

Letter to the Editor:

Improving Comprehension and Accuracy of Health Questionnaires using Pictorial Descriptions

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Cartas al Editor

To the Editor

The study of cultural adaptation and semantic validation of three instruments for measuring stigma and mental illness of Jazmin Mora-Rios et al,¹ published recently in your journal, identifies an important health issue that needs to be acknowledged and addressed for the benefit of a large number of stakeholders. In fact, the lack of accurate measurement resulting from assessing responses to questionnaires and other screening tools detrimentally affects our knowledge about the health needs of patients worldwide. Differences in culture, literacy and education levels, and language proficiency among different populations suggests that many validated instruments might not provide accurate and reliable results.

While it is crucial to recognize the need of a cross-cultural adaptation in validating questionnaires as well as systematic processes to improve the assessment, it is also necessary to consider some disadvantages that are involved when this strategy is selected. There are time and costs involved that can encompass months and years. The inability to compare the results of these customized questionnaires with those obtained from the original questionnaires decreases the ability to compare the data collected from different population groups. With customized questionnaires specifically designed for each group, it will be necessary to validate each variant, which requires significant resources. This limitation is removed using a strategy that maintains equivalent questionnaire validity when used to assess different populations, particularly among groups with limited literacy.

Our findings indicate that by adding pictorial descriptions to the original questions, detection is improved;²⁻⁴ most impor-

tantly, the pictorial questionnaire produced an equivalent assessment when compared to the original questionnaire.⁵

The efficacy of a written screening tool depends on the ability of respondents to adequately comprehend questions and respond appropriately. This is directly dependent on the respondent's reading ability, which is problematic for populations with low literacy rates.^{6,7} Using pictorial descriptions in low literacy populations lead to significant improvement in comprehending complex materials. For example, pictorial descriptions have been used in low-literacy populations to assess body weight or shape,^{8,9} communicate safety instructions,^{10,11} and to communicate medical probability information to the elderly patient.¹² The success of these pictorial descriptions is attributed to their flexibility in connecting actions and events to describe or explain procedures.¹²

Our research appears to be the first to use pictorial screening tools to increase the ability of minorities to read, comprehend, and respond to screening questions. This study compared the abilities of an original screening tool with a pictorial adaptation of that original screening tool to detect cognitive, emotional, and behavioral problems in children 4-16 years old in Mexicans and Mexican-Americans. The two screening tools examined in this study were the Pediatric Symptom Checklist (PSC),¹³ the original screening tool, and the Pictorial Pediatric Symptoms Checklist (P+PSC),² an adaption of the PSC that adds pictorial descriptions to the questions. This study indicated an important increase in detecting problems when using the P+PSC; accurate detection rates increased from 1.5% with the PSC to 16% with the P+PSC version. The PPSC demonstrated better detection when compared with the "Gold Standard" used in this type of study, i.e., the Child Behavior Checklist (CBCL).¹⁴

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The encouraging experiences obtained in this first study were the basis for developing a pictorial CBCL. Our findings indicate that the pictorial P+CBCL is equivalent to the written instrument for a population with low levels of literacy, both in English and Spanish.⁵ That means that the original questionnaire is not altered when the pictorials are used and the data can be reliably compared across populations.

Pictorial descriptions were used because of their unique characteristics and successful application in different settings. Pictorial descriptions can communicate large amounts of information at a glance and can represent information in a spatially condensed form in single- or multiple-panel formats. Another advantage of pictorial information is that it can be multi-dimensional, incorporating features such as color, shape, and size into the basic message.

Pictorials are one of the oldest forms of visual communication and have been successfully used to improve comprehension in diverse settings, especially in advertising and marketing. In these settings, the most relevant pictorial expressions include company logos, branding, and product posters that are recognized internationally by individuals from different cultures with different levels of literacy and education.¹⁵ Our results have important implications that could benefit a variety of stakeholders. Throughout the world, it is well known that minorities have higher risks for health disparities. However, because a great deal less is known about their specific needs, it is difficult to prepare programs, design interventions, or measure the impact of existing programs. The ability to include minority groups in research studies, regardless of lower literacy, education, or language proficiency, would increase our ability to better understand the needs of these groups and help policy makers prepare more effective public health programs.

Pictorial adaptations to other validated screening tools may facilitate greater use in more subgroups, including minority groups. After more research is conducted and the benefits of pictorial screening tools are further elucidated, researchers will become increasingly interested in extending the utility of their tools by including pictorials.

While validation including language translation and cross-cultural adaptations are available to expand the use of screening tools throughout the world, the benefits are usually confined to groups in which communication barriers are not problematic. Therefore, applying pictorials may increase the use of these tools in both developed and developing

countries, which all share the same need for screening instruments to assess problems and plan for the unique needs of their diverse populations.

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