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Evaluation of Iranian Students' Mental Health: A Cross-sectional Survey

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Abstract

Background: Mental health is a significant problem in developed and developing countries which influences all aspects of life. We aimed to evaluate the status of Iranian students' mental health.

Methods: This cross-sectional study was performed on 2052 elementary school students located in Tehran, Iran, in September 2018. We used the Census sampling method for sampling and the general health questionnaire comprising 28 items. For statistical analysis SPSS software, version 21 was used.

Results: A total of 2052 elementary school students (1373 girls and 679 boys) participated in this study. The mean ± standard deviation (SD) ages of the girls and boys were 14.1±1.7 and 13.9±1.1 years, respectively. The mean ± SD of anxiety, social dysfunction, and depression scores were 7.42±4.92, 7.35±3.33, 6.83±2.26 in the girls and 5.65±3.89, 6.30±3.09, 4.61±1.74 in the boys, respectively. The mean ± SD total scores in boys and girls were 20.48±12.31 and 27.90±14.66, respectively.

Conclusion: The mental health status of elementary school students was generally low, especially in male students.

Keywords: General health questionnaire; Student; Mental health.

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Introduction

Iran has an enormous young population whose psychological health can be directly or indirectly threatened by several stressors since this population is more sensitive towards their surroundings.[1,2] A stressful situation can lead to catastrophic consequences in young people by changing the nervous, endocrine, and immune systems.[3] If these problems become chronic, they can lead to illness and dysfunction in adolescents.[4] Moreover, Having poor general health affects all aspects of young people's lives.[4,5] Mental health problems can have negative economic and social outcomes, so the early detection of these problems among young people can have significant benefits; however, since there is no clear and precise definition of mental health, this aim is sometimes not easy to reach.[5]

According to the reports of the World Health Organization (WHO), approximately 450 million people suffer from mental, behavioral, or neurological problems.[6-9] Besides, it estimated that 20% of children worldwide have a mental health problem, and 16.3% of students are prone to mental disorders.[10] Depressive disorder is the most prevalent mental disorder with a rate of 16%-30%.[4,7] Based on the results of studies published in recent years, around 30%-40% of youth in the United States have been diagnosed with at least one mental disorder.[11] However, there is a lake of information about psychological problems in Iran; the outcomes of these studies are important for timely treatment because most young people who are suffering from mental health problems do not seek help and schools are suitable for screening and identifying high-risk people. In this cross-sectional study, we aimed to evaluate mental and psychological problems among Iranian elementary

students using the General Health Questionnaire (GHQ) as a screening tool that is available and valid. It was designed by Goldberg in 1972 for the first time to assess mental well-being and is confirmed by the WHO. We hope that the study provides useful information for future investigations.

Materials and Methods

Design, Participants, and Procedures

This cross-sectional survey was conducted on 2052 elementary school students in four schools (two girls' schools and two boys' schools) located in the southeast of Tehran in September 2018. We used the census sampling method. We included 13-15 year-old students, and excluded those with malnutrition and genetic disorders. Demographic data, body mass index (BMI), tobacco experience, alcohol consumption, and history of drug abuse were collected by a checklist. This survey was performed by a clinical psychologist and a medical doctor.

Questionnaire

The GHQ was created by Goldberg and colleagues and confirmed by the WHO.[12] It is comprised by 28 items and has four categories. Each category consists of seven items: physical symptoms (items 1-7), anxiety (items 8-14), social dysfunction (items 15-21), and depression (items 22-28). Each item is scored on a four-point Likert scale (0=not at all, 1=usually, 2=mostly, 3=almost always). The total score ranges from zero to 84. A cut-off point of 23 was determined in this survey based on Cronbach's alpha coefficient test.

Statistical Analysis

We used SPSS (SPSS Inc. Chicago, IL, United States) software, version 21 for statistical analysis. $P<0.055$ was considered as statistically significant. Fisher's exact and Chi-square tests were used and correlation coefficients were obtained.

Results

We enrolled 2052 elementary school students in this study (Table 1). 1373 students were girls, and 679 were men. The mean ages of the girls and boys were 14.1±1.7 and 13.9±1.1 years, respectively. There was a significant difference in alcohol (P=0.006), tobacco (P=0.003), drug (P=0.001) use and BMI (P = 0.049) between the girls and boys.

Also, 381 (27.7%) girls and 493 (72.6%) boys had experienced smoking cigarette or other types of tobacco. 1.2% of the girls and 16.1% of the boys a history of alcohol consumption. 7.3% of the girls and 13.8% of the boys had a history of drug usage (Table 1).

As shown in Table 2, a significant difference was seen in physical symptoms, anxiety, social dysfunction, depression, and total scores between female and male groups (P=0.001). The mean ± standard deviation (SD) scores of the subscales and the total score was significantly higher in female students than male students. The mean ± SD total scores in boys and girls were 20.48±12.31 and 27.90±14.66, respectively.

The regression model in Table 3 showed that age, sex, and BMI had a significant relationship with mental health (P<0.05). Also, there was no significant relationship between smoking, alcohol consumption, and substance abuse with mental health.

Table 1. Demographic Characteristics of the Students

Variables	Girl (n=1373) No. (%)	Boy (n=679) No. (%)	*P* Value
Age (y)			0.091
13	564 (41.1)	320 (47.1)	
14	349 (25.4)	175 (25.8)	
15	460 (33.5)	184 (27.1)	
Tobacco use	381 (27.7)	493 (72.6)	0.003
Alcohol use	165 (1.2)	109 (16.1)	0.006
Substance/drug use	100 (7.3)	94 (13.8)	0.001
BMI (kg/m^2)			0.049
Underweight (<18.5)	317 (23.1)	248 (36.5)	
Healthy (18.5-24.9)	535 (39)	275 (40.5)	
Overweight (25-29.9)	364 (26.5)	113 (16.7)	
Obesity (30-39.9)	118 (8.6)	41(6)	
Severe Obesity (>40)	39 (2.8)	2 (0.3)	

Table 2. Comparison of the GHQ Subscales Between the Two Sexes

		Mean± SD	*P* value
Physical Symptoms	Female	6.39 ± 3.75	<0.001
	Male	4.21 ±3.16	
Anxiety	Female	7.42±4.92	<0.001
	Male	5.65± 3.89	
Social dysfunction	Female	7.35± 3.33	<0.001
	Male	6.30± 3.09	
Depression	Female	6.83± 2.26	<0.001
	Male	4.61±1.74	
Total	Female	27.90± 14.66	<0.001
	Male	20.48± 12.31	

Discussion

In this study, 2052 students of both sexes aged 13-15 years were evaluated. The mean ± SD total GHQ scores for the girls and boys were 27.90±14.66 and 20.48±12.31, respectively. Therefore, the most prevalent problems were related to the girls. This finding is consistent with a previous study in which the prevalence of psychological symptoms among girls was significantly higher than boys.[13] According to this study, high GHQ score was

Table 3. Relationship with Mental Health and Demographic Variables

Variables	β Coefficient	*P* Value	95% Confidence Interval for B	
			Lower Limit	Upper Limit
Age	0.734	0.046	0.056	0.059
Sex	-0.022	0.003	-0.103	-0.022
BMI	-0.044	0.021	-0.014	-0.000
Smoking (yes=1 no=2)	-0.045	0.055	-0.209	-0.104
Alcohol consumption (yes=1 no=2)	0.011	0.067	-0.039	0.051
Substance drug (yes=1 no=2)	-0.017	0.099	-0.111	0.0126

prevalent in female students as well as students who had low physical activity. This could be attributed to puberty and problems related to adolescence. Another study showed that 60.2% of students had mental issues, and mental health distress was more common in girls.[14] Another study done in the west of Iran reported that 27% of boys and 46% of girls had mental health problems.[15] The findings indicated a high prevalence of psychological symptoms among young people, especially in females. Mohammadi and colleagues reported that the prevalence of anxiety and depression in Iranian female students was 19.01% and 19.74%, respectively.[5]

The findings of the current study showed that the rates of tobacco use, alcohol consumption, and drug abuse were higher in boys. According to one study, the main reasons leading to tobacco use among young people were having poor relationships with family members and the desire to escape from daily difficulties and problems. Their study showed that students who had a high nicotine dependence level had a higher risk of mental problems. However, they found no difference in relation to low dependence.[16] According to the results of a prospective cohort study that measured evidence of common mental disorders, which was done using the self-administered GHQ-12, people with significant mental health problems tended to smoke more and the smoking rate was higher in the youngest age group.[17]

During this study, we had several limitations such as the absence of students at school, doing the survey improperly, the existence of certain religious and cultural beliefs among students and their families, and sexual taboos. We suggest doing a similar study and also taking a similar survey in more populated areas with larger sample size. Among students who have higher living standards and comparing them to the results of our study.

Conclusion

In this study, we evaluated elementary students' mental health using the GH. Our mental health evaluation indexes were physical symptoms, anxiety, social dysfunction, and depression. The students' mental health state was generally low, especially in male students. This study was implemented in order to assess the effect of different variables such as BMI, cigarette smoking, tobacco and alcohol consumption, and drug abuse on mental health.

Conflict of Interest

The authors declare that they have no conflict of interests.

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Authors› Contribution

Authors' Contribution

Study concept and design: MeA, PD and MaA, drafting of the manuscript MeA, AH, MB and MaA, FE and FF, FG and critical revision of the manuscript: SMD, and FK Statistical Analysis: YR and TEFA. All of the authors have given final approval of the version to be published.

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Informed Consent

Written informed was obtained from the participants. All participants gave consent for anonymous publication of their results.

Ethical Statement

This study was approved by the ethical research committee of Pars advanced and minimally invasive medical manners research center.

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