

FREQUENCY OF SMOKING AMONG MALES AND ITS IMPACT ON THE QUALITY OF LIFE

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ABSTRACT

Objectives: To determine frequency of smoking among males aged 40 and above and to evaluate its impact on health related quality of life (HRQOL).

Methodology: This cross-sectional study was conducted in a region of western Turkey between January, 1st and February, 30th 2009. A questionnaire concerning demographics, smoking and health related quality of life (HRQOL) was filled by the subjects. Chi Square (χ^2) test, Student's *t* test, variance (ANOVA) and Spearman Correlation analyses were performed when the data were being evaluated.

Results: The frequency of smoking was 47.1%. In those smoking, the scores received from the other fields of SF-36 scale except for the emotional field were significantly lower in those not smoking. As the severity of smoking increased, physical functioning, physical body pain, general health perception, and the vitality scores showed significant decrease ($p < 0.05$, for each domain).

Conclusion: Smoking has a negative impact on health related quality of life. Public health education highlighting ill effects of smoking and Tobacco use need to be initiated which can be an effective preventive strategy.

KEY WORDS: Smoking, Quality of life.

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INTRODUCTION

Cigarette use is one of the most important preventable health problems worldwide.¹ Negative consequences of cigarette smoking may be especially harmful for people with chronic conditions, because smoking can increase the severity of existing disabling diseases while creating new disorders.²

Various studies report, the frequency of smoking in adult men between 26.0% and 53%.^{3,4} In adult male population in Turkey, the frequency of smoking has been reported between 42.5% to 62.8%.^{5,6}

The World Health Organization (WHO) has reported that nearly five million people die from tobacco-related diseases annually and this number is expected to reach ten million by 2030.⁷

In Turkey, according to a survey representing the whole country conducted in 1988, it was found that 62.8% of men aged 15 years and above, 24.3% of the women, and 43.6% of the whole population were smokers.⁸ According to 1997 data, 51% of the adult men and 49% of women in Turkey smoked regularly at least once daily.⁹

Cigarette use has been shown to have a direct effect on Health related quality of life (HRQOL).¹⁰ It has been estimated that smokers may lose even up to 10 years of life because of their smoking.¹¹ Some studies have found current smokers to report consistently poor health than non-smokers or ex-smokers,¹² while others have found such differences only on some SF-36 subscales.¹³

The aim of this study was to determine frequency of smoking among males aged 40 and above and to evaluate its impact on HRQOL in a semi-rural area of western Turkey.

METHODOLOGY

The study was conducted on men aged 40 and over selected by a simple random sampling method between January, 1st and February, 31st, 2008. According to the District Community Health Center records in the city, Sivrihisar, Eskisehir, male population aged 40 years and above living in these areas was 1892. Ninety seven people (14.2%) were not included in the study since they did not accept our invitation to participate or they were not available at that particular time. Thus the study group was composed of 586 persons who were selected with simple random sampling method by visiting their houses one by one and after receiving their informed verbal consent. The questionnaire was prepared using the literature in accordance with the purpose of the survey and it consisted of two parts.¹⁴⁻¹⁶ The first part of questionnaire included questions related to the individual's sociodemographic characteristics. The second part contained questions related to SF-36 scale with which HRQOL was assessed.

Those who had smoked 15 and less cigarettes per day were grouped as light smokers, those who had smoked cigarettes between 16 and 24

per day as medium smokers, and those who had smoked 25 and over cigarettes daily as heavy smokers.¹²

Measure of HRQOL: HRQOL was assessed by SF-36 Health Survey Questionnaire, which is the most widely used generic instrument for rating HRQOL. The original questionnaire was developed by Ware and Sherbourne (1992)¹⁴ and reliability and validity studies for the Turkish version of SF-36 were performed by Kocyigit et al. (1999).¹⁷ The subjects answered the questions in SF-36 scale as reasonable for their status within the last four weeks. The scores that subjects obtained from the scale ranged between 0 and 100. The higher scores received from the scale showed that HRQOL increased in a positive way.¹⁴

Statistical Analysis: Statistical analysis was made using Student's *t* test, one-way analysis of variance (ANOVA), the chi-square (χ^2) test, and Spearman Correlation Analysis.

RESULTS

The data obtained from the 586 subjects were analyzed. Their mean age was 53.42±9.14 (range 40–83) years. The age distribution of the study population was stratified as follows: 40–49 years, 36.9%; 50–59 years, 37.0%; and ≥60 years 26.1%. The educational levels were determined as 17 (2.9%) illiterate, 60 (10.2%) literate, 239 (40.8%) primary school, 142 (24.2%) secondary school, 97 (16.6%) high school, and 31 (5.3%) university graduate. The proportion of those unemployed was 7.3% (n=43), and 32 subjects (5.5%) were deprived of social health insurance (SHI). Of the total 586 men, 81.2% (n=476) were married. If we briefly describe characteristics of the sample group, the vast majority had high school and lower education level (n=458, 78.1%), were married (n=476, 81.2%) and a small portion of the sample group was unemployed (n=43, 7.3%) and 32 subjects (5.5%) were deprived of SHI. The frequency of smoking in the subjects was 47.1% (n=276).

Table-I shows the mean scores of SF-36 domains by status of smoking. When average scores of smokers and non-smokers men was

Table-I: Mean scores of SF-36 domains by status of smoking

SF-36 Domains	Smoking and score		Statistical analysis <i>t</i> test; <i>p</i> value
	No (n=310)(mean±SD)	Yes (n=276)(mean±SD)	
Physical functioning	83.95±21.35	78.61±19.45	3.155; 0.002
Role-physical	72.02±39.84	59.60±43.88	3.590; 0.000
Bodily pain	74.23±23.86	70.01±25.95	2.051; 0.041
General health perception	58.33±19.60	50.92±22.24	4.286; 0.000
Vitality	57.96±20.64	52.98±21.29	2.877; 0.004
Social functioning	81.53±20.08	77.31±23.35	2.353; 0.020
Role-emotional	79.03±36.30	78.02±36.29	0.337; 0.736
Mental health	56.38±18.05	53.05±19.46	2.150; 0.032

obtained from the 8 domains of SF-36 scale, it did not reveal any difference between two groups except for "role emotional" ($p > 0.05$). However, for the domains "physical functioning", "role-physical", "body pain", "general health perception", "vitality", "social functioning" and "mental health", the average scores for those smoking were significantly lower than those not smoking ($p < 0.05$ for each one).

Table-II presents the severity of smoking in smokers and mean scores of SF-36 domains. In the current study, the average number of cigarettes smoked per day was 23.98 ± 10.64 , ranging from 2 to 60. About 19.6% of men ($n=54$) were light smokers, 39.5% ($n=109$) moderate smokers and 40.9% ($n=113$) heavy smokers. When their average scores obtained from 8 domains of SF-36 scale were compared, there was no difference between all three groups in the domains of social functioning, emotional and mental health ($p > 0.05$). On the other hand, as

the severity of smoking increased, it was found that the average scores significantly showed decrease in the domains of physical functioning, role-physical, bodily pain, general health perception and vitality ($p < 0.05$ for each one).

Table-III indicates the amount of cigarette smoked (package/year) and mean scores of SF-36 domains. The average smoking duration of men in the study group was 31.46 ± 10.27 years, ranging from 4 to 62 years. In comparison, the average amount of cigarettes smoked was 37.47 ± 20.21 package/year (range 2.5-125). The proportion of those who started smoking before 19 years and earlier was 42.1% ($n=116$), those who started smoking between 20-29 years 45.2% and those who started smoking at the age of 30 years and above was 12.7% ($n=35$). There was an inverse correlation at low level between the scores of smokers from all the domains of SF-36 scale and the amount of cigarettes smoked (package/year) ($p < 0.05$ for each one).

Table-II: Severity of smoking in smokers and mean scores of SF-36 domains

SF-36 Domains	Severity of smoking			Statistical analysis <i>F</i> test; <i>p</i> value
	Mild (n=54) (mean±SD)	Moderate (n=109) (mean±SD)	Heavy (n=113) (mean±SD)	
Physical functioning	85.28±17.33	78.76±20.34	75.27±18.84	4.990; 0.007
Role-physical	75.46±38.08	63.76±41.87	48.01±45.58	8.388; 0.000
Bodily pain	76.61±23.17	70.78±25.15	66.11±27.44	3.121; 0.046
General health perception	56.48±20.62	52.24±22.12	47.00±22.55	3.707; 0.026
Vitality	58.68±21.33	54.18±21.54	49.09±20.45	4.077; 0.018
Social functioning	81.02±18.93	79.01±21.71	73.89±26.34	2.200; 0.113
Role-emotional	87.65±26.93	74.31±39.71	76.99±36.21	2.545; 0.080
Mental health	57.58±20.46	53.50±18.53	50.44±19.59	2.532; 0.081

Table-III: Amount of cigarette smoked (package/year) and mean scores of SF-36 domains

Spearman correlation	Period of smoking (4-62 years)	
	r	p
SF-36 scale domain scores		
Physical functioning	-0.285	0.000
Role-physical	-0.309	0.000
Bodily pain	-0.186	0.002
General health perception	-0.182	0.002
Vitality	-0.234	0.000
Social functioning	-0.210	0.000
Role-emotional	-0.129	0.032
Mental health	-0.190	0.002

The average age of starting smoking in the study group was 21.15 ± 6.74 (range: 10-40). When smokers were divided into three groups according to the age of starting smoking (<19 years, 20-29 years, >30 years), average scores for all areas of the SF-36 scale were found to be indistinguishable from each other ($p > 0.05$ for each one). The distribution of average domain scores that smokers obtained from the SF-36 scale by age of starting smoking is presented in Table-IV.

DISCUSSION

In this study, the frequency of smoking was 47.1%. This finding is compatible with the studies conducted in Turkey and other countries: Frequency of smoking reported among adult men in these studies ranged from 26.0% to 52.8%.^{3,4}

In Turkey, the number of comprehensive studies conducted and the size of smoking habits in the general population is limited. The oldest and most comprehensive one of these studies was made by PIAR in 1988 on behalf of the Ministry of Health (MoH): In that study, it was reported that 62.8% of 2048 men aged 15 and over in 10 provinces representing Turkey were smokers.⁸ A similar study among 26,546 subjects by BIGTAS on behalf of the Ministry of Health in 1993 reported that 57.8% of men aged 20 years and above were smoking.¹⁸

However, after the year 1996 when we look at the studies investigating the frequency of smoking in Turkey, among men in a region of middle Turkey in 2004 it was found to be 42.5%.⁵ An explanation for the decrease in the frequency of smoking after the year 1996 could be due to the tobacco control legislation (the control of tobacco being smoked in closed and public places) that came into effect in 1996.¹⁹ Even though frequency of smoking showed decline after this legislation this study shows that nearly half of men continue smoking.

This study also showed that the HRQOL in smokers was worse when compared to non-smokers. It was found that the HRQOL of smokers was affected negatively in all the domains ($p < 0.05$) except for role emotional ($p > 0.05$) according to scores obtained from 8 domains of SF-36 scale, in line with the studies showing average scores that non-smokers obtained from all the domains of the SF-36 scale were significantly higher than those of smokers.^{15,17} Again,

Tabl-IV: Age of starting smoking in smokers and mean scores of SF-36 domains

SF-36 Domains	Age of starting smoking and scoreS			Statistical analysis F testi; p value
	<19 yas (n=116) (mean±SD)	20-29 yas (n=125) (mean±SD)	>30 yas (n=35) (mean±SD)	
Physical functioning	75.86±20.44	79.80±18.50	83.43±18.50	2.494; 0.084
Role-physical	54.10±44.59	62.40±42.32	67.86±46.01	1.797; 0.168
Bodily pain	69.53±27.53	69.75±24.68	72.51±25.57	0.188; 0.829
General health perception	53.01±22.26	48.54±21.82	52.54±23.44	1.326; 0.267
Vitality	53.90±19.86	53.56±21.91	47.82±23.48	1.184; 0.308
Social functioning	77.91±23.33	77.10±22.55	76.07±26.67	0.092; 0.912
Role-emotional	79.60±34.83	78.67±35.52	70.48±43.37	0.885; 0.414
Mental health	53.45±18.65	53.56±18.67	49.87±24.59	0.533; 0.587

similar to our study results, Cayuela et al. showed that except for the physical functioning dimension, which refers to physical activities of daily living, smokers had significantly poor scores in all the SF-36 dimensions.²⁰ Martinez et al. reported that smokers had significantly lower scores obtained from the 5 domains of the SF-36 scale (physical functioning, general health perceptions, vitality, social functioning, mental health index) when compared to nonsmokers.²¹ When we look at all those studies, in line with the results of our study, the HRQOL was poor in smokers than in nonsmokers.

There was a negative correlation between the amount of cigarette smoked (package/year) and the HRQOL, and also that, as the amount of cigarette smoked increased in terms of package/year, the scores received from the all dimensions of the SF-36 scale showed significant decrease ($p < 0.05$, for each domain). Another study has shown that, as the amount of cigarette smoked increased, the scores received from the all domains of the SF-36 scale showed significant decrease.²²

In our study, 42.1% of the smokers reported that they started smoking at the age of 19 years or earlier. Similar results have been reported in other studies as well.²² All this shows that there is a need to enlighten the public about adverse effects of smoking on the health.

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