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KNOWLEDGE ATTITUDE AND PRACTICE OF PRIMARY HEALTHCARE PHYSICIANS TOWARD SMOKING CESSATION IN JAZAN REGION, SAUDI ARABIA

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ABSTRACT

Aim of The Study: To assess knowledge, attitude and practice of primary healthcare physicians toward smoking cessation in Jazan Region, Southwestern Region of Saudi Arabia. **Subjects and Methods:** A cross sectional study was conducted among 310 physicians Jazan primary healthcare centers. The study questionnaire were divided into four parts as follows: demographic, smoking status history and habits, smoking-related knowledge and attitude and smoking cessation counseling practice. **Results:** Prevalence of current smoking among the study group was 17.42%. Out of all participants there were 71.9% achieved a knowledge score ≥ the mean of all participants. Also more than half (54.2%) had positive attitude and 44.5% of participants had good practice regarding smoking cessation counselling. In the practice items; counseling was the most frequently reported action (66.8%) in smoking cessation, whereas medication, self- help materials, and traditional

remedies were reported by 15.8%, 12.6%, and 4.8% respectively. The most commonly reported obstacles, to smoking cessation counseling are too much time required for guidance (41%), followed by patients refusing guidance (22.3%), and lack of interest of physicians (8.1%). Good practice were reported among experienced physician even more than those with less year of experience (p=0.04). **Conclusions:** The prevalence of current smoking among the study group is relatively high, the majority of physicians were knowledgeable about smoking-related questions and had positive attitude for smoking cessation. The practice of primary care physicians were not ideal. Counseling regarding smoking cessation was the most frequently reported action in smoking cessation. Physicians with longer experience working in PHC centers were significantly more likely to reveal good practice regarding smoking cessation compared with those with experience of one year or less. **Word counts:** 270 words.

KEYWORDS: Smoking, Cessation, Counselling, KAP, Physician.

1. INTRODUCTION

Smoking is one of the most important public health problems worldwide, every year about 6 million people died due to tobacco. There are more than 1 billion smokers in the world, about 80% of them live in low- and middle-income countries, where the burden of smoking-related disease and death is highest.[1] Smoking can affect nearly all organs of the body. Smoking can cause a lot of complications on different organs in the body include cancer, cardiovascular disease, stroke, lung diseases like chronic obstructive pulmonary disease (COPD) and diabetes.[2]

Health professionals have a great impact in tobacco control. At the individual level, they can educate the population about the risk of direct smoking and passive smoking. At the community level, they can be generator or facilitator of some measures like efforts to promote smoke-free workplaces and maximizing the availability of tobacco cessation resources. At the society level, health professionals can add their efforts to national and global tobacco control measures for example tax increase campaigns and become included at the national level in promoting the WHO Framework Convention on Tobacco Control (WHO FCTC).[3]

Kingdom of Saudi Arabia has approval policies regarding smoking cessation followed WHO recommendation which abbreviated in the word (MPOWER), including monitor tobacco use and prevention policies; protect people from tobacco smoke; offer help to quit tobacco; warn

about the dangers of tobacco; enforce ban tobacco advertising and promotion and raise taxes on tobacco.[4]

Smoking is still considered a life-threatening behavior causing a lot of health problems worldwide and physicians got an important role in fighting against these problems. The following studies were cited concerning Knowledge, Attitude and Practice Among Primary Health Care Physicians Toward Smoking Cessation:

The prevalence of smoking among Egyptian Physicians, was 45%.[5] In addition Saudi studies reported that current smokers physicians were ranged between 18.7% - 31.7%.[6,7]

Regarding the knowledge of physicians toward smoking, incorrect knowledge was reported among 25.6% of participants and the current smokers showed about 4 times risk for incorrect smoking-related knowledge compared with nonsmokers.[7] Regarding the perception of physicians on the relationship between smoking and lung disease, studies reported that over 90% of participants strongly agreed that smoking is a major cause of lung cancer.[8,9] Nonsmoking physicians showed significantly higher rates of knowledge than smoking physicians regarding whether passive smoking increases the risk of lung disease 92.8% vs. 61.8% and passive smoking increases the risk of lower respiratory tract illnesses (87.6% vs. 63.2%,).[7,9]

About attitudes of physicians toward smoking, an Egyptian study revealed that about 59.1% of the respondents reported positive attitudes and 17.3% reported negative attitudes.[5] Also, the study done in Saudi Arabia reported about 26.2% of participants had negative attitude, physicians aged between 36 and 45 years reported negative attitude toward smoking when compared to those physicians aged between 25-35 years.[7] Regarding whether physicians should routinely ask their patients about smoking habits one study reported that 82% of respondents revealed that they should ask their patients about smoking habit. Additionally, result in other study showed that nonsmokers had statistically significant better attitudes towards routinely asking their patients about smoking habits in comparison with current smokers, $P<0.001$.[5,10] Result reported by studies regarding whether physicians who smoke are less likely to advise people to stop smoking showed that approximately from 43.3% to 87.5% of participants agreed that health care providers who smoked were less likely to advise patients to stop smoking.[10,11] About opinion of participants if patient's chances of quitting smoking are increased if physicians advise him or her to quit, studies estimated that around

more than 60% of respondents reported that a patient has higher chance to quit smoking if advised by physicians.[10,12]

Regarding smoking cessation practice of physicians one study reported that 52.7% of the physicians had bad practice regarding smoking cessation and this was related to experience[7] There is study revealed that majority 72.9% of physicians agreed that patients should not smoke if they are sick regarding the item (What are the first advice provided to your smoker patients?).[7] About the interventions that used by physicians to help their patients to quit smoking, counseling was the most frequently used method (75.6%), whereas self-help materials, medications, and traditional remedies were reported by 28.6%, 25.6%, and 20.6% respectively.[7] And all respondents agreed that counselling was the only intervention available to help their patients to quit smoking.[10] There are variations between physicians about time spend in giving smoking cessation guidance, around 40% of participants reported that they spent from 3 to 5 minutes,[7] and more than 31.2% of physicians spent less than 3 minutes.[6,7] About preparations of participants when they are counseling their patients, from 15.3% to 19.9% found themselves very well prepared to counsel their patients about smoking cessation,[5,10,13] from 58.2% to 80.1% of participants was generally incompetent or somewhat prepared,[5,13] and from 10.3% to 25% were not at all prepared.[5,11] Regarding whether the participants received any formal training in smoking cessation approaches to use with their patients from 12.7% to 38.32% of participants received formal tobacco treatment training in form of attended special conferences, symposia or workshops after graduation,[5,9,14] only 25.5% of participants had ever received professional training on smoking cessation during their study, specialization or through special lectures or workshops.[10]

2. METHODS AND MATERIALS

2.1 STUDY DESIGN: Descriptive cross-sectional design was used in the present study.

2.2 STUDY AREA: This study was conducted in Jazan Region. Jazan region is located in south-western part of Saudi Arabia.

2.3 TARGET POPULATION: The target population of the study included the primary care physicians who were working in Jazan Region. There are 179 primary health care centers with 443 physicians working under the authority of Ministry of health.

- The inclusion criteria for participation in the study was physicians in primary health care centers in Jazan region who sign consent, available on the duration of the study and willingly

to participate in the study.

- The exclusion criteria for participation in the study was physicians in primary health care centers in Jazan region who were not available on the duration of the study and not willing to participate in the study.

2.4 SAMPLE SIZE AND SAMPLING TECHNIQUE

All provinces in Jazan was included in this study. A list of all names of primary health care physicians in each province was provided by Jazan Directorate of Health. The total number of physicians of primary health care centers in Jazan region was 443 physicians and the number of PHCCs was 169. The minimum sample size was 296 physicians which calculated using this equation:

$$(\text{Sample Size}^* = p \times (1 - p) \times z^2 / d^2),$$

Based on desired confidence level 95% and the expected proportion of both the incorrect knowledge and negative attitude toward smoking cessation were about 26%.[7] 5% of the minimum sample size was added to guard nonresponse. Thus, the total sample size was 310 physicians. The researcher was follow a stratified technique with proportional allocation from all province. In each province a target sample size was selected using a simple random sampling.

2.5 DATA COLLECTION TOOLS

Self-administered valid questionnaire was utilized for data collection. It was adopted from a questionnaire used in a study conducted in Makkah, 2015.[7] Permission to utilize the questionnaire was requested through an e-mail communication with the corresponding author. Questionnaire was designed based on questionnaire of Global Health Professionals Survey (English version), developed by the WHO in collaboration with Centers for Disease Control and prevention and the Canadian Public Health Association. The questionnaire consisted of four parts:

Part one: Demographic profile, which contains age, gender, marital status, position, working place, and years of medical practice in primary health care (PHC).

Part two: Smoking status history and habits, which includes 18 yes or no and multiple-choice questions.

Part three: Smoking-related knowledge and attitude that included 14 questions.

Part four: Smoking cessation counseling practice including seven multiple choice questions, in addition to two questions regarding about obstacles to smoking cessation counseling.

Total questions for KAP included 21 questions, five questions for knowledge, nine questions for attitude, and seven questions for practices. Regarding knowledge and attitude there were three response answers provided for each question: A scoring system was assigned for each response answers as follows: agree = 3, unsure = 2, and disagree = 1.

Total questions of practice included 7 questions with 4 responses answers provided for the each question with one best answer. A scoring system was assigned for each response answers as follows: A = 3, B = 2, C = 1 and D=0.0.

Physicians who scored at the level or above the mean score were considered as presenting a correct knowledge, positive attitude, or good practice, while those under the mean score were categorized as showing incorrect knowledge, negative attitude, or bad practice.

2.7 STATISTICAL ANALYSIS PLAN

The Statistical Package for Social Sciences (SPSS) software program version 20.0 was used for data analysis. Descriptive statistics was applied in the form of frequencies and percentages for categorical variables and mean with standard deviation (SD) for normally distributed continuous variables. Differences in proportions were compared for significance using Chi Square/Fisher's exact test. All tests were two-sided and $p < 0.05$ was considered statistically significant.

2.8 ETHICAL CONCIDERATIONS

Approval was obtained from Ethical Committee of Jazan Health Affairs. Administrative Approval was taken by Directorate of primary health care centers, for doing the study. Informed consent from each physician to participate in the study was taken.

3. RESULTS

Background characteristic is illustrated in table 1.

Table 1: Background characteristics of the study group.

Characteristic	Number	%
Gender		
• Male	187	60.3
• Female	123	39.7

Age Mean (SD)		36.9±8.4
Marital status		
• Married	269	86.8
• Single	41	13.2
Position		
• Resident	258	83.2
• Registrar	28	9.0
• Senior registrar	13	4.2
• Consultant	11	3.5
Workplace		
• Urban	148	47.7
• Rural	162	52.3
Years of experience		
• Less than 1 year	42	13.5
• 2-5 years	111	35.8
• 6-10 years	89	28.7
• More than 10 years	68	21.9

The prevalence of current smoking among the study group was 17.42%. The ex-smokers and nonsmokers represented 6.45% and 76% respectively.

Regarding the score of Knowledge Attitude and Practice of participants; the mean scores were for knowledge 14.6, for attitude were 25.6, and 16.1 for practice. Out of all participants there were 71.9% achieved a knowledge score ≥ the mean of all participants. Also more than half (54.2%) had positive attitude and 44.5% of participants had good practice regarding smoking cessation. In details the majority of physicians were knowledgeable about smoking-related questions. The highest frequency was reported in response to a question regarding whether active smoking increases the risk of ischemic heart disease (99.4%), whereas the lowest frequency was reported in response to a question regarding whether passive smoking increases the risk of lower respiratory tract illnesses such as pneumonia in exposed children (85.2%). Regarding the attitude of physicians; the majority of participants had positive attitude for smoking cessation. The highest frequency (98.1%) was detected for the harmfulness of smoking whereas the lowest frequency (53.2%) was observed for "Physicians who smoke are less likely to advise people to stop" (Table 2). In comparing of somkers and non smokers; there were no statistically significant differences between smoker and nonsmokers regarding attitude statements, with one exception. The majority of non- smokers (99.2%) compared with 92.6% of current smokers agreed that Smoking is harmful to health. This difference was statistically significant ($p < 0.05$).

The smoking cessation practices of physicians showed that about one half of physicians

believed that patients should not smoke if they are sick. While 40% of physicians claimed that they spent between 3 and 5 minutes giving smoking cessation guidance and another 40% spent more than 5 minutes. More than half of participants(58.1%) claimed that they asked new patients about their smoking history but unfortunately, only, 15.2% keep records on the answers to their question on smoking. Regarding interventions used to help patients to stop smoking, counseling was the most frequently reported action (66.8%). The most commonly reported obstacles, to smoking cessation counseling based on physicians' perspectives are too much time required for guidance (41%), followed by patients refusing guidance (22.3%), and lack of interest of physicians (8.1%).

Table 3 illustrated that there were significant differences between physicians' practice regarding marital status, workplace and their Years of experience in PHCC. About 73.2% of single physicians had bad practice more than married ones (52.8%). More urban physician had good practice than rural ones (52% versus 37.7%). Also, the frequency of good practice was higher with increased years of experience in PHC (57.3% in those who had 6-10 years of experience in PHCC compared to 38.1% in junior physicians with less than one year of experience).

Table 2: Knowledge and attitude of primary health care physicians toward smoking (n, 310).

Knowledge Items	**Agree**	**Not sure**	**Disagree**
Active smoking increases the risk of ischemic heart disease	308 (99.4%)	1 (0.3%)	1 (0.3%)
Passive smoking increases the risk of lung disease	287 (92.6%)	16 (5.2%)	7 (2.3%)
Passive smoking increases the risk of lower respiratory tract illnesses	264 (85.2%)	37 (11.9%)	9 (2.9%)
Maternal smoking increases the of risk of sudden infant death syndrome	280 (90.3%)	25 (8.1%)	5 (1.6%)
Routinely advise patients who smoke to avoid smoking around children	302 (97.4%)	4 (1.3%)	4 (1.3%)
Attitude Items			
Smoking is harmful to health	304 (98.1%)	2 (0.6%)	4 (1.3%)
should routinely ask my patients about smoking habit	295 (95.2%)	5 (1.6%)	10 (3.2%)
Physicians who smoke are less likely to advise people to stop	165 (53.2%)	47 (15.2%)	98 (31.6%)
Patient's chances of quitting smoking are increased if physicians advise him or her to quit	265 (85.5%)	29 (9.4%)	16 (5.2%)
Physicians should get specific training on smoking cessation techniques	297 (95.8%)	8 (2.6%)	5 (1.6%)

Because I am a physician, I should not smoke	285 (91.9%)	16 (5.2%)	9 (2.9%)
Smoking in enclosed public places should be prohibited	293 (94.5%)	12 (3.9%)	5 (1.6%)
Tobacco sales to children and adolescents should be banned	297 (94.5%)	9 (94.5%)	4 (94.5%)
Physicians should speak to community groups about smoking	302 (97.4%)	7 (2.3%)	1 (0.3%)

Table 3: Relationship between the practice, demographic characters, knowledge and attitude of the study group (n, 310).

	Practice		P
	Good (n, 138)	**Bad (n, 172)**	
Gender			
• Male	83 (44.4)	104 (55.6)	0 .954♥
• Female	55 (44.7)	68 (55.3)	
Marital status			
• Married	127 (47.2)	142 (52.8)	0 .014♥
• Single	11 (26.8)	30 (73.2)	
Position			
• Resident	114 (44.2)	144 (55.8)	
• Registrar	15 (53.6)	13 (46.4)	0 .290♥
• Senior registrar	3 (23.1)	10 (76.9)	
• Consultant	6 (54.5)	5 (45.5)	
Workplace			
• Urban	77 (52.0)	71 (48.0)	0 .011♥
• Rural	61 (37.7)	101 (62.3)	
Years of experience in PHCC:			
• Less than 1 year	16 (38.1)	26 (61.9)	
• 2-5 years	44 (39.6)	67 (60.4)	0 .040♥
• 6-10 years	51 (57.3)	38 (42.7)	
• More than 10 years	27 (39.7)	41 (60.3)	
Knowledge			
• Appropriate	104 (46.6)	119 (53.4)	0 .229♥
• Inappropriate	34 (39.1)	53 (60.9)	
Attitude			
• **Positive**	80 (47.6)	88 (52.4)	0 .232♥
• **Negative**	58 (40.8)	84 (59.2)	

♣, Number and percent in parenthesis; ▲, Fisher's Exact Test; **, Mean and standard deviation in parenthesis; ♥, Chi-square test.

4. DISCUSSION

The aim of the present cross-sectional study was to study the knowledge, attitude and practices among primary health care physicians towards smoking cessation in Jazan, Saudi Arabia. The present study included (60.3%) males and 7 (39.7%) females with a total number of 310 physicians. About 36% of the physicians had 2-5 years of experience in primary health

care field, 29% had 6-10 years of experience and 22% worked for more than 10 years in PHC. More than on half of the study group were working in rural PHC. Their age ranged from 25 to 63 with a mean of 36.9±8.4 years. The prevalence of current smoking among the study group is 17.42% (10% smoked daily and 7.42% occasionally). The ex-smokers and nonsmokers represented 6.45% and 76% respectively.

This rate is higher than in other studies carried out in China among rural physicians (16%)[15] and in Vietnam (9.2%).[16] However, it is lower than that which reported in Italy (28%)[7] and Egypt (45%).[17] This variation in smoking rates across the studies can be attributed to several reasons including methodological differences in data collection, differing sample sizes, and variations in the smoking culture across the countries. Overall, our findings strongly suggest that the smoking prevalence among physicians is high. This has implications for the general population because continued role modeling of smoking by physicians undermines the messages that smoking is harmful, and that quitting is important.[18] Studies find that nonsmoking physicians are more successful than smoking physicians in getting their patients to attempt to quit. Moreover, physicians who smoke may decrease the public desire for quitting, with people tending to ask why they should stop smoking when their doctor continues to smoke.[19]

In the present study, the majority of physicians were knowledgeable about smoking-related questions. The highest frequency was reported in response to a question regarding whether active smoking increases the risk of ischemic heart disease (99.4%), whereas the lowest frequency was reported in response to a question regarding whether passive smoking increases the risk of lower respiratory tract illnesses such as pneumonia in exposed children (85.2%). Also, both current smokers and nonsmokers had appropriate knowledge and there was no significant difference between the two groups regarding different knowledge variables. Our results are consistent with other studies in KSA[7] and United Arab Emirates.[20]

In the present study the majority of participants had positive attitude for smoking cessation. In addition, the majority believed that physicians should not smoke (91.9%). This was in agreement with that result, the majority of physicians in the United Arab Emirates (91.3%) and Kuwait (75.6%) strongly perceived that smoking is hazardous to health.[20]

Regarding smoking cessation practices of physicians, about one half of physicians (51.6%) believed that patients should not smoke if they are sick. About 40% of physicians claimed

that they spent between 3 and 5 minutes giving smoking cessation guidance and another 40% spent more than 5 minutes. About 58.1% claimed that they asked new patients about their smoking history but unfortunately, only, 15.2% keep records on the answers to their question on smoking. These results are in agreement with another study conducted in Makkah[7] and illustrate that the practice of PHC physicians is not ideal in screening, documentation of data and counseling regarding smoking cessation.

Also, counseling was the most frequently reported action (66.8%) in smoking cessation, whereas medication, self- help materials, and traditional remedies were reported by 15.8%, 12.6%, and 4.8% respectively. A result that needs more investigation about the reasons that may be due to unavailability or lack of awareness about medications needed in smoking cessation. The most commonly reported obstacles, to smoking cessation counseling based on physicians' perspectives are too much time required for guidance (41%), followed by patients refusing guidance (22.3%), and lack of interest of physicians (8.1%). So, we can conclude that the time of consultation should be prolonged for effective smoking counseling.

5. CONCLUSION

The prevalence of current smoking among the study group is relatively high, the majorities of physicians were knowledgeable about smoking-related questions and had positive attitude for smoking cessation. Knowledge also is important component of the attitude, it should be improved to predict a health attitude among the PHC physicians regarding smoking cessation.

The practice of primary care physicians is not ideal in screening, documentation of data and counseling regarding smoking cessation and counseling was the most frequently reported action (66.8%) in smoking cessation so physicians should be given enough time to conduct the smoking counseling.

Physicians with longer experience working in PHC centers were significantly more likely to reveal good practice regarding smoking cessation compared with those with experience of one year or less.

6. RECOMMENDATIONS

The prevalence of current smoking among PHCPs in Jazan is relatively high so the policies and regulations related to smoking should be officially reviewed and advocated because physicians should be role models for a tobacco-free life.

The PHC physicians should improve their documentation of data and counseling regarding smoking cessation.

Counseling was the most frequently reported action in smoking cessation but may be not enough for behavior modification of the patients regarding smoking cessation. Pharmacological interventions should also be used and available in PHC centers.

The PHC physicians should be given enough time to conduct the smoking counseling.

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