ACR Open Rheumatology
Vol. 0, No. 0, Month 2022, pp 1–2

American College of Rheumatology
Empowering Rheumatology Professionals

LETTER TO THE EDITOR

DOI 10.1002/acr2.11437

Fibromyalgia criteria and anomalous results: comment on the article by Ghavidel-Parsa et al

To the Editor:

We read with interest the paper by Ghavidel-Parsa et al on the Preliminary Nociplastic-Based Fibromyalgia Features (NFF) tool (1) in which the authors describe a new tool for the diagnosis of fibromyalgia (FM) and then compare the tool's performance with the American College of Rheumatology (ACR) modified 2011 and 2016 criteria in accurately identifying patients with FM (2,3). The performance results for the respective groups (NFF, ACR modified 2011, and ACR modified 2016) were concordance 0.85, 0.80, and 0.77; kappa, 0.68, 0.58, and 0.51; and AUC 0.87, 0.79, and 0.76, as shown in their Table 4. Simply put, the NFF appeared to perform quite well and substantially outperformed the modified ACR criteria. The obvious and compelling explanation for these results is that the gold standard (reference standard) definition used in the Ghavidel-Parsa et al study was anomalous, reflecting a definition of FM at variance with the definition used by most experts and investigators. If the authors' patients were diagnosed based on an anomalous definition of FM, the ACR criteria should not and did not classify them as having FM.

There is substantial evidence of an anomalous definition of FM by the authors' group. We evaluated the performance of ACR-related 2010/2011 criteria in 14 different clinical studies in our 2016 criteria paper (3). We found that the study site used by Ghavidel-Parsa et al appeared to be an outlier because its data showed both the lowest diagnostic agreement and the lowest FM severity scores of any site. Compared with an overall (14 studies) mean/median diagnostic sensitivity of 82.6%/85.7%, their group's site sensitivity percent was hugely different (59%). The overall mean/medium widespread pain index (WPI) in patients with FM was 11.2/12.1 compared with 8.3. The overall mean/median "FS" or polysymptomatic distress score was 18.7/19.1 compared with 15.2. The anomalous group's site values (labelled "Bidari") can be seen in Table 1 and Figures 2-4 of the 2016 criteria paper. In the current report by Ghavidel-Parsa et al, the mean WPI of 6.9 and polysymptomatic distress (PSD) of 13.2 are even lower than in their 2013 study (4). In addition, in 2013, we determined FM diagnosis and WPI/PSD in a separate general population study in Germany (5). Among patients with FM, the WPI was 8.9 and 16.4. From these data, we conclude that the expert diagnosis used in the current Ghavidel-Parsa et al study identifies different patients with less severity than is usual among rheumatology and epidemiological diagnoses. That being so, their conclusions regarding the level of general agreement among criteria are untenable and must be rejected. The problem of anomalous results that are based on gold standard differences is well known (6).

A second point regarding the generalizability of data and criteria is also of importance. The creation of the 1990 ACR criteria standard was based on the perceptions and data of 558 patients and 16 geographically separate physician sites. The 2010/2011 criteria standard involved 829 patients and 46 rheumatology physicians. By contrast, only two rheumatologists were involved in the recruitment and diagnoses definitions in the Ghavidel-Parsa et al study. According to the authors, "both had long-term experience in the diagnosis and management of FM and chronic pain disorders. The diagnoses of patients were made by the recruiting rheumatologists based on their clinical experience. Satisfying the ACR classification criteria was not a requirement for diagnosis, and like previous studies, the rheumatologists' diagnosis of FM was considered the gold standard (reference)."

The aforementioned data indicate that the methods of diagnosis used in the present study were biased and idiosyncratic. They yield results that are at variance with all other previously published data. Although the observations of the authors regarding diagnostic variables not previously considered are invaluable (7), their conclusions regarding validity, reliability, and comparability of diagnostic methods as a general finding are untenable and should be rejected.

Author disclosures are available at https://onlinelibrary.wiley.com/action/downloadSupplement?doi=10.1002%2Facr2.11437&file=acr211437-sup-0001-Disclosureform.pdf.

Frederick Wolfe, MD
National Data Bank for Rheumatic Diseases and University of Kansas School of Medicine
Wichita, KS
Johannes J. Rasker, MD
University of Twente
Enschede, Netherlands
Winfried Häuser, MD
Technische Universität München
München, Germany
and Klinikum Saarbrücken
Saarbrücken, Germany

1. Ghavidel-Parsa B, Bidari A, Atrkarroushan Z, Khosousi M. Implication of the nociplastic features for clinical diagnosis of fibromyalgia: development of the preliminary Nociplastic-Based Fibromyalgia Features (NFF) tool. ACR Open Rheumatol 2022;4:260–88.
2. Wolfe F, Clauw DJ, Fitzcharles MA, Goldenberg DL, Häuser W, Katz RS, et al. Fibromyalgia criteria and severity scales for clinical

and epidemiological studies: a modification of the ACR Preliminary Diagnostic Criteria for Fibromyalgia. J Rheumatol 2011;38: 1113–22.

3. Wolfe F, Clauw DJ, Fitzcharles MA, Goldenberg DL, Häuser W, Katz RL, et al. 2016 revisions to the 2010/2011 fibromyalgia diagnostic criteria. Semin Arthritis Rheum 2016;46:319–29.
4. Bidari A, Hassanzadeh M, Parsa BG, Kianmehr N, Kabir A, Pirhadi S, et al. Validation of the 2010 American College of Rheumatology preliminary diagnostic criteria for fibromyalgia in an Iranian population. Rheumatol Int 2013;33:2999–3007.
5. Wolfe F, Brahler E, Hinz A, Hauser W. Fibromyalgia prevalence, somatic symptom reporting, and the dimensionality of polysymptomatic distress: results from a survey of the general population. Arthritis Care Res (Hoboken) 2013;65:777–85.
6. Bachmann LM, Jüni P, Reichenbach S, Ziswiler H-R, Kessels AG, Vögelin E. Consequences of different diagnostic "gold standards" in test accuracy research: Carpal Tunnel Syndrome as an example. Int J Epidemiol 2005;34:953–5.
7. Wolfe F, Rasker JJ. The evolution of fibromyalgia, its concepts, and criteria. Cureus 2021;13:e200100.