Tobacco Harm Knowledge and Attitude among Infertile Couples

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Received September 2009; Revised and accepted November 2009

Abstract

Objective: High prevalence of tobacco consumption in childbearing ages is an important topic of consideration as its ill effects have influences on fertility. Worldwide studies have shown that general knowledge on fertility issues is low. Aim of the current study was to assess tobacco harm knowledge and attitude in infertile couples referring to the Avicenna center.

Materials and Methods: This was a cross-sectional study. All Avicenna fertility clinics' new patients with infertility complain between November of 2007 and February 2008 was included. Information was collected trough standard knowledge and attitude questionnaire.

Results: Among 684 individuals (342 couples), the mean score of knowledge and attitude was 0.49±0.79 (from a total of 4), 19.1±2.70 (from a total of 24). The mean knowledge score among women and men was 0.44±0.73, 0.54±0.84, respectively. The mean of attitude score in women and men was 19.35±2.55, 18.85±2.82, respectively. Significant correlation between age, gender, education and tobacco experience with knowledge was not found. Yet, attitude was significantly more appropriate in women, the educated and inexperienced tobacco usage (P=0.001, P=0.001, P=0.03, respectively).

Conclusion: In the population studied, attitude was appropriate but level of knowledge was low and this suggests more steps should be taken to improve the knowledge.

Key words: Tobacco, Knowledge, Attitude, Infertility

Introduction

High prevalence of tobacco consumption in reproductive ages is an issue of concern. The harmful effects of tobacco use on general health are well known. Yet, smoking also affects fertility (1). Knowledge is a key factor associated fertility self-care, knowledge about their own fertility potential and initiation of needed treatments (2). Worldwide studies including 1750 individuals (mostly in childbearing ages) from 10 European, African, Middle Eastern and South African countries have shown that overall information on fertility issues is low (3).

Parental smoking is the source of many complications with fertility and reproduction. Active smoking in men reduces quality and motility of sperms which may reduce fertility and increase impotency. Additionally, smoking by the father leads to involuntary exposure to the mother and children. Active smoking in women has negative influence on fertility and also treatment of infertility and decreases treatment success and delays fertilization, increases risk of extra uterine pregnancy and fetal injury (4).

Smoking increases awaiting time for fertility such that if both parents smoke, the time needed for reproduction significantly increases compared to nonsmokers (7.68±9.41 versus 4.30±5.73 months, $P<0.05$) and average rate of waiting for fertility more than 6 months is significantly higher among parents who smoke compared to nonsmokers ($P=0.03$, OR 3.33, 95% CI 1.07-10.30) (5).

Smoking influence on fertility is an issue that public knowledge is insufficient about it (6). Knowledge about fertility health issues may also help prevent infertility in the first insurance (2). It seems that if a lady is aware of the harms of tobacco consumption on fertility, smoking cessation or decreased use is more probable during pregnancy (7).

Considering lack of studies in Iran regarding knowledge and attitude toward tobacco consumption and particularly in relation to fertility, this study was designed to evaluate the mentioned among infertile couples presenting to the Avicenna center for treatment of infertility and recurrent abortions.

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Material and Methods

The design of this study was a cross sectional-observational one. All attendees with complain of infertility to the Avicenna center based on a first-come first service system from November 2007 until February 2008 were evaluated. Assessment of knowledge was done using a questionnaire adapted from WHO (World Health Organization) and IUATLD (International Union Against Tuberculosis and Lung Disease) by a trained interviewer.

In this study, people with history of smoking in the past were considered experimenters and those who based on WHO standards had smoked 100 cigarettes or equivalent of Ghalian or pipe and continued use were considered smokers. Knowledge questions had four possible responses (scored from 1 to 4) and attitude questions based on total score (from 1 to 24) were designed in a ladder format from extreme agreement to extreme disagreement. Individuals who had positive responses to none, one, two or more questions regarding knowledgability were assigned a level of very low, low, average and good.

Information collected was analyzed using the SPSS 16 software using the t and Chi-square tests. Level of significance was chosen at $\alpha=0.05$.

Moral issues included privacy of information, explanation of the goals and design of the study to participants and acquiring their permission and consent.

Results

In this study 684 individuals (342 couples) participated. Mean age of study group was 35.3±6.5 years. More than half of the participants 363 people (54.2%) had junior high school and high school education, 182 (27.2%) had university education and 125 (18.7%) had primary school education or were illiterate.

Among 684 participants, 246 (36%) consumed tobacco (cigarettes, ghalian or pipe) and 43 of the women (12.6%) and 203 of the men (59.4%) had history of experience with tobacco use and it was significantly more among men ($P=0.00$).

Among the study group, 141 people (20.6%) including 12 of the women (3.5%) and 129 of the men (37.7%) were smokers (based on use of 100 cigarettes or equivalent of ghalian or pipe) and smoking prevalence was significantly more among men compared to women ($P<0.001$). In this study

Table 1: Prevalence of knowledge and attitude scores based on gender among infertile individuals presenting to the Avicenna treatment center

Gender	Level	Men	Women	Total
Knowledge	Good	15 (4.5%)	9(2.6%)	24(3.5%)
	Average	22(6.5%)	20(5.9%)	42(6.2%)
	Low	90(26.6%)	84(24.6%)	174(25.6%)
	Very Low	211(62.4%)	224(66.9%)	439(64.7%)
Attitude (Opinion)	Very good	218(63.9%)	241(71.1%)	(67.5%)459
	Acceptable	117(34.4%)	90(26.5%)	207 (30.4%)
	Unacceptable	6(1.8%)	8(2.4%)	14 (2.1%)

among 141 smokers, 79 (10.2%) smoked daily and 29 individuals (4.2%) smoked occasionally and 42 (6.2%) had quit smoking.

Evaluation of the level of knowledge of attendees regarding harms of tobacco showed that 24 individuals (3.5%) had a good level, 42 (6.2%) were average, 174 (25.6%) had low and 439 (64.7%) had very low level of knowledge and 5 people did not respond to the knowledge questionnaire (Table 1). Mean level of knowledge among all participants was 0.49±0.79 and this was 0.44±0.73 for women and 0.54±0.84 for men and significant correlation with gender was not found (P=0.11).

Mean knowledge level score among smokers was 0.61±0.83 and among nonsmokers was 0.43±0.82. In this study, significant correlation between level of knowledge and age, education, experience with tobacco, being a smoker and smoking status at the time of study was not found (P=0.93, P=0.27, P=0.33, P=0.12, P=0.83).

Assessment of the level of knowledge among 684 participants showed that 94 individuals (13.7%) were aware of the presence of 4000 toxic compounds in cigarettes. Also, only 48 people (7%) knew that yearly, 75 thousand individuals die of tobacco consumption in Iran. A total of 52 people (7.6%) knew that cost of smoking in Iran is 3 milliard Tomans daily and 143 (21%) were aware of the decreasing trend of smoking in developed countries.

In evaluating the attitude of participants towards tobacco consumption, 459 (67.5%) had very good attitude, 207 (30.4%) had acceptable attitude and 14 (2.1%) had unacceptable attitude and four individuals did not respond to the attitude questions (Table 1). Mean attitude score in the study population was 19.10±2.7 which was 19.35±2.55 among women and 18.85±2.82 among men. In this study, the attitude score (opinion of) for women regarding tobacco consumption was significantly more consistent with harmfulness compared to men (P=0.01).

Additionally, with increased education level attitude towards tobacco consumption was significantly more realistic (P=0.001). Furthermore, mean attitude score among experimenters of cigarettes was 18.8±2.76 and among nonexperienced individuals was 19.27±2.65 and the difference was statistically significant (P=0.03). Mean attitude scores for smokers was 18.52±2.94 and for nonsmokers it was 19.20±2.51, but significant difference was not found (P=0.07).

Evaluation of attitude towards tobacco consumption among 684 individuals showed that 331 (48.4%) agreed that ghalian use is worse than smoking, 578 people (84.5%) believed that tobacco consumption harms people in the vicinity.

A total of 487 individuals (71.2%) agreed that big picturesque health warnings should be attached on tobacco packages, 533 (78.3%) believed that tobacco advertisements should be prohibited.

A total of 626 individuals (91.5%) agreed that tobacco use should be prohibited in public places and 53 (7.8%) believed that quitting is difficult.

Prediction of tobacco use in individuals within the coming 5 years was as follows: 15 people (2.2%) noted they will definitely continue to smoke, 24 (3.5%) noted possible smoking, 67 (9.8%) agreed they probably will not smoke and 577 individuals (84.5%) agreed that they will definitely refrain and one person did not respond to this question.

In this study, probability of smoking in the future for men was significantly higher if they had experience with tobacco consumption, were smokers and those who smoked daily (P=0.00, P=0.00, P=0.00, P=0.00) (Tables 2 and 3).

Table 2: Prediction of tobacco use within the next 5 years among infertile individuals presenting to the Avicenna treatment center

		Definitely Will Not Smoke		Probably Will Not Smoke		Probably Will Smoke		Definitely Will Smoke		P value
		%	n	%	n	%	n	%	n	
Gender	Women	95	325	4.7	16	5	0	3	1	P<0.001
	Men	73.9	252	15	51	7	24	4.1	14	
Tobacco	Yes	64.1	157	20.8	51	9.8	24	5.3	13	P<0.001
Experience	No	95.9	420	3.7	16	0	0	0.5	2	
Smoker	Yes	47.5	67	28.4	40	15.6	22	8.5	12	P<0.001
	No	86.5	77	10.1	9	2.2	2	1.1	1	

Table 3: Prediction of tobacco consumption within the next 5 years among infertile smokers presenting to the Avicenna treatment center

		Definitely Will Not Smoke		Probably Will Not Smoke		Will Smoke		P value
		%	n	%	n	%	n	
Tobacco Use During the Study Period	Quit	92.9	39	4.8	2	2.4	1	P<0.001
	Occasionally	41.4	12	41.4	12	17.2	5	
	Daily	22.9	16	37.1	26	40	28	

Discussion

In a study by Kazem Mohammad and colleagues, prevalence of tobacco consumption in the Iranian society was estimated at 14.6%. Among men smoking prevalence was 27.2% and among women 3.4%, respectively. These findings did not show significant difference with previous estimated prevalence rates for smoking in the Iranian community. Yet, it should be noted that these two studies vary based on methods, sampling and definition of study participants in relation to health and infertility (8).

In a study by Wright and colleagues in America including 389 infertile individuals, 9.3% of the participants were active smokers and 12.1% had quit before the study. Yet, in this study, prevalence of active smokers were more frequent and quitting was less frequent which can represent different knowledge level of these individuals about tobacco harms or previous physician recommendations on quitting (9).

In this study, we noticed low knowledgability of participants about ill effects of tobacco consumption. Yet, in the study by Akbari and colleagues, knowledge about cigarette harmfulness among working women in the hospital was 62% good, 28% average and 10% low (6). Additionally, in a study by Namakin and colleagues, information level among male school students was 19.8% good, 54.7% average and 25.5% low (10). It appears that knowledge level in these two studies is significantly different from that obtained in ours. The previous can be explained by different communities being studied, or by access to direct or indirect educational programs by hospital employees or highchool students or lack of access of the population studied to educational programs or more difficult questions used to assess knowledge level in this study.

In a study by Torabi and colleagues evaluating the awareness, attitude and behavior of American and

Chinese students regarding tobacco consumption, mean knowledge score among Chinese students was 6.86±1.79 and among American students 8.76±1.91 from a total of 11. Mean knowledge level among women Chinese students was 6.79±1.79 and American students was 7.25±1.56 and among men Chinese students was 7.25±1.56 and American students 8.58±1.35 (11). In a study by Yan and colleagues, mean knowledge score of health workers about cigarette harms was 22.3±4.4 from a total of 30 (12) which seems higher compared to the average knowledge level in our study.

In a study by Biaze and colleagues also the mean score of knowledgability regarding tobacco effects was between 71-88% (13). Additionally, in studies by Roth and colleagues on knowledge base about tobacco harmfulness on fertility, awareness level was 17% regarding menopausal effects and 22% on fertility effects and 99% about lung cancer and respiratory conditions (13). It appears that knowledge level in other studies has been higher and different from ours which could be due to lower awareness of our study group about hazards of tobacco or difficulty of the questions used. It may also signify that individuals with less awareness are more prone to risk factors and face resulting illness more commonly including infertility.

Additionally, in several other studies (11,15,16), knowledge level was correlated with gender and education but some studies (14) did not show any correlation with demographic factors. Our study also was not consistent with significant correlation between awareness and gender or education level.

Comparison of attitude or people's opinion about tobacco consumption in our study group showed similar results to other Iranian studies. In the study by Namakin and colleagues, attitude of high school male students was 46.6% at a good level, 48.3% average and 5.1% low (10). Additionally, in the study by Mansouri and colleagues involving employees of medical centers, only 10% of the participants had unacceptable attitude towards tobacco consumption (17). In the group we studied, attitude was appropriate which could be due to influence by society in general based on tobacco control measures. Considering the low awareness level prevalent in the study group it was not expected that 97.4% of these individuals would have appropriate opinion regarding tobacco use and control.

Among other studies, we can refer to the one by Torabi and colleagues that found a mean score for attitude towards tobacco consumption among Chinese students of 66.4±11.27 and American students of 65.66±10.17 (with scores of 18-91) (11). In the study by Yan and colleagues also the mean attitude score among health care workers was 17.7±2.3 (from a total of 20) (12) which was not very different from the score obtained in this study of 79.58%. In the study by Torabi, attitude among Chinese women students was 64.36±11.7 and American counterparts was 63.73±10.45 and among men Chinese students of 69.49±9.69 and American counterparts of 66.84±9.82 and was not significantly different among the different genders (11). Yet, in our study, attitude was significantly more appropriate among women compared to men.

Almost all women participants predicted not to smoke in the coming five years which is a considerable number. Additionally, 99.6% of people with no tobacco use experience noted that they will not smoke in the coming 5 years. The previous can indicate that if an individual does not experience with tobacco before youth, he or she will probably not smoke later on. Although, this hypothesis needs to be studied more precisely and completely.

It is concluded that in this study, attitude about harms of tobacco consumption is good but awareness is low and this signifies lack of direct educational programs, lack of attention to public awareness of tobacco hazards by mass media. Therefore, attempts to increase general public awareness about tobacco harmfullness particularly in communities such as the one studied is neccesary.

Aknowledgement

We are deeply greatful to all colleagues at the Avicenna Subspecialty Center for infertility treatment and the Tobacco Prevention and Control Research Center in their assistance with this study. This study was performed by the National Research Institute of Tuberculosis and Lung Diseases, Shahid Beheshti University of Medical Sciences and the Avicenna Research Institute.

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