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ORIGINAL ARTICLE

A 5 item version of the Workplace Activity Limitation Scale successfully identifies impaired work productivity in rheumatoid arthritis patients: A split-sample factor analysis approach

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Abstract

Background

There is a growing interest in studying the effects of arthritis on a person's work productivity using a growing variety of outcome indicators.

Objectives

To develop a valid and reliable shortened version of the Workplace Activity Limitation Scale 12 (WALS-12) for assessing work productivity limitations in rheumatoid arthritis (RA) patients.

Methods

A cross-sectional study involving 277 RA patients was conducted. An exploratory factor analysis on WALS-12 was used for item reduction on the first sample. Then confirmatory factor analysis (CFA) was run to establish the best fit indices of the reduced version. On the second sample, CFA and linear discriminant analysis were performed to assess the diagnostic performance and discriminant ability of the reduced form. A Bland–Altman method was used to find the agreement between the WALS-12 and the reduced one.

Results

The WALS-12 was reduced to 5 items. The Cronbach α was 0.817, with a composite reliability of 0.715. The Spearman rho correlation coefficient ranged between 0.675 and 0.795 for WALS-5, which was higher for the scale items with their domains than the correlation of WALS-5 with the domains of Work Limitations Questionnaire-25. Also, the root square of the

average variant extracted from WALS-5 was 0.802. WALS-5 showed excellent discriminant ability with an area under the curve of 0.98 ($P < .001$), sensitivity of 97%, specificity of 82%, and accuracy of 94%. The reduced version WALS-5 was in agreement with the original version WALS-12.

Conclusions

WALS-5 is a valid and reliable tool to assess the work productivity limitations in RA patients.

CONFLICT OF INTEREST STATEMENT

All authors declare they have no conflict of interest.

Supporting Information

Filename	Description
apl14584-sup-0001-FigureS1.jpg image/jpp, 53.7 KB	**Figure S1**
apl14584-sup-0002-AppendixS1.pdf PDF document, 337 KB	**Appendix S1**

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