

PSYCHIATRIC PHENOMENA IN PRIMARY HEALTH CARE THEIR EXTENT AND NATURE

BISWAJIT SEN *

SUMMARY

The extent of psychiatric phenomena was assessed in three primary health care clinics in Calcutta, and the nature of the phenomena was explored with the aid of multivariate statistical techniques. The Self Reporting Questionnaire (SRQ) was used as the first stage and the Clinical Interview Schedule (CIS) as the second stage instruments respectively. The implications of the findings are discussed and an exploratory model for psychiatric phenomena in extramural settings is proposed.

Introduction

Studies concerned with estimating the extent of psychiatric phenomena in primary health care – defined as first-contact medical care – are reported only infrequently. Among the earlier reports in India is an estimate by Syalee (1966), according to which “not less than fifty per cent of all patients going to doctors ... are victims of psychosomatic illness”.

More recently, Gautam et al (1980) found that general practitioners in Bangalore city diagnosed psychiatric disorder in 10% of their patients. Krishna Murthy et al (1981) administered the GHQ-12 in a sample of patients attending an urban general practice and calculated the prevalence of psychiatric morbidity of approximately 36%. Alam (1978) estimated the prevalence of psychiatric morbidity in a general practice in Dhaka, Bangladesh to be around 35.3%. In Bombay, Bagadia et al (1985) reported that 50% of the patients attending a general hospital out-patient department were “psychiatrically ill”. In an earlier study in a similar sample, they found the prevalence to be 36%.

Most of these studies suffer from methodological limitations. In addition, no Indian study, to the author's knowledge, has

undertaken a systematic investigation of the nature of psychiatric phenomena in primary health care. If the objectives of the National Mental Health Programme are to be met (Channabasavanna 1986), sustained efforts are required to fill these lacunae. Such an attempt has been made in this paper.

The present study was conducted in Calcutta in areas housing predominantly non- and semi-literate people belonging to the lowest socio-economic classes. One of the original objectives of the study was to investigate the extent to which health auxiliaries with limited training were successful in detecting psychiatric morbidity in general and depressive illness in particular (Sen et al 1987). The present paper, however, is concerned with the following aims:

- a) to assess the extent of psychiatric phenomena in this setting and discuss the implications.
- b) to explore the nature of these phenomena with the aid of multivariate statistical techniques i.e., factor analysis, multiple linear regression analysis and discriminant function analysis.
- c) to propose an explanatory model for psychiatric phenomena in extramural settings.

* Consultant Psychiatrist, Girindrasekhar Clinic, 14, Parsibagan lane, Calcutta – 700 009.

This paper was presented at the 39th Annual Conference of the IPS held at Calcutta in January, 1987 and won the **MARFATIA AWARD**.

Material and Methods

Three primary health care clinics situated in the periphery of the city of Calcutta were chosen for the study. An unduplicated consecutive series of adult patients (15 years and above) attending the clinics over a period of five weeks (July and August, 1985) were screened by health auxiliaries with the SRQ. It was established by a pilot study that the cut-off point on the SRQ for this sample was 11/12. Those who scored 12 or above on the SRQ were designated as 'probable cases' and those with scores of 8-11 as 'probable non-cases'. An approximately fifty per cent random sample of each of the 'probable cases' and 'probable non-cases' were interviewed with the CIS by the author. The psychiatric interview was conducted 'blind' i.e., without knowledge of the Questionnaire responses of the individual.

The study area, translation of the SRQ and CIS, personnel and training, and the research instruments have been described in detail elsewhere (Sen et al 1987, Sen & Williams 1987). Briefly, however, the SRQ and CIS were translated in Bengali by the author and back translated in English by a school teacher unacquainted with the original version. Discrepancies were then corrected for conceptual equivalence. Three health auxiliaries, who had between 8 and 12 years of formal education, carried out the SRQ screening. They received no particular training for the purpose of the study apart from a 30 minute orientation session during which it was ascertained that they themselves understood the questions and the procedure that was required of them. The SRQ (Harding et al, 1980) which is a 20 item questionnaire requiring yes/no responses, has been validated for the purpose of this study.

The Clinical Interview Schedule (CIS) (Goldberg et al, 1970) is a standardised, semi-structured inventory designed for use in community surveys and general practice

studies. Its feasibility and reliability have been tested in many settings across different cultures (Mari et al 1986). It has to be administered by a psychiatrist trained in its use. The CIS enquiries about 10 groups of 'reported' symptoms and 12 'manifest' abnormalities rated along five point scales.

Results

Characteristics of the sample

The SRQ was administered by the health auxiliaries to 202 consecutive adult attenders out of whom a random sample of 114 were interviewed by the author almost immediately after the administration of the questionnaire. Of the 202 subjects, 48 (24%) were males and 154 (76%) were females. As would be expected, almost half the subjects were between 15 and 35 years of age. More than a third could not read or write and only 12% had got beyond primary school. The average per capita annual income of the population was below Rs. 1,200-00.

Extent of psychiatric phenomena

Out of the 114 patients interviewed with the CIS, 52 (46%) were judged as cases. Weighted estimates were then calculated to apply to the total sample of 202. This procedure has been illustrated in Sen et al (1987). Out of 202 subjects, an estimated 101 (50%) were judged to be cases by the CIS. Among males, there were 15 (31%) cases out of 48, and in females, 86 (56%) cases out of 154. The 95 per cent confidence interval of the estimate of total psychiatric morbidity is 41% to 59%.

Table 1 shows the estimated number (with percentages) of females with psychiatric morbidity when interviewed with the SRQ and CIS with respect to age. It can be seen that there is little variation in the proportion of cases in the lower three age groups. It is also observed that almost

Table 1
Extent of psychiatric morbidity in primary health care: number of females with positive scores (≥ 12) in SRQ; estimated number of females with positive scores in the CIS

| Age Groups | SRQ | CIS |
|------------|---------|---------|
| 15 - 24 | 11 (31) | 10 (29) |
| 25 - 44 | 44 (62) | 44 (62) |
| 45 - 64 | 26 (74) | 24 (69) |
| 65 + | 9 (69) | 8 (62) |
| All ages | 90 (58) | 86 (56) |

(Figures in parentheses are percentages)

two-thirds of females in these age groups suffer from some degree of psychiatric morbidity, a remarkable finding.

Table 2
Frequency of positively answered SRQ items in males and females

| SRQ Items | Males N = 48 | | Females N = 154 | |
|--|-----------------|----|--------------------|----|
| | Number | % | Number | % |
| 1. Do you often have headaches? | 33 | 69 | 122 | 79 |
| 2. Is your appetite poor? | 30 | 63 | 101 | 66 |
| 3. Do you sleep badly? | 18 | 38 | 65 | 42 |
| 4. Are you easily frightened? | 22 | 46 | 113 | 73 |
| 5. Do your hands shake? | 21 | 44 | 110 | 71 |
| 6. Do you feel nervous, tense, worried? | 30 | 63 | 117 | 76 |
| 7. Is your digestion poor? | 31 | 65 | 89 | 58 |
| 8. Do you have trouble thinking clearly? | 21 | 44 | 96 | 62 |
| 9. Do you feel unhappy? | 28 | 58 | 110 | 71 |
| 10. Do you cry more than usual? | 7 | 15 | 64 | 42 |
| 11. Do you find it difficult to enjoy your daily activities? | 17 | 35 | 68 | 44 |
| 12. Do you find it difficult to make decision? | 19 | 40 | 89 | 58 |
| 13. Is your daily work suffering? | 25 | 52 | 76 | 49 |
| 14. Are you unable to play a useful part in life? | 24 | 50 | 93 | 60 |
| 15. Have you lost interest in things? | 20 | 42 | 74 | 48 |
| 16. Do you feel that you are a worthless person? | 19 | 40 | 86 | 56 |
| 17. Has the thought of ending your life been in your mind? | 6 | 13 | 36 | 23 |
| 18. Do you feel tired all the time? | 29 | 60 | 119 | 77 |
| 19. Do you have uncomfortable feelings in your stomach? | 27 | 56 | 99 | 64 |
| 20. Are you easily tired? | 36 | 75 | 129 | 84 |

Table 2 gives the frequencies of positively answered SRQ items in males and females. A noticeably high proportion of both males and females appear to suffer from symptoms of mental ill-health. The proportion of females is greater than males in all but two items viz., 'poor digestion' and

'daily work suffering'. For the majority of the other items, however, the differences are less than would be expected, a notable exception being the item on crying.

Nature of psychiatric phenomena

In the effort to investigate the nature of psychiatric phenomena in primary health care, the first step consisted of performing a principal components analysis of the SRQ items with varimax rotation. The procedure isolated seven factors, as shown in Table 3. The items with factor loadings of less than .5 were disregarded.

Factor 1, which may be conceptualised as an anxiety depression component

explains more than one-fifth of the total variance. Each of the six other factors explains between 5% and 8% of the variance. It is observed that there is no clearly defined separation between depression, anxiety, or somatic phenomena in most of the factors.

In the next step, it was decided to study

Table 3
Principal components analysis with varimax rotation of the SRQ
(Figures in parenthesis indicate the percentage of variance explained)

| Factor 1 (21.8) | Factor loading | Factor 2 (7.8) | Factor loading |
|------------------------------------|----------------|--------------------------------|----------------|
| Unhappy | .745 | Lost interest | .768 |
| Anxious/tense/worried | .680 | Crying | .623 |
| Unable to play useful part in life | .507 | Thinking of suicide | .513 |
| Factor 3 (6.5) | | Factor 4 (6.1) | |
| Easily frightened | .737 | Cannot enjoy daily activities | .751 |
| Headaches | .556 | Cannot think clearly | .507 |
| Cannot think clearly | .511 | Difficulty in making decisions | .506 |
| Factor 5 (6.0) | | Factor 6 (5.5) | |
| Poor digestion | .818 | Poor appetite | .681 |
| Abdominal discomfort | .810 | Sleep badly | .680 |
| Factor 7 (5.3) | | | |
| Easily tired | .812 | | |
| Constantly tired | .739 | | |

which SRQ items contributed most to the CIS total score. For this purpose, a multiple linear regression analysis of the CIS total score on the twenty items of the SRQ was performed.

Table 4
Multiple regression of the CIS total score on the 20 items of the SRQ

| SRQ items | R Square | F Ratio | Sig P |
|-------------------------------|----------|---------|-------|
| SRQ 8 'can't think clearly' | .2165 | 30.94 | .0000 |
| SRQ 13 'daily work suffering' | .3440 | 29.11 | .0000 |
| SRQ 9 'unhappy' | .3959 | 24.03 | .0000 |
| SRQ 18 'always tired' | .4242 | 20.07 | .0000 |
| All 20 items | .5359 | 5.37 | .0000 |

As can be observed from Table 4, only four of the twenty SRQ items contributed significantly to the CIS total score. The first, second and fourth items viz., 'can't think clearly', 'daily work suffering' and 'always tired' can be described as clinically non-specific i.e., not indicative of any diagnostic category. These three items, however, jointly explain about 38% of the vari-

ance, as seen from R square. The only item which may be considered specific in any degree viz., 'unhappy', explains less than 5% of the variance.

An analogous way in which the degree of relevance of the SRQ items can be judged in the context of the CIS total score is to find out the items which discriminate significantly between CIS case and non-case status. To this end, a discriminant function analysis of CIS case and non-case groups, with the SRQ items as the predictor variables, was carried out. A stepwise procedure was specified for the present analysis. The results of this analysis are illustrated in Table 5.

Ten of the twenty SRQ items discriminated significantly (both in isolation and taken together) between the CIS case and non-case groups. In Table 5, Wilk's lambda can be interpreted as a measure of the proportion of total variability not explained by group differences. Thus, one minus Wilk's lambda is the proportion of the total variability explained by group differences. It is observed here too that the first three items,

Table 5
Statistically significant items of the SRQ in the discriminant function analysis of CIS case and non-case groups

| SRQ items | Wilk's Lambda | Sig. P |
|-----------------------------------|---------------|--------|
| SRQ 14 'failure in life' | 0.75978 | 0.0000 |
| SRQ 13 'daily work suffering' | 0.66327 | 0.0000 |
| SRQ 12 'can't make decisions' | 0.62206 | 0.0000 |
| SRQ 9 'unhappy' | 0.59814 | 0.0000 |
| SRQ 1 'headache' | 0.57943 | 0.0000 |
| SRQ 19 'stomach discomfort' | 0.56466 | 0.0000 |
| SRQ 7 'poor digestion' | 0.55480 | 0.0000 |
| SRQ 15 'loss of interest in work' | 0.54701 | 0.0000 |
| SRQ 4 'easily frightened' | 0.53907 | 0.0000 |
| SRQ 17 'thinking of suicide' | 0.53197 | 0.0000 |

which again jointly explain about 38% of the variance, are fairly non-specific.

Discussion

The extent of psychiatric phenomena in primary health care

The estimated prevalence of 50% of adult primary health care attenders suffering from psychiatric distress may appear rather high in the first instance. However, a review of literature indicates that many studies using similar methodology and criterion of "caseness" (Sen et al 1987) report figures close to that obtained in the present study both in developed and developing countries (Goldberg et al 1976; Mari 1985). The 95 per cent confidence interval of 41% - 59% means that the probability that this interval contains the true proportion in patient populations of similar settings is 95%.

Having ascertained that the estimate of prevalence is not unrealistic, it is of interest to discuss its implications. The magnitude of the problem will become clear from an inspection of Tables 1 and 2. An informal

enquiry among the subjects of the interviewed sub-sample revealed that out of 101 cases, only a single individual - suffering from schizophrenia - was under psychiatric care. None of the others were given a psychiatric diagnosis, and the overwhelming majority were provided only symptomatic treatment, with analgesics, multi-vitamins and diazepam (for "insomnia"). The medical officers-in-charge of the clinics stated that while they suspected that a section of their patients had psychiatric problems, most of these problems were due, in their opinion, to adverse socio-economic and family circumstances. They felt that influencing these factors were beyond their control, especially in view of their "chronic patient overload".

The nature of psychiatric phenomena in primary health care

The problems encountered in categorising psychiatric phenomena in primary health care have been recognised for a decade (Shepherd 1977, Shepherd 1980). It is generally agreed that approximately a third of the psychiatric phenomena encountered in the community or in primary health care cannot be classified satisfactorily.

In the present sample, approximately half the "cases" cannot be categorised by current international systems of classification. Several multi-axial systems have been proposed to obviate this deficiency (Regier et al 1982), in all of which the social dimension is highlighted, in addition to that for physical illness.

However, another aspect of the problem has received insufficient attention, especially in developing countries like India. This is to do with the difficulty in classifying the primary axis of psychiatric phenomena in primary health care and community settings. A case in point is the relationship of depression and anxiety (Leff

1981, Sen & Williams 1987). The extent to which clinical anxiety exists in isolation from depressive disorders in extramural settings is yet to be established.

The multivariate statistical analyses used to explore the nature of psychiatric phenomena in the present study contributes to the understanding of some of the reasons for this problem. In the seven factors isolated by principal components analysis of the SRQ items (Table 3), it is seen that anxiety, depression, somatic, and non-specific items are not clearly separated. Especially Factors 3 to 7 do not readily lend themselves to a clinically meaningful interpretation. This lack of separation of the various dimensions suggests that much of the psychiatric morbidity in primary health care is undifferentiated, a view which has also been expressed by Shepherd (1977) and Vazquez - Barquero et al, (1986).

This supposition is strengthened by the results of the multiple regression and discriminant function analyses.

It is observed that the items in Tables 4 and 5 explaining most of the total variance (about 38%) are largely the non-specific or undifferentiated items which themselves span the psychological, social and somatic dimensions e.g. "can't think clearly", "daily work suffering", and "headaches" respectively.

An explanatory model

The finding that psychiatric phenomena in primary health care is essentially undifferentiated, whether expressed in psychological, social or somatic terms, is one with which most clinicians would intuitively agree. However, it is also well-known that individuals from many walks of life are capable of expressing themselves in highly differentiated terms, both in the somatic (e.g. hypochondriasis) and in the psychological (e.g. obsessive compulsive disorders)

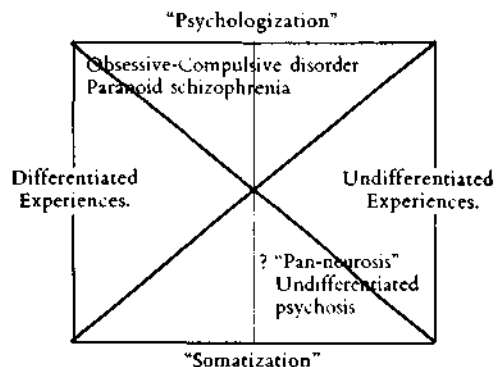
dimensions. Is it possible to construct a model in which both types of phenomena can be accommodated?

Leff (1981) has postulated a scheme "for the historical (evolutionary) development of the words that denote unpleasant emotional states". This is given below:

| | | |
|-------|----------|---|
| Stage | | |
| 1 | E | Undifferentiated bodily experiences |
| | ↓ | |
| 2 | E | Undifferentiated bodily and psychological experiences |
| | ↓ | |
| 3 | E | Undifferentiated psychological experiences |
| | ↓ ↓ ↓ | |
| 4 | E1 E2 E3 | Progressive differentiation of distinct psychological experience. |

Leff's scheme is attractive and may conceptually fit in with the clinical notions of many psychiatrists. However, as demonstrated in this paper, the degree of differentiated experience (or its lack) cuts across somatic and psychological experience and hence, cannot be subsumed with the latter in a single dimension. Also, Leff's scheme, being unidirectional, cannot explain why most Indians express their distress in mostly undifferentiated terms, when the parent language viz., Sanskrit, from which the majority of their lingua franca have developed, contains words exemplifying almost every shade of emotion.

A model, which is believed to resolve some of these problems is proposed in the figure.



The vertical boundaries of the square represent the two extremes of a differentiated - undifferentiated experience continuum. The horizontal boundaries likewise limit the well-known "somatization" - "psychologization" dimension. It should not be difficult to place individuals or groups in their appropriate place within the square according to their predominant mode of expressing emotional states. For example, the sample in the present study may be placed near the centre of the right-hand triangle.

It may be hypothesised that in settings where the nature of symptom patterns are largely undifferentiated, as in the present sample, narrowly-defined criteria of the various neurotic disorders with which clinicians are familiar, lose much of their relevance resulting in clinically nebulous diagnoses like "hysteria" and "neurasthenia". It is only when well-differentiated experiences are met that the question of valid diagnostic criteria assume importance.

The determinants of placement within the square are probably numerous and of complex nature. Intuitively, however, it appears that education, income, occupation, ethnic group and cultural factors like caste and religion may exert the strongest influence in this context.

Two limitations of the proposed model should be noted. First, the social dimension of psychiatric disorder has not been considered in the model, as this is generally regarded as a separate axis. Thus, not all diagnostic problems in primary health care can be understood with the aid of this model. Secondly, the model may be considered useful for psychiatric phenomena in extra-mural settings. It is probably less relevant in psychiatric in-patient and perhaps, in out-patient facilities, where the severity of psychopathology takes precedence in most cases over the problems posed by the factors discussed.

Conclusion

The difficulties associated with the failure to recognise and treat emotional disorders in primary health care have been recognised and targets have been set for the training of physicians, non-medical professionals, and health workers (National Mental Health Programme 1983). However, the emphasis has so far been almost entirely on severe mental illness (ICMR study 1983). The magnitude of the problem, of "minor" emotional disorders, as demonstrated in this paper, makes it essential that mental health priorities should exclude this category, especially when most of the conditions included among emotional disorders are potentially treatable with the appropriate psychiatric and social interventions.

Acknowledgements

Acknowledgements are due to Mr. A. Larsen, Director, Lutheran World Service (India), for permission to conduct the study in clinics under his administration. Thanks are due to the three health auxiliaries, Mrs. Lakshmi Das, Miss Anjali Dey and Mr. Sankar Saha for their cooperation. The author would like to express his gratitude to Professor Michael Shepherd and Dr. Paul Williams of the Institute of Psychiatry, London for their constant encouragement and guidance during the planning and analysis of the study. The study was supported by a scholarship from the Stromme Memorial Foundation of Norway.

References

- ALAM, M. N. (1978), Psychiatric Morbidity in General Practice, *Bangladesh Medical Research Council Bulletin*, 4, 38-42.
- BAGADIA, V. N., AYYAR, K. S., LAKDASWALA, P. D., SUSAINATHAN, U. & PRADHAN, P. V. (1985), Value of the General Health Questionnaire in Detecting Psychiatric Morbidity in a General Hospital Out-patient Population, *Indian Journal of Psychiatry*, 27, 293-296.

- CHANNABASAVANNA, S. M. (1986), Mental Health Care for All. Editorial, *Indian Journal of Psychiatry*, 28, 1-2.
- GAUTAM, S., KAPUR, R. L. & SHAMASUNDAR, C. (1980), Psychiatric Morbidity and Referral in General Practice - a Survey of General Practitioners in Bangalore City. *Indian Journal of Psychiatry*, 22, 295-297.
- GOLDBERG, D. P., COOPER, B., EASTWOOD, M. R., KEDWARD, H. B. & SHEPHERD, M. (1980), A Standardised Psychiatric Interview for use in community surveys, *British Journal of Preventive and Social Medicine*, 24, 18-23.
- HARDING, T. W., DE ARANGO, M. V., BALTAZAR, J., CLIMENT, C. E., IBRAHIM, H. H. A., LADRIGO-IGNACIO, L., SRINIVASA MURTHY, R. & WIG, N. N. (1980), Mental disorders in primary health care, A study of their frequency and diagnosis in four developing countries, *Psychological Medicine*, 10, 231-241.
- INDIAN COUNCIL OF MEDICAL RESEARCH, (1976-1983), Report of the multi-centre collaborative study on severe mental morbidity, coordinating centre, Department of Psychiatry, NIMHANS, Bangalore.
- KRISHNAMURTHY, S., SHAMSUNDAR, C., PRAKASH, O. & PRABHAKAR, N. (1981), Psychiatric Morbidity in General Practice - a Preliminary Report, *Indian Journal of Psychiatry*, 23, 40-43.
- LEFF, J. (1981), *Psychiatry Around the Globe - A Transcultural View*. New York and Basel, Marcel Dekker, Inc.
- MARI, J. J. (1986), Psychiatric Morbidity in primary care - A Study in Sao Paulo, Brazil, Ph. D., thesis, University of London.
- MARI, J. J., BLAY, S. L. & IACOPONI, E. (1986), Um Estudo de Confiabilidade da Cersao Brasileira da Clinical Interview Schedule, *Bulletin of the Pan American Health Organisation*. In press.
- REGIER, D. A., BURKE, J. D., BURNS, B. J., CLARE, A. W., GULBINAT, W., LIPKIN, M., SPITZER, R. L., WILLIAMS, J. B. W. & WOOD, M. (1982), A Proposed Classification of Social Problems and Psychological Symptoms for Inclusion in a Classification of Health Problems in Psychosocial factors affecting health (editors Lipkin, M. & Kupka, K), New York, Praeger.
- SEN, B., WILKINSON, D. G. & MARI, J. J. (1987), Psychiatric Morbidity in Primary Health Care, a Two stage Screening Procedure in Developing Countries - Choice of Instruments and Cost Effectiveness, *British Journal of Psychiatry*, In press.
- SEN, B. & WILLIAMS, P. (1987), The extent and nature of depressive phenomena in primary health care, A study in Calcutta, India, *British Journal of Psychiatry*, In press.
- SHEPHERD, M. (1977), Beyond the Layman's Madness: the extent of mental disease in developments in psychiatric research (editor Tanner, J. M), London, Hodder and Stoughton.
- SHEPHERD, M. (1980), Mental health as an integrant of primary medical care, *Journal of the Royal College of General Practitioners*, 30, 657-664.
- SYALEE, S. S. (1966), Psychiatric teaching in medical education, *Indian Journal of Psychiatry*, 8, 248-250.
- VAZQUEZ - BARQUERO, J. L., WILLIAMS, P., DIEZ - MANRIQUE, J. F., LEQUERICA, J. & GONZALEZ, A. A. (1986), Patterns of Psychiatric symptomatology and their relationship with diagnosis, Research report, Department of medical psychology, University of Santander, Spain.