Original Article

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Quick Response Code:

Website: www.jehp.net

DOI: 10.4103/jehp.jehp_494_23

Psychometric analysis and validation of the Persian translation of the systemic sclerosis questionnaire (SySQ)

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Received: 11-04-2023
Accepted: 09-08-2023
Published: 11-07-2024

Abstract:

BACKGROUND: Scleroderma is a complex multisystem disorder that could have effects on the quality of patients' lives. This study was conducted by determining the psychometric properties of the Persian version of the systemic sclerosis questionnaire (SySQ) that specifically assesses indications and functional limitations of scleroderma patients.

MATERIALS AND METHODS: In the present cross-sectional study, the method included: translation and back translation. Psychometric properties of the questionnaire including its content and face validity were assessed. Internal consistency with the SySQ (Cronbach's alpha) and reproducibility was by test–retest method. The factor structure of the questionnaire was evaluated using exploratory factor analysis. The convergent validity of the SySQ was assessed using the General Health Assessment Scale (HAQ).

RESULTS: Altogether 32 SySQ items, the internal consistency coefficient (Cronbach's alpha) of the whole tool was 0.906. The content validity index was 0.98 and the content validity ratio was 0.796, there was a significant relationship between the questions and the relevant factors in the factor analysis. The correlation coefficient = 0.953 for the instrument. The correlation of SySQ dimensions with HAQ questionnaire dimensions in convergent validity showed that musculoskeletal dimensions, general condition, and cardiorespiratory of the questionnaire are correlated with all dimensions of the HAQ questionnaire.

CONCLUSION: The Persian version of the questionnaire SySQ with competency is valid and reliable and is suitable for measuring specific changes in Persian systemic sclerosis patients.

Keywords:

Psychometrics, reliability, systemic sclerosis, validity

Introduction

The quality of life of scleroderma patients can be affected by the disease process. Scleroderma[1] is a complex multisystem disorder.[2] It is a chronic disease with an unknown cause and autoimmune origin, which is associated with excessive collagen secretion and connective tissue problems[3] and is characterized by fibroblast dysfunction. This disease affects the walls of blood vessels, as well as the skin of the internal organs of the body.[4,5]

It is crucial to note that scleroderma is a long-term disease[6] that progressively affects various organs of the body.[7] Consequently, it leads to severe disabilities in the physical and mental social functioning of patients, such as the inability to work and participate in family life, the disruption of personal hygiene, the fear of disease progression, and dissatisfaction with the body image because skin stiffness leads to changes in the appearance,[1] digital wounds, and oral and dental problems. In addition, the involvement of the gastrointestinal system, shortness of breath, general pain and

How to cite this article: Parniyan R, Pasyar N, Rambod M, Momennasab M, Nazarinia MA. Psychometric analysis and validation of the Persian translation of the systemic sclerosis questionnaire (SySQ). J Edu Health Promot 2024;13:234.

0.618 after two weeks.[34] The similarity of the results obtained in these studies can be due to the specificity of the questionnaire in terms of the symptoms and challenges of scleroderma patients.

In this study, the questionnaire has been evaluated, with wider and more comprehensive dimensions, (content validity, face validity, construct validity, convergent validity, and reliability) compared to other studies, and more importantly, the results have been from good to excellent, and this provides the strength and validity of the Persian questionnaire. But other translations have examined the questionnaire in a more limited way and in someone have adopted relatively lower results.

So, the Persian version of this questionnaire is eligible for evaluation and shows the condition, specific symptoms, and functional limitations of scleroderma patients. This questionnaire can be effective in reducing the complications of the disease, maintaining and improving the patient's recovery at any level of the disease. Therefore, the author hopes that the findings of this research will help to a better quality of life, development of management, care, and educational and targeted treatment programs in various fields including nursing of disease.

Limitations and recommendation

One of the limitations of this disease is that it is in the category of rare diseases with few facilities and support, and due to poor health, weakness, and weakness of the immune system in Corona conditions, it makes it difficult for patients to participate in research. In addition, it is challenging to obtain samples due to the limited number of treatment centers dedicated to these patients. In addition, this questionnaire does not specifically assess important factors such as Raynaud's phenomenon and kidney problems.

Conclusion

The aim of this study was to conduct a psychometric analysis of the Persian version of the SYSQ effective on quality of life questionnaire in scleroderma patients. The findings of the study showed that this questionnaire has good content validity, construct validity, and reliability and can be useful in the assessment of Persian-speaking patients. Using this tool, the challenges and the process of the disease and its treatment can be examined more accurately. The findings of this study can be helpful to researchers, nursing managers, and nurses. This study can be used as a basis for further studies to pave the way for the evaluation of these patients by considering other characteristics of the disease and adding wider domains of the patient's issues, including kidney problems and Raynaud's phenomenon, to the questionnaire.

Acknowledgment

The authors would like to acknowledge all the patients with scleroderma who participated in the research. We are also grateful to the Vice-Chancellor of Research at Shiraz University of Medical Sciences who approved the Ph.D. dissertation (code 21836) at the Department of Nursing, Shiraz University of Medical Sciences, which resulted in this articl and also grateful to Clinical Research Development Center of Nemazee Hospital for Statistical Consulting.

Financial support and sponsorship

The Vice-Chancellor of Research at Shiraz University of Medical Sciences funded this article.

Conflicts of interest

There are no conflicts of interest.

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