

CONSTRUCT VALIDITY OF THE BRAZILIAN VERSION OF THE FUNCTIONAL ACTIVITIES QUESTIONNAIRE

Validade de construto da versão brasileira do *Functional Activities Questionnaire*

Rafael Tavares Jomar^a, Roberto Alves Lourenço^b, Claudia de Souza Lopes^c

ABSTRACT

OBJECTIVE: To investigate the construct validity of the Brazilian version of the Functional Activities Questionnaire (FAQ-BR), which measures the functional capacity of the elderly, based on an informant's report. **METHODS:** A cross-sectional study was performed with 525 non-hospitalized elderly and their respective informants. Pearson's and Kendall's tau correlation coefficients with a statistical significance level of < 0.05 were used to evaluate the correlation between the FAQ-BR score and sociodemographic and health condition variables. **RESULTS:** All correlations were compatible with the underlying theory, with a statistical significance (p value < 0.001): age ($r = 0.522$); income ($r = -0.148$); years of schooling ($r = -0.191$); living alone ($r = -0.175$); self-rated health ($r = -0.149$); chronic self-reported diseases ($r = 0.125$) and; cognitive impairment ($r = 0.350$). **CONCLUSION:** Although the FAQ-BR demonstrates construct validity, future complementary studies should be done to further measure elderly people's functional capacity, based on an informant's report. **KEYWORDS:** elderly people's health; activities of daily living; evaluation of research programs and tools; validation studies.

RESUMO

OBJETIVO: Investigar a validade de construto da versão brasileira do *Functional Activities Questionnaire* (FAQ-BR) para aferição da capacidade funcional do idoso, com base no relato do informante. **MÉTODOS:** Estudo seccional realizado com 525 idosos não institucionalizados e seus respectivos informantes. Os coeficientes de correlação (r) de Pearson e tau de Kendall, com nível de significância estatística $< 0,05$, foram utilizados para avaliar a correlação entre a pontuação do FAQ-BR e outras variáveis sociodemográficas e de condições de saúde teoricamente relevantes. **RESULTADOS:** Todas as correlações mostraram-se compatíveis com a teoria subjacente, com significância estatística (valor $p < 0,001$): idade ($r = 0,522$), renda ($r = -0,148$), anos de estudo ($r = -0,191$), morar só ($r = -0,175$), autopercepção de saúde ($r = -0,149$), doenças crônicas autorrelatadas ($r = 0,125$) e déficit cognitivo ($r = 0,350$). **CONCLUSÃO:** Embora o FAQ-BR tenha apresentado validade de construto, estudos futuros deverão complementar a avaliação de sua pertinência para aferição da capacidade funcional do idoso, com base no relato do informante. **PALAVRAS-CHAVE:** saúde do idoso; atividades cotidianas; avaliação de programas e instrumentos de pesquisa; estudos de validação.

^aPost-graduate Program in Public Health, Rio de Janeiro State University – Rio de Janeiro (RJ), Brazil.

^bSchool of Medical Sciences, Rio de Janeiro State University – Rio de Janeiro (RJ), Brazil.

^cInstitute of Social Medicine, Rio de Janeiro State University – Rio de Janeiro (RJ), Brazil.

Correspondence data

Rafael Tavares Jomar – Rua São Francisco Xavier, 524, Bloco D, 7º andar – CEP: 20550-013 – Rio de Janeiro (RJ), Brasil – E-mail: rafaeljomar@yahoo.com.br

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INTRODUCTION

Functional disability among the elderly can be understood as the difficulty or inability to perform daily activities, something that is essential for an autonomous social life, and which can result in dependence and impairments in the individual's health status and quality of life.¹ Many determinants of elderly people's functional disability have been described in the literature, among them include: advanced age, chronic diseases, cognitive deficits, depression, a sedentary lifestyle, negative self-perception of health, little social support, a low income and a low level of schooling.¹⁻³

As there is no consensus on the best way to evaluate the functional capacity of the elderly, several instruments were designed to measure it through self-perception. There is, however, another approach used: an interview with an informant - that is, with someone who is familiar with the routine and the performance of the elderly in activities of daily living (it may be a spouse, a relative or a close friend).⁴

The Functional Activities Questionnaire (FAQ) is a scale for assessing the functional capacity of an elderly person by means of an informant and was written in the English language by a group of researchers from the Department of Neurology at the University of California.⁴ In addition to assisting medical professionals in the assessment of the elderly during consultations and home visits, the FAQ is applied in a short period of time.⁵

Because there are no instruments available in Brazil that assess the functional capacity of the elderly based on reports from informants, the cross-cultural adaptation of the FAQ was conducted, including: the equivalence of concepts, items, semantics and functions; and the evaluation of its internal consistency and reliability. This Brazilian version of the FAQ (FAQ-BR) which is applied to the informant, presented an internal consistency of 0.95 (Cronbach's alpha) and an intra-class correlation coefficient of 0.97.⁵

A study that reviewed the use of the FAQ in Brazil points out that Portuguese versions of this scale that have not been submitted to a formal process of cross-cultural adaptation to the Brazilian context have been widely used.⁶ Although these versions have similar characteristics to the original, their structure was altered. In addition, evaluations of their psychometric qualities were not available until 2014, when a study was published for this purpose.⁷ It should be emphasized, however, that this study mentioned, analyzed the psychometric properties of a version of the FAQ that came from an unknown translation process and evaluated the psychometric behavior among the elderly and not among their informants, for whom the application was originally proposed.⁴

It is important to highlight that inappropriate instruments are often used to measure the functional capacity of

the elderly because there is a lack of proper instruments in Brazil. Thus, it is essential that the evaluation of the validity of a Brazilian version for the formally adapted FAQ⁵ is conducted, and that the process of cross-cultural adaptation of the FAQ to the Brazilian context follows concrete methodological steps. This is important in order to achieve a functional equivalence for the scale so that it can then be used in research and in gerontologists and geriatricians' clinical practices around the country.

Thus, the objective of this study was to investigate the construct validity of the Brazilian version of the Functional Activities Questionnaire (FAQ-BR), which is applied to the informant.

METHODS

The present research, which is sectional, was developed from the baseline of the Fragility on the Brazilian Elderly Study, Rio de Janeiro Section (*Estudo Fragilidade em Idosos Brasileiros*, Seção Rio de Janeiro FIBRA-RJ): a cohort study, whose sample consisted of 847 elderly clients of a health care provider, of both sexes, and aged between 65 and 107 years old. For this investigation, 525 elderly people and their respective informants were considered. The informants who, besides knowing the routine and the performance of the elderly people in their activities of daily living, must have completely answered the FAQ-BR, which was applied over the phone.

Just like in the original version,⁴ the FAQ-BR has ten items that evaluate the degree of functional dependence of the elderly in the performance of instrumental activities of daily living:

1. writing checks, paying bills, balancing a checkbook, keeping financial records;
2. filling out insurance or Social Security forms, handling business affairs or papers, assembling tax records;
3. shopping alone for clothes, household necessities and groceries;
4. playing a game of skill such as chess, bridge, or other card games, or practicing a hobby such as painting, photography, woodworking, or stamp collecting;
5. heating up water, making a cup of coffee or tea, and turning off the stove;
6. preparing a balanced meal (e.g., meat, chicken or fish, vegetables, dessert);
7. paying attention to, understanding, and discussing the plot or theme of a one-hour television program; reading and getting something out of a book or magazine;
8. keeping track of current events, either in the neighborhood or nationally;

9. remembering appointments, plans, household tasks, car repairs, family occasions such as birthdays or anniversaries, holidays, and medications;
10. traveling out of the neighborhood; driving, walking, arranging to take or change buses, trains, and planes.⁵

Each FAQ item has six response options with scores varying from 0 to 3. When the informant's response demonstrates the independence of the elderly person in performing an instrumental activity of daily living, the score given is 0. If the response points to the difficulty of the elderly person in executing an activity, the score given is 1. When the informant points out the elderly person's need for help in performing the activity, the score given is 2; and when it is demonstrated that the elderly person cannot perform the activity, the score given is 3. For an activity that is not usually performed by the elderly person, the informant must specify whether he or she would be able (0 points) or not (1 point) to do it. The minimum FAQ score is 0 and the maximum is 30. The higher the overall score, the greater the degree of dependence when performing instrumental activities of daily living.⁴

The construct validity of the FAQ-BR was evaluated through comparisons with other components of the general theory,⁸ that is, through a correlation between its score and variables related to the functional capacity of the elderly identified in the literature on the subject: socio-demographic characteristics (age, income, years of schooling and living alone) and health conditions (self-perception of health, chronic self-reported diseases and cognitive deficits). Pearson's correlation coefficients and Kendall's tau were used, with a statistical significance level of < 0.05 . The correlation between the FAQ-BR score and the theoretically relevant variables selected was compared to the literature findings.¹⁻³ The statistical analyses were conducted with SPSS software version 19.0.

The FIBRA-RJ Study was approved by the Research Ethics Committee of the Pedro Ernesto University Hospital at the Rio de Janeiro State University (1850/2007), and its methodological aspects were presented in detail in another publication.⁹

RESULTS

The informants were, on average, 43.2 years old (standard deviation = 14.6). They were mostly female (80.8%) and children of the elderly person being evaluated (46.5%). The elderly, meanwhile, had an average age of 78 years old (standard deviation = 7.5), 72% were female, 50.8% had 8 or more years of schooling, 43.7% had a personal monthly income equal to or above 5.1 minimum wages, 18.4% lived alone, 53.8% evaluated their own health as good or very

good, 86.2% reported having at least one chronic disease, and 44.4% had a cognitive deficit.

It was observed that the variables age, chronic self-reported diseases and cognitive deficit were positively correlated to the FAQ-BR score, and that the variables income, years of schooling, living alone and self-perception of health were negatively correlated with it (Table 1).

DISCUSSION

All of the correlations observed were compatible with the underlying theory. The variables age, chronic self-reported diseases and cognitive deficit were positively correlated with the FAQ-BR score, as described in the literature.¹⁻³ That is, the greater the age, the number of chronic diseases and the cognitive deficit of the elderly person, the greater (and therefore worse) the FAQ-BR score. However, advanced age should not be understood as synonymous with the presence of a functional disability, but as a sign that the elderly are more vulnerable to this occurrence.

According to the literature,¹⁻³ the income, years of schooling, living alone and self-perceived health variables were negatively correlated to the FAQ-BR score. It is known that low levels of schooling and income are associated with the functional disability of the elderly, since elderly people with a less-privileged socioeconomic situation tend to experience worse socio-environmental conditions, have less access to information and health services, and adopt less healthy behaviors.¹⁻³

It is also known that living with another person is a determining factor for functional disability, since elderly people who live with other people are more likely to present difficulties in the performance of daily life activities.¹ Negative self-perception of health, in turn, is an important indicator

Table 1 The correlation between the Brazilian version's score of the Functional Activities Questionnaire and theoretically relevant variables. Rio de Janeiro - RJ. 2010.

Theoretically relevant variables	Correlation	p-value
Age	0.522 ^a	< 0.001
Income	- 0.148 ^a	< 0.001
Years of schooling	- 0.191 ^a	< 0.001
Living alone	- 0.175 ^b	< 0.001
Self-perception of health	- 0.149 ^b	< 0.001
Self-reported chronic diseases	0.125 ^a	< 0.001
Cognitive deficits	0.350 ^b	< 0.001

^aPearson's correlation coefficient; ^bKendall's tau correlation coefficient.

of the elderly person's health conditions, because it offers a prognostic value for functional disability.¹

Although the FAQ was presented to the scientific community more than 30 years ago, it was not studied very much because, in the authors' extensive literature review, no evaluation studies on their construct validity were identified. As such, this prevented us from making comparisons with our results. We only know that the scale is derived from a conceptual model in a single dimension, which was conceived by the authors.⁴

The results presented here refer to a particular population and therefore generalizations cannot be made. However, they contribute to the process of cross-cultural adaptation of the FAQ for use in Brazil by showing statistically significant

correlations between the Brazilian version's score and theoretically relevant variables.

CONCLUSION

Although the construct validity was constructive, future studies should be done to complement the evaluation of the pertinence of the FAQ-BR in assessing the functional capacity of elderly people based on an informant's report.

CONFLICT OF INTERESTS

The authors declare no conflict of interest.

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