Prevalence of Smoking among Patients Attending Cardiac Clinic in Gaza Strip

H. A. Abu Tawila[1] and A. A. Thabet[2*]

[1]*Department of Cardiovascular, Diseases-Private Clinic, Former Director of Cardiac Unit at El-Shifa Hospital, Palestine.*
[2]*Department of Psychiatry, School of Public Health, Child Institute, Al Quds University, Gaza P.O.Box 5314, Palestine.*

Authors' contributions

This work was carried out in collaboration between both authors. Author HAAT designed the study, wrote the protocol, and collected the data, AT wrote the first draft of the manuscript. Author HAAT managed the literature searches. Author AAT analyses of the study performed the spectroscopy analysis and wrote the final draft. Both authors read and approved the final manuscript.

Original Research Article

ABSTRACT

The aims of the study were to determine the prevalence of tobacco smoking among patients attending private clinic and to examine the socio-demographic correlates of smoking in Gaza City. A retrospective study was carried out. The case records of all patients attending private chest clinic Abu Tawelia in Gaza City from 2006-2014 were included. A total number of 1034 records of patients was included. The sample consisted of 514 males (49.85%) and 518 females (50.15%). The patients age ranged from 18 to 90 years with mean age of 54.7 years. Overall, the smoking prevalence was of 19.2%. Males smoked more than females (16.3% vs. 2.9% of total sample). Most current smokers smoked cigarettes (82.5%), but the use of Shisha was also common (17.5%). Mean smoking years was 26.16. Smoking prevailed in patients with age ranging from 28

Corresponding author: Email: abdelazizt@hotmail.com, abdelazizth@yahoo.com;

to 58 years (48.5%). A bit less than 40% of smokers has started before 20 years of age. Health-promotion activities should be established to decrease the prevalence of smoking and prevent future adverse health outcomes.

Key words: Cardiac clinic; Gaza Strip; prevalence; tobacco smoking.

1. INTRODUCTION

Based on the estimates done by the World Health Organization, in 2015 cigarette use will cause an excess of deaths of 50% when compared with HIV/AIDS; and 10% of the world's death rate will be connected to cigarette use. Between 2002 and 2030, death rates in developed countries caused by cigarette use will be decreased by 9% [1].

Smoking rates are reported to be reducing in most western countries. By contrast, smokers are increasing in many developing areas, including Muslim countries.

In Syria, the prevalence of smoking was reported to be 18.6% [2]. In the Turkey GATS conducted in 2012 has shown that 41.5% of men, 13.1% of women, and 27.1% overall currently smoked tobacco. Among smokers, 37.3% of men and 10.7% of women smoked daily. A part of current smokers, 1.1% of men and 0.5% of women smoked water pipe [3]. In the 2009 Egypt GATS, overall, 19.4% of adults currently smoked tobacco; 37.7% men and 0.5% women. Ninety-five per cent of current smokers were daily smokers. Manufactured cigarettes were the most popular type of product smoked by men (31.7%), followed by shisha (6.2%); with regard to women smokers, 0.2% smoked manufactured cigarettes and 0.3% smoked shisha. Among daily cigarette smokers, men smoked on average 19.4 cigarettes per day [4]. Another study compared smoking habits in the Middle East in a large general population sample of individuals aged 40 years. Overall, smoking rates were 53.9% in Lebanon, 39.5% in Turkey, 38.1% in Jordan, 34.5% in Syria, 29.6% in Egypt [5].

Few data on smoking habits are available from Gaza. According to the Palestinian Central Bureau of Statistics (PCBS), the smoking rate among Palestinian youth was 27%, overall [6]. A later PCBS study has reported a higher rate of smoking among youth (19.8%) [6]. Moreover, Musmar, (2012) in study aimed to explore the rate of and attitudes towards smoking among 954 randomly selected full-time students at An-Najah National University in Palestine. The study showed that 34.7% of the study sample were cigarette or water pipe (Shisha) smokers, and this rate was higher among males than females (52.7% versus 16.5%) [7].

The aims of the study were to determine the prevalence of tobacco smoking among patients attending the private cardiac clinic Abu Tawelia and to examine the sociodemographic correlates of smoking in Gaza City.

2. METHODS

2.1 Sampling

The case records of all patients consecutively attending the private clinic Abu Tawelia Cardiac Clinic in Gaza City from 2010-2014 were included. A total number 1034 records of patients were evaluated.

2.2 Measures

2.2.1 Patient records

2.2.1.1 Demographic characteristics

Demographic indicators included patient gender, age, level of education, and current employment status was presented in the record.

2.3 Smoking

Regular smokers were those patients who reported that they currently smoke daily or occasionally. Patients who responded as having previously smoked daily but did not smoke at all at the time of the interview were classified as former smokers (quitters). Patients who smoked every day at the time of the interview were classified daily smokers. Nonsmokers are patients who had never smoked tobacco. Lifetime exposure to tobacco is estimated in pack years by multiplying the average number of cigarettes smoked per day divided by 20 and multiplied by the duration of smoking years. This is based on the assumption that there are 20 cigarettes in one packet.

2.4 Statistical Analysis

The data were analyzed using SPSS software version 20.0 (Chicago, Illinois). Initially,

Continuous variables were expressed as mean± standard deviation (SD) and percentage was calculated for categorical variables. Comparison of continuous and categorical variables was done in both male and female groups using chi-squared test and any statistically significant difference was noted. For the purpose of the study, P value<0.05 was considered statistically significant. Multiple logistic regression analysis was used to examine the prediction of smoking by other socio-demographic variables such as sex, level of education, place of residence and working condition.

3. RESULTS

The sample consisted of 514 males (49.85%) and 518 females (50.15%). The age of ranged from 18-90 years with mean age 54.74 years (SD = 15.91). Other demographic details have been reported in Table 1.

Six-hundred-ninety subjects were non smokers (66.9%), 144 were former smokers (14%), and 198 were smokers (19.2%). Regard type of smoking, 160 of smokers smoked cigarettes (82.5), and 34 of them smoked Shisha (17.5%). Other findings of smoking habits have been shown in Tables 2-5.

Table 6 details a binary logistic regression analysis where smoking status was the dependent variable (in which smokers were coded as 1 and nonsmokers as 0) and some socioeconomic variables as independent variables. There was a strong statistically significant association of smoking with sex (male) (β = -1.89, P < 0.001). Age and type of work age (> 20 years) were also statistically significant predictors of smoking (P< 0.05). Three was no significant association between risk of smoking and residence and education.

4. DISCUSSION

This study aimed to determine the prevalence of tobacco smoking among patients attending a private clinic in Gaza City. Current smokers were 19.2%, overall, 16.3% males and 2.9% females. Smoking in males was more commonly than in females. However, females smoked Shisha more than males (24.1% vs. 16.3%). Waterpipe (Shisha) smoking use was relatively low, but it was more frequent in women when compared to cigarette smoking. Importantly, waterpipe smoking is also very dangerous for heart [8] and,

unfortunately is largely increasing in the Middle East [9].

Table 1. Sociodemographic characteristics of the study sample (N= 1032)

		No	%
Sex	Male	514	49.8
	Female	518	50.2
Age	18 and less years	4	0.4
	19-28 years	65	6.3
	29-38 years	106	10.3
	39-48 years	199	19.3
	49-58 years	191	18.5
	59-68 years	241	23.4
	69 and more years	226	21.9
Place of residence	North	170	16.5
	Gaza	703	68.1
	Middle area	128	12.4
	Khan Younis	5	.5
	Rafah	26	2.5
Work	Not working	20	1.9
	Simple worker	74	7.2
	Skilled worker	45	4.4
	Employee	196	19.0
	Merchant	86	8.3
	Retired	114	11.0
	Others	42	4.1
	Housewife	455	44.1
Education	Not educated	179	17.4
	Elementary	166	16.1
	Secondary	410	39.9
	University	213	20.7
	High-education	60	5.8

Only 40% of the patients started smoking before age of 20 years. This finding is not typical of western countries, but it is reported in Muslim countries [1]. This gender difference in smoking rates was commonly found in this region of the world [10]. A main cause could be that women in many Muslim countries have restricted access to public places where cigarettes are traditionally smoked, such as cafes and markets. Moreover, smoking by men is traditionally seen as common and "normal", while smoking by women may be considered inappropriate and shameful. Our smoking rates was lower than found in Turkey, Jordan, Lebanon. However, our findings are not generalizable to the whole Gaza population, as only pertained to patients attending a private cardiac clinics in Gaza.

Few comparison data are available in those countries. A study was conducted in Jordan to evaluate the prevalence of the 4 conventional risk factors in 5000 individuals including 1692 (34%) women. Coronary heart disease CHD was present in 1534 (31%) individuals (1202 men and 332 women). Among coronary heart disease (CHD) patients, at least one risk factor was present in the majority of men (95%) and women (96%). Compared with women who had CHD, men had significantly higher prevalence of smoking (45% vs. 11) [11]. Likewise, cigarette smoking is particularly prevalent among Middle-Eastern patients presenting with acute coronary syndrome [12].

Table 2. Smoking status of the study sample

		No	%
Smoking status	Smoker	198	19.2
	Non smoker	690	66.9
	Former smoker	144	14.0
Type of smoking	Cigarettes	164	82.8
	Shisha	34	17.2
Age of starting smoking (y)	<16	36	20.1
	17-20	35	19.6
	21-25	53	29.6
	>26	55	30.7
Years of smoking	Less than 10 years	28	14.1
	11-15 years	18	9.1
	16-20 years	42	21.2
	21-25 years	14	7.1
	above 26 years	96	48.5

Table 3. Sex differences in smoking status and forms from total sample (N =1032)

	Male (168+126+220)		Female (30+18+470)		$\chi2$	p
Smoking						
	No.	%	No.	%		
Smoker	168	16.3	30	2.9	267.75	0.001
Former smoker	126	12.2	18	1.7		
Non smoker	220	21.3	470	45.5		
Type of smoking (N= 194)						
Cigarettes	138	71.1	22	11.3	1.03	0.21
Shisha	27	13.9	7	3.6		

Table 4. Education level and smoking

Education		Former smoker (144)	Non smoker (690)	Smoker (198)	Total
Uneducated	No.	12	163	6	181
	%	1.2	15.8	.6	17.5
Elementary	No.	25	115	26	166
	%	2.4	11.1	2.5	16.1
Secondary	No.	60	259	93	412
	%	5.8	25.1	9.0	39.9
University	No.	36	117	60	213
	%	3.5	11.3	5.8	20.6
High-education	No.	11	36	13	60
	%	1.1	3.5	1.3	5.8
Total	No.	144	690	198	1032
	%	14.0	66.9	19.2	100.0

($\chi2$ = 65.69, df = 8, p< 0.001)

Table 5. **Age and smoking**

Age		Smoker	Former smoker	Non smoker
18 and less years	No.	0	0	4
	%	0.0	0.0	.4
19-28 years	No.	14	2	49
	%	1.4	.2	4.7
29-38 years	No.	36	6	64
	%	3.5	.6	6.2
39-48 years	No.	61	26	112
	%	5.9	2.5	10.9
49-58 years	No.	46	25	120
	%	4.5	2.4	11.6
59-68 years	No.	26	42	173
	%	2.5	4.1	16.8
69 and more years	No.	15	43	168
	%	1.5	4.2	16.3

($\chi 2$ = 82.80, df = 8, p< 0.001)

Table 6. Multiple regression analysis of smoking and socio demographic variables (n = 1032)

Smoking		OR	95% CI	*p*-value
Sex (M/F)	F	0.15	(0.09-0.26)	0.001
	M	0.98	(0.96-0.99)	
Age (age class)	<=40	0.82	(0.73-0.92)	
	>40	0.81	(0.62-1.07)	0.001
Type of work	work	1.03	(0.99-1.07)	0.001
	Not work	0.15	(0.09-0.26)	
	Housewife	0.98	(0.96-0.99)	
Place of residence (Gaza yes/not)	Gaza	0.82	(0.73-0.92)	0.13
	Not Gaza	0.81	(0.62-1.07)	
Education level (lower/upper)	upper	1.03	(0.99-1.07)	0.09
	lower			

Patients with acute coronary syndrome in the Middle East are younger than in developed countries and have higher rates of diabetes and smoking [13].

4.1 Implications for Practice

This study showed that smoking among patients attending private cardiac clinic is 19.2% which may be generalized to the adult population in the Gaza Strip. Such rate need more campaigns for cessation of smoking in sport clubs, community based organization, schools, universities and other place where adolescents available and spending their time. School-based intervention programs must be started to overcome the increasing number of adolescents smoking and to increase their awareness about the dangerous on health consequences of smoking and ways of avoiding such risks.

The study showed that there is need to do more prevalence studies in prevalence of smoking in other groups such as the university students and other risk and protective factors. Also, to evaluate the risk and protective factors in adolescents smoking Shisha which spread in the last decade among adolescents and young men in Gaza?

More taxes should be imposed in each pack of cigarettes for making buying cigarettes difficult and unavailable for number of smokers.

A public policy for preventing smoking in public places such as civil buildings, hospitals, and other places serving the people must be implemented.

5. CONCLUSION

This is the first study of cases referred to private clinic in Gaza Strip which showed that 19.2% were smokers, males smoked more than female patients. Females smoked Shisha more than males (24.1% vs. 16.3%). Such findings highlight the need for more community programs to increase awareness of smoking hazards on health and public laws must prevent smoking in public places.

CONSENT

It is not applicable.

ETHICAL APPROVAL

All authors hereby declare that study had been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. World Health Organization. Global Adult Tobacco Survey.
   Available:http://www.who.int/tobacco/ surveillance/survey/gats/en/
   Last accessed 9th April 2015
2. Maziak W, Hammala F, Rastama S. Characteristics of cigarette smoking and quitting among university students in Syria. Preventive Medicine. 2004;39:330-336.
3. Global Adult Tobacco Survey (GATS). Global Adult Tobacco Survey Turkey Report, Ministry of Health. Available:http://www.who.int/ tobacco/surveillance/en_tfi_gats_turkey_2 009.pdf Accessed 15 March 2015.
4. World Health Organization. Global Adult Tobacco Survey, Egypt country report; 2009.
   Available:http://www.who.int/tobacco/surve illance/gats_rep_egypt.pdf
5. Musmar SG. Smoking habits and attitudes among university students in Palestine: A cross-sectional study. East Mediterranean Health Journal. 2012;18(5):454-460.
6. Khattab A, Javaid A, Iraqi G, Alzaabi A, Ben Kheder A, Koniski M, Shahrour N, Tarigh S, Idrees M, Polatli M, Rashid N, El Hasnaoui A. Smoking habits in the Middle East and North Africa: Results of the BREATHE study. Respiratory Medicine. 2012;106(S2):16-24.134.
7. Palestinian, Central Bureau of Statistics [online factsheet] Youth in Palestinian territory: Statistical indicators. On the occasion of the International Youth Day; 2008.
   Available:http://www. pcbs.gov.ps/Portals/_pcbs/Press Release/shabab2008.pdf Accessed 15.
8. Musmar SG. Smoking habits and attitudes among university students in Palestine: a cross-sectional study. East Mediterranean Health Journal. 2012;18(5):454-460.
9. Selim GM, Fouad H, Ezzat S. Impact of shisha smoking on the extent of coronary artery disease in patients referred for coronary angiography. Anadolu Kardiyol Derg. 2013;13(7):647-54.
10. Maziak W, Taleb ZB, Bahelah R, Islam F, Jaber R, Auf R, Salloum RG. The global epidemiology of waterpipe smoking. Waterpipe smoking has become a global public health problem. Tob Control. 2015; 24(Suppl 1):i3-i12.
11. Afifi RA, Khawaja M. Social capital, women's autonomy and smoking among married women in low-income urban neighborhoods of Beirut, Lebanon. Women's Health Issues. 2010;20:156-67.
12. Hammoudeh AJ, Al-Tarawneh, H., Elharassis A, Haddad J, Mahadeen Z, Badran N, Izraiq M, Al-Mousa M. Prevalence of conventional risk factors in Jordanians with coronary heart disease: The Jordan Hyperlipidemia and Related Targets Study (JoHARTS). International Journal of Cardiology. 2006;110:179-183.

13.   Al Suwaidi J, Zubaid M, El-Menyar AA, Singh R, Asaad N, Sulaiman K, Al Mahmeed W, Al-Shereiqi S, Akbar M, Al Binali HA. Prevalence and outcome of cigarette and waterpipe smoking among patients with acute coronary syndrome in six Middle-Eastern countries. Eur J Prev Cardiol. 2012;19(1):118-25.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sciencedomain.org/review-history.php?iid=1122&id=12&aid=9502