



## SMOKING ATTITUDES AND CESSATION COUNSELING AMONG FAMILY MEDICINE RESIDENTS IN AL-AHSA, SAUDI ARABIA

<sup>1</sup>Azhar Mohammed Ali Al Ibrahim, <sup>2</sup>Zainab Abdullah ali Al Ghazal <sup>3</sup>Maha Ibrahim Ahmed bomozah and <sup>4</sup>Aneesah Ali Hej Al Fehaid

<sup>1,2,3,4</sup>Postgraduate Center of Family and Community Medicine, Ministry of Health, Al Ahsa Province, Saudi Arabia

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The present study was done to assess the level of knowledge, attitude, and practices of smoking cessation counseling among family physicians in Al-Ahsa.

### ABSTRACT

**Background:** Tobacco smoking is one of the leading causes of preventable death world-wide. Health care workers including physicians play an important role in the identification, assessment, and treatment of smokers. The present study was done to assess the level of knowledge, attitude, and practices of smoking cessation counseling among family physicians in Al-Ahsa.

**Materials and Methods:** It was a cross sectional survey involving all the Family medicine trainees recruited for Saudi Board of Family Medicine (SBFM) residency of Al Ahsa region of Saudi Arabia. The data were collected using predesigned, tested and self-administered questionnaires regarding assessment of smoking attitude. The questionnaires also included questions on knowledge and smoking cessation counseling. After collection the data were analyzed using SPSS version 23.0. The mean was calculated and used as a cut off for good and poor attitude towards smoking prevention and anti-smoking counseling and knowledge about the harmful effect of smoking. The chi-squared test was used to assess the relationship between basic information and knowledge and attitude scores. A p-value of < 0.05 was considered to be statistically significant.

**Result:** A total of 120 participants participated in the study. The mean age of the participants was 28.39 years. Ninety one percent of the participants were non-smoker while 2% and 7% were ex-smoker and smoker respectively. Overall attitude (4.3± 0.17) of the participants towards smoking prevention and anti-smoking counseling was strongly positive. The majority of the participants in our study were of the opinion that cigarette sell should be prohibited to those under the age of 15 years of age. Non-smoker participants in our study have shown a better attitude towards the anti-smoking statement. Male participants in our study were significantly more successful in persuading the patients to quit smoking. Non-smoker family physicians in our study supported the view that doctors should set a good example by not smoking which was statistically more significant than that of smoking physicians view. The overall knowledge of the participants for the harmful effect of smoking was good with a mean score of 8.1±1.21 SD.

**Conclusion:** The present study showed comparatively low level of smoking among the family medicine residents in our study. The majority of them were in favor of banning cigarettes smoking for those under the age of 15 and at public places. Participants who smoke showed comparatively negative attitude toward counseling patients to quit smoking. In spite of the fact that family physicians in our study had a good knowledge about the harms of smoking, the majority of them wanted more training in counseling patients to quit smoking. Further interventional researches are required to improve and reevaluate the quality of smoking cessation counseling using direct observation of practice.

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## INTRODUCTION

Tobacco smoking is one of the leading causes of preventable death world-wide<sup>[1]</sup>. Nicotine dependence has been currently included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) as a 'substance use disorder.'<sup>[2]</sup> Currently, the mortality caused by tobacco smoking has been estimated to be more than 5 million deaths annually, which is expected to be doubled by the year 2020 globally<sup>[3-4]</sup>. It is responsible for 87 % of lung cancer deaths, 42 % of chronic respiratory diseases and about 10 % of cardiovascular diseases. Unfortunately, despite this, there are still more than one billion smokers worldwide.<sup>[5]</sup>

There are several preventable and avoidable reasons and barriers against quitting tobacco smoking.<sup>[6]</sup> Health care workers including physicians play an important role in the identification, assessment, and treatment of smokers.<sup>[7]</sup> There is evidence that when healthcare workers offer specific assistance and appropriate support, a large percentage of their patients who smoke will try to quit, even those with low motivation to quit.<sup>[8]</sup> Furthermore, the smoking status of healthcare workers appears to be a critically important determinant of their ability to assist their patients to control tobacco use.<sup>[9]</sup> So, it is vital to assess health professionals' smoking habits for a direct effect on their health and wellbeing and at the same time to assist their patients to quit smoking.<sup>[10]</sup>

Various studies have been done in various parts of world on the smoking prevalence, knowledge of harmful effect of smoking and attitude on smoking and cessation counselling practice among the serving health professional, In a Bosnia and Herzegovina (2004) study<sup>[7]</sup>, the researchers have found a prevalence of smoking among the health professional to be 45%. In this study all respondents agreed that smoking is harmful to one's health. As far as the smoking cessation counselling is concerned less than half of physicians had received formal training in smoking cessation strategies, and about two-thirds of health professionals felt very or somewhat prepared to counsel their patients on how to quit smoking.<sup>[7]</sup>

In a systematic review (2005) which studied 19 studies on the General practitioners and family physicians regarding their beliefs and attitudes towards discussing smoking cessation with patients, the researchers have found that most General Practitioner and Family physicians did not have negative beliefs and attitudes towards discussing smoking with their patients except a sizeable minority. The most common negative beliefs were that such discussions were too time-consuming (weighted proportion: 42%) and were ineffective (38%)<sup>[11]</sup>. Similar study done in Abu Dhabi (2015) showed that the rate of smoking was 8.3% among the physicians and most of the healthcare providers had a positive attitude towards smoking cessation policy. This study has found an inadequacy in training among the healthcare personnel on how to counsel their patients regarding smoking cessation.<sup>[12]</sup> Similarly an Egyptian study (2013) has showed that the knowledge, attitude and practice scores among family physicians in the study sample were 45.3%, 93.3% and 44% respectively and more than half of the family physicians recommended training to improve their smoking cessation counseling.<sup>[13]</sup>

Studies on smoking habit and physicians' attitude and behavior have also been conducted in Saudi Arabia. In a Riyadh study, the researchers have found 48% of the physicians were smokers while 34% among them were currently smoking. In this study more than 60% of the physicians agreed that smoking is a major contributing factor in the causation of coronary artery disease, lung cancer, and chronic bronchitis. However, less than 20% said the same for bladder cancer and neonatal death.<sup>[14]</sup> A cross sectional study done in Jeddah on Primary health care physicians has found that smoking cessation counseling (SCC) of primary healthcare providers was poor with a mean score of  $35.25 \pm 18.40$  while the overall level of attitude was good with a mean score of  $76.81 \pm 8.63$  and the overall level of practice was average, with a mean score of  $55.23 \pm 21.54$ .<sup>[15]</sup>

The present study was to assess the knowledge, attitudes and smoking cessation practices of the family physicians trainee of Al Ahsa region of Saudi Arabia. To our best of knowledge it was first of its kind of study in this region.

## MATERIALS AND METHOD

It was a cross sectional descriptive study. The study was conducted at Family Medicine Residency Training centers in Al-Ahsa region which is located in the Eastern Province of Saudi Arabia, during the period from January 2020-February 2020. All 120 Family medicine trainees of Saudi Board of Family Medicine (SBFM) residency of Al Ahsa region were the study population. The data were collected using a self-administered questionnaire (A modified validated questionnaire) containing three parts. The questionnaires were

distributed among the participants after tested using a pilot study and obtaining the written consent. The first part of the questionnaire included information on demographics characteristics such as - age, gender, specialty, socioeconomic status and marital status while the second part comprised of the set of questions regarding assessment of smoking attitude which was basically taken from WHO's smoking questionnaire with some modifications. The last part included questions on knowledge and smoking cessation counseling. After collection, the data were analyzed using SPSS version 23.0. All variables were coded before entry and was checked and cleaned before analysis. The mean was calculated and used as a cut off for good and poor knowledge. The attitude score was computed by 5 point Likert scale. The mean was calculated and used as a cut off for good and poor attitude. Frequency distribution of basic information and knowledge and attitude scores were constructed and expressed as numbers and percentages. The chi-squared test was used to assess the relationship between basic information and knowledge and attitude scores. A p-value of  $< 0.05$  was used as indicative of statistical significance.

Written permission was obtained from the concerned authority in Ministry of Health, Al-Ahsa before the start of the study. Individual consent was also taken from the participants to participate in this study.

## RESULTS

The study sample consisted of 120 participants. The mean age of the participants was  $28.39 \text{ years} \pm 2.96$  (SD). More than forty one percent (41.7%) of the participants was male. Majority of participants (93.3%) were medical graduate and about three-quarters (74.2%) of them were married. Ninety one percent of the participants were non-smoker while 2% and 7% were ex-smoker and smoker respectively. The detail of demographic characteristics is shown in table 1.

**Table 1** showing demographic characteristics of the participants

Variables	Sub group of variables	Frequency	Percent
Gender	Male	50	41.7
	Female	70	58.3
Qualification	MBBS	112	93.3
	Post graduate Diploma	8	6.7
	Married	89	74.2
Marital status	Single	31	25.8
	Non-Smoker	109	90.8
Smoking status	EX-Smoker	3	2.5
	Current Smoker	8	6.7
	24-26 years	33	27.5
Age groups	27-29 years	56	46.7
	30-33 years	22	18.3
	34-37 years	7	5.8
	38-40	2	1.7
	Age	Mean	Std. Deviation
	28.39	2.957	
Years of experience		2.904	2.1657

### Attitudes of the participants towards smoking

Eighty five percent of the participants (N=102) were of the view that the responsibility to convince the people to quit smoking should be on the shoulders of doctors and more than eighty six percent (N=104) of them also agreed that doctors should set an example by themselves quitting the smoking. Similarly eighty percent (N=96) and fifty eight percent (N=70) of the participants agreed that most smokers can stop smoking if they want to and most smokers are not able to stop smoking despite a physician's advice respectively. More than seventy

six percent of the participants(N=92) asserted that their present knowledge was sufficient to persuade patients to quit smoking but at the same time majority (87.5%) of the participants expressed their view that health professionals should get specific training on anti-smoking counseling( with mean of  $4.63 \pm 0.54$  SD). When asked about the anti-smoking measures ninety five percent of the participants (with mean of  $4.68 \pm 0.72$ SD) advocated for banning it in the public places while more than eighty percent agreed that the price should be increased sharply. At the same time almost all of the participants (99.2%, with mean of  $4.87 \pm 0.41$  SD) were of the view that the cigarettes should be banned to those under age 15.The smoking in hospitals should be restricted to special areas was the opinion of almost ninety one percent of the participants. Overall attitude ( $4.3 \pm 0.17$ ) of the participants towards smoking prevention and anti-smoking counseling was strongly positive .The detail of the response of attitude questionnaires is shown in table 2.

**Table 2** Showing the response on attitudes items frequencies and percentages, and shows the rank of each item.

Variable (Questionnaires)	SD	D	Uncertain	A	SA	Mean	SD	Degree	Rank
It is the responsibility of doctors to convince people to stop smoking.	1(0.8)	3(2.5)	14(11.7)	54(45)	48(40)	4.21	0.81	SA	9
Most smokers can stop smoking if they want.	0(0)	10(8.3)	14(11.7)	47(39.2)	49(40.8)	4.13	0.92	A	10
Doctors should set a good example by not smoking.	1(0.8)	6(5)	9(7.5)	42(35)	62(51.7)	4.32	0.88	SA	6
Most smokers are not able to stop smoking despite a physician's advice.	2(1.7)	19(15.8)	28(23.3)	56(46.7)	15(12.5)	3.53	0.96	A	13
Your present knowledge is sufficient to persuade patients to quit smoking.	0(0)	9(7.5)	19(15.8)	79(65.8)	13(10.8)	3.8	0.73	A	12
On every appropriate occasion you should persuade a patient to quit smoking.	1(0.8)	7(5.8)	17(14.2)	68(56.7)	27(22.5)	3.94	0.82	A	11
Cigarette packages should contain health warnings.	1(0.8)	2(1.7)	5(4.2)	30(25)	82(68.3)	4.58	0.73	SA	4
Smoking in public places should be prohibited.	2(1.7)	1(0.8)	3(2.5)	21(17.5)	93(77.5)	4.68	0.72	SA	2
The price of tobacco products should increase sharply.	2(1.7)	8(6.7)	10(8.3)	32(26.7)	68(56.7)	4.3	0.99	SA	7
Health professionals should get specific training on how to help patients who want to stop smoking.	0(0)	0(0)	3(2.5)	39(32.5)	78(65)	4.63	0.54	SA	3
Cigarette sales should be prohibited to those under the age of 15 Y/O.	0(0)	1(0.8)	0(0)	13(10.8)	106(88.3)	4.87	0.41	SA	1
Smoking in hospitals should be restricted to special areas.	3(2.5)		8(6.7)	22(18.3)	87(72.5)	4.58	0.83	SA	5
overall mean						4.3		SA	
overall standard deviation									0.17

SD=strongly disagree, D=disagree, A=agree, and SA=strongly agree. The overall attitude was strongly agree, as the overall mean was = 4.3

**Knowledge on the harmful effects of smoking**

Ninety three percent of the participants (N=112) answered correctly that Passive smoking increases the risk of lung diseases in non- smoking adults while 89.2% of the participants asserted correctly that paternal smoking increases the risk of lower respiratory tract illnesses such as pneumonia in exposed children. Similarly 88.3% (N=106) of the participants were correct by saying that maternal smoking during pregnancy increases the risk of sudden infant death syndrome. However twenty three percent (N=28) and sixteen percent (N=19) of the participants did not know that passive smoking increases the risk of heart diseases in non-smoking adults and smoking cause neonatal mortality respectively. The overall knowledge of the participants for the harmful effect of smoking was good with a mean score of  $8.1 \pm 1.21$  SD. The details on the response of the knowledge questionnaires are shown in table 3.

**Table 3** Showing response on the questionnaires of knowledge

Questionnaires on knowledge		Frequency	Percent	correct answer		Mean score	Std. Deviation
				Frequency	Percent		
Passive smoking increases the risk of heart diseases in non-smoking adults.	Yes	92	76.7	92	77	7.91	1.76
	No	11	9.2				
	I do not know	17	14.2				
Passive smoking increases the risk of lung diseases in non-smoking adults.	Yes	111	92.5	111	93	8.62	1.50
	No	1	0.8				
	I do not know	8	6.7				
Paternal smoking increases the risk of lower respiratory tract illnesses such as pneumonia in exposed children.	Yes	107	89.2	107	89.2	8.02	1.43
	I do not know	13	10.8				
Maternal smoking during pregnancy increases the risk of sudden infant death syndrome.	Yes	106	88.3	106	88	8.0	1.24
	No	1	0.8				
	I do not know	13	10.8				
	Yes	101	84.2				
Can smoking cause neonatal mortality?	No	3	2.5	101	84	7.95	1.03
	I do not know	16	13.3				
	Yes	101	84.2				

There was a significant relationship between gender and persuading a patient to quit smoking, in favor of males (81.4% vs. 28%,  $p=0.002$ ).Female participants were significantly more in favor of increasing the price of tobacco sharply than male counterpart (60% Vs. 57.1,  $p=0.023$ ). The post graduate diploma holder were significantly more confident in persuading the patient to quit smoking than the graduate participants (87.5% Vs. 44.6%,  $p=0.002$ ). Similarly unmarried participants as compared to married participants were significantly more of the opinion that most smokers are not able to stop smoking despite a physician's advice (78.6% vs. 48.4%, $p=0.012$ ).Non-smokers were significantly more in favor that doctors should set a good example by not smoking than the smokers and ex-smokers(69.7% vs. 14.3% vs. 66.6%,  $p=0.035$ ). The details of the relationship of attitude and the demographic characteristics are shown in table 4.

**Table 4** showing relationship of demographic characteristics with the attitude on smoking

Variables and questionnaires	Agreed N(%)	Disagreed N(%)	p value
<b>Gender</b>			
On every appropriate occasion, you should persuade a patient to quit smoking.	57 (81.4)	13 (18.6)	0.002
Male	14 (28.0)	36 (72.0)	
Female			
The price of tobacco products should increase sharply.	40 (57.1)	30 (42.9)	0.023
Male	30 (60.0)	20 (40.0)	
Female			
<b>Qualification</b>			
On every appropriate occasion you should persuade a patient to quit smoking.	50 (44.6)	62 (55.4)	0.008
M.B.B.S	7 (87.5)	1 (12.5)	
Diploma			
<b>Marital status</b>			
Most smokers are not able to stop smoking, despite a physician's advice.	70 (78.6)	19(21.4)	0.012
Unmarried	15 (48.4)	16(51.6)	
Married			
<b>Smoking status</b>			
Doctors should set a good example by not smoking.	98 (89.9)	11(10.1)	0.0001
Non-smoker	2 (20.0)	6 (80.0)	
Smoker	2 (66.6)	1 (33.4)	
Ex-Smoker			
Cigarette packages should contain health warnings.	62 (69.7)	47 (43.3)	0.035
Non-smoker	1 (14.3)	6 (85.7)	
Smoker	2 (66.6)	1 (33.4)	
Ex-smoker			

As far as the knowledge and demographic characteristics are concerned, we did not find any significant difference in the

mean knowledge score and the demographic characteristics. There was a significant positive relationship between knowledge and attitude. ( $p=0.0001$ ) as shown in table 6.

**Table 5** Showing Pearson correlation between the knowledge and the attitude of the participants towards smoking

Knowledge score	Pearson Correlation	
	P value	N

\*\*Correlation is significant at the 0.01 level(2-Tailed)

## DISCUSSION

The present study assessed the attitude towards smoking and perception towards smoking cessation counseling among the family medicine residents in Al Ahsa district of Saudi Arabia. Seven percent of the participants in our study were current smoker which is low as compared to similar study on Armenia (31.2%)<sup>[16]</sup>, Lebanese<sup>[17]</sup> (25.8%), Germany<sup>[18]</sup> (25.2%), Argentina<sup>[19]</sup> (27.3%), Turkey<sup>[20]</sup> (14.9%), Pakistan<sup>[21]</sup> (14.4%) and Egypt<sup>[22]</sup> (12%) while in Spain study it was lower (6.1%)<sup>[23]</sup>.

As far as attitude towards smoking is concerned the majority of the participants in our study were of the opinion that cigarette sell should be prohibited to those under the age of 15 years of age. The same result was found in an Egyptian study<sup>[22]</sup> where more than 67% of the participants supported this view. Similarly in Bosnia and Herzegovina study<sup>[7]</sup> more than ninety three percent of the smoker physician and hundred percent of the non-smoker physician were of the view of banning smoking to the adolescent. Eighty six percent and ninety five percent of the participants in the Pakistani study<sup>[21]</sup> suggested that Smoking should be banned in offices and public places and in the university campuses respectively. In an Argentina study the working nonsmoker medical residents were having supportive attitude on a full indoor smoking ban in hospitals (OR: 0.30; 95 % CI 0.16–0.58), universities (OR: 0.55; 95 % CI 0.41–0.73), workplaces (OR: 0.67; 95 % CI 0.50–0.88), restaurants (OR: 0.42; 95 % CI 0.33–0.53), cafes (OR: 0.41; 95 % CI 0.33–0.51), nightclubs (OR: 0.32; 95 % CI 0.25–0.40), and bars (0.35; 95 % CI 0.28–0.45). However this was not true with those who were smoker.<sup>[19]</sup> Banning the smoking in the public place was one of the positive attitude opinions of the participants of Bosnia and Herzegovina study, where 96.6% and 100% of the smoker physicians and non-smoker physician agreed.<sup>[7]</sup>

Over all, nonsmoker participants in our study have shown a better attitude towards the anti-smoking statement. The same was true with the primary health care physicians in a military community of central Saudi Arabia, where approximately 75% of physicians had a positive attitude.<sup>[24]</sup> In an UAE study, majority (71.2%) of current smokers had negative attitude toward anti-smoking statements, while never and ex-smokers had a positive attitude (54.5% and 58.0%), respectively ( $P$  value <0.05).<sup>[25]</sup>

More than ninety two percent of the participants in our study believed that health professionals should get specific training on how to help patients who want to stop smoking. The same was the belief of the medical students in Pakistan.<sup>[21]</sup> In Argentina study, 84.6 % of participants answered that medical students need more training on how to counsel patients on smoking cessation. Current smokers were significantly less likely than non-smokers to indicate a desire for more training

(79.9 % vs. 86.4 %, respectively;  $P < 0.05$ ).<sup>[19]</sup> In Armenian study also non-smokers and ex-smokers had more positive attitudes toward the hospital's smoke-free policy compared to smokers (90.1% and 88.2% vs. 73.0%).<sup>[26]</sup>

Similarly one of the major and important findings of a study done on Applied Medical Sciences Saudi Students in King Abdalaziz University, Jeddah was the positive attitudes of all studied students and smokers in particular towards smoking.<sup>[27]</sup> As far as the knowledge increases the risk of sudden infant death syndrome where more than eighty percent of the participants answered correctly except with the fact that 23% of the participants were not aware that passive smoking increases the risk of heart diseases in non-smoking adults. Similar result was revealed in a study done on the medical graduate in Delhi which has found that 52.6% of them were not aware about the smoking as a causal risk factor for coronary heart disease.<sup>[28]</sup> In contrast, the family physician in another study in Turkey, 98.6% of the family physician stated that.

Physicians play a pivotal role in counseling the smoker patients and persuading them to quit smoking. Male participants in our study were significantly more successful in persuading the patients to quit smoking. The same result was found in a Turkish study where male physicians were more effective in persuading their smoker patients to quit the smoking.<sup>[29]</sup>

Eighty six percent of the participants agreed that their current knowledge of counseling smoker patients for quitting smoking was sufficient. However in a similar study conducted in western part of Saudi Arabia on Primary health care physician of National Guard hospital, only 49% of the participants agreed that they have sufficient ability to counsel the patients for quitting the smoking.<sup>[15]</sup> Non-smoker family physicians in our study supported the view that doctors should set a good example by not smoking which was statistically more significant than that of smoking physicians view. The same result was found in a metacentric study involving 27 public health Italian institutes where 80.7% of the public health professionals agreed that Health care providers should serve a role model for their patients by quitting the smoking.<sup>[30]</sup>

## CONCLUSION

The present study showed a comparatively low level of smoking among the family medicine residents in our study. The majority of them were in favor of banning cigarette smoking for the people under age 15 and at the public places. The smoker family physicians showed comparatively negative attitude towards counseling the patient to quit smoking. In spite of the fact that family physicians in our study had sound knowledge about the harm of smoking, majority of them wanted more training on counseling the patients to quit the smoking. Further interventional researches are required to improve and reevaluate quality of smoking cessation counseling using direct observation of practice.

## References

1. Zapka JG, Fletcher KE, Ma Y, Pbert L. Physicians and Smoking Cessation. *Eval Health Prof.* 2007; 20(4):407–27.
2. Abdullah, A. S., Stillman, F. A., Yang, L., Luo, H., Zhang, Z., & Samet, J. M. (2013). Tobacco use and smoking cessation practices among physicians in

- developing countries: A literature review (1987-2010). *International Journal of Environmental Research and Public Health*, 11(1), 429–455. <http://doi.org/10.3390/ijerph110100429>
3. Alhussien, A. (2017). Effect of Smoking on Cognitive Functioning in Young Saudi Adults, 31–35. <http://doi.org/10.12659/MSMBR.902385>
  4. Ansari, K. (2020). Comparison and prevalence of smoking among Saudi females from different Departments of the College of Applied Medical Sciences in Dammam, 11(5).
  5. A.I., A.-H., H., T., & A., A. (2010). Knowledge, attitude and practice of tobacco smoking by medical students in Riyadh, Saudi Arabia. *Annals of Thoracic Medicine*. Retrieved from <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emed9&NEWS=N&AN=2010400434>
  6. Borgan, S. M., Jassim, G., Marhoon, Z. A., Almuqamam, M. A., Ebrahim, M. A., & Soliman, P. A. (2014). Prevalence of tobacco smoking among healthcare physicians in Bahrain. *BMC Public Health*, 14, 931. <http://doi.org/10.1186/1471-2458-14-931>
  7. Hodgetts G, Broers T, Godwin M. Smoking behaviour, knowledge and attitudes among Family Medicine physicians and nurses in Bosnia and Herzegovina. *BMC FamPract*. 2004;5:1–7.
  8. Vogt F, Hall S, Marteau TM. General practitioners' and family physicians' negative beliefs and attitudes towards discussing smoking cessation with patients: A systematic review. *Addiction*. 2005;100(10):1423–31
  9. Raag, M. (2018). Cigarette smoking and smoking-attributable diseases among Estonian physicians: a cross-sectional study, 1–9. <http://doi.org/10.1186/s12889-018-5105-6>
  10. Abdullah, A. S., Qiming, F., Pun, V., Stillman, F. a, & Samet, J. M. (2013). A review of tobacco smoking and smoking cessation practices among physicians in China: 1987-2010. *Tobacco Control*. <http://doi.org/10.1136/tobaccocontrol-2011-050135>
  11. Vogt F, Hall S, Marteau TM. General practitioners' and family physicians' negative beliefs and attitudes towards discussing smoking cessation with patients: A systematic review. *Addiction*. 2005;100(10):1423–31.
  12. Jawad M, Al-Houqani M, Ali R, et al. Prevalence, attitudes, behaviours and policy evaluation of midwakh smoking among young people in the United Arab Emirates: Cross-sectional analysis of the Global Youth Tobacco Survey. *PLoS One*. 2019;14(4):e0215899. Published 2019 Apr 24. doi:10.1371/journal.pone.0215899
  13. Eldein H, Mansour N, Mohamed S. Knowledge, attitude and practice of family physicians regarding smoking cessation counseling in family practice centers, suez canal university, Egypt. *J Fam Med Prim Care*. 2013;2(2):159.
  14. Saeed, A. A. (1990). Attitudes and behaviour of physicians towards smoking in Riyadh city, Saudi Arabia. *Tropical and geographical medicine*, 43(1-2), 76-79.
  15. Al-Jdani Sarah, Mashabi Samar, Alsaywid Basim and Zahrani Abdullah Smoking cessation counseling: Knowledge, attitude and practices of primary healthcare providers at National Guard Primary Healthcare Centers, Western Region, Saudi Arabia, *Journal of family and community medicine*; 2018;Vol: 25 :Issue Number: 3: Page: 175-182
  16. Narine K Movsisyan, PetrosyanVarduhi, Harutyunyan Arusyak, Petrosyan Diana, MuradyanArmen, and Stillman A Frances, Smoking behavior, attitudes, and cessation counseling among healthcare professionals in Armenia, *BMC Public Health*. 2012; 12: 1028.
  17. Amanda Chidiac, Hani Tamim, MohamadKanso, and Arafat Tfayli, Smoking among Lebanese medical students: Prevalence and attitudes, *Ann Thorac Med*. 2016 Jul-Sep; 11(3): 183–190.
  18. Kusma B, Quarcoo D, Vitzthum K, et al. Berlin's medical students' smoking habits, knowledge about smoking and attitudes toward smoking cessation counseling. *J Occup Med Toxicol*. 2010;5:9. Published 2010 Apr 16. doi:10.1186/1745-6673-5-9
  19. Study M. Victoria Salgado, Raúl M. Mejía, Celia P. Kaplan, and Eliseo J. Pérez-Stable Smoking-Related Attitudes and Knowledge Among Medical Students and Recent Graduates in Argentina: A Cross-Sectional, *J Gen Intern Med* 32(5):549–55
  20. Ahmet Ergin, Süleyman Utku Uzun and Ali İhsanBozkurt, Knowledge and attitudes of health professional students on smoking cessation techniques in Turkey, *Tobacco Prevention and Cessation*. 2016;2(June) DOI 10.18332/tpc/63821
  21. F.M. Khan, S.J. Husain, A. Laeeq, A. Awais, S.F. Hussain and J.A. Khan, Smoking prevalence, knowledge and attitudes among medical students in Karachi, Pakistan , *La Revue de Santé de la Méditerranéeorientale*, Vol. 11, No 5/6, 2005
  22. Khan AA, Dey S, Taha AH, et al. Attitudes of Cairo University medical students toward smoking: the need for tobacco control programs in medical education. *J Egypt Public Health Assoc*. 2012;87(1-2):1-7. doi:10.1097/01.EPX.0000411467.14763.0b
  23. Ranchal Sánchez A, Pérula de Torres LÁ, Santos Luna F, et al Prevalence of tobacco consumption among young physicians at a regional university hospital in southern Spain: a cross-sectional study *BMJ Open* 2018;8:e018728. doi: 10.1136/bmjopen-2017-018728
  24. AlAteeq M, Alrashoud AM, Khair M, Salam M. Smoking cessation advice: the self-reported attitudes and practice of primary health care physicians in a military community, central Saudi Arabia. *Patient Prefer Adherence*. 2016;10:651-658. Published 2016 Apr 26. doi:10.2147/PPA.S103010
  25. Alraeesi FH, Farzin FJ, Abdouli KA, Sherif FY, Almarzooqi KA, AlAbdool NH. Smoking behavior, knowledge, attitude, and practice among patients attending primary healthcare clinics in Dubai, United Arab Emirates. *J Family Med Prim Care*. 2020;9(1):315-320. Published 2020 Jan 28. doi:10.4103/jfmprc.jfmprc\_805\_19
  26. Narine K Movsisyan, Petrosyan Varduhi, Harutyunyan Arusyak, Petrosyan Diana, Muradyan Armen, and Stillman A Frances, Smoking behavior, attitudes, and cessation counseling among healthcare professionals in Armenia, *BMC Public Health*. 2012; 12: 1028.
  27. Abd El Kader2 and Ahmed A Al Ghamdi1\*Smoking Prevalence, Attitude, Knowledge and Practice Among

- Applied Medical Sciences Saudi Students in King Abdulaziz University Shehab M ,Int J Pul& Res Sci 2(4): IJOPRS.MS.ID.555595 (2018)
28. C.Vankhuma, Saurav Basu, Nandini Sharma and Shiv Kumar, Tobacco use patterns and tobacco-related awareness in medical students of Delhi, *Clinical epidemiology and global health* ;Volume 8, Issue 1, March 2020, Pages 83-86
  29. moking cessation counseling in Malatya, Turkey. *Patient EducCouns.* 2005;56 (2):147-153. doi:10.1016/j.pec.2004.02.002
  30. Giuseppe La Torre,<sup>1</sup> Rosella Saulle, Brigid Unim, Italo Francesco Angelillo, Vincenzo Baldo, Margherita Bergomi, Paolo Cacciari, Silvana Castaldi, Giuseppe Del Corno, Francesco Di Stanislao, Augusto Panà, Pasquale Gregorio *et al.* Knowledge, Attitudes, and Smoking Behaviours among Physicians Specializing in Public Health: A Multicentre Study, *BioMed Research International*, Vol:2014,article id, 516734

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