

BRIEF ADDICTION RATING SCALE(BARS) FOR ALCOHOLICS : DESCRIPTION AND RELIABILITY

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ABSTRACT

There is a need for a short instrument to assess the multiple areas of dysfunction as well as drinking dyscontrol in alcoholics. The Brief Addiction Rating Scale (BARS), covering 10 areas of functioning has been developed to meet this need. This report describes the rationale and development of this new scale. A high interrater reliability (0.9) on all the items of the scale and the ease of administration justify its clinical and research use.

Key words: Alcohol dependence, severity assessment, BARS instrument.

Alcohol-related problems occur in a wide range of areas. Besides physical and mental health problems, family, interpersonal and social relations, sexual life, occupation and financial position are all affected to varying degrees. Though this is recognised by professionals working with alcoholics, often sufficient and systematic attention is neither given nor consistently recorded (for lack of a simple comprehensive assessment device). Further, although there are several instruments such as the Alcohol Use Inventory (Horn et al., 1987), Comprehensive Drinker Profile (CDP-Miller & Marlatt, 1984), Chemical Dependency Assessment Profile (CDAP, Davis et al.,1989) for different purposes, it is not convenient to use them for clinical purposes. To our information there are only two instruments which give a comprehensive profile in respect of several problem areas. Both of them are long and unwieldy for routine use. The Behavioural Rating Scale (Brandsma et al.,1980) covers social, employment, economic, legal and drinking areas. Although the time-frame is generally 3 months, for some items it is the last week and

for job it can extend into years. This variable time-frame makes it problematic. Also, the economic area has several items which are inapplicable for the majority of our clients as it includes checking accounts, owning a car, number of credit cards etc. The second instrument, Addiction Severity Index (McLellan et al., 1980) has more attractive features. Its time-frame is consistently one month and covers 7 problem areas : medical status, employment/support status, drug use, alcohol use, legal status, family/social relationships and psychological status. It also includes severity ratings (0-no treatment necessary to 9-life threatening) which are interviewer estimates of the patient's need for additional treatment in each area. Many of the items, however, under medical status, employment/support status, legal status, and family/social relationships are inapplicable in the context of our clients.

In view of this, there is a need for a simple, easy to administer rating instrument that comprehensively gives a quantitative profile of alcoholics at treatment and follow-up in respect of several of the problem areas relevant to

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treatment planning and follow-up monitoring.

The paper reports the development and reliability of such an instrument - Brief Addiction Rating Scale (BARS) for alcoholics (Janakiramaiah et al., 1996).

MATERIAL AND METHOD

On discussion with professionals working with alcoholics and drug addicts, ten areas (one item each) of alcohol-related dysfunction were identified and defined for coverage. They are :

1. Dyscontrol of Substance Use.
2. Family Role Dysfunction
3. Occupational Dysfunction
4. Social Problems
5. Legal Problems
6. Financial Problems
7. General ill-health
8. Psychiatric illness
9. Neuropsychiatric syndromes
10. Sexual functioning (intercourse) : number of occasions during the defined period.

The interviewer's ratings on each item are based on all sources of information (patient's self-report, informant's report, documents, medical and psychiatric examination results and laboratory tests as interpreted by the physician) regarding the problems under the construct, whether or not those problems are attributable to substance use. The time-frame is the past

ONE MONTH and the severity of items 1 to 9 is keyed to a 7-point scale on the basis of days affected: 0 (not even one day), 1 (1-5 days), 2 (6-10 days), 3 (11-15 days), 4 (16-20 days), 5 (21-25 days) and 6 (more than 25 days). Item 10-sexual functioning is keyed to occasions of sexual intercourse : 0 (more than 15 occasions), 1 (11-15 occasions), 2 (6-10 occasions), 3(5 occasions), 4 (3-4 occasions), 5 (1-2 occasions) and 0 (no occasion). The criterion of number of days/occasions was adopted after preliminary trials have shown that grading of the severity on very mild, mild, moderate, severe and very severe had marked observer error besides difficulty in conceptually anchoring them on the basis of patient/spouse reports. An Instruction manual was developed (Appendix).

Patients satisfying ICD-10 DCR criteria for Alcohol Dependence, seeking treatment at the De-Addiction Centre, NIMHANS hospital, Bangalore and consenting to participate in the study were recruited. Patients were administered: 1) Brief Psychiatric Rating Scale (BPRS, Overall & Gorham, 1962) and 2) BARS about a week after inpatient detoxification.

After a brief exposure and orientation to the BARS, both the participants (Naga Venkatesha Murthy and Raghu) rated the items in an inter rater design, i.e. conjoint interviews, when one of them (alternating over successive interviews) administered the scale to 20 male patients, each

APPENDIX : BRIEF ADDICTION RATING SCALE (BARS) SCORING SHEET

Patient's Name : _____

Age : _____ Sex (1=M, 2=F) : _____ Number of years of education : _____

Days	0	1-5	6-10	11-15	16-20	21-25	>25		
(01) Dyscontrol of Substance Use	0	1	2	3	4	5	6	9	
(02) Family Role Dysfunction	0	1	2	3	4	5	6	9	
(03) Occupational Dysfunction	0	1	2	3	4	5	6	9	
(04) Social Problems	0	1	2	3	4	5	6	9	
(05) Legal Problems	0	1	2	3	4	5	6	9	
(06) Financial Problems	0	1	2	3	4	5	6	9	
(07) General ill-health	0	1	2	3	4	5	6	9	
(08) Psychiatric illness	0	1	2	3	4	5	6	9	
(09) Neuropsychiatric syndromes	0	1	2	3	4	5	6	9	
(10) Sexual Intercourse Occasions	>15	11-15	6-10	5	3-4	1-2	0		
	0	1	2	3	4	5	6	9	

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TABLE 1
MEAN, STANDARD DEVIATION AND RELIABILITY
OF 10 BARS ITEMS

Sl.No.	ITEM	Mean	S.D.	Intraclass Correlatin, K
01	Dyscontrol of Substance Use	4.8	1.6	0.9
02	Family Role Dysfunction	4.2	2.0	0.9
03	Occupational Dysfunction	3.9	2.0	0.9
04	Social Problems	2.4	2.0	0.9
05	Legal Problems	0.1	0.4	0.9
06	Financial Problems	3.5	2.3	0.9
07	General ill-health	2.5	1.8	0.9
08	Psychiatric illness	0.7	1.8	0.9
09	Neuropsychiatric syndromes	0.4	1.3	0.9
10	Sexual functioning	0.9	1.8	0.9

TABLE 2
FACTOR LOADINGS (ABOVE .30) ON THE 9 BARS ITEMS

Sl.No.	ITEM	Factor I	Factor II	Factor III
01	Dyscontrol of Substance Use	.73	.42	
02	Family Role Dysfunction	.95		
03	Occupational Dysfunction	.94		
04	Social Problems	.76		
05	Financial Problems	.41	.67	
07	General ill-health	.35	.93	
08	Psychiatric illness			.99
09	Neuropsychiatric syndromes			.56
10	Sexual functioning			.33

with at least one collateral informant.

Second, to examine the structure of alcohol-related problems as documented by the scale, a factor analysis on the data of 40 patients was conducted.

Third, a preliminary examination of the validity of the scale items was also tried from the point of view of their correlation with selected patient variables.

RESULT

The mean, standard deviation and intraclass correlation (Kappa) for the 10 items are shown in Table-1. Factor analysis of the items (except legal problems which was omitted because of extremely low scores), on varimaxrotation, has yielded 3 factors (Table-2)

Though there is an overlap of Factors I & II with both Financial Problems and General-ill health loading significantly on both of them, their

contribution to Factor II is much greater. The cumulative percent of variance explained also is remarkably high at 80.2.

Results of the exploratory examination of the correlations between individual items and selected patient variables ($n=40$) suggest validation of the factor analysis results. Items of Factor I, Dyscontrol of Substance Use, Family Role Dysfunction and Occupational Dysfunction correlated significantly, at Pearson's 0.4, ($p=0.01$), 0.6, ($p=0.001$) and 0.5 ($p=0.01$) respectively with duration of dependent drinking, whereas items of Factor II, Psychiatric illness and Neuropsychiatric Syndromes correlated significantly ($r=0.5$, $p=0.01$) with Brief Psychiatric Rating Scale (Overall & Gorham, 1962) total psychopathology score.

DISCUSSION

The instruments currently available for a

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comprehensive assessment of addiction-related problems are cumbersome for clinical use because of their length (eg. CDAP with 232 items), time required for administration and (CDP, Miller & Marlatt, 1984) and cultural inappropriateness of some of the measured items (Behavioural Rating Scale, Brandsma et al., 1980). Thus there is a need for a brief, multidimensional, easy to administer scale for alcoholics. The BARS, a multidimensional scale, was designed to suit these requirements. It covers 10 areas of dysfunction related to substance use including drinking dyscontrol. Its simplicity and ease of administration makes it an attractive tool for quantification of severity as well as improvement at follow-up simultaneously in several areas of dysfunction.

The time frame of one month was chosen for two reasons : a) this is the usual interval of follow-up. Hence the instrument can be administered during routine follow-up. b) recall is likely to be accurate for this time interval. The patients were also rated on the BPRS to examine correlation of scores with items on Factor II (Psychiatric illness and Neuropsychiatric syndromes).

The administration of the BARS requires only that the scope of each item as described should be kept in mind. As there are no fixed questions, the rater can flexibly and appropriately word his inquiries until enough information is obtained, covering all the items. The time taken to complete the rating of BARS was generally about 15 minutes. In the context of a follow-up evaluation it could thus be administered with ease and acceptability to the patients.

It is important, however, to note the limitations of the instrument. If the patient is defensive and there is no other source of information, the BARS evaluation can present a gross underestimation of the problems. Further, if the rater is new and does the ratings casually, the scores may be misleading. For a valid use of the instrument, the rater's clinical judgement and skills are an essential prerequisite.

In conclusion, the BARS is a simple, easy to administer scale, which can help the clinician

assess severity in various areas of alcohol-related dysfunction, as well as help to quantify improvement in these specific areas at follow-up.

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INSTRUCTION MANUAL

RATING

An interview-rating scale for quantifying problems-severity in selected areas of health and

life of substance users. The ratings under each construct should be based on all sources of information (self-report, collateral reports, documents, medical examination records etc.) giving precedence to validity and disregarding the attributions to substance use. If the items cannot be rated due to problems like unreliability of self-report, non-availability of collateral, incomplete medical/psychiatric examination, then defer the rating by a few days rather than rating 9 (not applicable/cannot be rated). Rate 9 only when all possible attempts have failed. The time frame is past ONE MONTH. Take into account all problems which have been clearly present and determine the number of days on which one or more of them were present whether originating during the month or continuing from the past.

Each item is rated on a 7-point scale : 0-6. Items 1-9 are rated by the number of days on which problems were present : not even one day, 1-5 days, 6-10 days, 11-15 days, 16-20 days, 21-25 days and more than 25 days as 0,1,2,3,4,5,6 respectively. Item 10 is rated by occasions of sexual activity, more than 15 times, 11-15 times, 6-10 times, 5 times, 3 or 4 times, once or twice, not even once as 0,1,2,3,4,5,6 respectively.

Dyscontrol of substance use

The degree of dyscontrol is rated on the basis of the number of days on which there has been violation of the personal commitment relevant to one's own drinking behaviour goal: not to drink (or take drugs) at all/not to drink (or take drugs) beyond certain quantity and/or frequency limits.

Family role dysfunction

Judge against the normative role expectations (as a son/daughter, husband/wife, father/mother) for people of the same sex, age socioeconomic status and subculture and determine the number of days on which performance has been deficient in one or more relevant roles. Also consider one's involvement in intra-family quarrels, violence and ill-treatment including boycott as manifestations of family role of dysfunction (failure to protect) as well as charges of infidelity or divorce proceedings regardless of one's responsibility for the same.

Occupational dysfunction

Determine the number of days on which absent for work (if formally employed), for school or college (if student) or work performance/scholastic application was deficient by 50% or more if informally employed/self-employed or non-formal student. If employed and pursuing part-time studies, give precedence to employment. If neither employed nor student, rate 9. The role of housewife is subsumed under Family Role Dysfunction.

Social problems

Determine the number of days on which there have been problems in one or more of the three circles of relatives, friends and neighbours (quarrels, violence, ill-treatment or boycott, summons by an informal forum/legal action on matters other than marital, criminal and financial, eg, defamation suit for slander) regardless of one's own responsibility.

Legal problems

Exclude civil litigation and consider only problems (potential as well as actual) from violation of criminal law. Determine the number of days on which indulged in one or more of several possible criminal activities: 1) Smuggling, stealing, kidnapping, pimping, sex-working, forgery, cheating, embezzlement, traffic-violation, assault, molestation of women, damage to property etc., 2) was booked in a criminal case as a suspect (whether or not the alleged criminal activity occurred during the relevant month and regardless of the truthfulness of prosecution version), and 3) had to attend court, remanded to custody or imprisoned in respect of cases-old or new.

Financial problems

Determine the number of days on which one or more of the following occurred: 1) one could not buy daily necessities, pay children's school fee, arrange medical treatment, meet social obligations, etc. at a level of the subcultural norm due to lack of finances/discontinuation of credit cards. 2) One or one's spouse had to borrow, pawn, sell, steal, cheat or seek credit for the same. 3) The creditors have quarrelled, threatened, assaulted, seized property, called

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before an informal forum or took legal action.

General ill-health

The word 'general' is preferred to avoid the problematic distinction of physical from mental. Take into account all the 'physical' problems: the systemic, gastrointestinal, respiratory, cardiovascular, genitourinary, dermatological and musculoskeletal system symptoms and signs and determine the number of days on which one or more of them have been present.

Suggestive list of problems: Fever, flushed face, swollen feet, skin rashes or infection, injuries or wounds, yellowish discoloration of eyes, vomiting blood, loose stools, belching, bowel or bladder incontinence, needle marks. Complaints of - stomach ache, decreased or increased appetite, nausea, lump in throat, chest pain, palpitation, cough, breathing difficulty, running nose, muscle cramps/aches, burning or pins and needles in hands and feet, fatigue, weakness, giddiness, blurred vision, decreased or disturbed sleep, ringing in the ear, headache. (interviewers not familiar with psychiatric and neurological disorders should in particular obtain an orientation training to rate items 08 and 09).

Psychiatric illness

Take into account all nonorganic mental disturbance especially psychotic and mood symptoms and signs (other than neuropsychiatric syndromes) and determine the number of days on which one or more of them have been present.

Suggestive list of problems: Disturbs or disturbed at night, social withdrawal, excitement, unreasonable demands, uncooperative behaviour, violates rules, threatens violence, violent behaviour, poor personal hygiene/care, suspiciousness, muttering to self, hallucination, expresses guilt, verbally abuses people, blames others, quarrels with family members even when sober, fearful, looks frightened, crying spells, suicidal thoughts/behaviour, irritability, talking too little or too much. Complains of fear, sadness, spouse being unfaithful.

Neuropsychiatric syndromes

Take into account all neurological and cognitive symptoms and signs and determine the number of days on which one or more of them have been present.

Suggestive list of problems: Slurred speech, unsteady walking, incoordination of limb movements, tremors, fits/seizures, daytime drowsiness, stupor/coma, incoherent speech, confusion, forgetfulness.

Sexual intercourse (This item is optional)

Take a count of the occasions of sexual activity culminating in heterosexual intercourse regardless of sexual satisfaction. Rate 9 if bedridden, hospitalized, imprisoned, or away for more than 15 days in the month, nonavailability of a steady partner/unmarried, or if spouse is away, sick, uncooperative, under some taboo against sex (religious observance) for more than 15 days in the month, in pregnancy/puerperium, or if there is sexual deviation.

SCORING

It is recommended that each scale be considered separately. Together, these scores give a composite picture of the severity of problems. The inter-relationship of these scales is an empirical question which is still under investigation. For ready appreciation of the profile these scores may be graphically represented and repeated at each follow-up.

INTERPRETATION

Any score other than '0' and '9' is potentially serious. The priorities in intervention may suitably be considered, however, taking into account the significance of the problems under each of the scales separately. The severity measures simply indicate the situation in each problem area. There is no assumption made about the causality between the dependence/abuse and any of the rated problems.

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