

# Do We Properly Manage Smoking Cessation as a Part of Our Daily Practice? A Pilot Study from a University Hospital

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## Abstract

**BACKGROUND/AIMS:** Smoking is common affecting millions of subjects worldwide and is linked to numerous medical disorders. We aimed to determine and to evaluate the appropriateness of smoking cessation counseling to adult active smokers.

**MATERIALS AND METHODS:** This cross-sectional study conducted between October 2014-May 2015 and statistical analysis of the data was performed in June 2015 in a university hospital. Adult patients under 65 years of age seen at the general internal medicine clinics were asked to fill in a questionnaire about smoking habits, doctors' questioning about smoking status, and advice received about smoking cessation.

**RESULTS:** A total of 512 patients (64.6% females) with a mean age of  $39 \pm 14$  years completed the questionnaire. Of them, 142 (27.7%) were active smokers. The mean age of the current smokers was  $39 \pm 12$  years and 52.1% were females. Fagerström test revealed that 33.8% of them were high-dependent smokers. Among the smokers, 135 (95.1%) reported having been asked about their smoking status and 72.5% had been advised to quit smoking. Any method to quit smoking was discussed with only 41 (28.9%) of smokers. The most common advice was to visit the smoking cessation clinic of the same hospital. The advice rate for smoking cessation did not change with regard to the dependence score.

**CONCLUSION:** Although asking about smoking was a common practice in internal medicine clinics, advising about cessation and discussing methods for cessation in particular, were not parts of the doctor visit in many of the patient-doctor encounters. Smoking cessation counseling should be an indispensable part of the patient examination.

**Keywords:** Smoking, tobacco, cessation, preventive medicine

## INTRODUCTION

Tobacco consumption is a common addiction affecting millions of people worldwide and is linked to numerous medical disorders. According to World Health Organization (WHO), the leading causes for mortality are ischemic heart diseases, stroke and chronic obstructive heart diseases globally.<sup>1</sup> Smoking is the most important reason for preventable mortality and

morbidity.<sup>2</sup> More than 8 million deaths are attributed to tobacco annually: more than 7 million of those deaths are the result of direct tobacco use while around 1.2 million are due to exposure to second-hand smoke. Over 80% of the world's 1.3 billion tobacco users live in low- and middle-income countries.<sup>3</sup> The mortality risk of current smokers, compared to never smokers, have been reported as 198% higher for liver cancer among men, 128% higher for cervical cancer among women, and 92% higher

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for stomach cancer among women.<sup>4</sup> By 2030, tobacco use is forecasted to produce the largest burden of premature mortality and disability in the world compared to other health risk factors.<sup>5</sup> While the average incidence of tobacco product use among individuals 15 years and over was 18% in 2017 in Organization for Economic Co-operation and Development (OECD) countries, the same incidence was reported as 27% in Turkey in 2016.<sup>6</sup> The total economic cost of smoking (from health expenditures and productivity losses together) totaled \$1,852 billion (\$1,436 billion) in 2012, equal in magnitude to 1.8% of the world's annual gross domestic product (GDP).<sup>7</sup> In the United States of America, estimated annual smoking-attributable economic costs for the years, 2009–2012 were reported as between \$289–332.5 billion.<sup>8</sup>

It has been shown that the cessation of smoking is related to a decrease in morbidity and mortality due to tobacco-related diseases.<sup>9,10</sup> Smoking is the most important modifiable risk factor for atherosclerotic diseases, so it is recommended to quit smoking for all smokers for a healthy life. Despite the use of various drugs and non-pharmaceutical approaches to manage tobacco dependence, the rate of smoking cessation is far below the targets.<sup>11</sup> Asking about smoking habits and advising about cessation should be an important part of each patient-doctor encounter. However, this important step is being overlooked in busy medical clinics in routine practice. We aimed to determine the nicotine dependence level of adult patients seen at a university hospital's internal medicine outpatient clinic and to evaluate the appropriateness of smoking cessation counseling by physicians.

## MATERIALS AND METHODS

This study was conducted as a cross-sectional study between October 2014 and May 2015 in the general internal medicine outpatient clinic of a university hospital. The study protocol was approved by the institutional Ethics Committee of Hacettepe University Faculty of Medicine (decision no: 14/275, date: 04.06.2014). Adult patients between 17 and 64 years of age were asked for informed consent and those who consented were asked to fill in a questionnaire after their doctor visits. The questionnaire included questions about demographic data, presence of chronic medical illnesses, smoking habits, doctors' questioning about smoking status and advices received about smoking cessation. Components of Fagerström nicotine dependence scale<sup>12</sup> were asked in the questionnaire (smoking frequency, in which hours of the day smoking occurs, smoking status in restricted areas or when they are ill) to determine the nicotine dependence scale of the subjects. Total scores were classified according to Turkish Thoracic Society guidelines:<sup>13</sup> 0–1 as low dependence, 2–3 low-to-moderate, 4–5 as moderate and 6–7 as high, and 8 and above as very high nicotine dependence. Patients were grouped into two

categories for comparison: low-level nicotine dependence (if the score was between 0–5) and high-level dependence (if the score was 6 and higher).

## Statistical Analysis

Data were analyzed by SPSS 21.0 (SPSS INC., Chicago, IL, USA) statistical program. Non-parametric data were given as percentages (%). Continuous numerical data were analyzed for normal distribution and normally distributed continuous numerical data were given as mean  $\pm$  standard deviation. Median (minimum-maximum) was used if the data were not distributed normally. Low-level dependence and high-level dependence groups were compared with Fisher's exact test or chi-square test where appropriate. Correlation analyses were performed with Pearson and Spearman tests. P-values less than 0.005 were accepted as statistically significant.

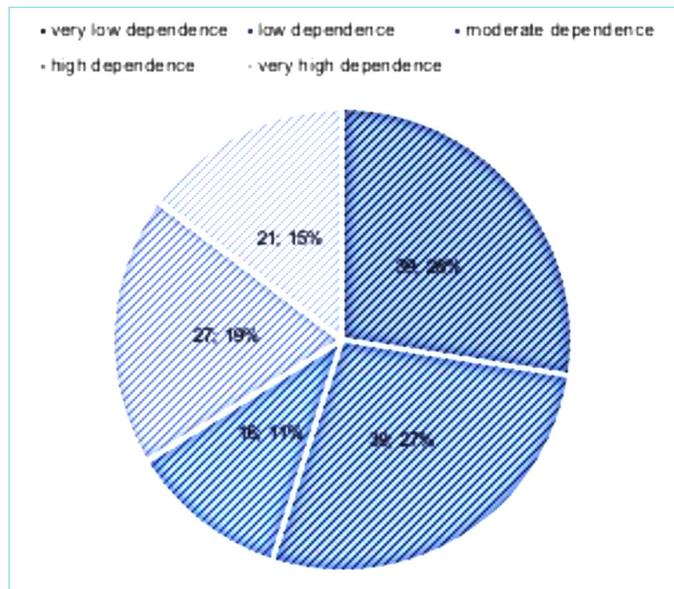
## RESULTS

Total of 512 patients consented for the study and completed the questionnaire. Mean age of the subjects were  $39 \pm 14$  years and females constituted 64.6% of the study population (Table 1). Active smokers constituted 27.7% of the study group (n=142). The mean age of the smokers were  $39 \pm 12$  years and 52.1% of them were female. There were statistically significant differences between active smokers and non-smokers with regard to gender and status of occupation (Table 1). At least one chronic illness was present in 19.7% of smokers.

According to the Fagerström nicotine-dependence scale, 33.8% of the active smokers were very highly dependent. Pie-chart shows the distribution of smokers according to Fagerström nicotine dependence test in numbers and percentages (Figure 1).

Among the active smokers, 135 (95%) reported that doctors in the current encounter inquired about the smoking status and 103 (72.5%) of them were advised to quit smoking. However, only 41 smokers (28.9%) were advised at least one method for smoking cessation. The most common method recommended to quit smoking was the recommendation to consult the "smoking cessation department" of the same institution. Figure 2 shows the frequency of cessation methods advised to active smokers. Advice rates to quit smoking were not different with regard to different nicotine dependence levels, daily cigarette consumption volume, presence of chronic medical illness or gender. However, smokers aged 46–55 years were advised significantly more about quitting smoking ( $p=0.018$ ). Advice rates to use any cessation method did not differ with regard to nicotine dependence or gender, while smokers without any chronic medical illness was given advice on at least one of the cessation methods ( $p=0.020$ ).

Sixty-one percent of active smokers had at least one smoker in the household, whereas 41% of non-smokers had at least one



**Figure 1.** Figure showing the distribution of smokers according to Fagerström nicotine dependence test in numbers and percentages.

smoker household contact and this was statistically significant ( $p < 0.01$ ). The frequency of having at least one smoker household did not differ significantly among subjects with high-level nicotine dependence and low-level nicotine dependence (54.2% vs. 64.9%, respectively;  $p = 0.215$ ). Thirty-seven (26.4%) of the active smokers admitted that they were not supported by their family members or household contacts about smoking cessation and there was no difference between low-level and high-level dependence groups with regard to family support (26.4% vs. 25%, respectively;  $p = 0.860$ ).

## DISCUSSION

In this study, we evaluated the nicotine dependence level of adult patients seen at a university hospital internal medicine outpatient clinic and the appropriateness of smoking cessation counseling by the physician. As we evaluated the clinical approach of internists with regard to inquiring smoking habits of their patients, we did not inform the doctors about the contents of questionnaire in order not to create a bias. Moreover, patients were interviewed in the outpatient clinic in separate rooms. We found that physicians advised to quit smoking in 72.5% of the encounters with active smokers and any method to quit smoking was discussed in less than one-third of the encounters.

In former studies, doctors questioned about the smoking status in 67%–88% of the subjects, while they advised to quit smoking to 17%–49% of active smokers.<sup>14–18</sup> A population-based phone call study reported that 70% of smokers were given an advice on smoking cessation in the past 12 months.<sup>19</sup> In two different studies, 50%–53.3% of the smokers who were advised to stop smoking were recommended any method of cessation, the majority of which was nicotine replacement therapy.<sup>20,21</sup> In a recent study, Keto et al.<sup>22</sup> pointed out that the doctors' awareness of smoking was the most important public health issue for their country, but practical cessation support to their patients was rare. Besides impressive global and national tobacco control efforts in the last decades, the recommendation of any method for quitting in non-cessation clinics has undramatically increased during this time.

This study did not outline the physicians' perspective about the barriers against tobacco cessation. However, studies elsewhere showed a spectrum of barriers: information level of physicians

**Table 1. Demographic data of the patients concerning the smoking status**

	All patients (n=512)	Active smokers (n=142)	Non-smokers (n=370)	p-value
Age, mean ± SD (years)	38±14	39±12	38±14	0.622
Gender; female	331 (64.6)	74 (52.1)	257 (69.5)	<0.001
Occupational status (no occupation)	192 (37.5)	42 (29.6)	150 (40.1)	0.016
Area of accommodation (rural area)	491 (95.7)	136 (95.7)	344 (92.9)	0.711
Marriage status (married)	319 (62.3)	87 (61)	227 (61.3)	0.78
Educational status (high school and higher)	361 (70.5)	101 (71.1)	260 (76.5)	0.840
Presence of chronic illness	87 (17)	28 (19.7)	59 (15.9)	0.38
Chronic obstructive lung disease	6 (1.2)	1 (0.7)	5 (1.4)	0.543
Asthma	29 (5.7)	10 (7)	19 (5.1)	0.404
Coronary heart disease	7 (1.4)	2 (1.4)	5 (1.4)	0.960
Diabetes mellitus	49 (9.6)	16 (11.3)	33 (8.9)	0.419
Cancer	5 (1)	1(0.7)	4 (1.1)	0.698

Numbers in the parentheses denote the percentages.  
SD: standard deviation, n: number.

about clinical guidelines,<sup>19</sup> experiences in cessation practice, timelessness, the patients' willingness and physicians' smoking status.<sup>19,20,22</sup> Whatever the barriers are, even simple questions about smoking habits and willingness to quit smoking will help.<sup>23-25</sup> A Cochrane meta-analysis in 2013<sup>26</sup> reported that even brief advice about smoking cessation increased cessation rates at almost 1%–3%. Also, Aveyard et al.<sup>27</sup> specified the importance of offering any support for quitting smoking will motivate an additional 40%–60% of smokers attempting to stop compared to a brief advice about smoking cessation. As 80% of the smokers is estimated to visit at least one doctor in a year, this must be an opportunity to advise smokers about smoking cessation. In the scope of preventive medicine, healthy life measures are being advised to individuals in clinical encounters but advice on smoking cessation is not made routinely.<sup>19,28</sup> United States Preventive Services Task Force<sup>29</sup> and local guidelines<sup>13</sup> recommend both behavioral interventions and pharmacotherapy or combination of these deciding according to the patient's medical history, preferences and feasibility. Although brief behavioral counseling increases the cessation rates significantly, longer counseling time in a multidisciplinary approach causes higher cessation rates (at least four session and 90 min of total counseling by physicians, nurses, psychologists, social workers and cessation counselors). Phone counseling and self-help materials are also effective in cigarette cessation. Pharmacotherapy with nicotine replacement therapy (NRT), bupropion sustained release (SR) and varenicline causes significant (17%, and 28%, and 19%, respectively) smoking abstinence compared to controls. Combination pharmacotherapy with two NRT or NRT plus bupropion SR is more effective than single agent therapy.<sup>13,29</sup>

An important point is that active smokers had a significantly higher rate of smokers in their family member or household contacts than non-smokers. This may underline the demoralizing effect of family and circumference on the personal will and circumstances to quit smoking.<sup>30</sup> Future studies may reveal the additional benefit on smoking cessation rates of the family or partner counseling on the behavior of the smokers.

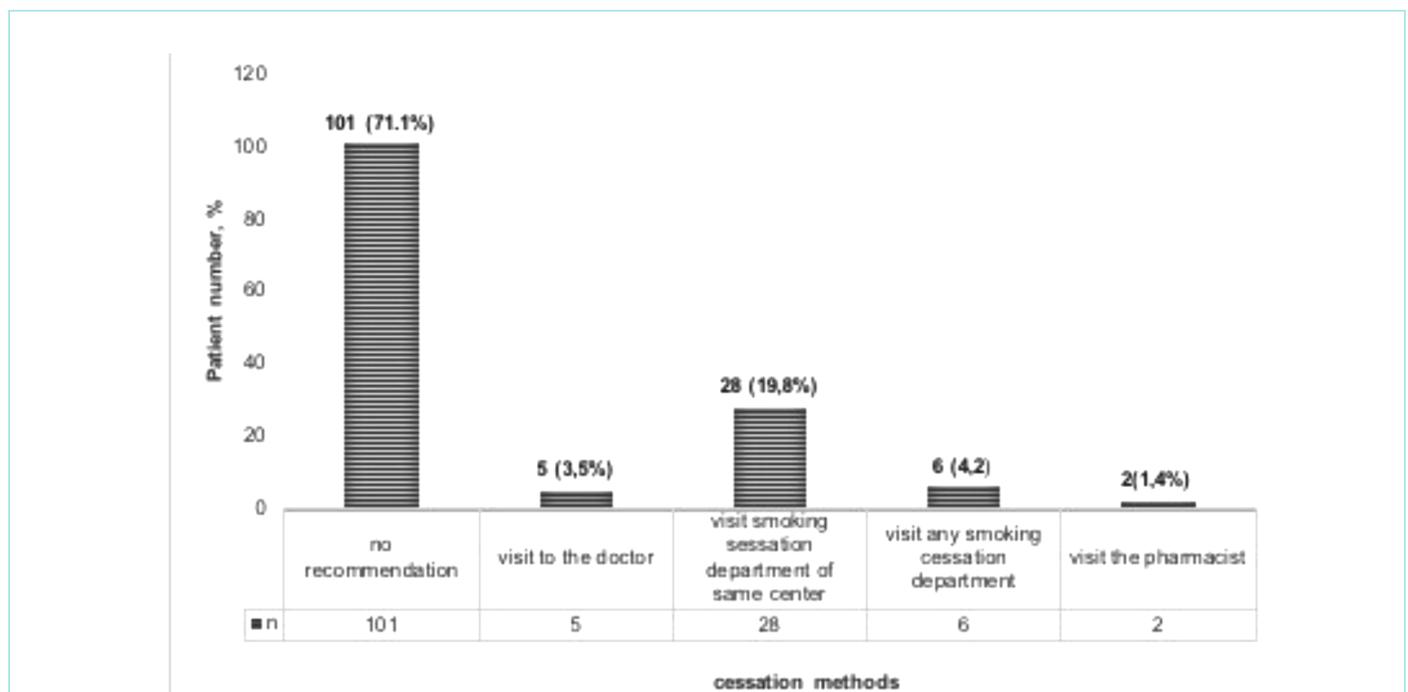
Our study has some limitations: the study population was small. The physicians were aware of a study undertaken in the clinic, but they do not know the scope of the questions. Also, the physicians were changing monthly, indeed, which might be an opportunity observe the behavior of more physicians.

## CONCLUSION

Our study showed that great majority of the individuals are being asked about smoking habits and two-thirds of active smokers were advised to quit smoking but only one-third of active smokers received a formal methodological recommendation about smoking cessation. Smoking cessation counseling should be an indispensable part of the patient-doctor encounter.

## MAIN POINTS

- Asking about smoking habits and advising about cessation should be an important part of each patient-doctor encounter.
- We found that physicians advised to quit smoking in 72.5% of the encounters with active smokers. However, only 41



**Figure 2.** Figure showing the distribution of smokers according to Fagerström nicotine dependence test in numbers and percentages.

smokers (28.9%) were advised at least one method for smoking cessation.

- Doctors should not only recommend smoking cessation, but also have information about smoking cessation methods.

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## ETHICS

**Ethics Committee Approval:** The study protocol was approved by the institutional Ethics Committee of Hacettepe University Faculty of Medicine (decision no: 14/275, date: 04.06.2014).

**Informed Consent:** Adult patients between 17 and 64 years of age were asked for informed consent and those who consented were asked to fill in a questionnaire after their doctor visits.

**Peer-review:** Externally peer-reviewed.

## Authorship Contributions

Conception: N.Ç.B., L.Ö., O.A.U., M.D.T., Ş.G.Ö., G.S.G., Design: N.Ç.B., L.Ö., O.A.U., M.D.T., Ş.G.Ö., G.S.G., Supervision: N.Ç.B., M.D.T., Ş.G.Ö., G.S.G., Data Collection and/or Processing: N.Ç.B., Analysis and/or Interpretation: N.Ç.B., L.Ö., Literature Search: N.Ç.B., L.Ö., O.A.U., G.S.G., Writing: N.Ç.B., M.D.T., Critical Review: N.Ç.B., M.D.T., Ş.G.Ö., G.S.G.

## DISCLOSURES

**Conflict of Interest:** The authors declare no conflict of interest.

**Financial Disclosure:** The authors declare that this study received no financial support.

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