Translation and cultural adaptation of the *Global Appraisal of Individual Needs – Initial*®

ABSTRACT

The objective of this study was to perform the translation and cultural adaptation of the “Global Appraisal of Individual Needs – Initial” instrument, and calculate its content validity index. This is a methodological study designed for the cultural adaptation of the instrument. The instrument was translated into Portuguese in two versions that originated the synthesis of the translations, which were then submitted to the evaluation of four judges, experts in the field of alcohol and other drugs. After the suggested changes were made, the instrument was back-translated and resubmitted to the judges and authors of the original instrument, resulting in the final version of the instrument, “Avaliação Global das Necessidades Individuais – Inicial”. The content validity index of the instrument was 0.91, considered valid according to the literature. The instrument *Avaliação Global das Necessidades Individuais – Inicial* is culturally adapted to the Portuguese language spoken in Brazil; however, it was not submitted to tests with the target population, which suggests further studies should be performed to test its reliability and validity.

DESCRITORES

Alcoholism
Street drugs
Validity of tests
Adaptation
Validation studies

RESUMEN

Se objetivó traducir y adaptar culturalmente el instrumento “Global Appraisal of Individual Needs – Initial” y calcular su Índice de Validad de Contenido. Estudio metodológico, de adaptación cultural del instrumento. El mismo fue traducido al portugués en dos versiones que origina ron la síntesis de las traducciones, sometidas a la evaluación de cuatro expertos en el área de alcohol y otras drogas. Después de modificaciones, fue retrasludir y re-sometido a los expertos y autores del instrumento original, resultando en la versión final del instrumento, “Evaluación Global de las Necesidades Individuales – Inicial”. El Índice de Validad de Contenido del instrumento fue de 0,91, considerado válido por la literatura. El instrumento Evaluación Global de las Necesidades Individuales – Inicial es un instrumento adaptado culturalmente para el portugués brasileño; mientras tanto, el instrumento no fue sometido a tests con la población objeto, lo cual sugiere que sean realizados estudios que prueben su confiabilidad y validad.

DESCRIPTORES

Alcoholismo
Drogas ilícitas
Validez de los tests
Adaptación
Estudios de validación
INTRODUCTION

The use of alcohol and other drugs is a prevalent health problem, becoming an issue of public health worldwide. This data has been confirmed by specialized literature, through the relationship between the consumption of these substances and the social harm that results from the consumption or is reinforced by it. Tackling this issue is a worldwide demand, as the World Health Organization (WHO) and the Pan-American Health Organization (PAHO) affirm that 10% of the population in the world’s urban centers abuse psycho-active substances, irrespective of age, sex, level of schooling or social class11.

In the literature, one can see a significant increase in the search for treatment in this area; however, neither the number or quality of these interventions, nor the follow-up given to the individual users of alcohol and other drugs, seem to be able to meet the demand. In view of this, the authors suggest greater investment in new care practices, with special attention given to evidence-based practices2-4.

Currently, studies for the transcultural adaptation of instruments are being undertaken, with the aim of diagnosing health problems, planning treatment and evaluating the individual’s evolution. With this adaptation, and with the use of instruments, it is also possible to grasp the meaning of some phenomena, such as predisposing factors, their cause and consequences, and the degree to which the treatments work7.

This type of study also permits comparisons about the phenomena in the international context, due to the fact that it measures the same phenomena across different cultures in a similar way. In the last few decades, studies have been carried out on the cultural adaptation of instruments such as the Alcohol Use Disorders Identification Test (AUDIT) and the Tolerance Annoyance Cut Down and Eye-Opener (T-ACE) for the Brazilian culture, due to their investigating health problems prevalent in Brazil, created by the living conditions of the individuals in question7.

The first version in English of the Global Appraisal of Individual Needs – Initial (GAIN-I) was finalized in 1993, having been devised in a process of collaboration between healthcare professionals, researchers, and managers of various institutions, with the objective of creating a bio-psycho-social assessment instrument capable of integrating the patients’ needs. The instrument is evidence-based and may be used with both adolescents and adults in systems both of outpatient and inpatient, and in other places where care is given8,9.

This instrument is divided into eight sections (Background, Substance Use, Physical Health, Risk Behaviours and Disease Prevention, Mental and Emotional Health, Environment and Living Situation, Legal, and Vocational) which seek information about the individual’s needs. In addition to objective responses, verbal responses may also be transcribed, so as to permit greater expressivity on the part of the interviewee.

The information collected helps in the diagnosis of, and planning of care for, the users, such that their particular needs may be valued, grounded in the premise that each individual relates to drugs in a different way6-7.

Since 1996, the WHO has emphasized the importance of the cultural adaptation of instruments for measurement where drugs and alcohol are concerned, with the objective of establishing a common language in this issue of worldwide concern, and has proposed the adoption of a single methodology for adapting these instruments, better operationalizing the process and ensuring the instruments’ quality. Through carrying out these procedures, it is possible to provide information for comparative research on the use of drugs around the world10.

Considering the issue of the constant increase in drug use, and of the need for implementing innovative strategies for researching and caring for this population, this study will describe the process of the cultural adaptation of the Global Appraisal of Individual Needs – Initial instrument, to the Brazilian version, called the Avaliação Global das Necessidades Individuais – Inicial (AGNI), proceeding to the validation of the content, obtained through the instrument’s evaluation by judges who are experts in the area.

METHOD

The cultural adaptation of a data collection instrument for use in another language requires a specific methodology, as it seeks equivalence between the original source and the language it is to be translated into – working with the language and also the different culture. There are basically five phases: Phase 1 – Translation; Phase 2 – Synthesis; Phase 3 – Back Translation – translation of the new version back into English; Phase 4 – Evaluation by a group of judges; Phase 5 – Pre-testing the Instrument11-12.

This is a methodological study, as it focuses on the investigation of the methods of obtaining, organizing and analyzing the data, dealing with the elaboration, validation and evaluation of the instrument in its transculturally-adapted form. The goal, in this type of study, is an adapted instrument which is precise and usable in the Portuguese language, such that it may be used by other researchers13.
The transcultural adaptation of GAIN-I was authorized by the authors and approved by the University of São Paulo’s Nursing School’s Research Ethics Committee under process number 809/2009. In Portuguese, the questionnaire is titled Avaliação Global das Necessidades Individuais – AGNI-I. The aim was to produce a version in the Portuguese spoken in Brazil, without loss of meaning existing in the original English. The phases suggested in the literature having been taken into consideration, the transcultural adaptation of GAIN-I was undertaken following the stages of translation, evaluation of the new version by a committee of judges, back-translation, and final adjustments of the Portuguese version\(^{(11)}\)

**Translation into Portuguese**

In this process, GAIN-I was translated out of the original language (English) into Portuguese as spoken in Brazil by bilingual translators whose mother tongue is Portuguese, resulting in two translated versions of the instrument, termed T1 and T2. After the translation, the two translators got together to produce a synthesis of the two texts, tweaking the text to produce a new version, which was termed S1. S1 was evaluated by the researchers, who carried out alterations. After the changes had been incorporated into the instrument, it was submitted to a committee of judges, all of whom were specialists in alcohol and other drugs.

**Committee of Expert Judges**

The version of the instrument obtained at the end of the stage described beforehand was submitted to a committee of judges, along with the original version of the instrument in English. The committee members possess both qualifications and significant practical experience in the area of alcohol and other drugs, as well as speaking English. Initially, seven experts with the above characteristics were invited to form the committee; however, only four accepted to participate in the study and to collaborate effectively in it. Experts were selected through the following criteria: lecturers in the area of alcohol and drugs, with a minimum qualification of PhD, participants in research groups registered with the National Council of Research and Development (CNCD), who possessed lines of research and had published articles in the area of the study. A time period of ten months was established for evaluating the version, starting in September 2009 and ending in July 2010. These healthcare professionals evaluated the version with the aim of proposing alterations, so as to allow the consolidation of a pre-final version of the questionnaire.

For carrying out the evaluation and sending the suggested alterations, each judge was advised to point out discrepancies doubts and suggestions for the items in the questionnaire, considering the four dimensions suggested by the literature: semantic, idiomatic, experimental and conceptual. Despite all the individuals mentioned above having accepted to participate in the research, only four returned the material, completed, in time for the research to be concluded\(^{(10)}\).

Treating this point in the research as a group process, with the goal of obtaining and comparing the judgements of the specialists in alcohol and drugs, and guiding them towards a consensus, the authors opted for using the Delphi Method\(^{(14)}\), owing to this being a method capable of structuring the communication of individuals in a group, being efficacious in the bringing together of information provided for dealing with a complex problem\(^{(11,14)}\).

The following phases were followed for carrying out the process:

- sending information referent to the questions to each judge;
- the information was collected by the researchers, and each judge submitted a new version of the instrument, with his or her suggested alterations (VJ1, VJ2, VJ3, VJ4);
- the judges’ responses were organized into summary tables for their suggestions to be better visualized and understood; the relevancy of the suggestions and their application in each item were evaluated;
- the pertinent suggestions were incorporated into the instrument, producing a new version, termed S2;
- the version resulting from the incorporation of the judges’ suggestions was submitted to a new analysis by the researchers and further alterations were made, producing a new version of the instrument, termed S3;
- the alterations were returned to the judges, who checked them and submitted new suggestions and feedback.
- After version S3 had been finalized, it was sent for the back-translation phase.

**Back-Translation**

The pre-final version of GAIN-I (S3), entirely in Portuguese, was back-translated by a bilingual translator, who did not have access to the original instrument and who was unaware as to the research’s objectives. The objective of this stage was to compare the back-translation with the original, so as to expose possible discrepancies. The back-translation was also submitted to a representative of the authors of the original instrument, who were invited to send suggestions and notes to the researchers.

**Content Validity Index**

Validity refers to the extent to which a measure achieves its goal. Validity of content is important for...
systems of measurement, and its focus is to determine whether the items included in a tool represent the instrument’s content of interest. This validity can be measured by the Content Validity Index (CVI), which evaluates the judges’ agreement concerning the representativeness of a measurement in relation to the content studied. Under this method, the items and the instrument, as a whole, are considered valid if they obtain a CVI of 0.80\(^\text{11}\).

All the items for which the judges suggested alterations were considered inadequate, and these results were tabulated using Microsoft Excel 2007 for Windows\(^\text{®}\). Each judge’s evaluation was compared with the others’, and the CVI was calculated for every possible pair of judges (judge 1 with judge 2, judge 1 with judge 3, judge 1 with judge 4, judge 2 with judge 3, judge 2 with judge 4, judge 3 with judge 4). CVIs were obtained for the instrument and for each of its sections, relative to each pair of judges, and the arithmetical average of these was calculated for each section and for the total instrument.

For calculating the CVI, the following formula was used\(^\text{15}\).

\[
\text{CVI} = \frac{\text{Number of items evaluated as equivalent by 2 judges}}{\text{total of items (of the section and of the instrument)}}
\]

The methodological trajectory of this study is illustrated in Figure 1.

**RESULTS**

*Translation and Synthesis of the Translations*

Of the alterations carried out in this phase, the authors highlight as an example the substitution of the original’s *Privacy Act of 1974* (which guarantees the privacy of any information given to a health professional in the USA) with *Ordinance of the Ministry of Health nº 1.286 of 10/26/1993 – article 8\(^\text{®}\) – and nº 74 of 05/04/1994, item 24* (Brazilian ordinance which guarantees the confidentiality of information given by a patient to the health services). Alterations were made to units of measurement, converting pounds to kilograms, and in the tables to do with religion, as these are very different in the two realities, along with ethnicity and professions, which were reformulated based on data recommended by the Brazilian Institute of Geography and Statistics (BIGE).

*Committee of Expert Judges*

Version S1 was evaluated according to the following criteria: i) meeting its objectives, ii) suitability of presentation, iii) relevancy of the information which the translated and adapted instrument collects and iv) the quality of the translation.

The suggestions for alterations in items which the judges considered inadequate were proposed to obtain a better adaptation of the instrument, above all where information specific to alcohol and drugs (their area of specialization) was concerned. Among the contributions made by the judges, the authors give as an example the item on alcoholic drinks, which was *Alcohol includes beer, wine, whisky, gin, tequila, scotch, rum or spirits*, which three of the four judges suggested should be changed to incorporate different drinks of greater relevancy in Brazilian culture, such as *pingo* and *caçaça*\(^\text{16}\), among others. The judges also suggested spelling and grammar corrections, as well as the changing of terms little used in Brazilian culture.

\(^{16}\)Both liquor distilled from fermented sugarcane juice. Translator’s note.
Regarding general evaluation of the instrument, the authors noticed the need to obtain more accurate information about version S1, such that they might correct possible errors which had not been diagnosed in the analysis of the synthesis of the translations. For each question put to the judges, a choice of response was requested individually from among the following options: 1 – Adequate, 2 – Partially adequate, 3 – Inadequate or 4 – Not applicable.

This wider evaluation of version S1 of GAIN-I has four distinct sets of questions. In the first set, there were seven questions referent to GAIN-I’s objectives. In the second set, questions were posed regarding the way the text was presented, and GAIN-I’s general organization, structure, presentation strategy, coherence and sufficiency.

In the third set, the authors questioned the relevancy of the items addressed, considering the use and abuse of alcohol and other drugs. Finally, in the fourth and last set, the authors questioned the judges about the quality of the translation made.

Making a descriptive analysis of the information collected, one can see:

1º set of questions: Objectives

The judges evaluated the instrument’s objectives, proposals and goals, and the purpose of its items and scales. The judges’ responses differed widely, although most of the evaluations were concentrated in adequate and partially adequate, there being only two responses using the classification inadequate. As a result, there was a rate of adequacy of 92.3% (26 items classified as 1 or 2 out of the total of 28). The authors conclude – through analysis of this data – that the instrument provides coherent definitions and addresses most of the factors involved in the use of alcohol and other drugs.

Furthermore, the judges expressed the need for the items to be better contextualized for the participants, and indicated that the instrument should better clarified information on the issue of the use of alcohol and other drugs, deepening the approach concerning the biological factors involved in such a process.

2º set of questions: Structure and Presentation

The judges evaluated the way in which the translated and adapted instrument was presented, including its general organization, its structure, its strategy of presentation, its coherence and, lastly, its sufficiency.

Approximately 79.2% (19/24) of responses considered the instrument adequate. Again, there was disagreement among the responses. However, the instrument was considered appropriate for men and women, and addresses the principal topics referring to the use of alcohol and other drugs, as three of the four judges agreed that these items are adequate and that one is partially adequate.

There is also a positive evaluation of the logicality of the sequence of the instrument’s contents in translation and adaptation, as all the judges considered these to be, at the minimum, partially adequate.

Finally, based on the responses given by all four judges, it was shown that there was a need to reformulate the language used in the instrument, so as to make it more comprehensible and better structured. It was also necessary to make some scientific corrections in the information, the better to adapt the instrument’s language to Brazilian users of alcohol and other drugs.

3º set of questions: Relevancy

The judges evaluated the degree of importance of the items addressed, in the face of the use and abuse of alcohol and other drugs, taking into account the relevancy of each item to the diagnosis and planning of individuals’ treatment (the instrument’s objective).

This third item was evaluated positively by the judges, as can be seen from the fact that its rate of adequacy was 86.1% (31/36), when the responses considered as adequate or partially adequate are analyzed, and 58% when only the responses considered ‘adequate’ are analyzed (21/36). Thus one can consider that the items in the instrument are relevant to the issue of the use of alcohol and other drugs.

The judges also evaluated that the information may be used in research related to the issue. However, it is evident that the items in the instrument need alterations, related both to the suitability, for evaluating the consequences of drug use for the individual, and to the appropriacy of the information collected, for planning the treatment.

4º set of questions: Quality of Translation

In this item, the judges evaluated the quality of the translation and the equivalency of the terms translated.

It was this set of questions which received the most criticism, as only one item was considered adequate, and that by only one of the judges, providing fresh evidence that version S1 of the instrument needed revising. The authors obtained 83.3% of the responses in the total as ‘adequate’ or ‘partially adequate’. The authors emphasize that the items’ content was significantly altered after these evaluations because the version evaluated by the judges had been S1, in an initial stage in the process of GAIN-I’s translation and cultural adaptation.

Alterations made to the Instrument

Various alterations were necessary in version S1. Hence, the instrument underwent new adjustments, in line with the suggestions made by the judges to the researchers.
At the suggestion of one of the judges, a professional from the area of Law revised and adapted some terms for the laws and legal conduct in Brazil which had been described in inappropriate terms. For example, in S1 the term *livramento condicional* appeared various times, where the term currently used in Brazil (and equivalent to the North American term) is *livramento condicional*[^1].

The judges’ suggestions for changes were evaluated, using the Delphi technique. The authors created an analytical table which brought together all the information collected. This information was evaluated and the instrument underwent various changes, which formed version S2 of the instrument. Once the judges’ suggestions had been incorporated, version S2 was submitted to fresh analysis by the researchers, which resulted in version S3.

### Content Validity Index - CVI

By applying the formula presented in the methods, the following results were obtained (Table 1).

<table>
<thead>
<tr>
<th>Scale/section of the instrument</th>
<th>Judges 1x2</th>
<th>Judges 1x3</th>
<th>Judges 1x4</th>
<th>Judges 2x3</th>
<th>Judges 2x4</th>
<th>Judges 3x4</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVI cognitive impairment</td>
<td>0.38</td>
<td>0.25</td>
<td>0.5</td>
<td>0.5</td>
<td>0.75</td>
<td>0.63</td>
<td>0.5</td>
</tr>
<tr>
<td>IVC initial advice for administration</td>
<td>0.56</td>
<td>0.63</td>
<td>0.56</td>
<td>0.63</td>
<td>0.38</td>
<td>0.5</td>
<td>0.54</td>
</tr>
<tr>
<td>CVI antecedents</td>
<td>0.9</td>
<td>0.83</td>
<td>0.78</td>
<td>0.83</td>
<td>0.79</td>
<td>0.69</td>
<td>0.8</td>
</tr>
<tr>
<td>CVI use of substances</td>
<td>0.94</td>
<td>0.89</td>
<td>0.83</td>
<td>0.92</td>
<td>0.87</td>
<td>0.82</td>
<td>0.88</td>
</tr>
<tr>
<td>CVI physical health</td>
<td>0.99</td>
<td>0.97</td>
<td>0.93</td>
<td>0.98</td>
<td>0.94</td>
<td>0.91</td>
<td>0.95</td>
</tr>
<tr>
<td>CVI risky behaviors</td>
<td>1</td>
<td>0.99</td>
<td>0.93</td>
<td>0.99</td>
<td>0.93</td>
<td>0.92</td>
<td>0.96</td>
</tr>
<tr>
<td>CVI mental health</td>
<td>0.98</td>
<td>0.96</td>
<td>0.92</td>
<td>0.98</td>
<td>0.93</td>
<td>0.91</td>
<td>0.95</td>
</tr>
<tr>
<td>CVI environment</td>
<td>0.97</td>
<td>0.93</td>
<td>0.94</td>
<td>0.95</td>
<td>0.97</td>
<td>0.92</td>
<td>0.95</td>
</tr>
<tr>
<td>CVI legal aspects</td>
<td>0.96</td>
<td>0.79</td>
<td>0.94</td>
<td>0.82</td>
<td>0.98</td>
<td>0.79</td>
<td>0.88</td>
</tr>
<tr>
<td>CVI vocational aspects</td>
<td>0.98</td>
<td>0.94</td>
<td>0.97</td>
<td>0.97</td>
<td>0.98</td>
<td>0.95</td>
<td>0.96</td>
</tr>
<tr>
<td>CVI final administrative advice</td>
<td>1</td>
<td>0.99</td>
<td>0.98</td>
<td>0.99</td>
<td>0.98</td>
<td>0.97</td>
<td>0.98</td>
</tr>
<tr>
<td>Total CVI</td>
<td>0.96</td>
<td>0.91</td>
<td>0.9</td>
<td>0.93</td>
<td>0.92</td>
<td>0.87</td>
<td>0.91</td>
</tr>
</tbody>
</table>

Source: data from judges, 2010.
Note: CVI – Content Validity Index, as presented in the ‘Methods’ section of this article.

The total CVI of the instrument (0.91) showed that it has content validity; however, when the sections are analyzed separately, it may be observed in the data from Table 1 that the average CVI is below what is considered valid (0.8) in the scale for measuring cognitive impairment and initial advice for administration. It must be borne in mind that these indexes are the result of the evaluation of version S1 of the instrument, which had not yet undergone the alterations that resulted in the final version, S3. The CVIs were not re-measured, because the judges and the developers were satisfied with the reformulations of the items, not suggesting any further alterations to the instrument. Thus, they considered the items to be adequate, approving the final version 100%. Additionally, the instrument was not applied to its target-population, which justifies further studies to evaluate the instrument’s validity and reliability.

### Back-Translation

After the alterations suggested by the judges and evaluated by the researchers had been incorporated, the instrument underwent back-translation (RT1), which was sent for evaluation by the instrument’s authors. This was evaluated by the researchers, who also carried out a comparison of the English-language versions of the instrument (GAIN-I and RT1).

The authors emphasize that, after this information had been collected, it was noticed that some items of the Portuguese version were not coherent with the objective of the item in the version in English, with new adjustments being necessary. The instrument’s developers indicated the items which they were not happy with, compared the versions and suggested alterations. Adjustments were made to translations which were detected as being careless or which needed improvements.

Many of the developers’ suggestions for adjustments were not applicable to the Brazilian reality. One example of this is the fact that in the United States, there are programs that work only with methadone for rehabilitating patients, hence users are questioned as to whether they have ever been prescribed methadone. In these items it was necessary to substitute medications for substance use, which was shown in the back-translation. This led the developers to identify these points as errors, and it was necessary to provide an explanation of such adaptations.

At the end of the process of clearing up the version’s false problems and adjusting real problems, the back-translation was approved by the developers.

[^1]: *livendance condicional* is a direct translation of probation or parole, however, the Brazilian legal term is *livramento condicional*, which translates as conditional release. Translators’ note.

[^2]: *GAIN-I*.
of judges, no matter who the experts chosen were. To simplify, if judges A, B, C and D agree that an item is adequate, it is not possible to guarantee that a different group made up of judges E, F, G and H would agree in the same way about the item’s suitability. Following this literature’s view, the calculation of the CVI should not be the only statistical parameter used in the evaluation of an instrument, which suggests that further studies, measuring other ways of measuring validity, should be carried out, to guarantee the quality of evaluation of this instrument’s items.17

It is worth re-emphasizing that measuring instruments’ psychometric properties is considered in the literature to be a highly complex matter, as there are innumerable different methods available for addressing the topic under discussion. One example of this is the fact that, to ensure that tests present the quality parameters scientifically required, and because the information available in the literature is not always referent to the best techniques for reaching this quality, the American Psychological Association (APA) established the Standards for Educational and Psychological Testing, which has gone through various editions since 1985, with new considerations and new additions, referent to the great changes the literature has undergone since then.18

CONCLUSION

The present study, of the methodological type, described the process of the translation and cultural adaptation of the Global Appraisal of Individual Needs – Initial instrument (GAIN-I) to produce the Brazilian version.

The final version of the GAIN-I (AGNI-I in Portuguese) was obtained, whose content was considered valid and, after various adjustments, was approved both by a committee of experts in the area of alcohol and drugs and by the instrument’s developers. The instrument is, therefore, considered to be culturally adapted to be culturally adapted to the Brazilian context, in the opinion of the judges. At the time of writing, a validation study is being conducted to check the instrument’s psychometric properties when applied to its target-population. Despite the authors’ conclusion that the instrument is culturally adapted, validation studies on it are in progress, so it cannot be considered to have been validated. In addition to this study, which is being run by the Post-graduate program of the University of São Paulo’s Nursing School, further validation and reliability studies will be necessary to check its applicability in the different regions of Brazil, due to that country’s continental dimensions and the great cultural variations related to drug use there.
REFERENCES


