SCARF SOCIAL FUNCTIONING INDEX
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Several instruments measuring social functioning have been developed in the last four decades, as a result of the increasing interest in community care of the chronically mentally ill. SCARF Social Functioning Index (SSFI) was developed to meet the pressing need for an instrument which was easy to administer and which could be used by all mental health professionals. The SSFI comprises four main sections: self concern, occupational role, role in the family and other social roles. Each section has several subsections covering different areas of social functioning. Validity and reliability have been established for a group of normals, patients suffering from schizophrenia and from Hansen's disease. Internal consistencies of these factors were high. Factor analysis derived four main factors, which included nearly all items of the SSFI. This paper reports on the development and standardization of the instrument.

Key words: social functioning index, development, standardization.

INTRODUCTION

Social functioning can be described as a multidimensional set having behavioral, cognitive and performance aspects. It refers to the individual's ability to initiate personal and social roles and relationships as well as sustain them. In psychiatric rehabilitation, the assessment of social function has a pivotal role in planning and evaluating intervention strategies.

Several scales for measuring social functioning have been developed over the last four decades, as a result of an increasing interest in the community management of the chronically mentally ill. Reviewing scales meeting criteria for reliability, validity and utility, Weissman (1975) and Weissman et al. (1981) reported the existence of at least twenty seven scales which measured various aspects of social functioning. These scales were reasonably well developed and tested.

Weissman et al. (1981) have pointed out several limitations, in the scales reviewed by them. Most of these scales are applicable only to the adult population. Many of them cannot be adapted to reflect changes in traditional roles and cross cultural applicability. At a conceptual level, the scales include overlapping and unspecified areas of functioning. Most instruments have been developed exclusively for psychiatric or non-psychiatric medically ill population. The authors therefore recommended explicit and measurement of five conceptual areas: social support, social attachment, social competence, social status and social role performance as dysfunctioning in each of these areas have considerably different implications for interventions.

The emphasis in the plan and implementation of the National Mental Health Program in India (NMHP, 1987) has been on the active recruitment and involvement of community workers at the grass root levels of service delivery. Thus, there is a pressing need for the development of a simple instrument to assess social functioning in normal and ill populations, which could be used by all mental health professionals. The SCARF Social Functioning Index (SSFI) has been developed and tested to meet this need. Also, the instrument covers the conceptual areas of social functioning recommended by Weissman et al (1981), so as to enable the assessment of outcome of intervention strategies. This paper reports on the development and standardization of the instrument.

AIMS OF SSFI

SSFI aims to rate an individual's social functioning in the areas of Self concern, Occupation and job performance, Role in the family and Other Social Role functioning.

DEVELOPMENT

For item construction, information was gathered by interviewing a heterogenous group of patients who sought help at the out-patient department of the Schizophrenia Research Foundation, for various psychiatric problems and their families. The interviews were loosely structured, very open and flexible. Specific constructs were formulated covering five conceptual areas of social functioning, viz: social support, competence, attachment, status and role performance. "Brain storming" amongst mental health professionals helped the identification of items that were conceptually related to the construct. The items thus generated were pooled together into
distinct areas of social functioning through four focus group discussions by several randomly selected mental health professionals including psychiatrists, psychologists and psychiatric social workers, from various private and government psychiatric facilities in the area.

Several alternate forms of the instrument were tested in pilot interviews. These procedures resulted in the initial form of the SSFI. This form was administered to normals, psychotic patients and their informants and to persons suffering from Hansen's disease. Modifications were made in the choice and wording of items, guided by the general formulations of the domains of social functioning and the information obtained by the initial administration of the instrument. The instrument was translated into Tamil, the local vernacular language, using the procedure of semantic equivalence and back translated into English. Two different translators were involved in these procedures.

**COMPONENTS OF THE SSFI**

The instrument thus developed comprised four main components with a range of functions, viz: Self care; Occupational role; Role in the family, and Other social roles. Each of these components, are measured by rating the sub-components (Table 1).

### Table 1

| Component          | Sub-components                                      |
|--------------------|-----------------------------------------------------|
| **I. Self care**   | a. Self concern                                     |
|                    | b. Personal space and belongings                    |
|                    | c. Eating practices                                 |
|                    | d. Health care                                      |
| **II. Occupational role** | a. Regularity                                     |
|                    | b. Quality of occupation                            |
|                    | c. Quality of performance                           |
|                    | d. Occupational interests                           |
| **III. Role in the family** | a. Marital role                                   |
|                    | b. Role as a child                                  |
|                    | c. Role as a parent                                 |
|                    | d. Family relationships                             |
| **IV. Other social roles** | a. Relationship with family members not living in the same house |
|                    | b. Relationship with friends                        |
|                    | c. Relationship with neighbors                      |
|                    | d. Relationship with colleagues at work             |
|                    | e. Social activity groups                           |

The ratings on a five point scale, vary between poor functioning (lower scores) and good functioning (higher scores) and are made on the basis of information on the patient's functioning in the previous month.

**VALIDITY**

To test for criterion validity, the items were compared with the items in the Schedule for Assessment of Psychiatric Disability (SAPD; Thara et al, 1988). SAPD is a modified form of the Disability Assessment Schedule (DAS III, WHO). It has been standardized and tested for the Indian population. Fifty cases of schizophrenia were rated on both instruments for their social functioning by interviewing the key informants. Ratings were made on the SAPD and SSFI by independent interviews of the same informant by two different investigators. Table 2 shows the correlation coefficients of similar items of the two instruments. As the instrument was intended for use by all mental health professionals, including multipurpose workers, procedural validity (Regier & Burke, 1985) was calculated. Ratings by twenty multipurpose workers from a community based mental health center, were compared to ratings by two clinicians. A high degree of correlation between the raters was seen (range 0.7 - 0.9).

### Table 2

| SAPD        | SSFI       | Correlation Coefficient |
|-------------|------------|-------------------------|
| Self care   | Self concern | - 0.96*                  |
| Occupational| Occupational| - 0.89*                  |
|             | performance |                         |
| Occupational| Occupational| - 0.70*                  |
|             | interests    |                         |
| Marital affective | Marital role | - 0.77*                  |
| Parental role | Role as a parent | - 0.54                  |

SAPD: Schedule for Assessment of Psychiatric Disability; SSFI: SCARF Social Functioning Scale

* = p < 0.01    ** = p < 0.001

**RELIABILITY**

Inter-rater reliability of individual item scores were undertaken by two trained mental health professionals, at a single interview, with one interviewing and rating, and the other only rating. Inter-rater reliability exercises were done on normal people (n = 50), patients diagnosed as schizophrenia (n = 50) and Hansen's disease (n = 40). Kappa values were 0.8 - 1.00 for all three groups. Test-retest reliability of individual items were calculated for
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Forty informants who were a sub-sample of those interviewed for the pre-test of the instrument. Retest was undertaken after a one month interval, with reliability coefficients ranging between 0.7 - 1.0. The internal consistencies of the sub-scales were calculated for the instrument and are shown in Table 3. The Cronbach's alpha was satisfactory for all scales in the schizophrenia group but was less for the occupational sub-scale in the normals.

| Subscales                | Normals (n = 100) | Schizophrenia (n = 122) |
|--------------------------|-------------------|-------------------------|
| I. Self concern          | 0.72              | 0.87                    |
| II. Occupational role    | 0.46              | 0.87                    |
| III. Role in the family  | 0.85              | 0.62                    |
| IV. Other social roles   | 0.58              | 0.76                    |

Table 3
Internal consistencies (Cronbach’s alpha)

Factor Analysis
We examined the factor structure of the instrument for the schizophrenic group. Factor analysis was used to reduce the social functioning variables to a small number of factors. The method of principal Axis Factoring and Varimax Rotation was adopted. Loading threshold of 0.5 was preferred for retention of items in factor scales. Four factors (with eigen values greater than 1) emerged and items with factor loadings over the threshold of 0.5 were retained (Table 4). Items in the subscales of Self concern (Factor II), Occupational Role (Factor I), and Other Social roles (Factor III) were loaded together respectively. The item "marital role" did not load on any of the factors, but was the lone item of Factor IV. Factor loadings for the items "role as a parent" and "family relations" did not reach the threshold levels.

Discussion

Measurement of deficits in social functioning is critical for a comprehensive understanding of the patient, for planning rehabilitation and for the evaluation of intervention strategies. These areas need to be assessed in an easy but sensitive manner. The SSFI is a simple scale which can be easily administered by all mental health professionals including grass-root workers. The components of the instrument are such that a wide range of social functioning is covered. We have attempted to include all the conceptual areas recommended by Weissman et al (1981), namely, social support, social attachment, social competence, social status and social role performance. Dysfunction in each of these areas have considerably different implications for intervention. The SSFI, which covers all these areas in the broad spectrum of personal, social and occupational functioning, would be useful in the measurement of change brought about by any intervention program.

In the process of standardizing the instrument, reliability and validity exercises have been carried out. The instrument has been translated into the local vernacular language (Tamil) and back translated into English. The reliabilities have been tested in both languages. Inter-rater reliabilities have been established for a group of normal subjects, patients suffering from schizophrenia and Hansen's disease, with acceptable kappa values for all the three groups. Test-retest reliability of the instrument indicates that the ratings of the instrument are stable over time.
Kappa values of ratings by multipurpose workers and trained mental health professionals are also high, implying its use by persons working in the field of mental health but not necessarily trained mental health professionals.

The items of the SSFI have been validated by comparing with another standardized instrument, the Schedule for Assessment of Psychiatric Disabilities, which rates disabilities in social functioning. Significant correlation coefficients indicate criterion validity of the instrument.

The Cronbach’s alpha, as a measure of internal consistency of subscales was satisfactory for all scales in the schizophrenia group. This indicates the homogeneity of the subscale items. The internal consistency for the occupational subscale in the normals was less. This could be explained by the heterogeneity of the occupational status of the normals interviewed for this study. Factor loadings for three of the four scales indicate that the items load well together as a single factor. The sub-threshold levels of factor loadings for the items role as a child, role as a parent and relationship with colleague could be explained by the skewed distribution of the schizophrenic sample. Majority (66%, n=81) of the group were single. Over 76.2% (n=93) of the married group had no children and 65.6% (n=80) were unemployed.

The findings of the standardization exercises indicate that the scale has broad applicability and can be used by all personnel in the mental health team, including grass-root level workers (especially with the current interest in community based mental health). The instrument could be a useful tool in assessing the outcome of social intervention strategies. It can also be used for screening of social functioning in a normal population. Future work should focus on its applicability to different psychiatrically ill populations and those suffering from chronic physical illnesses. It would also be useful to test if the instrument can be applied in different cultural settings.

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