

## ORIGINALNI NAUČNI RADOVI *ORIGINAL STUDIES*

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### EDUCATION OF MEDICAL STUDENTS IN BITOLA ON TOBACCO USE AND THEIR ROLE IN HEALTH PROMOTION ACTIVITIES

*EDUKACIJA STUDENATA VISOKE MEDICINSKE ŠKOLE U BITOLJU U VEZI SA UPOTREBOM  
DUVANA I NJIHOVA ULOGA U ZDRAVSTVENO-PROMOTIVNIM AKTIVNOSTIMA*

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**Summary** - Health professionals should have a key role in health promotion activities regarding reduced tobacco use. This study was aimed at presenting students' level of knowledge on harmful effects of smoking and the level of training they had gained in order to quit smoking. The research was done as an epidemiological, cross sectional study according to the standardized methodology of Global Health Professional Survey. The study sample consisted of a hundred college students. During the educational process, 77.5% of females, and 93.1% of males were educated on harmful and dangerous effects of smoking and 59.2% of females and 62.1% of males were instructed how to give up smoking and the age of 86.6% of them was from 18 to 24 years. It has been concluded that some qualitative changes are needed in the current curricula and syllabi.

**Key words:** Smoking; Students; Nursing; Health Promotion; Health Education; Nurse's Role

#### Introduction

Tobacco use is the single, major preventable cause of death worldwide. Every year, nearly 5 million people die from tobacco-related illnesses, while that number is expected to increase more than double by year 2020 [1,2]. By that time, 70% of these deaths will occur in developing countries [3]. In the era of prevention and promotion of health, habits associated with the health professionals should be given special attention. Doctors and other health staff are role models of patients' behavior for the entire population. They play an advisory role in smoking prevention and quitting smoking habit, which is the primary target group of the anti-smoking campaign as recommended by the World Health Organization (WHO) [4]. It is quite a paradox that despite plenty of information on the harmful effects caused by smoking gained during studies in medical schools, smoking continues to be practiced among students studying at these schools [5].

Health professionals should have a key role in health promotion activities oriented towards reduction of tobacco consumption. That is an important cost effective method for smoking reduction [6].

The study was aimed at:

- presenting the students' level of knowledge on harmful effects of smoking
- presenting the level of training the students had gained in order to quit smoking

#### Material and methods

The research was done as an epidemiological, cross sectional study in the period from March to April 2010 according to the standardized methodology of Global Health Professional Survey (GHPS), established by the WHO Center for Diseases Control (CDC)-USA and Canadian Public Association (CPHA), 2005. The fundamental instrument was the Core Questionnaire of GHPS composed of 43 questions. In the structure of this standardized questionnaire there were six segments with different aspects referring to the questions asked. The first segment referred to the smoking prevalence. The second segment referred to passive smoking at home and other places. The third segment comprised data referring to education, training and knowledge about health effects caused by smoking. The fourth segment was composed of questions designed to provide data on the attitudes of the examinees regarding tobacco use, the fifth part of the questionnaire referred to students' knowledge about harmful effects of smoking. For the needs of this study, the fifth part of the questionnaire was used. The study sample consisted of a hundred medical students attending the first, second and third year of the Medical College in Bitola. The collected data are shown in tables and figures. The statistical significance was tested using the chi-square test.

#### Results

Within the investigated group, 88% of examinees were in the age group 18 to 24, 87.3% were the females and 89.7% were the males, that corresponding

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**Abbreviations**

WHO	– World Health Organization
GHPS	– Global Health Professional Survey
CDC	– Center for Diseases Control
CPHA	– Canadian Public Association
GHPS	– Core Questionnaire of Global Health Professional Survey
GYTS	– Global Youth Tobacco Survey

to the age structure of the students in Medical College in Bitola (Table 1).

**Table 1.** Distribution of the examinees according to the sex and age  
*Tabela 1. Struktura ispitanika po polu i godinama starosti*

Age Godine starosti	Total/Ukupno		Female/Ženski		Male/Muški	
	Number Broj	%	Number Broj	%	Number Broj	%
18-24 years/godina	88	88.0	62	87.32394	26	89.65517
25-29 years/godina	3	3.0	2	2.81690	1	3.44828
>30 years/godina	9	9.0	7	9.85915	2	6.89655

**Analysis of knowledge gained through curriculum**

The highest percent of female students (77.5%) were educated on dangers caused by smoking during their study process, whereas 22.5% of them were not. The difference in percentage of females having or not having been educated about smoking-induced dangers is statistically significant, being  $p=0.0000$  (Table 2).

**Table 2.** Distribution of the examinees according to the sex, age and the fact whether they were educated on harmful effects of smoking during their studies

*Tabela 2. Distribucija ispitanika po polu, godinama starosti i činjenici da li su tokom studija podučeni o štetnosti pušenja*

Sex/Pol	Female/Ženski		Male/Muški	
	Number/Broj	%	Number/Broj	%
Educated/ Podučeni				
Yes/Da	55	77.46479	27	93.10345
No/Ne	16	22.53521	2	6.89655
Total/Ukupno	71	100	29	100
Age Godine starosti	Yes/Da		No/Ne	
	Number/Broj	%	Number/Broj	%
18-24 years/godina	71	86.58537	17	94.44444
25-29 years/godina	3	3.65854		
>30 years/godina	8	9.75610	1	5.55556
Total/Ukupno	92	100	18	100

However, the percentage of male students who were educated on smoking-induced dangers during their studies was extremely high (93.1%) versus 6.9% of those who were not; the statistical difference between those having and not having been educated being  $p=0.0000$  (Table 2).

The recorded difference in percentage between female and male student smokers regarding their being educated on adverse effects of smoking was not found to be statistically significant,  $p=0.752$ .

The highest percentage (86.6%) of the examined students who were educated about adverse effects of smoking during their studies was recorded in the age group 18-24, followed by 3.7% in the age group 25-29 and 1.9% in those over 30 years of age, thus making the difference between the former group of students and the others statistically significant  $p=0.0000$ ,

whereas the difference in the percentage of those having and not having been educated on adverse effects of smoking (86.6% and 94.4%, respectively) aged from 18 to 24 years was not statistically significant ( $p=0.3753$ ) (Table 2).

The percentage of female students trained to instruct their future patients how to quit smoking was 59.2%, versus 40% who were not trained, that making the difference between these two groups not statistically significant ( $p=0.2158$ ) (Table 3).

**Table 3.** Distribution of the examinees according to the sex, age and the fact whether they were trained to instruct their future patients how to quit smoking

*Tabela 3. Distribucija ispitanika po polu, godinama starosti i činjenici da li su podučeni da nauče buduće pacijente kako da prestanu sa pušenjem*

Sex/Pol	Female/Ženski		Male/Muški	
	Number/Broj	%	Number/Broj	%
Trained/ Podučeni				
Yes/Da	42	59.15493	11	37.93103
No/Ne	29	40.84507	18	62.06897
Total/Ukupno	71	100	29	100
Age/Godine starosti	Yes/Da		No/Ne	
	Number/Broj	%	Number/Broj	%
18-24 years/godine	46	86.79245	42	89.36170
25-29 years/godine	1	1.88679	2	4.25532
>30 years/godine	6	11.32075	3	6.38298
Total/Ukupno	53	53.0	47	47.0

The percentage of male students trained to instruct their future patients how to quit smoking was 62.1% versus 37.9%, who were not trained, that making the difference between these two groups not statistically significant ( $p=0.706$ , Table 3).

No statistically significant difference ( $p=0.0568$ , Table 3) was recorded among female and male student smokers regarding their being educated on effects of smoking.

The highest percentage (86.8%) of examined students who had been trained to instruct their future patients how to quit smoking was in the age group 18-24, followed by 1.9% of those aged from 25 to 29 years, and 11.3 of those over 30 years of age. No statistically significant difference ( $p=0.6903$ , Table 3) was recorded between those with and without training in the age group 18-24, the percentage being 86.8% and 89.4%, respectively.

**Discussion**

Numerous studies on smoking were performed within the frames of WHO activities through the project Global Youth Tobacco Survey-GYTS supported by CDC Atlanta and the WHO regional Office for Europe in the Republic of Macedonia in 2002, and 8.2% smoking prevalence was recorded in teenagers aged 13-15 and 20% of them admitted having started smoking before the age of 10. In the study on smoking among adolescents encompassing a questionnaire on social medical aspects of tobacco use in Macedonia in 2005, 420 examinees aged from 13 to 16 were included from the region of Skopje.

The results showed that almost 21.2% had used tobacco and 15.9% were still using it.

In the study performed in 2000/2001 about the role of health education in prevention of risk factors for developing health ischemic disease in the population aged from 15 to 64, a high smoking prevalence of 42.7% was recorded [7]. The study performed on doctors showed that more than one third of the examinees were everyday smokers, 39% males and 30% females; 35% of them said they smoked more than 20 cigarettes a day. The average age of smokers was found to be 16.38 and 14.37 years among male and female smokers, respectively. The question if they had been educated on harmful effects on smoking during their studies was answered positively by 93.1% and 77.5% of male and female students, respectively.

The highest percentage of the examinees having been educated on harmful effects of smoking during their studies from the age of 18 to 24 years was 86.6%, that corresponding to the age structure of the students in the Medical College in Bitola. The question whether they had been trained to instruct their future patients how to stop smoking was answered positively by 59.2% and 62.1% of female and male students aged 18 to 24, respectively.

Tobacco smoking is a widespread habit and almost all countries in the world have the same or similar problems related to this harmful habit. So, for instance, in Poland 38% of men and 26% of women are smokers [9]. This habit is also common among medical students although they are expected, as future medical workers, to maintain a healthy lifestyle. The data obtained from students of the Medical University of Gdansk not long ago

showed that 21% of them were daily smokers; 28% of men and 17% of women [10]; however, the Polish medical students smoke less than their colleagues in Greece, Spain, Turkey or Slovakia, but much more than those in the USA, Australia, Norway, China etc. [11]. Data showed that tobacco smoking increased during the years of studying. For example, in India there were 7% of smokers among freshmen and more than twice as many among seniors [12]. The situation is similar in Albania, where tobacco smoking among medical students is very popular: 34% of men and 5% of women started smoking in the first year, whereas in the sixth year 55% of men and 34% of women were smokers [13].

A study performed among secondary school students in Kragujevac, the Republic of Serbia, revealed that tobacco use was second only to alcohol consumption [14].

Cigarette smoking is still the leading cause of preventable morbidity and mortality in the USA [15], where 45 million people are smokers [16]. Because of that, the Public Health Service guidelines recommend every clinician to advise their patients to quit smoking and a large body of evidence supports the effectiveness of physician interventions. It is also recommended to include tobacco dependence counseling as core curriculum for US medical studies.

## Conclusion

It is generally accepted that the medical students' level of knowledge on harmful effects of smoking should be improved through qualitative changes of the current curricula and syllabi.

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### Sažetak

#### Uvod

Pušenje je najčešći uzrok smrti širom sveta koji može da se prevenirati. Zdravstveni radnici trebalo bi da imaju ključnu ulogu u promotivnim aktivnostima koji se odnose na smanjenje upotrebe duvana. Cilj rada bio je da ilustruje koliko su studenti upoznati sa štetnošću pušenja i opasnostima po zdravlje, kao i da prikaže koliki je stepen obučenosti studenata u vezi sa načinima prestanka pušenja.

#### Materijal i metode

Ispitivanje je realizovano preko epidemiološke studije korišćenjem cross-sectional study u saglasnosti sa standardizovanom metodologijom (Global Health Professional Survey). Studijsku populaciju sačinjavalo je 100 ispitanika – studenata.

#### Rezultati

Dobijeni rezultati ukazali su na to da u toku edukativnog procesa 77,5% žena i 93,1% muškaraca upozna se sa štetnostima i opasnostima pušenja. Njihov uzrast u većini slučajeva (86,6%) bio je 18–24 godine, 3,7% 25–29 godina i 9,7% iznad 30 godina. Sa postupkom odvikavanja od pušenja bilo je poznato 59,2% žena i 62,1% muškaraca. Procentualna razlika koja je registrovana između ispitanika uzrasta 18–24 godina, u odnosu na ostale koji su prošli obuku, statistički je signifikantna za  $p=0,000$ .

#### Zaključak

Opšte je prihvaćeno da bi trebalo podići nivo znanja studenata medicine o štetnim efektima pušenja kvalitativnim promenama današnjeg nastavnog programa i sadržaja.

**Ključne reči:** Pušenje; Studenti nege; Promocija zdravlja; Zdravstveno obrazovanje; Uloga medicinskih sestara

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