

Utility of Reiss Screen in Identifying Psychiatric Problems in Persons with Mental Retardation

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ABSTRACT

Background: Almost all psychiatric disorders found in general population can also be found in mental retardation (MR). Identification of the psychiatric problems in MR is a difficult process, primarily due to inherent communication and cognitive deficits wherein comes the role of psychological scales. There are few scales of which Reiss screen for maladaptive behaviors (RSMB) is popularly used in the West. Nevertheless, the utility of RSMB is less known in India. **Aim:** In this context, the present study was designed to study the diagnostic utility of RSM. **Materials and Methods:** Fifty six persons with ICD-10 diagnosis of MR and psychiatric diagnoses or behavioral disorders were selected through purposive sampling. RSMB was used to screen psychiatric problems and the findings were contrasted with that of the ICD-10 diagnoses. **Results and Conclusion:** RSMB could differentiate well between those with and without psychiatric diagnoses. The diagnostic efficiency statistics were found to be satisfactory. Therefore, RSMB can be used in Indian settings without any cultural limitations.

Key words: Assessment, ICD-10, RSMB, mental retardation and psychiatric problems

INTRODUCTION

There are strong evidences that psychiatric problems occur with high frequency in persons with mental retardation (MR) than in the general population.^[1-3] Nevertheless, identifying and diagnosing them is a complicated process as traditional methods rely considerably on the evaluation of psychological process, which is mostly done through direct communication with the patient.^[4] Most of the persons with MR will have cognitive and communication difficulties therefore they may not be able to report the psychiatric problems directly thus making it very difficult to diagnose psychiatric disorders in them.^[4,5] Despite the diagnostic problems, proper assessment and intervention is required because, psychiatric problems and behavioral disorders are some of the potential causes of segregation of persons with MR from the mainstream. Additionally, the current laws^[6] require that persons with MR are

properly evaluated in all relevant areas including mental health so that appropriate interventions are given. In this backdrop, psychological tools would be useful where clinical evaluation fail in systematic identification and documentation of psychiatric disorders. Though there are various psychological tools available for psychiatric evaluation in general, their validity in MR is questionable as many of them were standardized on population without MR and do not make any reference to how the examiner should assess persons with MR.^[7]

Currently, there are few psychological tools available in the West for the assessment of psychiatric problems in MR.^[8] Some of the commonly used scales are: Diagnostic Assessment of the Severely Handicapped-II,^[9] Assessment of Dual Diagnosis,^[10] Psychopathology Instrument for Mentally Retarded Adults^[11] and Reiss Screen for Maladaptive Behaviors

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(RSMB).^[1,12] Data from the UK and the USA suggest that RSMB in comparison to other scales is psychometrically sound and also contains normative data for persons with MR.^[1,13,14]

In India, studies on psychiatric problems of persons with MR are scanty,^[15-19] and few studies have used structured rating scales.^[15,19] Studies conducted with RSMB indicate that the prevalence rates obtained on this scale not only matches with the independent diagnoses made on ICD-10 but also yields specific behavioral profiles.^[19,20] In this context, the present study was designed to explore the diagnostic efficiency of RSMB in Indian context.

MATERIALS AND METHODS

Sample

This study was conducted with outpatients from two sites: Central Institute of Psychiatry (CIP) and Deepshikha Institute for Child Development and Mental Health (ICDMH), Ranchi, India. A total of 60 persons with MR and behavior problems for more than two months were recruited through purposive sampling method. Minimum duration of the problem behaviors is kept two months as per the requirements of RSMB. From initial sample pool, four people were excluded as they were above 50 years of age. The rest (N=56) were in the age range of 12 to 30 years. Informed consent was obtained from the informants and the participants.

Tools

1. Assessment of psychopathology

For assessing psychopathology Reiss Screen for Maladaptive Behavior (RSMB)^[12] and Reiss Screen Test Manual^[1] were used. RSMB was designed to meet the need for a standardized screening instrument for Psychiatric diagnosis in persons with MR. It contains an alphabetic listing of 38 key symptoms of psychopathology accompanied by definition and examples. RSMB is organized into eight scales. Each item is scored on a three-point scale based on the functioning of the person during the last two months. The total score is the summated scoring of 26 items that have available normative data and the cutoff 9 was proposed to differentiate psychiatric diagnosis (1 Reiss, 1988).

2. Assessment of intelligence and adaptive behavior

Stanford-Binet Intelligence Scale (SBIS)^[21] and Vineland Social Maturity Scale (VSMS)^[22] were used to assess the general intelligence and adaptive behavior, respectively. Both the tools have sound psychometric properties and are extensively used in India.^[23]

Procedure

Persons fulfilling the inclusion criteria were included in the study with informed consent. Based on the findings of SBIS and VSMS, level of MR was ascertained as per ICD-10 criteria.^[24] A detailed mental status examination of the participants and semi-structured interview of informants were conducted to make clinical psychiatric diagnosis as per ICD-10 criteria.^[24] RSMB was used to assess psychopathology.^[1,12]

Statistical analysis

Statistical analysis was done with Statistical Package for Social Sciences for Windows (Versi on 10.0). Percentages were calculated for socio-demographic and clinical variables. Mean and standard deviation was calculated for age, SQ and IQ. Chi Square test was applied for categorical variables. Diagnostic Efficiency Statistics Calculator devised by DeFife^[25] was used to estimate the diagnostic efficiency statistics including the sensitivity, specificity, positive and negative predictive validity and hit rate. The diagnostic efficiency statistics purport to reveal the true efficiency of the test better than the other statistics. The diagnostic efficiency statistics were interpreted as per assumptions described by Cicchetti.^[26] The diagnostic statistics explained in the context of the present study are as follows: Sensitivity refers to the ability of RSMB to identify those with psychiatric disorders as such correctly. Specificity refers to the ability of RSMB to exclude those without psychiatric disorders correctly. Hit rate refers to the proportion of correct classification of those with and with out psychiatric disorder in the given sample. Positive predictive validity refers to the probability that an individual has psychiatric disorder given that RSMB is positive. Negative predictive validity refers to the probability that an individual does not have psychiatric disorder given that RSMB is negative.

RESULTS

Mean age of the sample was 19.82 (\pm 4.75) years. SQ ranged from 21 to 67 (mean \pm SD: 45.48 \pm 11.44) and IQ ranged from 19 to 66 (mean \pm SD: 42 \pm 11.41). There were 21 (38%) persons with mild MR, 24 (42%) with moderate MR and others had either severe or profound MR. Thirty-five (62.5%) had an ICD-10 diagnosis of psychiatric disorder. The mean cutoff on RSMB was 9.7 (SD=7).

Table 1 reveals that those with ICD-10 diagnosis had significantly higher scores on all RSMB scales except the autism scale. Table 2 presents the comparative diagnostic efficiency statistics of RSMB with cutoff 9 (cutoff given in the manual), 10 (mean score of the total sample) and 12 (mean score of those with psychiatric diagnosis only). With ICD-10 being the

Table 1: RSMB profile of those with and without ICD-10 diagnosis

RSMB Profile	ICD-10 diagnosis		t-value df = 54	P
	Present n= 35	Absent n= 21		
Total score for 26-items	12.20±7.29	5.09±5.31	5.7	.000
Aggression scale	2.88±2.68	1.48±1.83	2.13	.038
Autism scale	1.71±2.67	.90±1.48	1.27	.209
Psychosis scale	3.63±3.26	.57±1.12	4.14	.000
Paranoia scale	2.57±2.40	.33±.73	4.14	.000
Depression (behavioral) Scale	1.54±1.75	.38±.74	2.88	.006
Depression (physical) scale	2.94±4.29	.95±1.39	2.05	.045
Dependent Personality Disorder	2.03±2.24	.62±1.02	2.71	.009
Avoidant Personality Disorder	1.43±1.52	.33±.73	3.09	.003

external criteria, diagnostic efficiency statistics were more favourable with original cutoff of 9 prescribed by Reiss. A separate analysis indicate that cutoff 9 ($\chi^2=23.45$; $P<.001$), 10 ($\chi^2=19.91$; $P<.001$) and 12 ($\chi^2=112.75$; $P<.001$) could significantly differentiate between those with and without dual diagnoses.

DISCUSSION

Behavioral and psychiatric disorders are some of the common causes of segregation of persons with MR from the main community hence timely assessment and intervention is very important. Due to inherent deficits in communication and cognition, it becomes difficult to diagnose psychiatric problems in persons with MR by traditional methods.^[1,4,8] In this context, psychological measures were found to be viable alternatives. Therefore, the present study was designed to assess the diagnostic efficiency of RSMB a scale widely used in the US and other countries.

Consistent with earlier studies, it was also found that all subscales except autism were efficient in differentiating people with psychiatric diagnosis from those with just behavioral problems.^[1,27] RSMB cutoff 9 originally proposed by Reiss^[1] showed good hit rate, specificity, positive and negative predictive validity in the present study as well. The hit rate of .80 found in the present study is comparable to Chicago sample (.729) and Illinois sample (.81).^[1] Though the other two cutoff scores too yielded high hit rate remaining statistics were comparatively weaker. Hence, RSMB with its original cutoff can be employed in Indian setting to complement clinical evaluations.

This study has many implications. Firstly, assessment on RSMB is cost effective and helps in making appropriate decisions regarding further evaluations, interventions and referrals. Secondly, it will help monitoring the effectiveness of specific intervention. Thirdly, it

Table 2: Diagnostic efficiency statistics of RSMB

RSMB	Sensitivity	Specificity	Positive predictive validity	Negative predictive validity	Hit rate
Cutoff 9	.71	.95	.96	.67	.80
Cutoff 10	.66	.95	.96	.37	.77
Cutoff 12	.51	.95	.95	.54	.68

will facilitate objective data regarding behavioral manifestation of psychiatric problems in persons with MR. Overall, dealing the psychiatric problems will minimize the risk of segregation from home and community. All these are in conformity with the existing laws which provide a constitutional mandate for appropriate assessment and intervention of persons with disabilities including persons with MR.^[6]

In the previous studies depressive mood, aggression, disruptive behaviors, socially inappropriate behaviors, self-injury, resistive behaviors, temper tantrums and wandering were reported to be important predictors of psychiatric diagnosis in persons with MR.^[2,15,20,28] Similarly, a qualitative analysis in the present study indicated that aggression, complaining behavior, confused thinking, delusions, fearfulness, hallucinatory behaviors, hostility, paranoid tendencies, regressive behaviors and sleep problems were found to be associated psychiatric disorders. Therefore, presence of these behaviors should warrant a careful and comprehensive evaluation to facilitate appropriate psychological or psychiatric interventions.

In conclusion, RSMB can be used in clinical settings in India without any cross-cultural limitations but it should be noted that autism scale has weak diagnostic utility, and hence, it should not be used to diagnose autism. Manifestation of specific behaviors such as aggression, problems in thinking, delusions, fear, hallucinatory behaviors, paranoid tendencies, regressive behaviors and sleep problems should qualify for comprehensive psychiatric evaluation and intervention. These behaviors may be studied in large population for their predictive power of psychiatric diagnoses.

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