

SOCIAL DYSFUNCTIONING AS A MEASURE OF SEVERITY OF PSYCHIATRIC ILLNESS

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SUMMARY

A study was carried out to examine the validity of social dysfunctioning as a measure of severity of illness. Modified version of KAS, R2 inventory was used to measure social functioning. Since there can be no absolute measure of severity of psychiatric illness, the validity was tested through indirect means. It was decided that if the scores on social dysfunctioning were higher amongst the mentally ill compared to normals, higher in Psychotics compared to Neurotics and higher in those assessed by a relative as well as the Consultant Psychiatrist to be more severely ill than those judged as less severely ill, the validity of social dysfunctioning as a measure of severity of Psychiatric illness would stand established. This was indeed found to be the case in the study which was carried out with 200 consecutive patients from a psychiatric out-patient department and their matched normal controls.

The need to assess the severity of mental illness arises in many different contexts. Is the patient so severely ill that he needs hospitalisation? Is the severity of illness decreasing in response to treatment? Amongst the psychologically disturbed individuals discovered in a population survey who are the more severely ill and hence have more urgent claim on available resources?

While as intuitive judgement of severity might suffice in routine clinical work, in research, one needs more objective as well as more reliable and valid criteria for measuring the severity of illness. It is now well recognised that as far as mental disorder is concerned, the decision regarding severity cannot be made on the basis of symptoms alone, however objectively or reliably they might have been assessed. Distress experienced by the patient and relatives as well as the social dysfunctioning caused by the illness are other parameters which must be considered (Carstairs and Kapur, 1976). Amongst these, social functioning, being a more objectively verifiable dimension, is perhaps more suitable for research purposes.

A review of literature shows that several attempts have been made to measure the dimension of social functioning (Barrabee *et al.* 1955; Mandel, 1959; Katz and Lyerly, 1963; Reusch, 1969; Spitzer *et al.*, 1970). Weisman (1975) has critically reviewed the various attempts and classified them with respect to the methodology adopted. Carstairs and Kapur (1976) have examined the possible theoretical models behind the different empirical attempts made to measure social functioning.

In undertaking the present study it was the intention of the authors to examine the truth of the general assumption that social dysfunctioning is indeed a measure of the severity of psychiatric illness. It was the authors' impression that this assumption though theoretically logical had not been put to a practical test. The paper reports the results of such an inquiry.

METHODOLOGY

There is of course a methodological difficulty in conducting such an inquiry as there is no absolute, objectively verifiable criterion of severity (If there was, there would have been no need to measure the

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severity in an indirect manner!) It was therefore decided that if social dysfunctioning as measured by a selected instrument was found to be high in subjects who on other criteria, subjective as well as objective, were considered to be more severely ill and vice versa, it would be a proof that social dysfunctioning is indeed a measure of severity.

The other criteria chosen were as follows :

- (1) The diagnosis : In general, psychotic illness is accepted as being more severe than neurotic illness.
- (2) The subjective impression of a key relative regarding severity of illness.
- (3) The subjective impression of a trained psychiatrist regarding the severity of illness.

The following specific hypotheses were constructed :

- (a) Social functioning will be poor in patients attending a psychiatric out-patient department as compared to a matched group of normals.
- (b) The social dysfunctioning will be higher amongst psychotics as compared to neurotics.
- (c) The higher the severity as judged by the relative, higher will be the social dysfunctioning.
- (d) The higher the severity as judged by a trained psychiatrist, higher will be the social dysfunctioning.

The study was carried out by measuring the social functioning of 200 consecutive patients attending the psychiatric out-patient department of the National Institute of Mental Health & Neuro Sciences, Bangalore, and 200 normal controls individually matched with the patients as regards age, sex, education and rural/urban background.

For the 200 patients the consultant's diagnosis was accepted in each case. The consultant was also asked to rate the severity of the patient's illness on a three point scale : 'mild', 'moderate', and 'severe'.

The nearest relative amongst those who came with the patient to the psychiatric out-patient department was asked to rate the severity of the patient's illness on a similar three point scale.

A modified version of the KAS Behaviour inventories : Form R2 (Katz & Lyerly, 1963) was selected as a tool for measuring social dysfunctioning.

This inventory lists sixteen items of activities which a normal individual is expected to perform. These activities are fairly basic and would be expected in any culture (appendix). A close relative is asked to indicate on a three point scale how well the subject's performance is with respect to a particular activity. For example with respect to the item "Helps in household chores" the relative has to report whether the person is 'not doing', 'doing some' or 'doing regularly'. In the modified version the relative reports on a 4-point scale, the fourth point being : 'doing too much'. This modification was introduced by the authors to take into account the inherent pathology in the excessive activity shown by those suffering from Mania or Obsessive-Compulsive Neurosis.

The relative also indicates on a 3-point scale, his expectations from the subject with regards to each activity. For example, in the context of the item "Helps in household chores" the relative is asked to declare whether he expected the subject to carry out this activity 'at all', 'to some degree' or 'regularly'.

A 'discrepancy' rating is calculated by subtracting the 'performance' from the 'expected' rating with respect to each item, the negative sign is not taken into account after the subtraction is carried out.

A discrepancy score is calculated by adding up the discrepancy ratings. The higher the discrepancy score, the higher is the social dysfunctioning.

In this study the expected and the performance scores were weighted following the method of summated ratings (Likert,

1932 ; Bird, 1940). This method assumes a continuum in the category of responses and also that the continuum follows normal distribution. Then the scale value for any category is the normal deviate corresponding to the cumulative proportion of subjects giving each of the categories of responses. For simplicity the origins of the deviations are shifted to avoid negative signs and rounded to the nearest positive integer.

Before starting the main study a pilot study was carried out to check whether the instructions were easily understood by the relatives and to test the inter-investigator reliability. Twenty respondents were examined by two investigators (C.R.C. and M.K.). The various respondents were interrogated alternately by the two investigators and while one asked the questions, both recorded the responses independently. A hundred per cent agreement was found to be there between the two investigators regarding answers given by each of the respondents.

The modified KAS, R2 was given to the nearest available relative of both the patients and the matched normal controls. Standard instructions regarding the purpose of the inquiry as well as filling up of the proforma were given in each case.

RESULTS

1. Table I compares the mean discrepancy score of the patients and the matched normal controls.

TABLE I—Discrepancy score in patients and matched normals

	Mean	S.D.
Patients (N=200)	16.39	24.24
Normal controls (N=200) ..	1.53	2.35

$t=23.81$, d.f.=398, $P<0.001$.

The mean discrepancy score is much higher amongst patients as compared to normal controls and the difference is statistically significant.

2. Table II compares the mean discrepancy score amongst the neurotics and the

psychotics (out of 200 patients, 15 with diagnosis of epilepsy and mental retardation were excluded from this analysis).

TABLE II—Discrepancy score in psychotics and neurotics

	Mean	S.D.
Psychotics (N=104)	21.13	5.87
Neurotics (N=81)	10.78	7.49

$t=10.49$, d.f.=183, $P<0.01$

The psychotics have a higher mean discrepancy score than neurotics and the differences are statistically significant.

3. A comparison was made of the proportion of psychotics and their matched normals as well as neurotics and their matched normals falling above or below the median discrepancy score. Table III shows the results.

TABLE III—A comparison of the discrepancy scores of psychotics and neurotics with their respective matched normal controls

	Psycho- tics (104)	Normals (104)	Neuro- tics (81)	Normals (81)
Discrepancy score				
8 or less	4%	97%	10%	86%
9 or above	96%	3%	81%	14%

$\chi^2=108.96$ d.f.=1, $P<0.001$, $p<0.001$

The Table shows that a cut-off point of 8 on the discrepancy score makes a clear distinction between the psychotics and their matched normals with hardly any overlap. The overlap in case of neurotics and their matched normals at the same cut-off point of '8' is higher than that in case of psychotics and their matched normals, but still very small.

4. Table IV compares the mean discrepancy scores of the group of patients judged by the relative as suffering from 'mild', 'moderate' and 'severe' illness, respectively.

TABLE IV—*Relative's assessment of severity and the discrepancy score*

Relative's assessment	Mean	S.D.
Mild (N=41)	10.37	6.54
Moderate (N=52)	14.58	7.64
Severe (N=107)	19.57	7.52

F=25.01, d.f.=2,197 P < .001

The results show that the mean discrepancy scores for the three categories have a statistically significant difference. The Table also shows that more severe the relative's judgment of illness, higher is discrepancy score.

5. Table V compares the mean discrepancy scores of the groups of patients judged by the consultant Psychiatrist as suffering from mild, moderate and severe illness, respectively.

TABLE V—*Psychiatrist's assessment of severity and the discrepancy score*

Psychiatrist's assessment	Mean	S.D.
Mild (N=34)	6.85	4.70
Moderate (N=80)	15.93	7.89
Severe (N=86)	20.58	6.14

F=50.77, d.f.=2,197 p < 0.001

The results show that the mean discrepancy scores of the three groups have a statistically significant difference. The Table also shows that more severe the psychiatrist's judgement of illness, higher is the discrepancy score.

DISCUSSION

The study shows that the discrepancy score on the modified KAS R2 inventory are higher for patients as compared to normals, higher for psychotics as compared to neurotics and higher for those judged to be more severely ill by the relative and the consultant respectively, as compared to those judged to be less severely ill. Since high discrepancy scores on KAS, R2 in-

ventory indicate high social dysfunctioning, all the hypotheses formulated in this study to test the validity of social dysfunctioning as a measure of the severity of psychiatric illness, stand supported.

It would be however well to use some caution in the interpretations of results. It could well be that the clinicians were influenced in assessing the diagnosis by information about patients' social functioning. Conversely the relatives might have been influenced by the patients psychopathology in assessment of social dysfunctioning. Perhaps the use of an independent objective measure of psychological abnormalities might have helped in further clarifying the relationship between psychological abnormalities, social functioning, diagnosis and severity. Further studies may be conducted keeping this in mind.

It may also be pointed out that only broad categories "Psychosis" and "Neurosis" have been used in this study. In fact diagnosis was made using the international classification of diseases and the patients were diagnosed under the various sub-headings. The subcategories were not however used for analysis for two reasons. Firstly the numbers in some of the subcategories (e.g. organic psychosis and obsessive-compulsive neurosis) were too small for statistical purposes. Secondly what was being examined was the social functioning amongst the diagnostic groups generally accepted as more or less severe. While there would be a general agreement that psychoses are more serious than neuroses, it would not be possible to make a similar claim with respect to schizophrenia vs MDP or anxiety neurosis vs depressive neurosis and vice versa.

It is possible that the differences in discrepancy scores obtained in the various groups might have originated only from one area of social functioning, e.g. work and not from the total spectrum covered by the KAS, R2. In such a case the social functioning instrument could be further short-

ened. Such item analysis is under progress and will be reported in a subsequent study. This paper concerns itself only with the testing of a few broad hypotheses.

The more fastidious may point out that the hypotheses have been supported only for the modified version of KAS, R2 inventory. It may be pointed out therefore that this inventory is one of the simplest of the measures of social functioning, taking only 3-4 minutes to complete and such instruments as are more sophisticated as well as more detailed should in fact be expected to support the hypotheses even more strongly.

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APPENDIX

KAS BEHAVIOUR INVENTORIES FORM R2

Items comprising level of performance of specially expected activities and level of expectation for performance of social activities.

ACTIVITY	Performance	Expectation	Discrepancy
1. Helps with household chores. 2. Visits his friends 3. Visits his relatives 4. Entertains friends at home 5. Dresses and takes care of himself. 6. Helps with the family budgeting. 7. Remembers to do important things on time. 8. Gets along with family members. 9. Goes to parties and other social activities. 10. Gets along with neighbours. 11. Helps with family shopping. 12. Helps in the care and training of children. 13. Goes to religious places like temple or church or mosque. 14. Takes up hobbies 15. Works 16. Supports the family.			
Total			

The scale format for the items in level of performance—

1. is not doing
2. is doing some
3. is doing regularly
4. is doing excessively

The scale format for the items in level of expectation—

1. did not expect him to be doing
2. expected him to be doing some
3. expected him to be doing regularly

Score 0 if the items is not applicable in both.