Factors Affecting Successful Smoking Cessation: Patient Views Regarding Determinants of Successful Smoking Cessation- A study from East Azerbaijan, Tabriz – Iran

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ABSTRACT

BACKGROUND: In this study we sought to explore patients' views regarding factors that helped them in smoking cessation.

METHODS: In this cross-sectional study, 221 subjects who successfully stopped smoking were selected from two smoking cessation centers. We developed questionnaires which included 15 factors that may be associated with successful smoking cessation. Six months after successful smoking cessation, we administered the questionnaire to see what factors were associated with success in smoking cessation among the subjects. Validity of the study questionnaire was confirmed by 10 experts and its reliability was confirmed through a pilot study based on Cronbach's alpha index (α=0.754). Frequencies and percentages were used to describe demographic information of participants. Data was analyzed using the SPSS version 11.0 software.

RESULTS: Our study showed that worrying about getting ill in the future (95.4%), the side effects of smoking heard or observed (94.5%) were ranked the most important factors; while peer pressure (24.3%) and cost of cigarettes (17.2%) were the least important determinants of successful smoking cessation.

CONCLUSION: In order to develop successful smoking cessation programs, public health professionals and health authorities need to focus on the key determinants of successful smoking cessation. This study highlights perspectives of former smokers who were successful in smoking cessation and thus incorporation of these factors in future intervention programs may prove beneficial, although randomized controlled trials and multicenter studies are needed

Keywords: Smoking Cessation, Success Determinants, Smoking Prevention Centers

INTRODUCTION

Smoking has been a problem for many decades with enormous health, social and economic implications [1]. Tobacco is held responsible for 12% of male and 6% of female deaths with an estimated 5.1 million deaths globally in 2004, or almost one in every eight deaths among adults aged 30 years and above [2]. Despite the huge economic and health implications, there is a trend towards increased smokers in developing countries and this includes almost 20% of the preventable deaths in developing nations [3]. Smoking related mortality is higher as compared to deaths related to substance abuse, AIDS, suicide, murder and accidents [4].

Smoking is a preventable behavior associated with some worrisome diseases and health issues like cancer, coronary artery disease, gastrointestinal and respiratory problems,

psychological and sexual issues, premature births and abortion [5-9]. Therefore, programs and policies to promote smoking cessation and its relapse prevention should be a public health priority [10]. Several studies have demonstrated that after smoking cessation, mortality may decrease with an associated increased life span [11].

Peer pressure, social values, media influence, and somehow genetics may result in the adoption of smoking [5]. Some other factors may include the person's curiosity, feeling of being mature and more social, a way to get relief from social pressures, feel modern and wealthy [5]. Sometimes a significant influence comes from a smoker family member or a friend [5, 12]. According to the 1995 report, 29% of population over 12 years of age has experienced smoking and alcohol consumption and substance abuse were much more common in smokers [12]. Laaksonen et al identified a strong association between low education and income with smoking, [13], similar findings were found in Cavelaars study that found an association between less education and smoking among northern Europeans [14]. Giskes et al analyzed trends in smoking behavior by education level between 1985 and 2000 in Western Europe; they found a greater decline in smoking prevalence and consumption levels among more educated individuals [15]. In United States, trends of smoking among males decreased with sharp increase in females, especially in teenagers [16]. Smoking cessation is a difficult task because of associated symptoms such as dizziness, depression, boredom and anger, anxiety, irritability, sleep disorders, headache [16] Studies have shown that behavioral modification via preventive strategies was more effective than medical therapy [17]. Indeed, preventive strategies are gold standard [18]. The 1996 report of health and human services has shown that individual or group consultation programs are most effective in smoking cessation [19]. Taking into consideration the importance of smoking cessation and impact on individual's well-being, we believe that there are some key determinants, which may play an important role in successful smoking cessation. Thereby in this study we sought to explore patients' views regarding factors that helped them in smoking cessation.

METHODS AND MATERIALS

In this cross-sectional study, 221 subjects (clients) were selected from two smoking cessation centers of Tabriz who had successfully stopped smoking. The questionnaires were administered by researchers to 221 patients after informed consent. The questionnaire contained 15 most important factors related to successful smoking cessation, reported in other studies. Six months after successful smoking cessation, we administered the questionnaire to see which factors were associated with success in smoking cessation according to the client's perspectives. Smoking cessation program was designed to help the individual to recognize and cope with the problems that occurred during smoking cessation. This program contains at least 4 face to face individual and group counseling and behavioral techniques of smoking cessation along with family members. Validity of the study questionnaire was confirmed through an experts' panel by 10 experts and its reliability was confirmed through a pilot study based on Cronbach's alpha index (α=0.754). Frequencies and percentages were used to describe demographic information of participants and mean (standard deviation) were used to report continuous variables. Data were analyzed using the Statistical Package for Social Sciences, SPSS version 11.0.

RESULTS

In our study, 212 (95.9%) of the patients were male with mean ± SD age of 39.7 (±12.6) years (range 17-75 years). Almost 80% were married, 5% had no formal education, and 51% were self-employed. (Table 1)

Table 1: Self-reported characteristics of study participants

Characteristics		No	%
Sex	Male	212	95.9
	Female	9	4.1
Education	Illiterate	11	5
	Elementary	52	23.5
	Mid school	68	30.8
	High school	73	33
	Tertiary	17	7.7
Marital Status	Single	44	19.9
	Married	176	79.6
	Widow	1	0.5
Occupation	Self-employed	112	50.7
	Labor	31	14
	Retired	17	7.7
	Home maker	8	3.7
	Student	5	2.2
	Office employee	46	20.9
	Other	2	0.8

Table 2: Self-reported smoking related characteristics of study participants

Characteristics	Range	mean	SD
Age (year)	(17, 75)	39.7	12.6
Age of starting smoking (year)	(10, 53)	19.7	6.3
length of years of smoking (year)	(2, 55)	20.4	11.2
	Median	mean	SD
Number of previous attempts to smoking cessation (No)	2	2.5	2.5
Cigarette smoking per day	20	21.8	11.6

The average length of years of smoking was 20.4 years (SD ±11.2), and with mean of 20 cigarettes per day. When clients were asked how they felt after smoking cessation, there replies were depression, discomfort, over eating, worried, irritation and confusion.

The most important factors related to smoking cessation were worrying about their future health (95.4%) or harmful effects on health heard or observed (94.5%); while the least observed factors were peer pressure (34%) or cost of cigarettes (24.3%) . The major findings of our study are presented in table 3.

Table 3: Agreement percents with factor affecting successful smoking cessation

Row	Factor affecting success in smoking cessation	No	%
1	Worrying about getting ill in the future	211	95.4
2	Side effect of smoking heard or observed	209	94.5
3	Healthy life style advantage	182	82.3
4	Physician advice	164	74.2
5	Future outcomes	165	74.6
6	Respect to family values	159	71.9
7	Legal prohibitions	158	71.5
8	Side effects on others (second hand smokers)	156	70.6
9	Bad smell	144	65.2
10	Individual health status	134	60.6
11	Create discipline in personal life	126	56.8
12	Antipathy of overuse and length of cigarette use	121	54.7
13	Family pressure	75	34
14	Peer pressure	54	24.3
15	Cost of cigarette	38	17.2

Our study observed a myriad of potentially important factors associated with success in smoking cessation. To foster successful community smoking cessation, public health professionals need to focus on the key determinants of smoking and then to address them within their intervention efforts. Worrying about getting ill in the future, side effects of smoking observed or heard somewhere and healthy life style benefits were most important determinants for successful smoking cessation in our study. According to Curry's study, having a non-smoker spouse and cohabitant was one of the factor most strongly associated with successful smoking cessation. This factor can be seen in the context of smoker's view regarding ill health as side effect of smoking. This observation supports the notion that a close social network plays an important role in quitting smoking [20].

Osler in his longitudinal study showed that variables such as older age, high social status, non-smoking spouse/cohabitant, motivation to stop, and low prior tobacco consumption significantly predicted successful smoking cessation, [21] Hymowitz et al found that although most smokers expressed the desire to stop smoking, the heaviest smokers were least successful [22]. This was in contrast to our study where the mean cigarettes smoked per day were 21.8, so despite being heavy smokers our subjects were able to achieve complete smoking cessation. On the other hand, 54.7% of participants have expressed antipathy of with length of cigarette use related to their success in smoking cessations.

In this study, 64.7% of participations were self-employed or laborers, Osler found lower success rates among recently unemployed individuals in stopping smoking [23]. Some studies have highlighted the economic component to be the most important factor in smoking cessation. But in our study cigarette price was lower down on that list [23, 24]. The role of healthcare professionals in smoking cessation is important and according to our study, 74% of participants indicated that physician advice was key determinant for successful smoking cessation. In contrast to this issue, Stead in a systematic review about effectiveness of advice from medical practitioners in promoting smoking cessation concluded that there is a small additional benefit of more intensive interventions compared to very brief interventions [25]. Brief medical advices in form of counseling are routine part of medical practice and they may have some kind of influence on smoking cessation.

Prochaska emphasized that, successful behavior change involves a progression through the stages of change, so individual's readiness to change his/her behavior is an important determinant of success. This may help in devising the suitable

interventions to assist behavior change whether it's smoking or any other addiction [26].

A part from individual's behavior, successful collaboration between public health and clinical professionals is another important determinant of successful behavior change [27].

Some of the limitations that we were unable to address in the current study were personality traits of participants. On the other hand, we did not use statistical methods to find relation between demographics, social and emotional factors with success in smoking cessation. In this regard, it is useful to conduct a study and compare successful and unsuccessful participants' features and viewpoints. However, our study have signified certain key factors that can be employed in nationwide or worldwide smoking cessation programs, though large randomized controlled trials are necessary to evaluate the significance of these factors. It seems that consideration and incorporation of these factors in smoking cessation program may prove beneficial in devising successful intervention programs.

CONCLUSION

We conclude that factors such as: worrying about getting ill, knowing side effects of smoking, healthy life style advantage, physician advice, future outcomes, respect to family values, legal prohibitions, side effects on others, bad smell, individual health status, discipline creation in life, overuse and length of cigarette smoking, family pressure, peer pressure and cost of cigarette determines the rate of success in smoking cessation, irrespective of smoker's level of motivation. Therefore, despite the limitations addressed in this study we think that these areas should be focused when devising a successful intervention program.

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