

# Psychiatric morbidity in Northern Jordan: a ten-year review

\* Zaidan Z<sup>1</sup>, Alwash R<sup>2</sup>, Al-Hussaini A<sup>1</sup>, Al-Jarrah M<sup>3</sup>.

## الحالات المرضية النفسية في شمال الأردن: عشر سنوات دراسة إسترجاعية

ز. زيدان ، د. علوش ، ع. الحسيني، مز الجارح

**الملخص :** الهدف: هو دراسة الحالات النفسية في شمال الأردن لمعرفة نسبة هذه الحالات لغرض التخطيط للخدمات النفسية المطلوبة. **الطريقة :** تم دراسة سجلات 2335 مريضاً نفسياً والذين راجعوا العيادة النفسية الوحيدة في شمال الأردن لمدة عشر سنوات (1984–1993) دراسة تفصيلية وقد حلت النتائج بالكمبيوتر. كان التشخيص حسب الجدول العالمي التاسع لتصنيف الأمراض. **النتائج والخالصة :** راجع العيادة 2335 مريضاً خلال فترة الدراسة وكان 55% منهم ذكوراً و 45% إناثاً ، وكانت نسبة المراجعة أكثر للفئة العمرية 22-44 سنة. شكل مرض الفصام العقلي أكبر نسبة تشخيص عند الذكور والذهان العاطفي أكبر نسبة عند الإناث. وكان أكثر المرضى زيارة للعيادة هم مرضى الفصام يليهم مرضى الذهان العاطفي ثم مرضى القلق النفسي. في السنة الأخيرة من البحث (سنة 1993) شكل مرض القلق النفسي أكبر نسبة تشخيص يليه مرض الفصام ثم مرض الذهان العاطفي.

**ABSTRACT: Objective** – To study the psychiatric morbidity in the northern part of Jordan and to determine the frequency distribution of various psychiatric disorders, for planning services. **Method** – All records of 2,335 psychiatric patients attending the only psychiatric clinic in Northern part of Jordan during a ten-year period from 1984 to 1993 were extensively reviewed and subjected to computerized analysis. Diagnosis was made as per ICD-9. **Results** – Out of the 2335 patients who attended the clinic, 55% were males and 45% were females. Those in the age group 25–44 recorded the maximum attendance. Among the male attendees of the clinic, schizophrenia was the commonest diagnosis(19.9%), while among females, affective disorders were the commonest(15.9%). **Conclusion** – Schizophrenia was found to be the commonest diagnosis in general among attendance of the clinic for the ten-year research period, while anxiety disorders were the commonest diagnosis among attendance of the clinic for the year 1993.

**KEY WORDS:** attendance rate, schizophrenia, anxiety, affective psychosis.

Psychiatric disorders are the problem of the century. It has been estimated that as many as 500 million people in the world may be suffering some kind of mental disorder<sup>1</sup>, a prevalence which is expected to rise with the growth of population.<sup>2</sup> World Health Organisation has declared mental well being to be an integral part of health. WHO and psychiatric epidemiologists are in a position now to confidently answer questions about changes of psychiatric morbidity over time.<sup>3</sup>

Estimation of the prevalence of psychiatric disorders in the community and the variations of the rates of their prevalence<sup>4</sup> are essential in planning health programs and in evaluating the results of community treatment programs.<sup>5</sup> Epidemiological research in psychiatry could also help in providing clues to aetiology and therefore, to prevention strategies.<sup>6</sup> In developed countries, such statistics are readily avail-

able. In U.S.A., 15% of the population is estimated to be in need of mental health care at any given time.<sup>7</sup>

Such essential information is scarce for the developing countries due to lack of research.<sup>8</sup> Further, among the medical profession of these countries,<sup>9</sup> knowledge and recognition of the extent of psychiatric morbidity is poor in spite of an increase in interest lately. The patients themselves are much more likely to seek traditional help than avail of psychiatric services.<sup>10</sup>

Jordan is a typical case of such information-scarcity. This study attempts to help fill this gap to the extent possible, by giving an indication of psychiatric morbidity in the population of Northern Jordan, attendance rate, socio-demographic characteristics, and diagnostic categories of patients who attended the mental health clinic in Irbid during the period 1984–1993.

<sup>1</sup>Department of Behavioural Medicine, College of Medicine, Sultan Qaboos University, P.O.Box: 35, Postal Code: 123, Muscat, Sultanate of Oman. <sup>2</sup>Ministry of Health, Al-Ain, UAE. <sup>3</sup>Ministry of Health, Irbid, Jordan

TABLE 1

*Attendance rate of psychiatric patients for both sexes for the period from 1984-1993*

Diagnosis	Male		Female		Both	
	No	Attendance Rate/100,000	No	Attendance Rate/100,000	No	Attendance Rate/100,000
Anxiety Disorders	169	9.2	216	13.0	385	11.0
Schizophrenia	363	19.9	194	11.7	557	15.9
Affective Psychosis	218	11.9	264	15.9	482	13.8
Other non-organic Psychosis	44	2.4	52	3.1	96	2.7
Dementia	21	1.1	18	1.1	39	1.1
Epilepsy	209	11.4	149	9.0	358	10.3
Mental Retardation	99	5.4	62	3.7	161	4.6
Personality Disorders	70	3.8	27	1.6	97	2.8
Alcohol & Drug Dependence	26	1.4	2	0.1	28	0.8
Others	66	3.6	66	4.0	132	3.8
Total	1285	70.3	1050	63.1	2335	66.9

\* Denominator population is 1988 population (mid-term).

#### METHOD

The study was carried out at the mental health clinic of Princess Basma Hospital, Irbid, Jordan. It included all psychiatric attendances recorded during a period of ten years from January 1984 to December 1993. The clinic was (and still is) the only government mental health facility in Irbid City, and operated through open door policy. It was also the referral clinic for psychiatric patients coming from primary health centres in Irbid and its peripheries, the health centre of Jordan University of Science & Technology, private practitioners and other health care facilities in the region such as United Nations Refugees Welfare Agency (UNRWA). The clinic was run daily by a rotation team of four psychiatrists. Each psychiatric patient was required to have a file containing information on his/her case history, clinical examination, diagnosis, management and notes of follow up. The clinic served as the only referral clinic for Irbid Governorate, which had a population of 1.02 million in 1993, representing about 24.2% of the whole Jordanian population. During 1984-1993, a total of 1,285 males & 1,050 females attended the clinic at different times, and constituted the population of this study. Data were collected from their record files, which were extensively reviewed and analysed. The following variables were included: age, sex, residence, occupation, employment status, education, marital status, frequency of attendance and final diagnosis.

Prior to the beginning of data collection, a pilot study was conducted to ascertain the availability of the required information, with the aim to determine the variables to be finally included in the study. It revealed that all the variables were well recorded in the patients' files. The final diagnosis of each case was made by the attending senior psychiatrist and was classified into major diagnostic categories based on International Classification of Diseases – 9<sup>th</sup> revision (ICD-9)<sup>11</sup>:

- (a) *Age* of patients by years at the attendant time, which were grouped into five categories. (1) child: 0–14, (2) adolescent: 15–24, (3) young adult: 25–44, (4) middle-aged: 45–64, and (5) elderly: 65+.
- (b) *Sex*.
- (c) *Residence*: whether the patient lived in Irbid City or was from the peripheries
- (d) *Marital status*: whether single, married, divorced or widowed.
- (e) *Occupation*.
- (f) *Education*: (1) child, (2) illiterate & primary, (3) intermediate & secondary, (4) college and university.
- (g) *Frequency of attendance at the clinic*.

The study consisted of two parts (Part I and Part II). In Part I, the variables of age, sex, years, residence and final diagnosis of all the 2335 patients who attended the clinic from 1984 to 1993 were studied. Part II, which studied only 500 patients who attended the clinic during the year 1993, considered the following *additional* variables: level of education, occupation, employment status, marital status and frequency of attendance in the clinic. Part II also coded all diag-

nostic categories according to ICD-9. Data from both Part I and II were analysed by a computer using SPSS programme to produce frequency distribution and cross tabulation of the various variables.

TABLE 2

*Characteristics of psychiatric patients who attended the mental health clinic in 1993*

Variables	Characteristics	No	%
Diagnosis	Anxiety Disorders	118	23.6
	Schizophrenia	103	20.6
	Affective Psychosis	92	18.4
	Other non organic psychosis	23	4.6
	Dementia	12	2.4
	Epilepsy	45	9.0
	Mental Retardation	33	6.6
	Personality Disorders	20	4.0
	Alcohol/Drug Dependence	10	2.0
	Others	44	8.8
	Total	500	100.0
Occupation	Professional	52	11.7
	Skilled / skilled worker student	51	11.5
	Others*	49	11
	Housewife	127	28.5
	Unemployed .	162	37.3
Employment Status	Employed	116	44.4
	Unemployed	162	55.6
Education	Child (0–14 year)	37	10
	Illiterate & Primary	111	29.9
	Intermediate & Secondary	151	40.7
	College & University	72	19.4
Marital Status	Single (including 40 children)	207	46
	Married	222	49.3
	Widowed/Divorced	21	4.7
Frequency of attendance	Once	202	40.4
	Twice	91	18.2
	Three times	54	10.8
	Four times and more	153	30.6
Place of Residence	Irbid City	244	50.7
	Irbid Peripheries	237	49.3

\* 'Others' include students, retired and military.

## RESULTS:

In both Part I and II, the majority (55% and 58% respectively) were male; higher rates were found among the 25–44 age group in both males and females. The attendance rates were relatively higher in males 164(I)-113(II) per 100,000 population) compared with 147(I)–87(II)/100,000 for females (the latter mostly aged 45 and above).

For Part I, schizophrenia was the overall major diagnosis (15.9/100,000), and this was also the major diagnosis for the males (19.9/100,000), with the maximum attendance rates, while dementia figured the lowest (1.1/100,000). For females, the highest was affective psychosis (15.9/100,000) and the lowest, alcohol and drug dependence (0.1/100,000). Anxiety disorders, which were common in females than in males, occupied the third place in general frequency (11/100000). The fourth place went to epilepsy (10.3/100000), which was more common in males (table 1).

Attendance rates were slightly higher from Irbid city than from the peripheries, and in both, there was a gradual increase in the attendance rates from 26.2/100,000 in 1984 to 106.4/100,000 in 1993.

In Part II (1993), anxiety disorders, at 23.6%, accounted for the highest attendance followed by schizophrenia (20.6%) and affective disorders (18.4%). 55.6% of the subjects were unemployed. While 29.9% of the subjects were illiterate or had primary education, 40.7% had intermediate or secondary School education, and 19.4% had college or university education.

About half the patients (49.3%) were married, 46% were single (including 40 children), while 4.7% were divorced or widowed. As regards attendance rates in the clinic, 40.4% of the patients attended only once, while 30.6% did four times or more (table 2).

## DISCUSSION

For Part I (1989–1993), in contrast with the universal excess of females among psychiatric patients as reported in most western studies,<sup>4,12-14</sup> this study found overall attendance rates to be higher in males (70.3/100,000) than in females (63.1/100,000). Similar findings have been reported from other Arab countries, mainly Saudi Arabia.<sup>10,15-18</sup> The reason for this could be that females in this region tend to seek help from the local support system for longer period than males do before availing of specialized services. Women are more encouraged to seek traditional healers than men and, culturally speaking, they are great believers in these. It could also be that families tend to have greater tolerance for mental illnesses in females. The stigma attached to mental illnesses might

affect the girls' chances of getting married, due to which, they might try to hide their problems. Significantly, we found more married female patients than married males.

The 25–44 age group had the highest attendance rates throughout. This agrees with findings from other studies in developed & developing countries.<sup>19–22</sup> The reasons for this are, the largest number of population falls in this age group; they are more educated and hence seek psychiatric help more than others; they are also more prone to stress from marital and family conflicts and work pressures. Attendance rates were higher in females above 45 years of age possibly due to the increase frequency of affective disorders at that age group.

Attendance rates increased through the years from 1984 to 1993 in respect of both the sexes (24.6/100000 in 1984 to 100.7/100000 in 1993). This is in line with other studies in U.K. and USA,<sup>23,24</sup> and is so possibly because of increased popular awareness and improvement of services. The study also showed higher attendance rates in male schizophrenics while in females it was among those with affective psychosis. Overall, schizophrenic patients had the highest attendance rate (15.9/100,000). These results agree with other studies in the Arab world and in the west.<sup>10,15,20,25</sup>

The data also showed that proportionately more patients from Irbid city attended the clinic (71.5/100,000) compared to those from the peripheries (64.4/100,000). This again, is in line with many studies in developed and developing countries<sup>15,20,26,27</sup> which showed that psychiatric morbidity is more common in urban than in rural areas. The easy access for city patients to the clinic, could be another factor.

Parts I and II of the study agreed with each other regarding attendance rates (higher in males compared with females). In Part II (1993), most attendees had anxiety disorder (23.6%), a finding that is in agreement with other studies<sup>28,29</sup> including one in USA.<sup>7</sup>

Most of the attendees to the clinic were unemployed. This seems to be in agreement with findings in Kuwait,<sup>17</sup> in Saudi Arabia<sup>30</sup> and Egypt.<sup>19</sup>

The majority of patients who attended the clinic in 1993 had intermediate or secondary education. This finding does not agree with several studies<sup>13,14,31</sup> which showed that the higher the education level, the lower the psychiatric morbidity. Most of the patients attended the clinic in 1993 were married and this is in agreement with other studies in Arab countries.<sup>3,5,25,26,30</sup> Studies in the Western World show that psychiatric morbidity is more common in those who are widowed, divorced or single.<sup>22,32</sup>

## CONCLUSION

Most of the attendees were males, majority of whom were of 25–44 years of age. Most of the patients were unemployed, married, and there was an increase in attendance over the years. Schizophrenia had the highest attendance rates followed by affective psychosis & anxiety disorders. The lowest rates were for alcohol & drug abuse. The commonest diagnoses among attendees to the clinic in 1993 were anxiety disorders, schizophrenia and affective psychosis, in that order.

Further epidemiological studies on psychiatric morbidity are recommended.

## ACKNOWLEDGEMENT

We would like to thank Dr. Mohammed Shaban and all the staff of the psychiatric outpatient clinic, Basma Hospital for help in collecting data. We are grateful to Mr. K. Ravindran for secretarial assistance.

## REFERENCES

1. **World Health Organization.** Intercountry Meeting on National Programmes of Mental Health, Damascus, Syrian Arab Republic, *WHO Geneva* 1986, 2–6.
2. **Henderson AS.** Epidemiology of Mental Disorders and Psychosocial Problems: Dementia, *WHO, Geneva* 1994, 1–5.
3. **Sartorius N, Nielsen JA, Stromgren E.** Changes in frequency of mental disorder over time (Results of repeated surveys of mental disorders in the general population). *Acta Psychiatr Scand* 1989, **79** (suppl.348), 5–10.
4. **Myers JK, Weissman MM, Tischler GL, Holzer CE, Leaf PJ, Orvaschel H, Anthony JC, Boyd JH, Burke JD, Kramer M, Stoltzman R.** Six month prevalence of psychiatric disorders in three communities. *Arch Gen Psychiatry* 1984, **41**, 959–67.
5. **Stanley B, Gibson AT.** The prevalence of chronic psychiatric morbidity: a community sample. *Br J Psychiatry* 1985, **146**, 372–6.
6. **Boyd JH, Weissman MM.** Epidemiology of affective disorders. *Arch Gen Psychiatry* 1981, **33**, 1039–47.
7. **Bourdon KH, Rae DS, Lock EBZ, Narrow WE, Regier DA.** Estimating the prevalence of mental disorders in U.S. adults from the epidemiological catchment area survey. *Public Health Rep* 1992, **107**, 663–667.
8. **Stromgren E, Nielsen JA, Sartorius N.** Changes in frequency of mental disorders over time. *Acta Psychiatr Scand*, 1989, **79** (suppl.348), 167–8.
9. **Jacobsson L.** Psychiatric morbidity and psychosocial background in an outpatient population of general hospital in Western Ethiopia. *Acta Psychiat Scand* 1985, **71**, 417–26.
10. **Osman AA, Alkateeb SO, Ali AS.** The pattern of admission to Jeddah psychiatric hospital, *Saudi Medical Journal* 1993, **14**, 334–9.
11. **Institute for Health Studies.** The International Classification of Diseases, 9<sup>th</sup> Rev, Clinical Modification, Annotated Edition, 1988, Edwards Brothers, Inc., Ann Arbor, Michigan, Vol 1.

12. **Ihezue UH, Okpara E.** Psychiatric disorders of old age in Enugue, Nigeria – sociodemographic and clinical characteristics. *Acta Psychiatr Scand* 1989, **79**, 332–7.
13. **Craig TJ, Huffine C.** Correlates of patient attendance in an inner-City mental health clinic. *Am J Psychiatry* 1976, **133**, 61–5.
14. **Madianos M, Vlachonikolis I, Madianou D, Stefanis C.** Prevalence of psychological disorders in the Athens area. *Acta Psychiatr Scand* 1985, **71**, 479–87.
15. **Daradkeh TK, Al-Zayer M.** Psychiatric morbidity in the Arabian American oil company (ARAMCO) – Calls for the setting Up of GP psychiatric clinics. *Jordan Medical Journal* 1990, **24**, 35–48.
16. **El-Assra A, Amin H.** Hospital Admissions in a psychiatric division in Saudi Arabia. *Saudi Medical Journal* 1988 **9**, 25–33.
17. **Suleiman MA, Malasi TH, Mirza IA, El-Islam MF** Some characteristics of the psychiatric population attending a primary care centre in Kuwait. *Acta Psychiatr Scand* 1989, **79**, 199–204.
18. **El-Gaaly AA, Rahim FE, Al-Wohaibi AA.** Psychiatric emergencies at King Khalid University Hospital. *Saudi Medical Journal*, 1987, **8**, 382–386.
19. **El-Akabawi AS, Nusseir E, Kamel F.** Psychiatric morbidity in an Egyptian village: a community survey. *Egypt J Psychiat*, 1983, **6**, 126–40.
20. **Regier DA, Boyd JH, Burke JD, Rae DS, Myers JK, Kramer M, Robins LN, George LK, Karno M, Locke BZ.** One-month prevalence of mental disorders in the United States. *Arch Gen Psychiatry* 1988, **45**, 977–87.
21. **Abu-Hijleh NS.** Psychiatric consultations in Jordan University Hospital: A comparative report on 861 referrals. *Jordan Medical Journal* 1987, **2**, 149–58.
22. **Sytama S, Balestrier M, Giel R, Horn GH, Tansella M.** Use of mental health services in South Verona and Groningen. *Acta Psychiatr Scand* 1989, **79**, 153–62.
23. **Redlich F, Kellert SR.** Trends in American mental health. *Am J Psychiatry* 1978, **135**, 22–8.
24. **Woof K, Freeman HL, Fryers T.** Psychiatric service use in Salford: a comparison of point prevalence ratios 1968 and 1978. *Br J Psychiatry* 1983, **142**, 88–97.
25. **El-Rufaiie OEF, Abu Mediny MS.** Psychiatric inpatients in a general teaching hospital: an expert from Saudi Arabia. *Arab Journal of Psychiatry* 1991, **2**, 138–45.
26. **Al-Fares EAM, Al-Shammari SA, Al-Ahmad AMY.** Prevalence of psychiatric disorders in an academic primary care department in Riyadh. *Saudi Medical Journal* 1992, **13**, 49–53.
27. **Freeman H.** Schizophrenia and city residence. *Br J Psychiatry* 1994, **23 (Suppl)** 39–50.
28. **Nielsen J, Nielsen JA.** Eighteen years of community psychiatric service in the Island of Samsø. *Br J Psychiatry* 1977, **131**, 41–8.
29. **Hooilim M.** A psychiatric emergency clinic: a study of attendances over six months. *Brit J Psychiatry* 1983, **143**, 460–6.
30. **Qureshi NA, Al-Quraishi NY, Hegazy IS.** Some characteristics of mental patients admitted to a psychiatric hospital. *Arab Journal of Psychiatry* 1991, **2**, 146–58.
31. **Filho NDA.** Social epidemiology of mental disorders: a review of Latin-American studies. *Acta Psychiatr Scand* 1987, **75**, 1–10.
32. **Surtees PG, Dean C, Ingham JG, Kreitman NB, Miller PM, Sashidharan SP.** Psychiatric disorders in women from an Edinburgh community: associations with demographic factors. *Br J Psychiatry* 1983, **142**, 238–4.