

Beden Eğitimi ve Spor Yüksekokulu'na Kayıt İçin Başvuran Gençlerin Sigara İçme Alışkanlığının Cinsiyet Farkına Göre Değerlendirilmesi

[Evaluating Gender Differences in Smoking Prevalence among Young Adults Applying for Registration to Physical Training and Sports High School]

ÖZET

AMAÇ: Sigara içme deneyimi öncelikle adolesan çağda gerçekleşmektedir ve adolesanlar arasında sigaraya başlamayı önlemek, tütün kontrolünde önemli bir halk sağlığı sorunu haline gelmiştir. Bu çalışma Sakarya Üniversitesi Beden Eğitimi ve Spor Yüksekokuluna kaydolmak için başvuran gençler arasında, sigara içme alışkanlığında cinsiyetle ilişkili farklılık olup olmadığını değerlendirmek amacıyla gerçekleştirilmiştir.

YÖNTEM: Beden Eğitimi ve Spor Yüksekokuluna kaydolmak için başvuran tüm gençlere demografik bilgileri, sigara içme alışkanlıkları ve aile üyelerinin sigara içme durumu soruldu. Anket 3 ardışık yıl boyunca tekrarlandı (2006, 2007, 2008). Sigara içme durumunda cinsiyet farklılıkları, SPSS for Windows 16.0 bilgisayar programı ile kıkare testi, t testi ve one way ANOVA kullanılarak değerlendirildi.

BULGULAR: Çalışmamızda yer alan toplam 2.552 gencin; % 77,6'sı (n=1.980) erkek, %22,4'ü (n=572) kız öğrenci idi. Yaş ortalamaları 19,7±1,9 (16-27). 2006 ve 2007 yıllarında kız ve erkek öğrencilerin sigara içme sıklıkları arasında görülen anlamlı fark 2008 yılında mevcut değildi (sırasıyla; p=0.004, p=0.001 ve p=0.08). 2006 yılında erkekler arasındaki sigara içme prevalansı %32,3 idi ve 2008 yılındaki prevalans %19,6 idi. 2006 yılında kızlar arasında sigara içme prevalansı %20,1 idi ve 2008 yılındaki prevalans %12,8 idi. Kızlarda görülen aktif içici ve düzenli içici prevalanslarındaki düşme eğilimi, erkeklerde olduğu kadar fazla değildi. Düzenli içicilik oranları 2006 yılında iki cinsiyet arasında farklılık gösterirken, 2007 ve 2008 yıllarında bu fark ortadan kalmış gibi görünüyordu (sırasıyla; p=0.01, p=0.1 ve p=0.9). Kızlar ve erkekler arasında sigaraya başlama yaşı açısından fark saptanmadı (p=0.5). Erkeklerin sigara içme alışkanlığı yalnızca kardeşlerinin içiciliği ile ilişkili bulunurken (p=0.001); kız öğrencilerin içiciliği hem kardeşlerin hem de ebeveynlerin içiciliği ile ilişkili bulundu (p=0.006 ve p=0.01). **SONUÇ:** Bu çalışma, kızlar arasındaki sigara içme trendi hakkında ek bilgi sağlayarak, tütün kontrolü politikalarının sigara içme davranışındaki cinsiyet farklılıklarını dikkate alması gerekliliğini desteklemektedir.

SUMMARY

AIM: Experimentation with smoking occurs primarily during adolescence. Preventing smoking initiation among adolescents has become a significant global public health concern in tobacco control. This study aimed to evaluate whether there are differences in smoking habit within gender, among young adults applying for registration to Physical Training and Sports (PTS) High School in Sakarya University, Turkey.

METHOD: Young adults applying for registration to PTS High School were asked demographic information and about their smoking habits and smoking status of family members for three consequent years (2006, 2007, 2008). Gender differences in smoking status were assessed by chi-square and one-way anova by year, with using SPSS for Windows 16.0

RESULTS: Of total 2,552 individuals responded, 77.6% (n=1,980) were boys and 22.4% (n=572) were girls; mean age was 19.7±1.9 (16-27). Smoking prevalences differed significantly between girls and boys in 2006 and 2007, but not in 2008 (respectively p=0.004, p=0.001, p=0.08). The prevalence of smoking among boys seen in 2006 was 32.3% and it was 19.6% in 2008. The prevalence of smoking among girls seen in 2006 was 20.1% and it was 12.8% in 2008. The decreasing trend in the prevalence of current smokers and daily smokers among girls was not as much as among boys. The prevalence of daily smoking differed by gender only in 2006; the difference by gender was seemed to dissapeared in 2007 and 2008 (respectively; p=0.01, p=0.1, and p=0.9). There was no difference between girls and boys in the age of initiation (p=0.5). Boys' smoking habits were only related with the smoking habit of the brother/sisters (p=0.001). Whereas smoking habit among girls were related both with parents (p=0.006 and p=0.01) and brothers/sisters (p=0.0001).

CONCLUSION: This study provides additional information about the trend in smoking among girls; supporting the idea that tobacco control policies maintained in 21st century should take into account gender differences in smoking.

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INTRODUCTION

Smoking experimentation occurs primarily during adolescence. Preventing smoking initiation among adolescents has become a significant global public health concern in tobacco control (1). With the global trend towards market liberalization, Turkey welcomed tobacco multinationals in the mid-1980s. Their aggressive marketing techniques increased tobacco brand awareness among children, and adolescent smoking rates have significantly increased (2,3). We know that tobacco control efforts have been somewhat successful, since recent studies have demonstrated smoking rate declines in the general population in the past 50 years in Turkey. However, the reduction seen in adults has not been noted in adolescents, particularly in young females (1,4-7).

This study was performed to evaluate the differences in smoking status within gender, among young adults who were at the ages just after their adolescent period. As a secondary objective, we evaluated if the smoker parents and siblings have an effect on smoking habit of girls and boys.

METHODS

Subjects and data collection

This cross-sectional survey was conducted in three consequent years, started in 2006. We surveyed all students applying for registration to Physical Training and Sports (PTS) High School in each of three years individually. The questionnaire was

performed in the Medical Center of Sakarya University during their physical examination before their physical exam by physicians. Beside the demographic information, they were asked about their own smoking status and if their parents and siblings are smokers. All the young adults were individually informed about the questionnaire with a consent by specially indicating that there was no effect of their answers to their physical examination report.

Never smokers, individuals who had tried less than 100 cigarettes and former smokers were classified as *non-smokers*. *Current smokers* were defined as individuals who are currently smoking and have smoked at least 100 cigarettes during their lifetime. Current smokers were additionally classified as *nondaily smokers* and *daily smokers* on the basis of their smoking behavior in the 30 days before their questionnaire. Current smokers who have smoked at least one cigarette in a day for the past 30 days were *daily smokers* (8). We separately assessed smoking among family members by asking the current smoking status of mothers, fathers and siblings by asking the question; "Are there anybody smoking in your family"

Statistical analysis

Data were analyzed using SPSS 16.0. Chi-square and one way anova tests were used to test for differences by gender and smoking status within each year. A two sided p-value of <0.05 was considered statistically significant.

Table 1. Demographics of the young adults by survey years

	Years			Total
	2006	2007	2008	
Number of subjects	784	1064	704	2552
Distribution according to gender				
Female	19.0%	27.3%	18.9%	22.4%
Male	81.0%	72.7%	81.1%	77.6%
Mean age in years $\pm$SD (min-max) years	19.7 $\pm$ 2.0 (16-30)	19.6 $\pm$ 1.9 (16-29)	19.7 $\pm$ 1.8 (16-29)	19.7 $\pm$ 1.9 (16-27)
Mean age of smoking initiation $\pm$SD (min-max) years	16.9 $\pm$ 2.4 (8-28)	17.4 $\pm$ 2.1 (10-27)	17.0 $\pm$ 1.9 (10-24)	17.1 $\pm$ 2.2 (8-27)

RESULTS

We surveyed a total of 2,552 individuals over three years (2006-2008). The number of subjects registering SPT High School in 2007 was higher than in the other years. There were not any non-responders. The majority (77.6%, n=1980) were boys. The mean age was 19.7 ± 1.9 (16-27) years. The mean smoking initiation age was 17.1 ± 2.2 (8-27) years. Study subjects did not differ by age and smoking initiation age by study years (Table 1). The prevalence of current smokers was 23.9% (n=610); which differed by gender: 26.1% of boys and 16.4% of girls were current smokers. 59.3% (n=362) of current smokers were daily smokers. There was no difference between girls and boys in the age of initiation (respectively 17.3 ± 2.4 ve 17.1 ± 2.1 ; $p=0.5$).

There were significant differences in smoking prevalence between girls and boys in the years of 2006 and 2007, with boys reporting a higher smoking prevalence; but not in 2008 (respectively $p=0.004$, $p=0.01$, $p=0.8$) (Table 2). The prevalence of smoking among boys seen in 2006 was 32.3% and the prevalence was 19.6% in 2008 while the prevalence of smoking among girls seen in 2006 was 20.1% and it was 12.8% in 2008. The decreasing trend in the prevalence of current smokers and daily smokers among girls was not as much as among boys (Figure 1). The prevalence of daily smoking differed by gender

only in 2006; the difference by gender was seemed to disappeared in the following years (in 2007 and 2008) (Table 3).

Just under half (44.6%) of respondents had fathers who smoked. Smoking was less prevalence in mothers (20.1%) and siblings (13.5%). There was a significant relation between smoking habit of subjects and having any smoking family member (for girls $p=0.000$, for boys $p=0.001$). Boys' smoking status was only related to smoking habit of their siblings ($p=0.001$), whereas girls' smoking habit was significantly related with the smoking habit of any family member.

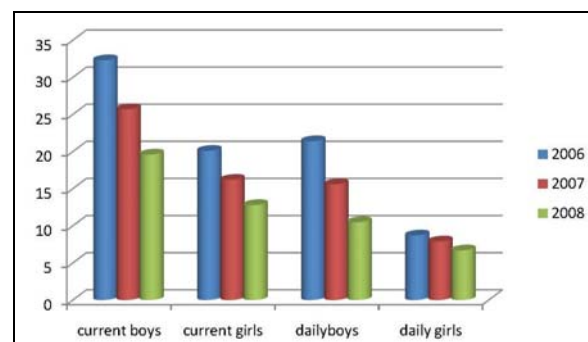


Figure 1. The decreasing trend in the prevalence of current smokers and daily smokers among boys and girls individually

Table 2. Comparison of current and daily smoker rates by gender and survey year

Year	Frequency	Boys (%)	Girls (%)	P-value
2006	Current smoker*	32.3	20.1	0.004
	Daily smoker**	21.4	8.7	0.01
2007	Current smoker	25.7	16.2	0.001
	Daily smoker	15.6	7.9	0.1
2008	Current smoker	19.6	12.8	0.080
	Daily smoker	10.5	6.7	0.9

* Current smokers: individuals who have smoked at least 100 cigarettes during their lifetime.

**Daily smokers: Current smokers who smoked at least one cigarette in a day for the past 30 days (percent of daily smokers were written as the percent among all individuals)

DISCUSSION

Our results suggest that the smoking prevalence between boys and girls may be closing, since there was no longer a significantly higher smoking rate among boys in 2008. A previous study has suggested that the smoking prevalence in the various stages of progression to daily smoking differs by gender with more males than females being daily smokers (9). In our study, the prevalence of daily smoking did not differ between boys and girls in the more recent years

(2007 and 2008). This finding suggests that there may be important increases in the prevalence of daily smoking in women.

Many previous studies in our country have reported that smoking rates among boys were still higher than girls (10-15); but most of the more contemporary studies are showing increases in smoking rates among girls (16). Long-term analysis of the tobacco epidemic shows that prevalence rates among females are stable or increasing, while they

Table 3. The relation between boys' and girls' reported smoking habits and smoking status of family members

		Boys		Girls	
		Smoker (col %)	Non-smoker (col %)	Smoker (col %)	Non-smoker (col %)
Paternal Smoking	Yes	47.9	44.6	56.4	42.5
	No	52.1	55.4	43.6	57.5
p-Value		0.5		0.006	
Maternal Smoking	Yes	17.6	18.9	38.3	24.5
	No	82.4	81.1	61.7	75.5
p-Value		0.2		0.01	
Smoking Sister / Brother	Yes	18.4	12.3	28.7	9.8
	No	81.6	87.7	71.3	90.2
p-Value		0.001		0.000	
>1 Family Member Smokes	Yes	66.5	58.4	77.7	57.3
	No	33.5	41.6	22.3	42.7
p-Value		0.001		0.000	

are decreasing among males in most developed countries (17-19). The reasons for the recent increase in smoking rates for girls are diverse and varies according to geographical/cultural differences between countries but probably all include such factors as tobacco marketing to women that creates a link between tobacco and socio-cultural changes as nations modernize (20-24). It is also possible that tobacco control strategies may not be equally or similarly effective in respect to the two sexes, so gendered perspective must be included in all tobacco control studies.

In Turkey, the first anti-tobacco law came into force in 1996, and banned all kinds of advertising and promotion, also made the television companies responsible for broadcasting educational programmes on the hazards of smoking. The last law on tobacco control, accepted in 2008, has considerably expanded the number of smoke-free areas, with bans on smoking in hospitality workplaces (restaurants, cafe and bars etc), taxis and open areas of schools(25). All these implications have probably made an important difference in smoking habit among adolescents and young adults, but there has not been any gender specific strategies.

Previous studies have indicated that parental smoking is an important source of vulnerability to smoking initiation among adolescents and a parent that smokes is one of the main factors affecting smoking in adolescents (26,27). We observed a significant relation between smoking habits of young adults and having any family member who smoke (mother and/or father and/or sister/brother) in their families. Also in some studies, it has been shown that the intergeneration transmission of smoking in

adolescents may differ depending on the gender difference. In the study of Gilman et al (28), it was found that although maternal smoking predicted smoking initiation among sons and daughters, paternal smoking was predictive only among sons. They concluded this result that the gender differences in the effects of parental smoking reflect the gender of custodial parent rather than inherent differences in the effects of mothers' versus fathers' smoking (28). Our results suggest there may be gender differences in influence of familial smoking.

Our smoking prevalence estimates were lower than the previous studies in our country, which may be related to the fact that these were all individuals who were signing up for an education in sport. Various small-scale cross-sectional studies conducted in our country have reported various smoking rates among adolescents according to different age and grade groups (9-12). In the studies of Bilir et al, smoking prevalence was reported to range from 0.9-9.1% for the 7th class students, and 15.9-41.2% for the 10th class students (10,11). Alikasifoglu et al reported that 23% of the students were current smokers in a sample, composed of 4,153 randomly selected 9th through 11th grade students, in Istanbul (12). In the study of Erbaydar et al which they surveyed aged 13-17 years, in 15 cities; they reported ever smoking and current smoking rates were 41.1% and 10.5% among girls, and 57.5% and 25.2% among boys (13). Two nationwide studies were conducted among adolescents in 2003 and 2004. First, a school-based representative survey of adolescents (13-15 years) was conducted within the frame of Global Youth Tobacco Survey (GYTS). 15 957 students were selected using a two-stage cluster sampling

method and completed an internationally standardized questionnaire on tobacco use. About one-third of students had already experienced smoking and 10% were current smokers. The second, the Global Youth Tobacco Survey (GYTS), reached about 16,000 students aged 13-16 years and found that 22.3% of girls and 33.2% of boys had smoked at some time in their lives, with 5.0% and 9.1%, respectively (5,6).

This study provides additional information about the trend in smoking among girls. It was surprising to see that age of initiation doesn't differ by gender. There are important interventions at the family level that may have an important impact on the uptake of smoking in adolescence. Tobacco control policies maintained in 21st century should recognize and take into account gender norms, differences and responses to tobacco, in order to reduce tobacco use.

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