

THE SCHEDULE FOR ASSESSMENT OF PSYCHIATRIC DISABILITY - A MODIFICATION OF THE DAS - II

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SUMMARY

Measurement of Disability is one of the off-shoot projects of the major multicentred study on 'Factors Affecting Course and Outcome of Schizophrenia' being held at Madras, Vellore and Lucknow. As part of this study, modification of the Disability Assessment Schedule (II) was carried out at the Madras centre. Certain items of the DAS were deleted and the rest were regrouped into 4 main areas of personal, social, occupational and global disability. This modified instrument called the Schedule for Assessment of Psychiatric Disability (SAPD) was administered to 30 patients each of the 3 groups of psychoses, neurotics and diabetics. It was found that the SAPD effectively discriminated the psychotic group from the other 2 groups. The authors recommend this instrument for measurement of disability in an outpatient psychiatric population.

Introduction

Disability may be defined as disturbances in the performance of social roles that would normally be expected of an individual in his habitual milieu, arising in association with a diagnosable mental disorder (Jablensky, Schwarz and Tomov 1980). As an essential ingredient of any chronic mental disorder disability has lent itself to measurement, although several attempts at developing instruments to measure disability have not met with any great degree of international agreement (Wing 1961, Cheadle and Morgan 1972, Morgan and Cheadle 1974, Owens and Johnson 1980).

In an attempt to evolve a conceptually satisfactory instrument which could be used in culturally different settings, the W.H.O. developed the Disability Assessment Schedule (D.A.S.). This has gone

through 3 revisions and the D.A.S. III is currently in use.

In the ongoing ICMR project on 'Factors Affecting Course and Outcome of Schizophrenia', measurement of Disability is one of the offshoot projects at Madras and Vellore centres. During the course of this project, our experience with DAS II at the Madras centre has revealed that it is not entirely culture free and required certain modifications. The outcome of this effort was the modified instrument 'Schedule for Assessment of Psychiatric Disability' (SAPD).

Why Disability?

Psychiatric Disability has emerged to be an increasingly important area of research because of its role:-

- (i) in understanding the nature of the illness, especially its chronicity.

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(ii) in planning intervention programme for the chronically mentally ill.

Disability Assessment was recommended as priority area by the National Advisory Committee on Mental Health (1980). The WHO realising the importance of disability assessment initiated a multicentred study on assessment and reduction of disability in 1976.

Need to modify DAS

The DAS used in the WHO multicentred study on 'Assessment and Reduction of Disability' initiated in 1976 was designed specially for the assessment of the patient's behaviour and social functioning in his particular social and cultural context.

It consists of 5 main parts on Overall Behaviour, Social Role Performance, Patient in hospital, Modifying factors and Global evaluation. Part III was not used in this study, as the sample consisted of out-patients only. On administering DAS II to 25 Out Patients at Department of Psychiatry, Government General Hospital, we found that most of Sec. IV on modifying factors revealed very little useful information. The concept of a patient's "asset" or "liability" being different from what is perceived in the west, scoring on items such as average assets, hobbies or artistic activities was very difficult. The scores on most of these items were as low as 0/55 to 2/55.

The section on Home atmosphere (4.3) though dealing with an important aspect of expressed emotions does not contribute to the measurement of disability and is not related to the rest of the schedule by any particular set of classificatory ideas or rules. Hence it was deleted.

The other item of DAS which elicited a minimal positive response was the one on

Hetrosexual relationship (Section 2.5) probably because they are not really applicable to the existing socio-cultural norms in India.

Therefore, before deleting these items from the DAS, we thought it necessary to compare the scores of the schizophrenics on these sections with 2 other samples: a group of neurotics and diabetics. We chose diabetics because of its chronic nature requiring prolonged, if not life long, treatment, likely to cause disability in several spheres of functioning (Murawski 1971).

Pilot Phase: 25 neurotics and 25 diabetics fulfilling the following criteria were chosen.

The former were selected from out-patients attending the Dept. of Psychiatry, Govt. General Hospital, Madras and the latter from the Dept. of Diabetes & Metabolism of the same hospital.

Group Inclusion Criteria

Psychotics : Duration of illness; 2 years fulfilling ICD (9) Criteria 295 & 296.

Neurotics : Satisfying ICD (9) Criteria (300). Minimum duration of illness 6 months.

Diabetics : Currently diabetics, on treatment minimum duration of illness 6 months. No overlying emotional or psychological problems.

Results

It was found that in all the three groups, the mean scores on on sections 2.5, 4.1, 4.2, and 4.4 were rather low. Besides these items failed to discriminate psychotics from neurotics and diabetics (Table-1)

Further changes were required in the

SAPD - FOR OUTPATIENTS

Part I	Overall Behaviour	0	1	2	3	4	5	9
1.1.	Self Care							
1.2	Spare time activity							
1.3	Speed of performance							
1.4	Interest and Information							
1.5	Emergency Situation							
Part II	Social Role							
2.1	House-hold Activities							
2.2	Communication							
2.3	Social Contact Friction							
2.4	Marital - Affective							
2.5	Marital - Sexual							
2.6	Parental Role							
Part III	Occupational							
3.1	Performance							
3.2	No. of days of working							
3.3	Occupational Interests							
Part IV	Overall Disability							

Table 1

Item No.	Group		
	Psychotic** (N = 25) Mean ± SD	Neurotic** (N = 25) Mean ± SD	Diabetic** (N = 25) Mean ± SD
4.1	0.04 ± 0.19	0.04 ± 0.20	0.08 ± 0.27
4.2	0.08 ± 0.27	0.04 ± 0.20	0.08 ± 0.27
4.4	0.04 ± 0.20	0.0 ± 0.0	0.04 ± 0.20
2.5	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0

** Not Significant.

form of regrouping of the items in order to produce more workable results.

We divided the entire schedule under 4 main areas.

1. Personal Disability : We felt that 'Interests and Information' and 'Patient in Emergency Situation' are more indicative of personal than social disability under which the DAS II had grouped it.

These 2 items were hence included in this section.

2. Social Role Disability was sub divided into A & B, section B covering marital functioning. This had to be done since this was not applicable to all patients (60% of the sample).
3. Part III is on Occupational Disability. This is the same as in DAS II.
4. Part IV is on overall disability - This would be the subjective assessment of the global disability.

0 - no disability; 1 - mild; 2 - moderate; 3 - severe. This modified instrument consisting of 3 sections and a rating of global disability is called the 'Schedule for Assessment of Psychiatric Disability' (SAPD).

Final study

The SAPD was now administered to 90 patients, each of the three groups of Schizophrenics, Neurotics and Diabetics consisting of 30. The patients were selected using the same diagnostic criteria. Using Chi-Square (X^2) analysis, it was found that these 3 groups were essentially similar as far as age, sex distribution and duration of illness (Table-2).

Disability was assessed by interviewing both the key informant and the patients. The mean disability score for each of the individual items was calculated, unpaired 't' - test was employed to study the significance of the difference between the mean scores of disability in the individual areas, as well as that of global disability.

Inter-rater reliability exercises were done for every 3rd case i.e., for a total of 30 cases. The inter-rater reliability at Madras was 0.92 (kappa index of agreement).

Table 2

Variable		Psychotic Group (N = 30) M ± S.D.	Neurotic Group (N = 30) M ± S.D.	Diabetic Group (N = 30) M ± S.D.	Statistical findings
Sex	male	32.94 ± 10.69	29.43 ± 10.97	33.84 ± 13.00	NS
	Female	31.31 ± 9.77	31.06 ± 10.05	34.73 ± 7.53	
Age	< 30 years	23.14 ± 4.21	20.43 ± 3.62	22.1 ± 4.53	NS
	30-45 years	37.54 ± 3.84	37.57 ± 5.10	36.56 ± 4.21	
	> 45 years	51.67 ± 6.02	48.5 ± 1.5	54.75 ± 5.26	
Duration of illness	< 2 years	0.75 ± 0.25	0.92 ± 0.34	1.17 ± 0.33	NS
	2-5 years	3.68 ± 0.98	3.25 ± 1.09	3.47 ± 1.19	
	> 5 years	9.57 ± 4.76	10.38 ± 4.50	9.63 ± 4.02	

Table 3

Item No.	Psychotic Group (P)		Neurotic Group (N)		Diabetic Group (D)		't' - test Values		
	n ₁	Mean ± Sd	n ₂	Mean ± SD	n ₃	Mean ± SD	P VSN	P V S Δ	N V S Δ
1.1	30	0.60 ± 0.95	30	0.23 ± 0.50	30	0.07 ± 0.25	1.67 N.S.	2.92 P<.01	1.62 N.S.
1.2	30	1.87 ± 1.52	30	0.40 ± 0.71	30	0.30 ± 0.46	6.88 P<.01	5.32 P<.01	0.64 N.S.
1.3	30	1.50 ± 1.36	30	0.76 ± 0.90	30	1.06 ± 0.23	2.64 P<.01	1.74 N.S.	2.06 P<.05
1.4	30	1.53 ± 1.65	30	0.43 ± 0.76	30	0.23 ± 0.50	3.25 P<.01	4.06 P<.01	1.19 N.S.
1.5	30	2.30 ± 2.07	30	0.67 ± 0.91	29	0.21 ± 0.41	3.89 P<.01	5.26 P<.01	2.45 P<.05
2.1	30	1.47 ± 1.67	29	0.31 ± 0.70	30	0.27 ± 0.57	3.40 P<.01	3.66 P<.01	0.24 N.S.
2.2	30	1.60 ± 1.40	30	0.40 ± 0.85	30	0.30 ± 0.53	3.95 P<.01	4.67 P<.01	0.54 N.S.
2.3	30	1.03 ± 1.35	30	0.20 ± 0.60	30	0.10 ± 0.30	2.88 P<.01	3.62 P<.01	0.80 N.S.
2.4	15	1.07 ± 1.57	18	0.50 ± 0.90	17	0.12 ± 0.32	1.26 N.S.	2.36 P<.05	1.61 N.S.
2.5	14	1.14 ± 1.60	16	0.75 ± 1.30	11	0.36 ± 0.48	0.71 N.S.	1.50 N.S.	0.91 N.S.
2.6	14	0.93 ± 1.15	18	0.28 ± 0.65	17	0.12 ± 0.32	1.94 N.S.	2.66 P<.01	0.87 N.S.
3.1	25	1.76 ± 1.80	29	0.55 ± 0.72	26	0.58 ± 0.84	3.26 P<.01	2.97 P<.01	0.12 N.S.
3.2	25	2.24 ± 1.99	28	0.57 ± 1.08	26	0.69 ± 1.17	3.78 P<.01	3.34 P<.01	0.39 N.S.
3.3	28	1.75 ± 1.95	29	0.52 ± 0.81	29	0.17 ± 0.46	2.89 P<.01	4.08 P<.01	1.95 N.S.
4	30	1.80 ± 1.01	30	0.87 ± 0.56	30	0.70 ± 0.78	4.34 P<.01	4.63 P<.01	0.93 N.S.

Results

The age and sex distribution of the patients in the 3 groups was not significantly different from each other. The duration of illness which varied from 1 to 8 years was also similar in the 3 groups (Table 2). Table - 3 shows the mean scores ± S.D of the three groups of patients on each of the items of the SAPD. The psychotics have

mean scores ranging from 0.6 to 2.3 with the lowest score being on self care (1.1) and marital role functioning (2.4 - 2.6). The highest disability scores are seen in the areas of occupational functioning (3.1 to 3.3) and some items of personal disability (1.2 & 1.5) which are greater than that of other 2 groups (significant at 0.01 level).

It is clear from the table that both

Table 4
Mean Disability score and one way Anova

	Psychotic Group (PG) M ± S.D.	Neurotic Group (NG) M ± S.D.	Diabetic Group (DG) M ± S.D.	d.f.		F Ratio	Significant
				Between Groups	Within Groups		
Personal Disability Score in all groups (N = 30)	1.50 ± 1.20	0.49 ± 0.49	0.29 ± 0.29	2	87	21.09	P<0.001
Social Role Score in all groups (N = 30)	1.36 ± 1.28	0.44 ± 0.79	0.24 ± 0.36	2	87	13.05	P<0.001
Occupational disa- bility Score in all groups (N = 30)	1.78 ± 1.81	0.55 ± 0.63	0.51 ± 0.66	2	84	10.55	P<0.001
Overall Disability score in all groups (N = 30)	1.80 ± 1.01	0.87 ± 0.56	0.70 ± 0.78	2	87	15.66	P<0.001

Table 5

Disability Scores (Mean)	Psychotic	Neurotic	Diabetic
Personal Disability	1.50	0.48	0.29
Social Role	1.36	0.44	0.24
Occupational Role	1.77	0.55	0.51
Critical Difference	0.52	0.60	0.81

Critical Difference (C.D) = $\sqrt{\frac{2S_E^2}{n}}$ × 0.01 for error d.f.

Where $\sqrt{\frac{2SE^2}{n}}$ is the standard error of the difference between any two group means.

neurotics and Diabetics have low scores on all items. There is no significant difference between the scores of these 2 groups exception 2 items (1.3 & 1.5). Table 4 shows the results of the Analysis of variance Technique (One-way classification) using F-test. This was done for each of the 3 area of disability as well as overall Disability. One can readily appreciate the fact that psychotics have significantly higher scores

than Neurotics and Diabetics in all the 4 areas (P < .001). This table also shows the overall mean and SD scores of the 4 areas of Disability while Table-3 indicates scores on individual items. The highest mean disability score is in global disability followed by occupational disability (1.8 & 1.78 respectively).

Table - 5 has the mean disability scores arranged in decreasing order of magnitude. The difference between the scores of psychotics and neurotics is statistically significant since it is greater than the critical differences. The difference between Neurotics and Diabetics is however less than the critical difference. This clearly indicates that the SAPD effectively discriminates between Disability in psychotics from that of neurotics and Diabetics.

Discussion

The distribution of scores of disability in the 3 groups show that Schizophrenics have significantly greater disability scores

than neurotics and diabetics in all areas except marital role functioning. It can therefore be concluded that the SAPD is able to effectively discriminate schizophrenic disability from others (criterion validity).

However concurrent validity has not been studied as the SAPD was not compared with other standardised instruments measuring disability. This was not done because of the paucity of conceptually satisfactory tools to measure disability in several areas. The existing rating schedules used to describe social disability or maladjustment lack a conceptual framework by which disabilities can be classified (Cooper 1980). Besides the SAPD is only a modification of the parent schedule DAS and not a totally new one.

It can be seen that disability among the neurotics is similar to that in diabetics. This finding has interesting connotations as to the nature of Diabetes Mellitus itself, its status as a somato psychic disorder (Treuting 1967). It will be worthwhile to carry out a more intensive study of disability in the various sub groups of neuroses which has not been done in this study.

The reliability of the instrument is also high and we felt it appropriate to recommend the use of this schedule as a reasonably valid and reliable instrument for measuring disability in outpatient schizophrenic population. There are however certain limitations in this instrument. As also in the DAS, the assessment of occupational functioning needs to be differentiated between housewives, unmarried girls and those not pursuing a regular job from those holding a regular job with a constant income.

The SAPD can be used only as an instrument to measure disability and will not contribute towards the study of factors affecting it, such as expressed emotions etc. These factors however could encompass

the entire gamut of clinical, personal and socio demographic data and hence cannot be incorporated in the assessment schedule. In fact, this paper is the first of a series of reports of a study of disability and factors affecting it being conducted as an offshoot of the ongoing ICMR project at Madras, Vellore and Lucknow. The ensuing paper will deal with other aspects of Disability.

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