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THE ASSOCIATION BETWEEN TOBACCO SMOKING AND REPORTED PSYCHIATRIC SYMPTOMS IN AN ADOLESCENT POPULATION IN THE UNITED ARAB EMIRATES

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In this study the relationship between cigarette smoking and certain elements of psychiatric morbidity, especially anxiety and depressive symptoms, was investigated among a sample of adolescents in the United Arab Emirates (UAE). The sample of the study consisted of 473 male secondary school students in the city of Ras Al-Kheima, UAE. Mean age of participants was 16.67 (*SD*=1.07). They completed the Arabic version of the Self-Reporting Questionnaire (SRQ-20) as well as other demographic information. Data analysis, using one-way ANOVA, revealed significantly higher reported symptoms by smokers compared with those who never smoked and those who started and stopped. The difference between those who smoked and stopped and those who never smoked was also significant.

The objective of this study was to investigate the relationships between cigarette smoking and certain elements of psychiatric morbidity, especially anxiety and depressive symptoms, among adolescents in the United Arab Emirates (UAE). The incidence and prevalence of tobacco smoking in adolescence are alarmingly high. In addition to being a major risk factor for morbidity and mor-

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tality, tobacco smoking is associated with different manifestations of psychiatric disturbances (Bergen & Caporaso, 1999). The admission of "nicotine dependence" as a diagnostic category in the Diagnostic and Statistical Manual for Mental Disorders (DSM-III) (American Psychiatric Association, 1987) is a good example of such an association. Furthermore, there is an increasing body of research demonstrating the presence of many psychiatric manifestations among tobacco smokers compared with nonsmokers. For example, two large-scale epidemiological studies found cigarette smoking to be correlated significantly with depression (Anda et al., 1990; Glassman et al., 1990). Similar to the reported studies on depression, Breslau, Kilbey, and Andereski (1991) reported an association between tobacco smoking and higher incidence of anxiety symptoms and drug dependency.

In adolescent populations, Wang, Fitzhugh, Westfield, and Eddy (1994) found that significantly more smokers reported feelings of unhappiness, sadness (or depression), hopelessness about the future and having trouble going to sleep, compared to a control group. In a large community sample of adolescents (*N*=1709), Brown, Lewinsohn, Seeley, and Wagner (1996) found that the risk of developing Major Depressive Disorder (MDD) was higher among tobacco smokers. In another study, Escobedo, Kirch, and Anda (1996) reported that the presence of depressed mood, a history of major depression, or both, was associated with smoking initiation risks during childhood, adolescence and young adulthood.

As for anxiety, a large-scale study by Sonntag, Wittchen, Hofler, Kessler, and Stein (2000) reported a significant association between both DSM-IV criteria of social fears and social phobia and higher rates of nicotine dependence in a sample of 3021 adolescents and young adults.

In a nationwide representative sample (*N* = 5318) of general secondary school students in Egypt, smokers reported having significantly more behavioral deviations and receiving psychiatric treatment more often than nonsmokers (Soueif, 1990). Similar findings were reported using other samples of technical school students (Al-Salakawy, 2002), industrial workers (Soueif et al., 1988), and again on an even larger sample (*N*= 12969) of secondary school students (Al-Salakawy, 1999).

To our knowledge, no researchers have attempted to study the association between tobacco smoking and psychiatric morbidity in the UAE. The present study is an attempt to cross-validate the findings presented above using a sample of UAE adolescents.

METHOD

PARTICIPANTS

The sample consisted of 473 male secondary school students in Ras Al-Kheima, UAE, with a mean age of 16.67 (*SD*=1.07). They were drawn from a pool of all the secondary schools in the city with the class as the unit of sampling. Two to three classes from each school were selected randomly. Seventy-three percent of the students were UAE nationals and the rest came from different Arab countries. Of all participants, those who had ever smoked at any time were 186 (39.3%), and those who were still smoking were 70 (14.8%).

INSTRUMENT

The Arabic version of the Self-Reporting Questionnaire (SRQ-20) was used. It was developed, from earlier screening instruments, by Harding and his colleagues (1980). It is designed to identify individuals with possible, nonpsychotic (mainly anxiety and depression) mental health problems in primary care settings. It consists of 20 questions, answered yes or no. Twelve items tap psychological symptoms, like "Do you feel unhappy?" and eight cover physical symptoms such as "Do you often have headaches?". El-Rufaie and Absood (1994) translated the questionnaire into Arabic and carried out a large-scale validity study on a sample of 217 patients from primary health centers in Al-Ain, UAE. Their results demonstrated very reasonable sensitivity and specificity estimates against psychiatric classifications and acceptable homogeneity. In the present sample, Alpha Coefficient for the total score was .88. All item total correlations were significant suggesting a reasonable level of homogeneity.

Participants filled out the SRQ-20 during class time. They also filled out a biographic data sheet covering smoking and other sociodemographic and family variables. These data will be reported elsewhere. As for smoking status, the participants were asked two questions: “Have you ever smoked cigarettes?” and, “If yes, Are you still smoking?”.

RESULTS

Table 1 presents descriptive information on the SRQ-20 for the different subgroups. One-way ANOVA showed very significant differences among the three groups (F = 29.296, $p < .000$) reflecting a strong association between tobacco smoking and psychiatric morbidity. Subjects who were still smoking scored significantly higher on the SRQ-20 than both those who had never smoked ($p < .001$) and those who had stopped smoking ($p < .022$). The analysis showed also that those who had experimented with smoking and stopped reported significantly ($p < .001$) higher scores than did those who had never smoked.

TABLE 1
MEANS AND STANDARD DEVIATIONSOF THE DIFFERENT SUBGROUPS ON THE SRQ20 SCALE

Group	*N*	*M*	*SD*
Still smoking	70	7.286	4.578
Stopped smoking	186	5.466	4.242
Never smoked	217	3.482	3.767
Total	470	4.538	4.251

DISCUSSION

The reported results strongly support what previous studies have shown concerning the relationship between psychiatric complaints and tobacco smoking. The association between tobacco smoking and depressive and anxiety symptoms raises the question of whether there is a causal link and, if there is, in what direction. This issue was investigated in relation to depression with conflicting explanations. Some investigators (e.g., Kendler et al., 1993) have suggested that depression increases the risk of smoking initiation and maintenance as a way of self-medication for depressed mood. They also suggested that depression decreases the prospects of smoking cessation. On the other hand, there are others who suggest that the neurotransmitter systems affected by cigarette smoke mirror the neurotransmitter pathways thought to be involved in the biological mechanisms of depression (Quattrocki, Baird, & Yurgelun-Todd, 2000). In a recent five-year prospective study, Breslau and her colleagues (1998) found that history of major depression at the beginning of the study increased the risk of regular smoking. They also reported that history of tobacco smoking at baseline increased the risk of major depression. These results can also be used to support shared etiology between smoking and depression hypotheses. These hypotheses center on genes, social environment, and coping styles. This is a very rich area for future research.

These results may be regarded as a contribution that has important implications for any prevention strategy addressing school-age populations. Up until now, such policies have emphasized the physical health hazards of smoking and ignored mental health aspects. There is a strong need to redress this imbalance.

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