Epidemiology of Mental Disorders in Young Adults of a Newly Urbanised Area in Khartoum, Sudan

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Two hundred and four subjects, 22–35 years old, were selected from a surburban part of Khartoum. They were assessed using the Self-Rating Questionnaire, the Eysenck Personality Inventory, and a Sudanese rating scale of anxiety and depression. Socio-economic information was collected. A psychiatric interview and a medical examination were carried out. It was found that 40.3% had at least one psychiatric symptom, and 16.6% received clinical diagnoses according to DSM-III. The most common diagnoses were depressive illness (neurotic and endogenous) (8.4%) and generalised anxiety (3.4%). Alcohol abuse was very rare (0.4%). There was no sex difference.

There is a strong need for epidemiological studies in the field of mental health in developing countries. We are still far from knowing the incidence, prevalence and demographic distribution of various mental disorders in normal populations outside Western culture. The present paper attempts to estimate psychiatric morbidity in the young adult population (22–35 years) of a suburban area of Khartoum, Sudan.

The Hag Yousif area is a newly urbanised locality. Only two decades ago it was a typical traditional rural community of three adjacent villages outside the city of Khartoum. At the time of the present study the population was about 40 000. Of these, 38% were the old indigenous dwellers and 62% were newcomers. Most of the latter group had resided in the area five years or less. Detailed demographic and sociocultural characteristics of this population have been reported by us earlier (Cederblad & Rahim, 1986).

Method

Two random samples totalling 204 adults – 108 males, 96 females – in the age range 22–35 years were selected. *Sample A* represents the indigenous population and comprises 104 subjects previously randomly selected and investigated by one of us in 1964–65 when they were children 3–15 years old (Cederblad, 1968). *Sample B* represents newcomers and comprises 100 subjects drawn randomly from a fresh population census of the area (Department of Statistics, 1984). There was a drop-out rate of 15%: temporary absence from the area was the usual cause. On average, 15% of the data were missing from the various parts of our investigation. These data were critically reviewed and found to be free of any systematic bias that could depreciate the representative nature of the random samples. Hence, percentages were readjusted and computed on valid observations. Percentages from the two samples were then weighted according to the proportions of subjects in the two samples, and estimates

representative of the whole population of young adults were thus computed.

Procedure

Each individual was interviewed four times. The first interview was conducted by qualified and trained clinical social workers from the Department of Psychiatry, Clinic for Nervous Disorders, Khartoum North. The second interview was carried out by qualified and trained clinical psychologists from the same department. These two interviews covered all important personal, family, socioeconomic and cultural aspects of the individual's past and current life, as well as a wide range of psychometric batteries including the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1964), Raven's Progressive Matrices Test (Raven, 1960), Goodenough's Draw-a-man test (Goodenough, 1926), Well-Being Scale (Beiser, 1974), Life Events Scale (Theorell, 1982; Cederblad & Höök, 1980), Daily Activities Scale (Brenner & Arnetz, 1983), Loneliness Scale (Russel *et al*, 1980), Interview Schedule for Social Integration (ISSI; Henderson *et al*, 1980), Self-Rating Questionnaire (SRQ; Harding *et al*, 1980), and the Rahim Anxiety–Depression Scale (RADS; Rahim, 1973). All investigation instruments were translated into Arabic. The translation was then checked by retranslation into English. The SRQ, EPI and RADS had already been used in Arabic translation in previous Sudanese studies (Rahim, 1973; Harding *et al*, 1980). Since the subjects were semi-illiterate, all information was acquired through interviewing. The subjects' answers were recorded by the interviewer on the relevant forms.

Medical assessment consisted of a general urine analysis, stool examination, and blood tests for haemoglobin concentration, white blood cell count and blood film for malaria. Two general practitioners conducted the medical interview and a clinical examination of all subjects.

Psychiatric assessment was carried out by a senior psychiatrist, who interviewed and examined each individual and made his clinical psychiatric assessment independently of other interviews and data. Psychiatric diagnoses were made according to DSM-III categories (American Psychiatric

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Association, 1980). Conditions were judged to be mild, moderate or severe. Those registered as moderate or severe were judged to be similar in nature and degree to the average case with the same diagnosis seen in routine psychiatric out-patient practice in Sudan (Rahim, 1976).

Statistical processing

Data have been analysed using the χ^2 test, Pearson's correlation coefficient (r), and multivariate analysis.

Results

Psychiatric assessment

It was found that 40.3% of the studied adults had at least one psychiatric symptom. In 23.7% the complaints were mild, subclinical, but in the remaining 16.6% they were moderate to severe symptoms that warranted a clinical diagnosis. The nosological breakdown of these cases according to DSM–III categories showed the following: depressive illness (neurotic and endogenous) 8.4% of all subjects, generalised anxiety 3.4%, somatoform disorder 2.4%, conversional reactions 0.7%, psychogenic pain syndrome 0.7%, alcohol abuse 0.4%, and severe mental retardation 0.4%. In Axis II of DSM–III, schizoid personality disorder was diagnosed in 0.7% and borderline personality disorder in 0.4%.

The mild, subclinical psychiatric complaints belonged in the following categories: 7.5% depression, 10.6% generalised anxiety, 3.1% somatoform disorder, 1.2% sexual complaints, 0.9% mild mental retardation and 0.4% alcohol abuse.

Sex.   There were no statistically significant sex differences in the prevalence of mental disturbances.

Occupation.   Psychiatric morbidity was found to be significantly lower among those engaged in traditional occupations (agriculture and manual labour) than among those in modern occupational sectors (26.2% and 42.2% respectively) ($P<0.05$). Psychiatric symptoms were also more common in those who had stable occupations (35.1%) than in those who were engaged in unstable work such as day-to-day self-employment (22.2%) ($P<0.05$).

Marital status.   There was no statistically significant difference between single and married people. However, subjects who reported marital discord and divorce had a significantly higher rate of psychiatric morbidity (37.5%) than those who were married without conflicts or divorce (10.5%) ($P<0.05$).

Life events.   Those who cited higher scores of life events showed significantly more psychiatric symptoms (65.4%) than those with medium or low life events scores (33.8% and 34.5% respectively) ($P<0.05$).

Loneliness.   The frequency of psychiatric complaints correlated positively with the degree of social isolation as measured by the loneliness scale. Thus those with a high loneliness score had a 54.3% frequency of psychiatric symptoms and those with minimum loneliness score had only 20.5% ($P<0.01$).

Self-Rating Questionnaire

The SRQ score had a strong, positive correlation with the psychiatric assessment ($r=0.69$, $P<0.001$). Highest scores on the SRQ were found in association with a high life events score ($P<0.01$), high loneliness index ($P<0.001$), and marital discord or divorce ($P<0.01$).

Rahim Anxiety–Depression Scale

The RADS score showed a strong positive correlation with the psychiatric assessment ($r=0.71$; $P<0.001$). As with the SRQ, high scores on the RADS were obtained in association with a high life events score ($P<0.05$), high loneliness index ($P<0.01$), and marital discord or divorce ($P<0.01$).

Somatisation scale (RADS–SRQ)

The somatisation scale covers 19 physical symptoms frequently reported in Sudan by patients suffering from anxiety and/or depression (Rahim, 1973). The scale strongly correlated with psychiatric assessment ($r=0.63$, $P<0.001$). Highest scores of somatisation were found in association with a high loneliness index ($P<0.001$), and marital discord or divorce ($P<0.05$).

Neuroticism score

The EPI neuroticism score showed a strong positive correlation with psychiatric assessment ($r=0.53$, $P<0.001$). A high neuroticism score was also found in association with a high loneliness index ($P<0.001$), high life events score ($P<0.001$), and marital discord or divorce ($P<0.05$).

Well-being scale

Psychological well-being did not correlate with psychiatric assessment ($r=0.05$). Individuals who had high life events scores reported lesser degrees of psychological well-being than others ($P<0.05$). We found a better level of well-being in subjects with seasonal rather than stable occupations ($P<0.05$), with fluctuating rather than stable incomes ($P<0.05$), with medium rather than low or high income levels ($P<0.05$), and with a high level of social integration ($P<0.05$).

Discriminant analyses using the psychiatric interview results as the dependent variable showed that a canonic correlation of 0.55 ($P<0.001$) was obtained by combining the state of somatic health, the upper-arm circumference (measure of present nutritional state), income stability, number of life events, loneliness index and two factors from ISSI – 'friendship' and 'social integration'.

Discussion

The high correlations between the results of the psychiatric interview and the self-rating inventories SRQ, EPI and RADS is a validation.

It is difficult to compare investigations made with different methods. Self-rating questionnaires generally give higher frequencies than clinical assessments (Goldberg & Huxley, 1980). Our figure, 16.6% psychiatric cases, can be compared with the results from studies performed in Europe, USA and Australia using clinical interviews, where frequencies vary between 9% and 19.3% (Goldberg & Huxley, 1980). Thus our results are within the range found in various settings in Western culture.

We have no previous reliable data on adults in this area prior to urbanisation. But in a previous study we have shown that while children of this area had a low incidence of behavioural symptoms in 1964–65 (Cederblad, 1968), the following generation of children of the same age and sex distribution in 1980–81 showed a significant increase in behaviour and conduct disorders. In those studies the psychiatric conditions of the parents were only touched upon by two simple questions to the mother: "Are you often nervous or depressed?" and "Is your husband often nervous or depressed?" While 30% of the mothers and 15% of the fathers were reported to suffer from such symptoms in 1964–65, 40% of the mothers and 23% of the fathers were reported to do so in 1980–81. A tentative interpretation of this could be that both children and adults were reported to have fewer psychiatric symptoms in the rural, traditional situation than in the present one of rapid social change. This was expected. Dohrenwend & Dohrenwend (1974), reviewing and summarising data, concluded that eight out of ten studies reported a higher frequency of mental disorder in urban populations than in rural ones, the increase being mainly in neuroses and personality disorders. According to our child study data, the individual most likely to develop behavioural disorder was a school-age boy belonging to the family of a blue-collar wage-earner who had recently immigrated from a rural area and had a poor income, low living standard, and an overcrowded home (Rahim & Cederblad, 1986). Data from the present study seem to confirm the findings from our child study. In both there is a higher rate of mental symptoms in those most exposed to the stress of modern life, particularly blue-collar workers with stable but rather unsatisfactorily paid jobs.

Loneliness was found to be associated with a significantly higher frequency of mental symptoms. But feelings of loneliness could be an expression of uprootedness, isolation and lack of social support. This is what frequently happens to rural folk when they migrate to urban centres away from their extended family and cohesive rural community.

In short, most of the variables found to be associated with an increased frequency of mental symptoms were of the type which is more common in urban than in rural settings: modern-sector occupations with stable, monthly salaries and a stable, unsatisfactory income, loneliness, marital discord or divorce, and excessive life changes. Comparisons between the two subsamples to elucidate the impact on mental health of growing up in an area during a period of rapid social change (as in the case of the indigenous sample) or of rural–urban migration (as in the case of the newcomers) will be reported in another paper.

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