Smoking Cessation Counseling: Attitude in the Background of Poor Practice Compliance among Palestinian Primary Health Care Physicians: A cross sectional study

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Abstract

Background: Health-care systems have primary responsibility for treating tobacco dependence. Despite its proven effectiveness, international studies have shown that provision of smoking cessation advice to patients in primary health care is suboptimal. This study aimed at assessing Palestinian PHC physicians' compliance and attitude towards smoking cessation counseling and their determinants.

Methods: the study utilized a cross-sectional study design using a self-reported questionnaire targeted general practitioners, family medicine doctors, obstetrics & gynecologists and dentists working at PHC Centers in Palestine in the period between April to September,2019. Proportionate stratified random sampling method was used. Sociodemograpic, medical experience, if received any training in smoking cessation counseling, smoking history, practice compliance, knowledge, confidence and attitude were assessed.

Results: 294 PHC physicians' participated in the study with high response rate. More than a half (53%) were between 31-45 years of age. Most of them (76.5%) were general practitioners seeing more than 30 patients per day (66%) and only 15% (n=40) get training about smoking cessation counseling. Practice compliance was low; only 39 (13.3%) reported compliance to smoking cessation practice. Attitude level among the participant physicians was good as the overall attitude score mean was 75.1 ± 9.6. Positive attitude, assigned as any score ≥65, was observed in 87.7% (n=258) of physicians. Job title, experience and knowledge are predictors of positive attitude towards smoking cessation counseling.

Conclusion: Building supportive environment, improving physicians’ capabilities will reflect on their self-efficacy and their confidence level and will improve their practice in smoking cessation counseling.

Background

The more than one billion smokers worldwide who are addicted to tobacco are victims of the tobacco epidemic. Most tobacco users are willing to quit, but few get help and support to overcome their dependence. Health-care systems have primary responsibility for treating tobacco dependence.[1]

Health care organizations highlighted the importance of comprehensive approach for eliminating the health and economic burden of tobacco use.[2, 3] As a result, evidence-based, tobacco control programs have been implemented and shown to reduce smoking rates as well as tobacco-related diseases and deaths.[4] Programs should include tobacco cessation advice incorporated into primary health care (PHC) services, free accessible telephone help lines (known as quit lines), and access to low-cost medicines.[1]

Despite its proven effectiveness, international studies have shown that provision of smoking cessation advice to patients is suboptimal.[5, 6] A large body of literature has sought to explore factors influence cessation counseling practice and showed that physicians attitude towards this practice is one of the

major contributes.[7, 8] On the other hand, positive attitude toward cessation counseling among practicing physicians in Pakistan was not enough for practice compliance as they did not feel completely confident in the effectiveness of their intervention and they lack specific knowledge and skills in counseling practice.[9] Furthermore, a survey of Italian PHC physicians reported positive attitude towards the provision of smoking cessation interventions and the need to increase physicians' knowledge and ability to provide these interventions.[10]

Also, Physicians' attitude towards giving smoking cessation advice was reported to influence PHC physicians engagement in smoking cessation in UK.[8] Similarly, in the Arab world, Primary health care physicians reported positive attitude towards smoking cessation counseling,[11] and Al-Ateeq et al. reported attitude to be the main predictor of physicians' practice towards smoking cessation counseling and concluded that assessing physicians’ attitude, identifying the factors associated with it, and improving them can actually improve their practice of providing smoking cessation advice.[7]

In Palestine, limited literature in smoking cessation counseling exists so this study aimed at assessing Palestinian PHC physicians' compliance and attitude towards smoking cessation counseling and their determinants.

Methods

A cross-sectional study design was utilized using a self-reported questionnaire that targeted general practitioners, family medicine doctors, obstetrics and gynecology specialists and dentists working at PHC Centers in Palestine.

A proportionate stratified random sampling method was used in which the sample size for each PHC directorate was determined in proportion to total number of physicians. The sample size was calculated using a 95% confidence level, and a 0.05 absolute precision and using 50% effect size with a result of 227 participants. Taking in consideration the expected non response rate among physicians about 40%,[12] the calculated sample size was increased to 318. Participants were recruited into the study from the 16th of April ,2019 to the end of September, 2019. With 294 questionnaires collected, the response rate was excellent reached 92.5%.

A structured self-administered questionnaire was used for data collection. Data was grouped into five sections: socio-demographic, compliance to practice, attitude, knowledge and confidence. Socio-demographic data included medical experience (job title, years of practice, workload defined as number of patients seen per morning shift more than 30, and if receive any formal training in smoking cessation) and personal smoking history (smoking status, duration of smoking, cigarette consumption and if ever had a quit attempt). Practice was assessed based on three yes/no statements "I ask every patient about smoking status, I record every patient status in medical record, I arrange follow up for patient for smoking cessation counseling" and those with positive response on the three statements were considered compliant with smoking cessation counseling practice.

Attitude was assessed by eight statements using likert scale responses. Responses ranged from strongly agree to strongly disagree and neutral. Scores from 5 to 1 were assigned for attitude statements. A “strongly agree” response was assigned a score of “5” while “agree” was assigned a score of “4”, “neutral” a score of “3”, “disagree” “2”and “strongly disagree” response was assigned a score of “1”. The total attitude score was obtained by adding the scores statements ranging from 9 to 45. Then, an “overall attitude percent score” was calculated by multiplying the total attitude score for each participant by 100 and dividing by 40. Positive attitude was defined as any score equal and above 65 while any sore below 65 was defined as negative attitude.[7] For the purpose of analysis strongly agree and agree responses and strongly disagree and disagree responses were collapsed to "agree" and "disagree" responses respectively.

Knowledge and confidence were assessed using ten and six statements, respectively. The total knowledge score was obtained by adding the scores (range from 0 to 10). Then, an “overall knowledge percent score” was calculated by multiplying the total knowledge score for each participant by 100 and diving by 10 and the total confidence score was obtained by adding the scores for statements ranging from 5 to 30, then an “overall confidence percent score” was calculated by multiplying the total confidence score for each participant by 100 and dividing by 30. Good knowledge and confidence was assigned for any score 65 and above.

The questionnaire was constructed after an extensive literature review.[2, 7, 13–15] Some of its domains were taken from pre-validated tools which were adopted with the permission of corresponding authors.[7, 16] To ensure validity and reliability of the tool, a pilot study and pre-testing of the questionnaire was conducted using a sample of 20 PHC physicians'. Face and content validity were tested by asking three experts opinions after revising it. Cronbach’s alpha was computed and found as 91% for attitude statements, 72% and 65% for confidence and knowledge statements respectively, which indicates a very good reliability.

Statistical package for social science (SPSS) version 20 was used for data analysis. The data was checked for the entry errors (data clearance). Characteristics of the sample were granted through descriptive analysis. The relation between background variables, knowledge and confidence and attitude was assessed by Chi-square with P value of ≤ 0.05 significance level. Finally, binary logistic regression was carried out to determine the factors associated with positive attitude taking into consideration the possible confounders.

Ethical approval was obtained. Palestinian MoH approval and Informed consent were obtained from all participants. Written informed consent was obtained from all participants. Confidentiality and privacy were assured.

Results

The total number of participants in this study was 294 PHC physicians. More than a half (53%) were between 31 and 45 years of age, and almost three-quarters of them were males (75.5%) and most of

them (85.7%) were married, and 156 physicians (53%) were ever smokers. In relation to their practice; most of them were general practitioners (76.5%) seeing more than 30 patients per day (About 66% of total sample). Almost half of them (47.6%) were between 6-15 years of practice experience whereas 36% revealed experience exceeding 16 years. Furthermore, only 15% (n=40) get training about smoking cessation counseling as seen in table (1).

Practice compliance was low; only 39 (13.3%) reported compliance. Males were more compliant than females physicians (14% of males compared to 11% of females). GPs and those with higher years of practice were more compliant. One fourth of those who had training reported compliance compared to 10.7% with those who didn't have any training and 15.9% of physicians who never smoked reported compliance compared to 10.9% of those ever smoked as seen in table 1. However, none of these differences reached significance level as the only significant associations were in the relation between practice compliance and work overload, training, having a quit attempt and confidence.

Table 1: Frequencies and percentages of background variables in relation to practice compliance.

Variables	Compliance to smoking cessation practice		Total (n=294)
	Yes(n=39)	No(n=255)	
Gender			
Male	31 (14%)	191 (86%)	222 (75.5%)
Female	08 (11.1%)	64 (88.9)	72 (24.5%)
Age groups			
≤30 years	09 (14.5%)	53 (85.5%)	62 (21.2%)
31 - 45years	16 (10.3%)	139 (89.7%)	155 (53.1%)
45 - 60 years	14 (18.7%)	61 (81.3%)	75 (25.7%)
Marital status			
Married	32 (12.7%)	220 (87.3%)	252 (85.7)
Unmarried	7 (16.7%)	35 (83.3%)	42 (14.3%)
Job title			
GP	34 (15.1%)	191 (84.9%)	225 (76.5%)
Specialist	03 (10.3%)	26 (89.7%)	29 (9.8%)
Dentist	02 (05%)	38 (95%)	40 (13.6%)
Experience			
≤5 years	06 (11.8%)	45 (88.2%)	51 (17.3%)
6-15 years	07 (12.1%)	123 (87.9%)	140 (47.6%)
≥16 years	16 (15.5%)	87 (84.5%)	103 (35%)
Work overload *			
Yes	27 (13.9%)	167 (86.1%)	194 (66%)
No	11 (11.5%)	85 (88.5%)	96 (33%)
Training (n=255)*			
Yes	10 (25%)	30 (75%)	40 (15.7%)
No	23 (10.7%)	192 (89.2%)	215 (84.3%)
Smoking status			
Ever	17 (10.9%)	139 (89.1%)	156 (53%)

Never	22 (15.9%)	116 (84.1%)	138 (47%)
Quit attempt(n=141)*			
Yes	15 (16.1)	78 (83.9%)	93(66%)
No	02 (4.2%)	46 (95.8%)	48(34%)
Knowledge			
Good	14 (17.3)	67 (82.7)	81 (27.6)
Poor	25 (11.7)	188 (88.3)	213 (72.4)
Confidence*			
Good	31 (19.1)	131 (80.9)	162 (55)
Poor	124 (94)	8 (6)	132 (45)

** Significant association*

Physicians' attitude towards smoking cessation counseling practice

Attitude level among the participant physicians was considered good as the overall attitude score mean was 75.1 (SD=9.6). Positive attitude, assigned as any score ≥65, was observed in 87.7% (n=258) of physicians (Figure1).

Figure 1: Positive and negative attitude distribution among PHC physicians

In relation to attitude statements results, the majority of physicians (94%) agreed that giving brief smoking cessation advice was part of their duties, 83.6% agreed that the presence of guidelines and special clinics for smoking cessation encourage them to provide advice. In addition, more than 80% of physicians generally disagreed that giving such advice was time-consuming or not effective (84.4%, 80% respectively). Nearly 90% of them agree that brief smoking cessation advice is helpful in quitting, and 81.4% agreed that brief smoking cessation advice needs special training as seen in table (2).

Table 2: Frequency and percentage distribution of physicians' response attitude and statements

Attitude statements	Agree Frequency (%)	Don't know Frequency (%)	Disagree Frequency (%)
Giving brief smoking cessation advice is part of my duties (+)	276(93.9)	3(1)	15(5.1)
Presence of guidelines and special clinics for smoking cessation will encourage me to provide advice (+)	246(83.7)	17(5.8)	31(10.5)
Smoking cessation advice should be given regardless of present complain (+)	241(82)	3(1)	50(17)
Brief smoking cessation advice needs special training (-)	240(81.4)	5(1.7)	49(16.7)
If the physician is smoker, he should not give smoking cessation advice to his patients (-)	71(24.1)	3(1)	220(74.8)
Brief smoking cessation advice is helpful in quitting (+)	264(89.8)	15(5.1)	15(5.1)
Brief smoking cessation advice is time consuming(-)	30(10.2)	16(5.4)	248(84.4)
Brief smoking cessation advice is not effective (-)	41(13.9)	18(6.1)	235(80)

(+) positive direction; (−) negative direction.

Univariate analysis, using Chi-square test, showed a significant association between positive attitude and Job title, experience and knowledge p value ≤0.05 as seen in table (3).

Table 3: Determinants of positive attitude among participants

	Attitude			
	Positive Frequency (%)	Negative Frequency (%)	(χ^2)	p- value
Variable				
Gender				
Male	194 (87.4)	28 (12.6)		
Female	64 (88.9)	8 (11.1)	0.114	0.7
Age groups				
≤30 years	55 (88.7)	7 (11.3)		
31 - 45years	131 (84.5)	24 (15.5)	3.7	0.15
45 - 60 years	70 (93.3)	5 (6.7)		
Marital status				
Ever Married	223 (88.5)	29 (11.5)	0.89	0.34
Single	35 (83.3)	7 (16.7)		
Job title				
GP	201 (89.3)	24 (10.7)		
Specialist	27 (93.1)	2 (6.9)	7.3*	0.025
Dentist	30 (75)	10 (25)		
Experience				
≤5 years	46(90.2)	5 (9.8)		
6-15 years	116 (82.9)	24(17.1)	6.25*	0.04
≥16 years	96 (93.2)	7 (6.8)		
Work-load				
Overload	169 (87.1)	25 (12.9)		
Acceptable	85 (88.5)	11 (11.5)	0.26	0.87
Training (n=255)				
Yes	34 (85)	6 (15)		
No	189 (87.9)	26 (12.1)	0.26	0.6
Smoking status				

Ever	136(87.2)	20 (12.8)		
Never	122 (88.4)	16 (11.6)	0.64	0.42
Knowledge				
Good	77 (95.1)	4 (4.9)		
Poor	182 (85)	32 (15)	5.5*	0.019
Confidence				
Good	142 (87.8)	20 (12.3)		
Poor	117 (88)	16 (12)	0.007	0.93

Multivariate logistic regression was conducted to assess predictors of positive attitudes and to control confounders. It showed that job title, experience and knowledge are predictors of positive attitude towards smoking cessation counseling. Being a general practitioner have two and a half times chance to have positive attitude towards smoking cessation counseling than dentists (p value=0.04) while being a specialist has higher odds ratio but with no significance value, result could be attributed to the small sample size of specialists among participants. Furthermore, having longer years of experience is associated with positive attitude at a significant p value (p value=0.008). In addition, having good knowledge is significantly associated with positive attitude towards smoking cessation counseling practice (p value = 0.0001).

Table 4: Multivariable analysis of factors associated with positive attitude

Domain	**Positive attitude**				
	β	**SE**	**Adjusted OR**	**P-value**	**95%CI**
Job title					
GP	0.96	0.46	2.6*	0.04	1.1 to 6.5
Specialist	1.53	0.84	4.6*	0.072	0.9 to 24
Dentist †					
Experience					
≤5 years	-0.8	0.66	0.45	0.2	0.12 to1.6
6-15 years	-1.3	0.5	0.27*	0.008	0.1 to 0.7
≥16 years†					
Knowledge	0.037	0.01	1.03*	0.0001	1.02-1.05

** Significance level ≤0.05, †Reference group,*

Discussion

Factors influencing implementation of evidence-based guidelines remain poorly understood.[17] Factors such as training, health care providers' attitudes and beliefs, organizational and environmental influences were reported to affect guideline implantations.[18] Having a large body of literature assessing knowledge, attitude and practice towards guidelines implantation among health professionals in different topics, many studies reported positive attitude to be inconsistent with practice level.[11, 19, 20] Findings in this research is consistence with these results, as the low practice compliance with smoking cessation counseling among PHC physicians contradicted their high level of attitude towards this practice.

Attitude was extensively studied recently by behaviorists in different fields. In health care sector, attitude was increasingly important as part of theory-based research to better inform the design of interventions to change healthcare professionals' behavior .[21] Theory of reasoned action (TRA) and theory of planned behavior (TPB) build upon the simple proposition that behaviors can be predicted simply from a person's intentions. Accordingly, intention is the immediate antecedent of behavior and is itself a function of attitude toward the behavior, subjective norm, and perceived behavioral control.[22]

In the context of high positive attitude level towards smoking cessation counseling in Palestine and the low compliance with related practice; subjective norms and perceived behavioral control are expected to play a role in shaping physicians practice. Studies in Palestine, showed a high prevalence of smoking in the community with a rapid increase among adolescence and a high influences from peers and family on smoking habits.[23, 24] Concluded that subjective norms in Palestinian community are conductive to smoking rather than smoking cessation and that is the case even among physicians' community as more than half of PHC physicians are ever smokers and 42% are current smokers in this study. On the other hand, physicians' perception of their ability to provide smoking cessation counseling, which was assessed as confidence, is considered good and associated with better practice compliance, highlighting the need for studying other barriers that could affect physicians compliant with this practice.

Given the importance of attitudes in predicting and explaining human behavior, a critical question arises: where do they come from? The "tripartite" approach proposed by Zanna & Rempel provides that attitudes are formed based upon learned information (cognition), emotional messages (affect), and past behaviors and outcomes.[25] In application to this approach we can assume that PHC physicians' in Palestine have a good cognition about smoking cessation practice which was reflected in their responses to attitude statements as most of them agrees that smoking cessation advice is helpful in quitting, effective and not time consuming as seen in table (2).

With regards to emotional affect in relation to the high level of attitude observed among study participants, nearly all PHC physicians in Palestine feel that giving brief smoking cessation advice is part of their duties and most of them do not feel that being a smoker physician prevent giving smoking cessation advice to patients as seen in table (2).

Furthermore, past behavioral outcomes certainly affect attitude, this was obvious in the insignificant relation between previous quit attempt and attitude towards smoking cessation counseling, a result which may seems conflicted. But with further analysis; tow third of those with quit attempt are still current smokers. Exploring the facts that quit attempt was significantly associated with better compliance with smoking cessation counseling and most of physicians had a failed quit attempt, and the concern about poor knowledge regarding smoking cessation counseling among PHC physicians' in Palestine; the priority of a national campaign targeting increase knowledge of PHC physicians towards smoking cessation counseling is strongly evident.

Variables external to theory of planned behavior, like personality traits and demographic variables, influence behavior by affecting the underlying beliefs and influencing intention.[26] Experienced physicians and those with better knowledge regarding smoking cessation counseling reported better attitude. Findings in this setting were comparable to regional studies in Saudi Arabia where physicians with longer working experience in PHC centers and physicians with higher levels of education reported a more positive attitude which was reflected on their practice in smoking cessation counseling.[7, 11]

Additionally, policy and conductive environment can play a major role in adherence to guidelines. The Palestinian legislation (no-smoking laws), passed in 2005, banned tobacco advertising/promotion, smoking in public places, and selling cigarettes to minors. However, there seems to be no existing system to enforce the legislation and link them to strategic planning in health sector. Furthermore, PHC physicians' whom get no training about smoking cessation counseling and whom are facing overcrowded clinics with lack of adequate staff are deprived from conductive environment to support this practice.

The strength of this study comes from the fact that it is one of few that studies factors affecting attitude towards smoking cessation practice among PHC physicians. Additionally, it used random sampling method targeting all PHC physicians with high response rate. On the other hand, some limitations should be considered as the study utilize a cross sectional design with its own limitations and social desirability bias might be of concern as self-reported attitude and smoking status by physicians could be probably underestimated due to the community’s perceived image of doctors, which sees in them healthy role models.

Conclusion

A high level of attitude towards smoking cessation counseling have been observed among PHC physicians, which is significantly affected by better knowledge and experience. However, this high level of attitude wasn’t reflected on their practice as only 39(13%) of PHC physicians reported compliance. While

physicians have good understanding of the need for smoking cessation counseling and have a positive intention towards practicing it, other factors such as subjective norms, policy enforcement and conductive environment influence smoking cessation counseling compliance. Building supportive environment, improving physicians' capabilities which will reflect on their self-efficacy may increase physicians' confidence and improve their practice. Implication for future research in this field is strongly recommended as to explore barriers towards counseling and to assess effects of interventions aimed to improve PHC physicians' knowledge in smoking cessation on their practice.

Abbreviations

PHC
Primary Health Care
UK
United Kingdom
MoH
Ministry of Health

Declarations

Ethics approval and consent to participate

The study was approved by An-Najah National University Ethical Review Board (Reference No: MED 1/2/2019). Written consent was obtained from the participants.

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare no conflicts of interest.

Funding information

The authors disclose that they have no fund source for this work.

Authors contributions:

ZN & BM conceptualized and designed the study.BM was responsible for literature review, data collection, data analysis, data interpretation, manuscript writing, original draft preparation and editing. ZN was responsible for the quality control, and provided statistical advice on study design, analyzed the data and reviewing the manuscript. JJ contributes to data collection and analysis. All authors gave final approval and agree to be accountable for all aspects of the work.

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Figures

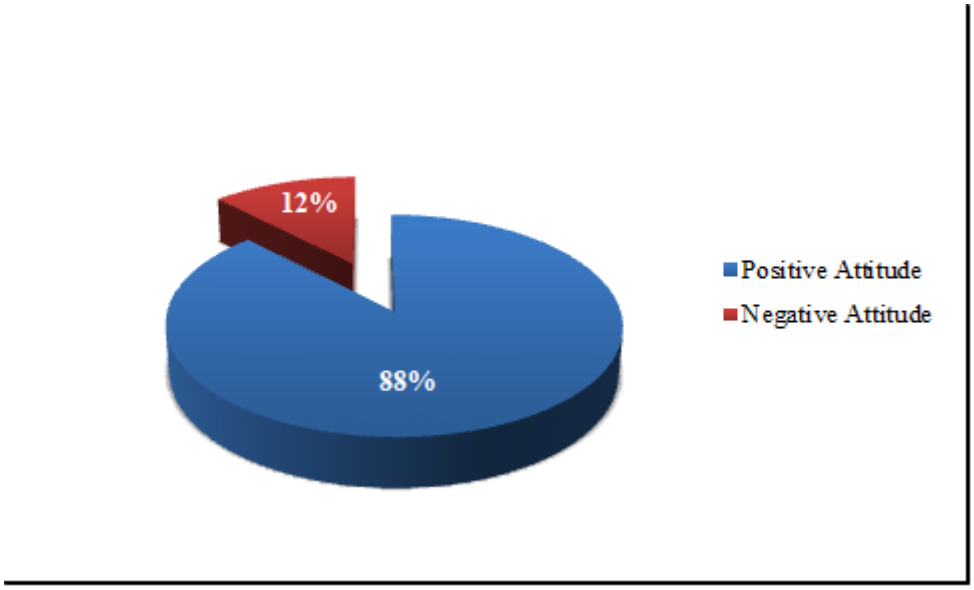

Figure 1

Positive and negative attitude distribution among PHC physicians

Supplementary Files

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