

## RESEARCH COMMUNICATION

# Smoking Status of Turkish Nursing Students and Factors Affecting Their Behavior

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### Abstract

**Objective:** This descriptive-cross sectional study was conducted in order to determine the smoking status of nursing students and factors affecting their behavior. **Methods:** Subjects were 220 students who were selected from all classes of a School of Nursing with a stratified random sampling method and who voluntarily accepted to participate. Permission was obtained both from individuals and the relevant institution to conduct the study. Data were collected through Demographic Data Collecting Form, Decisional Balance Scale, Fegostrom Addiction Test and Cessation phase scale. Percentage calculations, chi square, odd ratio, Kruskal wallis and CHAID analysis were used in the assessment of the data. **Findings:** 81.5 % of the students were female (163), average age was 20.9±1.6 years, age at first smoking was 15.4±4.1, 58.5 of the parents were smokers and at least one person from among their friends was smoking (30%). 19.5 % of the students were smoking. The difference between smoking ratios of male and female students was significant ( $p<0.001$ ). Rates increased with increase in the number of friends who smoke ( $p<0.001$ ). Differences were detected across geographical regions ( $p=0.023$ ). Smoking mostly increases at times of exams (42.5 %). It was estimated that 69.2 % of the smokers are addicts at a low level. Some 56.3 % of the smokers and 12.5 % of non-smokers found smoking beneficial ( $p<0.001$ ), this increasing the future smoking risk nine fold. Pros and cons perceptions score averages of smokers were intermediate. The difference between score averages of smokers and non-smokers as regards to cancerogenic effects of smoking was found to be statistically significant ( $p=0.034$ ). 34 % of the students stated that their opinions about smoking did not change even though they received an education in the field of nursing. **Conclusion:** One in five students participating in the study was smoker. In terms of variables, while gender, geographical region, number of friends using cigarettes and times of exams effect the use of cigarettes, no influence was noted for class, perceived income level, settlement, smoking and cancer cases in the family.

**Keywords:** Nursing student smoking status - smoking pros and cons - Turkey

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### Introduction

Being one of the most important preventable mortality and morbidity causes, smoking affects human health in a negative way throughout their lives starting from the fertilization period. It is estimated that millions of people lose their lives due to smoking annually. According to estimations, almost half of these deaths is seen in developing countries (Global tobacco epidemic report, 2010). World Health Organisation (WHO) emphasizes that the most important step to be taken at this point is to prevent smoking or at least reduce the use of cigarettes.

Such tasks as informing people about the harms of smoking and the reducing risk when it is quitted, creating healthy environments, helping people recently starting to quit smoking and preventing people who have never smoked from starting to smoke are responsibilities of the healthcare personnel (Saliç, 1993; Sezen, 1996; Parlar et al., 2006). On the other hand, data published by WHO

indicate that the ratio of smoking among healthcare personnel is equal or highly above when compared to the ratios of individuals in the community (Global tobacco epidemic report, 2010). A majority of the healthcare personnel is composed of nurses. Nurses provide the healthy individuals and patients with care and meanwhile, they pass the most time with them. Thus, nurses play a key role in preventing and reducing smoking due to the fact that individuals can get in contact with them easily and trust them. Furthermore, nurses set a role model to the society with their positive or negative health behaviors as they are healthcare professionals who are always in the public eye.

Studies show that cessation of smoking by nurses reduces the ratio of smoking in the society as they set a model for the other people. It was also detected that nurses who are smoking participate in attempts to prevent and reduce smoking less than the nurses who do not smoke or have once smoked (Haughey et al., 1986; Reeve et

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al., 1996; International Council of Nurses, 1999; Rowe & Macleod Clark, 2000; Gorin, 2001; Smith, 2007; Rice & Stead, 2011). Research indicates that many nurses start smoking at Schools of Nursing or their ratios of smoking increase in the school years and their attitudes towards smoking are shaped at this period (Smith, 2007; Fernandez et al., 2010). Thus, it is really important to determine smoking status of nursing students and the factors causing them to start and continue smoking. In global tobacco epidemic report, 2010, it was stated that while the ratio of smoking was 29.6 % throughout Turkey, this ratio was 52.3 % among nurses. As researches show that smoking ratios vary between 15-40 % among the nursing students in Turkey, the range of smoking ratios is 3-97 % among the nursing students throughout the world (Telli et al., 2004; Kılıç & Ek, 2006; Çapık & Ozbicalci, 2007; Pıçakçıefe et al., 2007; Smith, 2007; Jayakumary et al., 2010). It is reported that students who are smoking have positive opinions as regards to the use of cigarettes by healthcare personnel when compared to those who do not smoke. Thus, it is necessary to reduce the ratios of smoking of student nurses (Suziki et al., 2005). While it was detected in various studies that the factors effecting smoking status of nursing students are friends' smoking, curiosity, anxiety and distress, parents' smoking, siblings' smoking, gender, age, loneliness, proving oneself, pleasure, addiction level, controlling the weight, pros and cons perceptions regarding smoking, no study indicating how the perceptions of Turkish nursing students as regards to smoking effect their use of cigarettes is available in the literature (Ohido et al., 2001; Telli et al., 2004; McCann et al., 2005; Smith, 2005; Kılıç & Ek., 2006; Çapık & Ozbicakci, 2007; Pıçakçıefe et al., 2007; Brighi & Tortorano, 2009).

The present study was planned with a descriptive-cross sectional design in order to determine smoking status of nursing students and factors affecting their status.

## Materials and Methods

### Sampling

Sampling of the study was composed of 200 students who were selected from all classes of a school of nursing in the academic year of 2010-2011 through a stratified-simple random sampling method and who voluntarily accepted to participate in the study. After permission was taken from the relevant institution in order to conduct the study, participants were informed about the study and those who voluntarily accepted to participate in the study were included in the sampling of the research. Instead of individuals who did not accept to participate in the study, substitutes were reached and included in the study after being informed.

### Data Collection

Data were collected with Demographic Data collecting form including socio-demographic informations and smoking status of students between December 1st, 2010- January 10th, 2011, Decisional Balance Scale, Fagerstrom test for nicotin dependence and Cessation of Smoking Phase scale. Decisional Balance Scale

(DBS): Original DBS was developed as 24 items in 1985 by Velicer, DiClemente, Prochaska and Brandenburg (1985) in order to evaluate the pros and cons of smoking perceptions of individuals. DBS is composed of 10-items pros and 10-items cons subscales. Scales are likert type scales scored between 1 and 5. In Turkey, validity and reliability tests of DBS were performed by Bektaş, Öztürk and Armstrong (2010). Cronbach alpha value of cons subscale of DBS was detected as .81 and alpha value of pros subscale of DBS was found as .85. A high score average of cons subscale indicates that the individual has strong perceptions as regards to the harms of smoking and a high score average of pros subscale indicates that the individual has strong perceptions regarding the benefits of smoking. Fagerstrom test for nicotine dependence: It was developed by Fagerstrom, Heatherton and Kozlowski in 1992 and its validity and reliability tests were performed in Turkey by Uysal et al. in 2004. The highest score to be received in this scale which is composed of six questions and measures the physical dependence level of nicotine is 11. A score between 0-2 means the lowest level of nicotine dependence, a score between 3-4 means a low level of dependence, score of 5 means a moderate level, 6-7 scores indicate a high level of dependence and score of 8 and over show a very high level of dependence (Uysal et al., 2004).

### Evaluation of the Data

Percentage calculations, chi square, odd ratio, Kruskal Wallis and CHAID analysis were used in the evaluation of the data. Significancy level was determined to be  $p < .05$ .

## Results

Some 81.5 % of nursing students participating in the study were female (163 people), 18.5 % of them was male (37 people) and their age average was  $20.9 \pm 1.6$ . 36.5 % of the students was first grade, 27 % of them was second grade, 21 % of the students was third grade and 15 % of them was fourth grade. It was determined that 57 % of the students was living in university dormitory while 25 % of them was living with their friends. It was also detected that 64.5 % of the participants had equal expenses and incomes, 49.4 % of them has tried smoking at least once in their life times and the age average for the use of first cigarette was  $15.4 \pm 4.1$ . Smoking ratio was 19.5 % among students. Daily cigarette consumptions of the students who were smoking were  $11.4 \pm 7.8$  on average. 58.5 % of the families of the students was smoking and fathers smoked at the most within the families where cigarettes were consumed. At least one friend of 30 % of the students uses cigarettes.

A total 19.6 % of all students being 43.2 % of male students and 14.2 % of female students use cigarettes. Difference between the smoking ratios of female and male students is statistically highly significant (Table 1,  $p < 0.001$ ).

Only 1.9 % of the students who do not have any smoking friends, 18.2 % of the students who have 1-3 friends using cigarettes and 40.8 % of the students who have 4 or more friends using cigarettes frequently smoke.

**Table 1. Comparison of Smoking Status**

Characteristics	Smoker	Non-smoker	x2	p value
<b>Gender</b>				
Female	23 (14.1)	140 (85.9)	16.304	<0.001
Male	16 (43.2)	21 (56.8)		
<b>Number of the friends using cigarettes</b>				
Non-smoker	1 (1.9)	51 (98.1)	24.528	<0.001
1-3 people	18 (8.2)	81 (81.8)		
≥4 people	20 (40.8)	29 (59.2)		
<b>Finding smoking</b>				
Beneficial	18 (56.2)	14 (43.8)	32.776	<0.001
Useless	21 (12.5)	147 (87.5)		

It was observed that the increasing number of friends using cigarettes affected the smoking status of students at a statistically high level (Table 1).

It was found that the use of cigarettes by parents or siblings within the family did not affect the smoking status of students (p=0.646). As for geographical region, it was found effective on the use of cigarettes (p=0.023). It was stated that 15.5 % of the students living in the Eagean region, 29.6 % of the students living in the Marmara region, 17.6 % of the students living in the Black Sea region, 46.6 % of the students living in the Eastern and Southeastern Anatolia regions, 15.6 % of the students living in the Mediterranean region and 15.4 % of the students living in the Central Anatolia were smokers.

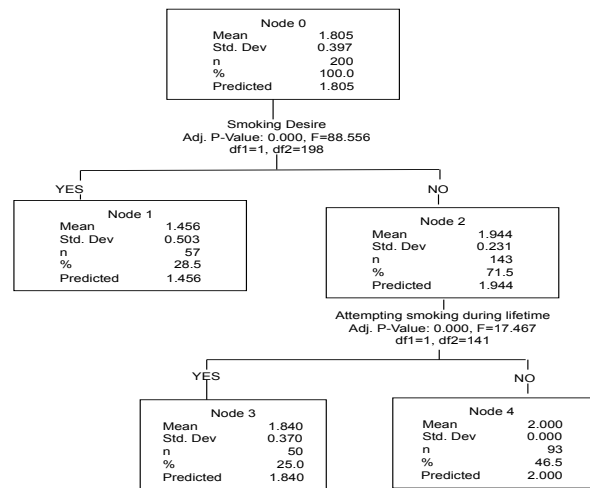
21.9 % of the first graders, 19.7 % of the second graders, 19 % of the third graders and 19.4 % of the fourth graders were smokers. Although the number of individuals decreased as the grade increased, no significant difference was detected between grades in terms of smoking behaviors (p=.909).

No difference was found between the smoking status of students according to their perceived income levels (p=.771).

According to the expressions of the participants, 42.5 % of the smokers consumes too many cigarettes at times of exams, 17.5 % of them smokes when they have problems, 10 % of them smokes when they become happy or satisfied and 30 % of the students smokes due to other reasons. 69.2 % of the smokers are low level additic, 25.6 % of them are moderate addicts and 5.2 % of the smokers are high level addicts.

56.2 % of the students who find smoking beneficial and 12.5 % of the students who find smoking useless use cigarettes. Difference between the group finding smoking beneficial and the group finding smoking useless is statistically highly significant. Finding smoking beneficial status of students increase the risk to start smoking nine fold (OR:9.0, CI %95:3.906-20.739).

DBS cons score average of students who think of cigarettes beneficial is 32.2+ 6.2 and pros score average of them is 35.1+7.6. Score averages of pros and cons perceptions of smokers are at moderate levels. Difference between the score averages of smokers and non-smokers regarding the carcinogenic effect of smoking was found statistically significant in favor of non-smokers (p=.034). 34 % of the students stated that their opinions towards smoking did not change even though they received an education of nursing.



**Figure 1: Result of CHAID Analysis**

It was determined that the most important factor effecting the smoking status of the students was the smoking desire (F=88.556, p=.000) and this smoking desire was influenced by previous smoking attempts (F=17.467, p=0.000) (Figure 1).

**Discussion**

One fourth of the participants of the study was female. As the sampling was selected as stratified according to the classes, it can be said that the sampling represents the universe due to the fact that 80 % of universe is composed of female students. There was no significant difference between distributions of students included in the sampling according to classes (p>.05). Age average of the students is 20.9 + 1.6. When a comparison is conducted between the studies carried out in many countries, it is seen that age averages of the students are close to age averages of this study (McCann et al., 2005; Smith, 2005; Ohido et al., 2001; Çapık & Ozbicakci, 2007; Pıçakçiefe et al., 2007; Brighi & Tortorano, 2009). This fact facilitates comparisons between the results of this study and the literature.

Half of the students live in the university dormitories. Bandura (1989) has emphasized that structured or unstructured environment has direct impacts on negative and positive health behaviors of individuals. No matter how much effort is exerted in order to create a healthy environment in the university dormitories, problems arising from communal life, coping skills inabilities caused by these problems as well as financial difficulties of the students pave the way for the students to develop negative health behaviors (Ayaz et al., 2005; Karadeniz et al., 2008; Çelik et al., 2009). Certainly, smoking directly increases in such an environment. As a result of the study, it was observed that half of the students tried smoking at least once, the age average of first smoking attempts was 15.4 + 4.1 and now, one fifth of the nursing students uses cigarettes. When studies were examined, it was found that smoking ratios of nursing students both in Turkey and in the world were above the overall smoking ratios of those countries. Although total smoking ratio was found lower than the general population in this study, it was found above smoking ratios of female and male students when an

examination was conducted in terms of smoking ratios by gender. These findings are in parallel with the literature and it is clear that healthcare professionals of the future carry an important risk of using cigarettes and being smokers in the future (Telli et al., 2004; Kılıç & Ek, 2006; Çapık & Ozbicakci, 2007; Pıçakçife et al., 2007; Smith, 2007; Jayakumary et al., 2010). Furthermore, the finding that the first smoking attempt mainly occurs before university years indicates us that efforts to prevent smoking should be focused on this period. When the studies were analyzed, it was determined that programs either were slightly effective or were not effective at all in the experimental studies conducted to help nursing students using cigarettes quit smoking (Hope et al., 1998; Rowe & Clark, 1999; Sejr & Osler, 2002; Garcia et al., 2007). Bandura (1989) emphasizes that social learning is very important in learning such behaviors as smoking. In the results of the study, it can be seen that two third of the family members and one third of the friends use cigarettes. While these findings show the importance of social learning on the use of cigarettes, it is alleged that frequently coming across with friends using cigarettes in the university dormitories leads to the perception of smoking as a normal behavior and thus, to the development of positive opinions regarding smoking and this increases the ratios of smoking and trials among students (Bandura, 1989; Ayaz et al., 2005; Çapık & Ozbicakci, 2007; Karadeniz et al., 2008; Çelik et al., 2009). The high ratio of smoking found in this study is also attributed to the abovementioned factor as well as the other factors.

It was found in the study that smoking ratios of male students were higher than the female students and the difference between them was statistically significant (Table 1,  $p=.000$ ). In the literature, there are studies where a difference was found between genders (Baron-Epela et al., 2004; Smith & Leggat, 2007; Warren et al., 2009) and where a difference was not detected between genders (Smith & Leggat, 2007). It was also found that difference between genders is associated with the culture. While the ratio of smoking is high among men in the Eastern societies, the smoking ratio is high among women in the western societies especially when compared to the eastern societies (Garcia et al., 2007; Pericas et al., 2009; Warren et al., 2009). That a majority of the students included in the research came from eastern and central regions, their financial situations were insufficient and smoking was culturally associated with masculine behaviors is thought to affect the difference of smoking ratios between genders.

It was determined in the study that the number of friends using cigarettes affects smoking behavior, the risk of smoking increases with the increase in the number of friends using cigarettes (Table 2,  $p=.000$ ) but smoking of a family member does not affect the smoking status of the students ( $p=.646$ ). In general, the literature shows that smoking status of family members and friends affect the smoking behaviors of nursing students (Baron-Epela et al., 2004; Telli et al., 2004; McCann et al., 2005; Smith, 2005; Ohido et al., 2001; Kılıç & Ek, 2006; Çapık & Ozbicakci, 2007; Pıçakçife et al., 2007; Smith & Leggat, 2007; Brighi & Tortorano, 2009). Bandura (1989) particularly

emphasizes that social environments and observational learning are effective factors in learning of the behaviors. Bandura (1989) argues that individuals can acquire some behaviors not always by experiencing them but by observing the harms and benefits provided by these behaviors to the other individuals. Results of our study also support this argument, as all nursing students having one friend using cigarettes do not necessarily start smoking but the use of cigarettes increases with the increasing number of friends using cigarettes. Although it was expected that the smoking ratio would increase with the increase in the number of family members using cigarettes but it did not increase. It was thought that this could originate from the factors that students were living apart from their families, the importance of the family members was directed to the peers and role models were selected out of the families.

It was observed that the regions where the students were living influenced the use of cigarettes ( $p=.023$ ) and students coming from regions with a low income level and an increasing industrialisation had high ratios of smoking. Literature also indicates that smoking ratios of students coming from families having a low income level and high family-related stresses were high (McCann et al., 2005; Smith, 2005; Ohido et al., 2001; Telli et al., 2004; Kılıç & Ek, 2006; Çapık & Ozbicakci, 2007; Pıçakçife et al., 2007; Smith & Leggat, 2007; Brighi & Tortorano, 2009). The most important reasons of this situation are thought to be that coping skills of the families are limited, students can not learn the sufficient coping methods from their families and healthy living and working environments are not available. Besides, Bandura (1989) stresses that the behaviors of the individuals are influenced by their environments and their own characteristics. It is emphasized that the children particularly growing in an unhealthy environment develop negative self-esteem and self-concept and have a low internal locus of control and these characteristics become facilitating factors in the development of negative health behaviors. Both a negative environment and negative personal characteristics are thought to jointly cause differences in the smoking ratios of nursing students coming from different regions.

It was observed that there was not difference between classes in terms of smoking ratios ( $p=.909$ ). It was found that perceptions of one third of nursing students as regards to smoking did not change even though they received a nursing education. Smith and Leggat (2007) also stated that there was not a difference between classes in terms of the use of cigarettes. However, it is expected that nursing education should change perceptions regarding such a negative behavior as smoking. The most important reasons of this situation are thought to be that courses directly aimed at preventing and reducing the use of cigarettes are not available in the curriculum of nursing education and the high ratio of smoking among educators and nurses sets a model to the nursing students.

According to the results of the study, perceived income levels of students did not affect the smoking status ( $p=.771$ ). This finding shows parallelism with the results of the study carried out by Brighi and Tortorano (2009). It is assumed that grants and financial supports received

in the university approximate a majority of the students to one another despite their different family income levels and thus, no difference was found between students in this regard.

It was observed in the study that the use of cigarettes increased in almost half of the students at times of exams and after stressful factors in two third of the students. Chalmers (2002) also detected in his study that the perceived stress influenced the use of cigarettes. Bandura emphasized that a negative environment increased the negative health behaviors and decreased the coping skills. Thus, existing coping skills remain insufficient in a stressful situation such as an exam and smoking is perceived as a coping method. However, studies carried out on adults indicate that smoking is not effective on reducing stress, stress level raises immediately after smoking but dramatic decreases are observed in stress levels of people quitting smoking (Carey et al., 1993; Parrot, 1995). This result demonstrates that the nursing students using cigarettes do not know the relationship between stress and smoking adequately or can not find an effective coping method to replace smoking even through they know the relationship. Therefore, students should be educated in terms of stress-smoking relationship and effective coping methods.

It was determined in the study that more than two third of the students using cigarettes were addicts at low level and the daily average of cigarette consumption was 11.4+7.8. A majority of the students using cigarettes were found to be addicts at low and moderate levels in the studies (Chalmers, 2002; Zanetti et al., 2003; Çapık & Ozbicakci, 2007; Fernandez et al., 2010). While the results of the study were found to be similar to those of the literature, it was observed that smoking ratios of students could be reduced through appropriate practices.

While more than half of the students using cigarettes found smoking beneficial, one tenth of the non-smokers found smoking beneficial (Table 3,  $p=.000$ ). Pros and cons perceptions of smokers regarding smoking are at moderate levels. Finding smoking beneficial status increases the potential smoking risk nine folds (OR: 9.0, CI % 95:3.906-20.739). Lenz (2008) also detected in his study that smoking perceptions of individuals affect the use of cigarettes. It is thought that nurses possibly find smoking beneficial due to temporary physiological-psychological relaxing effects provided by nicotine at the stressful student days and positive perceptions of the social environment towards smoking. Moreover, Bandura (1989) argues that the frequency of a behavior increases when individuals perceive a behavior to be beneficial. The finding of this study that the smoking ratio of the individuals finding smoking beneficial is high supports this argument of Bandura. Thus, negative perceptions to be developed in the nursing students a regards to smoking will be effective in reducing the smoking ratio.

Difference between the score averages of smokers and non-smokers in terms of carcinogenic effect of smoking was found to be significant in favor of non-smokers ( $p=.034$ ). This result shows that even though the nursing students were aware of the harms of smoking, those using cigarettes gave low scores as regards to carcinogenic effect of smoking. The reason of this is possibly a cognitive

distortion or coping method in order to ignore the harms of smoking rather than lack of knowledge.

It was determined at the end of CHAID analysis that the most important factor effecting the smoking status of students was the smoking desire ( $F=88.556$ ,  $p=.000$ ) and the smoking desire was influenced by the previous smoking attempts ( $F=17.467$ ,  $p=.000$ ) (Figure 1). Studies indicate that many factors affect the use of cigarettes but one of the most important factors is the age of first smoking attempt. The earlier the age of first smoking attempt is, the more the smoking desire is and the more the risk of being addicted increases (Ohido et al., 2001; Telli et al., 2004; McCann et al., 2005; Smith, 2005; Kılıç & Ek, 2006; Çapık & Ozbicakci, 2007; Pıçakçıefe et al., 2007; Smith & Leggat, 2007; Brighi & Tortorano, 2009). These results were found to be similar to those of the literature and it was stated that the ratio of smoking attempt should be reduced in order to decrease the use of cigarettes among nursing students.

In conclusion, one fifth of the students participating in the study are smokers. While gender, geographical region, the number of the friends using cigarettes and times of exams affect the use of cigarettes as variables, class level, perceived income level, settlement, smoking status of family members and carcinogenic effect of smoking are not effective on the smoking status of nursing students. It was determined that most of the nursing students were addicts at low levels and there was a relationship between demographical properties and dependence.

Results of this study may be used firstly in developing measures to prevent the nursing students from smoking and then in raising the awareness of nursing students as regards to their roles and tasks to prevent smoking and have people quit cigarettes through the transfer of abovementioned results into the curriculum of nursing education.

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## References

- Ayaz S, Tezcan S, Akıncı F (2005). Health promotion behavior of nursing school students. *C.Ü. Hemşirelik Yüksek Okulu Dergisi*, **9**, 26-34 (in Turkish).
- Bandura A (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development*. Vol.6. Six theories of child development (pp. 1-60). Greenwich, CT: JAI Press.
- Baron-Epela O, Josephsohn K, Ehrenfeld M (2004). Nursing students' perceptions of smoking prevention. *Nurs Educ Today*, **24**, 145-151.
- Bektas M, Ozturk C, Amstrong M (2010). Validity and reliability study of the Turkish version of the Decisional Balance Scale for adults. *J Addict Nurs*, **21**, 6-13.
- Brighi E, Tortorano AM (2009). Tobacco smoking habits among the nursing students and the influence of the family and peer smoking behaviour. *J Adv Nurs*, **66**, 33-39.
- Carey MP, Karla DL, Carey KB et al (1993). Stress and unaided smoking cessation: A prospective investigation. *J Consult*

- Clin Psych*, **61**, 831-838.
- Chalmers K (2002). Tobacco use and baccalaureate nursing students: a study of their attitudes, beliefs and personal behaviours. *J Adv Nurs*, **40**, 17–24
- Çapık C, Özbıçakçı Ş (2007). Factors effecting levels of smoking addiction of students attending to the nursing high school. *Uluslararası İnsan Bilimleri Dergisi*, **4**, 1–11.
- Çelik GO, Malak Tuna A, Bektas M et al (2009). Examination of factors affecting health school student's health promotion behavior. *Anatol J Clin Investig*, **3**, 164-169 (in Turkish).
- Fernandez D, Martin V, Molina AJ et al (2010). Smoking habits of students of nursing: A questionnaire (2004-2006). *Nurs Educ Today*, **30**, 480-484.
- Garcia F, Sa' nchez VM, Casaresa AVM et all. (2007). Tobacco use amongst nursing and physiotherapy students: a cross sectional questionnaire survey. *Int J Nurs Stud*, **44**, 780–785.
- Gorin SS (2001). Predictors of tobacco control among nursing students. *Patient Educ Couns*, **44**, 251-262.
- Haughey BP, Shean RM, Dittmar S (1986). Smoking behaviour among student nurses: a survey. *Public Health Rep*, **101**, 652–657.
- Hope A, Kelleher CC, O'Connor M (1998). Lifestyle practices and the health promoting environment of hospital nurses. *J Adv Nurs*, **28**, 438–447.
- Internacional Council of Nurses (1999). Tobacco Use and Health: Position Statement. Author, ICN, Geneve.
- Jayakumary M, Jayadevan S, Ranade AN et al (2010). Prevalence and pattern of Dokha use among medical and allied health students in ajman, United Arab Emirates. *Asian Pacific J Cancer Prev*, **11**, 1547-1549
- Karadeniz G, Uçum EY, Dedeli Ö et al (2008). The health life style behaviours of university students. *TAF Prev Med Bull*, **7**, 497-502 (in Turkish).
- Kılıç N, Ek HN (2006). Knowledge, behavior and manner of conduct for cigarette in adnan menderes university health school and vocational school of health students. *Sağlık Bilimleri Dergisi*, **15**, 85–90 (in Turkish).
- Kutlu R, Marakoğlu K, Çivi S (2005). The frequency and affecting factors of smoking among nurses of medicine faculty of meram, university of Selçuk, Konya. *Cumhuriyet Üniversitesi Tıp Fakültesi Dergisi*, **27**, 29–34 (in Turkish).
- Küresel Tütün Epidemisi Raporu (2010). Report on the Global Tobacco Epidemic 2010. World Health Organization, Geneva.
- McCann TV, Clark E, Rowe K (2005). Undergraduate nursing students' attitude toward smoking health promotion. *Nurs Health Sci*, **7**, 164-174.
- Ohido T, Kamal AAM, Takemura S et al (2001). Smoking behavior and related factors Japanese nursing students: A cohort study. *Prev Med*, **32**, 341-347.
- Parlar S, Çavdar S, Ovayolu N (2006). Comparing the frequency of cigarette smoking and the attitudes and behaviors related to cigarette smoking in 1st and 4th grade students attending to medical faculty and to higher schools of health. *Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi*, **9**, 29-40 (in Turkish).
- Parrott AC (1995). Smoking cessation leads to reduced stress, but why? *International Journal of Addictions*, **30**, 1509 -16.
- Pericas J, González S, Bennasar M et al (2009). Cognitive dissonance towards the smoking habit among nursing and physiotherapy students at the University of Balearic Islands in Spain. *Int Nurs Rev*, **56**, 95-101
- Pıçakçefe M, Keskinoğlu P, Bayar B et al (2007). Smoking prevalence among Muğla school of health sciences students and causes of leading increase in smoking. *TSK Koruyucu Hekimlik Bülteni*, **6**, 267–272 (in Turkish).
- Prochaska JO, Goldstein MG (1991). Process of smoking cessation; implications for physicians. *Clin Chest Med*, **12**, 727-736.
- Reeve K, Adams J, Kouzekanani K (1996). The nurse as exemplar: smoking status as a predictor of attitude toward smoking and smoking cessation. *Canc Pract*, **3**, 31–33.
- Rice VH, Stead LF (2001). Nursing Interventions for smoking cessation. The Cochrane Database of Systemic Reviews.
- Rowe K, Macleod Clark J (1999). Evaluating the effectiveness of a smoking cessation intervention for nurses. *Int J Nurs Stud*, **36**, 301–311.
- Salıç F (1993). Health professionals smoking overview: survey results of the province of muğla. *Türk Hemşireler Dergisi*, **43**, 31-32 (in Turkish).
- Sejr HS, Osler M (2002). Do smoking and health education influence student nurses' knowledge, attitudes, and Professional behavior? *Prev Med*, **34**, 260–265.
- Sezen E (1996). Smoking quit guide. *Sağlık İçin Sigara Alarmı Dergisi*, **3**, 55-58.
- Smith DR (2007). A systematic review of tobacco smoking among nursing students. *Nurse Education in Practice*, **7**, 293-302.
- Smith DR, Leggat PA (2007). Tobacco smoking habits among a complete cross-section of Australian nursing students. *Nurs Health Sci*, **9**, 82–89
- Suzuki K, Ohida T, Yokoyoma E, et al (2005). Smoking among the Japanese nursing students: nitionwide survey. *J Adv Nurs*, **49**, 268-275.
- Telli CG, Aytemur SZ, Özol D, Sayiner A (2004). Smoking habits among newly registered university students. *Solunum Dergisi*, **6**, 101–106 (in Turkish).
- Uysal MA, Kadakal F, Karşıdağ Ç (2004). Fagerstrom test for nicotine dependence: reliability in a Turkish sample and factor analysis. *Tüberküloz ve Toraks Derg*, **52**, 115-21 (in Turkish).
- Warren CW, Sinha DN, Lee J et al (2009). Tobacco use, exposure to secondhand smoke, and training on cessation counseling among nursing students: cross-country data from the global health professions student survey (GHPSS), 2005–2009. *Int. J. Environ. Res. Public Health*, **6**, 2534-2549.
- Zanetti F, Bergamaschi A, De Luca G et al (2003). Tobacco smoking among nursing students: behaviour and knowledge of the correlated risks. *Ann Ig*, **15**, 545-5