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Research Article

Factors Affecting Cigarette Consumption: The Case of the Keşan and İpsala Districts of Edirne

Sigara Tüketimini Etkileyen Faktörler: Edirne ilinin Keşan ve İpsala İlçesi Örneği

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Abstract

This descriptive and cross-sectional study was carried out in Keşan and İpsala, two districts of Edirne. The present study was conducted to determine the level of cigarette consumption among smokers and the factors affecting cigarette consumption. The study sample included 888 smokers, all over 18 years of age. A questionnaire consisting of 21 questions was administered to the participants. The data was analyzed using the SPSS 21. Of the participants, 57% started smoking due to peer influence. Smoking 6 or more packs of cigarettes per week was more prevalent among those having an elementary school education or less (77.2%) compared to high school graduates (65.1%), or university graduates (60.5%). Indeed, smoking 6 or more packs of cigarettes each week was 23 times more likely among those who considered themselves heavy smokers than among those who considered themselves light smokers. Cigarette consumption was associated with sociodemographic variables such as age, education, and gender. The sociodemographic factors associated with smoking discovered in this study could guide and support the development of public health strategies to discourage people from smoking.

Anahtar Kelimeler

Affecting factors • Cigarette smoking • Cigarette consumption • Keşan • İpsala

Öz

Bu çalışma Edirne'nin Keşan ve İpsala ilçelerinde sigara tüketicilerinin sigara tüketim düzeyi ve sigara tüketimini etkileyen faktörlerin belirlenmesi amacıyla tanımlayıcı ve kesitsel tipte yapılmıştır. Araştırmanın evrenini Edirne'nin Keşan, İpsala ilçelerinde ikamet eden 18 yaş üstü 888 sigara tüketicisi oluşturmaktadır. Katılımcılara araştırıcılar tarafından literatür ışığında hazırlanan 21 sorudan oluşan anket formu dağıtılmıştır. Araştırma sonucu elde edilen verilerin analizi SPSS 21 paket programı kullanılarak

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gerçekleştirilmiştir. Katılımcıların %57'si arkadaş etkisi nedeni ile sigara içmeye başladığını bildirmiştir. İlköğretim ve altında eğitimi olanlarda haftalık 6 paket ve üzerinde sigara içenlerin oranının (%77,2) lise (%65,1) ve üniversite (%60,5) mezunu olanlara göre çok yüksek düzeyde anlamlı olduğu belirlenmiştir. Sigara içme bağımlılığını ileri düzeyde tanımlayanların haftalık 6 paket ve üzerinde sigara içme olasılığı bağımlılığını hafif düzeyde tanımlayanlara göre 23 kat daha fazla bulunmuştur. Sigara tüketimi yaş, eğitim ve gelir düzeyi vb. sosyodemografik değişkenlerle ilişkilidir. Çalışma sonucu elde edilen sigara tüketimi ile ilişkili olan sosyodemografik faktörlere ait veriler, sigara tüketimini önleme stratejilerini belirleme ve desteklemeye yardımcı olabilir.

Keywords

Etkileyen faktörler • Sigara kullanımı • Sigara tüketimi • Keşan • İpsala

Introduction

Tobacco use is one of the most important and preventable public health problems, both in Turkey and in other countries around the world. Addiction to tobacco is widespread and substances present in its smoke have negative effects on human health (Söylemez, 2004). Globally, 5 million people die annually due to smoking. This figure is estimated to reach 10 million by 2025, with developing countries shouldering 7 million (70%) mortality cases (Göçmen, Nalcı Savaş, & Ocak, 2011). In 2000 the number of deaths likely to be prevented in Turkey by reducing tobacco use was calculated to be 52,905 males and 1,794 females. The same study also revealed reducing the prevalence of smoking was the most important preventive approach to preventing deaths (Doğanay, Sözmen, Kalaça, & Ünal, 2012).

Tobacco consumption not only leads to health hazards but also adversely affects the economy (Akyol, 2014). The World Health Organization (WHO) estimates smoking causes about five hundred billion dollars in economic damage per year (Ekpu & Brown, 2015). Along with the health problems caused by smoking, there also occurs a loss in production. When considering the population of a country, if those at the age of production cannot contribute to production, serious adverse impacts can affect the country's economy (Koca & Oğuzöncül, 2015).

It is necessary to identify addictive substance-induced problems and develop permanent protection, prevention, treatment, and rehabilitation strategies throughout the country (Koca & Oğuzöncül, 2015). Epidemiological information on the prevalence of smoking and its determinants is important for realizing the appropriate interventions to reduce or prevent smoking, and to evaluate the effectiveness of implemented interventions (Doğanay et al., 2012). According to data released by the Turkish Statistical Institute (TurkStat) in 2013, Tekirdağ, Edirne and Kırklareli, three provinces located in northwestern Turkey, had a per household expenditure of 4.4% in 2006, and 5.6% in 2011 and 2012, on alcoholic beverages, cigarettes, and tobacco (TurkStat, 2013). However, because these provinces are close to Greece, it is possible participants bought cigarettes at a lower price in Greece, thus potentially increasing the

rate of cigarette-alcohol use. This study was carried out within the Edirne districts of Keşan and İpsala to determine the level of cigarette consumption among smokers and the factors affecting cigarette consumption. Up-to-date information on how much and why people smoke is important to create effective measures to combat tobacco use.

Method

This descriptive and cross-sectional study included 888 smokers. Participants were over 18 years of age and residing in either the İpsala or Keşan districts of Edirne. The study was conducted to investigate tobacco consumption levels, and the factors affecting tobacco consumption.

Ethical Approach

To conduct the study, the necessary permissions were obtained from the Trakya University Social and Humanities Research Ethics Committee (permission no: 2017.04.04, dated: 12/04/2017), Edirne Governorship, and Keşan District Governorship. Verbal and written consent was obtained from all participants.

Sample Size Calculation

The population in Edirne is estimated to be around 83,000 and the current proportion of smokers in all of Turkey, according to the Global Adult Tobacco Survey Turkey, 2012 data, is 27%. Given a margin of error at 0.03 (p=0.3, q=0.7), the sample size was calculated to be 888 for a population of 100,000 (Yazıcıoğlu & Erdoğan, 2004). In this study, although the study population was calculated to be 83,000 the sample size used was also 888 people.

Data Collection

Procedures

Verbal and written consent was obtained from all participants before the questionnaires were distributed. Data was collected from face-to-face interviews**.**

Data Collection Instrument

The questionnaire, consisting of 21 questions, was designed by the researchers and distributed among the participants between October and December of 2017.

Statistical Analysis

The data obtained from the study was analyzed using Statistical Package for the Social Sciences versiyon 21 (SPSS IBM Corp.; Armonk, NY, USA). Numbers and percentages were used in descriptive statistics. The Pearson's chi-square analysis was used to compare the weekly distributions of tobacco consumption according to independent variables. In order to evaluate the variables affecting weekly cigarette consumption, logistic regression (backward) was performed. Statistical significance level was accepted at $p<0.05$.

Table 1.
Distribution of the Sociodemographic Characteristics of the Participants (N=888)

Characteristics	n	%
Gender		
Female	214	24.1
Male	674	75.9
Age		
≤ 28 years	223	25.1
29-44 years	373	42.0
≥ 45 years	292	32.9
Education		
≤ Elementary school	338	38.0
High school	284	32.0
University	266	30.0
Marital status		
Single	306	34.5
Married	582	65.5
Employment status		
Public employees	119	13.4
Private Sector employees	308	34.7
Self-employed	260	29.3
Unemployed	201	22.6
Place of residence		
Keşan	538	60.6
İpsala	350	39.4
Monthly cost of cigarette consumption		
≤ 199 TL	215	24.2
200-399 TL	442	49.8
≥ 400 TL	231	26.0
Weekly cigarette consumption		
≤ 5 packages	281	31.6
≥ 6 packages	607	68.4

Results

The participants' sociodemographic characteristics are given in Table 1. As shown, 51.2% started smoking between the ages of 14 and 18 years old. Of them, 57% started smoking due to peer influence, 15.7% due to curiosity, 13.9% due to stress or distress. Additionally, 41.3% of them smoked because it relaxed them and 21.2% smoked to overcome their boredom. Interestingly, 91.9% thought smoking caused harm and 92.3% were aware of the damages caused by smoking. There were no other smokers

in 32.4% of the participants' families. Among the factors likely to force them to quit smoking were diseases (52.9%), economic issues (6.5%), and pressure from the family and environment (14.8%). However, 21.6% said they would quit smoking only if they themselves wanted or decided to quit it.

Of the participants, 29.8% defined themselves as heavy smokers, while 48.9% thought they were intermittent smokers. Happily, 57.1% tried to quit smoking at least once in their lifetime, 63.6% wanted to quit smoking, 52.4% tried to reduce smoking at least once in their lifetime, and 69.1% were unhappy about smoking. However, 68.4% smoked 6 or more packs of cigarettes per week.

Smoking 6 or more packs of cigarettes per week was significantly more common in males (73.6%) than in females (51.9%, $p<0.001$). Smoking 6 or more packs of cigarettes per week was also more prevalent among those having an elementary school education or less (77.2%), compared to high school graduates (65.1%), or university graduates (60.5%), and the differences were significant ($p<0.001$). Smoking 6 or more packs of cigarettes per week was also significantly more common among participants who started smoking at ≤13 years of age than those ≥14 years old ($p<0.05$).

The proportion of participants smoking 6 or more packs of cigarettes per week was significantly higher among participants who would quit smoking due to disease and family or environmental pressure, than among those who would quit due to economic reasons or of their own free will ($p<0.001$). The proportion of participants smoking 6 or more packs per week significantly increased as the degree of addiction increased ($p<0.001$).

Table 2.
The effect of independent variables on the amount of weekly cigarette consumption: results of the logistic regression analysis (N=888)

Variables	B	SE	Wald	SD	Exp (B)	95% Confidence Interval for Exp (B)	
Fixed	-1.58	0.24	42.340	1*	.21		
The degree of addiction defined****			117.487	2*			
The degree of addiction.1 (light: 0 /heavy: 1)	3.14	0.30	111.513	1*	23.00	12.85	41.17
The degree of addiction.2 (light: 0 /heavy: 1)	1.28	0.19	46.174	1*	3.61	2.49	5.22
Gender (Female: 0 / Male: 1)	0.83	0.19	20.217	1*	2.30	1.60	3.31
Education ((≥ high school: 0 / ≤elementary school: 1)	0.48	0.18	7.398	1**	1.62	1.14	2.28
Place of Residence (İpsala: 0 / Keşan: 1)	0.42	0.17	6.296	1***	1.52	1.10	2.11

Dependent Variable: amount of weekly cigarette consumption (5 or less packs of cigarettes per week: 0 / 6 or more packs of cigarettes per week:1).
χ^2: 221.778 SD: 5 p=0.000 (Model compatible).
*p=0.000; **p=0.007; ***p=0.012; ****This is the self-evaluation of the participants; SD: standard deviation; SE: standard error.

The effect of nine variables determined to influence the amount of weekly cigarette consumption were evaluated using logistic regression analysis. The dependent variable (weekly cigarette consumption), and predictor variables (gender, age group, education level, occupation, place of residence, age started smoking, the reasons to quit smoking, the degree of addiction defined, and enjoyment) were analyzed using the backward method (Table 2).

The four variables determined to significantly impact the amount of weekly cigarette consumption in order from most to least significant were the degree of addiction defined by the participants, gender ($p<0.001$), education ($p<0.01$), and place of residence ($p<0.05$), (Table 2). The remaining 5 independent variables had no impact on the amount of weekly cigarette consumption ($p>0.05$).

The proportion of participants who smoked 6 or more packs of cigarettes per week was 23 times higher among those who considered themselves heavy smokers compared to those who considered themselves light smokers. The proportion was also 3.61 times higher among those who considered themselves intermittent smokers than light smokers. The likelihood of smoking 6 or more packs of cigarettes per week was 2.3 times higher for males than females, 1.62 times higher for those with an elementary school education or less than those with a high school or university education, and 1.52 times higher for those living in Keşan compared to İpsala.

Discussion

According to recent studies, globally, 1.2 billion people over 15 years of age (one out of every three adults) are smokers, and 80% of them live in developing countries (Karaöz, Albeni, & Büyüktatlı, 2010). According to the data released by the Organization for Economic Co-operation and Development (OECD) in 2017, the highest rates of cigarette smoking in people over 15 years of age is in Indonesia (39.9%), followed by Turkey and Greece (27.3%). The countries with the lowest rate of cigarette smoking are Brazil and Mexico (OECD, 2017).

This study demonstrates the likelihood of smoking 6 or more packs of cigarettes per week was 2.3 times higher in males than in females ($p<0.001$). Indeed, for most studies conducted in Turkey and around the world, smoking remains more prevalent in men (Oktay, Çelik, & Akbaba, 2013; Rahman, Arif, Abd Razak, Suhaili, Tambi, & Akoi, 2015; Soyuer, Ünalan, & Elmalı, 2011; Vatan, Ocakoğlu, & İrgil, 2009; Yazıcı & Şahin, 2005). In Turkey, 40.4% of men and 18.2% of women over 15 years of age are smokers (Republic of Turkey Ministry of Health, Health Statistics Yearbook, 2017). According to the data released by the OECD in 2017, the prevalence of smoking is higher in the male population than in the female population all over the world, except for two countries: Iceland and Denmark (OECD, 2017). In the present

study, 51.2% of participants started smoking between the ages 14 and 18. Cigarette consumption has the highest prevalence among the 29-44 age group. Smoking 6 or more packs of cigarettes per week was also significantly higher among those having an elementary school education or less (77.2%) compared to high school graduates (65.1%) or university graduates (60.5%) ($p<0.001$). In a study conducted in Malaysia, 59.3% of participants over 18 years of age stated they began tobacco use between 15 and 19 years of age. However, smoking was found to be more common among those with a secondary education or more (Rahman et al., 2015). In Turkey, while most people begin to smoke between 15 and 18 years old, peak cigarette consumption occurs in the 25-44 age group, among males, among male primary school graduates, and female high school graduates (Global Adult Tobacco Survey Turkey, 2012).

In the present study, although 57% of participants started smoking due to peer influence, 15.7% started smoking to imitate others or just out of curiosity. Studies conducted in Turkey have demonstrated the most prominent reason to start smoking was to imitate the smoking behavior of adults, because smoking is a sign of being grown-up. Young people also start to smoke at a very young age due to peer pressure (Temiz, 2010). In Turkey, although imitating others is the primary reason to begin smoking (29.7%), peer pressure is a close second (29.1%) (Republic of Turkey Ministry of Health, Health Statistics Yearbook, 2016). In a study conducted among medical students, 54.4% of them started smoking due to peer pressure (Mayda, Tufan, & Başta ş, 2007). Additionally, this study demonstrated smoking 6 or more packs of cigarettes per week was significantly more likely among those who began smoking at ages ≤ 13 than among those ≥ 14 ($p<0.05$). Indeed, cigarette consumption increases as the age of onset decreases. Among the measures taken to reduce smoking, one is providing education about the negative effects and aspects of smoking for children, and another is understanding why curiosity and imitating others urges young people to smoke.

In this study, 57.1% of the participants tried to quit smoking at least once in their lifetime, while 52.4% tried to reduce their cigarette consumption at least once in their lifetime, and 63.6% wanted to quit smoking. In a study conducted among nursing students, 45.3% of the students tried to quit smoking and 55.7% wanted to quit smoking (Çiftçi, Bayram Değer, Saka, & Ceylan, 2018). According to the data released by the Global Adult Tobacco Survey Turkey 2012, nearly half of smokers (46.0%) attempted to quit smoking in the last 12 months (Global Adult Tobacco Survey Turkey, 2012). In another study, conducted in Italy, 1/3 of smokers tried to quit smoking. Separately, in astudy conducted in the same country, 67.5% of people attending smoking cessation courses stated they tried to quit smoking once or more (Marino, Fusconi, Magnatta, Pana`, & Maurici, 2010). Tobacco is the most prevalent addictive substance, used legally, all over the world. The fact that three out of four people who have tried smoking once become a smoker, is an important indicator of the addictive power

of smoking (Mayda et al., 2007). Nicotine, which is the main ingredient of tobacco has the same potential to lead to addiction as do other drugs such as heroin, cocaine, etc. WHO defines cigarette addiction as "smoking one cigarette a day regularly" and states that "smoking is the fastest and longest epidemic in the world" (Çiftçi et al., 2018). Studies show that only 3-5% of those who try to quit smoking on their own achieve it, with success rates increasing to 40% at smoking cessation clinics (Kökten, 2008; Shiffman, Rolf, Hellesbusch, Gorsline, Gorodetzky, & Chiang, 2002). In the fight against cigarette addiction, referring smokers to smoking cessation outpatient clinics so they can get medical support, increasing the number of these outpatient clinics throughout the country, and raising awareness among the public so that they too can benefit from these outpatient clinics may be effective.

In the present study, 69.1% of the participants stated they were unhappy with smoking, 91.9% thought smoking caused harm to them, 92.3% said they were knowledgeable about the harms of smoking, and 52.9% stated that they might quit smoking if they developed disease. In another study, 52.6% of smokers reported they were unhappy with smoking, and 57.4% reported health problems were the most important reasons for quitting smoking (Akyol, 2014). According to the Global Adult Tobacco Survey Turkey 2012 data, of those who quit smoking within the last 12 months, two-thirds (62.4%) quit due to health problems, 23.7% quit due to the pressure from their family members, and 5.3% quit due to the cost of cigarettes (Global Adult Tobacco Survey Turkey, 2012). In a study conducted among individuals present at a smoking cessation clinic, 85.9% of them wanted to quit smoking because of fear of becoming sick in the future (Kökten, 2008). The harmful effects of smoking on human health usually do not occur within a short time, and thus smokers do not always believe smoking is harmful to their health as long as they feel healthy. Many choose to ignore the importance of the issue (Kara, Yıdırım Baş, & Açıkalın, 2011). Smoking is associated with approximately 50 chronic diseases, which do not directly lead to death (Kara, 2015). One out of every 10 deaths occurring in the world is due to tobacco use (Global Adult Tobacco Survey Turkey, 2012). The fact that smoking causes chronic, fatal diseases should be a major factor urging smokers to quit smoking.

In this study, 41.3% of participants thought smoking was relaxing and 21.2% stated they smoked to overcome their boredom. In another study, conducted among health personnel in Turkey, 55.7% of smokers reported they smoked because smoking made them feel relaxed (Koç et al., 2015). Another study reported, the primary reason for continued smoking was not being able to make do without smoking, and the relaxing effect smoking had (Yararbaş, & Havaçeliği Atlam, 2015). Many smokers incorrectly believe smoking helps reduce both stress and negative emotions. However, several studies have shown smoking does not reduce stress and negative feelings, but rather increases them (Aronson, Almeida, Stawski, Klein, & Kozlowski, 2008; Parrott,

2000; Yazıcı & Şahin, 2005). Indeed, many smokers state they continue to smoke because smoking makes them feel relaxed, however it is probably due to the addictive effect of tobacco.

In the present study, 32.4% of participants, reported there were no other smokers in their families, and 3.6% reported they started smoking because family members were smokers. According to the results of the present study, no significant relationship between the presence of smokers in the family and the amount of weekly cigarette consumption ($p>0.05$) was determined. In a study conducted in Sakarya, a province located on the Black Sea coast of Turkey, 33.9% of participants stated that no one in their families was a smoker (Akyol, 2014). Among medical students no statistically significant relationship was found between the students' smoking habits and the presence of smokers in their families (Sönmez, Ayhan Başer, Aydoğan, Uludağ, Dinçer, & Topaluğurlu, 2017). Another study also states the factor with the least effect on choosing to begin smoking was the family (Yazıcı & Şahin, 2005). Indeed for most studies, the family environment did not impact the decision to begin smoking, but rather peer pressure, curiosity, and imitating others were prominent factors influencing the decision to smoke.

Because the study sample included only smokers who live in the Keşan and İpsala districts of Edirne province, the results obtained from this study are applicable only to the participants surveyed and cannot be generalized to general population.

Conclusion

Tobacco smoking is the cause of preventable morbidity and mortality worldwide. However, it is difficult to fight against cigarette smoking, because it is easy to buy and become addicted to tobacco products. Many studies indicate that cigarette consumption is associated with sociodemographic variables such as age, education, and income level. Data from the aforementioned studies conducted both in Turkey and around the world can help determine the sociodemographic factors likely to be associated with smoking and support the development of strategies to discourage people from smoking. Providing education to increase awareness of public health issues in the target group, correct known misconceptions, refer people to smoking cessation polyclinics, and increase the access to these polyclinics throughout the country can contribute to the fight against smoking.

Ethics Committee Approval: Ethics committee approval was received for this study from the Ethics Committee of Trakya University Social and Humanities Research, Keşan and İpsala District Governship (permission no: 2017.04.04, dated: 12/04/2017).

Informed Consent: Verbal and written informed consent was obtained from all participants.

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