

# AN EPIDEMIOLOGICAL SURVEY OF MENTAL DISORDERS AMONG ADULTS IN THE NORTH, WEST AREA OF TABRIZ, IRAN

Ali Fakhari<sup>1</sup>, Fatemeh Ranjbar<sup>2</sup>, Hussein Dadashzadeh<sup>3</sup>, Fatemeh Moghaddas<sup>4</sup>

## ABSTRACT

**Objective:** To find out prevalence of mental disorders in the North West Area of Tabriz, Iran and their association with demographic factors such as gender, marital status, education and age.

**Design and setting:** In this cross sectional study 1017 households were chosen using systematic randomized sampling and 2624 individuals above the age of seventeen years and above. We obtained information on psychiatric disorders by using Duke University Questionnaire. Four hundred fifty two people were interviewed by two psychiatrists based on the DSM-IV criteria. The SPSS-11 version was used for analysis.

**Results:** The probability of mental disorder was 19.4% in women and 8.59% in men. The overall prevalence of psychiatric disorders was 14.4%.

**Conclusion:** Etiological studies provide useful information for planning provision of mental health care. Further studies are needed to find out the prevalence of mental disorders in the community.

**KEY WORDS:** Current Prevalence, Mental Disorders, Duke University Questionnaire.

Pak J Med Sci January - March 2007 Vol. 23 No. 1 54-58

## INTRODUCTION

Mental disorders may replace infectious and communicable diseases as the leading cause for morbidity and mortality in future.<sup>1</sup> Psychiatric disorders have been diagnosed since Hippocrates era in 377 B.C. He believed in

treating mental disorders like all other medical diseases.<sup>2</sup> Mental disorders affect the social life and economic development of the people. Mental disorders remain frequently unrecognized, under treated and their impact on the patients, their families and society are underestimated.<sup>3</sup> They are a major health problem that needs to be addressed.<sup>4</sup>

There is no common format for diagnostic interviews.<sup>5,6</sup> A review of epidemiological studies.<sup>1,5,6-8</sup> of mental disorders in different countries and also throughout Iran.<sup>1-6</sup> indicates that considerable differences in prevalence rates and gender ratio have been observed due to differences in the tools employed, screening methods, interview techniques, diagnostic classifications and cultural differences between sample population. In a few epidemiological surveys of mental disorders in Iran by Noorbala et al, 2001.<sup>1-6</sup> reported varying prevalence rates between 11.9% and 23.8%.<sup>1</sup>

In different studies reported, women suffer from mental disorders two or three times more than men.<sup>1,3-9</sup> Iranian women are likely to

1. Dr. Ali Fakhari  
Assistant Professor  
Department of Psychiatry,
  2. Dr. Fatemeh Ranjbar  
Assistant Professor  
Department of Psychiatry,
  3. Dr. Hussein Dadashzadeh, Psychologist,  
Instructor and General Physician,  
Researcher in Sweden
  4. Dr. Fatemeh Moghaddas  
Instructor and General Physician,  
Researcher in Sweden
- 1-4 Razi University Hospital, Mental Center,  
Tabriz Medical Science,  
Tabriz - Iran.

Correspondence:

Dr. Ali Fakhari  
E-mail: a\_fakhari@yahoo.com

- \* Received for Publication: November 18, 2005
- \* Revision Received: December 1, 2005
- \* Revision Accepted: May 26, 2006

experience symptoms of psychiatric disorders, possibly due to socially and cultural fixed limitations on the roles that Iranian women are expected to perform. Women physiologically have hormonal change, problem in reproductive age, with childcare as well as menopausal status in their life. Depressive disorders are the most prevalent mental health problem in Iran<sup>1,6-10</sup> and the world.<sup>3,8-11</sup> In order to plan mental health services and prevention of mental disorders in each community it is important to determine its prevalence, have details about basic demographic data and a survey of the country's health status.<sup>12</sup> It is also important to develop comprehensive prevention and educational strategies for patients and their families which are regularly evaluated. The aim of the present population based study was to find out the prevalence of mental disorders in adult Iranian population seventeen years of age and above in Tarbiz. Another objective was to find out any association between mental disorders and demographic factors such as gender, marital status, education and age.

## SUBJECTS AND METHODS

This report is an analysis from the population based project mental health in the North-West Area, Tabriz. The study was approved by the Local Ethics Committee of Tabriz University of Medical Sciences Iran and by the data registry inspection in Tabriz.

In this cross sectional and descriptive study, randomized systematic sampling chose 1017 households were selected. The study was conducted between May and July 2000 and it enrolled 2,634 individuals of age seventeen years and above. All individuals (n = 2624) had a health assessment that included physical examination, demographic questionnaire, laboratory tests and face to face interview as per Duke University Questionnaire performed at a screening center. People who had findings indicative of disease received appropriate medical attention. General physicians examined all of them besides detailed interview by specially trained psychologist.

Table-I: The current prevalence of mental disorders in terms of demographic variables

<i>Variable</i>	<i>Sample size</i> (n = 2624)	<i>Suspected cases</i> (n = 452)	<i>Prevalence rate</i> (14.4%)
Gender			
Male	1210	130	8.59
Female	1413	322	19.4
Marital status			
Unmarried	652	76	9.51
Married	1814	329	15.16
Separated*	156	47	26.30
Education			
Non educated	691	285	21.30
Primary	630	92	13.02
High school	414	55	10.63
Diploma	252	37	11.90
University	609	66	9.85
Age group (years)			
17 – 24	699	80	9.73
25 – 44	1178	183	13.24
45 – 64	503	115	19.28
65 and older	227	58	18.50

\* Separated, divorced or dead spouses were included. The participations who were not respond to the any variables were missed.

Duke University Questionnaire contains major section like General Health scales and several minor sections such as physical health, mental health, social health, anxiety and depression scales. This questionnaire was translated into the official language of Iran (Persian), which is comprehensible to almost every Iranian, and its validity and reliability were approved in a following pilot study. The pilot study was conducted on 76 households. It was recommended that all the cases with mental health scale 30 or less and also anxiety or depression scales 50 or more must be referred to psychiatrist.<sup>13</sup> Two psychiatrists and a psychologist examined them in hospital. For the final diagnosis of mental disorders they were examined by at least by two psychiatrists.

Two thousands six hundreds and twenty four (1210 males, 1413 females) of seventeen years of age and above filled the questionnaire. Out of this 452 individuals were referred to psychiatrist and 14.4% were diagnosed as suffering from mental disorders. Fifty six individuals who were suspected to be suffering from mental disease but were not referred to psychiatrists for clinical assessment (23 male, 33

females) were excluded. There were a few respondents with some missing variables.

American Psychiatric Association 1994, Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) criteria was used in diagnosis of all psychiatric disorders.<sup>14,15</sup>

*Data analysis:* The data was previously entered through EPI-Info software in an attempt to prevent any errors. The Chi<sup>2</sup> test was used for comparisons of proportions of unvaried variables. The chi-square test was used to compare continuous variables. A P-value of less than 0.05 was considered statistically significant. Statistical analysis was performed using the SPSS statistical program version 11.0 (SPSS Inc., Chicago, IL).

### RESULTS

In the current study 14.4% of the population surveyed had mental disorders. Data regarding prevalence of mental disorders in terms of gender, marital status, education and age are presented in Table-I. The prevalence in women was 2.7 times more as compared to men (19.4% vs. 8.59%,  $p < 0.001$ ). Married people were 1.59 times more at risk of mental disorders compared with unmarried people. Divorced or widowed people were 2.77 times more at risk of mental disorders compared with unmarried people. Our findings are similar to other studies done in Iran. The overall prevalence of mental disorders is however higher in this area. Prevalence among educated individuals was 9.85% as compared to lowly educated 21.3%. The risk of mental disorders increases with age. Its prevalence in individuals between 17-24 years of age was 9.73% as against 19.28% in people between 45-64 years of age which was quite significant. (9.73% vs 19.28%  $p < 0.001$ ).

As shown in Table-II Men were less likely to have mental disorders compared with women (OR 0.40; 95% CI 0.31 – 0.50;  $p < 0.001$ ). Similarly single or unmarried respondents had less mental disorders (OR 0.55; 95% CI 0.40 – 0.74;  $p < 0.001$ ) than married populations. Widowed, separated and dead spouse respondents also had more risk of mental disorders (OR 2.00;

95% CI 1.36 – 2.93;  $p < 0.001$ ) than married. Non educated respondents reported significantly more symptoms of mental disorders compared with university educated respondents (OR 2.48; 95% CI 1.79 – 3.41;  $p < 0.001$ ). Respondents at 45 – 64 groups had more mental disorders as compared with all other age groups. As per Duke University Questionnaire we found sleep abnormality (30.7%), tiredness (49.5%), feeling of depression (58.2%), nervousness (61.4%) and problem in concentration (46.3%).

### DISCUSSION

Differences in methods, tools for screening and diagnosis as well as different classification systems and age groups studied may account for the minor differences in results. In several studies from other countries the reported prevalence of mental disorders is Brazil (36.3%), Canada (37.5%), Germany (38.4%) and USA (48.6%). However, lifetime prevalence

Table-II: Relation of mental disorders with gender, marital status, education and age groups.

Variable	OR	CI	P - value
<b>Gender</b>			
Male	0.40	0.31 – 0.50	< 0.001
Female	—	--	Ref.
<b>Marital status</b>			
Unmarried	0.55	0.40 – 0.74	< 0.001
Married	--	--	Ref.
Separated*	2.00	1.36 – 2.93	< 0.001
<b>Education</b>			
Non-educated	2.48	1.79 – 3.41	< 0.001
Primary	1.37	0.96 – 1.95	0.081
High school	1.09	0.72 – 1.64	0.69
Diploma	1.23	0.78 – 1.97	0.37
University	--	-- --	Ref
<b>Age group (years)</b>			
17 – 24	0.47	0.31 – 0.72	< 0.001
25 – 44	0.67	0.46 – 0.97	0.037
45 – 64	1.05	0.70 – 1.57	0.803
65 and older	--	-- --	Ref.

OR: Odds ratio in univariate chi square analyses with 95% confidence interval. Ref.: In the gender, marital status, education and age group; female, married, university educated and 65 and older were chosen as the references groups in two separate chi square analyses, respectively.

\*Separated, divorced or dead spouses were included.

estimates were lower in Mexico (20.2%) and Turkey (12.2%).<sup>16</sup> Anxiety and depressive symptoms were common, which is comparable with results of similar surveys in Iran and in other studies reported by Kaplan and Sadock, 2000,<sup>1-6</sup>

We found higher prevalence of mental disorder in women than in men (19.4 vs. 8.59), compatible with results of other surveys in Iran and other countries. The fact that women in Iran are more at risk of mental disorders due to the robust effect of biological factors or to social inconveniences experienced more by women than men. However, the type of such social problems may differ between cultures.<sup>8,9</sup> The Iranian students reported more depressive symptoms than the U.S. adolescents.<sup>10</sup> Confirming the results of other epidemiological studies in Iran by Noorbala et al, 1998.<sup>17</sup> Our survey findings demonstrate higher prevalence of mental disorder among the married population. These may be due to economic and social stress factors such as financial matters, family management and child care. Another reason could be that unmarried people feel ashamed to tell their mental problems because of cultural limitations.

This study supports the results of earlier studies showing higher rates of mental disorders among illiterate and semi-literate groups, significantly. Socio cultural constraints in such groups posing limits to their coping styles in the face of stress may be considered as one of the main factors. The study also revealed a significant correlation between age and the occurrence of mental disorders. Prevalence rates increase with age, supporting the results of Lee et al, 1990.<sup>18</sup> and Hodiamont et al, 1987.<sup>19</sup> This may be explained by reduction in physical vigour and the greater vulnerability of older people to stress as well as mental and physical diseases.

Taking into consideration the inadequate number of psychiatrists in Iran and the limited number of beds in mental hospital for almost seventy millions population of Iran as reported by Yasamy et al 2001.<sup>20</sup> There is an urgent need to arrange appropriate staff and facilities to

provide mental healthcare to the population. We also feel that there is a need for further research, primary prevention and ensuring access to treatment facilities.

*Limitations of the study:* It is quite possible that some respondents did not disclose information about mental disorders to interviewers. Moreover patients with chronic mental disorders like schizophrenia are already long-term residents of mental hospitals hence they may not have been included in the study.

### ACKNOWLEDGMENT

We are grateful to Dr. Nosratollah Pourafkari for his valuable guidance, to Mr. Yousef Sayah Javid, Nematolahi, questioner psychologists and also the Research Department of the Tabriz University of Medical Sciences Iran.

### REFERENCES

1. Noorbala AA, Yazdi SAB, Yasamy MT, Mohammad K. Mental health survey of the adult population in Iran. *Brit J Psych* 2004;184:70-3.
2. Milanifar B. *Mental Health*, third edition, Tehran 1373;p17.
3. Rudolf EN. Depression in women. *Metabolism clinical and experimental* 2005; Supplement: 54(5).
4. Shi QC, Zhang JM, Xu FZ, Phillips MR, Xu Y, Fu YL, et al. Epidemiological survey of mental illness in people aged 15 and older in Zhejiang Province, China. *Zhonghua Yu Fang Yi Xue Za Zhi* 2005;39(4):229-36.
5. Hofer MA. Relationships as regulators: A psychobiologic perspective on bereavement. *Psychosom Med* 1984;46:183-1.
6. Mohammadi MR, Haratoon D, Noorbala AA, Malekafzali H, Naghavi HR, Pouretamad HR, et al. An epidemiological survey of psychiatric disorders in Iran. *Clin Pract Epidemiol Ment Health*. 2005;1:6.
7. Mohammadi MR, Ghanizadeh A, Rahgozar M, Noorbala AA, Davidian H, Afzali HM, et al. Prevalence of obsessive-compulsive disorder in Iran. *BMC Psychiatry* 2004;4.
8. Chiu E. Epidemiology of depression in the Asia Pacific region. *Australas Psychiatry* 2004;12 Suppl:S4-10.
9. Shin KR, Shin C, Park SY, Yi HR, Taehan KHC. Prevalence and determining factors related to depression among adult women in Korea. 2004;34(8):1388-94.
10. Haghigatgou H, Peterson C. Coping and depressive symptoms among Iranian students. *J Soc Psychol* 1995;135(2):175-80.

11. Deeg DJH, Smit JH, Comijs HC, Braam AW, Beurs ED, et al. Dysthymia in later life: A study in the community. *J Affective Disorders* 2004;81(3):191-9.
12. WHO International Consortium in Psychiatric Epidemiology: Cross national Comparisons of the prevalences and correlates of mental disorders. *Bull World Health Org* 2000;78 (4):413-26.
13. Fakhari A, Dadashzadeh H, Ranjbar F. The prevalence of mental disorders in the NorthWest of Tabriz. 1379. *Med J Med Univer Tabriz (farsi version)*. 1382. 100.
14. Kaplan, Sadock BJ. *Comprehensive textbook of psychiatry*, eighth edition. Volume1, 2004;3:34-7.
15. Othmer E, Sieglind C. *The clinical interview using DSW-IV-TR*. Volume 1. Fundamentals. 50-5.
16. Kebede D, Alem A, Rashid E. The prevalence and sociodemographic correlates of mental distress in Adis Ababa, Ethiopia. *Acta Psychiatr Scand Suppl* 1999;397:5-10.
17. Noorbala AA, Mohammad K, Bagheri Yazdi SA. The epidemiological study of psychiatric disorders in Tehran. *J Hakim* 1998;4:212-23.
18. Lee CK, Kwak YS, Yamamoto J, Rhee H, Kim YS, Han JH, et al. Psychiatric epidemiology in Korea. Part I: Gender and age differences in Seoul. *J Nerv Ment Dis* 1990;178(4):242-6.
19. Hodiamount P, Peer N, Syben N. Epidemiological aspects of psychiatric disorder in a Dutch health area. *Psychol Med* 1987;17(2):495-505.
20. Yasamy MT, Shahmohammadi D, Bagheri Yazdi SA, Layeghi H, Bolhari J, Razzaghi EM, et al. Mental health in the Islamic Republic of Iran: achievements and areas of need. *East Mediterr Health J* 2001;7(3):381-91.