



# The influence of social environment on the smoking status of women employed in health care facilities

Dragana Nikšić<sup>1</sup>, Aida Rudić<sup>2</sup>, Haris Nikšić<sup>3</sup>, Zaim Jatić<sup>4</sup>, Amela Džubur<sup>1</sup>, Amira Kurspahić Mujčić<sup>1</sup>

<sup>1</sup>Faculty of Medicine, University of Sarajevo, Čekaluša 90, Sarajevo, Bosnia and Herzegovina. <sup>2</sup>Faculty of Health Studies, University of Sarajevo, Bolnička 25, Bosnia and Herzegovina. <sup>3</sup>Faculty of Pharmacy, University of Sarajevo, Zmaja od Bosne 8, Sarajevo, Bosnia and Herzegovina. <sup>4</sup>Public Institute, Primary Health Care Center Sarajevo, Vrazova 11, Sarajevo, Bosnia and Herzegovina

## ABSTRACT

**Introduction:** Bosnia and Herzegovina has a high prevalence of smoking among women, especially among health care professionals. The goal of this study is to investigate the influence of the social environment of women employed in health institutions in relation to the cigarettes smoking habits.

**Methods:** The study included 477 women employed in hospitals, outpatient and public health institutions in Sarajevo Canton Bosnia and Herzegovina. We used a modified questionnaire assessing smoking habits of medical staff in European hospitals

**Results:** The results showed that 50% of women are smokers, with the highest incidence among nurses (58.1%) and administrative staff (55.6%). The social environment is characterized by a high incidence of colleagues (60.1%) and friends who are smokers (54.0%) at the workplace and in the family ( $p < 0.005$ ). One third of women (27.8%), mainly non-smokers, states that the work environment supports employees smoking ( $p = 0.003$ ).

**Conclusion:** Workplace and social environment support smoking as an acceptable cultural habit and is contributing to increasing rates of smoking among women.

**Keywords:** women, smoking, social environment, health facilities

## INTRODUCTION

Social environment is one of the important factors that affect the prevalence of smoking habits in the world. In most countries, especially that with high incomes smoking is characterized as an unacceptable form of behavior. The pressures of the social environment in terms of the smoking ban in public

places, including health and educational institutions in Western countries are the key motivating factor for smoking cessation both among women and men. However, in countries where smoking is perceived as socially acceptable habit, the impact of the society is negligible. Cultural heritage which accepts smoking especially among men seems to destroy the positive impact the environment. It is known that populations eventually free themselves from poor legacy. The process of liberation from the unhealthy habits in low-income countries is slower, due to changes in social and economic status of women. Recent trends show that the symbolic value of smoking for women

Correspondence to: Dragana Nikšić, Institute for Social medicine, University of Sarajevo Faculty of Medicine, Čekaluša 90, Sarajevo, Bosnia and Herzegovina, e-mail: niksicd@gmail.com

Submitted 14 February 2013 / Accepted 31 March 2013



is the freedom and independence (1,2). Data from the World Health Survey conducted in 50 countries showed that the use of tobacco among women is spreading into countries with low incomes, which increase in revenue increase their buying power, while better educational status changes their cultural and social position. Increased employment and greater accountability seems that makes women more exposed to stress, which increases the urge to smoke (3,4). The family has a motivating effect usually only for mothers, and symbolic for younger women and men (5). Bosnia and Herzegovina is a country with a low income and in the process of altering social standards of conduct. It belongs to the group of countries with a high prevalence of smoking among women (35.1% in Bosnia and Herzegovina, Hungary 33.9%, Croatia 29.1%, Serbia 29.9%, Bulgaria 27.8% Romania 24.5%, Slovenia 21.1%)(29.1%29.1%) (6). Current global trends indicate that the increase in smoking among women is connected to their poorer position, whether in education, economic or social status.

Women employed in health care facilities make up over 50% of the workforce. The largest group of professionals is nurses. Surveys conducted among employees in the health care facilities show that most smokers are among nurses, more than in the general population. Only in Canada and Finland, the number of smokers among nurses is lower than in the general population (7-12). Work environment is one of the dominant factors that promote smoking. Failure to comply with the prohibition of smoking at the workplace is supported by the aggravating circumstances of the health professions, such as a high professional requirements, workplace stress and expectations of the role of nurses as health professionals. Lack of social support from colleagues and managers, as accepting smoking as acceptable form of behavior and the absence of protective mechanisms contribute to higher rates of smoking in health care facilities (9,10) The aim of this study was to examine the influence of the social environment of women employed in health care facilities in relation to their smoking status.

## METHODS

### Research sample

The target group in this study was female employees of public health facilities in the Sarajevo Canton.

Criteria for selection of health facilities were its activities and management approval for the research. The basic principle of choice of institutions was the representation of all forms and levels of health care employees in the health system of the country.

The study included women employed in hospitals, outpatient facilities and public health care of Sarajevo Canton: Primary health care centers, General Hospital, Institute for Emergency Medical Services, Institute of Public Health, Institute for Health Care of Women and Motherhood, Institute for Alcoholism and Substance Abuse and public pharmacies.

### Research methods

Survey instrument was an anonymous questionnaire for examining smoking status among women. We used a modified questionnaire assessing smoking behavior of medical staff in European hospitals (Network European smoke-free hospital - ENSH - Questionnaire (13).

The questionnaire was given to each female employee. Respondents was aware of the purpose of the study and was given them the opportunity to complete the questionnaire if they wishes. The response rate of employees in health care facilities was 75%, the lowest in a General Hospital (52%). The survey was conducted during 2009.

Descriptive analysis of the responses included a comparison according to smoking status, age, education, occupation, position in a health institution in the context of social and working environment.

Smoking status was observed as: active smoker, a former smoker (nonsmoker for more than a month) and nonsmokers (14).

Occupation was observed in following categories: physician, master pharmacist, nurse, administrative (accounting, management, etc.), technical staff (technical and utility services) and others, and also are the women at the managerial position.

Social environment is defined as the presence of the nearest colleagues, the best friend and family members who are also smokers.

Work environment is reviewed through the questions about: diversity of work, working hours, thinking whether the environment, meetings and management support smoking at the workplace. The characteristics of women smokers are treated in rela-

**TABLE 1.** Education, occupation, location and position of women at the workplace according to smoking status

| Features                   | Smoking status         |      |                          |      |                    |      | Total | p*    |            |
|----------------------------|------------------------|------|--------------------------|------|--------------------|------|-------|-------|------------|
|                            | No. of women 477       |      | No. of answers (%)       |      |                    |      |       |       |            |
|                            | Non-smoker<br>(No 211) |      | Former smoker<br>(No 28) |      | Smoker<br>(No 238) |      |       |       |            |
| Education:                 |                        |      |                          |      |                    |      |       |       |            |
| Grammar school             | 19                     | 46.2 | 0                        | 0.0  | 23                 | 54.6 | 42    | 100.0 | p* = 0.000 |
| Secondary school           | 94                     | 38.8 | 8                        | 3.3  | 140                | 57.9 | 242   | 100.0 |            |
| College                    | 13                     | 33.3 | 7                        | 17.9 | 141                | 48.7 | 39    | 100.0 |            |
| Faculty                    | 85                     | 55.2 | 13                       | 8.4  | 56                 | 36.4 | 154   | 100.0 |            |
| Total                      | 211                    | 44.2 | 28                       | 5.9  | 238                | 49.9 | 477   | 100.0 |            |
| Occupation:                |                        |      |                          |      |                    |      |       |       |            |
| Technical staff            | 19                     | 42.2 | 1                        | 2.2  | 25                 | 55.6 | 45    | 100.0 | p* = 0.002 |
| Administration             | 14                     | 51.9 | 0                        | 0.0  | 13                 | 48.1 | 27    | 100.0 |            |
| Other med. spec.           | 55                     | 51.4 | 12                       | 11.2 | 40                 | 37.4 | 107   | 100.0 |            |
| Nurses                     | 89                     | 36.2 | 14                       | 5.7  | 143                | 58.1 | 246   | 100.0 |            |
| Masters of pharmacy        | 20                     | 69.0 | 1                        | 3.4  | 8                  | 27.6 | 29    | 100.0 |            |
| Other                      | 14                     | 61.1 | 0                        | 0.0  | 9                  | 38.9 | 23    | 100.0 |            |
| Total                      | 211                    | 44.2 | 28                       | 5.9  | 238                | 49.9 | 477   | 100.0 |            |
| Health institution:        |                        |      |                          |      |                    |      |       |       |            |
| Primary health care center | 50                     | 36.8 | 9                        | 6.6  | 77                 | 56.6 | 136   | 100.0 | P = 0.314  |
| General Hospital           | 38                     | 48.1 | 8                        | 10.1 | 33                 | 41.8 | 82    | 100.0 |            |
| IHCWM**                    | 28                     | 45.2 | 4                        | 6.5  | 30                 | 48.4 | 62    | 100.0 |            |
| PHJ***                     | 27                     | 45.0 | 3                        | 5.0  | 30                 | 50.0 | 60    | 100.0 |            |
| IAS****                    | 15                     | 48.4 | 0                        | 0.0  | 16                 | 51.6 | 31    | 100.0 |            |
| Pharmacies                 | 29                     | 58.0 | 1                        | 2.0  | 20                 | 40.0 | 50    | 100.0 |            |
| IEMS*****                  | 24                     | 40.7 | 3                        | 5.1  | 32                 | 54.2 | 59    | 100.0 |            |
| Total                      | 211                    | 44.2 | 28                       | 5.9  | 238                | 49.9 | 477   | 100.0 |            |
| Managerial position:       |                        |      |                          |      |                    |      |       |       |            |
| Yes                        | 20                     | 54.1 | 4                        | 10.8 | 13                 | 35.1 | 37    | 100.0 | P = 0.365  |
| No                         | 191                    | 43.4 | 24                       | 5.4  | 225                | 51.1 | 440   | 100.0 |            |
| Total                      | 211                    | 44.2 | 28                       | 5.9  | 238                | 49.9 | 477   | 100.0 |            |

p\* < 0.005; IHCWM\*\* - Institute for Health Care of Women and Motherhood; PHJ\*\*\* - Institute of Public Health; IAS\*\*\*\* - Institute for Alcoholism and Substance Abuse; IEMS\*\*\*\*\* - Institute for Emergency Medical Services

tion to: the number of cigarettes smoked per day, the time for the first cigarette, smoking place, an environment that supports smoking and their attitudes about smoking cessation.

**Statistical analysis**

Statistical analysis of data was performed in statistical package SPSS17, using standard tests, ANOVA and chi square test, at the level of statistical significance of p < 0.005.

**RESULTS**

**Respondent's characteristics**

Survey included 477 women employed in 7 health institutions of Sarajevo Canton, of which 136 (25.5%) from the Primary health care centers, 82

(17.2%) from the General Hospital, 59 (12.4%) from the Institute for Emergency Medical Services, 60 (12.6%) from the Institute of Public Health, 62 (13.0%) from the Institute for Health Care of Women and Motherhood, 50 (10.5%) from public pharmacies and 31 (6.5%) from the Institute for Alcoholism and Substance Abuse. Among the surveyed women majority were nurses (51.6%), then 22.4% of physicians, pharmacologists 6.0%, technical staff 9.4% and administrative staff 5.7%.

Respondents average age was 44.7 years, with statistically significant differences by smoking status, youngest women were smokers (43.4 years), and women who are former smoker the oldest (p = 0.006).

According to the current smoking status there was 49.9% smokers, 44.2% of non-smokers and only 5.9% former smokers (Table 1).

**TABLE 2.** Social environment of women according to smoking status

| Features               | Smoking status   |               |                          |     |       |          | p* |
|------------------------|------------------|---------------|--------------------------|-----|-------|----------|----|
|                        | No. of women 477 |               | No. of valid answers (%) |     | Total | p*       |    |
|                        | Non-smoker       | Former smoker | Smoker                   |     |       |          |    |
| Closest colleague is:  |                  |               |                          |     |       |          |    |
| smoker                 | 117 40.7         | 15 5.2        | 155 54.0                 | 287 | 100.0 | p*=0,001 |    |
| former smoker          | 13 28.9          | 6 13.3        | 16 35.5                  | 45  | 100.0 |          |    |
| non-smoker             | 65 59.1          | 7 5.5         | 39 35.5                  | 111 | 100.0 |          |    |
| Best friend is:        |                  |               |                          |     |       |          |    |
| smoker                 | 76 36.0          | 11 4.2        | 171 66.2                 | 258 | 100.0 | p*=0,000 |    |
| former smoker          | 13 36.1          | 8 22.2        | 15 41.7                  | 36  | 100.0 |          |    |
| non-smoker             | 110 69.6         | 9 5.7         | 39 24.7                  | 158 | 100.0 |          |    |
| Smokers in the family: |                  |               |                          |     |       |          |    |
| Yes                    | 112 39,4         | 15 5,2        | 159 55,9                 | 284 | 100,0 | p= 0,092 |    |
| No                     | 94 52,2          | 13 7,2        | 73 40,5                  | 180 | 100,0 |          |    |

p\* &lt; 0.005

**TABLE 3.** Working environment to women by smoking status

| Work environment  | Smoking status   |               |                          |     |       |           | p* |
|---|------------------|---------------|--------------------------|-----|-------|-----------|----|
|   | No. of women 477 |               | No. of valid answers (%) |     | Total | p*        |    |
|   | Non-smoker       | Former smoker | Smoker                   |     |       |           |    |
| Everyday job is:  |                  |               |                          |     |       |           |    |
| Always the same   | 146 45.0         | 20 6.2        | 158 48.8                 | 324 | 100.0 | p= 0.777  |    |
| Always different  | 63 24.7          | 8 5.5         | 75 51.4                  | 146 | 100.0 |           |    |
| Working hours implies:                                    |                  |               |                          |     |       |           |    |
| No night shifts   | 137 44.2         | 16 5.1        | 167 53.9                 | 310 | 100.0 | p= 0.654  |    |
| Occasional night shifts                                   | 58 48.3          | 8 6.7         | 54 45.0                  | 120 | 100.0 |           |    |
| Permanent night shifts                                    | 1 50.0           | 0 0.0         | 1 50.0                   | 2   | 100.0 |           |    |
| Work environment supports smoking:                        |                  |               |                          |     |       |           |    |
| Yes   | 61 51.3          | 6 5.0         | 52 43.7                  | 119 | 100.0 | p*= 0.003 |    |
| No  | 137 44.8         | 22 7.1        | 149 48.4                 | 308 | 100.0 |           |    |
| Work meetings supports smoking:                           |                  |               |                          |     |       |           |    |
| Yes   | 82 54.3          | 11 7.3        | 58 38.4                  | 151 | 100.0 | p*= 0.007 |    |
| No  | 17 31.5          | 2 3.7         | 35 64.1                  | 54  | 100.0 |           |    |
| Without meeting   | 112 53.0         | 15 53.8       | 145 60.9                 | 272 | 100.0 |           |    |
| Management of health facility opposes to smoking at work: |                  |               |                          |     |       |           |    |
| Yes   | 154 56.8         | 19 7.1        | 98 36.1                  | 271 | 100.0 | p*=0.000  |    |
| No  | 41 27.9          | 8 5.4         | 98 66.7                  | 147 | 100.0 |           |    |

p\* &lt; 0.005

Smoking status statistically significantly differ by occupation ( $p=0.002$ ). Most smokers are among nurse (58.1%) and technical staff (55.6%), and not far behind is the administrative staff (48.1%). There were 37.4% physicians smokers and 27.6% pharmacists (Table 1).

Statistically significant difference also exists by the current smoking status according to the level of edu-

cation: majority of the smokers are women with low and medium level of education, while women that are mostly nonsmokers have higher levels of education ( $p=0.000$ ).

According to the place of employment there is no statistically significant differences in relation to smoking habits ( $p=0.314$ ), but most women smokers are employed in Primary health care centers

**TABLE 4.** Working environment to women by smoking status

| Features                             | Women smokers (No 238)<br>number of answers % |      | p*       |
|--------------------------------------|---|------|----------|
| Number of cigarettes smoked per day: |   |      |          |
| Less than 10                         | 23  | 9.6  | p*=0.000 |
| 10 -19                               | 94  | 39.5 |          |
| 20 - 30                              | 103   | 43.5 |          |
| 31 - 40                              | 7   | 2.9  |          |
| More then 40                         | 1   | 0.4  |          |
| No answer                            | 10  | 4.2  |          |
| The first cigarette after awakening: |   |      |          |
| Up to 5min.                          | 19  | 8.0  | p*=0.000 |
| 6-30min.                             | 90  | 37.8 |          |
| 31- 60min.                           | 56  | 23.5 |          |
| More than 60min.                     | 70  | 29.4 |          |
| No answer                            | 3   | 1.3  |          |
| Places where they usually smoke:     |   |      |          |
| Own home                             | 135   | 56.7 | p*=0.000 |
| Workplace                            | 25  | 10.5 |          |
| Public places                        | 11  | 4.6  |          |
| At all places                        | 58  | 24.4 |          |
| No answer                            | 5   | 2.1  |          |
| The intention of quitting:           |   |      |          |
| During the next 3 months             | 20  | 8.4  | p*=0.000 |
| During the next 6 months             | 13  | 5.4  |          |
| During the next year                 | 50  | 21.0 |          |
| Does not have intention of quitting  | 145   | 60.9 |          |
| No answer                            | 10  | 4.2  |          |

p\* < 0.005

(56.6%) and the Institute for Emergency Medical Services (54.2%).

At management positions in health care there is only 7.7% of women, most of them are non-smokers, although there is difference according to the smoking which are not statistically significant (p=0.365)

**Respondent’s social and working environment**

Working environment of smokers is correlated with smoking status: the closest work colleagues/fellow of smokers are also smokers, while of former smokers are smokers and formersmokers (p=0.001). It can benoticedthatthere is a high percentage of fellow smokers (60.1%, Table 2).

It also can be noted the high percentage of friends smokers (54.0%). Statistically significantly are more likely for women smokers to socialize with smokers (66.2%), while most former smokers with former smokers (69.6%, p=0.000, Table 2).

The other members of the families of smokers are

often also smokers (59.6%), but without statistically significant differences between the groups (p=0.092).

Female employees in health care institutions often performs same tasks (68.9%) and are less likely to have a diversityin jobs, according to smoking status without significant difference (p=0.777, Table 3).

They often work only during the day, 28.3% stated that they occasionally works at night and very rarely work only night shifts. According to smoking habits there are no statistically significant differences between the working hours of employees (p=0.654).

A third of women (27.8%) believe that the work environment supports smoking among employees, significantly more nonsmokers (51.3%) than smokers (43.7%, p=0.003).

Approximately 75% of an employee believes that meetings supports smoking, as well as 65% that the management of the health facilities is not against smoking at the workplace (Table 3). Attitudes of

women smokers are opposite to attitudes of smokers when it comes to smoking in the meetings and activities of the institutions management on the implementation of the smoking prohibition at the workplace. Significantly more non-smokers feel that working meetings supports smoking ( $p=0.007$ ), and that the management of the institution indirectly supports smoking at the workplace ( $p=0.000$ ).

Women smokers employed in health care facilities, which are mostly nurses and doctors, are heavy smokers, usually smoke more than 20 cigarettes a day (43.3%), their first cigarette is usually 6 to 60 min after awakening (61.3 %) and 25% smokes in all places including the workplace ( $p=0.000$ , Table 4). Concerned by the fact that 60.9% of women do not generally intend to quit smoking, a negligible few women see the danger of smoking and want to quit in the next 3 or 6 months (8.4%). Attitudes toward women smokers according to the need to stop smoking were statistically significant different ( $p=0.000$ ).

## DISCUSSION

Tobacco consumption has risen alarmingly among women worldwide. Without effective intervention, the prevalence of tobacco use will triple in the next generation. These trends are potentially more dangerous for women and their health (1,16).

Women employed in health care facilities, especially medical professionals, according to a number of studies are smokers (7,10,11). The results of our study have shown that the number of smokers is higher than the prevalence in the general population and the number of former smokers is lower than the prevalence of former smokers in the general population of the Federation of Bosnia and Herzegovina (15). Over 50% of women smokers working in primary health care facilities and Institute for Emergency Medical Services. The high rate of smoking in Institute for Emergency Medical Services may be explained by the difficult work conditions (sometimes work at night and deal with emergencies). Qualifications and educational status of women significantly affect the prevalence of smoking, which was confirmed in our study: the least number of smokers was among masters of pharmacy and doctors probably the reason is that they best know the consequences of smoking on health. The most com-

mon smokers are nurses, of which 56% are regular smokers, far more than in other hospitals in the world (7,9,10,11).

Causes of the high rates of smoking can be found in the fact that smoking is widely accepted cultural behavior as socially acceptable habit, as in the general population and among women, health care workers in our country. Women and young people are more prone to overestimation of smoking in general, and especially in their environment, thus justifying their own smoking, and not only underestimated the risk of the consequences of smoking, but also the difficulties of smoking cessation (16).

In the culture of smoking women, especially at younger ages, they appear as a phenomenon of „social“ smokers. They are using tobacco smoking for their social activities and they need tobacco for work and social contacts and often do not perceive the risk of diseases associated with tobacco. In our study, women smokers for friends and work colleagues have often smokers, which may explain the phenomenon of „social“ smokers, and that by belonging to the group is easier to justify risky behavior and avoid condemnation of nonsmokers. Nonsmokers and former smokers are forced to be in an environment with smokers, resulting in a high exposure to passive smoking. The cause of this is the high prevalence of smokers and the environment that does not sanction smoking among employees, although in the Federation of Bosnia and Herzegovina there is a law that prohibits smoking in health care facilities (17).

Family environment according to our results can be considered as stimulating environment, as a model of behavior for its members. Other studies confirm our findings (18). In similar research type of work and night shifts are extenuating circumstances and are associated with smoking status (9) Our results did not confirm this, because there is high proportion of smokers among the administrative staff who perform the same jobs and does not work at night.

The attitude of nonsmokers is that the working environment and the management of the institution support the freedom of smoking among employees, which is less common opinion among women smokers. The right to full freedom of smokers for smoking that is present in the work environment is challenged by respondents from a small number of

former smokers and nonsmokers. The reason lies in the fact that there are no sanctions for smoking in health care facilities, and that the acceptance of the traditional right of nonsmokers to tobacco smoke-free environment has been disputed (17). Social acceptance of smoking as a positive habit in public is not condemned by colleagues in our research.

These findings contribute also the characteristics of women smokers, showing that 38% of them smoke their first cigarette after waking up to 30min and smokes up to 30 cigarettes a day. Similar results have been confirmed in a number of studies among nurses (19).

A significant number of employees do not realize smoking addiction as a disease, which is confirmed by 60% of women smokers who do not intend to quit smoking. Reasons for that are developed tobacco dependence which in a lesser extent impairs psychosocial functioning than other addictions and that a phases of acute intoxication are rare and the sanctions from the environment does not exist.

Today in the world are present trends that lead to the creation of smoke-free health care institutions with a complete smoking prohibition. They have contributed to reducing the number of its employees who are smokers (20). Given the widespread incidence of smoking in different health institutions it is needed to ensure compliance with existing legislation. This might be the first step towards a complete prohibition of smoking in health care facilities. Management of health institutions should play a crucial role in monitoring the implementation of this legislation (19,21). Our research shows that women are rarely managers of health institutions (7.7%) and thus do not have the legal power in the implementation of smoke-free policies.

## CONSLUSION

Conducted study among women employed in health institutions of the Sarajevo Canton shows that 50% of them are current smokers. Women smokers were at younger age, with lower education level and the highest prevalence is found among nurses and administrative staff. Health-care employees are smokers who smoke in all areas including the workplace. Working and social environment support smoking as an acceptable cultural habit among medical staff and is a barrier to the implementation of policies

of control and supervision over smoking in a health institution.

## COMPETING INTERESTS

The authors declare no conflict of interests.

## REFERENCES

1. WHO. Sifting the evidence: Gender and tobacco control. ISBN978 92 4 159540 7, 2007.
2. Paul LC, Ross S, Bryant J, Hill W, Bonevski B, Keevy N. The social context of smoking: A qualitative study comparing smokers of high versus low socioeconomic position. *BMC Public Health* 2010, 10:211.
3. Greaves, L., Jategaonkar, N. Tobacco policies and vulnerable girls and women: toward a framework for gender sensitive policy development. *Journal of Epidemiology and Community Health*. 2006; 60: 57-65.
4. McLellan DL, Kaufman NJ. Examining the effects of tobacco control policy on low socioeconomic status women and girls: an initiative of the Tobacco Research Network on Disparities (TreND) *J Epidemiol Community Health* 2006; 60:ii5-ii6
5. Pešić I, Danilović M, Ščekić Š, Gvozdenović B. Motivacija za odvikavanje od pušenja i uspešnost odvikavanja. *Pneumon*, 2004; 41
6. WHO. Report on the global tobacco epidemic. 2008.
7. Sama L, Bialous SA, Wewers ME, Froelicher ES, Danao L. Nurses, smoking, and the workplace. *Res Nurs Health*. 2005;28(1):79-90.
8. Binkowska-Bury M, Osuchowski F, Mmarć M, Januszewicz P. Socio-demographic factors and the prevalence of tobacco smoking in the workplace. *Przegł Lek*. 2009;66(10):741-4.
9. Martinović Ž, Martinović C, Čuturić M. Učestalost pušenja i nikotinska ovisnost kod medicinskih radnika. *Med Glas* 2009; 6(2): 211-215.
10. McKenna, H., Slater, P., McCance, T., Bunting, B., Spiers, A., & McElwee, G. The role of stress, peer influence and education levels on the smoking behaviour of nurses. *Int J Nurse Studies*, 2003;40(4), 359-366.
11. Hodgetts G, Broers T, M. Smoking behaviour, knowledge and attitudes among Family Medicine physicians and nurses in Bosnia and Herzegovina. *BMC Fam Pract*. 2004; 5: 12.
12. Marković-Denić Lj, Knežević T, Radović Lj, Kisin Đ, Šeparović N. Prevalencija pušenja u institutima i zavodima za javno zdravlje u Srbiji. *Glasnik Zavoda za zaštitu zdravlja Srbije*. 2007; 79(1-2): 15-19.
13. Smoke-free hospital. European network, <http://ensh.aphp.fr>
14. WHO Global Info Base. Geneva, World Health Organization, 2006.
15. Jokić I, Pilav A, Nikšić D, et al. Situacija djece i žena u BiH. Istaživanje visestrukih pokazatelja. Zavod za javno zdravstvo FBiH, Unicef i DFID MICS 2006.
16. Field C. Examining factors that influence the uptake of smoking in women. *Br J Nurs*. 2008;17(15):980-5.
17. Nikšić D, Kurspahić-Mujčić A, Nikšić H, Dzibur A, Valjevac A. Exposure to tobacco smoke in correlation to attitudes to smoking of both smokers and nonsmokers *Folia Medica*. 2008;43(2):49-55.
18. Erbaydar T, Lawrence S, Dagli E, Hayran O, Collishaw NE. Influence of social environment in smoking among adolescents in Turkey. *Eur J Public Health*. 2005;15:404-410.
19. Kitajima, T., Ohida, T., Harano, S., Kamal, A. M., Takemura, S., Nozaki, N., et al. Smoking behavior, initiating and cessation factors among Japanese nurses: a cohort study. *Public Health*, 2002;116(6), 347-352.
20. Poland B, Frohlich K, Haines RJ, Mykhalkovskiy E, Rock M, Sparks R. The social context of smoking: the next frontier in tobacco control? *Tobacco Control* 2006, 15(1):59-63.
21. Amos A, Greaves L, Nichter M, Bloch M. Women and tobacco: a call for including gender in tobacco control research, policy and practice. *Tobacco Control* 2012;21:236-243.