

The GRAPPA-OMERACT Working Group: 4 Prioritized Domains for Completing the Core Outcome Measurement Set for Psoriatic Arthritis 2019 Updates

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ABSTRACT: The Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA)-Outcome Measures in Rheumatology (OMERACT) Psoriatic Arthritis (PsA) working group provided updates at the 2019 GRAPPA annual meeting on its work toward developing a Core Outcome Set for PsA. The working group prioritized 4 domains, including musculoskeletal disease activity (enthesitis and dactylitis), fatigue, physical function, and structural damage. In this report, the working group summarizes its progress in standardizing the Core Outcome Set for these 4 domains.

Key Indexing Terms: Psoriatic Arthritis, Psoriasis, Outcome Measures, GRAPPA, OMERACT

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Running Footline: GRAPPA-OMERACT Core Measurement Set

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Introduction

In 2016, the Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA)-Outcome Measures in Rheumatology (OMERACT) Psoriatic Arthritis (PsA) Core Set working group updated the Core Domain Set.(1, 2) The updated Core Domain Set was developed through a combined effort of health care professionals and patient research partners (PRPs) who defined essential domains to be measured in all clinical trials.(1, 2) Since then, the working group has initiated the development of a PsA Core Outcome Measurement Set.(3) During the 2018 OMERACT meeting in Terrigal, Australia, the 66/68 swollen and tender joint count was endorsed to measure the domain of “musculoskeletal (MSK) disease activity: peripheral joints”,(4) and the PsA Impact of Disease (PsAID12) 12-item questionnaire received provisional endorsement for measurement of the domain of Health-Related Quality of Life.(5)

The working group prioritized 4 additional domains to undergo instrument appraisal, including 2 subdomains of MSK disease activity (enthesitis and dactylitis), fatigue, physical function, and structural damage. These 4 domains were chosen due to their importance in clinical trials, their impact for patients, and the urgent need to standardize the use of instruments to assess the domains.(6) This is a report of the working group’s presentation at the GRAPPA 2019 annual meeting in Paris, France, where the work undertaken to standardize the Core Outcome Set for these 4 domains was presented.

Overall Work Stream for Each Domain

Dr. Ying Ying Leung explained that the appraisal of instruments for each domain follows the methodology laid out in the OMERACT Filter 2.1.(6) The 4 pillars of the OMERACT Filter 2.1 consist of Truth 1 (Domain Match), Feasibility, Truth 2

(Numerical Sense), and Discrimination.(7) The overall work stream for each of the 4 domains starts by convening a domain working group. Members of each domain working group comprise health care professionals with relevant expertise and at least 2 PRPs. Relevant instrument(s) for the domains are then identified through systematic literature reviews (SLRs) and working group input. For domains that have numerous instruments available, the domain working groups may prioritize instruments through discussion and Delphi exercises to achieve consensus. Prioritized instruments for a domain are then critically appraised using the OMERACT Filter 2.1.

The working group has already developed and used specific methods for PRPs to evaluate domain match and feasibility. The appraisal processes with the OMERACT Filter 2.1 for each instrument will be discussed with the OMERACT technical advisory group once the evidence supporting an instrument is collected. The evidence supporting each instrument for a domain will be provided in the OMERACT summary of measurement properties table. For some instruments, missing evidence may need to be acquired.

The domain working groups will consider the evidence supporting each instrument and develop consensus through Delphi exercises. All supporting documentation for each instrument will be submitted to OMERACT as an instrument workbook. The OMERACT technical advisory group will work with the domain working groups on the recommendation of instruments based on the results of the instrument workbooks. This new virtual method will enable the OMERACT community to endorse instruments as information becomes available, rather than having to wait for the standard voting workshop during the biennial OMERACT Congress.

Updates on Work Stream for Each Prioritized Domain

MSK Disease Activity: Enthesitis and Dactylitis. Dr. Alexis Ogdie led the MSK disease activity working group, which included 3 PRPs. The working group completed an SLR of the instruments that measure dactylitis, enthesitis, and peripheral joint counts in March 2017. The summary from the peripheral joint studies has now been published.(4) Since the OMERACT 2018 meeting, the working group has been assembling similar summaries of the measurement property tables for enthesitis and dactylitis. Disease activity in the axial spine is not prioritized here. GRAPPA and the Assessment of Spondyloarthritis International Society (ASAS) are collaborating to develop classification criteria for axial PsA that can be more routinely and reliably assessed in clinical trials and in practice. Historically, axial spondyloarthritis outcome measures are applied when assessing axial involvement in PsA without validation.(8) Development of axial assessments for PsA remains an active research agenda item. Fewer studies have investigated the psychometric properties of the measurement tools for these disease features. Next steps will include a Delphi exercise similar to that performed for the joint counts. This exercise will also include patient engagement to understand the content validity and feasibility of the enthesitis and dactylitis measures from the patient perspective.

Enthesitis can also be assessed using ultrasound. Dr. Lihi Eder is leading an independent working group focused on the measurement properties of sonographic-assessed enthesitis.(9) This working group performed an SLR on sonographic enthesitis scoring instruments.(9) A few sonographic enthesitis scoring instruments that were developed for spondyloarthritis were identified to assess enthesitis, but most have not been validated in PsA. None of these instruments has the potential to

pass the OMERACT Filter 2.1. Therefore, additional research is required before existing instruments for enthesitis ultrasound assessment can be endorsed.

Fatigue. Fatigue is a PsA core domain that is variably measured in PsA clinical trials.(10) Evidence supporting fatigue instruments in PsA are summarized in the SLR of patient-reported outcome measures (PROMs).(11) The instruments with psychometric evidence in PsA were the Functional Assessment of Chronic Illness Therapy (FACIT)-Fatigue, Fatigue visual analog scale (VAS), Fatigue numerical rating scale (NRS), and vitality domain of the Medical Outcome Study Short Form-36-item Health Survey (SF-36). New evidence has emerged for fatigue instruments in PsA since the publication of the SLR, including randomized controlled trial (RCT) thresholds for improvement for FACIT-Fatigue(12) and the Fatigue NRS,(13) as well as the FACIT-Fatigue content validity. A challenge for the appraisal of VAS and NRS single items is the standardization of the wording and time interval (e.g., past 7 days, today).

Dr. Ana-Maria Orbai is convening a fatigue working group that will consider the fatigue instruments identified above,(11) as well as instruments used in prior PsA studies such as the Fatigue Severity Score, Fatigue Assessment Scale, Patient-Reported Outcomes Measurement Information System (PROMIS)-Fatigue, and single fatigue-items included in the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and PsAID questionnaires.(10) Similar to the prioritization process undertaken for the physical function domain, the working group will use discussion and Delphi exercises to prioritize instruments that will undergo further evaluation using the OMERACT Filter 2.1.

Physical Function. The physical function working group is led by Dr. Ying Ying Leung and consists of 13 members, including 2 PRPs. The working group has international

representation that spans America, Asia, and Europe. Based on data from a published SLR on PROMs in PsA,(11) the working group identified a list of PROMs that measure physical function for PsA and recommended additional, newer instruments. Based on the working concept and definition of physical function as the perception of physical capability,(14) the working group decided to focus on PROMs instead of performance-based assessments. Through discussions and 2 rounds of Delphi exercises, the working group prioritized 6 PROMs that will be further appraised individually using the OMERACT Filter 2.1. These 6 PROMs are the Health Assessment Questionnaire (HAQ)-Disability Index (DI), HAQ-Spine (S), modified (m) HAQ, multidimensional (MD) HAQ, the physical functioning domain of the SF-36 (SF-36-PF), and the PROMIS-Physical Function questionnaire (PROMIS-PF). The working group is conducting an SLR to evaluate the discrimination of various PROMs for physical function in RCTs.

The appraisal document for the HAQ-DI was submitted to OMERACT for virtual voting, and the SF-36-PF will also be appraised next. The other PROMs will require acquisition of new data before they are formally evaluated using the OMERACT Filter 2.1.

Structural Damage. Drs. William Tillett and Anna Antony reviewed progress by the structural damage working group. Unlike domains in the inner circle, which are mandatory in all RCTs, the assessment of structural damage is placed in the middle circle of the Core Domain Set. Inhibition of structural damage is seen as important to be demonstrated at least once during drug development but not required to be measured in all clinical trials.(2) As a result, the OMERACT working group has prioritized structural damage for the selection of measurement instruments despite its position in the middle circle of the Core Domain Set. The structural damage

working group is conducting an SLR of imaging instruments for the assessment of structural damage in PsA. The group discussed how the SLR data should be reported and agreed that data that relate to plain radiographic instruments would be reported first followed by the other imaging modalities, including magnetic resonance imaging, ultrasound, and computed tomography.

Composites

Composite indices are commonly used in rheumatology for the combined assessment of disease as well as for defining a treatment target or disease state. They typically span several domains to encompass a broader concept of disease activity and disease impact. Several composite indices have been developed specifically for PsA and are used in RCTs,(15) but consensus on which instrument to take forward is not available.(16) In addition, the process for validation of composite indices is yet to be clarified within OMERACT. A workshop on composite indices in PsA was undertaken at the GRAPPA 2019 annual meeting and is reported separately.(17)

Conclusion

This report summarizes the GRAPPA-OMERACT PsA Core Set working group's efforts to develop a standardized Core Outcome Set. The working group described 4 prioritized domains: MSK disease activity (enthesitis and dactylitis), fatigue, physical function, and structural damage. Each domain working group summarized its progress to standardize the Core Outcome Set for these 4 domains.

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