

ORIGINAL ARTICLE

RELATIONSHIP BETWEEN CARDIOLOGISTS' SMOKING STATUS AND ATTITUDES TOWARD SMOKING CESSATION MANAGEMENT

Muharrem Said Cosgun¹¹Erzincan Binali Yildirim University, Erzincan, Turkey

Objectives: This study aimed to examine the relationship between cardiologists' smoking habits and their attitudes toward smoking cessation management.

Methodology: This cross-sectional study collected data from cardiologists actively working at 56 different centres in 2021. A questionnaire was sent to cardiologists via e-mail. Participation was voluntary.

Results: A total of 218 cardiologists, 183 (83.9%) nonsmokers and 35 (16.1%) smokers, were included in the study. The median age of the participants was 46 years (range: 31–69 years), and 75.7% (n = 165) were male. There were no statistically significant differences between the smokers and nonsmokers in terms of demographic characteristics. More nonsmoking than smoking cardiologists advised their patients to quit smoking (71% vs. 37.1%; $p < 0.001$). However, there were no statistically significant differences between the two groups in terms of pharmacological therapy (34.9% vs. 28.6%; $p = 0.464$), psychological support (23% vs. 17.1%; $p = 0.447$), or electronic cigarette recommendations (3.3% vs. 8.6%; $p = 0.149$), and most participants made no relevant recommendations (66.1%, 78%, and 95.9%, respectively).

Conclusion: Cardiologists' smoking habits directly affect their attitudes toward smoking cessation management. The significant benefits of quitting smoking for cardiovascular disease prevention require that cardiologists make stronger recommendations for smoking cessation therapies and counseling to their patients.

Keywords: addiction, dependence, cardiologist, cardiovascular prevention, counseling, smoking, smoking cessation

Citation: Cosgun MS. Relationship between Cardiologists' Smoking Status and Attitudes toward Smoking Cessation Management. Pak Heart J. 2022;55(01):68-72. DOI: <https://doi.org/10.47144/phj.v55i1.2237>

INTRODUCTION

Smoking is recognized as the most common and dangerous addiction worldwide. It is considered one of the preventable causes of lung diseases, malignancies, and especially cardiovascular diseases.¹ Smoking is the leading cause of disability after hypertension worldwide and causes more deaths than alcohol and drug addiction, or even traffic accidents.² A lifetime smoker has a 50% chance of dying from smoking and will die 10 years early on average.³ There are more than one billion smokers worldwide, and smoking plays a role in approximately eight million deaths annually. Smoking is a cause of severe morbidity and mortality worldwide. About a quarter of the population of Europe and USA are smokers.^{4,5} In these regions, which have the highest tobacco-related mortality rates, approximately 16% of deaths are associated with tobacco use.⁶ Despite a decline in the prevalence of smoking, tobacco use in high-income countries remains a significant risk factor for morbidity and mortality.⁷ Although many countries have implemented programs for smoking cessation, public awareness is not yet at the desired level.⁸

Smoking cessation plays an essential role in preventing and treating cardiovascular diseases.⁹ It has

been shown that smoking cessation interventions conducted by health professionals can increase the smoking cessation rates.¹⁰ However, healthcare professionals' own smoking habits can set a negative example for patients, and nonsmoking healthcare professionals can persuade patients to quit smoking more easily.¹¹

Cardiologists should consider patient risk modifications with lifestyle changes and preventive measures to reduce morbidity and mortality during cardiovascular disease management. Such strategies can offer patients more benefits at lower costs. However, the cardiologist's smoking habit may interfere with this benefit. This study aimed to examine the relationship between cardiologists' smoking habits and their attitudes toward smoking cessation management.

METHODOLOGY

A total of 312 cardiologists working actively in 76 different centers were invited to this cross-sectional study in 2021. A questionnaire was sent to cardiologists via e-mail who attended the webinar held on December 10, 2021, organized by the Turkish Society of Cardiology's Preventive Cardiology and

Atherosclerosis Working Group. They were asked to answer the questionnaire within a week. Participation was voluntary. Only active smokers were asked to answer questions about smoking habits and the open-access Fagerström Test for Nicotine Dependence (FTND). The questionnaire consisted of 21 questions. Seven questions were related to demographic characteristics, two questions were about physicians' attitudes toward smoking cessation management, and 12 questions—six of which were from the FTND— inquired about their smoking status.

The participants were divided into smoker and nonsmoker groups. The definition of a smoker is someone who smokes tobacco daily. Former smokers were included in the nonsmoker group. In FTND scoring, binary items were scored as 0 or 1, and multiple-choice items were scored from 0 to 3. The scores were then added to give a total score of 0–10. The higher the total score, the greater the respondent's physical dependence on nicotine. According to the FTND, 0–2 points represent mild nicotine dependence, 3–7 points represent moderate dependence, and 8–10 points represent severe dependence.

Ethics approval was obtained from the Local Ethics Committee (approval number: 13/04; date: December 6, 2021). Before starting the questionnaire, a consent form was obtained from each participant.

Categorical variables were compared with the chi-square test and shown as percentages. Continuous variables were shown as mean ± standard deviation if normally distributed and median (range) if not normally distributed. For the analysis of continuous variables, their distribution was evaluated using the One-Sample Kolmogorov-Smirnov test. The *t*-test was used in the continuous variables between the two groups normally distributed, and the Mann-Whitney *U* test was used if they were not normally distributed. Statistical significance value was considered as *p* ≤ 0.05. All data obtained were transferred to SPSS version 22 and analyzed (IBM, SPSS Statistics, USA).

RESULTS

A total of 218 cardiologists working at 56 different centers participated in the study. One-third of the cardiologists invited refused to participate. The numbers of smokers, never smokers, and former smokers are shown in Table 1.

Table 1: Smoking status of the participants

	Frequency (%)
Smokers	35 (16.1)
Nonsmokers	183 (83.9)
Never smokers	128 (58.7)
Former smokers	55 (25.2)

The median age of the participants was 46 years (range: 31–69 years), and 75.7% (n = 165) were male. The demographic characteristics of the smoker and nonsmoker groups are presented in Table II. There were no statistically significant differences between the two groups in terms of age (*p* = 0.142), gender (*p* = 0.281), marital status (*p* = 0.242), institution (*p* = 0.837), occupational title (*p* = 0.328), or professional experience (*p* = 0.684).

The smoking characteristics of the smoker group are shown in Table 3. More than half of the participants in this group were long-term smokers (≥5 years). The participants most frequently smoked at the hospital, and most had tried to quit smoking more than once. Almost all smokers wanted to quit, but only half thought that they could. According to the FTND, most participants were mildly or moderately dependent on nicotine

More nonsmoking than smoking cardiologists advised their patients to quit smoking (71% vs. 37.1%; *p* < 0.001). However, there were no statistically significant differences between the two groups in terms of pharmacological therapy (34.9% vs. 28.6%; *p* = 0.464), psychological support (23% vs. 17.1%; *p* = 0.447), or electronic cigarette (e-cigarette) recommendations (3.3% vs. 8.6%; *p* = 0.149), and most participants made no relevant recommendations (66.1%, 78%, and 95.9%, respectively; Table 4).

Table 3: Smoking characteristics of the smoker group

	n (%)
How long have you been smoking?	
<1 year	7 (20)
1–5 years	10 (28.6)
>5 years	18 (51.4)
Where do you smoke the most?	
At home	3 (8.6)
At the hospital	20 (57.1)
In the car	5 (14.3)
Outdoors	7 (20)
Have you ever tried to quit smoking?	
No	3 (8.6)
Once	11 (31.4)
More than once	21 (60)
Do you want to quit smoking?	
Yes	32 (91.4)
No	3 (8.6)
Can you quit smoking if you want to?	
Yes	18 (51.4)
No	17 (48.6)
Fagerström Test for Nicotine Dependence	
Mild dependence (0–2)	15 (42.9)
Moderate dependence (3–7)	16 (45.7)
Severe dependence (8–10)	4 (11.4)

Table 2: Comparison of the demographic characteristics of the participants according to smoking status

	All participants (n = 218)	Nonsmokers (n = 183)	Smokers (n = 35)	p-value
Age (years), median (range)	46 (31–69)	48 (32–69)	42 (31–62)	0.142
Gender, n (%)				
Male	165 (75.7)	136 (74.3)	29 (82.9)	0.281
Female	53 (24.3)	47 (25.7)	6 (17.1)	
Marital status, n (%)				
Married	188 (82.2)	160 (87.4)	28 (80)	0.242
Single/widow/ divorced	30 (13.8)	23 (12.6)	7 (20)	
Institution, n (%)				
Public hospital	128 (58.7)	108 (59)	20 (57.1)	0.837
Private hospital	90 (41.3)	75 (41)	15 (42.9)	
Occupational title, n (%)				
Specialist physician	158 (72.5)	135 (73.8)	23 (65.7)	0.328
Academician	60 (27.5)	48 (26.2)	12 (34.3)	
Experience (years), median (range)	12 (1–36)	12 (2–36)	10 (1–30)	0.684

Table 4: Smoking cessation management attitudes of the participants according to smoking status

	All participants (n = 218)	Nonsmokers (n = 183)	Smokers (n = 35)	p-value
Do you advise your patients to quit smoking?				
Yes, n (%)	143 (65.6)	130 (71)	13 (37.1)	< 0.001
No, n (%)	75 (34.4)	53 (29)	22 (62.9)	
Do you offer your patients pharmacological support to quit smoking?				
Yes, n (%)	74 (33.9)	64 (34.9)	10 (28.6)	0.464
No, n (%)	144 (66.1)	119 (65.1)	25 (71.4)	
Do you offer your patients psychological support to quit smoking?				
Yes, n (%)	48 (22)	42 (23)	6 (17.1)	0.447
No, n (%)	170 (78)	141 (77)	29 (82.9)	
Do you recommend electronic cigarettes to your patients to quit smoking?				
Yes	9 (4.1)	6 (3.3)	3 (8.6)	0.149
No	209 (95.9)	177 (96.7)	32 (91.4)	

DISCUSSION

This study contributes important data on cardiologists' smoking habits and smoking cessation attitudes to the literature. Our findings show that nonsmoking cardiologists advised patients to quit smoking at a higher rate than their smoking colleagues. However, overall, the participants exhibited low rates of recommending pharmacological therapy, psychological support, and e-cigarettes, which can facilitate smoking cessation.

Few studies have reported on cardiologists' smoking habits and smoking cessation management attitudes. Studies conducted in France found that 8.1–14% of cardiologists were smokers. Cardiologists who smoked were less likely to ask their patients about their smoking status, were more passive in providing smoking cessation counseling, and were less likely to refer their patients to a smoking cessation center than nonsmoking cardiologists. Also, only one-third felt competent in smoking cessation management.^{12, 13} Similarly, studies conducted in Italy showed that 9.5–12.4% of cardiologists were smokers and that most of them did not feel competent in smoking cessation management.^{14, 15} In a study of physicians in the Netherlands, the smoking rates were 8.2% among

family physicians, 4.3% among cardiologists, and 3.5% among pulmonologists. Pulmonologists had the highest rate of patient referral to a smoking cessation center.¹⁶ In a study of family physicians in our country, the rate of smoking was reported as 21.1%.¹¹ Our results are consistent with the studies of Tessier and Faggioli.^{13, 15} The rate of smoking cardiologists in our study was 16.1%.

There is great impetus to quit smoking during the diagnosis or treatment of cardiovascular diseases. All smoking patients should be encouraged to quit smoking and avoid secondhand smoking as much as possible.¹⁷ Medication support should be considered for all patients who want to quit smoking. Evidence-based drug interventions include nicotine replacement therapy, bupropion, and varenicline.¹⁸ The risk of serious cardiovascular adverse events is not increased during or after such treatments.¹⁹ A multicenter study showed that varenicline treatment and psychological support reduced withdrawal symptoms in patients after acute coronary syndrome.²⁰ In our study, nonsmoking cardiologists were more oriented toward smoking cessation than their smoking colleagues. However, there were no significant differences between them in terms of offering pharmacological or psychological support, and the rates were lower than expected. Although people who quit smoking can gain

an average of 5 kg, the health benefits of quitting outweigh the risks from weight gain.²¹ Relapse is common among people suffering from depression who quit smoking.²² Psychological support can improve the outcomes of patients with current or past depression.²³

E-cigarettes deliver nicotine without most of the chemicals contained in tobacco and are probably less harmful than tobacco. Recent evidence suggests that e-cigarettes are more effective in smoking cessation than nicotine replacement therapy.²⁴ However, their long-term effects on cardiovascular and lung health require further research. Moreover, their addictive properties should not be ignored, and their concurrent use with cigarettes should be avoided.²⁵ In our study, like the rates of offering pharmacological treatment and psychological support, the rate of recommending e-cigarettes was considerably lower than expected and was not related to the physicians' smoking habits.

The main limitation of this study is that although the questionnaire was sent to many cardiologists, the response rate was low.

CONCLUSION

Cardiologists play a lesser-than-anticipated role in the smoking cessation management of their patients, and their own smoking habits directly influence their attitudes toward it. The significant benefits of smoking cessation in preventing cardiovascular disease require that cardiologists make stronger recommendations for smoking cessation therapies and counseling to their patients. More research is needed to identify the barriers to improving cardiologists' clinical attitudes.

AUTHORS' CONTRIBUTION:

MSC: Concept and design, data acquisition, interpretation, drafting, final approval, and agree to be accountable for all aspects of the work.

Conflict of interest: Authors declared no conflict of interest.

REFERENCES

- Sealock T, Sharma S. Smoking Cessation. 2022 Jan 28. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan.
- Stanaway JD, Afshin A, Gakidou E, Lim SS, Abate D, Abate KH, et al. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet*. 2018;392(10159):1923-94.
- Gakidou E, Afshin A, Abajobir AA, Abate KH, Abbafati C, Abbas KM, et al. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet*. 2017;390(10100):1345-422.
- Attitudes of Europeans towards tobacco and electronic cigarettes: Publications Office of the European Union. [on internet]. 2015[cited 2022 Jan 15];7-12 Available from: <https://op.europa.eu/en/publication-detail/-/publication/0da76583-d3af-11e5-a4b5-01aa75ed71a1/language-en/format-PDF>.
- Abuissa H, Lavie C, Spertus J, O'Keefe J Jr. Personal health habits of American cardiologists. *Am J Cardiol*. 2006;97(7):1093-6.
- Mortality Attributable to Tobacco: World Health Organization. [on internet] 2012[cited 2022 Jan 15];14. Available from: https://apps.who.int/iris/bitstream/handle/10665/44815/9789241564434_eng.pdf?sequence=1&isAllowed=y.
- Jha P. The hazards of smoking and the benefits of cessation: a critical summation of the epidemiological evidence in high-income countries. *Elife*. 2020;9:e49979.
- Song Y, Zhao L, Palipudi KM, Asma S, Morton J, Talley B, et al. Tracking MPOWER in 14 countries: results from the Global Adult Tobacco Survey, 2008-2010. *Glob Health Promot*. 2016;23(2_suppl):24-37.
- Odorico M, Le Goff D, Aerts N, Bastiaens H, Le Reste JY. How To Support Smoking Cessation In Primary Care And The Community: A Systematic Review Of Interventions For The Prevention Of Cardiovascular Diseases. *Vasc Health Risk Manag*. 2019;15:485-502.
- Cheung YTD, Jiang N, Jiang CQ, Zhuang RS, Gao WH, Zhou J, et al. Physicians' very brief (30-sec) intervention for smoking cessation on 13 671 smokers in China: a pragmatic randomized controlled trial. *Addiction*. 2021;116(5):1172-85.
- Atayoglu AT, Tokaç M, Dogan S, Güner AE, Kocayigit E, Güner M. Smoking status of family physicians and their attitude on smoking cessation. *Anatol J of Family Med*. 2021;4(1):85-91.
- Aboyans V, Pinet P, Lacroix P, Laskar M. Knowledge and management of smoking-cessation strategies among cardiologists in France: a nationwide survey. *Arch Cardiovasc Dis*. 2009;102(3):193-9.
- Tessier JF, Thomas D, Nejari C, Belougne D, Freour P. Attitudes and opinions of French cardiologists towards smoking. *Eur J Epidemiol*. 1995;11(6):615-20.
- Frasinghelli A, Cesana F, Clavario P, Mureddu GF, Temporelli PL, Cherubini A, et al. Italian cardiologists and tobacco smoking. A survey on the prevalence and knowledge of smoking and strategies for smoking cessation in a cohort of Italian cardiologists. *G Ital Cardiol (Rome)*. 2015;16(7-8):426-32.
- Faggiano P, Temporelli PL, Zito G, Bovenzi F, Colivicchi F, Fattiroli F, et al. Cardiovascular risk profile and lifestyle habits in a cohort of Italian cardiologists. Results of the SOCRATES survey. *Monaldi Arch Chest Dis*. 2013;80(3):118-25.
- Kotz D, Wagena EJ, Wesseling G. Smoking cessation practices of Dutch general practitioners, cardiologists, and lung physicians. *Respir Med*. 2007;101(3):568-73.
- Visseren FLJ, Mach F, Smulders YM, Carballo D, Koskinas KC, Böck M, et al. 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice: Developed by the Task Force for cardiovascular disease prevention in clinical practice with representatives of the European Society of Cardiology and 12 medical societies With the special contribution of the European Association of Preventive Cardiology (EAPC). *Eur Heart J*. 2021;42(34):3227-337.
- Hartmann-Boyce J, Chepkin S, Ye W, Bullen C, Lancaster T. Nicotine replacement therapy versus control for smoking cessation. *Cochrane Database Syst Rev*. 2018;5(5):CD000146.
- Benowitz NL, Pipe A, West R, Hays JT, Tonstad S, McRae T, et al. Cardiovascular safety of varenicline, bupropion, and nicotine patch in smokers: a randomized clinical trial. *JAMA intern med*. 2018;178(5):622-31.
- Cordero A, Bertomeu-Martínez V, Mazón P, Cosín J, Galve E, Lekuona I, et al. Attitude and efficacy of cardiologists with respect to smoking in patients after acute coronary syndromes. *Rev Esp Cardiol (Engl Ed)*. 2012;65(8):719-25.

21. Hu Y, Zong G, Liu G, Wang M, Rosner B, Pan A, et al. Smoking cessation, weight change, type 2 diabetes, and mortality. *N Engl J Med.* 2018;379(7):623-32.
22. Steinberg ML, Williams JM, Li Y. Poor Mental Health and Reduced Decline in Smoking Prevalence. *Am P Prev Med.* 2015;49(3):362-9.
23. García-Gómez L, Hernández-Pérez A, Noé-Díaz V, Riesco-Miranda JA, Jiménez-Ruiz C. Smoking Cessation Treatments: Current Psychological and Pharmacological Options. *Rev Invest Clin.* 2019;71(1):7-16.
24. Hajek P, Phillips-Waller A, Przulj D, Pesola F, Myers Smith K, Bisal N, et al. A randomized trial of e-cigarettes versus nicotine-replacement therapy. *N Engl J Med.* 2019;380(7):629-37.
25. Kavousi M, Pisinger C, Barthelemy J-C, Smedt DD, Koskinas K, Marques-Vidal P, et al. Electronic cigarettes and health with special focus on cardiovascular effects: position paper of the European Association of Preventive Cardiology (EAPC). *Eur J Prev Cardiol.* 2020:2047487320941993.

Address for Correspondence:

Dr. Muharrem Said Cosgun, Assistant Professor, Medical Faculty, Department of Cardiology, Erzincan Binali Yildirim University, Erzincan, Turkey.

Email: drsaidcosgun2009@hotmail.com