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Original article

Sensitivity and specificity of assessment instruments of quality of life in rheumatoid arthritis

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ABSTRACT

Objective: To check sensitivity and specificity of assessment instruments of QoL in patients with rheumatoid arthritis (RA).
Methodology: Accuracy study in a sample consisting of patients with confirmed diagnosis of RA. QoL questionnaires QV SF-36 (Gold Standard), HAQ and NHP were applied. The Pearson correlation coefficient, ROC curve, AUC and Youden Index (*J*) were used to analyze the data.
Results: This study enrolled 97 individuals with RA. The functional capacity estimated by SF-36 was correlated with the total score of HAQ ($r = -0.666$; $p < 0.001$; $J = 0.579$), while the emotional aspects of SF-36 were correlated with the emotional reactions domain of NHP ($r = -0.316$; $p = 0.005$; $J = 0.341$). The vitality domain of SF-36 was correlated with the level of energy of NHP ($r = -0.362$; $p = 0.001$; $J = 0.302$). For the evaluation of functional capacity (AUC = 0.839; $p < 0.001$) and physical aspect (AUC = 0.755; $p < 0.001$) the most accurate instrument was the HAQ. For evaluation of the impact of vitality, sleep (AUC = 0.679; $p = 0.007$), emotional reactions (AUC = 0.674; $p = 0.009$) and level of energy in QoL, the NHP (AUC = 0.633; $p = 0.045$) was the most specific and sensitive. In the evaluation of the emotional aspect domain, the most accurate instrument was the NHP in the "emotional reaction" score (AUC = 0.699; $p = 0.003$). The evaluation of pain was limited in the three instruments and SF-36 was the only one in assess of the domains of social aspects and general health status.
Conclusion: For evaluation of the physical aspects in patients with RA, the HAQ is the most accurate. For evaluation of emotional aspects the NHP is the most indicated, although the SF-36 was the only one in the evaluation of general domains.

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Sensibilidade e especificidade dos instrumentos de avaliação da qualidade de vida na artrite reumatoide

Palavras-chave:
Artrite reumatoide
Acurácia
Questionários
Qualidade de vida
Avaliação

RESUMO

Objetivo: Verificar a sensibilidade e a especificidade dos instrumentos de avaliação da qualidade de vida em pacientes com artrite reumatoide (AR).

Metodologia: Estudo de acurácia em uma amostra de pacientes com diagnóstico confirmado de AR. Aplicaram-se os questionários de QV SF-36 (padrão ouro), HAQ e NHP. Usaram-se o coeficiente de correlação de Pearson, a curva ROC, a ASC e o índice de Youden (J) para analisar os dados.

Resultados: Este estudo envolveu 97 indivíduos com AR. A capacidade funcional estimada pelo SF-36 esteve correlacionada com a pontuação total do HAQ ($r = -0{,}666$; $p < 0{,}001$; $J = 0{,}579$), enquanto o aspecto emocional do SF-36 esteve correlacionado com o domínio reação emocional do NHP ($r = -0{,}316$; $p = 0{,}005$; $J = 0{,}341$). O domínio vitalidade do SF-36 esteve correlacionado com o nível de energia do NHP ($r = -0{,}362$; $p = 0{,}001$; $J = 0{,}302$). Para a avaliação da capacidade funcional (ASC = 0,839; $p < 0{,}001$) e aspecto físico (ASC = 0,755; $p < 0{,}001$), o instrumento mais preciso foi o HAQ. Para a avaliação do impacto da vitalidade, do sono (ASC = 0,679; $p = 0{,}007$), da reação emocional (ASC = 0,674; $p = 0{,}009$) e do nível de energia na QV, o NHP (ASC = 0,633; $p = 0{,}045$) foi o instrumento mais específico e sensível. Na avaliação do domínio aspecto emocional, o instrumento mais preciso foi o NHP no domínio reação emocional (ASC = 0,699; $p = 0{,}003$). A avaliação da dor foi limitada nos três instrumentos e o SF-36 foi o único a avaliar os domínios aspecto social e estado geral de Saúde.

Conclusão: Para a avaliação do aspecto físico em pacientes com AR, o HAQ é o instrumento mais preciso. Para a avaliação do aspecto emocional, o NHP é o mais indicado, embora o SF-36 seja o único a avaliar domínios gerais.

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Introduction

Rheumatoid arthritis is an autoimmune disease, of unknown etiology, characterized by symmetrical peripheral polyarthritis. This leads to joint deformity and destruction resulting from bone and cartilage erosion,[1,2] and almost always leads to functional compromise of the structures involved.[3,4] Epidemiological studies have estimated the prevalence of RA at 1% of the adult population, ranging from 0.4 to 1.9% at world level, and from 0.5 to 1.0% in Brazil.[5,6] RA affects three times as many women as men, with the highest incidence between the ages of 30 and 50 years.[7,8]

The majority of patients will have their independence affected to variable degrees, and take ill at a productive age, thus generating limitations on social, leisure and professional activities.[1,9–11] The main symptoms of patients with RA are intense pain and functional limitation, with significant impact on quality of life (QoL).[12–14] The main objectives in the treatment of patients with RA are to prevent or control articular lesions, prevent the loss of function and diminish pain, in an endeavor to improve their quality of life.[2]

Because this is a chronic disease, the outcome expected must not be evaluated by traditional epidemiological measures alone, and therefore, the impact of the disease on QoL has been adopted to improve outcome measurements.[15,16] The use of specific tools for this purpose is most valuable[17] and various instruments have been proposed in order to detect changes in the state of health over the course of time, in addition to evaluating the prognosis, risks and benefits of a certain therapeutic intervention.[5] Among the instruments most used for making this evaluation, the Medical Outcomes Study, 36-Item Short-Form Health Survey (SF-36), Stanford Health Assessment Questionnaire (HAQ) and the Nottingham Health Profile (NHP) are the most outstanding. However, it is not clear which of these is most recommended for evaluating the different aspects of QoL in patients who suffer from chronic problems resulting from RA.

The SF-36 is a multidimensional, generic questionnaire, which has been shown to be suited to the socioeconomic and cultural conditions of the Brazilian population in patients with RA.[18] Because it is the instrument most adopted in studies at world level by recommendation of the World Health Organization (WHO), it is considered the Gold Standard in the evaluation of QoL.[19] The NHP is a generic instrument for evaluation the QoL of persons with different chronic diseases, but it has been widely used in patients with RA.[20] The HAQ is a questionnaire specifically for RA, with the purpose of quantifying the impact of the disease on the daily functions of individuals.[21,22] It measures the level of difficulty the patient presents in performing activities, as well as the need for assistance.[4,12,23]

The use of these questionnaires allows one to understand the impact of the disease on the individual's life from his/her perception, and not only according to structural and functional markers. In spite of the instruments containing closed questions, they were developed from relevant data related by persons who suffer from the disease. All the instruments

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