ARAŞTIRMA | RESEARCH

Nursing Students' Views about Graphic Warnings and Texts on Cigarettes and Their Nicotine Dependence

Hemşirelik Öğrencilerinin Sigara Paketleri Üzerindeki Uyarıcı Resimler ve Yazılar ile İlgili Düşünceleri ve Nikotin Bağımlılık Düzeyleri

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ABSTRACT

Objective: This study was conducted to determine smoker nursing students' thoughts about graphic warnings and texts on cigarette packs, impact of these warnings on their cigarette consumption and their nicotine dependence levels.

Method: The sample of the study consisted of 82 smoker nursing students and 89.1% of aimed population has been reached. Data was collected by both the questionnaire developed by the researchers and Fagerström Test for Nicotine Dependence (FTND).

Results: Most graphic warnings on the packs were ineffective and the one found to be effective pictures are those containing the horror element. The rate of those who think about quitting smoking after seeing the pictures is 19.5%. A positive correlation was found between the number of cigarettes consumed per day, the number of illnesses due to smoking and the mean FTND score.

Conclusion: Graphic warnings on cigarette packs were generally found to be ineffective in reducing smoking. Printing dramatic, frightening and indicating more serious health problems images that span more space on cigarette packs can be effective in reducing the use of tobacco products. I

Keywords: Students, nursing, tobacco use disorder, tobacco products

ÖZ

Amaç: Bu çalışma, sigara kullanan hemşirelik öğrencilerinin sigara paketlerinin üzerindeki uyarıcı resimler ve yazılar ile ilgili düşünceleri, bu uyarıların sigara kullanımı üzerine etkisi ve nikotin bağımlılık düzeylerinin belirlenmesi amacıyla yapılmıştır.

Yöntem: Araştırmanın örneklemi sigara kullanan 82 hemşirelik öğrencisinden oluşmuş ve evrenin %89.1'ine ulaşılmıştır. Veriler araştırmacılar tarafından oluşturulan anket formu ve Fagerström Nikotin Bağımlılık Testi (FNBT) kullanılarak toplanmıştır.

Bulgular: Sigara paketleri üzerindeki resimlerin çoğunun etkili olmadığı ve etkili olarak belirtilen resimlerin korku ögesinin yer aldığı resimler olduğu belirlenmiştir. Resimleri gördükten sonra sigarayı bırakmayı düşünenlerin oranı %19.5'tir. Günlük tüketilen sigara sayısı ve sigaraya bağlı rahatsızlık sayısı ile FNBT puan ortalaması arasında pozitif korelasyon bulunmuştur.

Sonuç: Sigara paketleri üzerindeki uyarıcı resimler genel olarak etkisiz bulunmuştur. Sigara paketlerinde dramatik, korkutucu ve daha ciddi sağlık sorunlarının gösterildiği daha fazla yer kaplayan görüntülerin kullanılması tütün ürünlerinin kullanımını azaltmada etkili olabilir.

Anahtar kelimeler: Öğrenciler, hemşirelik, tütün kullanım bozukluğu, tütün ürünleri

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Received /Gönderilme tarihi: 26.07.2020 Accepted /Kabul tarihi: 18.08.2020

INTRODUCTION

Smoking is a medical, social and economic public health problem that threatens public health and must be tackled (1). Today, 1.3 billion people worldwide smoke (2). This number is expected to reach 1.6 billion by 2025 (3). According to World Health Organization, cigarette smoking prevelence is %27 (%38.8 among men, %15.9 among women) in Turkey by 2018 (4). Today, it is a fact that active and passive smoking result in death, illnesses, and disabilities, financial lost and psychological problems (5). Smoking affects almost all organs in the human body. It is associated with coronary heart disease, stroke, atherosclerosis, respiratory system diseases, and many types of cancer (6). Tobacco kills more than 8 million people each year. More than 7 million of those deaths are the result of direct tobacco use while around 1.2 million are the result of non-smokers being exposed due to passive smoking (7). In Turkey, 110 thousand people die every year due to smoking related diseases (8).

Young people constitute the most risky part of the population in terms of smoking. Because cigarettes and tobacco products are generally started in adolescence or young adulthood (9). Many studies reveals that smoking is common among university students and nursing stundents as well (3,10-12). In a recent study examining university students' smoking rate in Turkey, it was found that 23% of students smoked (10). In various studies conducted with nursing students, who are health professionals of the future, it was found that smoking rates among students varied between 12.5% and 34.3% (3,11,12).

In many countries, civil organizations and institutions as well as public organizations are taking various precautions in order to reduce cigarette consumption (13). Turkey has also implemented a variety of precautions and policies for smoking cessation. Some of these precautions are the prohibition of smoking in all closed areas open to the public, establishment of a telephone line to quit smoking, prohibition of the sale of tobacco products to individuals under the age of 18, opening smoking cessation outpatient clinics, free delivery of drugs to those who apply to these polyclinics, media campaigns called "Smoke-Free Airspace" and "Protect Your Air" and banning tobacco advertisements (14). Another of these precautions is the obligation to place graphic warnings or texts on cigarette packs which aim to inform smokers about harm of smoking and provide knowledge about how to improve their health (15). Printing graphic warnings on cigarette packs began in Canada in 2001 for the first time. Later, in different countries, warning texts were added to the warning pictures, too. In Turkey, one of the most important interventions in that issue is "Law on Prevention of Damages of Tobacco Products" (No. 4207) (16). Within this scope, 14 different warning pictures covering 65% of front side of pack of tobacco products have been started to be printed in our country since 2010 (15). However, various studies have shown that the effectiveness of these warning pictures and texts is not at the desired level (15,17,18). Data from a study conducted by Önsüz, Topuzoğlu, Algan, Soydemir, and Aslan showed that only small number of participants thought of cessation and decreased cigarette consumption after text warnings (17). In the study conducted by Bilir and et al. in which perceptions of high school students towards text warnings on cigarette packs were viewed, the existing graphic warnings were generally evaluated as ineffective by the students (15). In a similar study, only three warnings were evaluated as very effective by 460 nursing and dietetic students (18).

Nurses are the most important health professionals in the fight with cigarettes. Therefore, involvement of nurses in both education programs and getting nurses' opinions for policies regarding the prevention of smoking will empower governments in the battle with cigarettes. In addition, because of the fact of nurses are important actors in the fight against tobacco use and addiction, it is important to evaluate their addiction levels. Considering the literature in our country, despite there is one study examining the thoughts of nursing students about graphic warnings and texts on cigarette packs (18), there is no study determining the effects of these warnings on cigarette consumption. Therefore, this study has been taken up in order to evaluate the views of smoker nursing students about graphic warnings and texts on cigarette packs and impact of these warnings on their cigarette consumption. It also aimed to investigate smoking addiction and some risk factors among smoker nursing students.

METHODS

Sample

This descriptive study was conducted between 23-27 January 2017 in Nursing Department of Ankara Yıldırım Beyazıt University. We aimed to reach all smoker students (n=92) over 18 years old among 530 nursing students without using any sampling method. The researcher went to four nursing classes separately and determined the students who smoke by asking them. After giving detailed information about the study, smoker students over 18 years old and who accepted to participate in the study voluntarily included in the study. Eight students younger than 18 years and two students who were not voluntarily agreed to participate were excluded from the study. Finally, 82 smoker nursing students were included in the study.

Procedure

All information has been collected in accordance with the Declaration of Helsinki. Informed consent form was given to the participants and it was explained that participation in the study was voluntary. Written ethical approval were obtained from Ankara Yıldırım Beyazıt University Social and Human Sciences Ethical Committee (Date: 09.12.2016, Decision Number: 7) in order to make the study. Written permission from the dean's office of health faculty was also obtained in order to apply the study in nursing department (Date: 30.12.2016, Number: 27139605-769). In addition, written consent was obtained from M. Atilla Uysal in order to use the Turkish version of the Fagerström Test for Nicotine Dependence (FTND).

After informing students about the study, written and verbal approval was taken before applying the questionnaires. Data collection form and FTND were given to the students in their classrooms and were asked to fill out the questionnaires themselves. They were given 15 minutes to read the questions well and to answer them comfortably. Data collection form and FTND were taken back by the researcher after the students answered the questionnaire questions.

Measures

Data Collection Form

Data collection form was prepared in accordance with the literature (6,15-17,19-23) and

contained 16 questions about smoker students' demographic data, smoking history, views about graphic warnings and texts on cigarette packs, effect of using fear factors in graphic warnings and texts on packs and advices towards how to make graphic warnings and texts on packs more effective. In order to determine students' views about graphic warnings, students were showed 14 colorful graphic warnings which are currently used on cigarette packs in Turkey and were asked to identify each graphic warning as "Effective for smoking cessation", "Ineffective for smoking cessation", "May be effective for smoking cessation" and "May be replaced by a more effective picture".

Fagerström Test for Nicotine Dependence (FTND)

FTND was developed by Fagerström in 1989 to determine the degree of physical dependence on smoking (24). Turkish validity and reliability was performed by Uysal et al. in 2004 (25). It contains six questions. According to the total scores obtained with the test, ratings are made in three groups: low (0-3 points), medium (4-6 points) and high dependence (≥7 points). Data was collected by applying the questionnaires to the students. Surveys were applied to them under observation in their classrooms.

Statistical Analysis

All analyses were performed using IBM SPSS version 21.0. Numbers, percentage, mean, median, minimum, maximum, Mann Whitney U, Kruskall Wallis and Spearman's correlation were used in data analysis. Statistical significance level was set at $p<0.05$.

RESULTS

63.4 % of the students were women and 35.4 % were 4th class students. Mean age of the students was 21 (min. 17, max. 28). The median of starting age of smoking was 16,5 years (min. 10, max. 26). It was found that median of cigarette consumption per day by the students was 10 (min.1, max. 23). Seventy two percent stated that there was at least one smoker individual in their family. We determined that mothers of 30%, fathers of 48 % and at least one sister/brother of 30 % of the students smoked. The most important reasons to start smoking were peer influence (34.1%), distress/depression (24.4%) and curiosity (22%) (Table 1).

Fifty five hundred of the students stated that they had at least one smoke-related health problem. The most frequent health problems among those were throat problems/phlegm (39%), getting tired quickly (30%), respiratory tract problems (22%), anger (16%) and stomach problems (9.8%) (Table 2).

Students' views about the graphic warnings indicated that only three graphic warnings out of 14 were determined to be effective for students to make them quit smoking. The graphic warning (GW) with the text "Smoking while pregnant harms your baby" (GW-4) was marked as effective for smoking cessation by 47.6% of the students. The GW depicting a child wearing an oxygen mask and the text on which was "Protect children: Do not let them breath your smoke" (GW-9) was indicated as effective for smoking cessation by 35.4% of the students. The final GW thought as effective for smoking cessation was the graphic warning comparing a healthy lung and a smoker lung and the text warning on which was "Smoking causes fatal lung cancer" (GW-3).

Table 1. Demographic variables and distribution of data on smoking

Variables	Group	n	%
Gender	Male	52	63.4
	Female	30	36.6
Class	1. Class	13	15.9
	2. Class	23	28.0
	3. Class	17	20.7
	4. Class	29	35.4
Presence of a smoker member in the family	Yes	59	72.0
	No	23	28.0
Mother smokes	Yes	25	30.5
	No	57	69.5
Father smokes	Yes	39	47.6
	No	43	52.4
Brother/sister smokes	Yes	25	30.5
	No	57	69.5
Reason to start smoking	Peer influence	28	34.1
	Distress, depression	20	24.4
	Curiosity	18	22.0
	School problems	4	4.9
	Presence of a smoker member in the family	4	4.9
	Affectation	4	4.9
	Loneliness	3	3.7
	Family problems	1	1.2
Smoking related health problems	Yes	45	54.9
	No	37	45.1
After seing graphic warnings and texts on cigarette packs	I thought to quit smoking	16	19.5
	I quit smoking	3	3.7
	I reduced smoking	11	13.4
	My cigarette consumption has increased	2	2.4
	There was no change in my smoking habit	50	61.0
Which is more effective?	Graphic warnings	66	80.5
	Texts	16	19.5
Is the cost of cigarettes effective in quitting smoking?	Yes	29	35.4
	No	53	64.6
Variables		Median	(Min-Max)
Age		21.0	18-28
First smoking age		16.5	10-26
Number of cigarettes consumed per day		10	1-23

n: Number, %: Percentage

Graphic warnings those students most marked as "Ineffective for smoking cessation" were GW-13 (46.3%) saying "Smoking is highly addictive, don't start", GW-2 (45.1%) showing and old person's wrinkled hands and saying "Smoking make your skin age faster", GW-12 (43.9%) showing a healthcare personnel measuring tension of a patient and saying "Healthcare organizations can help you quit smoking" and GW-14 (42.7%) where there were two interleaning hands and saying "Ask help from your doctor and closest community clinic to quit smoking". Other graphic warnings which students marked as ineffective for smoking cessation were GW-1 (39%) saying "Smoke consists of carcinogens such as benzene, nitrosamine, formaldehyde and hydrogen cyanide", GW-5 (34.1%) where there was a patient being resuscitationed with a warning, "Smoking results in embolism, heart attacks and paralysis", GW-6 (36.6%) where there was a couple lying in the bed and saying "Smoking slows down blood stream and causes impotence", GW-7 (37.8%) where there was a women holding a

baby carriage and saying "Smoking harms sperms and decreases fertility", GW-8 (39%) with a dead man and saying "Smokers die young", GW-10 (34.1%) depicting a man on a treadmill and saying "Quitting smoking decreases risks of deadly heart and lung diseases" and GW-11 (34.1%) with a patient lying on the bed and saying "Smoking may cause painful and slow death". Students' all views about the graphic warnings are given in Table 3 in detail.

Table 2. Distribution of smoking related health problems experienced by smoker students

Variables	Group	n	%
Throat Problems/Phlegm	Yes	32	39.0
	No	50	61.0
Getting Tired Quickly	Yes	24	29.3
	No	58	70.7
Respiratory Tract Problems	Yes	18	22.0
	No	64	78.0
Anger	Yes	13	15.9
	No	69	84.1
Stomach Problems	Yes	8	9.8
	No	74	90.2
Cardiovascular Problems	Yes	4	4.9
	No	78	95.1

n: Number, %: Percentage

Table 3. Students' views about graphic warnings on cigarette packs

Graphic Warning (GW)	Effective for smoking cessation		Ineffective for smoking cessation		May be effective for smoking cessation		May be replaced by a more effective picture	
	n	%	n	%	n	%	n	%
GW-1 Smoke consists of carcinogens such as benzene, nitrosamine, formaldehyde and hydrogen cyanide	17	20.7	32	39.0	23	28.0	10	12.2
GW-2 Smoking make your skin age faster	8	9.8	37	45.1	11	13.4	26	31.7
GW-3 Smoking causes fatal lung cancer	24	29.3	23	28.0	24	29.3	11	13.4
GW-4 Smoking while pregnant harms your baby	39	47.6	18	22.0	17	20.7	8	9.8
GW-5 Smoking results in embolism, heart attacks and paralysis	20	24.4	28	34.1	22	26.8	12	14.6
GW-6 Smoking slows down blood stream and causes impotence	11	13.4	30	36.6	21	25.6	20	24.4
GW-7 Smoking harms sperms and decreases fertility	11	13.4	31	37.8	16	19.5	24	29.3
GW-8 Smokers die young	20	24.4	32	39.0	22	26.8	8	9.8
GW-9 Protect children: Do not let them breath your smoke	29	35.4	16	19.5	27	32.9	10	12.2
GW-10 Quitting smoking decreases risks of deadly heart and lung diseases	11	13.4	28	34.1	22	26.8	21	25.6
GW-11 Smoking may cause painful and slow death	14	17.1	28	34.1	19	23.2	21	25.6
GW-12 Healthcare organizations can help you quit smoking	8	9.8	36	43.9	13	15.9	25	30.5
GW-13 Smoking is highly addictive, don't start	9	11.0	38	46.3	20	24.4	15	18.3
GW-14 Ask help from your doctor and closest community clinic to quit smoking	6	7.3	35	42.7	17	20.7	24	29.3

n: Number, %: Percentage

Sixty one percent of the students' stated they had no change in cigarette consumption after seeing the graphic warnings and texts on packs, whereas the percentage of those want to quit was 19.5% and the percentage of those cutting back on cigarette consumption was 13.4%. Graphic warnings were stated as more effective than warning texts on the packs by eighty percent of the respondents (Table 1).

We showed two different image with the same text and we asked students to make a comparison between them in order to determine whether using fear factors in graphic warnings and texts on packs was effective for quitting smoking. "Smoking causes painful and slow death" text was same on both figures, but one included a big tumor on throat and the other included a normal patient lying on the bed. In this comparison where the text was same, but figures were different, 91.5% of the students stated that the figure including the patient having a big tumor on his throat was more effective.

Table 4. Comparison of Fagerström Test for Nicotine Dependence (FTND) scores among selected variables

Variable	Group	FTND Mean Score ($\bar{x}$)	Test Statistic (p)	Test
Gender	Male	4.17	p=0.019	Mann Whitney U
	Female	2.81		
Class	First Class	4.08	p=0.217	Kruskall Wallis
	Second Class	2.91		
	Third Class	3.88		
	Fourth Class	2.93		
Presence of individuals smoking in family	Yes	3.30	p=0.921	Mann Whitney U
	No	3.31		
Having health problem resulting from cigarette	Yes	4.00	p=0.001	Mann Whitney U
	No	2.42		

Table 5. Correlation analysis between Fagerström Test for Nicotine Dependence (FTND) scores and selected variables

Variables	FTND Score
Age	r= +0.041, p>0.05
First age of smoking	r= -0.079, p>0.05
Number of cigarette consumption per day	r= +0.668, p<0.001
Number of health problems	r= +0.415, p<0.001

As to whether "Ask help from your doctor and closest community clinic to quit smoking" or "Smoking Cessation Hotline: 171" created as an alternative to the former and both were advisory texts will be more effective if put on a pack, 74.4% of the students stated that the latter text would be more effective advice. Two third of the students thought that high price of the cigarettes was not a solution for quitting smoking as well.

Furthermore, advices towards how to make figures and texts on packs more effective were asked to smoker students. Among the most striking advices, students stated "placing texts with pictures of ill people", "using more realistic figures and texts", "using more attention-grabbing figures", "using figures of babies and children", "using figures depicting harms of cigarette to families" and "using grisly real faces of diseases". Other advices were "placing sentences of those who has already quit smoking", "writing more effective texts instead of stereotype warning sentences", "changing texts regularly as people get used to present texts and figures" and "using figures that include surgical operation".

We found that 65.9 % of the students were mildly dependent. The median FTND score was 3 (Min: 0, Max: 8). Male students mean FTND score of was found to be statistically higher than females (p= 0.019). Hovewer, there was no statistically significant difference between the groups in both class and presence of individuals smoking in family (p>0.05). On the other hand, students who had health problems due to smoking had statistically higher FTND scores than those who had no health problems due to smoking (p= 0.001) (Table 4). We also examined whether there was a statistically difference between the nicotine dependence test scores according to each health problem experienced by the students due to smoking. Students those having respiratory tract problems, those having throat problems/phlegm, getting tired quickly and (16%) students with irritability were found to have statistically more FTND score than those without respiratory tract problems, throat problems/phlegm, fatigue and irritability (p=0.021, p=0.001, p=0.017, p=0.024 repectively).

Association between age, first age of cigarette consumption, the number of cigarette consumption per day and FTND scores were analyzed by using Spearman correlation analysis. There were no association between age, first age of smoking and FTND scores (r= +0.041, p>0.05; and r= -0.079, p>0.05 respectively), whereas a significant positive correlation was found between cigarette consumption per day and FTND scores (r= +0.668, p<0.001) (Table 5). Furthermore, we found a significant positive relationship between FTND scores and number of health problems resulting from cigarette consumption (r= +0.415, p<0.001).

DISCUSSION

Placement of graphic warnings on cigarette packs is a common precaution which aims to inform smokers about harm of smoking and provide knowledge about how to improve their health. However, these pictures and warnings on cigarettes appear to be not effective enough to reduce or quit smoking. Based on this, it is a fact the views about these graphic warnings need to be researched. Therefore, this study aimed to evaluate smoker nursing students' views about graphic warnings and texts on cigarette packs, impact of these warnings on their cigarette consumption and nicotine dependence levels as well.

According to students' statements, we determined that most graphic warnings on the packs were ineffective. Only three graphic warnings out of 14 were determined to be effective for students to make them quit smoking. These effective graphic warnings were "Smoking while pregnant harms your baby" (GW-4), "Protect children: Do not let them breath your smoke" (GW-9) and "Smoking causes fatal lung cancer" (GW-3). In a study conducted with 579 university students, three messages that students evaluated as the most effective were "Smoking while pregnant is harmful to the baby","Smoking clogs arteries, causes heart attacks and strokes" and "Protect children: don't breathe your smoke to them" (26). In another study, which was conducted to evaluate the perceived effectiveness of pictorial health warnings on cigarette packs among 2629 Lebanese youth, the lungs pictorials ranked among the top 5 by all students. Other pictorials that ranked among the top five included reproductive health effect, smoking during pregnancy, the tooth decay and stroke (27). Similar to these findings, "Smoking while pregnant harms your baby" and "Smoking causes deadly lung cancer" were the most effective figures marked by high school students according to Bilir et al. (15). Çobaner determined that a high level of fear was used in the graphic warnings on cigarettes which associate smoking, death and cancer (28). Those were the graphic warnings which stated as

the most effective figures in our study, too. The anxiety and fear that individuals feel about health of themselves, their spouses and children is an important factor for them to quit smoking. Furthermore, cancer is one of the most feared diseases by the Turkish society. For this reason, stimulating pictures with lung cancer, child and pregnant women theme are thought to be effective in quitting smoking.

In our study, the proportion of students thinking of smoking cessation and proportion of those cut back on cigarette consumption upon seeing figures and texts on packs was found as very low. Many studies determining the effect of graphic warnings to quit smoking indicated that graphic warnings were minimally effective in directing smokers to quit (18,19,27,29). Physical dependence to smoking, continued exposure, unwillingness to quit and the presence of smokers in the family may be the possible reasons for this result.

Compared to the text warning, majority of the students agreed that graphic warnings were more effective. In the literature, similar to our finding, there are many studies showing that graphic warnings are more effective than text warnings (20,30,31). Because, figures show health risks and any potential health problems better than statements. Using images of children, pregnant women, dead human, individuals with cancer and various diseases is thought to make graphic warnings perceived more effective than text warnings.

In our study, two third of the students were found to be mildly dependent. In various studies investigating the level of nicotine dependence of university students, it was determined that proportion of highly nicotine-dependent respondents varied between 26%-52% (21,22,32). However, Çapık and Özbıçakcı determined that 14.3 % of the students were highly dependent, similar to our results (11). In another study conducted by Selçuk et al., 12.7% of nursing students were found to be highly addicted to nicotine (33). As can be seen in both our own study and other studies conducted with nursing students, the rates of highly dependent students were found to be lower than the studies conducted with mixed university students. Despite there is no data about that in our research, that can be due to that nursing students have more awareness and knowledge of the health risks associated with tobacco use than other university students. This means more attention needs to be given to university students in their curriculum for prevention and controlling tobacco smoking.

Our data revealed that nicotine dependence was not associated with class and presence/absence of smoker individuals in family. This result is thought to be due to the fact that smoking habit is acquired from peers through social learning in a friend environment rather than the family. On the other hand, dependence level of men was found to be statistically higher than women. Same result was obtained in in previous studies (10,23,33,34). This is mainly attributed to traditional gender roles in Turkish culture and is probably due to negative cultural, religious and social attitudes toward women smoking. Smoking is perceived as a negative behaviour for women in Turkish culture, while it is accepted as a positive behaviour for men generally.

Having health problems resulting from smoking were found to be statistically associated with Nicotine dependence score. We found statistically positive relationship was found between nicotine dependence test and the number of health problems resulting from smoking. Similarly, Rojas et al. determined that the total number of smoking related symptoms were correlated with nicotine dependence score (35). We also found that there was a positive

relationship between cigarette consumption per day and FTND score. Maracy et al. found number of smoking per day was associated with nicotin dependence score (36). Lamin et al. and Öncel et al. determined that there was a significant positive correlation between the nicotin dependence score and number of cigarettes smoked per day as well (32,37). In general, our findings are consistent with literature. As the number of cigarette consumption per day increases, exposure to addictive substances such as nicotine rises. Thus dependence level increases as the cigarette consumption per day increases. It is a fact that cigarette consumption results in health problems and exists in etiology of many diseases. Therefore, as nicotine dependence level increases, the number of cigarette consumed rises. Thus it affects lots of systems in the body and causes various diseases. We have already found that students those having respiratory tract problems, those having throat problems/phlegm, getting tired quickly and (16%) students with irritability were found to have statistically more FTND score than those without respiratory tract problems, throat problems/phlegm, fatigue and irritability.

The main limitation of the research is that it was done with a small sample group. For this reason, the results of this study cannot be generalized to all smoker university students. It was found that most graphic warnings on cigarette packs were ineffective and that the figures marked as effective were those including fear factor. Students stated that most graphic warnings should be replaced with a more effective ones. Moreover, graphic warnings were said to be more effective compared to texts. Since smoking, today, takes part in etiology of many diseases, smoking cessation is one of the main topics for patient trainings that should be considered by healthcare professionals. However, in order to conduct trainings, healthcare staff should be aware of that they give up smoking first. In order to raise this awareness, a big task falls to both families and instructors at universities. In order to make graphic warnings on packs more effective, it could be suggested that replacing striking figures instead of texts, using figures of babies and children affected from smoking, using figures showing harms of smoking towards families, replacing figures instead of texts and using figures including surgical operation on the cigarette packs.

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