

Evaluation of the frequency and factors affecting smoking among nurses

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Summary

In this descriptive and cross-sectional study, the frequency of and factors affecting smoking among 919 nurses were examined. Nurses working at the Medicine Faculty of Meram Maternity Hospital, Social Security Hospital, Province Health Administration of Konya and State Hospital were included in this study. Data were obtained via a standardized questionnaire form. Of all the nurses, (13.3% male and 86.7% female) 52.4% were ever-smokers, 38.5% never-smokers, 9.1% ex-smokers and the quit ratio was 14.7%. The lowest age of starting smoking was 7, the highest age was 38 and the median value was 20. Of the participants, 51% started to smoke at the age of 26 and over. Social factors (environment, friends, etc.) were the first reasons to start smoking (43.8%). Approximately, 70.2% of ever-smokers had tried to stop smoking. In the families of non-smokers, the ratio of never-smoking was significantly high ($p<0.001$). The ratio of smoking among the close friends who were ever-smokers was significantly higher than the ratio among the non-smokers ($p<0.001$). Our study indicates that nearly half of the nurses are smokers. Therefore, to prevent and reduce smoking among nurses, further researches and more effective smoking cessation programs should be carried out.

Key words: Health education, nurse, smoking

Özet

Hemşirelerde sigara içme sıklığı ve sigara içmeyi etkileyen faktörlerin değerlendirilmesi

Tanımlayıcı ve kesitsel tipteki bu çalışmada 919 hemşirede sigara içme sıklığı ve sigara içmeyi etkileyen faktörler

araştırıldı. Bu çalışmaya Meram Tıp Fakültesi Doğumevi, Sosyal Sigortalar Kurumu Hastanesi, Konya İl Sağlık Müdürlüğü ve Devlet Hastanesinde çalışan hemşireler katıldılar. Veriler standart bir anket ile elde edildi. Tüm hemşirelerin (%86.7'si kadın, %13.3'ü erkek) %52.4'ü halen sigara içiyor, %9.1'i sigara içmeyi bırakmış, %38.5'i hiç içmemiş ve sigara bırakma oranı ("quit ratio") %14.7 idi. Sigaraya başlamada en küçük yaş 7, en büyük yaş 38, ortanca değer 20 idi. Katılanların, %51'i sigara içmeye 26 yaş ve üzerinde başlamışlardı. Sigaraya başlamada birinci sebep %43.8 ile sosyal faktörler (çevre, arkadaşlar, v.d.) idi. Halen içenlerin yaklaşık %70.2'si sigara bırakmayı denemişlerdi. Sigara içmeyenlerin ailelerinde sigara içmeme oranı önemli ölçüde yüksek idi ($p<0.001$). Sigara içenlerin yakın arkadaş grubunda sigara içme oranı, sigara içmeyenlere oranla istatistiksel olarak oldukça yüksek idi ($p<0.001$). Bu çalışmada, yaklaşık olarak hemşirelerin yarısının sigara içtiği görülmektedir. Bu yüzden, hemşireler arasında sigara içmeyi önlemek ve azaltmak için daha ileri araştırmalar ve daha etkili sigara bırakma programları yapılmalıdır.

Anahtar kelimeler: Sağlık eğitimi, hemşire, sigara içme

Introduction

Cigarette smoking is the most important preventable risk to human health and an important cause of premature death worldwide (1). The harmful effects of smoking on health are now well accepted (2). Increasing incidence of smoking in the developing world is likely to lead to a new epidemic of smoking-related diseases. Smoking contributes to the onset of many diseases, and is thought to account for 87% of deaths from lung cancer, 82% from chronic obstructive pulmonary disease (COPD), 21% from coronary heart disease (CHD) and 18% from stroke cases (3). The World Health Organization (WHO) estimates that there are about 1100 million smokers in the world.

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Approximately 4 million deaths per year, an average of 11.000 per day are attributed to smoking (4). The WHO has estimated that the number of deaths each year from smoking-attributable diseases will reach to 10 million within the next 30 years (5). If this prediction is correct, the tobacco-related deaths are projected to surpass diarrhea, perinatal diseases and tuberculosis (6).

Cigarette smoking not only increases the risk of death among adults, but also affects the quality of life and physical functioning (7). According to Public Union Survey Company results, smoking rates among the general population in Turkey are extremely high (62.5% in men and 24.8% in women) (8). Tobacco use recently is the single and most important health disorder in our country. Tobacco, whether as a user or not, transcends the multidimensional social, economic, political and health forces impacting women (8).

Both physicians and nurses have a special opportunity to influence the health of people. The nurse should act as a role model by not smoking and by creating a smoke-free environment in the hospital. Nurses should be aware that public policy regarding smoking can be an effective instrument of public health and they have a responsibility to participate effectively in public debate, not only as individuals but also as the members of medical organizations (9). Since smoking represents a threat to the public health, nurses must take a strong and active role seeking its control. Nurses are strongly encouraged to provide people information about the hazards of tobacco and strategies for avoiding tobacco use (10). To contribute to the effectiveness of anti-smoking campaigns targeting nurses, we conducted a survey on the prevalence of and attitudes towards smoking among nurses.

This study aims to monitor and document the prevalence of tobacco use among nurses and assess their knowledge, attitudes and behaviors towards tobacco.

Material and Methods

This descriptive and cross-sectional study was conducted between January 15 and July 20, 2005. The universe of this study consisted of 919 nurses working at different hospitals in Konya. They were working at the Medicine Faculty of Meram Maternity Hospital, Social Security Hospital, Province Health Administration of Konya and State Hospital. Participants were randomly selected from these health-care facilities. In this study, 919 nurses (76%) were reached out of 1209 nurses working at these health-care organizations. A standardized and anonymous questionnaire was designed. Questionnaires were distributed with the official per-

mission and cooperation of the hospital directors, the directors of nursing or the general supervisors of nursing at the hospitals. In each hospital, questionnaires were distributed and collected by the directors of nursing or the general supervising nurses. Data were obtained via this questionnaire form. The questionnaires were collected within two weeks of distribution. The questionnaire included 32 items and revealed socio-demographic characteristics, smoking-related attitude and behaviors, the status of smoking in family and close-friends of the nurses. Current smokers were defined as those who had smoked 100 cigarettes and now smoked either every day (i.e., daily smokers) or some days (i.e., some-day smokers). Ex-smokers had smoked at least 100 cigarettes in their lives but were not currently smoking. The minimum quitting period for the ex-smokers was accepted as 6 months. Never-smokers were defined as those who had never smoked (11). In this study, basically the questionnaire models recommended by Prochaska and colleagues to identify stages of change (12) and Fagerstrom nicotine dependence test questions (13) were used. The stages of change model for smoking cessation identifies five stages:

Stage 1: Precontemplation shows that no intention to quit within next 6 months. Limited knowledge about the consequences of smoking and resistant to change. Overestimation of the benefits and underestimation of the hazards of smoking.

Stage 2: Contemplation shows that seriously thinking about quitting in the next 6 months, but can be quite ambivalent about quitting. Unsure if the long term benefits of smoking outweighs the short term cost.

Stage 3: Preparation shows that ready to quit within one month. Have tried to quit in the last year or are taking steps towards quitting. Believe that the cons of smoking clearly outweigh the pros.

Stage 4: Action shows that concrete steps towards quitting and first 6 months after quitting. These individuals are at great risk of relapse.

Stage 5: Maintenance shows that effort to continue life free from tobacco use.

This model has been substantiated in multiple studies. The smoker must acquire specific skills and knowledge to graduate from one step to the next before quitting. Only a small percentage of smokers (5%) move straight from precontemplation to maintenance (12).

The quick and easy test, called the Fagerstrom Test for Nicotine Dependence was used to determine the level of nicotine dependence. It was developed by Dr.

Karl Fagerstrom, one of the world's leading authorities on the effects of cigarette smoking. In this test, there were six different questions related to smoking status. For each question, the number of points indicated by one's answer was written down. Then we tabulated the results. The results were evaluated as evidence of low, medium, and high nicotine dependence (13).

What is already known about this topic?

* Nurses are always in the first step of improving of health care.

* Cigarette smoking is the most important preventable risk to human health and an important cause of premature death worldwide.

What this paper adds

* The nurse should act as a model by not smoking.

* Nurses have an instrumental role in tobacco reduction. Unfortunately, they did not receive formal training on strategies for smoking cessation.

* A special training program, seminars on the adverse effects of smoking and smoking cessation strategies for nurses should be prepared and carried out.

The SPSS 13.0 statistical software package was used in data entry and analysis. The statistical analysis and evaluations were carried out by the author. The variables were described by mean, frequency and standard deviation (SD). To assess statistical significance between the groups, chi-square test was used. Statistical significance was defined as $p < 0.05$.

Results

Sociodemographic characteristics

The universe of this study consisted of 919 nurses working at different hospitals in Konya. Of the nurses in this study, 13.3% were male, 86.7% were female and 72.9% were married. The age interval of participants was 19 and 59, and the median value was 27. In our country, especially women prefer to be a nurse. Consequently, the rate of female nurses (86.7%) was higher than the rate of male nurses (13.3%). The sociodemographic characteristics of the nurses surveyed are presented in Table I.

Prevalence of smoking

In this study, of the nurses, 52.5% were current smokers, 38.5% were never-smokers and 9.1% were ex-smokers. Quit ratio (The quit ratio is the proportion of people who have ever smoked to those who are now ex-smokers) was 14.7%. The lowest age starting smoking was 7, the highest age was 38 and the median value was 20.

Smoking-related habits

Of the participants, 51.0% started smoking at the age

Table I. Sociodemographic characteristics of the nurses

Characteristics	n	%
Gender		
Female	797	86.7
Male	122	13.3
Marital status		
Single	249	27.1
Married	662	72.9
Age		
19-24	143	15.6
25-29	308	33.5
30-34	206	22.4
35 and over	262	28.5
Total	919	100.0

of 26 and over. Social factors (environment, friend groups, etc.) were the first reasons to start smoking (43.8%), the second reason was stress and anxiety (28.6%). In the majority of smokers (85.6%), duration of smoking (year) was 10 years and over. Ninety five point three percent of the participants thought that smoking had no harmful effects on human health. The habits related to smoking are shown in Table II.

Table II. Smoking-related habits of the participants

Habits	n	%
Smoking status		
Current-smokers	481	52.4
Ex-smoker	84	9.1
Never-smoker	354	38.5
Total	919	100.0
Daily cigarette consumption (number)		
0-10	236	49.1
11-20	184	38.3
21-30	44	9.1
≥31	17	3.5
Age of starting smoking		
7-18	100	20.7
19-25	136	28.3
≥26	245	51.0
Duration of smoking (years)		
0-1	5	1.0
2-5	22	4.6
6-9	42	8.8
≥10	412	85.6
The reason to start smoking		
Social factors (Environment, friend groups, etc.)	211	43.8
Distress and anxiety	142	29.6
Pleasure and fun	68	14.2
Emulation and enthusiasm	60	12.4
Stage of quitting		
Precontemplators	226	47.0
Contemplators	101	21.0
Preparators	154	32.0

In the families of non-smokers, the ratio of never-smoking was significantly high ($p < 0.001$). The ratio of smoking among the close friends who were ever-smok-

ers was significantly higher than the ratio of non-smokers ($p < 0.001$). Smoking status of family and close friends are shown in Table III and Table IV.

(more than 6 months). The reasons of smoking cessation were health problems (42.9%), harmful effects (42.9%) and other reasons (14.3%).

Table III. Smoking status of the family

Family	Never smoker		Ex-smoker		Current smoker		Total		χ^2	p
	n	%	n	%	n	%	n	%		
Mother	8	2.3	2	2.4	33	7.1	43	4.8	15.075	0.000
Father	87	25.1	21	25.6	133	28.6	241	27.0		
Mother and father	1	0.3	1	1.2	10	2.2	12	1.3		
Partner	87	25.1	19	23.2	113	24.3	219	24.5		
Children		----	3	3.7	6	1.3	9	1.0		
Sister/brother	63	18.2	15	18.3	92	19.8	170	19.0		
None	101	29.1	21	25.6	78	16.8	200	22.4		
Total	347	100.0	82	100.0	465	100.0	894	100.0		

*: 25 participants did not answer the question related to the smoking status of the family

Table IV. Smoking status of the close friends

Friends	Never smoker		Ex-smoker		Current smoker		Total		χ^2	p
	n	%	n	%	n	%	n	%		
Mostly	144	41.1	47	56.6	309	65.9	500	55.4	55,163	0.000
Some	185	52.9	30	36.1	155	33.0	370	41.0		
None	21	6.0	6	7.2	5	1.1	32	3.5		
Total	350	100.0	83	100.0	469	100.0	902	100.0		

*: 17 participants did not answer the question related to the smoking status of close friends

Tobacco addiction

The levels of nicotine addiction determined using the Fagerstrom score were 0-2 (very low degree) in 51.7%, 3-4 (low degree) in 21.1%, 5 (medium) in 9.0%, 6-7 (high) in 11.6% and 8-10 (very high) in 6.6% (Table V).

Table V. Addiction degree by using Fagerstrom test for nicotine dependence

The level of nicotine addiction	n	%
0-2 (very low degree)	248	51.7
3-4 (low degree)	102	21.1
5 (medium)	43	9.0
6-7 (high)	56	11.6
8-10 (very high)	32	6.6

Quitting

Approximately, 70.2% of ever-smokers tried to stop smoking. The quit ratio was 14.7%. When the smokers were classified according to Prochaska and Goldstein's staged changing period model of quitting, 47.0% did not plan to quit (precontemplators), 21.0% planned to quit (contemplators), and 31.9% was preparing to quit (preparators). The quitters were classified according to the period that their quitting lasted and 20.5% was in the trial period (less than 6 months they quit). Seventy eight point five percent was in the maintenance period

Discussion

Before discussing the results, the limitations of the present study must be considered. Although the overall sample was relatively large, we could reach only 76% of the nurses. In this context, one of the reasons can be attributed to the stressful working conditions of nurses and what is more, the research period (15th January-20th July 2005) could be found as short by some. In addition, although a quite close match, the sample was not entirely representative of the Turkish population.

Smoking as a major public-health concern is still a widespread habit among nurses. Nurses are in the encouraging position to empower individuals, families, communities and nations in the prevention and treatment of tobacco use (14). Furthermore, nurses should also play an active role in the control of smoking. Reduction of nurse smoking is significant, since the tutors of the people in matters of health have a responsibility to present a proper image (14). Although nurses should be "exemplars" to their patients and communities, cigarette smoking is still highly prevalent among nurses in some countries (15). Of the nurses in this study, 52.4% were ever-smokers. This rate was particularly high when we compared with the other countries. Ohida et al. stressed that smoking prevalence of female nurses in the national hospitals of Japan was 18.6% (14). This rate was higher than the prevalence of the general

female adult population (6.8%). A study with Spanish nurses determined that the prevalence of current smokers among nurses was 34.4% (15). In the Netherlands, while overall smoking prevalence was 33% in adults in 2001, another study found that 44% of nurses were smokers (16). A study on Italian nurses showed that 41.0% smoked, while National Statistical Institute of Italy found the rate of daily adult smokers to be around 25.0% in 2001 (16). Other studies determined that the smoking prevalence of nurses varied among different countries (18.0% in New Zealand, 21.0% in Australia, 25.0% in France, 43.0% in England, 17.0% in Canada, 37.9% in the Ninth Region of Chile, 47.7% in Madrid and 41% in the Northern Italy) (17-22).

Nelson et al. stressed that in the United States, while nurses had a smoking prevalence of 31.7% in 1974, this rate was 18.3% in 1991. Because banning smoking in the hospital and anti-smoking campaigns in which nurses have participated have been successful in the United States and Canada (23).

Smoking rates among the general population in Turkey are extremely high (62.5% in men and 24.8% in women) (8). According to the research conducted by Erbaycu et al. on health-care professionals in İzmir, smoking frequency was found as 59.3% among nurses (24). On the other hand, the research of Dilbaz et al. revealed that the rate of smoking was 58.8% among the nurses of Ankara State Hospital (25). In our country, among other occupations also similar findings were found. For example among high school teachers in Manisa, the rate of smoking was 40.7% (26).

The rate of current-smokers was 28.7% (the rates of smoking in females and males were 13.4% (n=15) and 35.6% (n=89), respectively) among physicians of Meram Medical Faculty (27).

In the majority of the smokers (51.0%), the initiation age of smoking was 26 and over. The major reasons to start smoking in 43.8% of smokers were social factors (environment, friend groups). Unfortunately, Turkish laws are inadequately enforced to combat smoking. There is a light legislation against tobacco and inadequate educational program.

The prevalence of smoking among nurses was 52.4%, which was higher than the prevalence of the general female population (24.6%). Personal factors such as age, position, family status, social factors, distress and anxiety can be responsible for this high rate. Our results showed that smoking status in family and close friends negatively affected nurses.

In this study, the rate of smoking in family (only father, only mother, partner, children, sister/brother or

both parents) was 83.2% among current smokers. The rate of smoking in family was 70.9% among never-smokers. In the families of current smokers, the rate of smoking was significantly higher than never-smokers ($\chi^2=15.075$, $p<0.001$).

The results suggest that current smokers tend to have more close friends who also smoke. In our survey, 65.9% of current smokers had a close friend who smoked, while only 41.1% of never-smokers had a close friend who smoked. The ratio of smoking among the close friends who were ever-smokers was significantly higher than the ratio of never smokers ($\chi^2=55.163$, $p<0.001$).

Nurses have an instrumental role in tobacco reduction, which is one strategy used to address tobacco use; a primary source of preventable morbidity and mortality globally (27). Unfortunately, they did not receive formal training on strategies for smoking cessation and felt prepared to counsel patients on how to stop smoking. Our study indicates that almost half of all nurses in Konya were smokers. Having an important role nurses should help their patients on smoking cessation techniques and inform that this high smoking rate disturbs and indicates a severe public health problem. Therefore, a special training program, seminars on the adverse effects of smoking and smoking cessation strategies for nurses should be prepared and carried out.

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