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Original Article

Brazilian version of the Structured Interview for Disorders of Extreme Stress – Revised (SIDES-R): adaptation and validation process

Versão brasileira da Structured Interview for Disorders of Extreme Stress – Revised (SIDES-R): processo de adaptação e validação

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Abstract

Background: Posttraumatic stress disorder (PTSD) contemplates the impact of acute traumatic events, but the literature indicates that this is not true for chronic exposure to stress. In this sense, the category disorders of extreme stress not otherwise specified (DESNOS) has been proposed to characterize the behavior and cognitive alterations derived from exposure to continuous early life stress. The Structured Interview for Disorders of Extreme Stress – Revised (SIDES-R) was developed to investigate and measure DESNOS. Considering the lack of instruments designed to assess DESNOS, especially in Brazil, the aim of this study was to translate, adapt, and validate the contents of SIDES-R to Brazilian Portuguese (SIDES-R-BR).
Method: The original interview was subjected to translation, back-translation, semantic equivalence and conceptual correspondence analyses by naive and specialized judges, respectively, an acceptability trial, and inter-rater validity analysis.
Results: The interview underwent semantic and structural adaptations considering the Brazilian culture. The final version, SIDES-R-BR, showed a mean understanding score of 4.98 on a 5-point verbal rating scale, in addition to a kappa coefficient of 0.853.
Conclusion: SIDES-R-BR may be a useful tool in the investigation of DESNOS and contributes a valuable input to clinical research in Brazil. The availability of the instrument allows to test symptoms with adequate reliability, as verified by the kappa coefficient and translation steps.
Keywords: Complex trauma, complex PTSD, psychological stress, early life stress, questionnaire.

Resumo

Introdução: O transtorno do estresse pós-traumático (*posttraumatic stress disorder*, PTSD) contempla o impacto de eventos traumáticos agudos, mas a literatura indica que o mesmo não se aplica a exposição crônica ao estresse. Nesse sentido, foi proposta a categoria transtornos de estresse extremo não especificados (*disorders of extreme stress not otherwise specified*, DESNOS). Com o objetivo de investigar e medir as alterações comportamentais e cognitivas relacionadas ao diagnóstico de DESNOS, foi desenvolvida a Structured Interview for Disorders of Extreme Stress – Revised (SIDES-R). Considerando a falta de instrumentos construídos para avaliar DESNOS, especialmente no Brasil, o objetivo deste estudo foi traduzir, adaptar e validar os conteúdos da SIDES-R para português brasileiro (SIDES-R-BR).
Método: A entrevista original foi submetida a tradução, retrotradução, análise de equivalência semântica e correspondência conceitual por avaliadores leigos e especializados, respectivamente. Foi realizado teste de aceitabilidade e análise de validade interavaliadores.
Resultados: A entrevista passou por adaptações semânticas e estruturais considerando a cultura brasileira. A versão final, SIDES-R-BR, demonstrou um escore médio de compreensão de 4,98 em uma escala de avaliação verbal de 5 pontos, além de um coeficiente de kappa de 0,853.
Conclusão: O SIDES-R-BR pode ser uma ferramenta útil na investigação de DESNOS e contribui com um *input* valioso para a pesquisa clínica no Brasil. A disponibilidade do instrumento permite testar sintomas com confiabilidade adequada, conforme verificado por meio do coeficiente de kappa e etapas de tradução.
Descritores: Trauma complexo, PTSD complexo, estresse psicológico, estresse no inicio da vida, questionário.

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Introduction

A number of studies have focused on the consequences of prolonged exposure to situations of extreme stress. Among these sequelae, there are a number of biological/structural alterations[1-5] that are related to cognitive deficits[6,7] and to the severity of symptoms.[8-11] These findings corroborate previous studies that had underlined the need to distinguish between clinical manifestations deriving from two modalities of exposure to traumatic events, referred to as type-I and type-II trauma.[12] Type-I traumas are single traumatic events (e.g., an accident, a catastrophe, a natural disaster), while type-II traumas are related to multiple exposures to situations of stress (e.g., maltreatment in childhood, physical and emotional neglect).[13,14]

Despite the large number of studies focusing on the impact of adverse experiences during developmental stages (type-II trauma), this clinical entity was only taken into consideration in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), presented as a new diagnostic category termed disorders of extreme stress not otherwise specified (DESNOS).[15-18] The symptomatology includes symptoms similar to those of posttraumatic stress disorder (PTSD) (dissociation, somatization, alterations in attention, consciousness and self-perceptions, impulsivity, and affective alterations), but also distinct manifestations, e.g., altered systems of meaning, negative cognitions about the world, and alterations in interpersonal relations.[13,19-22]

Aiming to investigate and measure the impact of chronic trauma and DESNOS, a structured interview entitled Structured Interview for Disorders of Extreme Stress (SIDES)[23] has been developed. The interview was designed based on a consensus of clinical observations made during the management of women with a history of childhood abuse and maltreatment, and consists of 48 items. Each item is dichotomously rated, i.e., based on a yes or no statement,[23] and scored using a 4-point scale according to the severity of the symptom over the previous month, which ranges from symptom not present to extreme problems.[24]

The first version of SIDES showed adequate inter-rater reliability in a study conducted with 10 raters. The authors found kappa coefficients of 0.81 for symptoms of DESNOS at any time in an individual's lifetime. Moreover, SIDES showed internal consistency for every subscale, with alpha values varying from 0.53 to 0.96,[23] indicating that SIDES could be a useful instrument in the investigation of symptoms associated with extreme stress.[25]

However, SIDES did not show good results in terms of construct validity, lacking empirical and theoretical support for the interpretation of the cluster of symptoms.[26] Therefore, a revised version, SIDES-R, was later proposed, with 37 questions divided into seven categories identified according to the symptoms of DESNOS: a) alterations in affect and impulse regulation; b) alterations in attention or consciousness; c) alterations in self-perceptions; d) altered perceptions of the perpetrator; e) alteration in interpersonal relations; f) somatization; and g) alterations in the systems of meaning.[26]

The internal consistency and stability of SIDES-R were tested in two studies involving separate samples with a similar profile.[26] The first one conducted an exploratory factor analysis with a sample of 231 participants. Volunteers were adult outpatients who fulfilled DSM-IV criteria for: a) history of psychological trauma (criterion A of PTSD); b) substance use disorder; and c) some type of trauma-related disorder. Items not showing internal consistency (alpha < 0.33) were removed. Thus, the final model comprised 20 items that were included and allocated to five factors: a) demoralization; b) somatic dysregulation; c) anger dysregulation; d) self-harm; and e) altered sexuality. This arrangement showed acceptable internal consistency (alpha = 0.77).[26] The second study consisted of a confirmatory factor analysis with a nonclinical sample of 447 individuals. Results confirmed the factor structure previously described and showed internal consistency between factors (alpha = 0.87), as well as convergent and discriminant validity.[26] These studies demonstrated two theoretical aspects of a type-II psychological trauma model: first, that symptom severity is associated with multiple, repeated exposure to interpersonal trauma and early exposure to it[26]; second, that multiple events of exposure to physical and sexual abuse are associated with higher SIDES-R scores.[26]

Considering the literature available about the consequences of cumulative exposure to stressful life events, especially during developmental stages, further studies need to develop methods to assess this condition.[18,27] In this context, SIDES-R has been shown to be a consistent and valid instrument for the assessment of DESNOS symptoms. However, the interview was designed to investigate these symptoms in women only. Given the lack of Brazilian instruments adapted and validated to evaluate DESNOS, the aim of the present study was to translate, adapt, and validate the content of SIDES-R in a Brazilian Portuguese version, for use in both men and women.

Method

The Brazilian adult version of SIDES-R includes 38 items in the original test.[26] The adaptation of SIDES-R followed recommended guidelines for this type of process.[28,29] The adaptation flow is outlined in Figure 1.

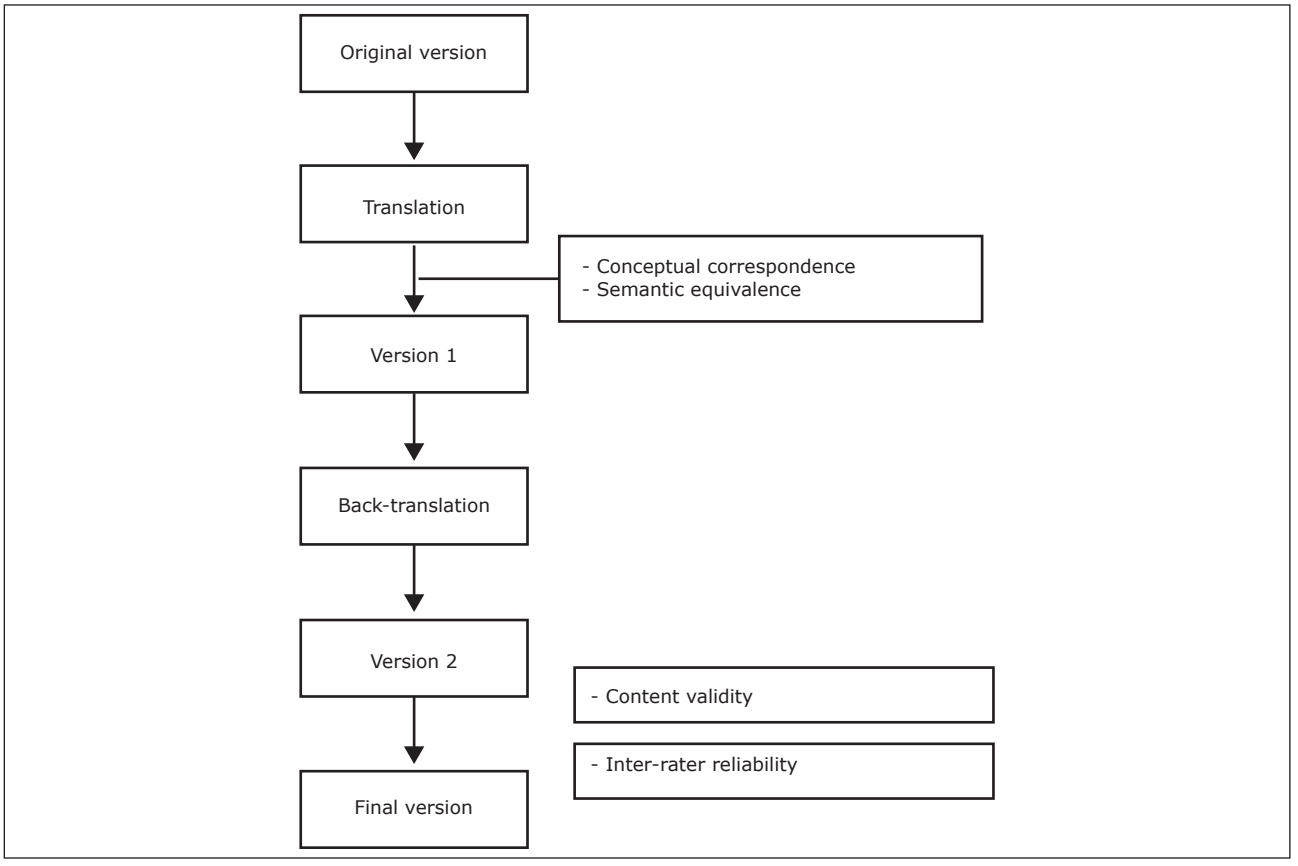

Figure 1 - Translation and adaptation process

Conceptual and semantic translation

The translation was made by a professional linguist, a Portuguese native speaker fluent in English. The translator was also a layman in psychology and did not know the objective of the study. This process generated the T (translation) version. The next step was the evaluation of conceptual correspondence and semantic equivalence of the instrument. Two professionals (B.S.V., M.L.L.) with expertise in the field of trauma and stress were requested to review the interview and recommend changes in wording (conceptual correspondence). This process was conducted to identify cultural misunderstandings and the general meaning of terms in the target population.[29] The professionals also adapted the interview for both genders. Subsequently, two independent judges, both proficient in English, evaluated the semantic equivalence of the instrument, looking for mistakes in the translation process.

These procedures assessed the appropriateness of the general meaning of the words, and this resulted in version 1 (V1). V1 was back-translated (BT) by another professional linguist, a native speaker of English with fluency in Portuguese and naive in psychology. The objective of this step was to assess the equivalence between versions O and V1, thereby producing another version (V2), which incorporated any alterations deemed necessary.

Content validity and inter-rater reliability

V2 was presented to three independent trauma and stress professionals (J.C., B.K.S., R.G.O.) to examine whether the content covered the assessment of DESNOS – a step known as content validity assessment. The professionals were introduced to a 6-point verbal rating scale ranging from 0 ("I didn't understand anything") to 5 ("I understood it perfectly and have no doubts") prompted by the following question: "Did you understand what was asked?"[30] In addition, a space was provided below each question for the writing of doubts and/or recommendations regarding the understanding of questions. Additionally, the same procedure was conducted with an outpatient from a specialist psychological trauma service. Based on the suggestions made in this stage, the interview was reappraised and subjected to inter-rater reliability. SIDES-R was administered to a second outpatient in a one-way mirror room. Inter-rater reliability was assessed based on the kappa coefficient calculated between the interviewer (J.C.) and the two observers (B.K.S., B.S.V.).

Results

Considering that the interview comprises 38 questions, and each one has four items to be rated, only the most representative examples of alterations are described here. The full interview can be obtained directly from the corresponding author.

Conceptual and semantic translation

Some alterations were necessary during the conceptual and semantic correspondence phase (for examples, see Table 1). Concerning semantic equivalence, some words were replaced, omitted, or added. For example, in the instructions, the word "âncora" ("anchor") was replaced with "base" ("base"), and "abuso interpessoal" ("interpersonal abuse"), with "violência interpessoal" ("interpersonal violence"). The term "chateado" ("upset") was replaced with "incomodado," "aborrecido," or "triste" to fit the clinical criterion addressed in each sentence. Examples of words omitted include the adverb "realmente" ("really"), denoting intensity in "crying really easily." We considered that, in Portuguese, this meaning was implicit in the question ("por exemplo, ficando chateada/aborrecida/triste com pequenas coisas ou chorando com facilidade"). In other cases, a few words were added to expand the referential meaning of terms. For example, when "reações" ("reactions") were mentioned, the expression "sentimentos e comportamentos" ("feelings and behaviors") was adopted, since "reações" could refer to physiological aspects only.

In the conceptual correspondence stage, some terms, considered essential to clinical evaluation, were omitted by the professional linguist. These terms were added in accordance with the suggestions made by the professionals involved in this phase and also based on analysis of the original version. For example, "Did you worry that other people would know how angry you were?" was translated as "Você ficou preocupada que os outros soubessem que você estava irritada?" However, the objective of this section is to assess modulation of anger, and therefore the wording was changed to "o quão irritado(a) você estava."

Other adaptations were made to adapt the texts to the Brazilian cultural reality. Question 17 ("Did you have difficulty keeping track of time in your daily life, or what you were doing?") was translated literally ("Você

Table 1 - Summary of changes made during conceptual correspondence and semantic equivalence analyses

Item	Original version	Translation	Version 1	Back-translation	Final version
4	IN THE PAST MONTH did you feel angry most of the time?	NO MÊS PASSADO você ficou irritada a maior parte do tempo?	NO MÊS PASSADO, você ficou irritado(a) a maior parte do tempo?	LAST MONTH, were you angry most of the time?	NO MÊS PASSADO, você ficou irritado(a) a maior parte do tempo?
9	IN THE PAST MONTH did you do anything dangerous? Or, did you not protect yourself when you could have been hurt?	NO MÊS PASSADO você correu algum risco? Ou você deixou de tomar os cuidados necessários para evitar uma agressão ou situação de risco para a sua integridade física?	NO MÊS PASSADO, você correu algum risco? OU Você deixou de tomar os cuidados necessários para evitar uma agressão ou situação de risco para a sua integridade física?	LAST MONTH, did you take any risks? OR Did you not take the necessary precautions to avoid an assault or a risky situation towards your physical integrity?	NO MÊS PASSADO, você correu algum risco? OU Você deixou de tomar os cuidados necessários para evitar uma agressão ou situação de risco para a sua integridade física?
12	IN THE PAST MONTH did you think about actually killing yourself?	NO MÊS PASSADO você pensou em se matar?	NO MÊS PASSADO, você pensou em se matar?	LAST MONTH, did you think of killing yourself?	NO MÊS PASSADO, você pensou em se matar?
20	IN THE PAST MONTH did you feel like you were all messed up (somehow wounded, damaged or broken)?	NO MÊS PASSADO você sentiu que estava tudo errado com você (sentiu-se de algum modo ferida, inutilizada ou quebrada)?	NO MÊS PASSADO você sentiu que estava tudo errado com você (de alguma maneira prejudicado(a))?	LAST MONTH, did you feel that everything was wrong with you (you felt hurt in any way)?	NO MÊS PASSADO você sentiu que estava tudo errado com você (de alguma maneira prejudicado(a))?
33	IN THE PAST MONTH have you been to a doctor or nurse for help for (briefly summarize endorsed symptoms)? Or to a clinic or hospital? Or to some other helping person (e.g., chiropractor, acupuncturist, faith healer)?	NO MÊS PASSADO você buscou ajuda de algum profissional médico ou enfermeiro devido a (descreva brevemente os sintomas)? Você foi a alguma clínica ou a algum hospital? Ou ainda buscou a ajuda de outra pessoa (e.g., quiropata, acupunturista, curandeiro)?	NO MÊS PASSADO você buscou ajuda de algum profissional da saúde devido a (alguma das situações descritas acima)? Você foi a algum serviço ou a algum hospital? Ou ainda buscou a ajuda de outra pessoa (p.ex., religiosos, terapeutas, acupunturista, curandeiro)?	LAST MONTH, did you seek any health professional due to (any of the situations described above)? Did you go to any clinic or to a hospital? Or did you seek help from anybody else (such as, religious people, therapists, acupuncturists, healers)?	NO MÊS PASSADO você buscou ajuda de algum profissional da saúde devido a (alguma das situações descritas acima)? Você foi a algum serviço ou a algum hospital? Ou ainda buscou a ajuda de outra pessoa (p.ex., religiosos, terapeutas, acupunturista, curandeiro)?

Table 2 - Changes in structural organization

Item	Version	Question
14	Original version	IN THE PAST MONTH did you think about sex too much? No: You felt okay about how much sex was on your mind. OR …about how much you had sex. You felt bad because you thought about sex too much. You felt bad because you wanted sex too much. You felt bad because you couldn't stop yourself from having sex. (NOT because anyone else forced you.)
	Final version	NO MÊS PASSADO, você pensou mais ou menos do que o habitual em sexo? Não OU Você não acha que tenha pensado pouco ou muito sobre sexo OU Sim, mas você estava satisfeito com a sua vida sexual. Se SIM: Como você se sentiu em relação a isso? Você se sentiu mal por pensar pouco em sexo. Você se sentiu mal por desejar muito ter relações sexuais. Você se sentiu mal por ter pouco desejo em ter relações sexuais. Você se sentiu mal por não conseguir deixar de ter relações sexuais (NÃO porque alguém o(a) tenha forçado). Você se sentiu mal por não conseguir ter relações sexuais.
38	Original version	How do you feel about religion or the spiritual aspect of life, or about your faith? You feel that religion and the spiritual aspects of life are very important and good. You aren't sure if religion and the spiritual aspects of life are good or not. You think that religion and faith are stupid and just a way that people get fooled or tricked. You think that religion and the spiritual aspects of life are bad and hurt lots of people very.
	Final version	Você acredita em algum aspecto religioso ou tem fé em algo? Se Não: pontuar 0 Se Sim: continue Como você se sente sobre religião, fé ou aspetos espirituais da vida? Você sente que a religião e os aspectos espirituais da vida são muito bons ou importantes. Você não está certo(a) se a religião e os aspectos espirituais da vida são bons ou não. Você acha que religião e fé são coisas estúpidas e servem apenas para enganar as pessoas. Você acha que a religião e os aspectos espirituais da vida são ruins e causam muita aflição a muitas pessoas.

teve dificuldade em manter controle do tempo na sua vida diária, ou de controlar o que estava fazendo?"), denoting a sense of organization. In order to address dissociation, while maintaining conceptual equivalence, this question was adapted by using a popular, informal expression in Brazil ("Você chegou a 'sair fora do ar' por alguns momentos?").

Finally, some structural alterations were implemented following specialist recommendations (for examples, see Table 2). First, the original version was adapted to women only. Nevertheless, considering that DESNOS symptoms may be present regardless of gender, we decided to adapt the SIDES-R-BR for use with both men and women. Second, the original version of SIDES-R contains an introductory note for each section ("Thank you, we'll continue with the other questions now, OK?"). Such notes were removed to allow the interview to proceed more smoothly, without pauses in-between sections. Third, in the section on altered perceptions of the perpetrator, a space was provided for the description of the interpersonal violence situation, in order to make the application easier. Finally, item 38 begins with a question formulated by the experts ("Do you have any religious belief or faith in something?"). If the answer was negative, there was no need to continue answering this item.

Question 14 was also modified to include decrease in sexual behavior, rather than only increase, as in the source version. The original question ("Did you think about sex too much?"), from the section entitled difficulty on modulating sexual involvement, was reformulated to denote either an increase or a decrease in sexual thoughts and desires ("Você pensou mais ou menos do que o habitual em sexo?"). In order to encompass the two factors (increase and decrease), we proposed the creation of two new subitems with the same scoring system of the existing ones.

Content validity and inter-rater reliability

Content validity for V2 was evaluated by three professionals and one outpatient. Mean understanding score was 4.98 on the verbal rating scale for all interview items (including the instructions). Subsequently, interview application to the second patient in the one-way mirror room revealed an inter-rater reliability rate (kappa coefficient) of 0.853, which is well accepted.[31]

Discussion

The objectives of this study were to translate, adapt, and validate the content of SIDES-R in Brazilian Portuguese. These objectives were achieved by following guidelines recommended for translation tasks and by calculating inter-rater reliability and establishing content validity. The final product was a 38-item structured interview covering seven domains. The final version (SIDES-R-BR) is available from the authors upon request.

On the topic of applicability, SIDES-R-BR allows professionals to reformulate the items of each question, as long as they keep focus on the domain to be assessed. During the interview, the professional can adapt and evaluate the item that best characterizes the examinee's answer, according to his/her own clinical evaluation. This can be done despite the fact that SIDES-R-BR is organized as a structured interview. In addition, it has been recommended that the interview should be conducted after the professional: 1) has established a therapeutic bond with the patient; 2) is aware of the patient's history; and 3) has become familiar with DESNOS symptomatology.[26,32]

Two changes were made throughout the instrument, in the translation phase: one with respect to gender, and the other with regard to modulation of anger. Given the fact that the sample assessed by Scoboria et al. comprised both men and women, it is understood that SIDES-R is aimed at both genders; therefore, all items were adapted accordingly. The second change, regarding modulation of anger (a component of the alterations in the regulation of affect and impulses domain), took into consideration that this domain concerns both emotion and behavior modulation[17]; therefore, the term "reações" was considered inappropriate, as it does not include self-awareness.

The steps that required the greatest number of changes were those of semantic and conceptual equivalence, probably because of the involvement of five professionals in these phases. As a result of these changes, SIDES-R-BR differs from SIDES-R in some aspects. Item 38 showed low internal consistency; despite that, we proposed to keep this item, but only for participants endorsing themselves as religious. Non-believers, in turn, could consider these aspects as causing affliction to believers, and thus score 4 on the item. Conversely, this would not denote alterations in their systems of meaning and beliefs in relation to religion and faith (rather, these individuals could be showing consistent thinking). A salient, culturally determined alteration was made in item 17. This item belongs to the transient dissociative episodes and depersonalization section, composed of only two questions: one covering depersonalization,[18] and the other dissociative experiences.[17] In the latter, it was necessary to use an expression equivalent to "being on another planet," to emphasize the dissociation idea. Another important change occurred in question 14. Because the difficulty modulating sexual involvement section addressed only an exacerbation of sexual desire and the avoidance of physical contact associated with sexual behaviors, the question was reformulated to include decreased sexual desire, another possible clinical manifestation of DESNOS.[17]

Inter-rater reliability achieved agreement after the one-way mirror interview, indicating a good level of inter-rater agreement in the administration of SIDES-R-BR. The kappa coefficient calculated (0.853) was similar to that of international studies (alpha = 0.74-0.93).[26] During the interview conducted in the one-way mirror room, the investigator followed the proposed scheme in a structured way, reading the highlighted questions and rewording the items so as to inform the patient's response (according to instructions). In this sense, adequate knowledge and training are imperative before this interview can be applied. Furthermore, the interview should be administered in a structured manner, especially when the interviewer is not vastly experienced, so as to ensure consistency of the results.

Even though we have followed recommendations for the adaptation of tasks/tests, the final product remains with some limitations. We highlight the lack of concurrent, predictive and discriminative validity. We also underline the fact that the translation and back-translation were conducted individually by two professionals, not by teams of translators, as recommended.[33] Finally, internal consistency was not calculated.

The conclusions and limitations of this study warrant future works to investigate the psychometric proprieties of SIDES-R-BR. We recommend that concurrent validity be calculated by establishing SIDES-R-BR correlations with PTSD scales, as broadly done in international studies. Moreover, because DESNOS is closely related to early life stress, instruments assessing this topic could also be used. Predictive validity could be calculated by comparing SIDES-R-BR scores with previous history events. Finally, discriminant validity could be calculated by comparing SIDES-R-BR scores with demographic variables, similarly to Scoboria et al.[26]

Conclusions

SIDES-R-BR is now available as a new tool for the assessment of psychiatric symptoms often described as DESNOS. Sequelae of psychological stress have been the subject of growing interest in psychiatry, which means that the instrument is a valuable input to clinical research in Brazil. Our results are preliminary and require further investigation assessing the psychometric proprieties of the instrument (in this sense, directions for future studies have been suggested). However, the availability of the actual form of SIDES-R-BR already allows to test symptoms with adequate reliability, as verified in our content validity and translation steps.

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