
Women and Smoking: General and Social Perspectives

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Abstract:

Background: Tobacco is the second major cause of death in the world. It is currently responsible for the death of one in ten adults' worldwide (about 5 million deaths each year). If current smoking patterns continue, it will cause some 10 million deaths each year by 2020. Half the people that smoke today -that are about 650 million people- will eventually be killed by tobacco. Tobacco is the fourth most common risk factor for disease worldwide. The economic costs of tobacco use are equally devastating. In addition to the high public health costs of treating tobacco-caused diseases, tobacco kills people at the height of their productivity, depriving families of breadwinners and nations of a healthy workforce. Nonetheless regarding women smoking currently depriving families from main care givers causing many preventable diseases among women and their babies.

Aim: To examine the impact of different socio-economic and medical characteristics on the development of smoking habit among women.

Study design: Case-control study, where 110 currently smoker women with, were allocated as cases. Another 110 non-smoker women were considered as controls.

Study period: From the 1st March 2007 to 1st December 2007.

Data collection tools: Including, assessment of socio-economic features such as personal characteristics, life events and social context. In addition, previous history of abortion and the presence of one or more of chronic non-communicable diseases were also gained.

Results: Regarding *Personal Characteristics*; positive family history was found to be significantly associated with the development of smoking behavior ($P=0.001$), the same thing was applied to abnormal marital status ($P=0.001$) and personality type A ($P=0.002$). According to *Life Events*; stress, social discontinuities, geographical mobility and catastrophic life events in this work appeared to be significantly associated with the development of smoking behavior ($P=0.010$, $P=0.001$, $P=0.001$, $P=0.001$ respectively). Regarding *Social Context*, sudden change in economic status was also found to be significantly related to the initiation and promotion of smoking behavior ($P=0.001$), moreover, living alone and urbanization appeared to have similar significant effects ($P=0.03$, $P=0.02$ respectively). According to *Other Variables*, the presence of one or more of chronic non-communicable diseases is found to be associated with smoking ($P=0.016$), and previous obstetric history of abortion also was associated with smoking ($P=0.007$). Lastly, women who are belonging to social class I and II (professional and semiprofessional) appeared to be protected significantly ($P=0.009$, $P=0.03$ respectively) against the habit of smoking, unlike women who are belonging to social class IV (semiskilled manual worker) appeared to be significantly ($P=0.005$) prone to the development of smoking habit.

Conclusion: Women with positive family history, with abnormal marital status, personality type a, stress, social discontinuities, geographical mobility, catastrophic life events, economic factor, and urbanization, chronic diseases, previous history of abortion, social class IV are at risk for development of smoking habit. Nevertheless, women from social class I and II are more immune against development of smoking habit.

Key words: General, social, risk, factors, smoking, women.

Introduction:

Cigarette smoking was initially adopted by men in developed countries, followed by women in those countries and men in developing countries. Only recently have women in developing countries begun to smoke. As a result, the epidemic of tobacco related diseases is expanding from the developed world to the developing world, and tobacco use is increasingly becoming a major health issue for women as well as men. Globally, the prevalence of smoking among women in 1995 was estimated to be 12 percent, or approximately 236 million women^[1], and this rate is increasing by about 3.4 percent per annum.

Smoking related-diseases kill one in 10 adults globally, or cause four million deaths. By 2030, if

current trends continue, smoking will kill one in six people. Every eight seconds, someone dies from tobacco use. About 15 billion cigarettes are sold daily - or 10 million every minute^[2]. It is estimated that in 1995^[3], there were about 1.1 billion smokers in the world (or 30 percent of the global population aged 15 years and above) who consumed almost 6 trillion units of cigarettes annually.

Globally, the prevalence of daily smoking is higher for men (47 percent) than for women (12 percent) and males account for 80 percent of all smokers (roughly 920 million). As for the global prevalence of smoking by age, it is highest among persons aged 30 to 39 years and lowest amongst youth aged 15 to 19 years (19 percent). These trends in age-specific smoking prevalence are

similar for both males and females^[4]. Overall then, the smoking epidemic is spreading from its original focus among men in high-income countries, to men in low-income regions and women in both high- and low-income countries.

As in most areas of behavioral sciences, the bulk of research on tobacco use has focused on the behavior of individual smokers. However, tobacco prevention researchers have begun to examine the larger social system's role in promoting or discouraging tobacco use. Factors in the environment that potentially influence initiation of tobacco use among adolescents and adults include

- 1) socio-demographic,
- 2) socio-cultural factors and
- 3) Socioeconomic factors⁵.

Socio-demographic factors may include age, gender, ethnicity and acculturation, family size and structure and parental socioeconomic status. Socio-cultural factors that influence initiation and maintenance of tobacco use by adolescents demonstrate the importance of parental and peer tobacco use as risk factors in addition to advertising and promotion policy of tobacco world firms. Socioeconomic status has been implicated in the onset of cigarette use among adolescents. Personal factors that have consistently been associated with tobacco use are knowledge, attitudes and beliefs; self-esteem; self-image; and locus of control. Numerous studies have shown that the single most direct influence on smoking among adolescents and early adulthood is how many of their five best friends smoke^[6].

Smoking in women is causally associated with increased risk of developing and of dying from myriad diseases, including many cancers, cardiovascular disease, chronic obstructive pulmonary disease and others, as well as increased risk of adverse reproductive outcomes⁷. During the latter half of the 20th century, tobacco-related diseases became epidemic among women in the developed world, following their adoption of cigarette smoking earlier in the century. Tobacco-related diseases now threaten to become epidemic among women in developing countries in the 21st century, unless dedicated efforts are undertaken to curb tobacco use. Preventing such an epidemic represents one of the greatest public health opportunities of our time^[8,9].

A clear, strong dose-response relationship exists between the number of cigarettes smoked during pregnancy and birth weight. Compared with nonsmokers, light and heavy smokers have 54 percent and 130 percent increases, respectively, in the prevalence of newborns weighing less than 2,500 g (low birth weight) and an average decrease in birth weight of 200–250 g^[10]. Moreover, smoking during pregnancy is found to be associated with high fetal and perinatal mortality in addition to ill respiratory health¹¹.

In its 1999 consultation, the World Health Organization concurred with other reviewing bodies about the effects of passive smoking on children. Exposure to environmental tobacco smoke (ETS) was found to be a cause of reduced birth weight, lower respiratory illnesses, chronic respiratory symptoms, middle ear disease and reduced lung function. Maternal smoking was characterized as a major cause of sudden infant death syndrome (SIDS). Health effects of involuntary smoking on adults include high risk for lung cancer, coronary heart diseases, respiratory symptoms and illnesses and reduced lung function tests^[12].

Accordingly, it is very crucial to investigate social and general risk factors about smoking in women in our zone in order to highlight associated factors that promoting or inhibiting cigarette smoking habit. Thus; putting effective preventive and curable measures in the future health education programs.

Subject & Methods:

In order to achieve the aim of the present study, a case-control study design was adopted, 110 currently smoking women were enrolled in this study as cases according to the following inclusion criteria:

- The participant must be a woman (her age from 20-65 years).
- The participant must be currently smoker.

Another 110 women were chosen as controls with the following inclusion criteria:

- The participant must be a woman (her age from 20-65 years).
- The participant must be non-smoker.

Smoking Behaviors was assessed according to National Health Interviewing Survey (NHIS)^[13] as the following: "Have you smoked ≥ 100 cigarettes in your entire life?" and "Do you now smoke cigarettes every day, some days, or not at all?" Ever smokers were defined as those who had smoked ≥ 100 cigarettes during their lifetime. Current smokers were defined as ever smokers who reported smoking every day or some days. Former smokers were ever smokers who reported that they did not currently smoke. Non-smoker, any one who never smoke ≥ 100 cigarettes in his/her entire life.

The study was carried out an outpatient department of IBN SINA teaching hospital, Mosul Governorate, Iraq.

Un-paired sampling technique was used in this study, matching was done for age (± 5 years). Every participant woman in this study was interviewed by one researcher and the following questions were answered. The presence of one or more of the chronic non-communicable diseases (CNCDs), previous history of abortion was all included in the questionnaire form. Prepare for this study, socio-

economic factors were obtained according to the following^[14]:

Social factors in health and Disease:

I – Personal characteristics:

A- Social identity:

Not modifiable: age, sex, race and heredity (family history of smoking in primary relatives)

Modifiable as marital status, and occupation.

B- Personal habits:

Sedentary life style.

Smoking.

Alcohol consumption.

Fatty, calorie and salt rich diets (unhealthy diets)

C- Psychological make-up:

Personality type A

Personality type B

II – Life Events:

A- Stress

B- Social Discontinuities: Such as;

Death of spouse

Abnormal marital status (single, divorce, widow)

Retirement

Change in the job

Change of residence

The born of new baby

C- Geographical mobility:

- Rural to urban, urban to rural of any type.

D- Catastrophic events.

III – Social Context:

A- Economic factors:

- Unemployment.

- Sudden upgrade in employment

- Sudden job descend.

- Sudden loss of huge money.

- Sudden gain of huge deal of money.

B- Social disintegration

- Living alone, or with family

C- Urbanization:

- Urban or rural

- Crowding index

X²-test was used to look for the presence or absence of an association, Odds ratio (OR) with it 95% confidence interval (95% C.I.) were also computed. P-value less than or equal to 0.05 was considered significant.

Results:

The mean ages of the study population was 36.2 years for cases and 36, 3 years for controls. The results of examining social risk factors in the development of smoking habit appeared as the following:

Table (1) represents personal characteristics of the study sample and their mode of association with smoking. Positive family history is more prevalent among cases than controls in a significant way (P= 0.001) and the presence of such history appeared to be associated with the development of habit of smoking (OR= 5.46 and 95% C.I. = 2.86-10.45). Abnormal marital status carried a highly significant operational role in the occurrence of smoking among women (OR= 6.12, P-value=0.001 and 95% C.I. = 3.33-11.25). Similarly, personality type A increases the risk of smoking in a very highly significant way (OR= 2.39, P-value=0.002 and 95% C.I. = 1.38-4.14). Previous and concurrent history of stress carries a significant risk for the development of smoking behavior (OR= 2.03, P-value= 0.010, and 95% C.I. = 1.18-3.47). The same thing was applied for social discontinuities, geographical mobility and Catastrophic life events, where all of them showed significance association with smoking (P=0.001, P=0.001, P=0.001 respectively), Table (2).

Table (1): Association of personal characteristics and the development of smoking in the present study

Characteristics	Cases (n=110)		Controls (n= 110)		O R	P-value*	95 % C.I.
	No.	%	No.	%			
Positive family history	94	85.5	57	51.9	5.46	0.001	2.86-10.45
Abnormal marital status	65	59.1	21	19.1	6.12	0.001	3.33-11.25
Personality type A	58	52.7	35	31.8	2.39	0.002	1.38-4.14

* Chi square test for contingency table was used.

Table (2): Association of life events and the development of smoking in the present study

Life events	Cases (n=110)		Controls (n=110)		OR	P- value*	95% C.I.
	No.	%	No.	%			
Stress	59	53.6	40	36.4	2.03	0.010	1.18-3.47
Social discontinuities	69	62.7	13	11.8	12.56	0.001	6.26-25.19
Geographical mobility	37	33.6	10	9.1	5.07	0.001	2.37-10.85
Catastrophe	45	40.9	9	8.2	7.77	0.001	3.56-16.96

* Chi square test for contingency table was used

Factors related to social context of the study subjects showed that economic factor and living alone were significantly associated with smoking. While urbanization indicted negative association with smoking, Table (3). Table (4) portrays the association of certain medical and obstetrical variables with smoking. Presence of CNCDS is associated with smoking in a significant manner (P=0.016), also the value of OR indicates the presence of operational risk for development of this unhealthy behavior (OR=2.11, 95% C.I. = 1.15-

3.89). Moreover, previous history of abortion seemed to be risky in highly significant way (OR=2.33, P-value=0.007, 95% C.I. = 1.26-4.31). While high parity appeared not to be associated with smoking behavior.

Women from social class I and II appeared to be significantly protected against the habit of smoking in a significant manner, while women from social class IV appeared to be at high risk for development of smoking, Table(5)

Table (3): Association of social context and the development of smoking in the present study

Social context	Cases (n=110)		Controls (n=110)		OR	P-value*	95% C.I.
	No.	%	No.	%			
Economic factor	32	29	9	8.2	4.60	0.001	2.08-10.21
Living alone	7	6.4	1	0.9	7.41	0.03	1.9-16.21
Urbanization	48	43.6	65	59.1	0.54	0.02	0.31-0.92
> 8 persons / household	26	23.6	31	28.2	0.79	0.44	0.43-1.44

* Chi square test for contingency table was sued

Table (4): Association of other variables with the development of smoking in the present study

Variables	Cases (n=110)		Controls (n=110)		OR	P-value*	95% C.I.
	No.	%	No.	%			
CNCDs	38	34.5	22	20.0	2.11	0.016	1.15-3.89
Abortion	39	35.5	21	19.1	2.33	0.007	1.26-4.31
> 4 parity	32	29.1	46	41.8	0.57	0.051	0.33-1.001

* Chi square test for contingency table was used

Table (5): Association of social class and the development of smoking in the present study

Social Class	Cases (n=110)		Controls (n=110)		OR	P-value*	95% C.I.
	No.	%	No.	%			
I	3	2.7	13	11.8	0.21	0.009	0.06-0.76
II	5	4.5	14	12.7	0.33	0.03	0.11-0.94
III	24	21.8	33	30	0.65	0.17	0.35-1.20
IV	36	23.7	18	16.4	2.49	0.005	1.31-4.73
V	42	38.2	32	29	1.51	0.15	0.86-2.64

* Chi square test for contingency table was used

Discussion:

A 21st century health policy should include multi-component strategies to eliminate tobacco exposure within home for the entire family members. Because, the effect of smoking behavior of any family member (especially father or mother) is very huge on other members of the family and may even serve as a role model to be imitated by others, especially children and adolescents. This unhealthy effect has been truthfully proved by many studies in different cultural settings^[15, 16, 17]. In this study, positive family history appeared to be significantly ($P=0.001$) associated in the development of smoking habit. Moreover, Scragg R and Glover M, in their multi-ethnic study, found that the net effects of maternal and parental smoking are additive among European, Maori, and Pacific Island students, but multiplicative in Asian. And both concluded that parental smoking is a consistent risk factor for adolescent smoking in all ethnic groups and suggested that prevention strategies targeted at parents may help limit the uptake of smoking by adolescents^[18].

Abnormal marital status (such as single, divorced and widowed), in this work, showed

significant and high association ($OR=6.12$, $P=0.001$, 95% C.I. =3.33-11.25) with smoking among women. Waldron I and Lye D^[19], in their study in US found similar results as the above, and also concluded that currently married adults were more likely to have quit smoking than never married, divorced and separated, or widowed adults. Furthermore, DuNah RE et al^[20], in their study on 893 white women aged 25 to 59 years from San Francisco in 1991 found that women who were less educated, single, separated, or divorced or had smoked between 10 and 30 cigarettes per day were less likely to quit smoking. Thus, abnormal marital status, from the above conclusions, seemed to affect badly smoking habit, number of cigarettes smoked per day and smoking cessation and quitting capabilities among women.

Type A behavior pattern (TABP) or personality type A, is a multidimensional, temperament-related construct, which is assumed to be partly inherited. Type A behavior pattern includes psychologically distinct components which have both pathogenic aspects in terms of health and adjustment. High levels of impatience and aggressiveness have been associated with poor school achievement,

downward occupational mobility, long-term unemployment, and a high level of somatic and behavioral cardiovascular risks. These and other pathogenic components of TABP have their antecedents in childhood hyperactivity, which has been shown to predict adjustment problems such as antisocial personality, poor school achievement, and onset of substance use^[21, 22]. Laura et al^[23], in their prospective cohort study among adolescent Finns in Finland, concluded that TABP is significantly and highly associated with occurrence of smoking habit. The results of the current study, also concluded a highly significant ($P=0.002$) and operational role ($OR=2.39$) of TABP with smoking. The above significant associations between TABP and smoking are very serious in relation to coronary heart diseases (CHD), since both TABP and smoking are known independent risk factors for CHD, and the existence of both of them might have a very dangerous multiplicative effects in the initiation of CHD. According, health education programs and intervention studies must be targeted to current smokers with TABP.

Researches^[24, 25] shows that women often smoke in response to negative life experiences. Often, these experiences are indicative of the lower status and the role that women hold in society. Although men and women may smoke to reduce stress, they experience different stresses in their lives. For example, in recent years, women have entered the workforce in large numbers, but these women still shoulder the majority of child, elder and household responsibilities. These multiple workloads may contribute to women's smoking. Women in the workforce often hold lower-level service or manufacturing jobs, which provide little sense of autonomy or control. Both of these factors have been shown to increase stress. Similarly, women caring for children may view cigarettes as a means to gain some "space" or personal time. Although, stress, in general is very difficult to be measured since it is a subjective feeling, in the current study, it is found to be significantly ($P=0.010$) associated with smoking among women. Moreover, all other parameters of stress also appeared to be related to the smoking habit such as social discontinuities, geographical mobility and catastrophic life event in a very significant way ($P=0.001$ for all). Additionally, sudden change in economic status, loneliness and urbanization all, are found in this work to be associated with smoking. Finally, women with previous history of abortion, in this study, found to be at risk of development of smoking habit. Abortion, actually, one of the most stressful life events in the woman's life.

Improving the global risk profile of chronic disease is a target of the World Health Organization^[26]. In its recent report, Preventing Chronic Disease: A Vital Investment, a goal was set to reduce deaths from chronic disease by 2% annually over the next

10 years. Achievement of this goal by 2015 with the use of scientific information that is already available would prevent 36 million premature deaths. For example, improved diet, physical activity rates and tobacco control could prevent up to 80% of cases of coronary artery disease and 90% of diabetes^[27, 28]. In this work, the association between the presence of one or more of chronic non-communicable diseases with smoking appeared to be significant and very dangerous, because this association will eventually lead to double burden of the disease and its risk factor.

Women from social class I (professional) and II (semiprofessional) in this study appeared to be protected significantly from developing smoking habit. While, women from social class IV (semiskilled) showed significant association with smoking. Nevertheless, a clear inverse relation between social class gradient and smoking is evident from this work. Similar results from the study of Waldron I and Lye D^[29] were obtained indicating no difference trans-culturally regarding the relation between occupation and smoking.

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