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Smoking and Dental Professionals in Saudi Arabia; Understanding the Dilemma

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Abstract:
Introduction:
Tobacco consumption is a global health concern. It is associated with negative systemic and oral health outcomes. Dental professionals are expected to set a role model for the public with respect to smoking behavior. Studies that had assessed dental professional smoking attitude in Saudi Arabia is scarce.
Objectives*:*
This study aims to investigate dental professionals' attitude toward smoking and smoking cessation programs in Saudi Arabia.
Materials and methods:
After obtaining appropriate authorization to conduct a cross-sectional study to address the above stated objectives. SaudiDent; a socio-professional platform for dental professionals. Registered users eligibility were assessed. Eligible users were invited and consented. A subject-specific like to the questionnaire had been generated. The link was valid for 10 days. The questionnaire consists of 19 questions focused on assessing demographic characteristics, current smoking behavior, and subjects' perception and awareness of smoking cessation programs. Descriptive analysis was carried out to determine the distribution of study variables with respect to participants' gender.
Results:
A total of 128 subjects were eligible, consented, and enrolled in the study. the majority of participants were male. The mean age for male participants was slightly higher than that for female participants. Western region reported the highest number of respondents. General dentists with less than five years of experience whom are working in governmental sector composed the majority of participants.
Smoking is more prevalent among male. The majority of smoking participants reported the initial smoking onset either during the high school or after joining the dental school. The majority of participants were not aware with available smoking cessation program.
Conclusion:
Smoking among dental professionals is more prevalent among male and the majority had started either during the high school or after joining the dental school. A combination of water-pipe smoking and cigarettes is very popular

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I. Introduction

Tobacco use is a global health concern. It is the most preventable cause of death and disability in modern societies. World Health Organization (WHO) estimated that tobacco use is responsible for the death of about six million people annually around the world. This figure is expected to reach ten million annually by the years 2020 or early 2030 [(1,2)]. Tobacco consumption is associated with poor general health, disability, and increased risk of death from communicable and non-communicable diseases [(1)]. In industrialized countries, smoking contributes to 40-50% of all cancer deaths; among which 90-95% were lung cancer deaths and over 95% of oral cancer deaths. Moreover, it contributes to 35% of cardiovascular deaths, and 75% of chronic

pulmonary diseases deaths in men between the age of 35 and 69 years [3]. In addition to that, it is considered a significant risk factor for periodontal disease, dental caries, oral ulcers, delayed wound healing, and poor prognosis of various dental surgical and prosthetic procedures [4,5,6]. In 2002, Ministry of Health (MOH) in Saudi Arabia established tobacco control program (TCP). The program focuses on prevention, community awareness, community-based intervention, and consultation services. It aims to protect Saudi society from smoking epidemic with special focus on youth through activating the role of research, rehabilitation, and training [7,8]. The prevalence of tobacco use in Saudi Arabia is higher among adolescent and adult male. Nevertheless, the prevalence of smokeless tobacco is higher among youth [8,9].

Few studies addressed attitude, habits and practices of tobacco consumption among dental professionals. Some had addressed the role of dental professionals in tobacco control in Saudi Arabia and at the global level [10,11,12,13,14]. Available literature concluded that smoking prevalence is higher among male dental professionals, water pipe smoking is more popular than cigarette smoking, and the majority had reported family history of smoking among first-degree relatives [10,15,16,17]. Among dental professionals, stress plays a major influence for smoking followed by peer and social pressure [10,15]. Although literature revealed that participants demonstrated good knowledge level regarding negative impact of smoking on oral and general health, poor knowledge had been demonstrated regarding available tobacco control and smoking cessation programs. Yet, healthcare professionals at primary healthcare centers expressed high level of willingness to participate in these programs [10,16]. The majority of dental professionals believe on the importance of tobacco control and smoking cessation and preventive programs [10]. The role of health professionals in smoking is critical. They must set an example as a role model for patients, families and friends [4]. Literature indicated that dentist knowledge in smoking cessation protocols and techniques are below satisfactory [4,18,19,20]. Dentists receive lower than expected training on tobacco control at undergraduate and postgraduate education [16]. Lack of appropriate training had resulted in poor participation of dental professionals in tobacco prevention or treatment. Although patients expected dentists to be interested in their smoking status and provide cessation support [21,22,23]. More than 80% of dentists, dental hygienists and dental assistants believe that dental team should participate in smoking cessation support [26,27]. In an effort to control smoking epidemic, Saudi Arabia's 2020 national transformation program aims at improving the public health with focus on smoking, obesity and road traffic accidents. This study aims to investigate dental professionals' attitude toward smoking and smoking cessation programs in Saudi Arabia.

II. Materials and methods:

Appropriate ethical authorization was obtained to conduct a cross-sectional study to address the above stated objectives. The distribution of a self-administered online questionnaire was organized and executed by SaudiDent. SaudiDent is a socio-professional online platform for dental professionals. It offers dental professionals the opportunity to engage in various research and professional activities. SaudiDent registered users at time registation agrees to receive invitation to participate in questionnaire based research activities. An invitation was sent vial emails to registered users. The purpose of email invitation was to confirming interest and to assess invitees' eligibility. Eligible participants must be dental professional, and/ or dental students, resident of Saudi Arabia with no age, gender, and nationality restrictions had been applied. Electronic informed consent form was emailed to eligible participants whom confirmed their interest to participate. Upon receiving a signed informed consent form, a link was generated and emailed to consented subjects with a granted access limited to 10 days. Participating subjects must complete the questionnaire within the pre-specified timeframe; otherwise the link should have been expired.

The questionnaire consisted of 19 questions; nine assessed general and demographic study population characteristics, seven assessed current smoking attitude, and three investigated study subjects perception and awareness of smoking cessation programs. Data was analyzed using SPSS version 22 (IBM Inc., Chicago., IL. USA). Descriptive analysis was carried out to determine the distribution of study variables with respect to participants' gender.

III. Results

A total of 130 subjects responded to invitation email and returned the eligibility verification form. Review of eligibility verification indicated that 128 participants were eligible. Eligible participants were invited to sign an E-informed consent form for the purpose of enrollment in the study. Male participants were more than female. Irrespective to gender, the majority of participants were Saudis. The mean age for male participants was 34.13 years old ($\pm$9.78) and for female participants was 31.05 years old ($\pm$3.47). The majority of participants were married and from the Western region. Table 1 summarizes demographic characteristics of study population. Professional characteristics of study population indicated that the majority of study subjects were male, general dentists, reporting less than five years of practice and working in the governmental section. Table 2 summarizes professional characteristics of study population.

Assessment of smoking attitude and behavior among study population indicated smoking is more prevalent among male participants. Male smokers reported a higher smoking frequency than female. The prevalence of smokeless tobacco consumption is very low among study population. Irrespective to gender, study population reported the first onset smoking was after the age of 20 years. Only few participants started smoking after graduating from dental school. Among smokers, male and female participants whom had started smoking after joining the dental school is slightly higher than those whom had started prior to joining the dental college. Among the study population, the majority of smokers were considering quitting smoking, nevertheless, only few had attended smoking cessation sessions. The majority of study population was not aware of availability of smoking cessation programs at their institution. Table 3 summarizes smoking behavior and attitude of study population.

IV. Discussion

The prevalence of tobacco consumption in various forms is increasing in Saudi Arabia especially among adolescents despite widespread of global recognition of tobacco adverse health impact and recently issued regulation that governed tobacco trading and consumption in public places [15,28, 29, 30, 31, 32]. Thus, in an effort to achieve a tobacco-free community, on May 06, 2019, Royal Court in Saudi Arabia released a royal decree No.: M/ 56 regarding anti-smoking law. Consequently, on February 19, 2017, Minister Cabinet issued an order to establish the national committee for tobacco control and prevention that aims at protecting the public health against smoking epidemics and to mitigate the risk of smoking among adolescents [23].

Regardless global recognition of the viral role dentists may plan in smoking cessation programs, research activities that assessed smoking behavior, attitude and practices among dental professionals in Saudi Arabia or investigated the role of dentists in smoking cessation programs, and the participation of dentists in tobacco control and prevention policies are limited [10, 11, 12,13, 14]. In an effort to complement existing literature this study assessed dental professionals smoking behaviors. Finding of this study were in-line with previous studies. The majority of smoking dental professionals were male. Irrespective to gender, the majority of smokers was married and had reported the first onset of smoking was either during high school or after joining the dental school. Only few reported starting smoking after graduation from the dental school. These findings confirm previous studies findings [4,10,15,16,17,21]. Studies concluded that water-pipe smoking in combination with cigarette smoking was the most popular practice among dental professional [4,10,15]. Although studies concluded that the majority of dental professionals smokers reported positive history of parental smoking particularly the father, there were no association with familial smoking [15]. Stress and peer pressure are the most important factors influencing smoking initiation among dental professionals [10].

Tobacco control and prevention is a multidisciplinary task. Tobacco negatively affects the oral and general health [4,5,6]. The role of dentists in providing assistance to patients in term of smoking cessation and prevention is pivotal [10]. Studies had concluded that most patients expected dentists to be interested in their smoking status, and dental professionals believed that they should offer smoking cessation support [26, 33]. Lack of training may negatively impact on dentists' provision of smoking cessation support and advice because smoking cessation training is not specifically included in the undergraduate and postgraduate curricula [26]. Dental professionals may notice intra-oral signs earlier than other healthcare professionals, that position then in a better position to offer preventive care [10, 34,35]. Thus, dental professionals should be equipped with knowledge about tobacco use and various available methods for cessation. Nevertheless, dentists' involvement in anti-smoking campaigns and field-based programs is important to increase the awareness among dental professionals, healthcare providers and the public. Training should start from undergraduate level, yet, revision of current curriculum to include materials related to dentists' role in smoking cessation and prevention. Continuous education programs should focus on training dental professionals on designing and implementing cessation and prevention programs at individual and community levels.

V. Conclusion

Smoking among dental professionals is more prevalent among male and the majority had started either during the high school or after joining the dental school. A combination of water-pipe smoking and cigarettes is very popular. Future studies should assess the utilization of electronic cigarettes among dental professionals. The level of training offered to dental professionals and degree of participation in smoking cessation and prevention programs is an area for investigation

VI. Conflict of interest

All authors declare no conflict of interest

References

[1]. WHO; 2015 WHO global report n trends in prevalence of tobacco. 2015
[2]. Jarallah JS. Tobacco control in Saudi Arabia: will it work. J Family Community Med 1996;3(2):9-12 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3437166/)
[3]. Johnson N. Tobacco use and oral cancer. J Dent Educ 2001;65(4):328-39
[4]. Alomari Q., Barriesh-Nusair K., Said K. Smoking prevalence and its effect on dental health attitudes and behavior among dental students. Med PrincPract2006;15:195-9
[5]. Winn DM. Tobacco use and oral disease. J Dent Educ 2001; 65:306-12
[6]. Al-Wahadni A., Linden DJ. The effect of cigarette smoking on the periodontal cnditions of young Jordanian adults. J Clin Periodontol2003;30:132-7
[7]. Almunif MA. Report on tobacco control program of Ministry of Health in Saudi Arabia. Governmental report. http://www.sa-tcp.com/newsite/user/pdf/REPORT_ON_TCP.pdf (accessed: January 24, 2018)
[8]. Ministry of Health, Tobacco control program. https://www.moh.gov.sa/endepts/TCP/Pages/About.aspx (accessed: January 24, 2018)
[9]. WHO report on the global tobacco epidemic; country profile: Saudi Arabia. 2017
[10]. Awan KH., Hammam MK., Warnakulasuriya S. Knowledge and attitude to tobacco use and cessation among dental professionals. SDJ 2015;27:99-104
[11]. Abdulghani HM., Alrowais NA., Alhaqawi AI., Alrasheedi A, Alzahir M., et al. Cigarette smoking among female students in five medical and non-medical colleges. Int.J.Gen.Med 2013;6:719-27
[12]. Al-Haqwi AI., Tamim H., Asery A. Knowledge, attitude and practice of tobacco smoking by medical students in Riyadh, Saudi Arabia. Ann Thorac Med 2010;5:145-8
[13]. Azhar A. Alsayed N. Prevalence of smoking among female medical students in Saudi Arabia. Asian Pac. J Cancer Prev 2012;13(9):4245-48
[14]. Kujan O., Abuderman A., Azzegahiby S., Alenzi FQ., Idrees M. Assessing oral health knowledge among Saudi medical undergraduates. J. Cancer Edu 2013;28(4):717-21
[15]. AlSuwailem AS., Alshehri MK., Alsadhan S. Smoking among dental students at King Saudi University: consumption pattern and risk factors. SDJ 2014:26;88-95
[16]. Jradi H., Alshehri A. Knowledge about tobacco smoking among medical students in Saudi Arabia: findings from three medical schools. Journal of Epidemiology and Global Health 2014:4;269-76
[17]. Almas K., Al-Hwaish A., Al-Khamis W. Oral hygiene practices, smoking habits, and self- perceived oral malodor among dental students. J Contemp Dent Pract 2003:4(4);077-090
[18]. West R., McNeill A., Raw M. Smoking cessation guidelines for health professionals: an update. Thorax 2000;55:987-99
[19]. John JH., Thomas D., Richards D. Smoking cessation interventions in the Oxford region: changes in dentists' attitudes and reported practices 1996-2001. Br Dent J 2003;195:270-5
[20]. Dolan TA., McGorray SP., Grinstead-Skigen CL., Mecklenburg R. Tobacco control activities in US dental practices. J Am Dent Assoc 1997;128:1669-79
[21]. Khami MR., Mourtomaa H., Razeghi S., Virtanen JI. Smoking and its determinants among Iranian Dental Students. Med PrincPract2010;19:390-4
[22]. Petersen PE. Tobacco and oral health- the role of World Health Organization. Oral Health Prev Dent 2003;1:309-15
[23]. Watt RG., Johnson NW., Warnakulasuriya KA. Action on smoking- opportunities for the dental team Br Dent J 2000;189:357-60
[24]. Cohen SJ., Stookey GK., Katz BP., Drook CA., Christen AG. Helping smokers quit: a randomized controlled trial with private practice dentists. JADA 1989;118:41-45
[25]. Smith SE., Waranakulasuriya KA., Feyerabend C., Belcher M., Cooper DJ., et al. A smoking cessation program conducted through dental practices in the UK. Br Dent J 1998;185:299-303
[26]. Filoche SK., Cornford E., Gaudie W., Wong M., Heasman P., et al. Smoking, chronic periodontitis and smoking cessation support: reviewing the role of dental professionals. New Zealand Dental Journal 2010;106(2):74-8
[27]. Stacey F., Heasman PA., Heasman L., Hepburn S., McCracken GI., et al. Smoking cessation as a dental intervention- view of the profession. British Dental Journal 2006;201:109-13
[28]. Al-leheiany O., Stanely D. Smoking cessation program targeting adolescent; Saudi Arabia. Journal of Smoking Cessation 2009;4(1):3-9
[29]. Muzyka BC., Cropley LD, et al. Assessment of dental faculty, staff and students on knowledge of health effects associated with tobacco ue. J Public Health ManagPract 2009;15(2);135-8
[30]. Abdullah AM., Al-Kaabba AF., et al. Gender differences in smoking behavior among adolescents in Saudi Arabia. SMJ 2007; 28(7):1102-8
[31]. Mandil A., BinSaeed A., et al. Smoking among Saudi university students: consumption patterns and risk factors. Eastern Mediterranean Health Journal 2011;17(4):309-16
[32]. Tobacco control and prevention program, http://www.tcpmoh.gov.sa/ (Accessed: April 20, 2019)
[33]. Rikard-Bell G., Donnelly N., Ward J. Preventive dentistry: what do Australian patients endorse and recall of smoking cessation advice by their dentists? BMJ 2003;194:159-64
[34]. Rameseier CA, Mattheos N., Needleman I., Watt R., Wickholm S., Consensus report: First European workshop on tobacco use prevention and cessation for oral health professionals. Oral Health Prev. Dent. 2006; 4(1):7-18
[35]. Ramseier CA., Warnakulasuriya S., Needleman IG., Gallagher JE., Lahtinen A., et al.Consensus report: 2nd European workshop on tobacco use prevention and cessation for oral health professionals. Int.Dent.J 2010;60(1):3-6

Table 1: demographic characteristics of study population

	N= 128	
	Male (N=88)	Female (N=40)
Nationality: N (%)		
• Saudi	61 (68.30%)	38 (95.00%)
• Non-Saudi	27 (30.70%)	2 (5.00%)
Age (± SD)	34.13 (± 9.78)	31.05 (± 8.473)
Marital status: N (%)		
• Single	29 (33.00%)	14 (35.00%)
• Married	58 (65.90%)	23 (57.50)
• Divorced	1 (1.10%)	3 (7.50%)
Province: N (%)		
• Southern	8 (9.10%)	2 (5.00%)
• Northern	4 (4.50%)	2 (5.00%)
• Eastern	13 (14.80%)	8 (20.00%)
• Western	40 (45.50%)	20 (50.00%)
• Central	23 (26.10%)	8 (20.00%)

Table 2: Professional characteristics of study population

	N= 128	
	Male (N=88)	Female (N=40)
Clinical rank: N (%)		
• Dental student/ intern	19 (21.60%)	14 (35.00%)
• General dentist	37 (42.00%)	11 (27.50%)
• Registrar/ senior registrar	12 (13.60%)	8 (20.00%)
• Consultants	20 (22.70%)	7 (12.50%)
Years of experience: N (%)		
• Less than 5 years	42 (47.70%)	21 (52.50%)
• 5-10 years	15 (17.00%)	8 (20.00%)
• More than 10 years	31 (35.20%)	10 (25.00%)
Working sector: N (%)		
• Governmental	40 (45.50%)	21 (52.50%)
• Academia	22 (25.00%)	13 (32.50%)
• Private	24 (27.30%)	5 (12.50%)
• Multiple sectors	2 (2.30%)	1 (2.50%)

Table 3: Smoking behavior and attitude of study population

	N= 128	
	Male (N=88)	Female (N=40)
Current smoking status: N (%)		
• Currently smoking	34 (38.60%)	4 (10.00%)
• Occasionally smoking	13 (14.80%)	6 (15.00%)
• Ex-smokers	11 (12.50%)	1 (2.50%)
• Never smoked	30 (34.10%)	29 (72.50%)
Smoking frequency: N (%)		
• Daily	37 (42.00%)	4 (10.00%)
• 3-5 times a week	4 (4.50%)	2 (5.00%)
• Once a week	3 (3.40%)	-
• Couple of times a month	6 (6.80%)	3 (7.50%)
• Not applicable	38 (43.20%)	30 (75.00%)
Use of smokeless tobacco: N (%)		
• No	84 (95.50%)	38 (95.00%)
• Yes	4 (4.50%)	2 (5.00%)
Age at the first smoking onset: N (%)		
• Less than 20 years old	27 (30.70%)	2 (5.00%)
• More than 20 years old	31 (35.20%)	7 (17.50%)
• More than 30 years old	-	1 (2.50%)
• Not applicable	30 (34.10%)	30 (75.00%)
Onset of smoking in relation to joining dental school: N (%)		
• Before of joining the dental school	26 (29.50%)	2 (5.00%)
• After joining the dental school and before graduation	28 (31.80%)	4 (10.00%)
• After graduation	4 (4.50%)	4 (10.00%)
• Not applicable	30 (34.10%)	30 (75.00%)
Considering quitting: N (%)		
• No	14 (15.90%)	3 (7.50%)
• Yes	36 (40.90%)	7 (17.50%)
• Not applicable	38 (43.20%)	30 (75.00%)
Have you attended any smoking cessation session: N (%)		
• No	46 (52.30%)	12 (30.00%)
• Yes	12 (13.60%)	1 (2.50%)
• Not aware of any	30 (34.10%)	27 (67.50%)
Availability of smoking cessation program at participants' institution: N (%)		
• No	45 (51.10%)	14 (35.00%)
• Yes	14 (15.90%)	6 (15.00%)
• Do not know	29 (33.00%)	20 (50.00%)