Acta Scientiarum
http://periodicos.uem.br/ojs
ISSN on-line: 1807-8648
Doi: 10.4025/actascihealthsci.v46i1.65468



# Cultural adaptation of the Mental Illness: Clinicians' Attitudes Scale (MICA-4) for Brazilian context

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**ABSTRACT.** This study aims to describe the cultural adaptation of the Mental Illness: Clinicians' Attitudes Scale (MICA-4) for Brazilian context through the description of the translation and back-translation process, face and content validity assessment and reliability assessment. The method for cultural adaptation occurred through translation of the original instrument, evaluation by the Committee of Judges, back-translation and pre-test. The results of the pre-test demonstrated that the MICA-4 is understandable and applicable, in addition to having good internal consistency, with a Cronbach's alpha of 0.75. The Brazilian version of MICA-4 has been demonstrated to be easily applicable, with language suitable for the Brazilian context, presented in an appropriate format, and displaying sufficient understanding and consistency with the original version. This culturally adapted version of MICA-4 for the Brazilian context is suitable for conducting a study to assess its psychometric properties.

**Keywords**: Cultural adaptation; validation studies; stigma; health professionals; mental illness.

Received on October 10, 2022
Accepted on September 11, 2023

## Introduction

People with mental illness have been and still are recurrently recognized as a burden on society, considered weak and not worthy of empathy and sympathy (Corrigan &Wassel, 2008; Jorm &Griffiths, 2008; Putman, 2008). These negative social reactions bring to light the stigma, understood as a social construction that represents a brand that gives an individual a devalued status in relation to another. This devaluation occurs because the mental illness and its consequences are seen as socially abnormal and, consequently, people with mental illness stand out in a negative way due to this abnormality (Goffman, 1988).

According to Link and Phelan (2001), the stigma is defined by the joint occurrence of the elements labeling (when there is a recognition of a difference in personality or behavior), stereotype (association of the difference with negative beliefs), social distance (segregation of people negatively labeled from those who do not share or do not have the same label), loss of status and discrimination (consequences of attitudes and prejudices against the labeled individual).

Corroborating with Link and Phelan (2001), Thornicroft, Brohan, Kassam, and Lewis-Holmes, (2008) state that the stigma in mental health is a consequence of problems of lack of knowledge (ignorance), attitudes (prejudice) and behavior (discrimination).

Several studies have indicated that health professionals have negative attitudes towards individuals with mental illness (Schulze, 2007) and that these professionals are less optimistic about the treatment results, which are long-term, of people with mental illness in comparison with the general public (Hugo, 2001; McDaid, 2008).

Stigmatizing behaviors of mental health professionals impair the treatment of people with mental illness. According to Schulze and Angermeyer (2003), in a study carried out in Germany, family members and patients reported contact with mental health professionals as being one of the most stigmatizing experiences, as users of health services felt stigmatized by the lack of general interest of professionals and by the predominant focus on pharmacological treatment.

In this sense, stigma situations lead to the conclusion that people with mental illness are less likely to benefit from the depth and breadth of health services available compared to people without mental illness (Desai, Rosenheck, Druss, & Perlim, 2002).

In this context, it is believed that primary health care professionals can act as powerful agents of de-stigmatization, providing treatment that facilitates social reintegration and a treatment approach based on

recovery (Abdullah &Brown, 2011; Kawar, 2015).Therefore, it is important to understand the stigma of health professionals in relation to people with mental illness so that interventions in this field are carried out. Thus, one of the ways of perceiving stigma is through measurement with instruments or psychometric scales. Psychometry, a measure of psychosocial sciences that uses mathematical language to explain the meaning of the answers given by the individuals, has been widely applied (Polit &Beck, 2006; Pasquali, 2009).

There are several scales that measure the stigma in relation to mental illnesses, based on different perspectives. According to the systematic review by Wei, McGrath, Hayden, & Kutcher, (2017) with the objective of assessing the quality of the scales and, therefore, only considered those that had psychometric information published in scientific articles, 101 scales were identified in the literature. It is noticed that of the 101 scales found and listed by Wei et al. (2017), approximately 15 are aimed at health professionals, a small number. Thus, it is necessary that more studies on measuring the stigma of health professionals in relation to people with mental illness be carried out. Although the study by Wei et al. (2017) did not report Brazilian scales or validations, when searching the database it was found that in Brazil there is no constructed or validated scale that measures the stigma of health professionals in relation to people with mental illness.

In this perspective, a scale that measures the stigma of health professionals in relation to people with mental illness is the Mental Illness: Clinicians' Attitudes Scale (MICA-4), of English origin, developed by Professor Graham Thornicroft and team. The scale has good internal consistency, with a Cronbach's alpha of 0.72, being considered reliable, valid and acceptable for application to students and health professionals (Gabbidon et al., 2013).

Considering that the stigma is still very present in health professionals in Brazil (Ronzani &Furtado 2010), that Brazilian studies that measure and assess the stigma of health professionals in relation to people with mental illness are rare (Wei et al., 2017), and to contribute to the measurement of the stigma of health professionals in relation to people with mental illness, the present study aims to culturally adapt the MICA-4 to Brazilian context.

## Material and method

### Research type and location

This is a methodological study, with a cross-sectional design, whose purpose was to culturally adapt the Mental Illness: Clinicians' Attitudes Scale (MICA-4) for Brazilian context, assessing the face and content validities of the scale and to assess the reliability of the version adapted, following the recommendations of Guillemin, Bombardier, and Beaton (1993); Ferrer et al. (1996); Polit, Beck, and Hungler (2004); and Pasquali (2009) (Figure 1).

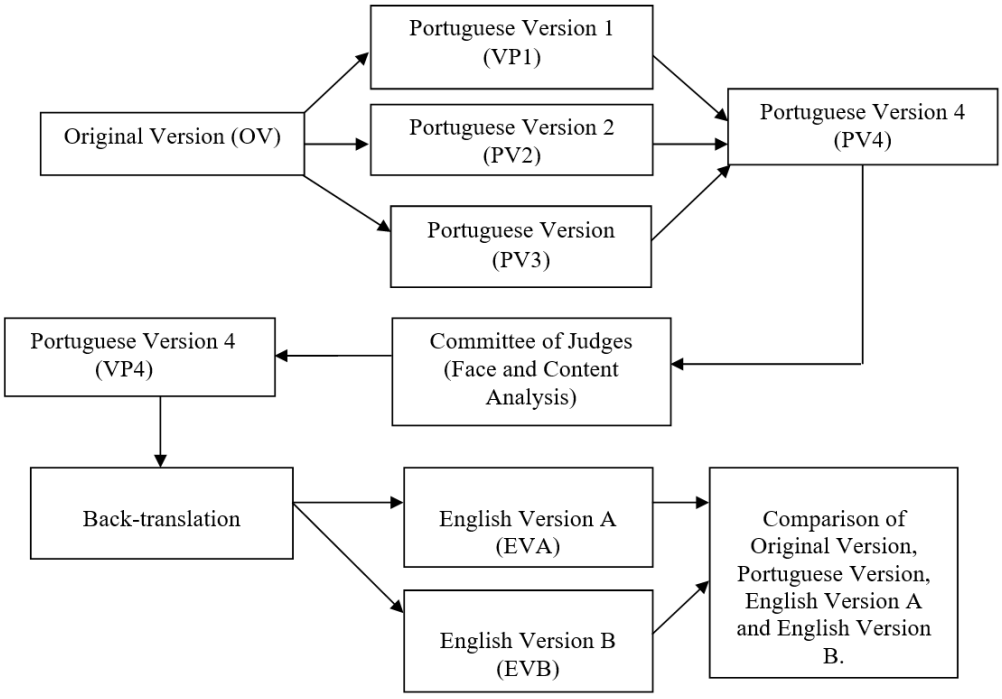


**Figure 1**. Explanatory flowchart of the study method and courseown research.

In 2018 and 2019, six primary health care units in the interior of the state of São Paulo, Brazil, were chosen, named in this study as Basic Health Units (Portuguese acronym: UBSs) and Family Health Units (Portuguese acronym: USFs). Units 1, 2, 3 and 4 are USFs and Units 5 and 6 are UBSs.

### Participants

Study participants were health professionals with experience in mental health and bilinguals, who composed the Committee of Judges; and health professionals from Primary Health Care (PHC) (nurses, nursing assistants and technicians, dentists, dental assistants, pharmacists, pharmacy assistants and physicians), who participated in the pre-test stage.

### Sampling process and sample size

The sample for pre-teste stage was composed of 40 health professionals from PHC units, being 4 USFs and 2 UBs, which corresponded to 20% of the number established for the final sample (200 health professionals) (Pasquali, 2009).

### Data collection

### Instruments

Health professionals received two instruments, one was sociodemographic and the other was the VPF. The sociodemographic had questions about gender, age, education, training time, specialty, time of professional experience, occupation and length of experience in the Health Unit, start and end time of application of the scale. In addition, at the end of the questionnaires, two questions were inserted, which were applied in the construction of the MICA-4, being: "do you know someone with mental illness?" and "have you had a personal experience with a mental illness?" (Gabbidon et al., 2013). These questions were answered with "yes" or "no".

It is important to highlight the characteristics of the original Mental Illness: Clinicians' Attitudes Scale (MICA-4), which is a self-report questionnaire that contains 16 items, with a minimum score of 16 (less stigmatizing) and a maximum score of 96 (more stigmatizing). The anchoring points are 1-6 (1 = strongly agree, 2 = agree, 3 = somewhat agree, 4 = somewhat disagree, 5 = disagree and 6 = strongly disagree). The items that require reverse coding are 1, 2, 4, 5, 6, 7, 8, 13, 14 and 15 for the calculation of the total score. The MICA-4 measures five dimensions related to the stigma: Views about the Fields of Social Assistance, Health and Mental Illness; Knowledge about Mental Illnesses; Disclosure; Distinction between Physical and Mental Health; and Care for the Patient with Mental Illness (Kassam, Glozier, Lesse, Henderson, & Thornicroft, 2010; Gabbidon et al., 2013).

### Translation

Three translators translated the original version of the instrument (OV) into Brazilian Portuguese: two English teachers who teach at a language school, and one of the translator did not know the objectives of the study, while the other translator was aware of the study's objectives. The third translation was prepared by one of the members of the research team (translator 3), who knew the objectives of the study and has extensive knowledge in the health field. The three translations originated, respectively, Portuguese Version 1 (PV1) and Portuguese Version 2 (PV2) and Portuguese Version 3 (PV3).

### Committee of Judges

The research team, consisting of the authors of this article, convened to compare the OV with versions PV1, PV2 and PV3 with the objective of selecting the best phrases that most accurately represent the original meanings (OV). Through this comparison, a Portuguese Version 4 (PV4) emerged, which was subsequently sent to the judges along with the Free and Informed Consent Form. The committee consisted of seven representatives from the target audience, including two nurses, a psychologist, a physician, a social worker, a nutritionist, and an occupational therapist, all possessing expertise in Mental Health, Education, and the English language.

The judges assessed the OV and PV4 to ensure the retention of meanings, equivalence, clarity, comprehension, application time, language, and applicability of the scale.

### Back-translation

In this stage, two Canadians with knowledge of the Brazilian Portuguese language were engaged for the translation process. They performed the translations, resulting in two versions: English Version A (EVA) and English Version B (EVB) (Guillemin et al., 1993). Subsequently, the research team compared these versions

and obtained the Final English Version (FEV). This version was then sent to Professor Thornicroft for analysis and verification to ensure that the meanings of the items were preserved, allowing the study to proceed.

### Pre-test

In the fourth stage, the researchers personally approached the target audience of the study, being understood as belonging to this category the professionals of PHC. In this context, the PV4 was applied to a sample of 40 health professionals in 6 health units, including 4 USFs and 2 UBSs.

### Data analysis

For a didactic understanding of the judges, an instrument was developed that contains the items of the OV and PV4. Thus, health professionals were provided with instructions for the instrument, which were included on the first sheet, and the instrument itself, which was provided on the second sheet. They were asked to mark -1 (minus one) if the Portuguese version was not equivalent to the English version, 0 (zero) if they were undecided, and+ 1 (plus one) if the version was equivalent to the English. This instrument assesses semantic and idiomatic equivalences.

In the back-translation, to send the single version of the scale in English to Professor Thornicroft, an instrument similar to the one sent to the judges was developed.

The data collected in the pre-test were coded and typed in Excel spreadsheets, in double typing. With the help of an expert in the field of statistics, these data were exported and analyzed in the SPSS (Statistical Package for Social Science) program, version 21.0 (Windows), as well as in the construction of the MICA-4 (Gabbidon et al., 2013), so that the reliability of the scale in the pre-test sample was evaluated by the internal consistency of the items. Thus, reliability was measured by Cronbach's alpha.

### Ethical aspects

The study was approved by the Municipal Health Department of the city of the interior of São Paulo, Brazil, and by the Research Ethics Committee of the University of São Paulo at Ribeirão Preto College of Nursing (EERP-USP), CAAE: 82646618.3.0000.5393.

## Results and discussion

### Translation of the MICA-4 to brazilian portuguese

After analyzing the translations of PV1, PV2 and PV3, it was possible to observe some differences between the translations. Thus, a great difference was noticed between the translation of translator 1, who did not know the objectives of the study, in relation to the other versions of translators who knew the objectives of the study, such as the use of the expression “doenças mentais” for the literal translation of the expression “mental illness” (Table 1).

**Table 1**. MICA-4 translations and modifications to Brazilian context.*

| Translation PV1 | Translation PV2 | Translation PV3 | PV4 |
|---|---|---|---|
| 1 – Eu apenas me informo sobre doenças mentais quando preciso, e não leria material adicional sobre o assunto. | 1. Eu só procuro aprender sobre saúde mental quando necessário, e não me interesso em ler materiais adicionais relacionados ao assunto. | 1. Eu somente busco aprender algo sobre saúde mental quando preciso e não me preocupo em ler materiais adicionais sobre o tema. | 1. Eu somente aprendo sobre saúde mental quando eu preciso, não me preocupo em ler material adicional sobre o assunto. |
| 2- Pessoas com doenças mentais severas jamais se recuperam o suficiente para ter uma boa qualidade de vida. | 2. Pessoas com transtorno mental grave não conseguem se recuperar o suficiente para se ter uma boa qualidade de vida. | 2. Pessoas com graves transtornos mentais nunca se recuperam o suficiente para terem boa qualidade de vida. | 2. Pessoas com transtorno mental grave nunca se recuperam o suficiente para ter boa qualidade de vida. |
| 4- Se eu tivesse uma doença mental, eu jamais assumiria para os meus amigos porque eu teria medo de ser tratado de maneira diferente. | 4. Seu eu tivesse transtorno mental, eu jamais admitiria aos meus amigos, pois teria medo de ser tratado com diferença. | 4. Se eu tivesse um transtorno mental, eu nunca admitiria aos meus amigos porque tenho medo de ser tratado de forma diferente. | 4. Se eu tivesse transtorno mental, eu jamais admitiria aos meus amigos, pois teria medo de ser tratado com diferença. |
| 5- A maioria das pessoas com doenças mentais severas são | 5. Pessoas com transtorno mental grave, são | 5. Pessoas com transtornos mentais graves são | 5. Pessoas com transtorno mental grave são geralmente |

| | | | |
|---|---|---|---|
| perigosas. | geralmente mais perigosas do que inofensivas. | perigosas mais frequentemente do que não o são. | mais perigosas do que não são. |
| 6- Profissionais da saúde e assistência social sabem mais sobre a vida das pessoas com doenças mentais do que seus amigos e familiares. | 6. Profissionais de Saúde ou bem-estar social sabem mais sobre a vida do paciente com transtorno mental do que membros da família e amigos. | 6. Profissionais de saúde e da assistência social sabem mais sobre a vida das pessoas tratadas em razão de um transtorno mental do que os familiares ou amigos destas pessoas. | 6. Profissionais de saúde e/ou assistência social sabem mais sobre as vidas das pessoas tratadas por um transtorno mental do que seus familiares ou amigos. |
| 7- Se eu tivesse uma doença mental, eu jamais assumiria para os meus colegas de trabalho porque eu teria medo de ser tratado de maneira diferente. | 7. Seu eu tivesse transtorno mental, eu jamais admitiria aos meus colegas, pois teria medo de ser tratado com diferença. | 7. Se eu tivesse um transtorno mental eu nunca admitiria para meus colegas por meio de ser tratado de forma diferente. | 7. Se eu tivesse um transtorno mental, eu jamais admitiria aos meus colegas, pois teria medo de ser tratado com diferença. |
| 8- Um profissional que trabalha na área de saúde mental não é considerado realmente um profissional na área da saúde e assistência social. | 8. Ser profissional de Saúde ou bem-estar social na área de transtorno mental não é realmente um verdadeiro profissional de Saúde ou bem-estar social. | 8. Ser um profissional de saúde/serviço social na área de saúde mental não é como ser um profissional real de saúde e da assistência social. | 8. Ser profissional de saúde e/ou da assistência social na área da saúde mental não é como ser realmente um verdadeiro profissional de saúde e/ou da assistência social. |
| 9- Se um colega de trabalho de cargo mais alto que o meu me instruísse a tratar pessoas com doenças mentais de maneira desrespeitosa, eu não o obedeceria. | 9. Se um colega superior me instruísse a tratar pessoas com transtorno mental de maneira desrespeitosa, eu não seguiria suas instruções. | 9. Se um colega com mais tempo de trabalho me instruísse a tratar as pessoas com transtornos mentais de uma maneira desrespeitosa, eu não seguiria esta instrução. | 9. Se um colega mais experiente me instruísse a tratar pessoas com um transtorno mental de maneira desrespeitosa, eu não seguiria suas instruções. |
| 10- Eu me sinto tão confortável conversando com uma pessoa que possui uma doença mental quanto com uma pessoa que possui uma doença física. | 10. Eu me sinto confortável em falar com uma pessoa com transtorno mental tal como eu sinto falando com uma pessoa com deficiência física. | 10. Eu me sinto confortável em conversar com pessoas com transtornos mentais da mesma forma que me sinto conversando com pessoas com qualquer doença física. | 10. Eu me sinto tão confortável conversando com uma pessoa com um transtorno mental quanto eu me sinto conversando com uma pessoa com uma doença física. |
| 11- É importante que qualquer profissional da área de saúde e assistência social também tenha sua saúde mental avaliada. | 11. É importante que qualquer profissional de Saúde ou bem-estar social amparando uma pessoa com transtorno mental também assegure que sua saúde física seja avaliada. | 11. É importante que qualquer profissional apoiando uma pessoa com transtorno mental também se assegure que sua saúde física seja avaliada. | 11. É importante que qualquer profissional de saúde e/ou assistência social que apoie uma pessoa com transtorno mental também se assegure que a sua saúde física seja avaliada. |
| 12- O público em geral não precisa ser protegido de pessoas com doenças mentais. | 12. O público não necessita ser protegido de pessoas com transtorno mental grave. | 12. O público não precisa ser protegido de pessoas com transtornos mentais graves. | 12. O público não necessita ser protegido de pessoas com um transtorno mental grave. |
| 13- Se uma pessoa com doenças mentais se queixasse de sintomas físicos (como dores no peito), eu atribuiria esse sintoma à sua doença mental. | 13. Se uma pessoa com transtorno mental reclamasse de sintomas físicos (como dor no tórax) eu atribuiria ao seu transtorno mental. | 13. Se uma pessoa com transtornos mentais reclama de sintomas físicos (como dor no peito) eu atribuiria esta queixa ao seu transtorno mental. | 13. Se uma pessoa com um transtorno mental reclamasse de sintomas físicos (como dor no peito), eu atribuiria esta reclamação ao seu transtorno mental. |
| 15- Eu usaria os termos “louco”, “maluco”, etc para descrever colegas de trabalho que possuem doenças mentais. | 15. Eu usaria os termos “louco”, “doido”, “maluco” etc. para descrever aos meus colegas pessoas com transtorno mental que vi em meu trabalho. | 15. Eu usaria os termos “louco”, “maluco”, “insano”, etc, para descrever para colegas pessoas com transtornos mentais que eu tenha visto em meu trabalho. | 15. Eu usaria os termos “louco”, “doido”, “maluco” etc. para descrever aos meus colegas pessoas com um transtorno mental que eu tenha visto em meu trabalho. |
| 16- Se um(a) colega de trabalho tivesse uma doença mental, eu ainda gostaria de trabalhar com ele(a). | 16. Se algum colega me dissesse que ele possui transtorno mental, eu ainda assim gostaria de trabalhar com ele. | 16. Se um colega me contasse que tem um transtorno mental, eu continuaria querendo trabalhar com ele. | 16. Se algum colega me dissesse que ele tem um transtorno mental, eu ainda assim continuaria querendo trabalhar com ele. |

* in the figure above, only the items that had translation differences are present.own research.

Due to the stigma that the expression "doenças mentais" carries and because it is preferable to use other expressions in the area of mental health, the research team chose to use the expression "transtornos mentais".

In items 6, 8 and 11 it was noticed that translator 2 translated "social care" as social welfare. As the meaning in the original version of MICA-4 refers to Social Work, the research team decided to use the expression "assistência social" (social care).

In item 10, translator 2 translated physical illness as physical disability. As there is a big difference between the expressions and MICA-4 in its original version means physical illness, the research team decided to keep the expression "doença física" (physical illness).

Subsequently, the research team met to compare and analyze the three translations. Thus, a consensus was reached and a single version of the translated scale was obtained, called PV4.

## Evaluation of the committee of Judges

As recommended by Ferrer et al. (1996) the step of Committee of Judges was done before the step of black-translation. This recommendation is valid because it is possible to identify possible errors and difficulties in understanding that could not be observed later.

After receiving the analyses from the judges, the research team met to analyze the agreement between them. Thus, the seven analyses of the judges were verified to obtain a final version in Portuguese.

In this sense, considering the calculation for percentage of agreement (% agreement = number of participants agreed/total number of participants X 100) (Tilden, Nelson, &May, 1990; Topf, 1986) the highest percentage was 60%. Thus, it is concluded that there was no expressive agreement between the judges for the items to be modified (Topf, 1986; Polit & Beck, 2006). Thereby, the PV4 of the scale was maintained, so that the translation was as accurate as possible.

## Back-translation

In the back-translation, the two Canadians received the PV4 of the scale, resulting from the analysis of the Committee of Judges, and elaborated their versions, being EVA and EVB. Both versions were analyzed by the research team to obtain a single version of the scale in English.

The single English version was sent to Professor Thornicroft's research team, and they provided a few observations regarding English vocabulary, which did not impact PV4. Consequently, out of the 16 items, the mentioned team suggested modifications to some English expressions for items 1, 2, 8, and 11.

The researchers in this study analyzed each suggestion. In relation to item 1, the Professor Thornicroft's research team stated that the expression "*would not bother*" brings the idea that the health professional does not care, does not bother to read additional materials on mental health. In this sense, they worried about whether for Brazil the expression "*don't worry about*" maintains this idea, because for English-speaking countries there may be a difference. It is noticed that in PV4 the idea suggested by the Professor Thornicroft's research team was maintained.

In relation to item 2, the Professor Thornicroft's research team demonstrated that for English-speaking countries there is a difference between the expressions "*to have*" and "*to enjoy*", because the first refers to "having" something and the second refers to enjoying something. In addition, they stressed that the objective of the item is to bring the idea of "*having*" a good quality of life and not of "*enjoying*" a good quality of life; then, PV4 is in accordance with the objective explained by the team.

Regarding item 8, Professor Thornicroft's research team stated that the word "*exactly*" has a more specific meaning for the item than the meaning of the original item, bringing the risk of inducing the health professional's response. They suggested that the word "*real*" remain. Even with this suggestion, it is clear that the PV4 brings the word "*realmente* (*really*)", in line with the original version. In addition, Professor Thornicroft's research team stated that "*social care professional*" and "*social worker*" are different functions in England, the former being broader than the latter. Professor Thornicroft's research team recommended selecting one of them to achieve standardization in back-translation. The back-translated version remained unaffected, as the expression *"social assistance professional"* accurately conveyed the original meaning. Table 2 below illustrates these suggestions."

Still in this context, the research team of this study chose to detail items 5 and 11, resulting in the Final Portuguese Version (FPV) (Table 3). This modification is justified by the fact that in the Brazilian context the phrase demonstrates the lack of the adjective at the end of the sentence. It is not customary to end a sentence with a verb. Therefore, was chose to include the adjective "perigosas". Regarding the sentence "É importante

que qualquer profissional de saúde e/ou assistência social que apoie uma pessoa com transtorno mental também se assegure que a sua saúde física seja avaliada" leaves doubts in the context of the interpretation of the text, whether the sentence refers to health of the professional or person with a mental illness. That is why the research team chose to put the part "(da pessoa com transtorno mental)" in parentheses.

**Table 2**. Suggestions for modifying some expressions in English from the back-translated version.

| Items from the OV | Items from the Back-translated version | Items from the PV4 | Suggestions |
|---|---|---|---|
| 1. I just learn about mental health when I have to, and would not bother reading additional material on it. | 1. I only learn about mental health when I need to. I do not worry about reading any extra material about this topic. | 1. Eu somente aprendo sobre saúde mental quando eu preciso, não me preocupo em ler material adicional sobre o assunto. | Remain the expression “would not bother” instead of “not worry about”. |
| 2. People with a severe mental illness can never recover enough to have a good quality of life. | 2. People with serious mental disorders never recover enough to enjoy a good quality of life. | 2. Pessoas com transtorno mental grave nunca se recuperam o suficiente para ter boa qualidade de vida. | Remain the expression “to have” instead of “to enjoy” |
| 8. Being a health/social care professional in the area of mental health is not like being a real health/social care professional. | 8. Being a health professional and/or social worker in the area of mental health is not exactly like being a true health professional and/or social worker. | 8. Ser profissional de saúde e/ou da assistência social na área da saúde mental não é como ser realmente um verdadeiro profissional de saúde e/ou da assistência social. | Remove the word “exactly” in the back-translated version. In addition, the English research team states that “social care professional” and “social worker” are different functions in England, recommending that there be standardization in the Back-Translated Version. |
| 11. It is important that any health/social care professional supporting a person with a mental illness also ensures that their physical health is assessed. | 11. It is important that any health and/or social worker who assists a person with a mental disorder must ensure that their physical health is also examined. | 11. É importante que qualquer profissional de saúde e/ou assistência social que apoie uma pessoa com transtorno mental também se assegure que a sua saúde física seja avaliada. | The English research team made the same point about “social care professional” and “social worker”, recommending that “social care professional” prevail. |

Own research.

**Table 3**. Final Portuguese Version.

| Items with suggested modifications | Suggestions |
|---|---|
| 5. Pessoas com transtorno mental grave são geralmente mais perigosas do que não são (People with severe mental illness are generally more dangerous than they are not). | 5. Pessoas com transtorno mental grave são geralmente mais perigosas do que não são perigosas. (People with severe mental illness are generally more dangerous than they are not dangerous). |
| 11. É importante que qualquer profissional de saúde e/ou assistência social que apoie uma pessoa com transtorno mental também se assegure que a sua saúde física seja avaliada. (It is important that any health and/or social care professional who supports a person with a mental illness also ensures that his/her physical health is assessed). | 11. É importante que qualquer profissional de saúde e/ou assistência social que apoie uma pessoa com transtorno mental também se assegure que a sua saúde física (da pessoa com transtorno mental) seja avaliada. (It is important that any health and/or social care professional who supports a person with a mental illness also ensures that his/her physical health (of the person with a mental illness) is assessed). |

Own research.

## Pre-test

No studies focusing on cultural adaptations and validations of the MICA-4 were found between 2018 and 2019, and as a result, the decision was made to compare the results of this study with the one that originally developed the MICA-4.

In this study, forty health professionals from UBSs and USFs of a city of interior of São Paulo, Brazil, participated. Based on the answers provided in the sociodemographic questionnaire, it was found that 34 participants were female (85%), being, therefore, the majority of the participants, and six male (15%). It is interesting to note that the majority of the participants in this study are female, as well as the participants in the study that originated the MICA-4 (Gabbidon et al., 2013). The mean age was 39.0 years and the range was 25.0 to 62.0 years.

With respect to professional training, 20% of participants were nursing technicians; 15% were nurses; 32.5% were nursing assistants; 10% were pharmacy assistants; 10% were pharmacists and 12.5% were physicians.

In relation to the length of professional experience, the variation was from 06 to 494 months, with an average of 142 months. Among the participating physicians, one was specialized in Pediatrics and the other in Family Health. Regarding *lato sensu* specializations, 37.5% answered that they have specialization and 62.5% answered that they have no specialization. Concerning the areas of specialization, 22.5% are specialists in Family Health; 2.5% corresponds to the specialization in Occupational Health Nursing; 2.5% corresponds to the specialization in Nephrology; 2.5% corresponds to the specialization in Homeopathy; 2.5% corresponds to the orthopedics specialization; 2.5% corresponds to the specialization in Urgency and Emergency and 2.5% corresponds to the specialization in Public Health. Still in this sphere, two participants who have a specialization in Family Health have a second specialization, one in Health Management and the other in Child Nephrology. Still, regarding the *stricto sensu* specialization, 5% of the participants had a master's degree. No participant had a doctoral or postdoctoral degree. Table 4 presents these data reported above.

**Table 4**. Sociodemographic characterization of health professionals from participating Primary Care Units (n=40), Ribeirão Preto, 2019.

| Characterization of Study Participants | % of the respondents n=40 |
|---|---|
| Gender | |
| Female | 85.00 |
| Male | 15.00 |
| Total | 100.00 |
| Age | |
| 21-30 years | 13.50 |
| 31-40 years | 43.20 |
| 41-50 years | 24.30 |
| 51-60 years | 13.50 |
| 61-70 years | 5.40 |
| Total | 100.00 |
| Training | |
| Nursing | 15.00 |
| Nursing Technician | 20.00 |
| Nursing Assistant | 32.50 |
| Medicine | 12.50 |
| Pharmacy | 10.00 |
| Pharmacy assistant | 10.00 |
| Total | 100.00 |
| Professional experience time | |
| 06-18 months | 5.00 |
| 48-67 months | 7.50 |
| 78-84 months | 10.00 |
| 96-120 months | 7.50 |
| 128-140 months | 20.00 |
| 144-169 months | 15.00 |
| 177-229 months | 10.00 |
| 235-297 months | 7.50 |
| 301-348 months | 12.50 |
| 415-494 months | 5.00 |
| Total | 100.00 |
| *Lato sensu* specialization | |
| Yes | 37.50 |
| No | 62.50 |
| Total | 100.00 |

Own research.

The following occupations of the participants in the visited health units were also found: unit manager (2.5%), nurse (12.5%), nursing technician (17.5%), nursing assistant (35%), pharmacist (10%), pharmacy assistant (10%), pediatrician (2.5%) and general practitioner/family health physician (10%).

The variation in months in occupation ranged from 1 month to 494 months, with an average of 130 months. Regarding the number of participants of each unit, 20% were from Unit 1; 15% were from Unit 2; 5% were from Unit 3; 40% were from Unit 4; 5% were from Unit 5; and 15% were from Unit 6. In this sense, it is clear that there was greater participation of the USFs.

The time that the participants are working in the units visited, the minimum time was 1 month and the maximum was 326 months, with an average of 51.5 months. These results can be seen in Table 5.

**Table 5**. Characteristics of the study in relation to the occupations of the participants, time working in the occupation, working time in the unit and percentage of participants in relation to the health units, Ribeirão Preto, 2019.

| Characterization of Study Participants | % of the respondents n=40 |
|---|---|
| Occupations in Health Units | |
| Unit manager | 2.50 |
| Nurse | 12.50 |
| Nursing Technician | 17.50 |
| Nursing Assistant | 35.00 |
| Pharmacist | 10.00 |
| Pharmacy assistant | 10.00 |
| Pediatrician | 2.50 |
| General practitioner/family health physician | 10.00 |
| Total | 100.00 |
| Time working in the occupation | |
| 01-18 months | 12.50 |
| 23-36 months | 10.00 |
| 42-54 months | 7.50 |
| 60-78 months | 10.00 |
| 96-134 months | 17.50 |
| 140-151 months | 7.50 |
| 164-177 months | 10.00 |
| 204-254 months | 10.00 |
| 304-348 months | 10.00 |
| 391-494 months | 5.00 |
| Total | 100.00 |
| Working time in the unit | |
| 01-06 months | 15.00 |
| 12-17 months | 12.50 |
| 23-36 months | 12.50 |
| 48-54 months | 22.50 |
| 60-74 months | 22.50 |
| 96-120 months | 5.00 |
| 142-163 months | 5.00 |
| 297-326 months | 5.00 |
| Total | 100.00 |
| Health units | |
| Unit 1 | 20.00 |
| Unit 2 | 15.00 |
| Unit 3 | 5.00 |
| Unit 4 | 40.00 |
| Unit 5 | 5.00 |
| Unit 6 | 15.00 |
| Total | 100.00 |

Own research.

Still, the average response time of the scale was 10.00 minutes, with a maximum time of 20.0 minutes and a minimum time of 4.0 minutes. It is noticed that the response time of the MICA-4 in Brazil is greater when compared to the response time in the construction of the MICA-4 in England, because in Brazil the average time is 10.00 minutes and, in England, it takes less than 4.00 minutes to answer (Gabbidon et al., 2013). These data are described in Table 6.

Most participants reported knowing someone with a mental illness (92.5%) and/or having had some personal experience with mental illness (67.5%). In this sense, it is believed that these experiences of meeting someone with a mental illness or having already had some personal experience with a mental illness can help in the search for less stigmatizing views (Angermeyer, Matschinger, & Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003; Jorm, Korten, Jacomb, Christensen, & Henderson, 1999). Therefore, these questions are fundamental in future validation studies of the MICA-4 and, later, for the construction of anti-stigma strategies.

As mentioned in the method, the pre-test of the present study was carried out following the recommendation of Guillemin et al. (1993). These theorists argue that cultural adaptation through application to the target population is the most methodologically used option. After the application, the population is asked about the items and understanding of the scale in general. In the present case, after each application,

the researchers asked about the health professionals' perception of the scale. All 40 professionals reported that they found the scale understandable and that the vocabulary used was appropriate for the Brazilian context, considering it understandable and applicable.

**Table 6**. Characteristics of the study in relation to the time it took the participants to answer the scale and the responses in relation to knowing someone with a mental illness and having personal experience with a mental illness, Ribeirão Preto, 2019.

| Characterization of Study Participants | % of the respondents n=40 |
|---|---|
| Scale response time | |
| 4-10 minutes | 87.50 |
| 11-20 minutes | 12.50 |
| Total | 100.00 |
| Do you know someone with mental illness? | |
| Yes | 92.50 |
| No | 7.50 |
| Total | 100.00 |
| Have you had a personal experience with a mental illness? | |
| Yes | 67.50 |
| No | 32.50 |
| Total | 100.00 |

Own research.

The Cronbach's alpha value was calculated considering the psychometric study employed in the construction of the original MICA-4 (Gabbidon et al., 2013), which is 0,72. In this study, the total value of Cronbach's alpha was 0.75, higher than the Cronbach alpha obtained in the MICA-4's original study, which demonstrates satisfactory internal consistency for the sample.

The original MICA-4 version was used in a cluster randomised control trial study, held in Toronto, Canada (Khenti et al., 2017). This study had as aim to build anti-stigma strategies with primary healthcare providers and demonstrated to be a great tool for measuring stigmatizing attitudes of health professionals towards people with mental illness. Thus, taking into account that the MICA-4 adapted for the Brazilian context was considered understandable and applied by the participants, the validation study can proceed, because the cultural adaptation is not enough for a scale to be applicable, being necessary the validation process (Pasquali, 2009) to evaluate and validate psychometric properties of the instrument.

As a limitation, this study was carried out in a certain location, without having covered other locations in Brazil.

## Conclusion

In this study, the original version of MICA-4 followed international and national recommendations for cultural adaptation of instruments.

According to the results, it is considered that the Brazilian version of the MICA-4 maintained the semantic, cultural, idiomatic and conceptual equivalence through the process of translation, face and content validity carried out by a committee of judges and by the process of back-translation, involving the author of the original version. It is also noted that the version of MICA-4 adapted for the Brazilian context has adequate language, easy and adequate understanding, as well as consistency in relation to the original version.

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