

## Poverty, psychological disorder and disability in primary care attenders in Goa, India

V. PATEL, J. PEREIRA, L. COUTINHO, R. FERNANDES, J. FERNANDES and A. MANN

**Background** This study examined the association of common mental disorders in primary health clinic attenders with indicators of poverty and disability in Goa, India

**Method** Adult attenders ( $n=303$ ) in two primary health clinics were recruited.

**Results** There were 141 (46.5%) cases of common mental disorder. The following were associated with common mental disorder: female gender; inability to buy food due to lack of money; and being in debt. Cases scored significantly higher on all measures of disability. Primary health clinic staff recognised a third of the morbidity but used multiple oral drugs, injectable vitamins and benzodiazepines to treat common mental disorders.

**Conclusions** Poverty is closely associated with common mental disorder which in turn is associated with deprivation and despair. Primary mental health care priorities in low-income countries need to shift from psychotic disorders which often need specialist care to common mental disorders. Health policy and development agencies need to acknowledge the intimate association of female gender and poverty with these disorders.

The term common mental disorders describes states of anxiety and depression which are frequently encountered among primary care attenders in low-income countries. Socio-economic factors such as unemployment, income inequality and poverty have been linked with these disorders in industrialised societies. Although India is witnessing a significant rise in living standards, there are widening inequalities of economic status with widespread poverty. While there is evidence of the link between poverty and infectious diseases and malnutrition, its relationship with psychological disorder has rarely been examined. The main objective of this study was to examine the association of psychological morbidity with disability and socio-economic status. A secondary aim was to estimate the clinical practice of primary care physicians for common mental disorders.

### METHOD

A cross-sectional survey was made of two primary health clinics in Goa, India. Simple random sampling (according to a random number list) of adult (16-65 years) consecutive attenders was carried out. Exclusion criteria were: acute medical illness or severe deafness. Adults aged over 65 years were not sampled as the Revised Clinical Interview Schedule (CISR) has not been validated for use in an elderly population.

### Interviews

#### Socio-economic interview

Data on age, gender, education, marital status and religion were collected. The measure of income was considered unreliable since the majority of primary health clinic attenders are women who were often not directly involved in income generation; thus, their responses may not have reflected the real economic situation of the household. Also, much income in India is 'undeclared' and respondents are often reluctant to share

sensitive information on income. Instead, five proxy economic indicators were chosen: whether the subject was in debt; whether the subject had been unable to buy food due to lack of money in the previous month; whether the subject was able to meet his or her basic needs with the money they had; an index of crowded living circumstances (number of persons in the household/number of rooms in the home) and employment status. One question inquired about alcohol consumption of family members.

#### Revised Clinical Interview Schedule

The Revised Clinical Interview Schedule (CISR) is a structured interview for the measurement of common mental disorders in community and primary care settings (Lewis *et al*, 1992). The total score (range 0-57) is a measure of non-psychotic psychiatric morbidity. Details of the Konkani version of the CISR are published elsewhere (Patel *et al*, 1998).

#### Brief Disability Questionnaire

This interview elicits information on the impact of an illness on daily and occupational activities. The questionnaire generates a total score (range 0-22) and an estimate of the number of days in the previous month the subject was unable to complete daily activities or was confined to bed for most of the day (Von Korff *et al*, 1996).

#### Clinical diagnostic data

Data were collected by the physician. Data included diagnoses (up to two), presence of a psychological problem, and treatment. The physician was blind to the subject interview data.

#### Data analysis

Cases were defined as those subjects who scored 12 or more on the CISR. ICD-10 (World Health Organization, 1992) diagnoses were generated using the PROQSY program. Statistical tests for comparing continuous data were *t*-tests and Wilcoxon rank-sum tests. Categorical variables were compared using percentages and  $\chi^2$  and odds ratios. Significance tests used were two-tailed.

### RESULTS

#### Sample

Three hundred and thirty-five subjects were recruited; 32 subjects did not give consent

leaving 303 subjects in the study. There was no difference in age and gender between those subjects who refused to participate and those recruited. The mean age of the sample was 44.6 years (s.d. 14.3); 210 subjects were women (69%). Seventy-eight per cent had not passed the 10th standard examination (equivalent to GCSE level). Fifty-eight per cent were not in employment outside the home. Just over 53% were Christian; most of the remainder were Hindu (45%). Fifty-six per cent were married, 18% were single and 23% were widowed.

### Psychiatric phenomenology and diagnoses

One hundred and forty-one subjects (46.5%) were classified as cases using the CISR. Depressive cognitions were commonly reported by subjects: ideas of guilt 21%; feelings of worthlessness 30%; hopelessness 41%; suicidal thoughts 18%; and suicidal plans 8%. Only 17% of those who had suicidal ideas had discussed these with their doctor; 64% had not discussed their feelings with anyone.

Eighteen cases received two ICD-10 diagnoses. The diagnostic frequencies (in order of frequency) were:

- (a) mixed anxiety-depression 73 (24%);
- (b) mild/moderate depression 49 (16%);
- (c) panic disorder 21 (7%);
- (d) severe depression 10 (3%); and
- (e) phobic disorder 6 (2%).

### Comparing cases and non-cases

#### Socio-economic characteristics

Cases with common mental disorders were older (mean 46.8 years, s.d.=12.3 *v.* 42.6, s.d.=15.5;  $t=2.5$ , d.f.=301,  $P=0.01$ ) and had a greater number of children (mean 3.1, s.d.=2 *v.* 2.2, s.d.=2.1;  $z=4.1$ ,  $P=0.001$ ). Cases lived in more crowded homes (mean number of persons per room: 1.9, s.d.=1.3 *v.* 1.6, s.d.=1.1;  $z=1.9$ ,  $P=0.04$ ). Cases were more likely to be female, to have been a school-leaver, to be unemployed, to belong to the Catholic faith and to be widowed; three indicators of poverty were strongly associated with caseness (Table 1). All the variables in Table 1 whose adjusted odds ratios were significantly associated with caseness ( $P<0.05$ ) and age, number of children and crowding were entered into a logistic model together: female gender (odds ratio 2.8, 95% CI 1.5–5.2), being in

**Table 1** Association of socio-demographic and economic variables with caseness

Variable	Cases (%)	Non-cases (%)	Odds ratio, (95% CI), <i>P</i>	Adjusted odds ratio, (95% CI), <i>P</i>
Female gender	84	57	3.9, (2.2–6.7), <0.001	3.8, (2.1–6.6), <0.001
Not passed school	88	70	3, (1.6–5.6), <0.001	2.3, (1.2–4.7), 0.01
Unemployed	68	49	2.1, (1.3–3.4), 0.001	1.3, (0.8–2.3), 0.2
Widow/er	30.5	17	2.1, (1.2–3.7), 0.005	1.1 (0.5–2), 0.8
Catholic	48	60	0.6, (0.3–0.9), 0.04	0.5, (0.3–0.9), 0.04
In debt	70	41	3.3, (2–5.3), <0.001	2.8, (1.7–4.6), <0.001
Unable to buy food	67	34.5	3.9, (2.4–6.3), <0.001	3.3, (1.9–5.6), <0.001
Unable to meet daily needs	84	59	3.6, (2.1–6.2), <0.001	2.9, (1.6–5.3), <0.001

Adjusted odds ratio: adjusted for age, gender and clinic except for association for female gender where adjustment is for age and clinic.

debt (odds ratio 2.1, 95% CI 1.2–3.7) and having been unable to buy food (odds ratio 1.9, 1.05–3.7) remained associated with caseness. More than a third of subjects described being concerned about the drinking of a relative or friend. Cases were more likely to be concerned (44 *v.* 23%; adjusted odds ratio 1.7, 95% CI 1.06–2.9,  $P=0.03$ ). Women were more likely to respond positively to this question (43 *v.* 19%; odds ratio 3.1, 95% CI 1.7–5.5,  $P<0.001$ ). The relative most commonly cited was a husband (20% of cases) or a son (13% of cases).

#### Disability

Cases with common mental disorders had higher Brief Disability Questionnaire scores (mean 11.1, s.d.=5.5 *v.* 5.4, s.d.=5.4;  $z=8.1$ ,  $P<0.001$ ); spent a greater number of days unable to work in previous month (mean 12.4, s.d.=11.5 *v.* 5.8, s.d.=10;  $z=5.7$ ,  $P<0.001$ ); and spent a greater number of days mainly in bed due to illness in previous month (mean 4.7, s.d.=8.4 *v.* 1.7, s.d.=5.5;  $z=2.8$ ,  $P=0.004$ ).

#### Medical diagnoses and treatment

Physicians recorded at least one diagnosis for 297 subjects. The most common diagnoses were: hypertension (27%) and respiratory tract infections (15.5%). Rates of diagnoses were similar in both cases and non-cases. Psychological disorder was considered in 60 subjects; physicians were more likely to consider that the illness had an emotional or psychological component in cases (35 *v.* 11%; clinic adjusted odds ratio 4.2, 95% CI 2.1–8.1,  $P<0.001$ ). Most subjects (85%) received at least one oral medication; 10% received four or

more drugs. The most common prescriptions were vitamins (42.5%), antihypertensives (27%) and analgesics (24%). Cases were more likely to receive benzodiazepines (8.5 *v.* 2%; odds ratio 4.9, 95% CI 1.2–22.5,  $P=0.01$ ). Antidepressants were prescribed to one subject (a non-case). Cases received a greater number of oral drugs (mean 1.9, s.d.=1.2 *v.* 1.7, s.d.=1.3;  $z=1.8$ ,  $P=0.07$ ). Parenteral preparations were prescribed for 15% of subjects, the most common being vitamin B (7%) and tetanus toxoid (4%). Cases were more likely to receive parenteral vitamins (11 *v.* 4%; odds ratio 2.6, 95% CI 0.9–7.3,  $P=0.05$ ).

### DISCUSSION

The aim of this study was to determine the association of common mental disorders with indicators of poverty and disability in a low-income society. One limitation is that the findings cannot be generalised to the community since a number of factors may operate in the decision to attend a primary health clinic. Furthermore, by basing the study in public health clinics, it is likely that the relative proportion of those facing economic difficulties could be expected to be high.

#### Poverty, female gender, disability and common mental disorders

Common mental disorders were present in nearly half the sample which is consistent with recent Indian studies (Shamasundar *et al.*, 1986). These disorders were strongly associated with female gender and poverty after adjustment for a range of socio-demographic variables. These findings are consistent with studies from

both industrialised and low-income countries (Gunnell *et al*, 1995; Bahar *et al*, 1992; Patel *et al*, 1997). Poverty is a relative term and can only be defined in terms of the standard of living in a given group or country. Goa is one of India's wealthiest states; its infant mortality rates, age of women at marriage and literacy rates are superior to the large states of North India (Population Research Centre *et al*, 1995). Despite this favourable climate for women, this study has shown an unequivocal relationship between their gender, economic difficulties and common mental disorder. This study did reveal one possible mechanism to explain this relationship; thus, those who were unable to meet needs were far more likely to have a relative who drank a lot (40 *v.* 29%; odds ratio 95% CI 1.1–3.5,  $P=0.01$ ) suggesting that common mental disorder may occur due to poverty caused by alcohol consumption by a male relative. Common mental disorders were strongly associated with disability. Thus, attenders with such a disorder spent twice the number of days in the previous month being unable to work and twice the number of days bedridden as a result of their illness. These findings are consistent with the studies of common mental disorders in other low-income countries (Patel *et al*, 1997). Although some of this excess could have been accounted for by comorbidity of common mental disorders with more serious physical illnesses, the exclusion criteria and the similarity of diagnoses in both groups make that unlikely. While a cross-sectional study design does not allow one to make causative assumptions, it must seem plausible that economic distress is linked to the aetiology of common mental disorder, which by disabling the sufferer may impair her ability to cope with the distress further and lead to a vicious cycle of despair and deprivation.

### Recognition and management of common mental disorders

Primary health clinic physicians recognised a third of psychological morbidity. Their clinical practice showed a tendency to prescribe greater number of oral symptomatic drugs, benzodiazepines and injectable vitamins for common mental disorders. Although practice may vary, these prescribing habits are consistent with anecdotal reports from other parts of India and suggest that primary health clinic physicians are attempting to help people with

**CLINICAL IMPLICATIONS**

- Female gender and poverty are strong associations of common mental disorders which in turn are associated with disability.
- Primary health care priorities in developing countries must acknowledge common mental disorders as a key health priority for training and research.
- Primary health clinic physicians need training in improving skills to diagnose and correctly treat common mental disorders and, in particular, to elicit serious symptoms such as suicidal thoughts and plans.

**LIMITATIONS**

- The study findings cannot be generalised to the community.
- The study was based only in public health care; the populations attending private health care may represent a different group.
- The severity of physical illness was not recorded.

VIKRAM PATEL, MRCPsych, JERSON PEREIRA, MD, LIVIA COUNTINHO, BA, ROMALDINA FERNANDES, MA, JOHN FERNANDES, MD, Institute of Psychiatry and Human Behaviour, Goa, India; ANTONY MANN, MD, Section of Epidemiology and General Practice, Institute of Psychiatry, London

Correspondence: Dr Vikram Patel, Sangath Centre for Child Development and Family Guidance, 71 Defence Colony, Alto-Porvorim, Goa 403521, India. E-mail: vpatel@bom2.vsnl.net.in

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common mental disorders, but are using inappropriate treatments. The high prevalence of suicidal ideas and the small number of subjects who discussed them with their doctor is a disturbing reminder that patient–doctor communication in primary health clinic is not even reaching the most vulnerable patients.

### Implications for research and policy

The evidence from this and other studies has demonstrated a powerful association between economic deprivation, female gender and common mental disorders. In rapidly developing societies such as India, these findings are even more significant because common mental disorders are not a priority for medical research or health development activity. Even where there have been commendable efforts by voluntary and public health agencies to improve the health of the poor, the burden of physical disease has always displaced psychological disorder (Sharma, 1985). Even though 'women's' health is a major developmental activity, mental health rarely

figures in funding agency agendas. The National Mental Health Programme of India emphasises that the training of non-psychiatric physicians should focus on psychotic disorders and epilepsy when, ironically, these illnesses most often need psychiatric expertise. Clearly, it is essential for the priorities in primary health care to be adapted to include common mental disorders. There is a surprising paucity of controlled trials for treatment of such disorders in low-income countries. Given the likely influence of local health system factors, this research is imperative. Future research should also investigate the association of poverty, gender and common mental disorders to explore the social and cognitive matrix which underlies this relationship.

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