ORIGINAL ARTICLE

Development of the caregivers attitude scale on home care of schizophrenics (CASHS)

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ABSTRACT

Background: Schizophrenia is a severe mental disorder that elicits feelings of strangeness and discomfort, which may create stigma and lead to the social exclusion of the mentally ill and of the people relating with them. In the past decade, there has been an increase in the number of research studies on attitudes toward mental disorders.
Materials and Methods: An instrument was developed to assess the attitude of primary caregivers on home care of schizophrenics. This article describes the development of a Likert scale, the Caregivers Attitude Scale on Home Care of Schizophrenics CASHS, which is a 31-item self-reported instrument that quantifies three aspects of home care, that is, attitude towards patient, towards treatment, and towards social interaction. The steps involved in its development are the review of literature, development of items, content validation, translation and language validity, pretesting, and reliability.
Results: After establishing the content validity, the CASHS was pretested with five subjects. To establish the reliability of the CASHS, 21 primary caregivers were recruited through purposive sampling technique. In order to measure the stability between scores obtained, a test-retest reliability was computed using Karl Pearson correlation coefficient and the r value was 0.78. The internal consistency was measured using Cronbach's alpha and item-total correlation and the r value was 0.789. The item discrimination analysis was also computed and the value was of above 0.35. These statistical measurements indicate that the CASHS was reliable.
Conclusions: The CASHS is a valid and reliable tool that can be utilized for assessing the attitude of primary caregivers on home care of schizophrenics.

Key words: Attitude scale, home care, item analysis, primary caregivers, schizophrenia

INTRODUCTION

Schizophrenia is a severe disorder that is characterized by distortions in thinking and perception and by inappropriate emotions. It follows a chronic or recurrent course with residual symptoms and incomplete social recovery.[1] An estimated 24 million 1% people worldwide suffer from schizophrenia.[2] Dependency, isolation, lack of sense of responsibility, and indifference are significant undesirable behaviors seen among them.[3] In India, a majority of them are cared for by family members. These caregivers face grief and emotional hardship and are frequently forced to assume lifelong care taking roles.[4] Some of the caregivers eventually develop a negative attitude towards caring for them.

Attitudes are individually attributed emotions, beliefs, and behavioral tendencies an individual has towards a specific

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abstract or concrete object.[5] Such responses are classified as affective (assessing feelings as pleasant or unpleasant), cognitive (concerning beliefs, opinions), and ideas about the attitude object) and behavioral (concerning behavioral intentions or action predispositions).[6] Care giving is often variable, constant, and ongoing for long periods and the role of the caregiver is stressful. The physical, mental, and emotional toll of care giving can be devastating and may lead to injury or illness of the caregiver.[7-10] The attitude of the caregivers of schizophrenic patients is associated with social stigma and contribute to feelings of frustration and anger. Obviously, stigma can be a major obstacle to recovery and can limit opportunities of work and social functioning of patients and family members across the world.[11-13] Caregivers who show more tolerant, nonintrusive, and supportive attitudes towards patients will achieve better social functioning. Thus, more empathetic caregivers can adjust their behavior according to the patient's emotional state and needs, which protects them from extreme reactions that could eventually trigger a relapse.[6] If caregivers do not have a positive attitude, they might not be able to take up the responsibilities of caring for the ill persons, thus leading to relapse or readmission. It is essential to identify the attitude of primary caregivers of schizophrenic patients with valid and reliable tools. The CASHS is one such tool developed by the authors.

Purpose of the study

The aim of this study is to develop an attitude scale for determining the attitude of caregivers of schizophrenics towards home care. The development of this attitude scale is a part of a larger study, which aims at identifying the effectiveness of a video-assisted teaching module, which has one of the variables as attitude of the caregivers.

MATERIALS AND METHODS

There were several steps involved in the development of this scale. The steps followed were the review of literature, development of the items, content validation, translation to Kannada language and language validity, pretesting, and reliability. These steps are represented in Figure 1.

Review of literature

According to Polit and Beck, it might be possible to adapt an existing instrument rather than starting from scratch.[14] Hence, the authors reviewed literature to identify the instruments that were already available for determining the attitude of caregivers regarding homecare of schizophrenic patients. The PubMed, CINAHL, books, reports, articles, periodicals, published, and unpublished research studies were reviewed for this purpose. The opinion towards Mental Illness in the Chinese Community,[15] the Attitude towards Mental Health Problems Scale,[16] and the Stigmatization Questionnaire[17] were identified.
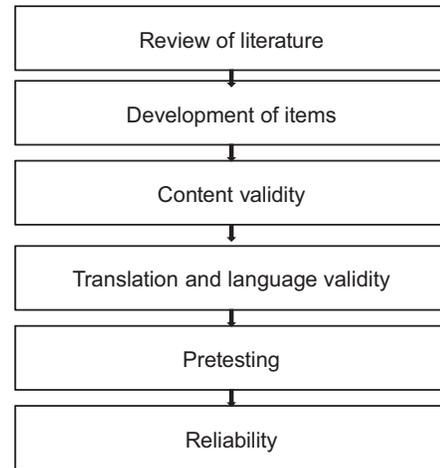

Figure 1: The steps followed in the development of CASHS

Development of items

The investigators produced a pool of items based on the literature that was reviewed, the clinical observation, and their professional experience. The 32 statements that were developed were stratified into three groups: Attitude towards patient (17 items), attitude towards treatment (eight items), and attitude towards social interaction (seven items). A five-point Likert scale was used to evaluate the attitude of the caregivers (1 = strongly agree, 2 = agree, 3 = uncertain, 4 = disagree, and 5 = strongly disagree). There were 15 positively stated items and 16 negatively stated items. The negatively stated items had reverse scoring. Examples of the items are: "One of the reasons for schizophrenia is curse of God", "Black magic done by neighbors/enemy can lead to schizophrenia", "People with schizophrenia can lead normal lives".

Content validation

Content validity concerns the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain.[14] The content validity of this draft tool was established by submitting it to seven experts who reviewed its content. Four experts were from the field of Psychiatric Nursing and three were psychiatrists. Of the 32 items in the CASHS, 27 items had 100% agreement among the experts, four items had only 20% agreement and one item had no agreement among experts. Four items were modified and one item was deleted, which resulted in 31 items. This 31- items CASHS was subjected to content validity for the second time, by submitting it to five experts. There was 100% agreement among the experts, on all the items. Thus no modification was made in the 31-item CASHS.

In addition to percentage of agreement, the content-validity ratio (CVR) was calculated for each item based on the formula from Lawshe (1975).[18]

$$CVR = \frac{n_e - N/2}{N/2}$$

CVR = a direct linear transformation from the panel list saying "essential"

n_e = the number of the panel list indicating "essential"

N/2 = total number of the panel list divided by two.

CVR values range from +1 to -1. Values closer to 1 indicate experts' agreement that the item is essential to content validity. Lawshe concluded that a CVR of at least 0.99 would be necessary with seven experts or fewer subject matter experts.[18]

The CVR was calculated to quantify the extent of experts' agreement. The five-point agreement questionnaire for the accuracy of the items that ranged from "strongly agree" to "disagree" was given to the subject experts. The items that had responses as "strongly agree" and "agree" was considered as "essential" and those that had responses as "strongly disagree" and "disagree" was considered as "not necessary". Those items which the experts had responded to as "uncertain" were considered as "useful but not essential". The CVR for CASHS was +1 indicating that the items are essential to content validity.

Translation and language validity

After establishing the content validity of the CASHS, it was translated into Kannada, the regional language, by an expert. The translated version was retranslated to English language by another expert, for establishing language validity. There was no ambiguity in any of the items or instruction, and so no modification was made. The tool was then pretested.

Pretesting

It is the trial administration of a newly developed instrument to identify flaws or assess the time requirement.[14] Pretesting the CASHS is an essential step before establishing reliability. The purpose of the pretesting is to enhance the clarity of the tool and to check question wording. After obtaining formal administrative permission, the Kannada version of the tool was administered to five primary caregivers of schizophrenic patients in a selected hospital. This was done to determine the clarity of the items and the average time required for completing the tool. The CASHS was found to be clear and understandable to the caregivers. The average time taken to complete the tool was 25–30 min. The reliability of the CASHS was established after the pretesting.

Reliability

Reliability refers to the degree of consistency or dependability with which an instrument measures the attribute.[14] The stability of quantitative measure is the extent to which the same scores are obtained when the instrument is used by the same people on a separate occasion. Assessment of stability is derived through test-retest procedures; it is a statistical technique used to estimate components of measurement error by repeating the measurement process on the same

subjects, under conditions as similar as possible, and comparing the observations.[19] The item-total correlation test is performed to check if any item in the set of tests is inconsistent with the averaged behavior of the others, and thus can be discarded. The analysis is performed to purify the measure by eliminating garbage items prior to determining the factors that represent the construct.[20]

The reliability of the CASHS was established using test retest and internal consistency.

Sampling

The population for the reliability comprised of caregivers of schizophrenic patients. After administrative permission from a hospital in Udupi, Karnataka, 21 caregivers of schizophrenic patients were selected through non-probability purposive sampling technique to collect data, for computing reliability. The criteria for selection of the samples were the caregivers of schizophrenic patients who were residing with the patients and were directly involved in the care of their patients, on a regular basis.

Data collection

The study received approval from the Yenepoya University Ethical Committee as this is part of the doctoral study undertaken by the first author. Permission for data collection was taken from the Medical Director of the Hospital, where the pilot study was conducted. The purpose of the data collection was explained to the caregivers of the schizophrenic patients, their consent was taken and the CASHS was administered.

Statistical analysis

The internal consistency of the instrument was measured using Cronbach's alpha and item-total correlation. In order to measure the stability between scores obtained, a test-retest reliability was computed using Karl Pearson correlation coefficient. The instrument was administered to the caregivers and was repeated to the same subjects, after a gap of 7 days. All statistical analysis was performed using Statistical Package for Social Sciences (SPSS) version 16.0.

RESULTS

Internal consistency

Item analysis applied, there were 31 items with coefficients 0.30, which indicates that there was a low correlation with other items in the instrument. The final instrument consisted of 31 items [Table 1].

The Cronbach's alpha computed was 0.789. It is estimated that the Cronbach's alpha if the item deleted (Last column) was above 0.75 for all the items. In fact, in when of the values is greater than the alpha of the whole scale that is 0.8. This means that no need to drop any items.[21] Even though for five items the findings showed in negative in

Item no.	Mean	SD	Item-total correlation	Alpha if item deleted
1	57.2857	107.814	-0.015	0.799
2	58.0952	106.790	0.044	0.795
3	59.0476	104.748	0.197	0.787
4	58.8095	101.262	0.311	0.783
5	59.2857	108.714	-0.041	0.795
6	58.2381	99.890	0.374	0.779
7	58.0952	96.190	0.485	0.773
8	59.0476	92.848	0.645	0.763
9	56.0000	105.500	0.292	0.785
10	59.2857	103.214	0.366	0.782
11	56.6667	101.133	0.654	0.775
12	57.7143	98.214	0.394	0.778
13	57.5714	100.557	0.443	0.777
14	58.3810	94.648	0.627	0.766
15	59.2381	113.190	-0.446	0.802
16	58.0000	99.400	0.542	0.774
17	57.9048	105.490	0.214	0.786
18	57.6190	104.748	0.099	0.795
19	57.6667	101.933	0.264	0.785
20	57.9524	101.848	0.390	0.780
21	56.3333	111.633	-0.273	0.800
22	56.4286	103.357	0.336	0.782
23	57.1905	97.562	0.598	0.770
24	57.7143	100.814	0.407	0.779
25	57.2857	103.414	0.310	0.783
26	56.9524	102.048	0.152	0.796
27	56.4762	103.562	0.191	0.789
28	56.5238	106.462	0.071	0.793
29	57.3333	99.233	0.471	0.775
30	58.0000	99.400	0.498	0.775
31	57.8571	100.429	0.509	0.776

Table 1: Descriptive statistics and reliability analysis of the CASHS

CASHS – Caregivers attitude scale on home care of schizophrenics; SD – standard deviation

item total correlation the items were not taken out since the alpha value showed above 0.75 if the item deleted.[21]

Test-retest reliability

Test-retest reliability using Pearson's correlation coefficient was computed using the formula.

$$ r = \frac{N\sum xy - (\sum x - \sum y)}{\sqrt{N}\sum x2 - (\sum x)2 \ \sqrt{N}\sum dy2 - (\sum dy)2} $$

The r value of the CASHS was 0.78 and it indicates that the CASHS was reliable.

DISCUSSION

A tool to determine the attitude of caregivers on homecare of schizophrenics in the Indian setting has not been identified so far. Generally speaking, the higher the alpha is, the more reliable the test is. There isn't a commonly agreed cutoff. Usually 0.7 and above is acceptable.[22] The Cronbach's alpha value of the CASHS was found to be acceptable (0.789). The Cronbach's alpha coefficient is a

measurement of the internal consistency of the items in the instrument. If the overall Cronbach's alpha coefficient is over 0.80, it is considered quite sufficient, if it is over 0.70 it is sufficient. Alpha coefficient indicated that internal consistency was adequate. The test-retest reliability showed the tool was stable.

Limitation of the study

The most significant limitation of the study is that factor analysis was not carried out. No measure of construct validity was performed.

CONCLUSION

It is concluded from the study findings that the CASHS had a reliability and validity within an acceptable range. The factor analysis may be done after which the instrument can be used for further studies.

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Date: 1st March 2014   **Hemant Manjrekar**   **Dr. T. S. Sathyanarayana Rao**