Original Article

Smoking behavior of primary care physicians and its effect on their smoking counseling practice

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Abstract

Context: Smoking among the primary care physicians (PCPs) is detrimental to not only their own health but it may also affect their attitude and practice towards smoking cessation counseling. **Aims:** We aimed to assess the smoking behavior of primary care physicians and its effect on their patient smoking counseling practices. **Subjects and Methods:** A cross-sectional study was conducted among the primary care physicians (N = 261) working under the Ministry of Health in Riyadh city, Saudi Arabia during May to June 2018. The data was collected using a self-administered questionnaire that was based on global adult tobacco survey. The participants were selected through simple random sampling. **Results:** About 16% of PCPs were found to be current smokers while about 9.6% were ex-smokers. On binomial logistic regression current smoking was observed to be independently associated with gender, specialty, and years of work experience ($P < 0.01$). The practice of smoking cessation advice was found to be significantly associated with physicians' current smoking status after adjusting for other factors; PCPs who were non-smokers were 2.97 (95% CI 1.34-6.54) times more likely to always advice patients on cessation as compared to smoking colleagues. **Conclusions and Implications:** Smoking behavior of physicians was found to affect their patient smoking cessation counseling. This finding should be used in while planning and training staff for smoking cessation services in primary care settings.

Keywords: Primary care physicians, Saudi Arabia, smoking, smoking cessation counseling

Introduction

Tobacco consumption is among the leading causes of death in addition to contributing a significant proportion of morbidity. Annually, it is responsible for about 8 million deaths around the globe annually, claiming the lives of about half of its users.[1]

Smoking is a serious public health problem in Saudi Arabia. According to Saudi Health Interview Survey (SHIS), a national representative sample survey, the prevalence of current smoking has been reported to be 12.1% which is 23.7% among males and 1.5% among females.[2] However, in a recent study, the national prevalence of cigarette smoking has been estimated to be 21.4%.[3] As far as the prevalence of smoking among physicians in Saudi Arabia is concerned, it has been reported to be ranging from 10% to 21.8% as revealed by different studies.[4-8]

The recognition of primary health care as the most appropriate setting for smoking cessation counseling globally has led World Health Organization (WHO) recommending the integration of smoking cessation into primary health care.[9,10] The importance of primary care has been recognized in various measures such as advocacy building for World Health Organizations' Framework Convention on Tobacco Control among general public, portraying, and maintaining an image of non-smoking, ensuring smoke free environments by display of appropriate message

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through posters, adopting the principles of family medicine to spot, and target family members at risk of smoking initiation due to presence of a smoking family member and monitoring the smoking status of their patients.[10,11]

Primary care physicians (PCP), by virtue of being the first point of contact are an important stakeholder in controlling the menace of tobacco smoking, especially in communities with a huge burden of smoking. PCPs are at an important vantage point from which they can initiate smoking cessation counseling based on their patient interview, regardless of the fact the client is actively seeking it or not. While the family physicians are considered as an important influencer, their own smoking behavior has also been recognized an important component in helping clients quit tobacco.[12] Present study aimed to estimate the prevalence of smoking amongst primary care physician working under the Ministry of Health in Riyadh city, Saudi Arabia, and to examine its effect on their smoking cessation counseling practices.

Materials and Methods

A cross-sectional study was conducted among Primary care physicians, working in primary health centers under the ministry of health Riyadh, Saudi Arabia, during May-June 2018.

Sample size and sampling technique

The sample size was calculated based on anticipated proportion of current smoking to be 10.8% as reported by a recent study among primary care physicians in Riyadh,[8] confidence interval 95% and precision 3%. Applying these values in the context of total number of PCPs in Riyadh City under Ministry of Health, the minimum sample size was calculated to be 253. These physicians are distributed across five health sectors in the Riyadh City. The required number of primary care physicians from each sector was calculated using probability proportional to size and recruited accordingly.

Data collection tools

A pre-designed, pre-tested, self-administered questionnaire was used to collect the data. The questionnaire consisted of three sections; section-one dealing with the basic information of the respondents, section-two dealt with smoking behavior, and the subsequent section enquired about their smoking cessation counseling practices. The respondents were asked about their frequency of giving advice for smoking cessation in a 5-point scale— "always", "regularly", "often", "rarely", and "never". These responses were converted into binomial responses for data analysis into "always" and "not always".

Data management and analysis

The data was entered into Microsoft Excel program and analyzed using Statistical Package for Social Sciences (IBM SPSS v. 21). Descriptive analyses were done to present categorical variables as frequencies and percentages. Binomial logistic regression analysis was used to find out the association between the concerned variables. Statistical significance was set at $P < 0.05$.

Ethical considerations

Written informed consent was obtained from all participants before participating in the study. The subjects were ensured about the confidentiality. Ethical approval for this study was obtained from the Institutional Review Board, Ministry of Health, Saudi Arabia.

Results

Sample characteristics

The study sample comprised of about 58.2% males. The mean age of the study sample was 38 ± 8 years. Majority of the doctors belonged to 31–40 years age group (42.1%, $n = 110$), followed by 41–50 years (26.4%, $n = 69$), 20–30 years (21.8%, $n = 57$) and more than 50 years (9.6%, $n = 25$). More than half of the participants (57%, $n = 151$) were general practitioners, 37.2% ($n = 97$) were from family medicine (specialist/consultants) while about 5% ($n = 13$) were from other specialties. About 35% ($n = 92$) doctors were in active practice for less than 5 years, followed by 5–10 years (30.7%, $n = 80$), 11–15 years (17.6%, $n = 46$), 15–20 years (10.7%, $n = 28$), and 20 and more years (5.7%, $n = 15$).

Smoking behavior of the study participants

About 25.6% (67/261) respondents were found to have ever smoked, which included 16.1% (42/261) current smoker, and 9.6% (25/261) ex-smokers. Majority (43%) of those in the ever-smoked group reported to have smoked about 6–10 years, about 31% reported smoking for 5 years or less while about 10% had been smoking for more than 15 years. Majority of ever-smoked in our study sample were found to be moderate smokers with 57% (38/67) having daily consumption of 1 pack daily, about 21% (14/67) subjects were heavy smokers with the daily consumption of more than or equal to 2 packs of cigarettes and 22% (15/67) had daily consumption of less than 1 pack daily.

About 30% (13/42) current smokers never had attempted to quit smoking. About 45% (19/42) had strong desire to quit smoking, while 23% (10/45) reported that they had no desire to quit smoking at present.

Socio-demographic determinants of current smoking

As shown in Table 1, higher proportion of current smokers was observed among males, lower age groups, those in clinical practice since less than 5 years and those belonging to general practice and other specialties as compared to family medicine. After applying multivariable logistic regression analysis; current smoking was observed to be independently associated with gender, specialty, and years of experience ($P < 0.01$), after adjusting for all the factors while age was not associated.

Table 1: Socio-demographic determinants of current smoking among the study participants (*n*=261)

Socio-demographic variable	*n*	Current Smokers *n* (%)	Adjusted OR (95% CI)	Sig
Gender				0.001
Male	152	36 (23.7)	1	
Female	109	6 (5.5)	0.201 (0.07-0.52)	
Age group				0.428
20-30 years	57	14 (24.6)	1	0.428
31-40 years	110	15 (13.6)	3.924 (0.74-20.54)	0.106
41-50 years	69	8 (11.6)	3.03 (0.68-13.40)	0.142
≥51 years	25	5 (20.0)	2.70 (0.63-11.65)	0.183
Work Experience				0.041
<5 years	92	25 (27.2)	1	
6-10 years	80	7 (8.8)	0.06 (0.01-0.79)	0.032
11-15 years	46	6 (13)	0.22 (0.02-2.91)	0.253
16-20 years	28	3 (10.7)	0.21 (0.02-2.559)	0.219
≥21 years	15	1 (6.7)	0.37 (0.03-4.87)	0.446
Specialization				0.018
Family Medicine	97	5 (5.2)	1	
General Practice	151	34 (22.5)	3.05 (0.56-16.50)	0.19
Others	13	3 (23.1)	0.65 (0.15-2.85)	0.57

Smoking behavior of PCPs and their smoking cessation practices

About 46.2% (122/261) PCPs in the present study "always" advised their patients for smoking cessation. On binomial regression, the practice of "always" advising for smoking cessation was found to have significant association with PCPs' current smoking status, after adjusting all other variables. Non-smoking PCPs were 2.97 (95% CI 1.34-6.54) times more likely to "always" advise patients for smoking cessation as compared to smoking PCPs [Table 2].

Discussion

About one quarter of the primary care physicians included in our study were found to be smokers or ex-smokers. The prevalence of current smoking (16%) was found to be slightly lower than the general population (21.8%) in Saudi Arabia. However, among female PCPs it was found to be higher than females in general population.[3] Estimates of smoking prevalence among physicians comparable to the current study has been reported by Al-Turkstani AH *et al.* from Makkah (18.7%).[4]

A lower prevalence of smoking among physicians as compared to our study has been reported by Mahfouz MA *et al.*[7] and Jradi *et al.*[8] which were 14.8% and 10.8%, respectively. A higher prevalence of the current smoking than the present study has been reported by Al Sharief A *et al.* from Jeddah (21.8%).[5] Studies in neighboring countries have reported it to be 23.1% in Doha, Qatar,[13] and 11% in Bahrain.[14]

We observed that current smoking was highest among those have been working less than 5 years indicating that the physicians tend towards smoking more-so during early practicing years. The lower prevalence among family medicine specialty signifies a good trend which needs to be explored as to why the general practice and other specialty have higher prevalence of smoking.

About half of the PCPs in our study had reported to always offer smoking cessation advice. Al-Ateeq *et al.* also reported that 64% PCPs in their study had the favorable practice of offering smoking cessation advice to patients.[6]

Our finding of smoking status affecting the smoking counseling practice of physicians has been corroborated by many other studies. For instance, a significant association between physicians smoking status and their behavior towards smoking cessation intervention has been reported by Mateusz Jankowski *et al.*[15] and Mustafa NS and Momen M.[16] Mizher *et al.* found that the frequency of smoking counseling among non-smoking physicians was significantly higher as compared to smoking physicians.[17] Mughal *et al.* have reported significantly lower odds of giving advice for smoking cessation among the general practitioners who were recent tobacco users.[18] Likewise similar findings have also been reported by Willaing and Ladelund S,[19] Pipe *et al.*[20] and Tang Y *et al.*[21] However, Jdani *et al.*[22] and Surrati A *et al.*[23] have reported no significant association between PCP's smoking status and their smoking cessation practices. It may be possible that the presence of dedicated smoking cessation clinics in their hospitals might have led the physicians in other clinics to not take cessation counseling seriously, leading to these low observed rates.

Smoking cessation has considered being the domain of primary care practice. We found the smoking behavior of the PCPs affecting their practice of offering smoking cessation advice. To achieve the objectives of the smoking control program, it is highly advisable to encourage the physicians to quit smoking. A targeted intervention should be adopted to support the PCPs to quitting smoking.

Table 2: Association of practice of smoking cessation advice with physicians' characteristics (*n*=261)

Variable	*n*	Always Advise for smoking cessation	Adjusted Odd's ratio (95% CI)	Sig.
Current Smoking				
Smokers	42	12 (28.6%)	1	
Non-smoker	219	110 (50.2%)	2.97 (1.34-6.54)	0.007
Gender				
Male	109	75 (61.5%)	1	
Female	152	47 (38.5%)	0.63 (0.37-1.08)	0.095
Age group				0.131
20-30 years	57	19 (15.6%)	1	
31-40 years	110	58 (47.5%)	1.83 (0.52-6.40)	0.342
41-50 years	69	35 (28.7%)	0.72 (0.24-2.15)	0.564
≥51 years	25	10 (8.2%)	0.74 (0.26-2.10)	0.574
Work Experience				0.760
<5 years	92	41 (33.6%)	1	
6-10 years	80	39 (32.0%)	0.49 (0.12-2.00)	0.327
11-15 years	46	23 (18.9%)	0.73 (0.19-2.79)	0.648
16-20 years	28	13 (10.7%)	0.76 (0.19-2.97)	0.694
≥21 years	15	6 (4.9%)	0.87 (0.22-3.48)	0.853
Specialty				0.966
Family Medicine	97	50 (51.5%)	1	
General Practice	151	66 (43.7%)	0.85 (0.24-3.01)	0.811
Others	13	6 (46.2%)	0.90 (0.26-3.09)	0.867

The sample has been drawn to ensure the representativeness of the study population. However, as the questionnaire was self-administered the possibility of social desirability bias cannot be ruled out and may have led to under reporting of smoking and over-reporting of offering cessation advice.

Conclusion

A significant proportion of primary care physicians in our study smoked cigarettes currently. While the burden of smoking is a matter of concern, it was also found to be negatively affecting their cessation counselling practice. A significant proportion of smoking doctors had never attempted to quit which reflects the attitude of the PCPs towards smoking. This in turn might be reflected in their cessation counselling practices. A qualitative approach is needed to explore the behavior of the smoking PCPs towards their smoking cessation counselling practices. A due consideration of smoking status of physician is prudent while planning for and training staff for the smoking cessation clinics at the primary health center to raise the effectiveness of smoking cessation program.

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Conflicts of interest

There are no conflicts of interest.

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