Translation and cross-cultural adaptation of coping with rheumatic stressors instrument into Turkish language

Ayan, G.; Ramiro, S.; Pimentel-Santos, F.M.; Lankveld, W. van; Kilic, L.

Received: 11 July 2022 | Revised: 10 October 2022 | Accepted: 10 January 2023

DOI: 10.1111/1756-185X.14577

International Journal of Rheumatic Diseases WILEY

CORRESPONDENCE

Translation and cross-cultural adaptation of coping with rheumatic stressors instrument into Turkish language

1 | INTRODUCTION

Coping with Rheumatic Stressors (CORS) is an arthritis-specific, valid, and reliable instrument, designed to measure coping strategies used in response to disease-specific stressors in patients with rheumatoid arthritis (RA).[1,2] The CORS score is based on how frequently an individual strategy was used by patients when dealing with pain (three strategies, 25 items), limitations (three strategies, 23 items), and dependence (two strategies, 13 items).

The CORS has been used in patients with axial spondyloarthritis (axSpA) and patients with hand osteoarthritis previously.[3] Results from studies in RA, axSpA, and osteoarthritis showed that coping strategies are associated with worse outcomes and disability.[3-5] Given that various strategies can be modified when detected, further interventions can also be performed to reach better outcomes. With the rising awareness of the importance of personalized medicine, assessment of these coping strategies is important to modify the disease course at the individual level. In various chronic diseases, usage of patient-reported outcomes is valuable because they have a huge impact on daily activities. For this reason, the transcultural adaptation of different tools is required for their use in different cultures and languages.[6,7] In this study we aimed to perform (a) the translation and cross-cultural adaptation of the CORS into Turkish and (b) its cognitive debriefing to test the conceptual equivalence of the translated version among patients with RA, and patients with non-radiographic and radiographic axSpA to be used in Turkey.

2 | MATERIALS AND METHODS

The translation and cross-cultural adaptation of CORS into Turkish was carried out using the five-step Beaton method (Figure 1).[8] Each step of the process was documented by written reports. After translation procedures were finalized, an expert committee that included the four translators, two Turkish patients, and the local research team attended an online consensus meeting. The expert committee reviewed all the translations and reports. Discussions were made for semantic, idiomatic, experiential, and conceptual equivalence and consensus was reached on the pre-final CORS in Turkish for field-test evaluation.

Using the pre-final version, the field test with cognitive debriefing was performed in a representative sample of Turkish patients with RA and axSpA recruited from the outpatient clinic of the Division of Rheumatology from Hacettepe University. Patients with RA and axSpA who fulfilled the 2010 American College of Rheumatology and Assessment of Spondyloarthritis International Society classification criteria, respectively, were chosen[9,10]. Patients who were able to communicate verbally and in writing in Turkish were included. Patients with severe comorbidities (such as neurological or psychiatric problems) that would potentially affect their assessment were excluded.[11] First, patients completed the pre-final version in a face-to-face interview (cognitive debriefing) with the research team. Notes were taken about (a) the time taken to complete the questionnaires; (b) whether the instructions were read by the patients; (c) and comments of the patients on specific items. Cultural relevance, comprehensiveness, and applicability were assessed during the interviews and each item was investigated for its understandability for patients. Demographic data, disease activity and functional disability measures, and acute-phase reactants were collected. The final translation was reached by harmonizing the pre-final version with some changes coming from the cognitive debriefing reports.

2.1 | Ethics statement

The study was approved by the Ethics Committee of Hacettepe University Faculty of Medicine (No. GO 21823) and was performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki. Informed consent was obtained from all patients included in the study.

3 | RESULTS

The CORS questionnaire was succesfully translated and culturally adapted into the Turkish language. The final version can be found in Appendix S1.

3.1 | Forward-backward translations

In the forward translation procedure, there were no major differences when the two translations were compared. In the meeting

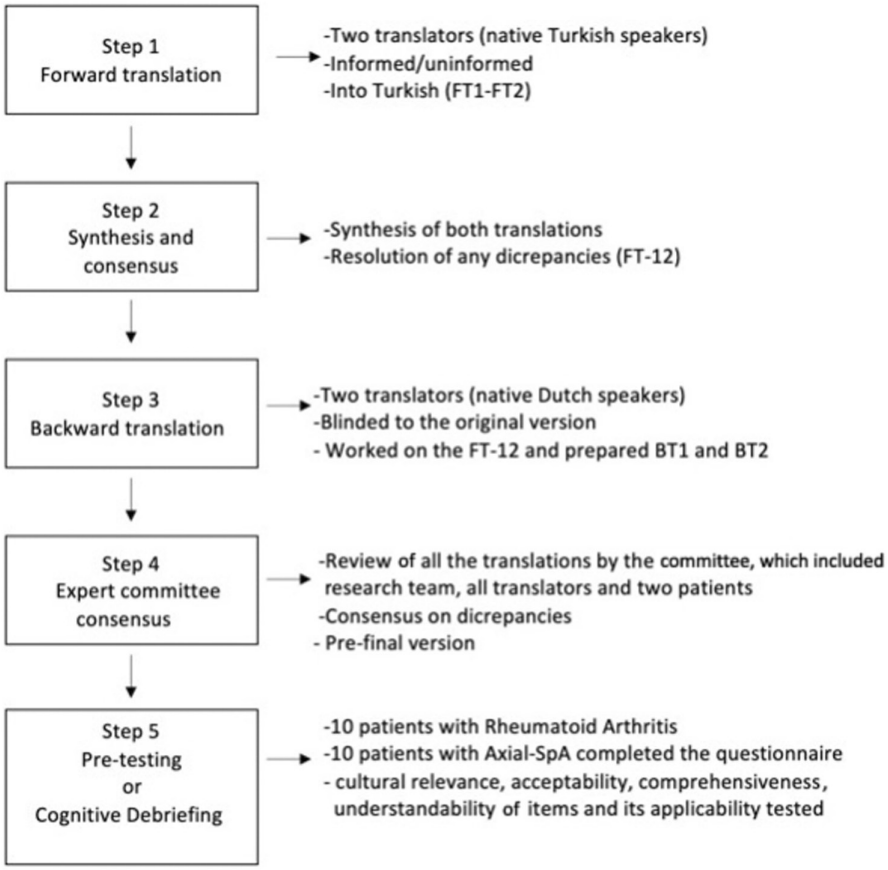

FIGURE 1 Flow chart of the translation and cross-cultural adaptation process

for the synthesis of forward translation, the differences were discussed and solved. However, there was also an agreement to further discuss several items in the expert committee review meeting as follows: In item 3, "*Ik concentreer me op iets anders*", the word *concentreer* was translated as *konsantre olmak*. In the meeting, participants wondered whether there was a more suitable word for this, such as *odanlanmak* and it was decided to further discuss this in the expert committee review. In Section A, items 5 and 8 and Section B, items 3, 11, 12, 15, 16, and 22, the word *bezigheden* was translated as *faaliyetler* and *aktiviteler* by each translator; both options were included for further discussion in the expert committee review meeting.

3.2 | Expert committee review

In the expert committee review meeting, the whole questionnaire was reviewed, and the discrepancies were discussed. In item 3, the word *concentreer* was ultimately translated as *odaklanmak*. For the word *bezigheden*, mentioned above, the final decision was to include two words, namely *işler/aktiviteler*. One word was added to item 9 in Section A, "*Ik zoek gezelschap*", was initially translated as "*Vakit geçirecek birini ararım*". The final version was decided as "*Birlikte vakit geçirecek birini ararım*". This was decided to make the sentence more accurate semantically. Patients in the expert committee suggested to add the word *zorlayıcı* to items 2 and 23 in Section B, and the word *zwaar* was initially translated as *Ağır*, but in the final version they were translated as *Ağır/zorlayıcı*. Item 17 in section B, the expression "*Her şeye ragmen*" was changed to "*Engellerime rağmen*". The decision was made to put more emphasis on the disabilities. For item 12 in Section C, "*Ik probeer iets terug te doen*" was initially translated as "*Bir şeyleri telafi etmeye çalışırım*". Patients suggested that the dependence should be specifically indicated, so the final version was "*Bağımlılıklarımın olumsuzluklarını telafi etmeye çalışırım*". Finally, a consensus was achieved. The committee agreed that the synthesized forward-translated version fulfilled the required quality in terms of equivalence and the backward translations showed good accordance with the original version. The final version was approved to be semantically, idiomatically, experientially, and conceptually equivalent.

3.3 | Field test

In the Field test, 10 patients with RA (nine female, mean ± standard deviation [SD] age of 49 ± 13 years) and 10 patients with axSpA (seven female, age 38 ± 10 years) were recruited and underwent a cognitive debriefing interview. AxSpA patients consisted of seven with radiographic axSpA and three with non-radiographic axSpA (Table 1). Mean ± SD time to complete the CORS questionnaire was 8.3 ± 3.4 minutes (10 ± 3.5 minutes for RA and 6.7 ± 2.3 minutes for AxSpA).

3.4 | Cognitive debriefing

All participants found that each item of the CORS questionnaire, instructions and respective response scales was clear and easy to complete. They reported that there was no uncertain item or word.

TABLE 1 Demographic and clinical characteristics of the patients included in the cognitive debriefing

	RA (n = 10)	axSpA (n = 10)
Age, y	48.8 ± 13.1	37.8 ± 10.4
Gender (F:M)	9:1	7:3
Disease duration, y	11 (10.75)	4 (12.5)
Symptom duration, y	11.4 (10)	8.5 (14.3)
Educational level		
Primary school	2 (20%)	1 (10%)
Secondary school	2 (20%)	1 (10%)
High school	5 (50%)	4 (40%)
University	1 (10%)	4 (40%)
Work status		
Full-time	2(20%)	5 (50%)
Part-time	0	0
Work disability due to health	0	0
Retired due to age	2 (20%)	0
Housewife	6 (60%)	5 (50%)
Student	0	0
Job-seeking	0	0
Serology		
RF positivity	7 (70%)	NA
CCP positivity	8 (80%)	
DAS-28 ESR		
Score	2.7 ± 1.4	NA
Remission	4 (40%	
BASDAI (0-10)		
Score	NA	4.6 ± 2.5
<4		5 (50%)
BASFI (0–10)		
Score	NA	3.4 ± 2.9
<4		8 (80%)
ASDAS CRP		
Score	NA	3.1 ± 0.9
<2.1		1 (10%)

Note: Data are presented as mean ± standard deviation, median (interquartile range), or as n (%).

Abbreviations: ASDAS, The Ankylosing Spondylitis Disease Activity Score; axSpA, axial spondyloarthritis; BASDAI, Bath Ankylosing Spondylitis. Disease Activity Index; BASFI, Bath Ankylosing Spondylitis Functional Index; CCP, cyclic citrullinated peptide; CRP, C-reactive protein; DAS-28, Disease Activity Score 28, ESR, erythrocyte sedimentation rate; NA, not available; RA, rheumatoid arthritis; RF, rheumatoid factor.

They all reported that the items were enough to assess how they were coping with their diseases. Neither patients with RA nor those with axSpA thought that an aspect of their disease was lacking in this assessment and no item or word was unsuitable culturally. Only one patient with axSpA reported hesitation while completing Section B as the patient was not thinking that the disease was causing a disability. Finally, one minor suggestion was made by another patient with RA concerning item 22 in section B, "*Ik stop op tijd met mijn activiteiten*", which was translated as "*İşlerimi aktivitelerimi zamanında durdururum*" and later modified by changing the word *durdurmak* to *sonlandırmak*, which means "stop" in Dutch. The final version was agreed as "*İşlerimi/aktivitelerimi zamanında sonlandırırım*".

4 | DISCUSSION

Our study successfully provided the translation and cultural adaptation of CORS into Turkish. Only minor modifications to the initial translation were required to make the Turkish version equivalent semantically.

Previous studies assessed the coping strategies used and their relation to outcomes in different diseases. Van Lankveld et al.[2] reported that, in a 415-patient RA cohort, various pain, limitation, and dependence coping strategies were related with better well-being. In a cross-sectional assessment in RA, the pain coping strategies "decreasing activities" and "diverting attention" and the limitation coping style "pacing" were positively associated with work disability.[12] Another study showed similar results in patients with radiographic axSpA with "coping with pain by decreasing activities" and "coping with limitations by pacing" as predictors of withdrawal from the labor force.[5] Another study in patients with radiographic axSpA also demonstrated that coping strategies are not stable, and the change is independent of disease duration, functionality, and pain.[3]

Given that coping strategies are important for patient outcomes, awareness to them as well as their assessment are required. The current study is an important step for the implementation of the CORS among Turkish patients. The administration of the questionnaire is easy and takes around 10 minutes. No additional resources are required for its administration, and medical training is not needed to score the questionnaires. One limitation of this study is that we recruited a predominantly female cohort. Because the cognitive debriefing interviews took time and most of the male patients were full-time workers, more female patients agreed to participate. For the wide use of CORS in clinical practice and in research, further assessment of psychometric properties, like validity, discriminative ability, and responsiveness of the questionnaire, is required as previous assessments.[13] Such a validation process will be planned and conducted.

5 | CONCLUSION

The final Turkish version of the CORS has been created with acceptable linguistic validity. This version can be used both in clinical

practice and for studies. It takes around 10 minutes to apply and further assessment to test its psychometric properties is needed.

ACKNOWLEDGEMENTS

None.

CONFLICT OF STATEMENT

Sofia Ramiro received honoraria as speaker, from Eli Lilly, MSD, Novartis, UCB, as consultant, AbbVie, Eli Lilly, MSD, Novartis, Pfizer, UCB, Sanofi and received research grants from AbbVie, Galapagos, Novartis, Pfizer, UCB. Fernando M Pimentel-Santos received honoraria as speaker, from Abbvie, Novartis, UCB, Tecnimed, as consultant, AbbVie, Eli Lilly, Novartis, Pfizer, Tecnimed, UCB and received research grants from AbbVie, Janssen, Novartis. The rest of the authors declared no conflict of interest.

Gizem Ayan[1]
Sofia Ramiro[2,3]
Fernando M. Pimentel-Santos[4,5]
Wim van Lankveld[6]
Levent Kilic[1]

[1]*Division of Rheumatology, Department of Medicine, Medical Faculty, Hacettepe University, Ankara, Turkey*
[2]*Department of Rheumatology, Leiden University Medical Center, Leiden, The Netherlands*
[3]*Department of Rheumatology, Zuyderland Medical Center, Heerlen, The Netherlands*
[4]*CEDOC, NOVA Medical School, Universidade NOVA de Lisboa, Lisbon, Portugal*
[5]*Department of Rheumatology, Centro Hospitalar de Lisboa Ocidental, Hospital de Egas Moniz, Lisboa, Portugal*
[6]*Research Group Musculoskeletal Rehabilitation Nijmegen, HAN University of Applied Sciences, Nijmegen, The Netherlands*

Correspondence
Levent Kilic, Division of Rheumatology, Department of Internal Medicine, Hacettepe University Medical School, Sihhiye Ankara 06100, Turkey.
Email: drleventkilic@yahoo.com

ORCID

Gizem Ayan https://orcid.org/0000-0003-1889-9619
Sofia Ramiro https://orcid.org/0000-0002-8899-9087
Levent Kilic https://orcid.org/0000-0003-1064-9690

REFERENCES

1. van Lankveld W, Naring G, van der Staak C, van't Pad Bosch P, van de Putte L. De ontwikkeling van de CORS: Coping met reuma stressoren. *Gedrag Gezondheid*. 1993;21:40-48.
2. van Lankveld W, van't Pad Bosch P, van de Putte L, Näring G, van der Staak C. Disease-specific stressors in rheumatoid arthritis: coping and well-being. *Br J Rheumatol*. 1994;33(11):1067-1073.
3. Boonen A, Van Der Heijde D, Landewé R, et al. Is avoidant coping independent of disease status and stable over time in patients with ankylosing spondylitis? *Ann Rheum Dis*. 2004;63(10):1264-1268.
4. Liu R, Damman W, Kaptein AA, Rosendaal FR, Kloppenburg M. Coping styles and disability in patients with hand osteoarthritis. *Rheumatology*. 2016;55(3):411-418.
5. Boonen A, Chorus A, Miedema H, et al. Withdrawal from labour force due to work disability in patients with ankylosing spondylitis. *Ann Rheum Dis*. 2001;60(11):1033-1039.
6. León-Ramón S, Navarro-Flores E, Losa-Iglesias ME, et al. Reliability of frail and Barthel tests for detecting frailty in palliative oncological patients in a home hospitalization unit: a comparative study. *Life*. 2022;12(2):286.
7. Navarro-Flores E, Romero-Morales C, Villafañe JH, et al. Transcultural adaptation and validation of Italian Selfcare diabetic foot questionnaire. *Int Wound J*. 2021;18(4):543-551.
8. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*. 2000;25(24):3186-3191.
9. Aletaha D, Neogi T, Silman AJ, et al. 2010 Rheumatoid arthritis classification criteria: An American College of Rheumatology/European League Against Rheumatism collaborative initiative. *Ann Rheum Dis*. 2010;62(9), 2569-2581.
10. Rudwaleit M, van der Heijde D, Landewe R, et al. The development of Assessment of SpondyloArthritis international Society classification criteria for axial spondyloarthritis (part II): validation and final selection. *Ann Rheum Dis*. 2009;68(6):777-783.
11. Cruz EB, Ramiro S, Machado P, Branco JC, Pimentel-Santos FM. Translation and cross-cultural adaptation of the ASAS health index and ASAS environmental factors item set into European Portuguese language. *Acta Reumatol Port*. 2017;42(3):256-262.
12. Chorus AM, Miedema HS, Wevers CW, van der Linden S. Work factors and behavioural coping in relation to withdrawal from the labour force in patients with rheumatoid arthritis. *Ann Rheum Dis*. 2001;60(11):1025-1032.
13. Martínez-Jiménez EM, Pereiro-Buceta H, Palomo-López P, et al. Repeatability and reliability of the rheumatoid arthritis foot disease activity index in Spanish patients: a transcultural adaptation. *Biology*. 2021;11(1):30.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.