



# Cross-cultural adaptation of the short form of the Healing Encounters and Attitudes Lists tool for the Brazilian context: pilot study

Adaptação transcultural da forma curta da ferramenta *Healing Encounters and Attitudes Lists* para o contexto brasileiro: estudo piloto

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## ABSTRACT

**BACKGROUND AND OBJECTIVES:** Several contextual factors (CFs) are related to therapeutic interventions and can have a positive or negative impact on the symptoms of patients with chronic musculoskeletal pain. Despite the increasing use of self-administered measurement tools, there is currently no tool available to assess the impact of CFs on health treatments in Brazil. The aim of this study was to translate and cross-culturally adapt the short form of the HEAL tool to the Brazilian context.

**METHODS:** The cross-cultural adaptation consisted of translation from English to Portuguese, back-translation, review by a committee of experts, and pre-testing with questionnaires on sociodemographic data, pain intensity, level of functionality, and the HEAL tool. A descriptive analysis of the participants' pre-test data was performed, and the internal consistency of the instrument was assessed using Cronbach's alpha test.

**RESULTS:** Four translators, five specialists and thirty patients with chronic musculoskeletal pain participated in the study. The final version was well understood by the pre-test participants, except for the subscale "Attitudes towards Complementary and Alternative Medicine", in which 70% of the participants had doubts. As a solution, examples were included in the items evaluated. The subscales of the HEAL tool showed excellent internal consistency.

**CONCLUSION:** The Brazilian version of the HEAL tool is available for research and clinical practice and can help identify the interference of CFs in the treatment of chronic musculoskeletal pain. However, we recommend caution in using this tool until other measures have been widely evaluated.

**KEYWORDS:** Musculoskeletal pain, Psychometrics, Surveys and questionnaires, Translation.

## RESUMO

**JUSTIFICATIVA E OBJETIVOS:** Diversos fatores contextuais (FCs) estão relacionados às intervenções terapêuticas e podem impactar positiva ou negativamente nos sintomas de pacientes com dor musculoesquelética crônica. Apesar do uso crescente de instrumentos de medidas autoaplicáveis, não há até o momento, uma ferramenta disponível para avaliar a interferência dos FCs nos tratamentos de saúde no Brasil. O objetivo deste estudo foi realizar a tradução e adaptação transcultural da forma curta da ferramenta *Healing Encounters and Attitudes Lists* (HEAL) para o contexto brasileiro.

**MÉTODOS:** A adaptação transcultural incluiu tradução do inglês para o português, retrotradução, revisão por um comitê de especialistas e pré-teste realizado com questionários sobre dados sociodemográficos, intensidade da dor, nível de funcionalidade e a ferramenta HEAL. Foi realizada uma análise descritiva dos dados dos participantes do pré-teste, e a consistência interna do instrumento foi avaliada pelo teste *Alfa de Cronbach*.

**RESULTADOS:** Participaram do estudo quatro tradutores, cinco especialistas e trinta pacientes com dor musculoesquelética crônica. A versão final foi bem compreendida pelos participantes do pré-teste, exceto a subescala "Atitudes sobre Medicina Complementar e Alternativa", na qual 70% dos participantes apresentaram dúvidas. Como solução, foram incluídos exemplos nos itens avaliados. As subescalas da ferramenta HEAL apresentaram excelente consistência interna.

**CONCLUSÃO:** A versão brasileira da forma curta da ferramenta HEAL está disponível para pesquisas e prática clínica e pode ajudar a identificar a interferência dos FCs no tratamento de dores musculoesqueléticas crônicas. Contudo, recomenda-se cautela no uso desta ferramenta até que as suas propriedades psicométricas sejam amplamente avaliadas.

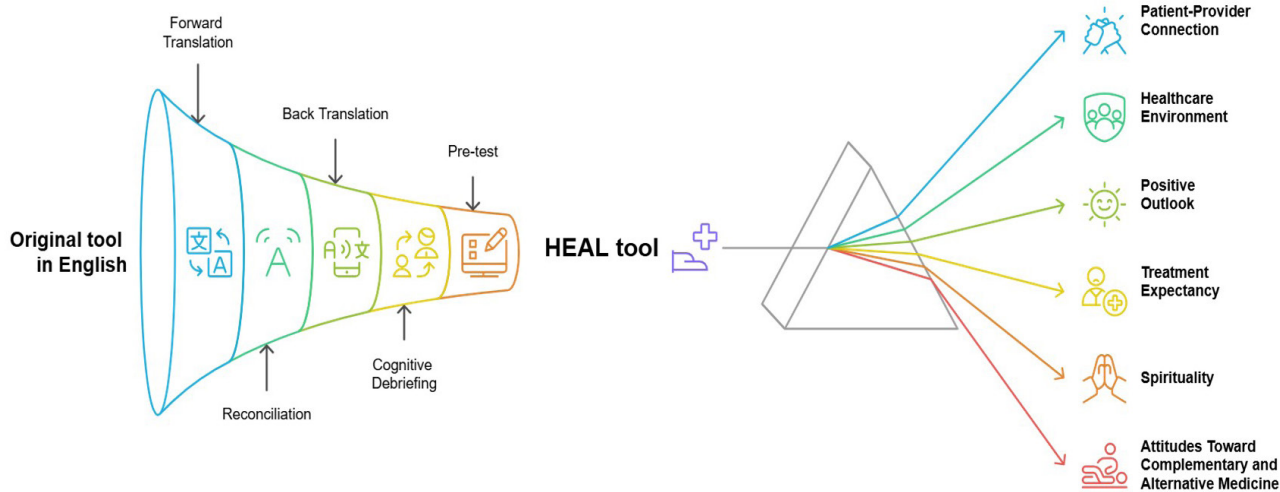
**DESCRITORES:** Dor musculoesquelética, Inquéritos e questionários, Psicometria, Tradução.

## HIGHLIGHTS

- Contextual factors impact the clinical outcomes of health treatments
- Measuring contextual factors can optimize the management of chronic musculoskeletal pain
- The Brazilian version of the short form Healing Encounters and Attitudes Lists tool is available to help identify the contextual factors that impact clinical outcomes and the experience of care, although the pre-test sample does not allow the results to be generalized to the Brazilian population

## GRAPHICAL ABSTRACT

## Translation and cross-cultural adaptation process



## INTRODUCTION

Several factors are related to therapeutic interventions in the treatment of chronic musculoskeletal pain. The physical, psychological, social, cognitive, emotional and sensory elements involved in the interactions between the patient and the healthcare professional during treatment are called contextual factors (CFs)<sup>1,2</sup>. CFs can be internal, external or relational<sup>2</sup>. Internal factors represent the patient's memories, emotions, expectations and psychological characteristics, while external factors include the physical aspects of the therapy, such as the type of treatment and the place where the treatment is carried out. Relational factors are characterized by the social interactions of the patient-therapist relationship, therapist characteristics, and patient characteristics<sup>2</sup>. CFs can have a positive or negative impact on symptoms and clinical outcomes. The clinical effects related to CFs can vary from large to small, depending on the characteristics of the patient, the professional, the clinical condition and the intervention<sup>3</sup>. Positive expectations can enhance the beneficial effects of a treatment, while negative expectations can generate adverse effects. Clinical history, pain severity and patient expectations are key elements in the prognosis of musculoskeletal conditions. Effective communication strategies are essential to minimize negative expectations and symptoms of anxiety<sup>4</sup>. A greater understanding of CFs in clinical practice will favor the decision for more effective interventions and can optimize the results of treatments for musculoskeletal pain<sup>5</sup>.

Chronic musculoskeletal pain represents a significant challenge for individuals and health systems. In 2019, musculoskeletal diseases affected 1.71 billion people worldwide, with low back pain being the most prevalent in 134 of the 204 countries analyzed<sup>6</sup>. It is estimated that by 2050, the number of cases of low back pain will increase by 36.4%<sup>7</sup>. In Brazil, the prevalence of chronic pain in the adult population ranges from 23.02% to 42.33%<sup>8</sup>, affecting

mainly women<sup>9</sup>. Low back pain affects more than 50% of Brazilian adults over the course of a year, with between 4.2% and 14.7% of the population suffering from chronic low back pain<sup>10</sup>.

Pain is defined as "an unpleasant sensory and emotional experience associated with or similar to that associated with actual or potential tissue damage"<sup>11</sup>. Measuring the sensation of pain can result in a wide variety of therapeutic approaches and more effective treatment<sup>12</sup>. Clinicians and researchers encounter difficulties in assessing and measuring pain due to its subjective nature, the scarcity of reliable instruments and the variety of patient characteristics and types of pain<sup>13</sup>.

Assessing the interference of CFs in the treatment of musculoskeletal pain is challenging. The Healing Encounters and Attitudes Lists (HEAL) tool was developed using the rigorous Patient-Reported Outcomes Measurement Information System methodology and its objective is to assess patients' attitudes and perceptions about various components of treatment that are associated with clinical outcomes<sup>14</sup>.

HEAL is made up of six subscales: patient-therapist connection, health environment, positive outlook, treatment expectancy, spirituality and attitude towards complementary and alternative medicine<sup>14</sup>. The sub-scales can be administered in full or short form with 6 to 7 items in each domain. Participants are asked to rate the items in relation to their current treatment on a five-point Likert scale<sup>14,15</sup>. The original version of the HEAL showed excellent reliability for each subscale<sup>14</sup>, while the German version showed adequate reliability<sup>15</sup>.

In clinical applications, HEAL can help health professionals identify factors that influence therapeutic outcomes and the experience of care<sup>14,16</sup>. Despite the importance and growing use of self-administered measurement instruments, no instrument validated for Brazil assesses the interference of CFs in health treatments. Thus, the present study's objective was to translate and cross-culturally adapt the short form of the HEAL tool for the Brazilian context.

## METHODS

### Study design

A translation and cross-cultural adaptation study of the short form of the HEAL tool was conducted, following the guidelines of the Principles of Good Practice for the Translation and Cultural Adaptation Process for Patient-Reported Outcomes (PRO) Measures<sup>17</sup>. The study was approved by the Research Ethics Committee of the Augusto Motta University Center (CAAE: 57253022.0.0000.5235). All participants signed the Free and Informed Consent Term (FICT) after being informed about the nature of the research and procedures. This study is in line with the principles and standards of the General Personal Data Protection Law (*Lei Geral de Proteção de Dados Pessoais - LGPD*), Law No. 13,709/2018.

### Procedures

After authorization from the main author of HEAL, the original English version was translated by two experienced bilingual translators, one of whom was a native speaker of Portuguese and fluent in English, and the other a native speaker of English and fluent in Brazilian Portuguese. The version reconciled by the researcher responsible for this study was back-translated by two independent translators with the same credentials as the direct translators, who were not involved in the first stage. The harmonized Brazilian Portuguese version was then submitted to an expert committee made up of three physiotherapists experts in musculoskeletal pain, a psychologist and an applied linguistics researcher.

The committee agreed on the semantic, idiomatic and conceptual equivalence between the English version and the final Portuguese version of the subscales. This last version was also sent to a Brazilian Portuguese teacher for an orthographic and grammatical analysis. A few changes were made to keep the language simple and clear for the Brazilian context, without altering the genuine meaning of the individual questions.

The pre-test was then conducted with 30 patients undergoing physical therapy for musculoskeletal conditions, recruited for convenience from the outpatient physiotherapy service at the Federal Institute of Rio de Janeiro (*Instituto Federal do Rio de Janeiro - IFRJ*), during the month of October 2023. The patients were over 18 years old and had chronic musculoskeletal pain (lasting more than 3 months).

### Statistical analysis

A descriptive analysis on the sociodemographic and clinical data of the pre-test participants was carried out. Continuous variables were presented as mean and standard deviation (SD), and categorical variables were presented as absolute values and proportions (%). The internal consistency of the HEAL tool was assessed using the Cronbach's alpha test, which was considered adequate if it was equal to or greater than 0.70<sup>18</sup>. The data was tabulated using Excel (Microsoft, U.S.A.) and statistical analysis

was carried out using Jeffrey's Amazing Statistics Program (JASP) software version 0.18.1.0.

## RESULTS

Four bilingual translators, two for direct translation and two for back-translation, created the first translated version of the HEAL tool. In the first translated version, there were some differences generated by the bilingual translators, which were resolved by consensus in discussions between the main study researchers. In the Healthcare Environment sub-scale, the verb "was" was initially translated as "era" and "foi", and remained as "era" in the final version. The noun "friendly" was translated as "simpática" and "amigável", and the term "simpática" was chosen for the final version. In the same sub-scale, the noun "helpful" was translated as "prestativa" and "útil", and the term "prestativa" was chosen for the final version. In the Patient-Provider Connection subscale, the title itself was translated into "Conexão paciente-profissional" and "Conexão paciente-terapeuta", the latter being chosen for the final version because it is widely used in the literature.

Next, the verb "provides" was translated as "oferece" and "fornece", and the term "fornece" was chosen. In the Attitudes Toward Complementary and Alternative Medicine (CAM) subscale, the noun "effective" was translated as "eficaz" and "efetiva", and the term "efetiva" was chosen. In Positive Outlook, the term "about my future" was translated as "em relação ao meu futuro" and "sobre meu futuro", and the term "em relação ao meu futuro" was chosen. In this same sub-scale, the term "about myself" was translated as "comigo mesmo" and "sobre mim mesmo", and after the evaluation the term "em relação a mim mesmo" was chosen in order to maintain the coherence with the previous questions. In the Spirituality subscale, the term "supported" was translated as "amparado" and "apoiado", and the term "apoiado" was chosen for the final version (Table 1).

An expert committee made up of three physical therapists experts in the musculoskeletal area, a behavioral psychologist and an applied linguistics researcher approved the translation with 80% agreement. Simple grammatical adjustments were suggested to improve the understanding of the items in Brazilian Portuguese for the general population. For example, it was suggested to add the article "(a)" after several masculine nouns in the subscales, to cover the female sex. And in the "Patient-therapist connection" subscale, it was suggested that the question "Meu profissional de saúde me dá apoio e encorajamento" be replaced by "Meu profissional de saúde me apoia e me encoraja", so that it is clearer for the Brazilian population. The suggestions were incorporated into the sub-scales (Table 2).

The pre-test sample was mostly made up of women (86.7%) with high school degrees. Osteoarthritis, hypertension and hypercholesterolemia were the most frequent comorbidities in the pre-test participants. The patients were on average 60 years old and reported pain on an average of 5 days a week, mostly moderate, and high levels of functional limitation (Table 3).

During the pre-test, 70% of patients had doubts when answering the Attitudes Toward CAM subscale, as they were unfamiliar with the term "Complementary and Alternative Medicine". In the final

**Table 1.** Translation, back-translation and synthesis.

Heal Original	Translation (T1)	Translation (T2)	Synthesis (T1+T2)
Healthcare environment	Ambiente de saúde	Ambiente de cuidados de saúde	Ambiente de saúde
Think of the place where you receive your current/ongoing treatment...	Pense no local onde você recebe seu tratamento atual/em andamento...	Pense no local onde você recebe seu tratamento atual/em andamento...	Pense no local onde você recebe seu tratamento atual/em andamento...
The staff was respectful	A equipe era respeitosa	A equipe foi respeitosa	A equipe era respeitosa
The staff was friendly	A equipe era simpática	A equipe foi amigável	A equipe era simpática
The staff was helpful	A equipe era prestativa	A equipe foi útil	A equipe era prestativa
My care was well organized	Meu atendimento era bem-organizado	Meu atendimento foi bem-organizado	Meu atendimento era bem-organizado
The healthcare provider's office respected my privacy	O consultório do profissional de saúde respeitava minha privacidade	O consultório do profissional de saúde respeitou minha privacidade	O consultório do profissional de saúde respeitava minha privacidade
The waiting area was comfortable	A área de espera era confortável	A área de espera era confortável	A área de espera era confortável
Treatment expectancy	Expectativa do tratamento	Expectativa de tratamento	Expectativa do tratamento
I am confident in this treatment	Estou confiante neste tratamento	Estou confiante neste tratamento	Estou confiante neste tratamento
This treatment will be successful	Este tratamento será bem-sucedido	Este tratamento será bem-sucedido	Este tratamento será bem-sucedido
I feel good about this treatment	Eu me sinto bem em relação ao tratamento	Eu me sinto bem com este tratamento	Eu me sinto bem em relação a este tratamento
I expect good results from this treatment	Espero bons resultados deste tratamento	Espero bons resultados deste tratamento	Espero bons resultados deste tratamento
This treatment is right for me	Este tratamento é adequado para mim	Este tratamento é adequado para mim	Este tratamento é adequado para mim
I value this treatment	Valorizo este tratamento	Eu valorizo esse tratamento	Eu valorizo esse tratamento
Patient-provider connection	Conexão paciente-profissional	Conexão paciente-terapeuta	Conexão paciente-terapeuta
Think of the HCP (Healthcare Provider) who provides your current/ongoing treatment...	Pense no profissional de saúde que oferece seu tratamento atual/em andamento	Pense no profissional de saúde que fornece seu tratamento atual/em andamento	Pense no profissional de saúde que fornece seu tratamento atual/em andamento...
I am satisfied with my healthcare provider	Estou satisfeito com o profissional de saúde	Estou satisfeito com o meu profissional de saúde	Estou satisfeito com o meu profissional de saúde
I trust my healthcare provider	Confio no profissional de saúde	Eu confio no meu profissional de saúde	Eu confio no meu profissional de saúde
My healthcare provider pays attention to my individual needs	O profissional de saúde presta atenção às minhas necessidades individuais	Meu profissional de saúde presta atenção às minhas necessidades individuais	Meu profissional de saúde presta atenção às minhas necessidades individuais
My healthcare provider gives me enough information	O profissional de saúde me fornece informações suficientes	Meu profissional de saúde me fornece informações suficientes	Meu profissional de saúde me fornece informações suficientes
My healthcare provider respects me	O profissional de saúde me respeita	Meu profissional de saúde me respeita	Meu profissional de saúde me respeita
I feel my healthcare provider understands me	Sinto que o profissional de saúde me entende	Eu sinto que meu profissional de saúde me entende	Eu sinto que meu profissional de saúde me entende
My healthcare provider gives me support and encouragement	O profissional de saúde me dá apoio e incentivo	Meu profissional de saúde me dá apoio e encorajamento	Meu profissional de saúde me dá apoio e encorajamento
Attitudes toward CAM	Atitudes em relação à MCA	Atitudes em relação a MCA	Atitudes em relação a MCA
CAM (Complementary and Alternative Medicine) is a non-conventional, holistic, or natural approach to healthcare. Common CAM treatments may include acupuncture, massage therapy, meditation, or herbal remedies	MCA é uma abordagem não convencional, holística ou natural para a saúde. Os tratamentos comuns da MCA podem incluir acupuntura, massagem terapêutica, meditação ou remédios fitoterápicos	MCA é uma abordagem não convencional, holística ou natural para a saúde. Os tratamentos comuns da MCA podem incluir acupuntura, massagem terapêutica, meditação ou remédios fitoterápicos	MCA (Medicina Complementar e Alternativa) é uma abordagem não convencional, holística ou natural para a saúde. Os tratamentos comuns da MCA podem incluir acupuntura, massagem terapêutica, meditação ou remédios fitoterápicos
CAM is effective	A MCA é eficaz	MCA é efetiva	MCA é efetiva
I prefer CAM over conventional medicine	Prefiro MCA à medicina convencional	Prefiro MCA à medicina convencion	Prefiro MCA à medicina convencional
It is important to be open to CAM	É importante estar aberto à MCA	É importante estar aberto ao MCA	É importante estar aberto à MCA
CAM can be used to treat serious illness	A MCA pode ser usada para tratar doenças graves	MCA pode ser usado para tratar doenças graves	MCA pode ser usado para tratar doenças graves
CAM can prevent health problems	A MCA pode prevenir problemas de saúde	MCA pode prevenir problemas de saúde	MCA pode prevenir problemas de saúde
I prefer natural remedies	Prefiro remédios naturais	Eu prefiro remédios naturais	Eu prefiro remédios naturais
Positive Outlook	Perspectiva Positiva	Perspectiva Positiva	Perspectiva Positiva
I feel positive about my life	Eu me sinto positivo em relação à minha vida	Eu me sinto positivo em relação à minha vida	Eu me sinto positivo em relação à minha vida
I am hopeful about my future	Estou esperançoso em relação ao meu futuro	Estou esperançoso sobre o meu futuro	Estou esperançoso em relação ao meu futuro
My future looks good	Meu futuro parece bom	Meu futuro parece bom	Meu futuro parece bom
I am satisfied with my life	Estou satisfeito com minha vida	Estou satisfeito com a minha vida.	Estou satisfeito com a minha vida.

CAM = Complementary Alternative Medicine; MCA = *Medicina Complementar e Alternativa*.

**Table 1.** Continued...

Heal Original	Translation (T1)	Translation (T2)	Synthesis (T1+T2)
I feel confident about myself	Eu me sinto confiante comigo mesmo	Eu me sinto confiante sobre mim mesmo	Eu me sinto confiante em relação a mim mesmo
I feel I can cope with my problems	Sinto que posso lidar com os meus problemas	Eu sinto que posso lidar com meus problemas	Eu sinto que posso lidar com meus problemas
Spirituality	Espiritualidade	Espiritualidade	Espiritualidade
Spiritual beliefs give meaning to my life	Crenças espirituais dão sentido à minha vida	As crenças espirituais dão sentido à minha vida	Crenças espirituais dão sentido à minha vida
Spiritual beliefs give me hope	Crenças espirituais me dão esperança	Crenças espirituais me dão esperança	Crenças espirituais me dão esperança
I find comfort in my faith	Encontro conforto na minha fé	Eu encontro conforto na minha fé	Eu encontro conforto na minha fé
My spirituality gives me inner strength...	Minha espiritualidade me dá força interior	Minha espiritualidade me dá força interior	Minha espiritualidade me dá força interior
Prayer is a meaningful part of my life	A oração é uma parte significativa da minha vida	A oração é uma parte significativa da minha vida	A oração é uma parte significativa da minha vida
I feel supported by a higher power	Eu me sinto amparado por um poder superior	Eu me sinto apoiado por um poder superior	Eu me sinto apoiado por um poder superior

CAM = Complementary Alternative Medicine; MCA = *Medicina Complementar e Alternativa*.

**Table 2.** Versions: expert committee, pre-test and final version of the HEAL Tool.

For the Experts Committee					Pre-test version					Final version				
Ambiente de saúde					Ambiente de saúde					Ambiente de saúde				
Por favor, responda cada afirmação marcando uma caixa por linha					Por favor, responda cada afirmação marcando uma caixa por linha					Por favor, responda cada afirmação marcando uma caixa por linha				
Pense no local onde você recebe seu tratamento atual/ em andamento...					Pense no local onde você recebe seu tratamento atual/ em andamento...					Pense no local onde você recebe seu tratamento atual/ em andamento...				
Nem um pouco	Um pouco	Mais ou menos	Muito	Muitíssimo	Nem um pouco	Um pouco	Mais ou menos	Muito	Muitíssimo	Nem um pouco	Um pouco	Mais ou menos	Muito	Muitíssimo
A equipe era respeitosa					A equipe era respeitosa					A equipe era respeitosa				
A equipe era simpática					A equipe era simpática					A equipe era simpática				
A equipe era prestativa					A equipe era prestativa					A equipe era prestativa				
Meu atendimento era bem-organizado					Meu atendimento era bem-organizado					Meu atendimento era bem-organizado				
O consultório do profissional de saúde respeitava minha privacidade					O consultório do profissional de saúde respeitava minha privacidade					O consultório do profissional de saúde respeitava minha privacidade				
A área de espera era confortável					A área de espera era confortável					A área de espera era confortável				
Expectativa do tratamento					Expectativa do tratamento					Expectativa do tratamento				
Estou confiante neste tratamento					Estou confiante neste tratamento					Estou confiante neste tratamento				
Este tratamento será bem-sucedido					Este tratamento será bem-sucedido					Este tratamento será bem-sucedido				
Eu me sinto bem em relação a este tratamento					Eu me sinto bem em relação a este tratamento					Eu me sinto bem em relação a este tratamento				
Espero bons resultados deste tratamento					Eu espero bons resultados deste tratamento					Eu espero bons resultados deste tratamento				
Este tratamento é adequado para mim					Este tratamento é adequado para mim					Este tratamento é adequado para mim				
Eu valorizo esse tratamento					Eu valorizo esse tratamento					Eu valorizo esse tratamento				
Conexão paciente-terapeuta					Conexão paciente-terapeuta					Conexão paciente-terapeuta				
Pense no profissional de saúde que fornece seu tratamento atual/em andamento...					Pense no profissional de saúde que fornece seu tratamento atual/em andamento...					Pense no profissional de saúde que fornece seu tratamento atual/em andamento...				
Estou satisfeito com o meu profissional de saúde					Eu estou satisfeito com o meu profissional de saúde					Eu estou satisfeito com o meu profissional de saúde				
Eu confio no meu profissional de saúde					Eu confio no meu profissional de saúde					Eu confio no meu profissional de saúde				
Meu profissional de saúde presta atenção às minhas necessidades individuais					Meu profissional de saúde presta atenção às minhas necessidades individuais					Meu profissional de saúde presta atenção às minhas necessidades individuais				
Meu profissional de saúde me fornece informações suficientes					Meu profissional de saúde me fornece informações suficientes					Meu profissional de saúde me fornece informações suficientes				
Nunca	Raramente	Às vezes	Frequentemente	Quase sempre	Nunca	Raramente	Às vezes	Frequentemente	Quase sempre	Nunca	Raramente	Às vezes	Frequentemente	Quase sempre
Meu profissional de saúde me respeita					Meu profissional de saúde me respeita					Meu profissional de saúde me respeita				
Eu sinto que meu profissional de saúde me entende					Eu sinto que meu profissional de saúde me entende					Eu sinto que meu profissional de saúde me entende				

CAM = Complementary Alternative Medicine; MCA = *Medicina Complementar e Alternativa*

Table 2. Continued...

For the Experts Committee	Pre-test version	Final version
Meu profissional de saúde me dá apoio e encorajamento	Meu profissional de saúde me apoia e me encoraja	Meu profissional de saúde me apoia e me encoraja
Atitudes em relação a MCA	Atitudes em relação a MCA	Atitudes em Relação às Terapias Alternativas
MCA (Medicina Complementar e Alternativa) é uma abordagem não convencional, holística ou natural para a saúde. Os tratamentos comuns da MCA podem incluir acupuntura, massagem terapêutica, meditação ou remédios fitoterápicos	MCA (Medicina Complementar e Alternativa) é uma abordagem não convencional, holística ou natural para a saúde. Os tratamentos comuns da MCA podem incluir acupuntura, massagem terapêutica, meditação ou remédios fitoterápicos	Terapias alternativas são abordagens não convencionais, holísticas (consideram o organismo como um todo) ou naturais para a saúde. Os tratamentos comuns das terapias alternativas podem incluir acupuntura, massagem terapêutica, meditação ou remédios provenientes de plantas...
MCA é efetiva	MCA é efetiva	As terapias alternativas são efetivas (acupuntura, meditação, massagens, homeopatia...)
Prefiro MCA a medicina convencional	Prefiro MCA a medicina convencional	Prefiro terapias alternativas no lugar da medicina convencional
É importante estar aberto à MCA	É importante estar aberto à MCA	É importante estar aberto às terapias alternativas (acupuntura, meditação, massagens, homeopatia...)
MCA pode ser usado para tratar doenças graves	MCA pode ser usado para tratar doenças graves	As terapias alternativas podem ser usadas para tratar doenças graves (chás, ervas, massagens com pomadas de plantas...)
MCA pode prevenir problemas de saúde	MCA pode prevenir problemas de saúde	As terapias alternativas podem prevenir problemas de saúde (chás, ervas, massagens com pomadas de plantas...)
Eu prefiro remédios naturais	Eu prefiro remédios naturais	Eu prefiro remédios naturais
Perspectiva positiva	Perspectiva positiva	Perspectiva positiva
Eu me sinto positivo em relação à minha vida	Eu me sinto positivo (a) em relação à minha vida	Eu me sinto positivo (a) em relação à minha vida
Estou esperançoso em relação ao meu futuro	Estou esperançoso (a) em relação ao meu futuro	Estou esperançoso (a) em relação ao meu futuro
Meu futuro parece bom	Meu futuro parece bom	Meu futuro parece bom
Estou satisfeito com a minha vida	Estou satisfeito (a) com a minha vida	Estou satisfeito (a) com a minha vida
Eu me sinto confiante em relação a mim mesmo	Eu me sinto confiante em relação a mim mesmo	Eu me sinto confiante em relação a mim mesmo
Eu sinto que posso lidar com meus problemas	Eu sinto que posso lidar com meus problemas	Eu sinto que posso lidar com meus problemas
Espiritualidade	Espiritualidade	Espiritualidade
As crenças espirituais dão sentido à minha vida	Crenças espirituais dão sentido à minha vida	Crenças espirituais dão sentido à minha vida
Crenças espirituais me dão esperança	Crenças espirituais me dão esperança	Crenças espirituais me dão esperança
Eu encontro conforto na minha fé	Eu encontro conforto na minha fé	Eu encontro conforto na minha fé
Minha espiritualidade me dá força interior	Minha espiritualidade me dá força interior	Minha espiritualidade me dá força interior
A oração é uma parte significativa da minha vida	A oração é uma parte significativa da minha vida	A oração é uma parte significativa da minha vida
Eu me sinto apoiado por um poder superior	Eu me sinto apoiado por um poder superior	Eu me sinto apoiado por um poder superior

CAM = Complementary Alternative Medicine; MCA = *Medicina Complementar e Alternativa*

Table 3. Characteristics of pre-test participants.

Variables	(n=30)
Gender (female), n (%)	26 (86.7)
Age, mean (standard deviation)	59.8 (12.5)
Schooling, n (%)	
Primary Education, n (%)	9 (30.0)
High School, n (%)	15 (50.0)
Graduation, n (%)	5 (16.7)
Post Graduation, n (%)	1 (3.3)
Marital status, n (%)	
Married, n (%)	13 (43.3)
Divorced, n (%)	7 (23.3)
Single, n (%)	6 (20.0)
Widowed, n (%)	4 (13.3)

Table 3. Continued...

Variables	(n=30)
Comorbidities, n (%)	
Hormonal dysfunction (thyroid), n (%)	6 (20.0)
Diabetes, n (%)	8 (20.0)
Hypertension, n (%)	12 (60.0)
Kidney disease, n (%)	1 (3.3)
Gastrointestinal dysfunction, n (%)	5 (16.7)
Heart failure, n (%)	2 (6.7)
Abdominal surgery, n (%)	6 (20.0)
Alcoholism, n (%)	5 (16.7)
Smoking, n (%)	3 (10.0)
Hypercholesterolemia, n (%)	11 (36.7)
Rheumatic disease, n (%)	3 (10.0)
Osteoarthritis, n (%)	13 (43.3)
Fibromyalgia, n (%)	1 (3.3)
Myocardial infarction, n (%)	2 (6.7)
Asthma, n (%)	1 (3.3)
Bronchitis, n (%)	1 (3.3)
Characteristics of pain, mean (standard deviation)	
Weekly frequency of pain (in days), mean (standard deviation)	4.9 (2.3)
Mean pain intensity, mean (standard deviation)	5.6 (2.2)
Pain intensity at the time of assessment, mean (standard deviation)	3.4 (3.2)
Functionality, mean (standard deviation)	7.2 (2.1)

version, the final option was to replace the term “Complementary and Alternative Medicine” with “*Terapias Alternativas*”, and to add examples to each of the six questions in the subscale (Table 2). The most difficult question was “I prefer CAM to conventional medicine”, which was changed to “*Prefiro as Terapias Alternativas no lugar (ou ao invés) da medicina convencional*”. Two patients were excluded for not completing the sociodemographic questionnaire and were therefore not fit for the analysis. Participants in the pre-test showed a good understanding of the HEAL tool, although some items (Attitudes towards CAM) required the inclusion of examples more familiar to Brazilian culture.

All the subscales showed excellent correlations between the items, according to the following Cronbach’s alpha values: Health Environment [0.907 (95% CI 0.833; 0.951)], Treatment Expectation [0.922 (95% CI 0.868; 0.957)], Patient-Therapist Connection [0.91 (95% CI 0.848; 0.950)], Attitudes towards alternative therapies [0.900 (95% CI 0.825; 0.946)], Positive outlook [0.886 (95% CI 0.800; 0.939)], and Spirituality [0.901 (95% CI 0.888; 0.961)].

## DISCUSSION

This study presented the process of translation and cross-cultural adaptation of the short form HEAL tool for Brazilians, following internationally accepted methodological procedures. Several phases of the translation and cross-cultural adaptation process were completed properly, including a pre-test with patients from the target population. Based on the high agreement of the

expert committee and degree of comprehension of the pre-test participants, as well as excellent internal consistency, the process of cross-cultural adaptation of the short forms HEAL tool was considered successful.

The present findings corroborate HEAL’s adequate level of reliability, as shown in previous studies. The original paper found a Cronbach’s alpha coefficient of between 0.93 and 0.97 for the subscales of the short form HEAL tool<sup>14</sup>, while the German version showed an internal consistency of between 0.74 and 0.93<sup>15</sup>. The original document showed excellent reliability for each subscale, showing that the tool has a robust internal structure. Although the internal consistency in the German version is slightly lower compared to the original tool, all values are still considered acceptable and indicate good reliability for the translated version.

In the original study of the HEAL tool, an exploratory factor analysis was carried out which identified a unidimensional structure for each subscale, with good factor loadings on the corresponding items<sup>14</sup>. Considering that the sub-scales are independent, and each has its own final score, a consistency calculation was carried out for each sub-scale and the values found indicate excellent internal consistency and corroborate the reliability of the adapted version for the Brazilian context, similarly to the original version.

The version of HEAL adapted for Brazil offers a comprehensive view of the non-specific factors that can influence clinical treatment. The high internal consistency of the sub-scales confirms the tool’s suitability for measuring these factors in the Brazilian context, reflecting the robustness observed in the original<sup>14</sup> and

German<sup>15</sup> versions. The items have qualitative characteristics, but the questionnaires offer quantitative results, making it possible to verify which CFs have the greatest influence on healthcare.

One of the main limitations of the present study is the selection bias in the test sample, which was homogeneous due to the predominance of females, limiting external validity of the resulting values presented. More future studies need to be carried out to access standardized values for the Brazilian population. It was considered important that future studies expand to a more diverse group compatible with the Brazilian population. Another limitation is the lack of a more robust analysis of other measurement properties of the tool, such as construct validity, structural validity and responsiveness. It is suggested that further work be carried out to fully evaluate the measurement properties of the Brazilian version of the HEAL tool.

## CONCLUSION

The Brazilian version of the short form HEAL tool is available after a process of translation and cross-cultural adaptation. The tool can be used in future research and in clinical practice to identify the CFs that influence treatment of Brazilians with chronic musculoskeletal pain. Caution is advised in its use until further research has evaluated more extensively its psychometric properties.

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