Original Article

A Survey on Mental Health Status of Adult Population Aged 15 and above in the Province of North Khorasan, 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], Ali Akbari MD[8], Zahra Yousefnejad MA[9]

Abstract

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

Methods: The statistical population of this cross-sectional field survey consisted of residents of urban and rural areas of North Khorasan in Iran. Through systematic random cluster sampling, 1200 individuals were selected from the residents of urban and rural areas of of Bojnourd, Sfaraien and Shirvan. The 28-item version of the General Health Questionnaire was applied as the screening tool. The data were analyzed using SPSS, version 18.0 for windows.

Results: This study showed that using the traditional scoring method, 22.2% of the subjects (28% of females and 16.4% of males) were suspected of mental disorders. The prevalence of suspected psychiatric disorders in urban areas (23.9%) was higher than the prevalence of these disorders in rural areas (18.3%). The prevalence of suspected anxiety and the somatization of symptoms was higher than the prevalence of social dysfunction and depression, and the prevalence of these components was higher in women than men. The findings of this study also showed that the prevalence of suspected mental disorders increased significantly with age. The prevalence of suspected cases of these disorders was higher among women, the age group of 65 and older, people living in urban areas, divorced and widowed, illiterate, and retired people compared to the other groups.

Conclusion: The results of this study show that more than one fifth of the sample were suspected of mental disorders. Therefore, health authorities and administrators need to take the principle measures to ensure and maintain the mental health of individuals as well as the evaluation and treatment of patients with mental disorders.

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

Cite this article as: Noorbala AA, Bagheri Yazdi SA, Faghihzadeh S, Kamali K, Faghihzadeh E, Hajebi A, Akhondzadeh S, Akbari A, Yoisefnejad Z. A survey on mental health status of adult population aged 15 and above in the province of North Khorasan, Iran. *Arch Iran Med.* 2017; **20(11 Suppl. 1):** S87 – S90.

Introduction

North Khorasan Province is one of the northeastern provinces of Iran with Bojnord city as its capital. The population of this province is 744,100, of whom 407,253 people live in urban areas (55.8%) and 336,847 people live in rural areas (45.2%). The male population is 376,122 (50.5%) and the female population is 367978 (49.5%). The people of the province speak Persian, Turkish, Kurdish, Tati and Turkmen and the religion of the people of the province is Islam (Shia and Sunni). Literacy rate is 80.2% and the household size in the province is 4.[1]

Regarding health care facilities, this province has 79 health centers, with 27 urban centers and 52 rural centers. There are also 305 health houses in rural areas providing health services to people. The province does not have a psychiatric hospital, but there are 30 psychiatric beds in the general hospitals of the province; so, there are 0.4 psychiatric beds per 10,000 people in the province. A total of 12 methadone maintenance centers (MMT) and 1 harm reduction center in the province provide health and preventive services to people in need. In terms of manpower mental health specialists, 5 psychiatrists work in the province. The number of general practitioners employed in health centers is 120, and the number of Ph.D. in Clinical Psychology is 1 and the number of Master's degree in Clinical Psychology in the province is 9, who provide psychological services to the total urban and rural population of the province, and in particular 9900 patients with mental disorders covered by the mental health program in the family physician system.[2]

As this province was previously part of Khorasan province, it is not possible to compare the results of this study with the 1999 study on the state of mental health.[3]

Considering the importance of studies on the epidemiology of mental disorders in determining the mental health status, identifying the demographic characteristics associated with these disorders, as well as estimating the resources and health services

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, Faculty of Medicine, Gonabad University of Medical Sciences, Gonabad, Iran, [9]Responsible Expertise of Mental Health in North Khorasan Provincial Health Center, North Khorasan University of Medical Sciences, Bojnourd, 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

required for the province, this study was conducted to determine the mental health status of people in the province over the past 15 years.

Materials and Methods

This research was conducted in the format of a cross sectional and field study in North Khorasan province in 2015. The statistical population of the study consisted of people aged 15 and over residing in urban and rural areas of the province. The sample of the study in the province was determined as 1200 people who were selected from the three cities of Bojnourd (provincal center), Sfaraien and Shirvan by random systematic and cluster sampling. This sample was extracted from the urban and rural population of the three cities with the help of 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 the 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 1102 persons completed the questionnaire. The distribution of the prevalence of mental disorders in the population studied in the province is given in Table 1. The information in this table shows that 22.2% of the subjects were suspected of mental disorders (16.4% of males and 28% of females). The highest susceptibility to mental disorders in each of the variables studied pertained to those living in urban areas with 23.9%, people from the age group of 65 and older (36.3%), divorced and widowed (45.2%), illiterate (31.7%), and retired people (29.5%).

Data in Table 2 shows that risk of developing a psychiatric disorder in females was 1.532 times higher than such risk in males and the risk increased incrementally with age. The risk was 2.143 times higher in divorced and widows than married individuals, 1.961 times higher in retired than persons who have a job and 1.904 times higher in people with illiteracy than the educated.

Based on subscales of the questionnaire, 28.9% of the people were suspected of somatization (21.7% of males and 26% of females), 29.7% of them suspected of anxiety (23.6% of males and 35.7% of females), 15% suspected of having social dysfunction (14.8% of males and 15.1% of females) and 9.2% suspected of having depression (7.8% of males and 10.5% females).

Table 1. Prevalence of mental disorders in terms of the demographic variables (n= 1102)

Variables	Sample size (*n*)	Suspected cases (*n*)	Prevalence rate (%)
Gender			
Male	548	90	16.4
Female	554	155	28.0
Place of residence			
Urban	775	185	23.9
Rural	327	60	18.3
Age group (years)			
15–24	153	23	15.0
25–44	378	65	17.2
45–64	367	84	22.9
+65	201	73	36.3
Marital status			
Unmarried	831	162	19.5
Married	125	17	13.6
Widowed, or divorced	146	66	45.2
Occupation			
Employed	317	40	12.6
Unemployed	139	37	26.6
Student	92	14	14.8
Housewife	405	110	27.2
Retired	149	44	29.5
Education			
Illiterate	436	138	31.7
Primary & secondary	324	50	15.4
Diploma	161	30	18.6
Graduated	159	23	14.5
Post Graduated	19	4	21.1
Total	**1102**	**245**	**22.2**

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	0.184	0.357	0.605	1.202	0.598	2.418
Widowed, or divorced	0.762	0.419	0.069	2.143	0.943	4.874
Gender						
Male	- - -	- - -	- - -	- - -	- - -	- - -
Female	0.427	0.238	0.073	1.532	0.960	2.445
Age	0.006	0.007	0.366	1.006	0.993	1.020
Place of residence						
Rural	- - -	- - -	- - -	- - -	- - -	- - -
Urban	0.419	0.175	0.016	1.520	1.079	2.140
Occupation						
Employed	- - -	- - -	- - -	- - -	- - -	- - -
Unemployed	0.683	0.262	0.009	1.879	1.184	3.309
Student	0.396	0.421	0.346	1.486	0.652	3.389
Housewife	0.312	0.279	0.187	1.366	0.791	2.360
Retired	0.508	0.270	0.004	1.961	0.979	2.819
Education						
Graduated	- - -	- - -	- - -	- - -	- - -	- - -
Post Graduated	-0.650	0.619	0.314	1.022	0.455	1.756
Diploma	-0.548	0.621	0.112	1.378	0.871	1.951
Primary & Secondary	-0.624	0.605	0.203	1.136	0.464	1.755
Illiterate	-0.101	0.622	0.005	1.904	0.867	3.062

OR= Odds Ratio

Discussion

The results of this study showed that more than one fifth of the subjects in the province (22.2%) were suspected of mental disorders. The prevalence of suspected psychiatric disorders in the province is less than the median range of disorders in the country (23.44%).[9] In this study, the prevalence of suspected psychiatric disorders was 28% in females and 16.4% in males. A review of studies conducted in countries around the world and Iran[10–13]confirms the finding that the prevalence of mental disorders is higher in women than men. The reason for the higher prevalence of suspected women's mental disorders in comparison to men in the province can be biological factors and environmental stress, as well as the limited social participation of women according to the religious context of North Khorasan province.

The prevalence of suspected psychiatric disorders in urban areas was 23.9%, higher than the prevalence of these disorders in rural areas with 18.3%. This finding is consistent with the results of a similar study in 1999 in Khorasan province (Before division of Khorasan province into northern, Razavi and southern parts) (18.7% in rural areas and 17.1% in urban areas).[8] Economic constraints and lack of appropriate welfare facilities, as well as the greater restriction of rural people in using effective factors to communicate with the world around them, can account for the higher prevalence of these disorders in rural areas than urban areas.

The results of this study indicate that with increasing age, the prevalence of mental disorders increased and the highest incidence pertained to people 65 years of age and older with 36.3% Most studies in Iran indicate a higher prevalence of suspected mental disorders in the elderly.[11–13] The inability of people at retirement age, menopause and biological changes in elderly women can account for the increase in suspicious cases of mental disorders in the province.

In this study, the prevalence of suspected psychiatric disorders in illiterate was 31.7%, higher than the other groups. Social and cultural constraints and the incapacity of illiterate people to use effective methods of coping with stressors can be among the reasons for the higher prevalence of suspected cases of these disorders in illiterate people than the other groups.

The findings of this study indicate that the prevalence of mental disorders was higher in retired than the other groups. Disability and physical constraints of retired people, as well as economic and social problems and unemployment, can be considered as factors that increase the prevalence of mental disorders in these people compared to those employed.

The prevalence of suspected mental disorders was higher in divorced and widowed people than the prevalence of these disorders in married and single people. The loss of loved ones and social constraints due to separation and divorce can be reasons for a significant increase in the suspicious prevalence of these disorders in the subjects compared to the other groups.

The findings of this study suggest that the prevalence of suspected anxiety and the somatization of symptoms was higher than the prevalence of social dysfunction and depression, and the prevalence of these components was higher in women than men; however, in 1999,[3] the prevalence of depression and anxiety was higher than the prevalence of somatization of symptoms and social dysfunction in the province. The difference in the prevalence of these components in the present study compared to 1999[8] can be attributed to environmental stressors and economic, cultural and social changes in the province.

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 North Khorasan 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 North Khorasan 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. 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.
10. 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.
11. 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.
12. 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.
13. 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.