Original Article

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

Ahmad Ali Noorbala MD•[1], Seyed Abbas Bagheri Yazdi MSc[2], Soghrat Faghihzadeh PhD[3], Koorosh Kamali MD PhD[4], Elham Faghihzadeh PhD Candidate[5], Ahmad Hajebi MD[6], Shahin Akhondzadeh PhD[7], Nazila Shahmansouri MD[8], Mostafa Shakeri MSc[9]

Abstract

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

Methods: The statistical population of this cross-sectional field survey consisted of residents of urban and rural areas of Chaharmahal and Bakhtiari 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 Shahre Kord, Farsan and Farrokhshar cities. The General Health Questionnaire-28 (GHQ-28) was used as the screening tool for mental disorders. The analysis of data in the current study was carried out using the SPSS-18 software.

Results: Using GHQ traditional scoring method, the results showed that 24.9% of the subjects were at risk of mental disorders (26.8% of females and 23% of males). Urban areas (27.1%) were more at risk of mental disorders compared with rural residents (19.1%). 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. The results also indicated that mental disorders were more common in certain subgroups, in particular females, people aged 65 years and above, the divorced and widowed, illiterate and unemployed adults.

Conclusion: Our findings suggest that one fourth of the participants are at risk of developing mental disorders. Although the prevalence of these disorders has decreased from 39.1% to 24.9% between 1999 and 2015, it is still of great importance to further promote mental health policies and advocate psychological welfare of those suffering from mental disorders along with their re-empowerment.

Keywords: Adult population, Chaharmahal and Bakhtiari province, general health questionnaire (GHQ-28), mental health status

Cite this article as: Noorbala AA, Bagheri Yazdi SA, Faghihzadeh S, Kamali K, Faghihzadeh E, Hajebi A, Akhondzadeh S, Shahmansouri N, Shakeri M. A survey on mental health status of adult population aged 15 and above in the province of Chaharmahal and Bakhtiari, Iran. *Arch Iran Med*. 2017; **20(11 Suppl. 1):** S19 – S22.

Introduction

Chaharmahal and Bakhtiari Province lies in the southwest of Iran with an area of 16421 square kilometers and a population of 1,003,492, the majority of whom are concentrated in urban areas (62.8%). The male to female ratio is 1.06 living across 9 counties. The main languages spoken by the residents who are mainly Muslims are Farsi, Turkish, and Lori language.[1]

There are 110 healthcare facilities, 70 of which are located in rural areas and the rest in urban regions. Moreover, 314 Health Houses provide health care services in rural areas. There are 10 hospitals with 1340 beds, 132 of which are dedicated to mentally ill patients (85 beds in a psychiatric hospital and 47 beds in general hospitals). Therefore, there are 1.3 beds for every 10000 people in the province. With 52 Methadone Rehab Centers and one drug abuse prevention center, the province also caters to individuals with addiction problems. Mental health professionals include 15 psychiatrists and 6 clinical psychologists (1 Ph.D. and 5 with Master's degree) who practice in healthcare centers in the province. There are also 263 general practitioners trained in mental health, who provide mental health services for 14774 mentally ill patients enrolled in the "Family Doctor" program.[2]

In a national epidemiology of mental disorders, Noorbala, et al. (2001) studied 442 individuals aged fifteen and above in this province. They found out that 39.1% of the sample were at risk of mental disorders: 20.2% of males and 52.9% of females.[3]

Given the importance of mental disorders epidemiology in determining mental health status, identifying their demographic correlations, and estimation of healthcare resources available to the province, this study aims to evaluate and compare mental health status of the residents within the past 15 years.

Authors' affiliations: [1]Psychosomatic Medicine Research Center, Imam Khomeini Hospital, Tehran University of Medical Sciences, Tehran, Iran, [2]Department of Mental Health, Ministry of Health and Medical Education of Iran, Tehran, Iran, [3]Department of Biostatistics and Epidemiology, Faculty of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran, [4]Department of Public Health, School of Public Health, Zanjan University of Medical Sciences, Zanjan, Iran, [5]Department of Biostatistics, Paramedical School, Shahid Beheshti University of Medical Sciences, Tehran, Iran, [6]Research Center for Addiction and Risky Behaviors (ReCARB), Psychiatric Department, Iran University of Medical Sciences, Tehran, Iran, [7]Psychiatric Research Center, Roozbeh Hospital, Tehran University of Medical Sciences, Tehran, Iran, [8]Department of Psychiatry, Associate Professor of Psychiatry, Tehran University of Medical Sciences, Tehran, Iran, [9]Mental Health Expertise of Charmahal and Bakhtiari Provincial Health Center, Chaharmahal and Bakhtiari University of Medical Sciences, Shahre Kord, Iran.

•Corresponding author and reprints: Ahmad Ali Noorbala MD, Head of Psychosomatic Medicine Research Center, Imam Khomeini Hospital, Keshavarz Blv., Tehran, Iran. Tel: +98-21-61190000, E-mail: noorbala1@tums.ac.ir.

Accepted for publication: 18 October 2017

Materials and Methods

This research was performed in the form of a cross-sectional field survey in Chaharmahal and Bakhtiari 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 Shahrekord (provincial center), Farsan and Farrokhshahr. 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.[4] 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.[5] It includes four subscales with 7-item criteria related to somatization, anxiety, social dysfunction and depression symptoms. There are different ways of scoring GHQ-28, such as Likert and the traditional scoring method.[6] Using the traditional scoring method, the best cutoff point for this questionnaire was score 6 and for each subscales were 2. These cutoff points were obtained through a research on standardization of this screening tool in Iran.[7]

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 tears, 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 modelling was used to determine the factors that affect mental disorders. The average time to complete each questionnaire was 45 minutes.

Results

A total of 1117 persons completed the questionnaire. Data regarding the 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 24.9% of the samples (26.8% of females and 23% of males) were suspected to suffer from mental disorders. The highest prevalence of mental disorders was in the urban areas (27.1%), individuals aged 65 and over (32.9%), divorced or widowed (35.4%), illiterate (33.4%) and unemployed people (31.9%)

Information related to logistic regression of variables and the odds ratio are 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 1.160 compared with males. The risk of mental disorders increased significantly with age. Divorced or widowed people were 2.534 times more at risk of mental disorders compared with married people. The highest risk of mental disorders pertained to unemployed people; they were 2.268 times more at risk of mental disorders compared with employed people. Illiterate individuals were 2.576 times more vulnerable to mental disorders than the people with postgraduate

Table 1. Prevalence of mental disorders in terms of the demographic variables (n= 1117)

Variables	Sample size (*n*)	Suspected cases (*n*)	Prevalence rate (%)
Gender			
Male	565	130	23.0
Female	552	148	26.8
Place of residence			
Urban	776	210	27.1
Rural	341	68	19.9
Age group (years)			
15–24	138	13	9.4
25–44	398	86	21.6
45–64	371	110	29.6
+65	210	69	32.9
Marital status			
Unmarried	833	212	25.5
Married	188	32	17.0
Widowed, or divorced	96	34	35.4
Occupation			
Employed	361	74	20.5
Unemployed	109	34	31.2
Student	89	11	12.4
Housewife	398	115	28.9
Retired	141	42	29.8
Education			
Illiterate	365	122	33.4
Primary & secondary	265	56	21.1
Diploma	230	51	22.2
Graduated	221	39	17.6
Post Graduated	33	9	27.3
Total	1117	278	24.9

Table 2. Estimated logistic regression coefficients and odds ratios

Variables	B	S.E.	Sig.	OR	95% C.I. for OR	
					Lower	Upper
Marital Status						
Married	- - -	- - -	- - -	- - -	- - -	- - -
Unmarried	0.185	0.347	0.594	1.203	0.609	2.377
Widowed, or divorced	0.893	0.428	0.037	2.534	1.055	5.658
Gender						
Male	- - -	- - -	- - -	- - -	- - -	- - -
Female	0.149	0.236	0.529	1.160	0.731	1.842
Age	0.010	0.006	0.067	1.010	0.999	1.021
Place of residence						
Rural	- - -	- - -	- - -	- - -	- - -	- - -
Urban	0.243	0.175	0.165	1.275	0.905	1.796
Occupation						
Employed	- - -	- - -	- - -	- - -	- - -	- - -
Unemployed	0.450	0.255	0.008	2.268	0.951	3.786
Student	0.361	0.469	0.442	1.334	0.572	2.594
Housewife	0.268	0.287	0.352	1.407	0.744	2.495
Retired	0.096	0.282	0.034	2.020	0.934	3.611
Education						
Post Graduated	- - -	- - -	- - -	- - -	- - -	- - -
Graduated	0.793	0.650	0.023	2.210	0.618	3.802
Diploma	0.860	0.634	0.175	1.363	0.682	2.188
Primary & Secondary	1.028	0.629	0.102	1.396	0.815	2.096
Illiterate	1.274	0.635	0.005	2.576	1.029	3.423

OR= Odds Ratio

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 findings of this study revealed that over one fourth of the sample were at risk of mental disorders. The first national epidemiology study (1999) estimated the prevalence of mental disorders in this province at about 39.1%.[8] The risk of mental disorders in this study was 26.8% for females and 23% for males, which used to be 52.9% and 20.2% respectively in 1999, indicating a significant decrease. Both studies suggest that women are more vulnerable to developing mental disorders which is consistent with previous research findings around the world,[9] including Iran.[10–13] This could be due to multiple factors such as biological vulnerability, gender role, environmental and occupational stressors, satisfaction resource limitations, and restricted social participation of women.

The risk of mental disorders among urban residents is 27.1%% which is higher than that of rural population (19.1%). This is consistent with national epidemiology study results: 34.8% and 42.8% in rural and urban residents, respectively.[10] Economic problems and inadequate welfare state along with lack of communication means can contribute to the phenomenon.

This study also supports aging as a correlate of mental disorders prevalence which is the highest among those aged 65 years and above (32.9%), in line with the first national mental health study findings.[8] This could be due to retirement, menopause and biological changes.

Additionally, mental disorders were more common among illiterates (33.4%) than other subgroups in this study, in accordance with national mental health study results in 1999.[10] Social and cultural limitations, coping mechanisms insufficiency have been mentioned to play a significant role in the observation that people with lower education levels who suffer from mental disorders are greater in number than those with higher education levels.

In this study, the prevalence of mental disorders was higher among unemployed subgroup than others, which is also consistent with national mental health study,[8] and other research results from Iran.[11-12] Economic problems have been recognized to be the contributing factor.

This study also showed that those at risk of somatization and anxiety are greater in number than those with depression and social dysfunction. However, in the study of 1999, the province showed to have higher rates of depression and anxiety than somatization and social dysfunction symptoms. It seems that integrating the national comprehensive health program into the healthcare systems has decreased the mental disorders rates in the province and also caused vulnerable people to demonstrate the symptoms in terms of depression and somatization.

Conflict of interest

The authors declare that they have no conflict of interest.

Acknowledgments

This paper is the product of the national mental health and social capital survey in Iran in the year 2015 sponsored by the deputy of research and technology of the Ministry of Health and Medical Education of Iran and scientific research deputy of the Tehran university of Medical Sciences. Hereby, we thank all of them and particularly comprehensive support of Dr. Reza Malekzadeh, respectable deputy of research and technology of MOHME, and we are grateful for the support of the health deputy of Chaharmahal and Bakhtiari *University of Medical Sciences. We also thank all the trained psychologists who undertook this research and provided a lot in collecting the data and appreciate the patience of participants and their respectful families in completing the questionnaires*

References

1. Internet database of Iran Statistics Center of, demography of the province of the country on the basis of the results of the population and house census, 2016. Available from: URL: https://www.amar.org.ir. (Accessed Date: October 2015).
2. The function reports of health and treatment department of Chaharmahal and Bakhtiari University of Medical Sciences, 2016.
3. Noorbala AA, Mohammad K, Bagheri Yazdi SA, Yasamy MT. A view of mental health in Iran. Iranian Red-Crescent Society Publication, 2001, Tehran, Iran.
4. Goldberg DP. The detection of psychiatric illness by Questionnaire. *Oxford University Press*. 1973; London.
5. Goldberg DP, Hillier VF. A scaled version of general health questionnaire. *Psychological Medicine*. 1979; 9: 131 – 145.
6. Goldberg DP, Gater R, Sartorius N, Ustun TB. The validity of two version of GHQ in general health care. *Psychological Medicine*. 1997; 27(1): 191 – 197.
7. Noorbala AA, Bagheri Yazdi SA, Mohammad K. The validation of general health questionnaire-28 as a psychiatric screening tool. *Hakim Health Sys Res*. 2004; 11(4): 47 – 53.
8. Noorbala AA, Mohamad Kazem, Bagheri Yazdi SA, Yasamy MT. Study of the mental health status of the 15 years and older people in Islamic Republic of Iran. *Hakim Research Journal*. 2002; 5 (1): 1 – 10.
9. Steel Z, Marnane C, Iranpour C, Chey T, Jackson JW, Patel V, et al. The global prevalence of common mental disorders: a systematic review and meta-analysis 1980–2013. *Int J Epidemiol*. 2014; 43: 476 – 493.
10. Noorbala AA, Bagheri Yazdi SA, Yasamy MT, Mohammad K. Mental health survey of the adult population in Iran. *Br J Psychiatry.* 2004; 184: 70 – 73.
11. Mohammadi MR, Davidian H, Noorbala AA, Malekafzali H, Naghavi HR, Pouretemad HR, et al. An epidemiological survey of psychiatric disorders in Iran. *Clin Pract Epidemiol Ment Health*. 2005; 1: 16.
12. Sharifi V, Amin-Esmaeili M, Hajebi A, Motavalian A, Radgoodarzi R, Hefazi M, et al. Twelve-month prevalence and correlates of psychiatric disorders in Iran: The Iran mental health survey-2011. *Arch Iran Med.* 2015; 18(2): 76 – 84.
13. Noorbala AA, Faghihzadeh S, Kamali K, Bagheri-Yazdi SA, Hajebi A, Mousavi MT, et al. Mental health survey of the adult population of Iran in 2015. *Arch Iran Med*. 2017; 20(3): 128 – 134.