Original Article

Prevalence of Psychiatric Disorders in the General Population of Kashan, Iran

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Abstract

Background: Mental health is one of the most important public health issues because of its major contribution in decreasing the global burden of disease and its important role in assurance, dynamism, and efficacy. The present study evaluates the prevalence of mental disorders in the over 18-year-old population in Kashan, Iran during 2008–2009.

Methods: This was a descriptive, cross-sectional study. Subjects were selected via stratified random sampling. The study was conducted in two stages. In the first stage, subjects were evaluated using the General Health Questionnaire. In stage two, two psychiatrists used a DSM-IV checklist to conduct clinical interviews. The collected data were analyzed by SPSS version 16, OR, CI, Chi-square, and Mantel-Heanszel tests.

Results: The prevalence of mental disorders in Kashan was 29.2%. In women it was 35.5%, and in men, 21.2%. The most prevalent disorders were mood (9.3%) and anxiety disorders (4.7%). Among the 505 subjects with mental disorders based on clinical interviews, 162 (32.1%) suffered from mood disorders, 129 (25.6%) anxiety disorders, 21 (4.2%) psychotic disorders, 16 (3.4 %) neurologic disorders, 17 (3.4%) dissociative disorders, and 120 (23.7%) had other disorders. In this study, 7.8% of the subjects had more than one mental disorder. In the case of mood disorders, major depression (8.2%) was the most common; as for anxiety disorders, generalized anxiety disorder (7.2%) was the most prevalent. The prevalence was higher in people aged 56–65 (35.8%), widows (35.8%), the illiterate (42.8%), and the unemployed (38.8%). Mental disorder was significantly affected by gender, education, occupation, and marital status.

Conclusions: The results show that psychiatric disorders in Kashan are higher than at the time of the previous research in this region (1999). Therefore, prevention programs and treatment of psychiatric disorders in this city are of great priority.

Keywords: Interview, mental disorders, prevalence

Introduction

The World Health Organization (WHO) estimates that one of four families worldwide has at least one member suffering from a mental disorder and mental disorders will be the most global burden of disease by the year 2020.[1] These disorders are evaluated based on the degree of deviation from normal behavior.[1] In addition to many problems and limitations, psychiatric problems create prejudice in social and occupational relationships due to social stigmas. Psychiatric disorders have many effects on communities due to creating needs for physical and financial support. These patients need social and emotional support in addition to the expense for their families.[2]

The WHO in 2001 declared that nearly forty-five million people suffer from psychiatric disorders worldwide. At least one in four people experience psychiatric problems during their lifetime.[3]

A review study in 2005 showed that 27% of adults in European countries had at least one psychiatric problem over a twelve-month duration.[4] Another descriptive study (2004) in Europe showed that nearly one out of four persons had experienced one psychiatric problem in some period of their life, according to DSM-IV criteria. These disorders included mood disorders (13.9%), anxiety disorders (13.6%), and alcohol abuse (5.2%).[5] Recently the WHO has performed a study in twenty-six countries according to DSM and ICD criteria.[6] Preliminary data in fourteen countries showed that in thirteen out of the fourteen countries, anxiety disorders were the most prevalent (2.4% to 18.2% over twelve months). Mood disorders (0.8%–9.6%), drug abuse (0.1%–6.4%), and impulsive disorders (0.0%–6.8%) were less prevalent.[7]

Epidemiologic research on psychiatric disorders in different areas of Iran declared that the prevalence of psychiatric disorders has fluctuated between 11% to 23.8% from 1963 to 2000.[8] A review of epidemiologic studies regarding psychiatric disorders in different countries has shown that the prevalence of these disorders were estimated differently because of the variety in sampling methods, interviews, and classifications in diagnosis. These studies have shown that the prevalence of these disorders in Iran is not less than other countries and the WHO reports. The prevalence of these disorders in Iran is as follows: 14% in Semnan,[9] 17% in Rudsar,[10] 12.5% in Yazd's Meibod,[11] 23.7% in Kashan,[12] 23.8% in Gilan,[13] 16.6% in Gonabad,[14] 19.9% in Isfahan,[15] and 21.5% in Tehran.[16]

According to these data, this study evaluates the mental health of people in Kashan. The results of this study are important for determining the prevalence and type of mental disorders.

Material and Methods

This descriptive study was conducted on people 18 years and

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older in Kashan, Iran during 2008–2009. The sample number was 1800 persons. Subjects were selected by stratified random sampling with the use of a randomized number table, from among 39 health care centers. We provided a list of persons over the age of 18 years based on age and sex, and the proportion of each center was specified via $ni = \frac{ki}{N} \times n$. Subjects were contacted by telephone and invited to come to their health care centers. For subjects who could not come on time, particularly men and the elderly, we sent trained clinical psychologists to their homes. Subjects with scores above the cut-off point in the GHQ test were referred for clinical interview by two psychiatrists as based on the DSM-IV check-list.

The GHQ-28 questionnaire was designed by Goldberg and Hellier in 1979. This questionnaire screens for mental disorders in psychiatry,[17] and has four scales: somatization, anxiety, dysfunction, and depression. It is scored according to the Likert manner, and its validity and reliability is estimated to be 91%.[18]

A DSM-IV check-list was used simultaneously by two psychiatrists to agree on the same diagnosis. The Kappa coefficient was 0.87. The clinical interview check-list was provided by Noorbala and colleagues based on DSM-IV criteria. This structural questionnaire includes 149 symptoms of mental disorders such as mood disorder, anxiety, psychotic, psychosomatic, epilepsy, mental retardation, and organic mental disorders.[8]

All data were registered and analyzed with SPSS version 16 software, Chi-square, OR, CI, and the Mantel-Heanszel tests. Before completing questionnaires, participants gave their informed consents. All information was kept secret. Study approved by Ethics Committee of Kashan University of Medical sciences.

Results

A total of 1800 individuals whose demographic characteristics are listed in Table 1 were invited to participate in this study. According to GHQ-28, 606 individuals were suspected to have psychiatric disorders and referred for clinical interviews. From these, 60 did not participate in the interviews and were excluded from the study; 546 had clinical interviews.

After evaluation of the general health questionnaires, 606 (33.7%) of the 1800 participants may have had a psychiatric disorder; 1194 (66.3%) had no problems. In the interview phase, 505 (92.7%) of the 606 individuals had psychiatric disorders and 41 (7.3%) had no psychiatric problems (Table 2).

The most frequent occurrence of mental disorders was in the age group 56 to 65, but there was no significant difference between age and psychiatric disorders ($P = 0.542$). Psychiatric disorders were present in 337 (35.5%) women and 168 (21.2%) men. There was a significant difference between sex and psychiatric disorders ($P < 0.001$, Table 3).

Table 1. Demographic characteristic of participants as number (%)

Age	n(%)
18–27	292(16.3)
28–37	300(16.6)
38–47	477(26.5)
48–57	497(27.6)
58–66	130(7.3)
66 +	104(5.7)
Marital status	**n(%)**
Single	193(10.7)
Married	1543(85.7)
Widow	54(3.0)
Divorced	10(0.6)
Education	**n(%)**
Illiterate	265(13.1)
Primary	586(32.6)
Secondary	316(17.6)
Diploma	416(23.1)
Higher diploma	247(13.6)
Sex	**n(%)**
Female	981(54.5)
Male	819(45.5)
Occupation	**n(%)**
Worker	188(10.4)
Student	97(5.4)
Retired	303(17.1)
Self-employed	148(8.2)
Unemployed	222(12.3)
Housekeeper	837(46.6)
Total	**1800(100)**

Table 2. Results of GHQ-28 Test & clinical interview as number (%).

GHQ-28 Test	n(%)
Above cut-of-point	606(33.7)
Under cut-of- point	1194(66.3)
Total	**1800(10)**
Clinical interview**	**n(%)**
With disorder	505(92.7)
Without disorder	41(7.3)
Total	**546(100)**
In this stage 60 people did not refer for clinical interview **	

Table 3. Frequency of psychiatric disorders based on demographic variables.

Age	With disorder n(%)	Without disorder n(%)	Total	P-value
18–25	82(28.1)	210(71.9)	292	
26–40	218(28.8)	534(71.2)	752	
41–55	135(28.1)	342(71.9)	477	=0.542
56–65	43(35.8)	77(64)	120	
+66	27(27.3)	72(73)	99	
Total	**505(29.2)**	**1235(70.8)**	**1740**	
Marital status	**n(%)**	**n(%)**	**Total**	**P-value**
Single	36 (19.3)	151 (80.7)	187	
Married	448 (30.1)	1042 (69.9)	1490	
Widow	19 (35.8)	34 (64.2)	53	=0.01
Divorced	2 (20)	8(80)	10	
Total	**505(29.2)**	**1235(70.8)**	**1740**	
Education	**n(%)**	**n(%)**	**Total**	**P-value**
Illiterate	95(42.8)	127(57.2)	223	
Primary	202(30.8)	363(64.2)	565	
Secondary	78(25.1)	233(74.9)	311	0.001
Diploma	86(21.2)	320(78.8)	406	
Higher diploma	44(18.6)	192(81.4)	236	
Total	**505(29.2)**	**1235(70.8)**	**1740**	
Sex	**n(%)**	**n(%)**	**Total**	**P-value**
Female	337 (35.5)	611 (64.5)	948	
Male	168 (21.2)	624 (78.8	792	< 0.001
Total	**505 (29.2)**	**1235 (70.8)**	**1740**	
Occupation	**n(%)**	**n(%)**	**Total**	**P-value**
Worker	39(21.1)	146(79)	185	
Student	18(18.9)	77(81)	95	
Retired	38(26.8)	104(73)	142	
Self-employed	61(20.3)	240(80))	301	=0.00
Unemployed	83(38.8)	130(61.2)1	213	
Housekeeper	266(33.1)	537(67)	803	
Total	**505(29.2)**	**1235(7.08)**	**1740**	

Table 4. Frequency of psychiatric disorders types based on sex variable.

Disorders Sex	Mood disorders n (%)	Anxiety disorders n (%)	Psychotic disorders n (%)	Neurological disorders n (%)	Dissociative disorders	Multiple disorders	Other disorders	Total	P-value
Female	114(33.8)	89(26.5)	9(2.7)	9(2.7)	12(3.5)	28(8.3)	76(22.5)	337	
Male	48(28.5)	40(23.8)	12(7.2)	7(4.2)	5(3)	12(7.2)	44(26.1)	16	0.212
Total	**162**	**129**	**21**	**16**	**17**	**120**	**40**	**505**	

The ratio of psychiatric disorders in women and men was significant by used Mantel-Heanszel test and control of marriage status, education, and age variables. In this study, mood disorders were more frequent in women, however, it was not significant between sex and type of psychiatric disorders (P = 0.212, Table 4).

Psychiatric disorders were most prevalent among widows (35.8%), while singles had the smallest prevalence (19.3%). This difference was significant (P = 0.01), and with considering other variables such as age and sex with Mantel Heanszel Test (P = 0.001). The unemployed had a high prevalence of psychiatric disorders, seen in 83 (38.8%) individuals. Persons with an elementary education had the most prevalent psychiatric disorders and individuals whose education level was above a diploma had the smallest prevalence of psychiatric disorders, which was a significant (P < 0.001).

Overall, the results show the prevalence of psychiatric disorders in Kashan is 29.2%. The most prevalent psychiatric disorders were mood (9.3%) and anxiety disorders (4.7%). The prevalence of psychotic disorders was (1.2%), and neurocognition disorders, (0.9% for each). Among the 505 individuals who suffered from psychiatric disorders according to the clinical interviews, major depression was present in 41 (8.2%) individuals. In the anxiety disorder group, general anxiety disorder was present in 36 (7.2%), and obsessive compulsive disorder was present in 34 (6.8%) individuals (Table 5). In this study, 465 (92.2%) persons had only one disorder and 40 (7.8%) persons had more than one disorder.

Discussion

The present research was designed to estimate the prevalence of psychiatric disorders in individuals above 18 years old in Kashan. According to the results, the prevalence of psychiatric disorders was 29.2%. This rate was higher than other studies.[10,12,13,17,19–26.]

The prevalence of mental disorders in this study was lower than other cities such as Qazvin (30.2%) and Shahrekord (39.1%).[27,28] The results are similar to New Zealand (29.5%) and United States studies (29.1%).[29,30]

Different results seen in Iran can be due to different methods and tools for screening, diagnosis, classification, range of age groups, as well as the experience and proficiency of interviewers

Table 5. Frequency of psychiatric disorders based on psychiatrist diagnosis.

Mood Disorders	*n*(%)
Major depression	41(8.2)
Minor depression	27(5.3)
Dysthymia	29(5.7)
Bipolar I type	12(2.4)
Bipolar II Type	9(1.8)
Cyclothymia	18(3.5)
Post partum depression	4(0.8)
Total	**162(32.1)**
Anxiety disorders	***n*(%)**
General anxiety disorder	36(7.2)
Obsessive compulsive disorder	34(6.8)
Agoraphobia disorder	3(0.6)
Specific phobia disorder	15(2.8)
Social phobia disorder	18(3.6)
Post traumatic stress disorder	10(2)
Panic disorder	13(2.6)
Total	**129(25.6)**
Psychotic disorders	***n*(%)**
Schizophrenia	11(2.2)
Other psychosis	10(2)
Total	**21(4.2)**
Neurological disorders	***n*(%)**
Epilepsy disorder	5(1)
Mental retardation disorder	7(1.4)
Delirium disorder	4(1)
Total	**16(3.4)**
Dissociative disorders	***n*(%)**
Amnesia	17(3.4)
Other disorders	120(23.7)
Comorbidity disorders	4.(7.8)
Total	**505(100)**

in different studies. These differences can also be attributed to the economical, social, cultural, and geographical situations in different places and time of research. It seems that the lack of proper recreation facilities and insufficient information about psychiatric disorders can better explain the high prevalence in Kashan.

In this investigation, mood (9.3%) and anxiety disorders (4.7%) were the most common psychiatric disorders. This study was nearly in agreement with studies by Noorbala in Tehran,[16] the Palahang study in Kashan,[12] Florez[31] and Preville[32] in Canada, Simsek in Turkey,[33] and Garte in Italy.[34]

In the Noorbala study, mood (9.8%) and anxiety (7.4%) disorders were the most common psychiatric disorders.[16] In the Palahang study the prevalence of mood disorders and anxiety disorders were 11.75% and 11.15% respectively.[12] Other studies in Iran (Khorasan and Hamedan),[22,35] Finland,[36] New Zealand,[29] and Lebanon[37] showed anxiety and mood disorders as the most prevalent disorders, but the order was different than in our study.

Psychiatric disorders were two times more prevalent in women (35.5%) than men (21.2%) [OR = 2049، CI = 1/650 2/543]. These results were in agreement with other researches in Iran,[11,14,28,12,38] and in the other areas of world.[39,36,40]

The finding that psychiatric disorders are more common in women can be due to more limitations in social activities, biologic factors, and environmental stresses. Data in this study showed that prevalence of psychiatric disorders was higher in widowed, married, and divorced individuals than in singles. This was in agreement with other studies in Iran (Kashan, Tehran, Hamedan)[12,16,22] and in disagreement with Meyer in German, who noted that psychiatric disorders were more prevalent in singles.[40]

The reason for psychiatric disorders being more prevalent in widows can be attributed to the fact that the death of a spouse is an etiology for stress, and can act as a predisposing factor for psychiatric disorders.

In this study, the prevalence of psychiatric disorders in the age group above 56 was more than others. This is in agreement with

Mohammadi in Iran, Lehtinen in Finland, and Hosain in Lebanon[22,26,36]; whereas the Palahang study in Kashan (1995) showed more prevalence in the 44–55 age group.[12] An increased prevalence of psychiatric disorders with age can be the result of lower levels of body strength, somatic disorders, menopause in women, retirement, and the fact that the elderly are more prone to stressful situations, and somatic and psychiatric disorders.

In this research, the illiterate (42.8%) had the most prevalence for psychiatric disorders whereas individuals with a diploma and higher academic education (18.6%) had the least prevalence, which agreed with other studies.[12,16,22] Social and cultural limits and the inability to use proper mechanism in confrontation with stress are the causes for the higher prevalence of psychiatric disorders in illiterates.

According to this study prevalence of psychiatric disorders in women who were housekeepers and unemployed men were more than employed men or women, which agreed with other researches.[8,11,16]

The probable reasons for these problems are low income, stress due to unemployment, limitations in social relationships, and the monotony of life in unemployed individuals and housekeepers.

Another finding in this study was the statistically significant relationship between patients' psychiatric disorders and a family and personal history of psychiatric disorders. The prevalence of psychiatric disorders in individuals with a personal history of psychiatric disorders was six-fold higher than others (OR = 6.99). In individuals with a family history of psychiatric disorders it was three-fold higher than others. This can be described as the consequences of biological factors and the effects of psychiatric disorders in one member of the family on others.

The results of this study suggest that 29.1% of the subjects above 18 need psychiatric health services. This indicates the enhanced responsibility of politicians and decision makers in Kashan to plan for the administration of psychiatric health. Considering the high prevalence of mood and anxiety disorders in Kashan, new

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consultation centers, psychiatric therapeutic services and support are necessary. Moreover, housekeepers, the unemployed, illiterates, women, divorced women, and individuals above 56 are at a higher risk for psychiatric disorders.

The creation of centers similar to health centers is necessary for the evaluation and diagnosis of high-risk groups who need referral to a specialist (psychiatric or psychologist). Holding educational classes for improving awareness and changing the negative attitude towards psychiatric disorders, offering ways to alleviate stressful factors and improve the quality of life is also important.

Limitations

This research has some limitations, such as the non-compliance of participants in completing questionnaires and referral for diagnosis by a psychiatrist. Changing the place of living and lack of availability to subjects was one of limitations.

Acknowledgments

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