

THE SEVERITY OF ALCOHOL DEPENDENCE DATA QUESTIONNAIRE : MODIFICATION AND VALIDATION

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ABSTRACT

With introduction of the concept of alcohol dependence syndrome, scales specifically to measure dependence were developed and used in clinical and research settings. 12 questions from The Severity of Alcohol Dependence Data Questionnaire were translated into the local language and was administered to 70 patients referred to the deaddiction centre. The translated version showed good evidence of internal validity, criterion validity and external validity.

Keywords : Alcohol dependence syndrome, questionnaire, validation.

Edwards and Gross (1976) introduced the concept of alcohol dependence syndrome as a cluster of core psychophysiological symptoms principally centred around a drive to consume alcohol. The concept had a tremendous influence in the field of alcohol studies. It was included by the World Health Organisation as one of the components of alcohol related disabilities (Edwards et al., 1977). The dependence syndrome is considered as a process, distinct from other alcohol related problems such as social, legal, work or health problems, and this was accepted by all international classificatory systems (Shuckit et al., 1994). This has led to the development of a new generation of questionnaires to measure alcohol dependence syndrome. These questionnaires specifically avoided questions related to other alcohol related problems. The Severity of Alcohol Dependence Questionnaire (SADQ) (Stockwell et al., 1979) and The Severity of Alcohol Dependence Data Questionnaire (SADD) (Raistrick et al., 1983) are the two commonly used questionnaires (NCADA, 1993). The SADQ emphasises tolerance and withdrawal symptoms, and physical dependence generally. But the SADD questionnaire measures both physiological and behavioural features of dependence. The Severity Alcohol Dependence Data Questionnaire is a fifteen item self completion questionnaire derived from 39 item Alcohol Dependence Data Questionnaire (Raistrick et al., 1983). Answers to each ques-

tion are rated on a four point scale as follows: 0 = almost never, 1 = sometimes, 3 = often, 4 = nearly always. Davidson (1987) suggested that in many cases SADD covers most elements of alcohol dependence and measures all ranges of severity. Since its introduction SADD has been widely used in various clinical and research settings (NCADA, 1993; Doherty & Webb, 1989). But the questionnaire has some drawbacks. The question no. 15, "Do you go drinking and next day find you have forgotten what happened the night before?" refers to black outs. The question no. 13, "The morning after a heavy drinking session do you go out of your way to avoid people" refers more to patients attitude to his drinking and its social complications. In the biaxial concept these are better considered as other complications of alcohol use rather than part of the dependence syndrome. It is also problematic to quantify the severity of alcohol dependence based on questions which are not part of the pure syndrome of alcohol dependence. In our experience we have also found that it was difficult to communicate these questions to the patient population. Stockwell et al. (1979) stresses the importance of avoiding questions about other alcohol related problems. Davidson et al. (1989) found that question no. 9 "Do you try to control your drinking by giving it up completely for days or weeks at a time?" was found to have poor correlation with other questions and very low loading with the first

factor in principal axis factoring and maximum likelihood procedure. Moreover this question was referring more to his awareness of drinking problem and motivation to change.

So far no attempt has been made to validate this questionnaire in India, though its translated version is currently used by many researchers. The present study reports on the modification and validation of the SADD after removing questions 9, 13 & 15 in a Tamil speaking population in Pondicherry.

MATERIAL AND METHOD

The final version of the scale taken up for translation comprised of 12 questions which conform to the description of alcohol dependence syndrome as given in DSM-III-R (APA, 1987), DSM-IV (APA, 1995) and ICD-10 (W.H.O., 1992) as well as the Edwards and Gross (1976) model of alcohol dependence. These twelve questions were translated to the local language (Tamil) by a psychiatrist, a general practitioner, and a psychiatric nurse experienced in deaddiction services, independently. Among the three, for each question the most appropriate translation was selected and it went through 3 pilot versions. The pilot versions were checked for the ease of understanding, any misinterpretation of the questions and any negative emotional reaction. Appropriate modifications were made before adopting the final version.

Seventy consecutive cases of alcohol dependence syndrome who met the DSM-III-R criteria (APA, 1987) for alcohol dependence were included in the study. The sociodemographic information and detailed drinking history were collected using a semi structured proforma. The amount of alcohol consumed on a heavy drinking day during the last one month was taken and was converted to grams of alcohol. As most of the patients were consuming arrack supplied by government distillery, conversion to grams of alcohol was done based on the information provided by the distillery. Social complications of alcohol dependence syndrome were assessed using the social functioning subscale and social belonging subscales of the Drug Taking Evaluation Scale (Holsten & Wall, 1980). The social functioning scale measures the levels of activity in work or in education. These activities are judged both on degree of

independence, social acceptance and work satisfaction. The social belonging scale is intended to give a picture of social role and identification. Both the scales are rated on nine point severity scale, 1 indicating excellent functioning and 9 indicating severe deviancy. The sum of these subscales was taken as a measure of social complications of alcohol use.

The questionnaire was administered in one to one interview format to clarify any doubts from the patients and to prevent the questions from being misinterpreted (Doherty & Webb, 1989). The questionnaire was administered within one week from first contact.

Mean age of the sample was 35 (\pm 8.2). All the patients were males. Mean years of formal education was 8.3 (\pm 3.5), 4 patients were illiterate. Regarding marital status 62 patients were married, 3 were unmarried and 5 were separated. With respect to employment 78.5% of the patients were employed, 17.1% were unemployed and 4.2% retired.

All statistical analysis was done using SPSS for Windows, version 6.0 (SPSS, 1993). Principal component analysis was done to assess the factor structure of the questionnaire. Spearman correlation was done to find out the relationship between SADD score and other variables. One way ANOVA was used to find out variation of SADD scores among three DSM-III-R severity subtypes.

RESULTS

Principal component analysis extracted one factor which accounts for 59.3% of the variability between the questions. All the 12 questions show positive loading with the first factor extracted in principal component analysis (Table 1). Kaiser-Meyer-Olkin measure of sampling adequacy of 0.68 is acceptable and Bartlett test of sphericity is significant (Kaiser, 1974). Correlation between total SADD score and other variables is shown in Table 2. As expected total SADD score shows highly significant correlation with variables naturally associated with severe dependence while there is no correlation with neutral variable like age, education, monthly income. There is a highly significant difference in the mean SADD scores between the 3 DSM-III-R severity subtypes of alcohol dependence (Table 3).

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TABLE 1.
PRINCIPAL COMPONENT ANALYSIS

Factor	Eigen value	% variance	Item	Factor 1
1	5.71	59.3	Question 1	0.82
2	1.12	9.4	Question 2	0.66
3	1.22	7.2	Question 3	0.63
4	1.07	6.5	Question 4	0.72
5	0.88	5.2	Question 5	0.56
6	0.68	3.8	Question 6	0.82
7	0.61	3.5	Question 7	0.61
8	0.52	2.3	Question 8	0.55
9	0.41	1.5	Question 9	0.78
10	0.28	0.4	Question 10	0.74
11	0.11	0.5	Question 11	0.52
12	0.05	0.4	Question 12	0.5
Total		100%		

Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .68

Bartlett test of sphericity = 286.6

Significance: $p < .001$

TABLE 2.
CORRELATION OF SADD SCORE WITH OTHER VARIABLES

Variable	Corr. coeff.	p value
DTEs social	0.56	0.002
Alcohol intake	0.62	0.001
Age	0.06	0.771
Education	-0.12	0.517
Income	-0.24	0.166

TABLE 3.
SADD SCORES AND DSM III R SEVERITY SUBTYPES

	Mild	Moderate	Severe
Number	16	29	25
Median	15	23.5	28.5
Mean	13	21.2	28.3
SD	4.5	8.1	7.8

One way ANOVA $F = 6.7665, p = .0036$

DISCUSSION

The modified and translated version of Severity of Alcohol Dependence Data Questionnaire meets a number of criteria which indicates its suitability as a valid measure of severity of alcohol dependence syndrome. The questionnaire went through initial modifications and three pilot versions before adopting the final version. Care was taken to make the questions easily understandable, emotionally neutral and congruent with the concept of alcohol dependence syndrome. This is especially important to avoid the effect of denial while responding to the questions. Principal component analysis shows a single factor which accounts 59.3% of the variability and all the other questions show a factor loading of more than 0.5. This is an acceptable evidence of internal validity of the questionnaire. Shuckit et al. (1994) found close similarity between DSM III R, DSM IV and ICD - 10 diagnoses of substance dependence. The DSM III R subtyping has been found to be a valid measure of severity by various studies (Caetano, 1990; Hasin & Glick, 1992). We have found significant difference in the mean SADD score between the three DSM III R severity subtypes as shown in Table 3. This is a good indicator of criterion validity of the questionnaire.

Amount of alcohol consumed and social and occupational dysfunction due to alcohol use are two variables naturally associated with the severity of dependence. The modified SADD score showed significant association (Table 3) with these variables. Variable as age, education in years and monthly income are not expected to show any association with the severity of drinking. In the study these variables did not show any association to severity measured by the questionnaire (Table 3). This is an evidence of the external validity of the questionnaire. Similar method were used by other researchers (Raistrick et al., 1994 ; Gossop et al., 1995) for validating questionnaires to measure severity of dependence.

One to one interview format is necessary to clarify doubts by the patients and to avoid misinterpretation of questions. This will also help in administering the questionnaire to illiterate patients. The authors have noted that the modified SADD questionnaire was easily understood by the patients. Test

retest reliability was not done since SADD measures the current state of dependence. Here control groups were not used since the scale is to be used to measure the severity in dependent patients.

Assessing alcohol dependence forms an important part of the overall assessment of a patient with alcohol problem. The measurement of the degree of dependence allows the therapist to plan treatment goals. The dependence level will indicate the severity of withdrawal during detoxification and might also provide some initial indication of how intense the treatment program needs to be (NCADA, 1993). In conclusion, the modified SADD questionnaire (Tamil version) is presented as a brief, user acceptable instrument for measuring the severity of alcohol dependence syndrome in a Tamil speaking Indian population. It is hoped that this will lead to further research in this area.

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