

## Original Article

# A Survey on Mental Health Status of Adult Population Aged 15 and above in the Province of Khuzestan, Iran

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## Abstract

**Introduction:** This research aims to determine the mental health status of population aged 15 and over in the province of Khuzestan in 2015.

**Methods:** The statistical population of this cross-sectional field survey consisted of residents of urban and rural areas of Khuzestan in Iran. An estimated sample size of 1200 people was chosen using systematic random cluster sampling. The access was provided by the contribution of Geographical Post Office of Ahvaz, Imam Khomeini Bandar, and Shooshtar cities. The General Health Questionnaire-28 (GHQ-28) was used as the screening tool for mental disorders. Data analysis in the current study was carried out using the SPSS-18 software.

**Results:** Using GHQ traditional scoring method, 21.8% of the subjects were shown to be at risk of mental disorders (26.2% of females and 23% of males). Urban areas (27.1%) were more at risk of mental disorders compared with rural residents (16.8%). The prevalence of suspected cases of mental disorders in urban areas (25.4%) was higher than rural areas (13.4%). Anxiety and somatization symptoms were more frequent than depression and social dysfunction among respondents. The obtained data revealed that the prevalence of mental disorders increased with age. Such disorders were more common in females, age group of 65 and above, people living in rural areas, divorced and widowed, illiterate, housewives and unemployed individuals compared with the other groups.

**Conclusion:** The results of this study showed that about a fourth of the people in the province were suspected to have mental disorders and the prevalence of these disorders has increased from 21.3% in 1999 to 21.8% in 2015. Therefore, it is mandatory for the provincial public health authorities to take the needed steps to ensure that necessary requirements encompassing prevention and promotion of mental health are implemented.

**Keywords:** Adult population, general health questionnaire (GHQ-28), Khuzestan province, mental health status

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## Introduction

Khuzestan Province is located in the south of Iran, with an area of 64057 km<sup>2</sup>. Its population is about 4,531,720 people, of whom 3,218,451 live in urban areas (71.2%) and 1,301,268 in rural areas (28.8%). Totally, 51% of the province population are males (2,286,209 persons) and 49% are females (2,245,511 persons). This population inhabits 27 parishes. Their

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religion is Islam and the majority of people speak in Arabic. The life expectancy in this province is 73 years old, the rate of unemployment is 10.4%, and the family size is 4.6.<sup>1</sup>

Concerning the health facilities, this province has 169 health centers, 106 of which are urban and 63 are rural. A total of 546 health houses in rural areas provide health services for people. Regarding the treatment facilities in this province, there are 58 general hospitals. Among these hospitals, there is one hospital with 200 beds which provides inpatient services to psychiatric patients; also, 381 beds in the psychiatric ward of a general hospital are allocated to these patients. So, there are 1.3 psychiatric beds per 10,000 people in Khuzestan province. A total of 110 Methadone Maintenance Therapy (MMT) clinics and 12 centers of control and management of substances provide services of prevention and treatment to addicts. Regarding the mental health human resource specialists, there are 39 psychiatrists, 67 clinical psychologists with M.A and 15 psychologists with B.A in Khuzestan province. The number of physicians working in health centers is 309, and they provide mental health services to the urban and rural population of the province, especially delivering mental health services to 17,796 patients who are under coverage of the national programs of mental health through family physician system.<sup>2</sup>

In the first national mental health survey conducted by Noorbala, et al. (1999), 1949 individuals aged 15 and above were studied in the province. The result showed that 21.3% of them were suspected of mental disorders (15.9% of males and 25.5% of females).<sup>3</sup>

Considering the importance of epidemiological studies in determining the mental health status of general population, detecting demographic features associated with these disorders and also estimating the required resources and facilities within the province, this study was conducted to examine and compare the mental health status of population in this province in the past 15 years.

## Materials and Methods

This research was performed in the form of a cross-sectional field survey in Khuzestan province in 2015. The population sample of this survey consisted of urban and rural dwellers in the age group of 15 and above. The sample size was estimated as 1200 people who were selected through systematic random cluster sampling among the people living in urban and rural areas of Ahvaz (provincial center), Imam Khomeini Bandar, and Shooshtar. The samples were selected using the Post Office Software.

The 28-item General Health Questionnaire (GHQ-28) was used as the screening tool for detection of mental disorders. This questionnaire was developed by Goldberg & Hillier (1979) for screening somatization, anxiety, social dysfunction and depression.<sup>4</sup> A review of studies on the validation of the GHQ-28 in different countries demonstrates its high validity and reliability as the screening tool for mental disorders in the community.<sup>5</sup> It includes four subscales with 7-item criteria related to the somatization, anxiety, social dysfunction and depression

symptoms. There are different ways of scoring GHQ-28, such as Likert and the traditional scoring method.<sup>6</sup> Using the traditional scoring method, the best cutoff point for this questionnaire was score 6 and for each subscale were 2. These cutoff points were obtained through a research on standardization of this screening tool in Iran.<sup>7</sup>

The survey started in December 2014 and lasted until January 2015. The survey team (a man and a woman) referred to the samples' houses based on their 10-digit Postal Code and beginning with each of head clusters in accordance with the survey completion guideline manual. Based on six age groups (15 to 25 years, 26 to 35 years, 36 to 45 years, 46 to 55 years, 56 to 65 years and 66 years and over), 12 adults (6 males and 6 females) were evaluated in each cluster. In each research unit (Household), only one person was examined. In cases when more than one individual was eligible, the sample was selected randomly.

Data related to the survey were analyzed using the SPSS-18. Logistic regression modeling was used to determine the factors that affect mental disorders. The average time to complete each questionnaire was 45 minutes.

## Results

Of 1200 individuals approached by interviewers, 1112 (92.67%) agreed to participate in the study. Data regarding prevalence of suspected cases of mental disorders in terms of gender, place of residence, age, marital status, education and occupation are presented in Table 1. The results showed that 21.8% of the samples (26.2% of females and 16.8% of males) were suspected to suffer from mental disorders. The highest prevalence of mental disorders was in the urban areas (25.4%), individuals aged 65 and over (37.7%), divorced or widowed (35.4%), illiterate (29.6%)

**Table 1.** Prevalence of mental disorders in terms of the demographic variables (n= 1112)

Variables	Sample size (n)	Suspected cases (n)	Prevalence rate (%)
<b>Gender</b>			
Male	549	92	16.8
Female	573	150	26.2
<b>Place of residence</b>			
Urban	756	192	25.4
Rural	373	50	13.4
<b>Age group (years)</b>			
15–24	142	24	17.2
25–44	400	78	19.6
45–64	408	79	19.4
+65	162	61	37.7
<b>Marital status</b>			
Unmarried	806	168	20.9
Married	220	40	18.2
Widowed, or divorced	96	34	35.4
<b>Occupation</b>			
Employed	359	53	14.8
Unemployed	145	41	28.3
Student	156	33	21.4
Housewife	326	82	25.2
Retired	126	33	26.2
<b>Education</b>			
Illiterate	314	93	29.6
Primary & secondary	328	63	19.2
Diploma	274	53	19.3
Graduated	154	27	17.5
Post Graduated	42	6	14.3
<b>Total</b>	<b>1112</b>	<b>242</b>	<b>21.8</b>

**Table 2.** Estimated logistic regression coefficients and odds ratios

Variables	B	S.E.	Sig.	OR	95% C. I. for OR Lower	Upper
<b>Marital Status</b>						
Married	---	---	---	---	---	---
Unmarried	0.512	0.390	0.189	1.669	0.777	3.588
Widowed, or divorced	0.792	0.507	0.008	2.207	0.817	3.959
<b>Gender</b>						
Male	---	---	---	---	---	---
Female	0.575	0.266	0.031	1.777	1.454	2.995
<b>Age</b>						
	0.000	0.008	0.953	1.000	0.984	1.016
<b>Place of residence</b>						
Rural	---	---	---	---	---	---
Urban	0.910	0.224	0.002	2.484	1.600	3.855
<b>Occupation</b>						
Employed	---	---	---	---	---	---
Unemployed	0.294	0.312	0.046	2.070	0.728	2.473
Student	0.727	0.501	0.147	1.670	0.775	2.528
Housewife	-0.109	0.339	0.089	1.897	0.962	2.742
Retired	0.346	0.323	0.285	1.413	0.750	2.663
<b>Education</b>						
Post Graduated	---	---	---	---	---	---
Graduated	0.292	0.821	0.296	1.338	0.268	2.689
Diploma	0.653	0.803	0.065	1.921	0.398	3.263
Primary & Secondary	0.348	0.807	0.224	1.416	0.291	2.694
Illiterate	0.958	0.815	0.001	2.607	0.528	4.876

OR= Odds Ratio

and unemployed people (28.3%).

Information related to logistic regression of variables and the odds ratio is presented in Table 2. Based on the logistic regression analyses (Table 2), the results indicated that females had a relative risk of mental disorders of 1.777 compared with males. The risk of mental disorders increased significantly with age. Divorced or widowed people were 2.207 times more at risk of mental disorders compared with married people. The highest risk of mental disorders pertained to unemployed people; they were 2.070 times more at risk of mental disorders compared with employed people. Illiterate individuals were 2.607 times more vulnerable to mental disorders than people with postgraduate degrees and above.

The results also showed that 32.6% of the studied sample scored high on somatization subscale (28.5% of males and 36.8% of females), 33.1% on anxiety subscale (31% of males and 35.3% of females), 15.8% on social dysfunction subscale (14.6% of males and 16.1% of females), and 11.6% on depression subscale (10% of males and 13.1% of females).

## Discussion

The results of this study showed that a fifth of people (21.8%) were suspected to suffer from mental disorders in Khuzestan province. The prevalence rate of mental disorders in the first mental health survey in this province was 21.3%, which demonstrated a mild increase in the prevalence rate of mental disorders from 1999 to 2015.<sup>8,9</sup> The increase in prevalence rate of mental disorders in the province can be related to the changes which have occurred in the social, living, economic and political structures of the country at the time of research.

In this study, the prevalence rate of suspected cases of mental disorders was 26.2% in females and 16.8% in males; whereas in 1999, it was 25.5% in females and 15.9% in males. Review of the studies conducted worldwide<sup>10</sup> and in Iran<sup>11-14</sup> indicated that

the prevalence rate of mental disorders is higher in females. This higher prevalence rate can be due to the biological factors, gender role, environmental and economic problems, limited satisfaction and also social participation restrictions.

Considering place of residency, the prevalence rate of suspected cases of mental disorders was higher in people living in urban areas (25.4%) than rural areas (13.4%), which is not consistent with the findings of the first mental health survey in this province in 1999 (22.9% in urban and 18.5% in rural areas).<sup>9</sup> Economic problems and environmental factors can be the reasons behind the higher prevalence rate of mental disorders in rural residents in comparison to urban individuals in this province.

The results of this study showed that the prevalence rate of suspected cases of mental disorders increased with aging, and the highest rate was in the age group of 65 years and above (37.7%) which is consistent with the findings of the first mental health survey conducted in the province in 1999. Most of the studies carried out in Iran<sup>11-14</sup> and other countries,<sup>15</sup> have indicated that the higher prevalence rate of mental disorders in the retirement period can be due to factors like disability, menopause and biological changes of individuals.

Regarding literacy, the results showed a higher rate of mental disorders in illiterate individuals compared with the other groups (29.6%), which is consistent with the findings of most of the studies in Iran and also with the finding of the survey in 1999.<sup>8,9</sup> Social and cultural restrictions and also disability of individuals in using effective methods of stress management can be considered as the reasons for higher prevalence rate of mental disorders in this age group and lower prevalence rate for graduated individuals.

The findings of this study showed that the rate of mental disorders was higher in unemployed individuals compared to the other groups, which is in line with the findings of most studies done in Iran.<sup>11-14</sup> The economic problems in case of males and social restrictions and biological factors influencing the life styles

of females can be considered as probable reasons behind the higher prevalence rate of mental disorders, which is consistent with the findings of other researches in Iran.

With regard to marital status, the results indicated that widowed or divorced population were more vulnerable compared to the other groups. Problems caused by losing the dear ones or separation can be considered among the reasons behind the higher prevalence rate of mental disorders in this group compared with unmarried and married individuals.

The findings of this study on GHQ subscales showed that the prevalence rate of somatization and anxiety was higher than social dysfunction and depression; however, the findings of the 1999 research<sup>11</sup> showed that the prevalence rate of depression and anxiety was higher than somatization and social dysfunction. The disparity compared to the 1999 survey as well as the higher rate of these subscales among females compared to males can be due to the changes in the economic, cultural and social status of females in comparison to males.

### Conflict of interest

*The authors declare that they have no conflict of interest.*

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