Original Article

Trends in Change of Mental Health Status in the Population of Tehran between 1998 and 2007

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Abstract

Introduction: According to a WHO report, the world will face great changes in the epidemiology of diseases in next three decades. Infectious and communicable diseases will be replaced by mental disorders at an alarming rate (9), making psychiatric disorders the most common cause of disability and premature death. This study compares trends and changes in the mental health of the residents of Tehran (≥ 15 years old) in 1998 and 2007.

Methods: This study was an overview of two cross-sectional, descriptive researches that were performed in 1998 and 2007. The study populations in these two studies were residents of Tehran. Samples were recruited by regular randomized cluster sampling. In both studies, the General Health Questionnaire (GHQ-28) was used to assess mental health. Trained physicians and health experts completed questionnaires, and data were analyzed by SPSS software (Version 18).

Results: The results showed that 21.5% of participants in the 1998 survey suffered from mental disorders, of which 27.7% were women and 14.9% were men. In 2007, this figure increased to 34.2% (37.9% in woman and 28.6% in men). The prevalence of mental disorders increased from 1998 until 2007 by about 1.6 fold (1.4 fold for women and 1.9 fold for men). In both studies, the risk of mental disorders increased with increasing age. Anxiety symptoms were more prevalent in both studies compared to somatization, depression, and social dysfunction scales.

Discussion: The result shows a dramatic increase of mental disorder prevalence in Tehran from 1998 until 2007. We believe there is a lack of sufficient and qualified facilities for mental health provisions in Tehran. Based on these facts, policymakers and officials have to place greater importance in controlling stressful situations that predispose people to mental disorders, with the intent to improve the mental health of Tehran residents.

Keywords: General Health Questionnaire (28), mental health situation, Tehran, trends of change

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Introduction

Many countries attempt industrialization and are faced with great changes, such as rapid population growth, urbanization, and immigration. Such changes can increase stress and psychosocial problems in communities, and it would not be surprising that over the next decades we could see dramatic changes in disease epidemiology and the health needs of people. Mental disorders may be the most common cause of disability and premature death. The high prevalence of mental disorders is associated with chronicity and long-term disability, which renders them a top priority in health policy.[1]

By considering mental health figures in Iran and other parts of the world, it is evident that researchers must pay more attention to this field. According to 2002 WHO estimates, about 500 million people in the world suffer from mental disorders; 50% of them have neuroses, such as anxiety or depression.[2] A 2005 review of 27 studies found that 27% of adult Europeans have been affected by at least one mental disorder in the past 12 months. In this study, the most frequent disorders were anxiety, depression, somatoform, and substance dependence.

Mental health surveys in Iran can be divided into two groups, based on when the survey was undertaken. The first group consisted of surveys between 1963 and 1971, before the Islamic revolution in Iran. In these surveys, the prevalence of mental disorders was between 11.9% and 18.6%.[3–5] The second group consisted of studies performed after the Islamic revolution, which noted the prevalence of mental disorders to be between 12.5% and 30.2%.[6]

The first comprehensive mental health survey in Iran was performed in 1998 as part of a national project named "Health and Disease". In this study, the prevalence of mental disorders was 21% (25.9% in women and 14.9% in men). The prevalence was higher in people who were older than 45, divorced, widowed, married, unemployed, retired, and housewives compared to other groups. In this study, anxiety and depressive symptoms were more prevalent than somatization and social dysfunction symptoms.[7]

In another complementary study that assessed the validity and reliability of the General Health Questionnaire (GHQ-28), 879 people (≥ 15 years old) in Tehran were evaluated by trained psychiatric residents during clinical interviews according to DSM-IV criteria. In this study 21.5% of participants had psychiatric disorders. Major depression and generalized anxiety disorder were the most prevalent psychiatric disorder. Age over 45, being single, unemployed, and illiterate were predisposing factors for mental disorders. Comparing results of the first national mental health survey in Iran with the results of this study has indicated that the

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Table 1. Comparison of prevalence of mental disorders in terms of demographic variables.

Variable	1998			2007		
	Sample size (%)	Suspected cases (*n*)	Prevalence rate (%)	Sample size (%)	Suspected cases (*n*)	Prevalence rate (%)
Gender						
Male	2523 (45.4)	376	14.9	7705 (39.8)	2206	28.6
Female	3037 (54.6)	820	27.6	11665 (60.2)	4418	37.9
Age (years)						
15–24	2379 (36.5)	345	14.5	4723 (24.4)	1379	29.2
25–44	2398 (36.8)	412	17.2	8449 (43.6)	2625	31.1
45–64	1284 (18.7)	303	23.6	4430 (22.9)	1737	39.3
65+	449 (8.0)	136	30.3	1768 (9.1)	883	49.9
Occupation						
Employed	4470 (80.4)	728	16.3	14634 (75.5)	4546	31.1
Unemployed	1090 (19.6)	468	42.9	4736 (24.5)	2078	43.9
Marital Status						
Unmarried	1096 (19.7)	240	14.6	2199 (11.4)	664	30.2
Married	4186 (75.3)	854	20.4	16581 (85.6)	4769	32.6
Divorced or widowed	278 (5.0)	102	36.7	590 (3.0)	184	47.2
Education						
Illiterate	647 (11.7)	185	28.6	4068 (21.0)	1774	43.6
Elementary	2021 (36.3)	376	25.5	5517 (28.5)	2080	37.7
Diploma	1569 (28.6)	342	21.8	6475 (33.4)	1975	30.5
Above diploma	1323(23.4)	293	14.5	3310 (17.1)	795	24.0
Total	**5560**	**1196**	**21.5**	**19370**	**6624**	**34.2**

Table 2. Estimated logistic regression coefficients and odds ratios.

Variable	1998			2007		
	P-value	OR	95% CI	*P*-value	OR	95% CI
Gender						
Male	—	—	—	—	—	—
Female	< 0.004	1.541	1.392–1.688	< 0.001	1.346	1.167–1.525
Age	< 0.001	1.208	1.009–1.407	< 0.001	1.447	1.263–1.631
Education						
Educated	—	—	—	—	—	—
Uneducated and less educated	< 0.01	1.112	0.915–1.309	< 0.001	1.447	1.263–1.631
Marital Status						
Unmarried	—	—	—	—	—	—
Married	0.139	0.531	0.446–0.616	0.712	0.323	0.140–0.464
Widowed and divorced	< 0.001	1.711	1.584–1.840	< 0.001	1.288	1.001–1.575
Occupation						
Employed	—	—	—	—	—	—
Unemployed	< 0.001	1.813	1.575–2.052	< 0.001	1.507	1.262–1.754

prevalence of mental disorders in Tehran (21.5%) approximated the mean prevalence in Iran (21%).[6]

The second national survey on the epidemiology of psychiatric disorders in Iran was performed in 2001 using the Schizophrenia and Affective Disorder Scale. The prevalence of psychiatric disorders in this study was 17.1% (23.4% in women and 10.8% in men). Psychiatric disorders were more prevalent in the 41–55 age group, divorced, urban, illiterate, housewives, and unemployed people. In this survey, 10.9% of the study population suffered from at least one psychiatric disorder.[2]

The General Health Questionnaire (28) is one of the instruments commonly used in epidemiological surveys of mental disorders. This questionnaire has been created by Goldberg in 1972 with the aim of finding psychiatric disorders in people in the community, clinic, and other situations. It is one of the most familiar instruments for the screening of psychiatric disorders and assessing mental health and has greatly influenced psychiatric and behavioral science research.[8,9]

Research on community mental health not only improves mental health care of people at need, but also can guide us in preventing psychiatric disorders. The purpose of this study is to recognize the trends of mental health in the population of Tehran. A compari-

Table 3. Comparison of mean scores of GHQ-28 in study population of Tehran.

GHQ-28 results		Mean scores	Standard deviation	*t*	Degree of freedom	*P*-value
1998	Male	4.11	4.42	2.71	5558	< 0.01
	Female	5.69	5.56			
2007	Male	5.08	5.90	4.74	19368	< 0.001
	Female	6.97	6.43			
Total	1998	4.90	4.98	14.1	24928	< 0.0001
	2007	6.03	6.16			

son of the changes in mental health of the population of Tehran in 1998 and 2007 based on demographic variables such as age, sex, work status, education, marital status, and number of family members is one of the specific aims of this study.

Materials and Methods

This is a review of two cross-sectional descriptive surveys. The first study was done in 1998 as part of "the Health and Disease Project" and the second study was done in 2007 as part of the "Urban HEART Survey". The study populations of two studies were consisting of residents of Tehran city. The sampling technique was regular cluster randomized. A total of 5,590 people participated in the first study and 19,370 people in the second.[6,10]

The GHQ-28 was used to assess residents' mental health conditions. This questionnaire has four sections: somatic symptoms, anxiety and sleep problems, social dysfunction, and depression. According to many studies, both throughout the world and in Iran, this questionnaire has good reliability and validity as a psychiatric disorder screening tool. The scoring system used in this study was a traditional scoring which gives 0 score (responses with no or little), and 1 scores (responses with much or very much), with a total score between 0 and 28. [11]

Trained physicians and health experts completed questionnaires in both studies during a two-month period. Results were analyzed by SPSS version 13 software.

Results

Information about the mental health status of people in both studies (based on demographic variables) is shown in Table 1.

Results from logistic regression are presented in Table 2. The higher odds of mental disorders were associated in both studies with the following: female sex, divorced and widowed, less educated, unemployed, and the elderly at 95% CI.

Table 3 shows a comparison of the mean scores of GHQ-28 questionnaires in both study populations.

Discussion

The findings of this study showed that the prevalence of psychiatric disorders in Tehran in 1998 was 21.5%, while in 2007 it was 34.2%. The results indicated that the prevalence of mental disorders increased by 1.6 fold from 1998 until 2007; this increase was 1.4 fold for women and 1.9 fold for men (Table 1). In both studies, psychiatric disorders were more prevalent in women than in men. This was consistent with previous studies in Iran and other countries. The higher prevalence might have been related to biological factors, sexual roles, environmental and work-related stresses, and restricted social participation of women.

In both studies, aging was associated with increased prevalence, so that people over 65 years old had the highest psychiatric disorders.[6,10] Retirement, menopause, loneliness, and biological changes were factors that could have contributed to the increased prevalence in these age groups.

Illiterate people had a higher prevalence of psychiatric disorders than other groups in both studies, which was consistent with most studies in Iran. We have attributed this higher prevalence to social and cultural restrictions among illiterate people, and their inability to use more efficient coping strategies in stressful situations.

As with findings of other studies in Iran and the world, the prevalence of psychiatric disorders was higher in unemployed and retired people. It was possible that lower incomes, the stress of being jobless, and restricted social interactions were factors that increased the rate of psychiatric disorders among jobless people and housewives compared to the employed.

People, who were divorced, widowed, or married had higher rates of psychiatric disorders compared with singles; this was consistent with the findings of other studies in Iran.[12,13] The stress of divorce, financial problems, life management, and parenting possibly contributed to the higher prevalence.

The findings of both studies showed that illiterate or less educated people had a higher prevalence of psychiatric disorders compared with those more educated. Other studies in the world have shown that the prevalence of psychiatric disorders in illiterate people is higher, and that being educated is a protective factor for mental disorders.[14,15–17] Social and cultural restrictions and their inability to use more efficient coping mechanisms are contributing factors to this difference. The results are consistent with the findings of other studies in Iran.[7,10,18–20]

In both studies the highest positive response rate was related to irritability, anxiety, and sleep problems. The lowest response rate was seen with suicidal ideation; these results were also consistent with previous findings in Iran.

In Table 2, the mean score of women is higher compared with men. This difference has statistical significance and could be related to biological factors as well as lower social participation of women.

The increases happened in prevalence of mental disorders during a decade in Tehran city, can be attributed to social, political, financial, and cultural problems that have occurred in Iran and the world during this decade.

The results have shown that the prevalence of mental disorders has considerably increased over a decade in Tehran, and the difference between the mean scores of individuals in the two studies is statistically significant (Table 3). Considering the higher prevalence of psychiatric disorders in 2007 compared to 1998, perhaps policymakers should pay greater attention to mental health pro-

vision in Tehran and other Iranian cities. This can be achieved with the help of counseling centers in Tehran city. In our opinion, attention to employment issues and the provision of recreational and sport facilities could have a positive effect on this unfortunate trend.

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