks (clove cigarettes), wrapping tobacco, and chewing tobacco are the main tobacco products. Cigarettes are the most commonly used among these products, and the word "cigarette" is often used in place of "tobacco" [2, 3].

It is important to prevent the interference of the tobacco industry from controlling the global tobacco epidemic and to reduce the impact of tobacco use on public health [4]. The tobacco industry targets children and young people directly by using various advertising tactics, and a new health-threatening product portfolio has emerged in recent years [5]. Hookahs, electronic cigarettes (e-cigarettes), and similar new products are marketed especially for young people, with the view that they are "less harmful" [6, 7]. One of these new products is the tobacco product called I Quit Ordinary Smoking (IQOS), in which tobacco is used without being burned [8]. This product, in which tobacco does not burn but instead is heated to 350 °C, was first marketed in 2014 in Japan and Italy [9]. Tobacco smoke from burning cigarettes contains many harmful chemicals, such as nicotine, arsenic, benzene, carbon monoxide, polycyclic aromatic hydrocarbons, and nitrosamines, all of which are known to cause cancer [10]. Similarly, it has been shown that IQOS smoke contains volatile organic compounds, polycyclic aromatic hydrocarbons, and carbon monoxide; it also has 84% of the nicotine found in conventional cigarette smoke [11]. For this

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reason, IQOS devices lead to nicotine addiction, especially in non-smokers, and often prompts them to start smoking other tobacco products.

Among electronic nicotine delivery systems, e-cigarettes are the most commonly used devices. They do not contain tobacco, but rather use liquid nicotine and several chemicals. They heat the liquid to create an aerosol, which the user then inhales [4]. Nicotine is delivered to smokers via e-cigarettes, but the emphasis is placed on its "safe" use, since there is no tar. In fact, electronic cigarettes were initially presented as a "smoking cessation product" [8]; however, the nicotine contained in them has an addicting effect. A study conducted in the US found that young people who use e-cigarettes are five times more likely to start smoking after 1 year than those who do not use e-cigarettes [12]. E-cigarettes have become very popular in recent years, especially among young people [4]. Further, in a study by Glantz et al. [13], smokers' probability of quitting cigarettes was found to be significantly lower in those using e-cigarettes than those who did not use them.

A hookah is a kind of tobacco device that has been in use for centuries, but which has become increasingly popular since the 1990s. It consists of a bowl in which tobacco is placed, a water container, a long body, a hose, and a mouthpiece. Widely used in Asia, Africa, and the Middle East, its popularity is spreading rapidly to other regions. Similar to other alternative smoking methods, hookah use is increasing, especially among the adolescent population [14–16]. Among the reasons for the increased use of hookahs, especially among young people, is the important perception that it is less harmful than traditional smoking [17, 18]. However, hookah smoke contains various toxic substances, including nicotine, carbon monoxide, carcinogenic polycyclic aromatic hydrocarbons, aromatic amines, aldehydes, furanic and phenolic compounds, tar, particulate matter, heavy metals, and ammonia. For this reason, hookah users are exposed to higher amounts of the same toxic compounds as cigarette users. As a result, much more serious health problems may occur [19]. Hookah use is considered to be the second global tobacco epidemic for several reasons, including: the launch of flavored tobacco products in the market; easy accessibility, due to the increasing number of hookah cafes, which also provide social acceptance; the perception that hookah use is a popular phenomenon; the lack of enough information about its harmful effects; and hookah-promoting advertisements [20, 21].

Tobacco use and addiction is defined as a disease, according to the International Classification of Diseases (ICD)-10 classification [22]. According to the World Health Organization, health professionals have several roles to play in this struggle. Some of these are serving as a role model and assuming an occupational, educator, and leader identity. The biggest obstacles to healthcare professionals' participation in tobacco control are a lack of knowledge and skills related to tobacco and tobacco control, a lack of organizational leadership, and tobacco use among healthcare professionals [23]. For these reasons, it is important for family physicians, who hold the important position as the point of contact with their patients, to have the necessary knowledge and skills on this subject. In this study, we aim to evaluate the opinions of family physicians working in primary health care, who are uniquely positioned to provide preventive health services, on some tobacco products and their use.

## Materials and Methods

This study sample was composed of family physicians working in 408 family health centers serving Samsun, Turkey. During in-service trainings organized by the Samsun Provincial Directorate of Health in February and March 2019, the physicians were informed about the research, and the questionnaire created by the researchers was distributed to those who volunteered to participate. In all, 322 (79%) physicians participated in the training, and all of them were included in the study. Ethical approval for the study was obtained from Ondokuz Mayıs University Clinical Research Ethics Committee (OMU-CREC:2019/107) and the other necessary institutions. Informed consent was obtained from all participants.

SPSS 22.0 was used for the statistical analysis of the data. Data for continuous variables were expressed using the mean ± standard deviation, and data for categorical variables used numbers (%). The Chi-square test was used in the analysis of the data. p values of $<0.05$ were considered statistically significant.

## Results

A total of 322 family physicians, 198 (61.5%) male and 124 (38.5%) female, participated in the study. The average age of the physicians was 45.0 ± 7.6 (min: 26, max: 68) years; 293 (91.0%) were general practitioners, while 29 (9.0%) were family physicians. Among them, 116 (36.0%) of family physicians had never smoked, 43 (13.4%) had smoked one or more times, 87 (27.0%) had quit smoking, and 76 (23.6%) were still smoking. In terms of gender, 41.9% of women and 32.3% of men had never smoked. In addition, 16 (12.9%) women stated that they had smoked one or more times, 30 (24.2%) had quit, and 26 (21.0%) were still smoking. These rates in men were, respectively, 27 (13.6%), 57 (28.8%), and 50 (25.3%). There was no statistically significant difference in terms of smoking status by gender ($X^2 = 3.175$, $p = 0.365$). In terms of age groups; among those 45 years and under, 73 (41.2%) had

**Table 1** Distribution of family physicians' smoking status by gender and age groups, n (%)

| Smoking status | Men* | | Women** | |
|---|---|---|---|---|
| | 45 years and under | 46 years and over | 45 years and under | 46 years and over |
| Never | 38 (37.3) | 26 (27.1) | 35 (46.7) | 17 (34.6) |
| One or more times | 13 (12.7) | 14 (14.6) | 9 (12.0) | 7 (14.3) |
| Quitted | 19 (18.6) | 38 (39.6) | 14 (18.6) | 16 (32.7) |
| Still smoking | 32 (31.4) | 18 (18.7) | 17 (22.7) | 9 (18.4) |
| Total | 102 (100.0) | 96 (100.0) | 75 (100.0) | 49 (100.0) |

*$X^2 = 12.370$, $p = 0.006$

**$X^2 = 3.791$, $p = 0.285$

**Table 2** Opinions of family physicians on some tobacco products, n (%)

| Product | No idea | Have some idea | I know what it is |
|---|---|---|---|
| Electronic cigarette | 5 (1.6) | 43 (13.4) | 274 (85.0) |
| Hookah | 5 (1.6) | 12 (3.7) | 305 (94.7) |
| IQOS | 270 (83.9) | 23 (7.1) | 29 (9.0) |

never smoked, 22 (12.4%) had smoked one or more times, 33 (18.6) had quit, and 49 (27.7%) were still smoking, whereas these rates in the age group 46 years and over were 43 (29.7%), 21 (14.5%), 54 (37.2), and 27 (18.6%), respectively. The number of physicians who had never smoked was statistically significantly higher in the age group 45 years and under ($X^2 = 16.199$, $p = 0.001$). The distribution of smoking status by gender and age groups is shown in Table 1. According to these data, the proportion of men in the age group 45 years and under who had never smoked was statistically significantly higher ($p < 0.05$) than those in the age group 46 years and over, while there was no difference among women of varying ages ($p > 0.05$).

The family physicians participating in the study were asked for their opinions about e-cigarettes, hookahs, and IQOS; their answers are shown in Table 2.

When comparing the status of knowing what IQOS was by gender, it was determined that men (11.1%) were more likely to know of this product than women (5.6%) were, and the difference was statistically significant ($p < 0.05$). According to the age groups, the knowledge of IQOS was higher in the age group 45 years and under (11.3%) than in the age group 46 years and over (6.2%), but there was no statistically significant difference ($p > 0.05$).

The opinions and usage status of family physicians related to the content of some tobacco products are shown in Table 3. Sixty (18.9%) physicians said that there were nicotine and chemical additives in e-cigarettes. More than half of them thought that there was tobacco in the content of hookah pipes, and about 45% of them thought that there was nicotine or chemical additives in the content of an IQOS device. The rates of knowing the products' exact contents were low. When the smoking status of those who used these products even once was considered, it was observed that 1 (2.5%) e-cigarette user, 10 (9.3%) hookah users, and 1 (11.1%) who had tried IQOS were physicians who had "never" smoked.

Almost all (96.3%, N = 310) of the family physicians knew that smoking causes cancer, 258 (84.3%) of them knew

**Table 3** Opinions and usage status of family physicians on the content of some tobacco products, n (%)

| | Electronic cigarette | Hookah | IQOS |
|---|---|---|---|
| Content of the product | | | |
| Tobacco | 58 (18.3) | 161 (50.8) | 5 (9.6) |
| Nicotine | 81 (25.6) | 65 (20.5) | 24 (46.2) |
| Chemical additives | 118 (37.2) | 51 (16.1) | 23 (44.2) |
| Nicotine and chemical additives | 60 (18.9) | 40 (12.6) | – |
| Total | 317 (100.0) | 317 (100.0) | 52 (100.0) |
| Usage status of the product | | | |
| Never used | 269 (87.0) | 202 (65.2) | 43 (82.7) |
| Used one or more times | 26 (8.4) | 90 (29.0) | 5 (9.6) |
| Quitted | 11 (3.6) | 18 (5.8) | 3 (5.8) |
| Still using | 3 (1.0) | – | 1 (1.9) |
| Total | 309 (100.0) | 310 (100.0) | 52 (100.0) |

that electronic cigarettes are addictive, 38 (73.1%) of them knew that an IQOS was not a smoking cessation product, and 271 (85.5%) of them knew that the use of electronic cigarettes is prohibited in enclosed areas in Turkey. In terms of gender, 14.4% of women and 16.5% of men said that e-cigarettes were not addictive, and 13.9% of women and 14.9% of men said that it was acceptable to use e-cigarettes in enclosed areas. In addition, 18.2% of women and 29.3% of men said that IQOS was a smoking cessation product. The rate of false answers in men was high, but there was no statistically significant difference ($p > 0.05$).

## Discussion

Most of the family physicians who participated in our study said that they knew what an e-cigarette was (85.0%), that they are addictive (84.3%), and that their use is forbidden in enclosed areas (85.5%). However, when questioned about the content of an e-cigarette, the rate of those who knew that they include nicotine and chemical additives was low (18.9%). In a study conducted with family physicians in Turkey, 48.4% of participants stated that e-cigarettes are a product used in smoking cessation treatment [24]. In a study from the US, primary care physicians stated that they lacked information about e-cigarettes, but they thought that they were safer than conventional cigarettes [25]. In a study made in US by Ofei-Dodoo et al. [26], 18% of family physicians recommended e-cigarettes to their patients, based on reasoning such as e-cigarettes being less harmful than conventional cigarettes and their possibility of serving as a bridge to quitting smoking, while 82% of them did not recommend them, based on reasons such as a lack of data supporting the effectiveness of e-cigarettes in cessation treatment, unknown possible toxic chemical content, and having better options. Physicians in Poland also noted that e-cigarettes are harmful and addictive; 87% supported the statement that it might be the "entrance door" to traditional smoking [27].

When the electronic cigarette usage status of the physicians in our study was considered, 87% of them said that they "never" used them, while 1% of them were still using them. In a study by Jankowski et al. [28], rates on the same question were reported as 22.2% and 1.9%, respectively. Within the scope of Turkish legislation, e-cigarettes are accepted as a tobacco product, so their sales are prohibited regardless of the device content. This is why the rate of "never used" might be higher in our study than those conducted elsewhere. As the sale of the product was not prohibited, the number of people who know about e-cigarettes was reported at 99.8% in a study conducted in Poland [28]. This situation shows that legal regulations regarding accessibility are ambiguous when it comes to contributing to the fight against tobacco use. In addition, addressing the lack of information among family physicians and prompting them to tell their patients that e-cigarettes are a type of addictive tobacco product will be important in the struggle against tobacco use.

In our study, almost all of the family physicians stated that they knew what a hookah was, but just half of them reported knowing that hookahs contain tobacco, and most did not know that hookahs contain nicotine and chemical additives. Although we were pleased to find that no physicians were current hookah users, 29.0% of them stated that they used a hookah one or more times; 5.8% of them reported having quit hookah use. In a study conducted in England, 62.5% of physicians said that they knew what a hookah was, and 82% of them said that they are harmful, yet less harmful than smoking [29]. In a study conducted in Lebanon by Romani et al. [30], 33.3% of primary care physicians stated that they use a hookah, and 79.2% of them were addicted, due to the nicotine content, but they did not think that using a hookah was equivalent to smoking.

Although hookah use is common in the Eastern Mediterranean and European regions, its use is higher among young people than older adults [31]. According to the results of the Global Youth Tobacco Survey, conducted in Turkey in 2017, the rate of those who had tried a hookah at least once was 24.6%, while the rate of young people who regularly smoke a hookah was 11.2% [32]. In studies conducted in various countries, the use of hookahs among young people varied between 6 and 34% [8]. Hookah use is a public health problem that must be tackled, because society tends to regard hookahs as more innocent than other tobacco products and devices, due to the aromatic substances in them; however, the exposure to hookah smoke for a longer time, when compared to that from a conventional cigarette, may be a step in the transition to smoking. For this reason, family physicians, who serve a significant proportion of the population, should definitely question patients on their use of hookahs, in addition to cigarettes, and provide consultancy services when necessary.

Few, just 16.1%, of the family physicians who participated in our study answered the question of what was a heated tobacco product, IQOS; 9.6% of thEM said that it contains tobacco, while the others said it contains nicotine and/or chemical additives. Although there was one physician who reported being a current IQOS user, five said that they used IQOS one or more times before. In Japan, which was one of the first countries where IQOS was available, its use among adults was 0.3% in 2015, but increased rapidly, to 3.6%, by 2017 [33]. Studies have shown that the target group in the IQOS market is adolescents and young adults; the younger population is more likely to use this product, and it does not get much attention among older age groups [34–37]. Similar to the study by Nyman et al. [38], in our study, knowledge of the IQOS heated tobacco product was

found to be higher in males and among those 45 years and under. Those who used IQOS stated that they used it to reduce the harm related to smoking [39, 40]. However, there are studies in the literature showing that exposure to IQOS smoke is as harmful to human lung cells as cigarette smoke, and may even cause liver toxicity, unlike smoking [41, 42]. In a study conducted in Italy, 51% of those who were interested in the product, and 45% of users, were non-smokers [36]. This suggests that IQOS may be a transition product by causing nicotine addiction, similar to other tobacco products apart from cigarettes [35]. It is important to inform family physicians, who have important duties within the scope of preventive medicine, about new products like this coming from the tobacco industry. Our study also supports this fact with its findings that there were non-smokers among those who used these products even once, especially hookahs, and that 27% of family physicians defined IQOS as a smoking cessation product.

According to the results of the Global Adult Tobacco Survey, conducted in Turkey in 2016, 31.6% of the population was still smoking, while 13.6% had quit smoking [43]. In a study conducted among Turkish hospital staff in 2017, the frequency of physicians' smoking was found to be 23.8%, while those who had quit smoking was 5.37% [44]. In our study, physicians' frequency of smoking was similar, but we did find a higher rate of those who had quit. This may be due to the fact that the average age of our study group was higher, and that the smoking status of the physicians was a lower rate compared to other segments of society, since they know smoking is harmful. In the study conducted among physicians in Poland, the rate of current smoking was found to be 7.8%, while in England it was 10.7% [28, 29]. Physicians' smoking status also affects their behaviors toward their patients. In the same studies, the rate of giving smoking cessation advice to patients and referring them to smoking cessation clinics was found to be higher among non-smoking physicians compared to smokers (28, 29).

Health professionals, and especially family physicians, should be informed about the new strategies being used by the tobacco industry, and awareness of these should be raised in society. Moreover, the idea that new tobacco products are less harmful than traditional products should not be supported. Regardless of the reason for their application, family physicians should also question their patients about hookah use, which is increasing, as well as other forms of smoking. Finally, it is believed that awareness of both legislation and health hazards in relation to electronic cigarettes, IQOS, and other heated tobacco products, which are prohibited in Turkey, will contribute to the fight against tobacco and its use.

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## Compliance with Ethical Standards

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

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