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Original Article

Patients Satisfaction about Services Provided by Smoking Cessation Clinic at Armed Forces Hospital in AL-Jubail

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Abstract

Background: Health-care providers can help in achieving live tobacco-free which will reduce smoking-related disease, disability, and death. It has been documented that most quit attempts are unsuccessful, despite of that, half of smokers who have tried to quit are no longer smoking, which means that those who trying to quit can succeed.

Objectives: The objectives of the study were to assess the level of satisfaction of patients attending the smoking cessation clinic regarding provided services and identify factors association with that satisfaction.

Subjects and Methods: A cross-sectional study was conducted at the smoking cessation clinic, Armed Forces Hospital in Jubail, Saudi Arabia. It included all patients attending the clinic, throughout the period from September 1, 2019, to March 31, 2020. A self-administered questionnaire comprised 19 questions was utilized to assess their satisfaction with services, in addition to demographic and smoking-related characteristics.

Results: The study included 171 males. The age of about one-fourth of them (24.6%) ranged between 20 and 29 years whereas that of 21.1% was 50 years or above. Regarding the provided services, Champix treatment was the most common (50.8%), followed by counseling (34.5%). Majority of the participants reported previous attempts to quit smoking (86.5%); mostly once (46.2%). One-third of the participants reported a history of smoking relapse. Overall, more than half of the participants (53.8%) were satisfied with services offered by the smoking cessation clinic. Low satisfaction was reported regarding the written information provided by the medical staff and having calls from the smoking cessation clinic before appointment to encourage them to attend treatment. None of the demographic, smoking-related, and smoking-cessation clinic related factors was associated with the level of satisfaction with the offered services.

Conclusion: A considerable proportion of smoking cessation clinic male attendees in Armed Forces hospital, Al-Jubail is satisfied with offered services, with no difference between them according to demographic, smoking-related, and smoking-cessation clinic-related characteristics.

Key words: Satisfaction, Services, Smoking cessation clinic, Smoking quitting, Smoking relapse

INTRODUCTION

Background/Literature Review

Tobacco smoking is the single preventable risk factor for death-related caner as it is proved to be a risk factor for numerous types of cancer.[1,2] In addition, tobacco smoking is a major risk factor for cardiovascular diseases (CVDs) and it is associated with almost 12% of all deaths due to CVDs.[3] Furthermore, tobacco smoking continues to be the fundamental reason of premature death and a major cause of medical costs and lost productivity.[4]

One cigarette contains more than 5000 harmful chemical substances that can damage all body systems.[5] According to a recent (2018) report of the World Health Organization (WHO), approximately 7 million individuals die yearly because of tobacco smoking worldwide, off them, 6 million die by direct use of tobacco whereas about 1 million die due to secondhand smoking.[6]

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In the Kingdom of Saudi Arabia (KSA), the overall prevalence of tobacco smoking was 12.1%; 23.7% among males, and 1.5% among females.[7] More dramatically, this rate was increasing in the last few decades making KSA on the top ten worldwide concerning cigarette smoking.[8]

Ministry of Health in KSA declared that smokers consumed around 15 billion cigarettes per year which costs around 690 million Saudi Riyals (SR).[7,9] In addition, 5 billion SR were spent on the health costs due to smoking health problems annually.[10]

It has been documented that the habit of smoking is hard to stop once begin as the cigarettes contain substances like nicotine which have addictive characteristics. Inside the body circulation, they produce neurotransmitters, mainly dopamine which improve working capacity, memory, attention, as well as pleasure and improve mood,[11,12] therefore, on stopping smoking, the levels of neurotransmitter decrease making the smokers develop what is called "withdrawal symptoms" such as anxiety, irritability, lack of attention, and restlessness."[11,13]

Water pipe tobacco smoking is a form of tobacco smoking present in various flavors and gaining popularity in our area.[14] Banning smoking in all forms in closed and public areas as well as prohibiting advertising of tobacco products and derivatives were issued by the Council of Arab Ministers of Health.[15]

Health-care providers can help in achieving live tobacco-free which will reduce smoking-related disease, disability, and death.[16] It has been documented that most quit attempts are unsuccessful,[17] despite of that, half of smokers who have tried to quit are no longer smoking, which means that those who trying to quit can succeed.

According to the Centers for Disease Control and Prevention (CDC), primary care visits should be a chance to educate smokers about facilities available to them to quit smoking. However, counseling for quitting represent only 20–50% of physician visits and cessation medications are ordered minority of them (<8%).[16,18]

Few studies were conducted worldwide investigating patients' satisfaction with services provided at smoking cessation clinics. In Saudi Arabia, no study was cited investigating the patients' satisfaction with services provided at smoking cessation clinics. However, few studies investigated the physician's knowledge, attitude, and practice of smoking cessation counseling which could impact the patients` satisfaction through indirect way. The following is summary of these studies.

Al-Jdani *et al.* (2018) evaluated the knowledge, attitude, and practices of primary health-care physicians and dentists regarding smoking cessation counseling in Jeddah. Their main source of smoking cessation counseling was the internet (21.3%), followed by postgraduate studies (19.4%). The level of knowledge regarding smoking cessation counseling was poor. However, the level of attitude was good and that of practice was average. There was a significant association between participants' title and knowledge, attitude, and practice ($P < 0.001$).[19]

AlAteeq *et al.* (2016) carried out a survey to assess the attitude and practice of primary healthcare physicians toward providing smoking cessation advice to their smoker patients in a military community in Riyadh. More than half of the physicians (56%) did not attend a smoking cessation educational program in the last year. Most of them (75%) had a positive attitude and 64.4% had favorable practice. Positive attitude was significantly associated with higher educational level. Favorable practice was significantly associated with higher experience and positive attitude.[20]

In Bahrain, Hamadeh *et al.* (2017) carried out a cross-sectional study to estimate the smoking quit rates among male attendees of quit tobacco clinics and define associated factors. More than half of male smokers (56.5%) had quit all forms of tobacco after attending the quit tobacco clinics. Shisha smokers were more successful in quitting than cigarette smokers. Majority of them (93.0%) received nicotine replacement treatment accompanied with counseling sessions. Factors significantly associated with successful quitting were more than three visits to the clinics and previous quit attempts (≥21 months). Most participants were satisfied with the services provided by the clinics. The majority wanted an increase in the working days of the clinic.[21]

In USA, Quinn *et al.* carried out a study to explore the extent of compliance of physicians with the guideline's treatment model known as "5A's" (Ask, Advise, Assess, Assist, Arrange). Smokers were inquired about tobacco-cessation treatments received during primary care visits in the last year. Majority of smokers (90%) were asked about smoking, 71% of them were advised to quit smoking, 56% were assessed for their willingness to quit it, 49% received assistance interventions, and 9% had arranged follow-up arranged. Treatment was provided more often to smokers who asked for help and/or intended to quit. Only modest associations were found between patient characteristics and receipt of 5A's cessation services. Smokers who received treatment were more satisfied with health-care services.[22]

Solberg *et al.* (2001) carried out a study to assess the impact of receiving smoking cessation information during health

visits on the satisfaction with the smoking cessation among current cigarette smokers. Smokers were either very satisfied (12%) or satisfied (25.3%) with physician counseling. Patients who had been asked about tobacco use or advised to quit it during the latest visit were more likely to be satisfied with services compared to their counterparts. Smokers reported no interest in quitting at the time of the latest visit expressed greater satisfaction with physician help.[23]

Conroy *et al.* (2005) evaluated the smoking intervention through the five-step algorithm (5A's) among patients attending primary care centers. About two-thirds of them (65.9%) reported that they smoked at the time of the visit. They reported high levels of satisfaction with their tobacco-related care. Patient-reported receipt of each 5A step was significantly associated with greater patient satisfaction with tobacco-related care. Satisfaction with overall healthcare increased as counseling intensity increased. Patient reports of smoking cessation interventions delivered during primary care practice are associated with greater patient satisfaction with their healthcare, even among smokers not ready to quit.[24]

Sipos *et al.* (2018) carried out a cross-sectional study to assess the effectiveness of general practitioners' smoking cessation support, in the form of brief intervention, pharmacological and non-pharmacological support, on a sample of regular smokers aged 18 years or over in Hungary. The smoker's factors significantly associated with providing general practitioners' mediated smoking cessation support were high school education, chronic obstructive pulmonary, disease, and CVDs.[25]

Halladay *et al.* investigated interaction between smokers and health-care providers at primary care settings to explore the resources needed to support quit attempts and to better determine important outcomes among smokers through a focus group composed of patients (current smoker or having quit within 6 months). They concluded that smoking cessation counseling requires seeking the patient voice early in the process. Participants preferred honest, consistent, and pro-active discussions and actions.[26]

Study Rationale

- Tobacco smoking is the most modifiable risk factor that increases morbidity and mortality rates
- Patients' satisfaction with provided care is an essential indicator of the adequacy of the quality of healthcare
- The outcome of this study may help physicians better understand the patients' needs to quit smoking
- Up to the researcher's knowledge, very few studies were carried out worldwide, none-of them in Saudi Arabia discussing this important issue

Aim of Study

The aim of the study was to improve patients` satisfaction about services provided at smoking cessation clinic at armed force hospital.

Objectives

The objectives are as follows:

1. To assess the level of satisfaction of patients attending the smoking cessation clinic at Al-Jubail Military hospital regarding provided services
2. To identify factors associated with patients' satisfaction with services provided at smoking cessation clinic at Al-Jubail Military hospital.

METHODOLOGY

Study Design

This study was a cross-sectional study.

Study Area and Setting

This study was conducted at Al-Jubail city, which situated in the Eastern province on the Arabian Gulf coast of Saudi Arabia. Jubail Industrial City is the largest civil engineering project in the world today. According to 2011 census, there are 800.949 individuals in Al-jubail (73% of them were Saudis).[27] At the smoking cessation clinic, Armed Forces Hospital in Jubail, the study was specifically implemented. This clinic launched on 2015.

Study Population

All patients attending the smoking cessation clinic at Armed Forces Hospital in AL-Jubail, through the study period (September 1, 2019–March 31, 2020) constituted the target population for the study.

Sampling

All patients attending the smoking cessation clinic at Armed Forces Hospital in AL-Jubail, throughout the period from September 1, 2019 to March 31, 2020 were invited to participate in the study by filling in the study questionnaire. In 2018, almost 300 patients visited the clinic.

Study Tool

A self-administered questionnaire that comprised 32 questions was utilized. Permission to use the questionnaire was obtained from the corresponding authors through e-mail communication.

The questionnaire composed of two sections:

1. The first section: Was adopted from a recent study carried out in Bahrain:[21] It included demographic characteristics of the participants (age, gender, educational level, marital status, and employment status), in addition to details of smoking history

(Duration, average number of cigarettes/shisha/day, age at starting smoking). Number of visits to smoking cessation clinic in the past 12 months, history of previous quitting/relapse, provided services at the smoking cessation clinic and overall smoker's satisfaction. Quit smoking was considered if the smoker stopped smoking of any tobacco product for at least 6 months after attending the clinic whereas relapse in tobacco smoking was defined as resuming smoking after a complete abstention for at least a month.[28]

2. The second part: Stop Smoking Service client satisfaction survey tool which designed for all clients visiting smoking cessation clinics. It included three key items; "Overall how satisfied were you with the support you received to stop smoking"; response options were on a Likert scale: 1 (very satisfied), 2 (satisfied), 3 (unsure), 4 (unsatisfied), and 5 (very unsatisfied). "Would you recommend this service to other smokers who wanted to stop smoking": 0 (no), 1 (unsure), and 2 (yes) and "Have you smoked since your last appointment with the service?": 1 (No, not a single puff), 2 (Yes, just a few puffs), 3 (Yes, 1–5 cigarettes), and 4 (More than 5 cigarettes). The complete questionnaire (19 items) included the three key items assess overall client satisfaction with the smoking cessation services.[29] We include the 32 questions in our questionnaire. The questionnaires were scored in the way that the high the satisfaction with smoking cessation service, the higher the score. Total score was computed for each participant and the median value was computed (it was 53). Participants scored below the median value were considered "unsatisfied" whereas those scored at the median value and above were considered "Satisfied."

Data Collection Technique

The researcher distributed the self-administered questionnaire during the waiting of patients for their clinic visits. Care was taken to not disturb the working schedule. A help in collecting data from female site were requested by a trained nurse. The researcher was available to clarify any issue and the questionnaires were collected in the same day. The data were verified by hand then coded and entered to a personal computer.

Pilot Study

A pilot study was conducted on ten smokers. The results of this pilot study helped to set the study in their final applicable forms. The results were added to the final report sine there was no significant difference from final results.

Data Analysis

The Statistical Package for the Social Sciences (SPSS version 25) was used for data entry and statistical analysis. The descriptive statistics were calculated. Chi-square test was utilized to test for the association between satisfaction with services offered by smoking cessation clinic and factors affecting it. Statistically significant differences were considered at $P < 0.05$.

Definitions

Relapse

Resuming smoking after a complete abstention for at least a month.

Administrative Considerations

All the necessary official permissions will be fully secured before data collection. Collected data will be kept strictly confidential and will be used only for research purposes.

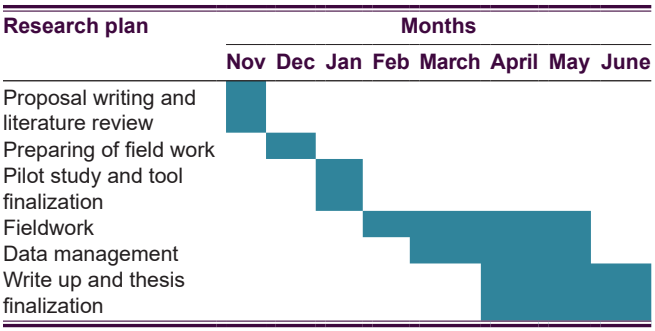
Ethical Considerations

Before start of the study, the researcher will fulfill all the necessary official approvals by the Research and Ethics committee. Before data collection, all participants will be clearly and briefly informed about the objectives of this study. A written consent form will be signed by every participant in the study before conducting the interview. All participants will be assured regarding the full confidentiality of any collected data.

Budget

This study was funded by the researcher.

Timetable



RESULTS

The study included 171 males. The age of about one-fourth of them (24.6%) ranged between 20 and 29 years whereas that of 21.1% was 50 years or above. Almost half of them (49.7%) were secondary school graduated whereas 36.8% were university graduated. Slightly more than half of them (51.5%) were married and 61.4% were working Table 1.

Smoking Related Characteristics

From Table 2, it is shown that more than half of the participants smoked for more than 10 years (54.4%), on an average of 1–2 packets per day among 59% of them and at least one shish per day among 35.7% of them. Regarding

Table 1: Socio-demographic characteristics of the participants

Socio-demographic characteristics	Frequency	Percentage
Age (years)		
<20	19	11.1
20–29	42	24.6
30–39	39	22.8
40–49	35	20.5
≥50	36	21.1
Educational level		
Below secondary school	23	13.5
Secondary school	85	49.7
University	63	36.8
Marital status		
Single	58	33.9
Married	88	51.5
Divorced/widowed	25	14.6
Employment status		
Working	105	61.4
Retired	31	18.1
Not working	35	20.5

Table 2: Smoking-related characteristics of the participants

Smoking-related characteristics	Frequency	Percentage
Duration of smoking before visiting the smoking cessation clinics (years)		
<5	48	28.1
5–10	30	17.5
>10	93	54.4
Average amount of cigarettes/Shisha smoked per day before visiting the smoking cessation clinics		
One packet of cigarettes	53	31.0
Two packets of cigarettes	48	28.0
≥thee packets of cigarettes	9	5.3
One Shisha	32	18.7
Two or more Shisha	29	17.0
Age at stating any type of tobacco smoking		
<18	40	23.4
18–20	56	32.7
20	36	21.1
>20	39	22.8

the age at starting any type of tobacco smoking, almost one-third of them (32.7%) started smoking between 18 and 20 years whereas 22.8% started it after 20 years.

Information Related to Smoking Cessation Clinics Visits

Among almost half of the participants (49.7%), the current visit was the first one to the smoking cessation clinic in the last 12 months whereas it more than the third among 17.6% of them. Regarding the provided services, Champix treatment was the commonest (50.8%), followed by counseling (34.5%) Table 3.

Majority of the participants reported previous attempts to quit smoking (86.5%); mostly once (46.2%) as illustrated in Figure 1. Among quitters, the longest duration exceeded 1 month among 45.9% of them as shown in Figure 2.

Table 3: Information related to smoking cessation clinics visits among the participants

Information related to smoking cessation clinics visits	Frequency	Percentage
Number of clinic visits in the last 12 months		
First	85	49.7
Second	39	22.8
Third	17	9.9
>Third	30	17.6
Provided services at the clinics		
Nicotine replacement therapy (gum-patch)	22	12.9
Champix treatment	87	50.8
Counseling cessions	59	34.5
Traditional herbal medicine	3	1.8

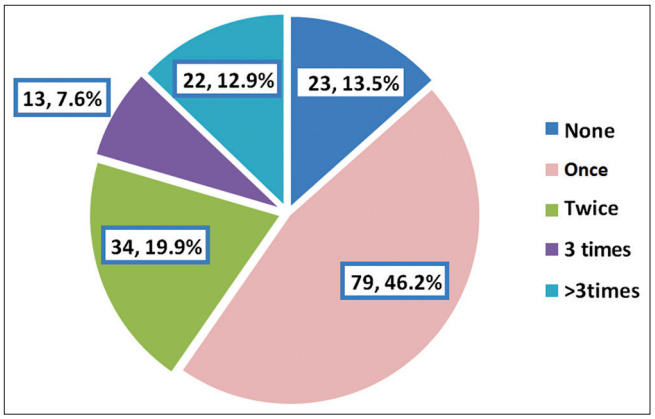


Figure 1: History of previous quitting among the participants

One-third of the participants reported a history of smoking relapse which means resuming smoking after a complete abstention for at least a month Figure 3.

Satisfaction with the support received to stop smoking'

Most of the participants were either satisfied or very satisfied with the support received to stop smoking (60.8%) and the support of the medical staff (65.6%). Furthermore, 60.8% of the participants agreed that the information and advice provided by the medical staff during their appointment was either helpful or very helpful while less than half of them (48.6%) described the written information provided by the medical staff as very helpful/helpful. Most of the participants agreed to recommend smoking cessation service to other smokers who want to stop smoking (64.3%), will be back to the clinic, if start smoking again to help stop smoking (63.1%), will be welcomed back if go back to the clinic for help stopping smoking in the future (56.8%), contact the smoking clinic easily when decided to stop smoking (59.6%) and when they contacted the clinic, they asked them they have to wait (67.2%); this waiting was 1 day or less among 52.5%) of the participants. Majority of the participants were offered support with child care costs (91.9%), agreed that the amount of time they had to wait for first appointment was acceptable (77.8%), the place for appointments was convenient (73.1%), and the appointment times given were convenient (71.9%)

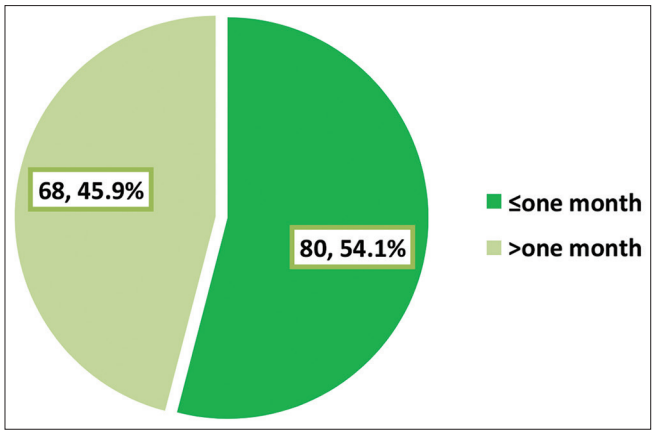


Figure 2: The longest duration of quitting among smoking quitters (n=148)

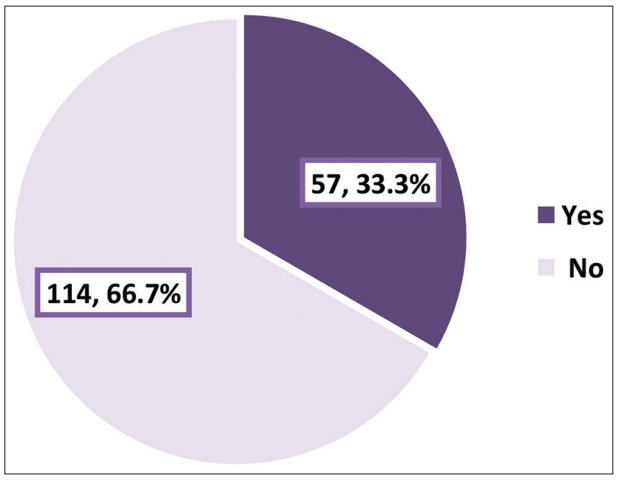


Figure 3: History of smoking relapse among the participants

whereas only 33.9% reported a call from the smoking cessation clinic before appointment to encourage them to attend treatment. More than half of the participants (57.3%) have smoked since their last appointment with the service.

Overall, more than half of the participants (53.8%) were satisfied with services offered by the smoking cessation clinic, Armed Forces Hospital, Al-Jubail city, as illustrated in Figure 4.

Factors Associated with Satisfaction with Smoking Cessation Services

Socio-demographic characteristics

As shown in Table 5, none of the studied socio-demographic factors (Age, educational level, marital status, and employment status) was significantly associated with satisfaction of the participants with services offered by smoking cessation clinic.

Smoking-related characteristics

Smoking-related characteristics (duration of smoking before visiting the smoking cessation clinics, average

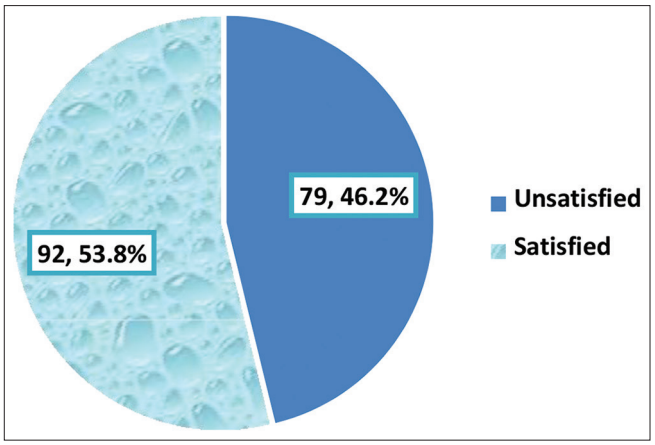


Figure 4: Overall satisfaction of the participants with smoking cessation services at the clinic, Armed Forces hospital, Al-Jubail city

amount of cigarettes/Shisha smoked per day before visiting the smoking cessation clinics, and age at stating any type of tobacco smoking) were significantly associated with satisfaction of the participants with services offered by smoking cessation clinic Table 6.

Information related to smoking cessation clinics visits

Number of clinic visits in the past 12 months and type of provided services at the clinics were not significantly associated with satisfaction of the participants with services offered by smoking cessation clinic, Table 7.

History of quitting attempts

Neither history of previous quitting among the participants nor the longest duration of quitting was significantly associated with satisfaction of the participants with services offered by smoking cessation clinic, Table 8.

History of smoking relapses

There was no statistically significant association between history of smoking relapse and satisfaction with services offered by smoking cessation clinic among the participants, Table 9.

DISCUSSION

Tobacco cessation clinics are essential to help smokers quit, through offering services to them. These services are provided free of charge in the KSA, including consultation as well as full course of nicotine replacement therapy.[10] Despite of that, just a little more than half of the smokers reported having been advised by their health-care professional to quit smoking.[30]

Up to the best of our knowledge, no previous efforts have been made to investigate how valuable are the smoking

Table 4: Satisfaction of the participants with the support received to stop smoking at smoking cessation clinic, Armed Forces hospital, Al-Jubail city

Satisfaction of the participants with support received clinic	Very satisfied *n* (%)	Satisfied *n* (%)	Unsure *n* (%)	Unsatisfied *n* (%)	Very unsatisfied *n* (%)
Satisfaction with the support received to stop smoking'	56 (32.7)	48 (28.1)	19 (11.1)	25 (14.6)	23 (13.5)
Satisfaction with the support of the medical staff	55 (32.3)	57 (33.3)	11 (6.4)	31 (18.1)	17 (9.9)
Satisfaction of the participants with information received clinic	**Very helpful *n* (%)**	**Helpful *n* (%)**	**Unsure *n* (%)**	**Unhelpful *n* (%)**	**Very unhelpful *n* (%)**
How useful is the information and advice provided by the medical staff during your appointment?	56 (32.7)	48 (28.1)	13 (7.6)	36 (21.1)	18 (10.5)
How useful is the written information provided to you by the medical staff? (*n*=105)	32 (30.5)	19 (18.1)	17 (16.2)	23 (21.9)	14 (13.3)

Participant recommendation with the services provided in the clinic	No *n* (%)	Not sure *n* (%)	Yes *n* (%)
Do you recommend smoking cessation service to other smokers who want to stop smoking	32 (18.7)	29 (17.0)	110 (64.3)
If starting smoking again, will be back to the clinic to help stop smoking	41 (24.0)	22 (12.9)	108 (63.1)
If you go back to the clinic for help stopping smoking in the future, do you think you will be welcomed back?	30 (17.5)	44 (25.7)	97 (56.8)
It was easy to contact the smoking clinic when you decided you wanted to stop smoking	34 (19.9)	35 (20.5)	102 (59.6)
When you contacted the clinic were you given an appointment date or told how long you would have to wait?	36 (21.1)	20 (11.7)	115 (67.2)
How long should you wait a head? (*n*=115) ≤1 day		60 (52.5)	
2–<7 days		28 (24.3)	
≥7 days		27 (23.2)	
Was the amount of time you had to wait for your first appointment acceptable to you?	24 (14.0)	14 (8.2)	133 (77.8)
Was there a call from the smoking cessation clinic before your appointment to encourage you to attend treatment?	75 (43.9)	38 (22.2)	58 (33.9)
Are the appointment times you were given convenient for you?	26 (15.2)	22 (12.9)	123 (71.9)
Is the place where you go for your appointments convenient for you to get to?	15 (8.8)	31 (18.1)	125 (73.1)
Have you been you offered support with child care costs?	10 (5.8)	4 (2.3)	157 (91.9)
Were you given a choice of an individual appointment or a group?	35 (20.5)	40 (23.4)	96 (56.1)
The information given to me about choosing the drug was helpful	38 (21.1)	28 (16.4)	107 (62.5)
It was easy to stick and hold on to the medication by simply choosing the medication I am going to use to try to stop smoking	63 (36.8)	35 (14.6)	83 (48.6)
Have you smoked since your last appointment with the service?		73 (42.7)	
No		44 (25.7)	
Yes, just a few puffs Yes, 1–5 cigarettes		27 (15.8)	
Yes, more than 5 cigarettes		27 (15.8)	

cessation clinics in the KSA and in particular the Eastern Region. Therefore, this study was conducted to assess the level of satisfaction of patients attending the smoking cessation clinic regarding provided services and identify factors association with that satisfaction as the findings of this study would be of importance for health policy makers in their smoking control efforts.

In the current study, majority of the participants reported previous attempts to quit smoking (86.5%), which is encouraging; among 45.9% of them. The longest duration exceeded 1 month. In a study carried out in Bahrain,[21] the tobacco-quit rate was 56.5%. However, in the present study, one-third of the smoking cessation clinic attendees reported a history of smoking relapse, which is very close to what has been observed in Bahrain.[21] Therefore, these clinics could contribute effectively to the tobacco control efforts and reduce the health burden of tobacco smoking, through providing services that initiate and maintain quitting.

The present study revealed that most of smoking cessation clinic' attendees were satisfied with support received to stop smoking as well as the support of the medical staff. Furthermore, most of them agreed that the information and advice provided by the medical staff during their appointment was helpful to them while almost half of them described the written information provided by the medical staff as helpful. Previous Saudi study indicated that physicians' level of knowledge regarding smoking cessation counseling was poor; however, the level of attitude was good and that of practice was average[19] Furthermore, in another study carried out in Riyadh, more than half of the physicians did not attend a smoking cessation educational program in the last year, however, most of them had a positive attitude and favorable practice regarding smoking

Table 5: Association between socio-demographic characteristics and satisfaction with smoking cessation services among the participants

Association between socio-demographic characteristics and satisfaction with smoking cessation services	Satisfaction with smoking cessation services		*P*-value*
	Unsatisfied *n*=79 *n* (%)	Satisfied *n*=92 *n* (%)	
Age (years)			
<20 (*n*=19)	6 (31.6)	13 (68.4)	
20–29 (*n*=42)	20 (47.6)	22 (52.4)	0.307
30–39 (*n*=39)	23 (59.0)	16 (41.0)	
40–49 (*n*=35)	14 (40.0)	21 (60.0)	
≥500 (*n*=36)	16 (44.4)	20 (55.6)	
Educational level			
Below secondary school (*n*=23)	13 (56.5)	10 (43.5)	0.242
Secondary school (*n*=85)	34 (40.0)	51 (60.0)	
University (*n*=63)	32 (50.8)	31 (49.2)	
Marital status			
Single (*n*=58)	29 (50.0)	29 (50.0)	0.526
Married (*n*=88)	37 (42.0)	51 (58.0)	
Divorced/wido (*n*=25) wed	13 (52.0)	12 (48.0)	
Employment status			
Working (*n*=105)	53 (50.5)	52 (49.5)	0.365
Retired (*n*=31)	12 (38.7)	19 (61.3)	
Not working (*n*=35)	14 (40.0)	21 (60.0)	

*Chi-square test

Table 6: Association between smoking-related characteristics and satisfaction with smoking cessation services among the participants

Association between smoking-related characteristics and satisfaction with smoking cessation services	Satisfaction with smoking cessation services		*P*-value*
	Unsatisfied *n*=79 *n* (%)	Satisfied *n*=92 *n* (%)	
Duration of smoking before visiting the smoking cessation clinics (years)			
<5 (n=48)	17 (35.4)	31 (64.6)	0.210
5–10 (n=30)	15 (50.0)	15 (50.0)	
>10 (n=93)	47 (50.5)	46 (49.5)	
Average amount of cigarettes/Shisha smoked per day before visiting the smoking cessation clinics			
One packet of cigarettes (*n*=53)	21 (39.6)	32 (60.4)	0.521
Two packets of cigarettes (*n*=48)	21 (43.8)	27 (56.3)	
≥thee packets of cigarettes (*n*=9)	6 (66.7)	1 (33.3)	
One Shisha (*n*=32)	17 (53.1)	15 (46.9)	
Two or more Shisha (*n*=29)	14 (48.3)	15 (51.7)	
Age at stating any type of tobacco smoking			
<18 (*n*=40)	17 (42.5)	23 (57.5)	0.400
18–20 (*n*=56)	23 (41.1)	33 (58.9)	
20 (*n*=36)	21 (58.3)	15 (41.7)	
>20 (*n*=39)	18 (46.2)	21 (53.8)	

*Chi-square test

cessation.[20] Solberg *et al.* observed that 37.3% of current cigarette smokers were satisfied with physician counseling and smokers who had been asked about tobacco use or advised to quit it during the latest visit were more likely to

Table 7: Association between information related to smoking cessation clinics visits and satisfaction with smoking cessation services among the participants

Association between information related to smoking cessation clinics visits and satisfaction with smoking cessation services	Satisfaction with smoking cessation services		*P*-value*
	Unsatisfied *n*=79 *n* (%)	Satisfied *n*=92 *n* (%)	
Number of clinic visits in the last 12 months			
First (*n*=85)	37 (43.5)	48 (56.5)	0.914
Second (*n*=39)	19 (48.7)	20 (51.3)	
Third (*n*=17)	8 (47.1)	9 (52.9)	
>Third (*n*=30)	15 (50.0)	15 (50.0)	
Provided services at the clinics			
Nicotine replacement therapy (gum-patch) (*n*=22)	14 (63.6)	8 (36.4)	0.306
Champix treatment (*n*=87)	40 (46.0)	47 (54.0)	
Counseling cessions (*n*=59)	24 (40.7)	35 (59.3)	
Traditional herbal medicine (*n*=3)	1 (33.3)	2 (66.7)	

*Chi-square test

Table 8: Association between history of quitting attempts and satisfaction with smoking cessation services among the participants

Association between history of quitting attempts and satisfaction with smoking cessation services	Satisfaction with smoking cessation services		*P*-value*
	Unsatisfied *n*=79 *n* (%)	Satisfied *n*=92 *n* (%)	
History of previous quitting among the participants			
None (*n*=23)	13 (56.5)	10 (43.5)	0.667
Once (*n*=79)	35 (44.3)	44 (55.7)	
Twice (*n*=34)	14 (41.2)	20 (58.8)	
3 times (*n*=13)	5 (38.5)	8 (61.5)	
>3 times (*n*=22)	12 (54.5)	10 (45.5)	
Longest duration of quitting			
None (*n*=23)	14 (60.9)	9 (39.1)	0.304
≤1 month (*n*=80)	36 (45.0)	44 (55.0)	
>1 month (*n*=68)	29 (42.6)	39 (57.4)	

*Chi-square test

be satisfied with services compared to their counterparts.[23] However, it has been documented that physicians in our region have low perception of their role in helping smokers to quit.[15,16] It seems from the aforementioned studies that better knowledge, attitude, and practice of physicians regarding smoking cessation is an essential element for customer`s satisfaction.

Furthermore, most of the participants in the present study will recommend smoking cessation service to other smokers who want to stop smoking, will be back to the clinic, if start smoking again to help stop smoking, will be welcomed back if go back to the clinic for help stopping smoking in the future, and contact the smoking clinic easily when decided to stop smoking. Conroy *et al.* reported that smokers' reports of smoking cessation interventions delivered during primary care practice was associated with

Table 9: Association between history of smoking relapse and satisfaction with smoking cessation services among the participants

Association between history of smoking relapse and satisfaction with smoking cessation services	Satisfaction with smoking cessation services		*P*-value*
	Unsatisfied *n*=79 *n* (%)	Satisfied *n*=92 *n* (%)	
Yes (*n*=57)	26 (45.6)	31 (54.4)	0.914
No (*n*=114)	53 (46.5)	61 (53.5)	

*Chi-square test

greater patient satisfaction with their healthcare, even among those not ready to quit.[24]

In the present survey, most of smoking cessation clinics attendees were satisfied with the amount of time they had to wait for first appointment, the place for appointments and the appointment times. However, only one-third of them reported a call from the smoking cessation clinic before appointment to encourage them to attend treatment. Halladay *et al.* through a focus group with current smokers or those having quit within 6 months concluded that smoking cessation counseling requires seeking the patient voice early in the process and participants preferred honest, consistent, and pro-active discussions and actions.[26] In Bahrain, lower satisfaction rates were observed concerning clinic days and opening hours.[21]

In the current study, more than half of the smoking cessation clinic attendees have smoked since their last appointment with the service; mainly just a few puffs. Similarly, Conroy *et al.* reported that bout two-thirds of the participants (65.9%) smoked at the time of the visit to anti-smoking clinic.[24] This indicates that smoking is not easy to stop and great efforts are needed to achieve this goal.

Overall, more than half of the participants (53.8%) were satisfied with services offered by the smoking cessation clinic in the current study. In another study carried out in Bahrain, most participants were satisfied with the services provided by the clinics; however, the majority wanted an increase in the working days of the clinic.[21] In USA, high levels of satisfaction with their tobacco-related care were observed.[24]

In the current study, none of the investigated factors; demographic, smoking-related, and smoking-cessation clinic related was associated with the level of satisfaction. In a study carried out in USA, smokers who received treatment were more satisfied with health-care services.[22] In another USA study, smokers reported smoking cessation interventions delivered during primary care practice were associated with greater satisfaction with their healthcare, even among those not ready to quit.[24]

Strengths and Limitations

Among strengths of the present study are that it is, up to the best of our knowledge, unique of its kind in evaluating the satisfaction of smokers with services offered by the smoking cessation clinics in the KSA. Furthermore, this study could have an important role for health-care policy makers for empowering these clinics and increasing their efficiency. On the other hand, the main limitation was its conduction in one health-care facility which could impacts the generalizability of the results. Furthermore, its cross-sectional nature proves only association and not causality between independent and dependent variables.

CONCLUSION

A considerable proportion of smoking cessation clinic attendees in Armed Forces hospital, Al-Jubail is satisfied with offered services, exceeding half of them. However, lower satisfaction was reported regarding the written information provided by the medical staff and having calls from the smoking cessation clinic before appointment to encourage them to attend treatment. None of the demographic, smoking-related, and smoking-cessation clinic related factors was associated with the level of satisfaction with the offered services.

Recommendations

Based on the findings of the present study, the following are recommended:

1. Increasing awareness of the general population regarding the existence and importance of smoking cessation clinics, through educational announcements at schools, universities, and public places
2. Improving efficiency of smoking cessation clinics by making them easily accessible with sufficient working hours
3. Healthcare professionals should inquire about smoking among their patients and advise them to quit smoking and encourage them to seek help in smoking cessation clinics
4. Written information provided by the medical staff in smoking cessation clinics should be reconsidered
5. There should be calls from the smoking cessation clinic before appointment of smokers to encourage them to attend treatment
6. Further study including attendees to other smoking cessation clinics in needed to have more information about the whole situation in Al-Jubail.

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