

Tobacco smoking in men and women with different perceptions of social well-being: Findings of a large population-based study

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Abstract

Background: This study aimed to investigate cigarette and hookah smoking in a population of Eastern-Mediterranean adults in relation to their perceived social well-being.

Methods: Data of 2592 adults who participated in the 6th phase (2014-2016) of the Tehran Lipid and Glucose Study (TLGS) was used. After excluding those with missing data (n=235), 2357 remained for the sex-specific logistic regression to investigate the association between social well-being and current smoking (cigarette and hookah). The final model was adjusted for age, marital status, education, occupation, physical activity, and chronic disease history.

Results: Compared to cigarette and hookah smokers, the mean scores of social well-being and all its dimensions were higher in non-smokers. While in men, cigarette smoking was significantly related to social well-being and all its dimensions, only women with higher social well-being, social integration, and coherence, were further at risk of cigarette smoking. Unlike men, whose hookah smoking was not at all related to their social well-being, women's hookah consumption was associated with social well-being, social integration and acceptance; one unit increase in the mean scores of social integration and acceptance in women reduced the risk of hookah use by 8%.

Conclusion: Social well-being and tobacco smoking are related, and evident sex differences in this relationship should not be ignored in future tobacco control efforts.

Introduction

Tobacco smoking is a worldwide leading cause of physical and psychological disorders and premature death (WHO Report on the Global Tobacco Epidemic & IGO., 2019). According to the latest reports, tobacco kills more than 8 million people each year. Ranked as second in 2015, smoking-attributed Disability-Adjusted Life Years (DALYs) were 148.6 million worldwide (Reitsma et al., 2017). National studies in Iran reported 25.2% and 4.0% of current tobacco smoking (including cigarettes and hookah) in men and women, respectively (Varmaghani et al., 2020). Over recent years, despite the declining trend of cigarette smoking, the cigarette intensity has increased in smokers, and the prevalence of hookah use had a constant trend in the adult population (Meysamie et al., 2017); therefore, smoking still remains a public health issue in the country.

The role of personal and socio-environmental factors in forming individuals' lifestyle behaviors, including smoking, have been well-documented. At the individual level, many factors such as genetic, depression, anxiety, low self-esteem, and deficits in emotion regulation are known to predict smoking behavior (Fluharty et al., 2016; Keenan, 2013; Mendelsohn, 2012; Verde et al., 2011; Wellman et al., 2016). Beyond the personal level, previous studies underline interpersonal and socio-environmental factors on smoking in different communities. Smoking parents and friends and low socioeconomic status (primarily due to low education and unemployment) play crucial roles in both the beginning and continuation of tobacco smoking (Rhodes et al., 2017; Wellman et al., 2016).

In addition to the personal and socio-environmental factors mentioned above that can motivate people to smoke, people's perception of their position in a society, which is mainly influenced by society's morphological and physiological characteristics, could also facilitate these behaviors. The concept that best describes this personal perception resulting from the psychosocial interaction is social well-being in the relevant literature. After the hedonic theory of well-being was gradually formed, (Flügel, 1925) the eudaimonic theory of well-being emphasized the outcome of positive goal pursuits. This model was constructed based on the assumption that individuals attempt to understand their unique talents to have the best function (Ryff & Keyes, 1995). Studying well-being through a socio-sensitive lens, Keyes developed a five-component model (social integration, social contribution, social coherence, social actualization, and social acceptance) by extending the eudaimonic theory and showing the extent to which individuals overcome social challenges and function well in society (Gallagher et al., 2009; Keyes, 1998).

The social well-being components and some other social indicators have been separately studied in relation to smoking behaviors previously. Social acceptance, social pressure, and social norms can form individuals' tobacco smoking (Saito et al., 2018). Regardless of sex, cigarette and hookah smoking have been associated with social isolation (Algren et al., 2020), social norms (Glenn et al., 2017), and integration to family, friends, or church, especially in youth (Lakon & Valente, 2012). In addition to mentioned dimensions of social well-being, some studies have focused on the social indicators, including deprivation of education (De Walque, 2007; Wang et al., 2018; Zeiher et al., 2017), unemployment (Montgomery et al., 1998; Novo et al., 2000; Wang et al., 2018), low income (Casetta et al., 2017; Sreeramareddy et al., 2018), and living in deprived residential areas (Glenn et al., 2017; Gorini et al., 2013). However, social well-being –as a comprehensive concept– rarely has been studied in relation to smoking.

The importance of sex differences has become more predominant in different cultural contexts. Valuing male cigarette smoking in Eastern-Asian communities (Tsai et al., 2008) or considering hookah smoking in Arab countries as a common traditional entertainment for men are examples of those societies where men could gain higher social acceptance with tobacco smoking (Jamil et al., 2014; Jamil et al., 2009). On

the other hand, women's cigarette smoking is taboo in Eastern-Mediterranean cultures; therefore, lack of embarrassment, supportive social norms, and existing traditional roots could drive women to hookah rather than cigarette smoking (Afifi et al., 2013). Recently a systematic review revealed gaining social acceptance from peers as a strong motivator for women to consume hookah (Dadipoor et al., 2019). However, these tobacco-related sex disparities still need further in-depth investigations in different cultures.

Given the above-mentioned scientific gaps and the need for a deeper sex-specific study of this issue, we aimed to investigate the association between perceived social well-being and tobacco smoking (cigarette and hookah) among a large population of Iranian men and women.

Methods

Study sample

This study is conducted in the Tehran Lipid and Glucose Study (TLGS) framework, an ongoing prospective cohort study investigating non-communicable diseases and their risk factors among residents of district 13 of Tehran, capital of Iran. In brief, the TLGS started with a cross-sectional phase in 1999 and continued with every-three-year measurements afterward. The reason for selecting district 13 was the generalizability of its residents' socio-demographic status to the whole population of Tehran. Three of 20 health centers were chosen, and 15,005 individuals (aged \geq three years) were selected.

The data of 2592 adults (age $>$ 19 years) who participated in the 6th phase of the TLGS (2014–2016) was used in the current study. After excluding those with missing data ($n = 235$), 2357 remained for the analysis. This study was approved by the ethical committee of the research institute for endocrine (RIES), and written informed consent was obtained from all participants.

Measurements

Using standard questionnaires, trained interviewers obtained essential socio-demographic information (age, education, occupation, marital status), smoking, physical activity, chronic disorders, and social well-being. The education level was categorized based on having an academic education. Participants with or without a job were classified as "employed" and "unemployed". Individuals who were single, widow/widower, or divorced at the interview were classified as currently single. Physical activity was assessed using a Persian translated and validated version of the Modifiable Activity Questionnaire (MAQ) (Delshad et al., 2015). In this regard, the metabolic equivalent task (MET) of the particular act (sport, job, and travel) during one week was multiplied by the weight. The sum of all actions is considered total energy expenditure in adults. Subsequently, it was categorized into groups of low ($<$ 600), moderate (600–3000), and high (\geq 3000) physical activity. A positive history for each of diabetes mellitus (DM), chronic kidney disease (CKD), cardiovascular disease (CVD), or cancer was taken into account to chronic disease history.

In terms of smoking behavior, a current smoker (cigarette or hookah) was defined as a person who smoked cigarettes/hookah daily or occasionally. Those who did not report any tobacco use were considered non-smokers.

Social well-being was assessed using the short-form of Keyes social well-being questionnaire (Keyes, 1998), which has been already validated in the Iranian population (Shayeghian et al., 2019). It includes 15 items and evaluates social well-being in five dimensions, each measured with three questions. Questions were on a 7-point agreement scale (1 = strongly agree to 7 = strongly disagree). The social well-being dimensions consist of social integration, acceptance, coherence, contribution, and actualization.

Social integration is the feeling of belonging to the society and the sense of supporting and sharing the community. Social acceptance represents to what extent the community and its people accept the individuals with all the defects, positive and negative aspects. Social coherence represents to what extent an individual thinks the community is understandable, reasonable, and predictable. Social contribution is a feeling of being important to society and having something positive to offer. Social actualization shows that society and individuals have the potential for growth and help each other be positive (Keyes, 1998).

Statistical analysis

At first, data was split by sex, and then frequencies and mean (\pm standard deviation) were represented for qualitative and quantitative variables, respectively. To compare qualitative and quantitative variables, a chi-square test was used among the tobacco smoking groups. The analysis of covariance was done comparing the mean of social well-being and subscales among smoking behavior for men and women, respectively. Finally, logistic regression was done to estimate odds ratios (ORs with 95% confidence), and the association was determined in three steps. First result adjusted for age, marital status, educational level, and occupational level (model 1). Second physical activity was added to eliminate the effects of these potentially confounding variables (model 2). Finally, in the third step, the chronic disorder was included in the analysis (model 3) to examine whether this covariate affected the association. Results were reported according to gender. Analyses were done by SPSS 20, and a p-value of 0.05 was considered significant.

Results

Table 1 displays the characteristics of the study participants. The mean age of participants was 46 ± 14 years (45% men). In all three non-smokers, cigarette smokers, and hookah smokers groups, the majority were married (75.1% men and 73.1 women) and had a high school degree or less (62.5% men and 66.3% women). Most men were employed (72%), while most 80% of women were unemployed. 63% of cigarette smoker men and 73.5% of non-smoker women had moderate or high physical activity. 29.7% and 28.7% of cigarette and hookah smoker men, and 36.8% and 27.1% of cigarette and hookah smokers women at least had a chronic disease.

Table 1
Sex-specific characteristics of study participants in smoking groups (N = 2357).

	Men (n = 1068)				P-value	Women (n = 1289)				P-value
	Total	Nonsmoker (n = 672)	Cigarette smoker (n = 246)	Hookah smoker (n = 150)		Total	Nonsmoker (n = 1147)	Cigarette Smoker (n = 57)	Hookah Smoker (n = 85)	
Age(year)	46.7 ± 15.9	50.6 ± 16.1	41.42 ± 13.3	37.1 ± 11.9	< 0.001	46.7 ± 14.1	47.9 ± 13.9	42.0 ± 13.02	33.7 ± 10.2	< 0.001
Marital status					< 0.001					< 0.001
Currently single	266(24.9)	130(19.3)	80(32.5)	56(37.3)		341(26.5)	282(24.6)	21(36.8)	38(44.7)	
Married	802(75.1)	542(80.7)	166(67.5)	94(62.7)		948(73.5)	865(75.4)	36(63.2)	47(55.3)	
Educational level					0.790					0.042
High school or less	667(62.5)	415(61.8)	158(64.2)	94(62.7)		845(66.3)	773(67.4)	34(59.6)	47(55.3)	
Academic degree	401(37.5)	257(38.2)	88(35.8)	56(37.3)		435(33.7)	374(32.6)	23(40.4)	38(44.7)	
Occupation					< 0.001					< 0.001
Unemployed	291(27.2)	238(35.4)	33(13.4)	20(13.3)		1035(80.3)	942(82.1)	38(66.7)	55(64.7)	
Employed	777(72.8)	434(64.6)	213(86.6)	130(86.7)		254(19)	205(17.9)	19(33.3)	30(35.3)	
Physical activity					0.953					0.737
Low	404(37.8)	256(38.1)	91(37.0)	57(38.0)		346(26.8)	304(26.5)	17(29.8)	25(29.4)	
Moderate/high	664(62.2)	416(61.9)	155(63.0)	93(62.0)		943(73.2)	843(73.5)	40(70.2)	60(70.6)	
Chronic disorder					< 0.001					< 0.001
No	621(58.1)	341(50.7)	173(70.3)	107(71.3)		695(53.9)	597(52.0)	36(63.2)	62(72.9)	
Yes	447(41.9)	331(49.3)	73(29.7)	43(28.7)		594(46.1)	550(48.0)	21(36.8)	23(27.1)	
Dates are presented as Mean ± SD and frequency (%).										

The mean social well-being score and its dimensions among non-smokers and smokers groups (either cigarette smokers or hookah smokers) were presented in Fig. 1 for men and women. In total, higher means of social well-being and its dimensions were observed in the non-smokers' group rather than the smokers' group. After adjusting for age, marital status, educational level, occupational level, physical activity, and chronic disorders, the means of social well-being and its dimensions were presented in Table 2. There was a significant difference between the mean scores of smoking groups (non-smoker, cigarette, and hookah smoker) in men (p-value: <0.001) and women (p-value: 0.001). The means of all social well-being dimensions had a significant difference in men. In contrast, just means of social integration (p-value: 0.002), social coherence (p-value: 0.039), and social actualization (p-value: 0.037) were significantly different across women smoking groups.

Table 2

The adjusted mean scores of social well-being and its dimensions in smoking groups of men and women.

	Men				Women			
	Non-smokers	Cigarette smokers	Hookah smokers	P-value	Non-smokers	Cigarette smokers	Hookah smokers	P-value
Social well-being	69.90(± 0.62)	65.15(± 0.96)	67.77(± 1.19)	< 0.001	68.95(± 0.57)	63.87(± 1.84)	64.57(± 1.57)	0.001
Social integration	14.97(± 0.19)	14.05(± 0.29)	14.44(± 0.36)	0.013	13.87(± 0.17)	12.50(± 0.56)	12.50(± 0.47)	0.002
Social acceptance	11.36(± 0.17)	10.69(± 0.26)	10.84(± 0.32)	0.043	11.48(± 0.15)	10.81(± 0.48)	10.71(± 0.41)	0.097
Social coherence	14.76(± 0.19)	13.90(± 0.29)	14.30(± 0.36)	0.023	14.78(± 0.16)	13.41(0.54)	14.39(± 0.46)	0.037
Social contribution	15.13(± 0.20)	14.09(± 0.32)	14.81(± 0.40)	0.011	14.85(± 0.19)	14.39(± 0.63)	14.12(± 0.53)	0.347
Social actualization	13.67(± 0.24)	12.41(± 0.37)	13.36(± 0.46)	0.007	13.95(± 0.20)	12.47(± 0.66)	12.82(± 0.56)	0.039
Data are presented as mean ± SE and adjusted for age, marital status, education, and job status.								

Table 3 summarizes the logistic regression analysis results on the association between social well-being and tobacco smoking. The full adjusted model results indicated that a one-unit increase in social well-being scores decreases the risk of smoking cigarettes by 3% for men and women (OR: 0.97, p-value: <0.001 for both sex). Results also showed that cigarette smoking is associated significantly with per scale of social well-being for men (social integration: OR: 0.95, p-value: 0.008, social acceptance: OR: 0.95, p-value: 0.018, social coherence: OR: 0.95, p-value: 0.006, social contribution: OR: 0.95, p-value: 0.003, and social actualization: OR: 0.95, p-value: 0.002). In women, the higher social integration scores and social coherence were associated with decreased cigarette smoking risk by 7% and 8%, respectively (Social integration: OR: 0.93, p-value: 0.019; social coherence: OR: 0.92, p-value: 0.013). There was no significant association between social acceptance, social contribution, and social actualization scales with cigarette smoking in women. Results also indicated no evidence of a significant relationship between social well-being and hookah smoking in men. For women, a one-unit increase in social well-being scores decreased the risk of hookah smoking by 3% (OR: 0.97, p-value: 0.002). Moreover, higher social integration scores and social acceptance were associated with a decrease in the chance of hookah smoking by 8% (social integration: OR: 0.92, p-value: 0.005; social acceptance: OR: 0.092, p-value: 0.027). There was no significant relationship between social coherence, social contribution, and social actualization with hookah smoking in women.

Table 3

Sex-specific adjusted odds ratios and 95% confidence intervals of tobacco smoking for social well-being and its dimensions.

		Men				Women			
		Cigarette Smoking		Hookah Smoking		Cigarette Smoking		Hookah Smoking	
		OR*(95%CI)	p-value	OR**(95%CI)	p-value	OR*(95%CI)	p-value	OR**(95%CI)	p-value
Model 1	Social well-being	0.97(0.96–0.99)	< 0.001	0.99(0.97–1.00)	0.109	0.97(0.95–0.99)	0.008	0.97(0.96–0.99)	0.003
	Social integration	0.95(0.91–0.98)	0.005	0.97(0.93–1.02)	0.283	0.93(0.87–0.99)	0.019	0.92(0.87–0.98)	0.006
	Social acceptance	0.95(0.91–0.99)	0.022	0.96(0.91–1.02)	0.176	0.95(0.88–1.02)	0.180	0.93(0.86–0.99)	0.033
	Social coherence	0.95(0.91–0.98)	0.005	0.96(0.92–1.01)	0.177	0.92(0.87–0.98)	0.013	0.95(0.90–1.01)	0.120
	Social contribution	0.95(0.92–0.98)	0.004	0.98(0.94–1.03)	0.409	0.98(0.92–1.04)	0.458	0.95(0.90–1.01)	0.094
	Social actualization	0.95(0.93–0.98)	0.002	0.99(0.95–1.02)	0.506	0.95(0.90–1.00)	0.072	0.96(0.92–1.01)	0.098
Model 2	Social well-being	0.97(0.96–0.99)	< 0.001	0.99(0.97–1.00)	0.115	0.97(0.95–0.99)	0.008	0.97(0.96–0.99)	0.003
	Social integration	0.95(0.91–0.98)	0.005	0.97(0.93–1.02)	0.292	0.93(0.87–0.99)	0.019	0.92(0.87–0.98)	0.006
	Social acceptance	0.95(0.91–0.99)	0.023	0.96(0.91–1.01)	0.176	0.95(0.88–1.02)	0.179	0.93(0.86–0.99)	0.032
	Social coherence	0.95(0.91–0.98)	0.006	0.97(0.92–1.01)	0.187	0.92(0.87–0.98)	0.013	0.95(0.90–1.01)	0.120
	Social contribution	0.95(0.92–0.98)	0.004	0.98(0.94–1.03)	0.426	0.98(0.92–1.04)	0.463	0.95(0.90–1.01)	0.094
	Social actualization	0.95(0.93–0.98)	0.002	0.99(0.95–1.02)	0.512	0.95(0.90–1.00)	0.071	0.96(0.92–1.01)	0.097
Model 3	Social well-being	0.97(0.96–0.99)	< 0.001	0.99(0.97–1.00)	0.118	0.97(0.95–0.99)	0.001	0.97(0.95–0.99)	0.002
	Social integration	0.95(0.91–0.99)	0.005	0.97(0.92–1.02)	0.299	0.93(0.87–0.99)	0.019	0.92(0.87–0.98)	0.005
	Social acceptance	0.95(0.91–0.99)	0.018	0.96(0.91–1.02)	0.183	0.95(0.88–1.0)	0.177	0.92(0.86–0.99)	0.027
	Social coherence	0.95(0.91–0.98)	0.006	0.97(0.92–1.02)	0.188	0.92(0.87–0.98)	0.013	0.95(0.90–1.01)	0.126
	Social contribution	0.95(0.92–0.98)	0.003	0.98(0.94–1.03)	0.446	0.98(0.92–1.04)	0.464	0.95(0.90–1.01)	0.089
	Social actualization	0.95(0.93–0.98)	0.002	0.99(0.95–1.02)	0.499	0.95(0.90–1.00)	0.072	0.95(0.91–1.01)	0.094
Model 1: adjusted for age, marital status, educational level, and occupational level.									
Model 2: adjusted for previous variables and physical activity.									
Model 3: adjusted for previous variables and chronic disease.									

Discussion

The present study examined the association of perceived social well-being and tobacco smoking, including cigarette and hookah consumption in a large population of adult men and women. Considering social well-being as a comprehensive concept, we assessed different dimensions of social well-being via Keyes's questionnaire. The current findings revealed sex differences in social well-being association with tobacco smoking. Our results showed a negative association between social well-being and cigarette smoking in both sexes. Whereas all social well-

being dimensions were associated with cigarette smoking in men, a lower risk of women's smoking was only observed in higher social integration and coherence scores. In terms of hookah smoking, in women, higher scores in social well-being, social integration, and acceptance reduced the risk of hookah consumption, while in men, there was no relationship in this regard.

In terms of cigarette smoking, our results showed that higher social well-being scores reduce the risk of cigarette use in men and women, while there were sex differences in the association between cigarette smoking and social well-being dimensions. Men's smoking is related to all social well-being dimensions, whereas only women with lower social integration and coherence tend to smoke more. In the existing literature, the association has not been directly studied before. However, a number of studies focused on some social determinants of smoking, all arguing the importance of the social situation in forming smoking behaviors. Education, income, marital status, neighborhood, perceived inequality, and degree of trust and safety in a community have been considered potential determinants of smoking in previous studies (Gilani & Leon, 2013; Palipudi et al., 2014; Ruhil, 2019; Yun et al., 2010). Another investigated factor is social support, which causes the formation and change of smoking behavior, especially in vulnerable populations such as pregnant women (Masho et al., 2014). Accordingly, having a sense of belonging to a community that could provide social support has a protective effect on the tendency to smoke cigarettes (Väänänen et al., 2008; Yun et al., 2010). Gender differences are reflected in the details of the dimensions of social well-being. In line with our findings, sex and cultural interaction have been considered essential in cigarette smoking in previous studies. It is well-known that cigarette smoking is shameful for women in Eastern societies while being valued for men (Maziak et al., 2004). Deficiency in any dimension of men's social well-being could lead them to smoke. Yet, the case for cigarette smoking is quite different in women; despite the mentioned facts, low social coherence in women could outweigh the social norms, thus leading them to smoke and driving them to take the risk of not being accepted by others.

On the subject of hookah smoking, its consumption risk in women decreased significantly with higher social well-being, integration, and acceptance. In contrast, no relationship was found with any dimensions of men's social well-being. Hookah smoking is generally considered a group activity behavior (Lee et al., 2020), yet the observed sex differences could simply be rooted in different underlying motivators in men and women. While men seek joy through hookah smoking in their gatherings, women receive acceptance with this social activity (Lee et al., 2020). In this regard, a large body of evidence emphasized the impacts of women's environmental situation on their attitudes, leading to hookah smoking (Dadipoor et al., 2019). Society's view directs people's behavior, and this principle is quite evident in women's smoking in Eastern cultures, where consuming hookah is more socially acceptable for them (Afifi et al., 2013). Even in some of these communities, women achieve social acceptance through hookah smoking with their friends and families (Dar-Odeh & Abu-Hammad, 2011; SOHRABZADEH & PARNIAN, 2015).

This study is one of the first attempts in Iran as a Middle-Eastern society to assess the relation of social well-being and its dimensions with tobacco smoking; it provides a further in-depth and comprehensive view of the social well-being concept introduced by Keyes in relation to tobacco use. In a culture where attitudes towards smoking are different in men and women, sex-specific analysis in a large sample of Iranian adults allows comparison. There are also some limitations in the present study. First, due to the cross-sectional nature of this study, causal interpretation is not possible. Second, because of the sensitivity of the tobacco issue, especially in women in the Middle East, their self-reported data might be subject to report bias. Third, since this study's population is limited to the urban regions, the results could not be generalized to the rural areas.

In conclusion, due to the Middle Eastern culture and different attitudes towards smoking in men and women, gender differences were observed in the relationship between smoking and social well-being. Except for hookah smoking in men, other smoking behaviors in both sexes are significantly related to social well-being. Men with higher scores in all dimensions of social well-being, including integration, coherence, cohesion, acceptance, actualization, are less likely to smoke. However, in women, higher scores of social integration reduce the risk of cigarettes and hookah smoking, while social coherence and acceptance were related to cigarette and hookah smoking, respectively. Current results underscore the importance of social well-being aspects in designing tobacco control interventions and show that promoting various dimensions of social well-being according to gender differences should not be neglected.

Abbreviations

TLGS: Tehran Lipid and Glucose Study

DALYs: Disability-Adjusted Life Years

MAQ: Modifiable activity questionnaire

MET: Metabolic equivalent task

DM: Diabetes mellitus

CKD: Chronic kidney disease

CVD: Cardiovascular disease

OR: Odds Ratio

CI: Confidence interval

Declarations

Informed consent

Informed consent was obtained from all individual participants included in the study.

Consent for publication

In accordance with the ethical approvals mentioned all participants consented for their data to be included in the published manuscript.

Ethics approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

The study was approved by the Ethical Committee of Research Institute for Endocrine Sciences and the National Research Council of the Islamic Republic of Iran (no. EC 121).

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Competing interests

The authors declare that they have no competing interests.

Availability of data and material

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Authors' contribution

P A, H M-A, F M designed the study. LC carried out the statistical analysis. P A, H M-A, F M, H E-Z contributed to interpretation of data. HM-A, F M and N M drafted the manuscript. FA, PA and H E-Z supervised and revised the manuscript. All authors read and approved the final manuscript.

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Figures

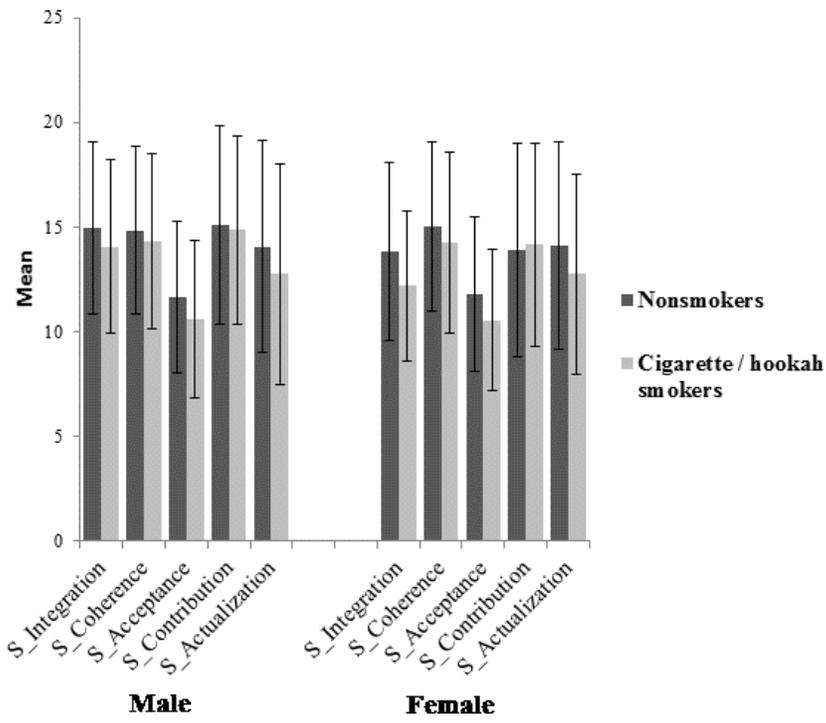


Figure 1

Scores of social well-being dimensions (mean and confidence intervals) in non-smoker and smokers (cigarette and hookah smokers) men and women.

S-integration: Social integration, S-acceptance: Social acceptance, S-coherence: Social coherence, S-contribution: Social contribution, and S-actualization: Social actualization.