



Validation of hindi translation of DSM-5 level 1 cross-cutting symptom measure

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ABSTRACT

Background: The DSM-5 Level 1 Cross-Cutting Symptom Measure is a self- or informant-rated measure that assesses mental health domains which are important across psychiatric diagnoses. The absence of this self- or informant-administered instrument in Hindi, which is a major language in India, is an important limitation in using this scale.

Aim: To translate the English version of the DSM-5 Level 1 Cross-Cutting Symptom Measure to Hindi and evaluate its psychometric properties.

Materials and Methods: The study was conducted at a tertiary care hospital in Delhi. The DSM-5 Level 1 Cross-Cutting Symptom Measure was translated into Hindi using the World Health Organization's translation methodology.

Statistical analysis: Mean and standard deviation were evaluated for continuous variables while for categorical variables frequency and percentages were calculated. The translated version was evaluated for cross-language equivalence, test-retest reliability, internal consistency, and split half reliability.

Results: Hindi version was found to have good cross-language equivalence and test-retest reliability at the level of items and domains. Twenty two of the 23 items and all the 23 items had a significant correlation ($p < 0.001$) in cross language concordance and test-retest reliability data, respectively. The Cronbach's alpha was 0.95, and the Spearman-Brown Sphericity value was 0.79 for the Hindi version.

Conclusion: The present study shows that cross-language concordance, internal consistency, split-half reliability, and test-retest reliability of the Hindi version of the measure are excellent. Thus, the Hindi version of DSM-5 Level 1 Cross-Cutting Symptom Measure as translated in this study is a valid instrument.

1. Introduction

With the changes in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), there is a need to develop newer tools for the psychiatric symptom assessment. The DSM-5 Level 1 Cross-Cutting Symptom Measure is a self- or informant-rated measure that assesses mental health domains which are important across psychiatric diagnoses. This adult version consists of 23 questions that assess 13 psychiatric domains (American Psychiatric Association, 2013). Each item inquires about how much the individual has been bothered by symptom during past two weeks. The measure was found to have good test-retest reliability in the DSM-5 Field Trials (Narrow et al., 2013).

There is a growing evidence to show that psychiatric disorders occur along a dimensional rather than categorical continuum. Hence, dimensional assessment of psychiatry disorders may be useful not only for our understanding of the disorders but patient management as well (Helzer et al., 2008). The scale comes with a lot of advantages as it is

easy to apply, score, evaluate and involves the patient in its assessment making steps ahead toward patient-centered approach (American Psychiatric Association, 2013).

Moreover, dimensional assessments give clinicians an easier way to appreciate various spectrums within a disorder thereby reducing diagnostic complexity and comorbidities. As there is a growing shift towards measurement-based model of care, the presence of such measures provides a standardized way for assessment and quantification of symptom profiles of the patients over time (Clarke and Kuhl, 2014).

Non-availability of it in Hindi language is an important limitation. Accordingly, the aim of the study was to translate the English version of the measure to Hindi and evaluate its psychometric properties.

2. Materials and methods

The study was conducted at a tertiary care hospital in Delhi. The translation procedure was part of a larger study that attempted to study

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intimate partner violence, coping and marital satisfaction among spouses of patients with schizophrenia and alcohol use disorder. Ethical Review Board of the Institute approved the study and all participants were recruited after obtaining written informed consent (Goel and Kataria, 2014).

2.1. Translation process

The Hindi translation of the scale was done after obtaining permission from the concerned authorities (Stoute, 2014). The translation process was done according to the procedure described by WHO (World Health Organisation, 2014). The 23 items were first translated from English to Hindi by two bilingual mental health professionals who had sufficient formal knowledge as well as were familiar with cultures and dialects of both the languages using population. A panel comprising of two members (specialists in social fields of health) other than the translators was assembled. They had experience in instrument translation. The members reviewed the translated versions. They had access to the English version of the DSM-5 Level 1 Cross-Cutting Symptom Measure.

The best translated version was reached after discussions and suggestions made considering the ease by which it could be understood by the general population. After all the changes the members agreed upon a draft of translated version. The draft was then given to another two bilingual mental health professionals for back-translation who had no knowledge of the English version of DSM-5 Level 1 Cross-Cutting Symptom Measure.

The back-translated versions were equated with the English version of DSM-5 Level 1 Cross-Cutting Symptom Measure by the panel. A revised version of Hindi translation was made after thorough discussions so that there is no uncertainty in the meaning of any word or phrases. The revised version was then given to fifteen members of the community in which it was to be used. These were primary caregivers of the patients attending the psychiatry services of the hospital by convenient sampling after taking written informed consent. Those well versed with Hindi language were included. They were asked about any difficulties they had in understanding any items and what they understood about the items attempting to question. All the suggestions to increase the comprehension of the measure made by them were put across the panel. After considering all the suggestions the panel reached to a final translated version which appeared most suited for the population in which it was to be used.

2.2. Psychometric evaluation

The final Hindi translated version was assessed for cross language concordance and test-retest reliability.

A total of hundred participants were selected from those who were attending the psychiatry services of the hospital by convenient sampling. The participants included thirty four primary caregivers of patients, thirty four patients with schizophrenia in remission and thirty two patients with alcohol use disorder in remission. Participants giving a written informed consent were included in the study.

For assessing the cross language concordance, fifty participants who were knowledgeable in Hindi and English were recruited, while for test-retest reliability fifty participants well versed with Hindi were recruited. For cross language concordance, crossover design was used in which half the subjects selected randomly were given either English or Hindi versions first. Then one week later the same participants were given the other version. For studying test-retest reliability the other group of fifty participants was given the Hindi version twice, one week apart. Assessment was completed in a single sitting. Participants who required further assessment were evaluated by trained professionals and offered (if required) appropriate treatment (Table 1).

2.3. Statistical analysis

Data was entered and analyzed using Statistical Package for the Social Sciences Windows version 23 (SPSS version 23). Mean and standard deviation were evaluated for continuous variables while for categorical variables frequency and percentages were calculated.

To study the cross language concordance between item scores and domain scores of English and translated Hindi versions, Pearson correlation coefficient and intra-class correlation coefficient (ICC) was done. Likewise for the test-retest reliability, scores (at baseline and one week later) of the final translated Hindi version were compared by Pearson correlation coefficient and intra-class correlation coefficient. Internal consistency was examined using cronbach's alpha and Spearman-Brown Sphericity coefficient was used to assess split-half reliability of the Hindi DSM-5 Level 1 Cross-Cutting Symptom Measure.

3. Results

The mean age of the participants was 29.55 (SD 9.3; Range 18–50) years. Mean years of education of participants were 10.32 (SD 3.4; Range 2–17)

3.1. Cross-language concordance

Significant correlations were found between the English and Hindi versions of the DSM-5 Level 1 Cross-Cutting Symptom Measure at the level of each item and domain (Tables 2–4). The intra-class correlation value was significant for each item and varied from 0.63 to 0.95, except for one item as shown in Table 2 and 3. Pearson's correlation coefficients between the two assessments were significant ($p < 0.001$) for 22 out of the 23 items. For the remaining item, the significance level of correlation was < 0.01 .

Similarly the intra-class correlation value for the various domains was significant for each item and varied from 0.71 to 0.91, except for one item (Table 4). Pearson's correlation coefficients between the two assessments were significant ($p < 0.001$) for 22 out of the 23 items and level < 0.01 for the remaining one domain.

3.2. Test-retest reliability

There was significant correlation of each item between both the assessments, with intra-class correlation value significant for each item and varied from 0.69 to 0.95, as shown in Table 5 and 6. The Intra-class correlation coefficient was significant for each domain and ranged from 0.75 to 0.95 (Table 7). Pearson's correlation coefficients and intra-class correlation coefficients between the two assessments were significant at < 0.001 level for all the 23 items and 13 domains.

3.3. Internal consistency

Data of all the 100 patients were used for the assessment of the internal consistency for the Hindi version of DSM-5 Level 1 Cross-Cutting Symptom Measure scale. The Cronbach's alpha was 0.95 indicating good correlation.

3.4. Split-half reliability

Spearman–Brown coefficient was used to assess the split-half reliability of the scale. The Spearman–Brown coefficient was 0.79 for the Hindi version, indicating acceptable split-half reliability.

4. Discussion

The present study suggest that the translated Hindi version of DSM-5 Level 1 Cross-Cutting Symptom Measure is a psychometrically valid instrument as it has good test re-retest reliability, cross-language

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