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RESEARCH

Transcultural adaptation and validation of the Brazilian version of Treatment Spirituality/Religiosity Scale

Adaptação transcultural e validação da versão brasileira da Treatment Spirituality / Religiosity Scale

Adaptación transcultural y validación de versión brasileña de la Treatment Spirituality / Religiosity Scale

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ABSTRACT

Objective: to perform the translation and transcultural adaptation to Brazilian Portuguese, and analyze the psychometric properties of the instrument Treatment Spirituality/Religiosity Scale (TSRS). **Method**: the sample consisted of 188 nursing students of technical and higher education. The reliability analysis by test-retest was performed one month after the first application of the instrument. To measure the construct validation, a factorial analysis was carried out. **Results**: the Brazilian version of the TSRS consisted of 10 items, with two factors. The reliability by test-retest showed a Kappa coefficient ranging from 0.22 to 0.47, and a global internal consistency Cronbach's alpha of 0.85. **Conclusion**: the Brazilian version of the TSRS showed satisfactory values of validity and internal consistency, being suitable for use in the national context.
Key words: Psychometrics; Validation Studies; Nursing Students; Spirituality; Religion and Science.

RESUMO

Objetivo: realizar a tradução e adaptação transcultural, bem como analisar as propriedades psicométricas do instrumento *Treatment Spirituality / Religiosity Scale* (TSRS) para a língua portuguesa do Brasil. **Método:** a amostra foi composta por 188 estudantes de Enfermagem de níveis técnico e superior. A análise da confiabilidade por teste-reteste foi realizada um mês após a primeira aplicação do instrumento. Para mensurar a validação de constructo procedeu-se a análise fatorial. **Resultados:** a versão brasileira da TSRS manteve-se com 10 itens, com dois fatores. A confiabilidade por teste-reteste apresentou coeficiente *Kappa* variando de 0,22 a 0,47, consistência interna global alfa de Cronbach de 0,85. **Conclusão**: a versão brasileira do TSRS apresentou valores de validade e de consistência interna satisfatórios, mostrando-se adequada para uso no contexto nacional.
Descritores: Psicometria; Estudos de Validação; Estudantes de Enfermagem; Espiritualidade; Religião e Ciência.

RESUMEN

Objetivo: realizar la traducción y adaptación transcultural, así como analizar las propiedades psicométricas del instrumento *Treatment Spirituality / Religiosity Scale* (TSRS) a la versión brasileña de la lengua portuguesa. **Método**: la muestra se integró con 188 estudiantes de Enfermería de niveles técnico y superior. El análisis de confiabilidad por test-retest fue realizado un mes después de la primera aplicación del instrumento. Para medir la validación del constructo, se utilizó el análisis factorial. **Resultados**: la versión brasileña de la TSRS se mantuvo con 10 ítems, con dos factores. La confiabilidad por test-retest expresó

coeficiente Kappa variando de 0,22 a 0,47; consistencia interna global Alfa de Cronbach de 0,85. **Conclusión**: la versión brasileña del TSRS expresó cifras de validez y de consistencia internas satisfactorias, mostrándose adecuada para su uso en el ámbito nacional.
Palabras clave: Psicometría; Estudios de Validación; Estudiantes de Enfermería; Espiritualidad; Religión y Ciencia.

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INTRODUCTION

The recent history of healthcare shows a growing appreciation of religion and spirituality as therapeutic resources[1]. This appreciation is accompanied by the development of several psychometric instruments to evaluate the different facets that make up these dimensions[2-3].

Studies conducted in Brazil have been devoted to evaluating the importance of religion and religious and spiritual exercise for life[4], aspects of religions and beliefs[5], spiritual wellness[5-7], the relationship between spirituality and health[6,8-9], and coping with adversity through spirituality and religiosity[9-10].

When considering some specific target populations, such as drug and alcohol users, the issue at hand becomes even more important because it is known that high levels of spirituality predict more optimistic guidance in life, better social support, greater resilience to stress, and lower levels of anxiety in individuals who are in the rehabilitation process for psychoactive substances. Spiritual and religious practices are often associated with sobriety, maintaining a state of abstinence, sticking to treatment programs, and other attitudes that reinforce personal power resources[11-13].

Evidence suggests that the consumption of drugs, especially alcohol, is directly influenced by the individual's professed religion and individual religious practice, acting as a protective factor for the population (mainly in young people) against the use of substances that cannot always be assigned to spirituality[14-17].

Despite a recent systematic review pointing to the existence of 20 instruments for evaluating religious and spiritual aspects available for use in Brazil[18], there is an evident absence of scales that propose to specifically investigate the emphasis on religious and spiritual aspects where treatment for drug addiction is offered, such as therapeutic communities and mental health services[16].

The treatment environment is one of the factors that influences the denouement of drug use[16]. Spiritual and religious factors can be key elements in treatment settings, so it becomes important to systematically evaluate these constructs.

In this context, a scale that measures the emphasis on religion and spirituality in treatment for problems related to substance use was developed, called Treatment Spirituality/Religiosity Scale (TSRS)[16]. It is a self-administered instrument composed of 10 items that evaluate the emphasis on aspects of spirituality/religiosity in rehabilitation programs for psychoactive substances. It can be applied to users of the service or to individuals who work in their care, contributing to the perception of how much emphasis is given to religious and spiritual exercises in the treatment process, a useful tool especially for nurses to carry out the planning of care. Examples of the aspects evaluated that are mentioned are: praying; holding readings on religion and spirituality; establishing therapeutic moments for people to talk about their beliefs; and encouraging the search for a Higher Being[15-17].

The construction of the items of the TSRS took as reference systematic observations of different programs and discussions with officials and coordinators of institutions that include spirituality/religiosity as a part of treatment. In addition, the literature on spirituality/religiosity in rehabilitation programs for alcohol and/or other drugs, such as those based on the Twelve Steps, was considered as a theoretical basis[16]. Despite the growing interest, a review study showed that the construct has been poorly defined and measured[19], which hinders comparisons between different realities[16].

This study is relevant considering that it is the first Brazilian study that aims to evaluate the psychometric properties of an instrument called the Treatment Spirituality/Religiosity Scale (TSRS), which specifically evaluates how much emphasis is given to religious and spiritual aspects in treatment settings for the use of alcohol and drugs, whether formal health services or therapeutic communities. The suggestion of a standardized instrument provides an evaluation resource that can be used in nursing because it allows investigation of the important variables for care planning in relation to religion and spirituality, taking into account the points of view of both the person that makes use of psychoactive substances and the professionals that treat them. It is, therefore, a useful tool to qualify care. Moreover, it can be a trigger for research and therapeutic listening about what the religious and spiritual aspects of the user within a particular service are and how to cope with them, cooperating to mediate the nurse-patient approach.

The aim of this study was to perform the translation and transcultural adaptation, and to evaluate the construct validity and reliability of the TSRS for the Brazilian Portuguese, called the TSRS-br.

METHOD

This study was approved by the research ethics committee of the Júlio Muller Hospital/Federal University of Mato Grosso. The use of the original TSRS instrument was authorized by its authors via electronic mail.

The methodological design of the study was descriptive and prospective.

The survey was conducted from March to October 2012, involving two stages, with an interval of one month. This interval was chosen because a test and retest of the TSRS-br was carried out to check reliability, which is an important complementary measure for instrument validation[20].

The sample consisted of technical and higher education nursing students from a municipality in the state of Mato Grosso, as shown in Table 1. The subjects were recruited from two educational institutions (public and private), chosen by the following criteria: the curriculum components of the courses should consider one or more subjects with content focused on attention to the user of psychoactive substances and theoretical and methodological references about aspects of the nurse-patient relationship. To ensure that the respondents had had contact with such content, only students were sampled. This way it was expected that students with work experience, even those only involved in internship practices, were already able to observe and to include the nursing care issues related to religious and spiritual dimensions.

Inclusion criteria were: being a student regularly enrolled in bachelor's or technician nursing courses; having provided care involving the issue of substance abuse; and being 18 years or older, regardless of gender. Exclusion criteria were: presenting any condition that could hinder the understanding of instrument items and not being present in the classroom after three attempts at instrument application.

Table 1 - Distribution of students by years of courses and type of institutions (N = 188), Barra do Garças, Mato Grosso, Brazil, 2012

	Sample 1		Institucion			
	Total		Public		Private	
	n	%	n	%	n	%
Higher education students	**143**	**76**	**60**	**31.9**	**83**	**44.1**
Third year	65	34.5	28	14.8	37	19.7
Fourth year	78	41.5	32	17.1	46	24.4
	Sample 2		**Institucion**			
	Total		**Public**		**Private**	
	n	**%**	**n**	**%**	**n**	**%**
Technical students	**45**	**24**	**22**	**11.8**	**23**	**12.2**
First year	39	20.8	22	11.8	17	9
Third year	6	3.2	–	–	6	3.2

Instruments

In the selected educational institutions, a questionnaire consisting of two parts (demographic information and TSRS) was applied for testing the scale. The TSRS was translated and adapted for Brazil and designated as the TSRS-br. After one month, the questionnaire was applied to the same sample to conduct a retest of the TSRS-br:

1. Sociodemographic information: sex; age; occupation; religion; and religious practice;
2. Treatment Spirituality/Religiosity Scale: Brazilian version (TSRS-br).

The original version of the TSRS presented good levels of internal consistency ($\alpha = 0.77$ for patients and 0.83 for service workers) and a unidirectional factorial structure, with a high concordance between patients and workers ($r = 0.93$). The response format is "true" or "false," chosen based on researchers' previous experience for ensuring better understanding by individuals of the target population and also because the TSRS is a new domain of the Community-Oriented Programs Environment Scale (COPE)[16-17]. Validation of the original TSRS was based on a study conducted with 3,018 patients and 329 workers in 15 residential services with treatment programs for disorders related to substance abuse, from a nationally representative sample from the United States of America[16].

The score of the TSRS is calculated from the sum of the marked answers. The items numbered 1, 3, 5, 7, and 9 describe aspects of religious/spiritual treatment inclusion, and numbers 2, 4, 6, 8, and 10 describe aspects of exclusion[16].

Procedures

After obtaining formal approval from the leaders of the educational institutions, the instruments were applied in the classroom after subjects had signed a free and informed consent form. Data were collected in two phases, with each one lasting on average 25 minutes. The researcher returned to each classroom twice in order to obtain a greater number of students.

The translation and transcultural adaptation of the TSRS consisted of the following steps: translation, back-translation, and transcultural adaptation of the pilot study; and judgment and study of the reliability level of the final instrument[20-21]. The operationalization of the study followed the methodological steps proposed in the literature[21].

First step: *Translation* - two translations of the original TSRS were carried out[16] from English to Portuguese by two Brazilian researchers who were experts in alcohol and drug addictions, as well as advanced knowledge and fluency in English.

Second step: *Pilot Study* - the two translated versions were presented to 10 nursing students (technical and higher education) from different years, so that they could give their interpretation of each of the 10 translated items. Then, each student was asked to write a description of the ease and/or difficulty in understanding the issues addressed in each version, noting suggestions for changes to improve the instrument. From this stage, the final Portuguese version was developed, incorporating the suggestions made to adapt and improve the understanding of the instrument.

Third step: *Back-translation* - the final version was presented to a native English-speaking professional with proficiency in Portuguese, without prior knowledge about the TSRS, who was asked to perform a back-translation of the instrument to the English language.

Fourth step: *Judgment* - this step is the technical review and evaluation of the semantic and conceptual equivalence by experts. A judgment committee was formed by three researchers (two nurses and a psychologist) who were experts in the area of alcohol and drug abuse, with fluency in English, an understanding of the domain of the subject, and experience in adapting evaluation instruments. This committee reviewed the back-translation, comparing it with the original version of the instrument, with a view to identifying problems related to the understanding of the items. This evaluation resulted in a list of suggested changes to the elaboration of the synthesized version. Thus, a final version of the instrument was produced observing the semantic equivalence, idiomatic equivalence (colloquial and language expressions), cultural or experimental equivalence, conceptual equivalence, and punctuation equivalence, finishing the process of adapting the Portuguese version of the instrument that was used in this study.

Statistical analysis

A database for double entry was developed using Microsoft Excel 2000. Later, the data were transferred to the Statistical Package Social Science version 19 for Windows for data analysis. Descriptive analysis: For the sociodemographic variables, the mean, median, frequencies, and standard deviations were calculated.

The consistency of the investigation instrument was verified by Cronbach's Alpha, which is calculated in order to verify the internal consistency of the items and can assume values between 0 and 1. The closer to 1, the more reliable the evaluation instrument; whereas values equal to or greater than 0.7 are considered appropriate[22].

Study of reliability and internal consistency: It was decided to measure the degree of agreement between two independent evaluations of the instrument using the test-retest method. Because the TSRS-br assertive responses are binary, the Kappa coefficient was applied for each of its items.

Construct validity: The Kaiser-Meyer-Olkin index (KMO) and Bartlett's sphericity test (IC = 95%) were applied to examine the adequacy of the sample. Then exploratory factor analysis was carried out using the method of Principal Component Analysis (PCA), excluding factor loadings lower than 0.4, and Varimax rotation method. Only factors with eigenvalues above 1.0 were retained in the analysis[22].

RESULTS

The sample consisted of 188 undergraduate nursing students and students of the technical nursing course, mainly young, aged between 17 and 53 years, with an average of 25.8 years (SD ± 6.9), women, regularly enrolled in the course, Catholics, and practitioners. These data are presented in Table 2.

Table 2 - Sociodemographic information, according to participants (N = 188), Barra do Garças, Mato Grosso, Brazil, 2012

Characteristics		n	%
Sex	Female	161	85.6
	Male	27	14.4
Occupation	Already works in healthcare	15	8.0
	Works outside healthcare	40	21.3
	Does not work	133	70.7
Religion	Catholic	93	49.5
	Evangelical	62	33.0
	Spiritualist	11	5.8
	Has no religion, but believes in God	22	11.7
Religious practice	Yes	137	72.9
	No	29	15.4
	Does not apply	22	11.7

Reliability

In the TSRS-br reliability evaluation, the value obtained for Cronbach's alpha was 0.85. In the test-retest evaluation, Kappa coefficient values were found ranging between $\kappa = 0.22$ and $\kappa = 0.47$, considering an interval of one month between the instrument applications. Fifty-three questionnaires (28.2%) were excluded from this analysis because they were incomplete.

Construct validity

Regarding the factor analysis, the sample adequacy ratio found was KMO = 0.86 and Bartlett's test of sphericity $X^2 = 644.2$ ($p = 0.000$), which means that the null hypothesis that there is no correlation between the instrument items should be rejected. The data matrix is suitable to proceed to the factor analysis. According to Table 3, a TSRS-br structure composed of two factors was observed in the PCA.

Table 3 – Components of the structural matrix of the TSRS-br, Barra do Garças, Mato Grosso, Brazil, 2012 (N = 188)

Item	Content	Factor loading	
		F.1	F.2
TSRS1	Patients are encouraged to pray as part of their rehabilitation process.	0.823	–
TSRS3	Assistants reinforce the importance for the patient to establish a relationship with God or a Higher Power.	0.811	–
TSRS5	Staff members encourage patients to seek religious help.	0.786	–

To be continued

Table 3 (concluded)

TSRS7	Some group meetings end with the Serenity Prayer.	0.699	–
TSRS2	There is relatively little emphasis on religion or spirituality in the service.	0.668	–
TSRS9	The Bible and other materials with religious content are readily available in the service.	0.591	–
TSRS8	Patients are not encouraged to pray or talk about religion.	0.460	–
TSRS10	Patients rarely talk about their religious beliefs.	–	0.764
TSRS4	Patients, when accompanied in the service, rarely seek religious help.	–	0.744
TSRS6	Patients rarely read the Bible or talk to a religious leader.	–	0.693

Factor 1, called "elements of the service," was composed of items 1, 2, 3, 5, 7, 8, and 9 (α = 0.85), and the second factor, called "patients' demands," included assertions 4, 6, and 10 (α = 0.65).

DISCUSSION

The new version of the TSRS in Brazilian Portuguese (TSRS-br) presented measures of reliability and construct validity considered satisfactory[16-17]. The use of this instrument in the context of health may be helpful in identifying the perceptions of future professionals about the need to emphasize religious and spiritual aspects of care for drug users. This would be an opportunity to learn about how aspects of spirituality and religiosity are being addressed in the treatment setting. It is understood that this would be a first step towards opening dialogue between patients and professionals about issues related to the dimensions of spirituality and religiosity in treatment programs[17].

The process of translation and transcultural adaptation, as conducted in this study, was keen to make the best semantic analysis possible of the TSRS-br items. For this reason, the translated versions were presented to two strata involved in the target population, that is, technical and higher education students. In addition, the back-translation and presentation of the scale to a committee of experts on alcohol and drugs aimed to ensure a good instrument content analysis. Thereby, it can be considered that the apparent validity was preserved in the TSRS-br[16].

For the study of reliability, the internal consistency measure was considered satisfactory (α = 0.85), because coefficients between 0.70 and 0.80 were obtained [23]. Through the test-retest method, the lowest and the highest degree of agreement between the responses obtained in the two moments ranged from "mild" (0.22) to "moderate" (0.47)[22], respectively. When considering that one month was the time between the two moments of instrument application, a characteristic inherent to the category of students is the constant acquisition of information, which can, in this case, have influenced the degree of agreement obtained in the measurement of the responses.

Factor analysis of the TSRS-br showed a two-factor structure, unlike the original instrument, consisting of just one factor, which refers to the "emphasis on religious and spiritual aspects in the services"[17]. This peculiarity of the translated and adapted version for the Brazilian Portuguese does not violate the theoretical concepts that constitute the framework that supported the construction of the original TSRS.

In this sense, factor 1 was named "elements of the service," because the statements refer to matters of religion/spirituality that are utilized in health services. On the other hand, the items comprising factor 2, "patients' demands," portray the interest of users to seek religious or spiritual assistance, both in service and in the external environment.

Thus, the TSRS-br allows nurses to plan how much to invest in religious and spiritual exercises in the process of treatment for substance abuse. This represents a concrete way to transcend the theories, to work on skills, and acquire new competencies to take care of the religious and spiritual dimensions of the individuals, in order to move, in fact, towards a comprehensive care for users of alcohol and/or other drugs[24-25]. It is therefore believed that this instrument brings an important contribution to the nursing field.

Limitations of the study

The TSRS-br is appropriate for use in mental health services specialized in the treatment of alcohol and/or drug abuse, but the Brazilian version was not applied in these contexts, as in the original scale study[17]. This evaluation was not carried out due to the characteristics inherent in the formation of the sample (higher level and technical nursing students). Studies evaluating nursing students are important to scale out the training of future professionals, promoting the necessary awareness to inclusion of this issue in the process of treatment of psychoactive substance users. It should be considered that the health services network configuration in the country calls for an education focused in the practice of assistance to a religious and spiritual dimension in any area of nursing practice[24], in addition to the inclusion of the approach on alcohol and/or other drugs abuse, both in general and specialized services[25]. Future studies are needed to investigate how the instrument behaves in samples with nursing professionals in mental health services.

CONCLUSION

The TSRS-br, translated and adapted for the first time to the Brazilian context, showed good measures of validity and internal consistency both globally and for each of its factors individually. The reliability of the test and retest showed rates of mild to moderate. In general, it is considered that the instrument can be used to evaluate the significance attributed to religious and spiritual aspects of substance abuse treatment. Unlike the original unifactorial version, the principal component analysis of the TSRS-br showed a two-factor structure. It is concluded that the TSRS-br is a tool that is easy to use and understand, which may be helpful in evaluating how nursing students (technical and higher education) realize the importance given to religious and spiritual aspects.

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