

Review of: "Scoping review and interpretation of myofascial pain/fibromyalgia syndrome: An attempt to assemble a medical puzzle"

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We read with interest the study that documents a scoping review of myofascial pain syndrome (MPS), with the specific purpose to ‘systematically search cross-disciplinary empirical studies of MPS, focussing on mechanical aspects, and suggest an organic mechanism explaining how it might evolve into fibromyalgia’(Plaut 2022). Despite the author’s merits in identifying and pointing out that myofascial pain is an overlooked and underdiagnosed condition, the present manuscript lacks scientific evidence and does not provide a balanced representation of the existing literature. For example evidence for the proposed alternative interpretations and theory - urging concern from the reader and the scientific community.

After assessing the article, we are of the opinion that the author did not follow the suggested guidelines for conducting a scoping review. Alternatively, the author may have erroneously identified a scoping review as the preferable methodology to support and describe their hypothesis, which attempted to provide an organic/physiological mechanism explaining how myofascial pain might evolve into fibromyalgia. Despite mentioning that PRISMA Extension for Scoping Reviews (PRISMA-ScR) guideline was followed, the author failed to adopt many of the best practices of a scoping review, either described on PRISMA-ScR or by Arkse and O’Malley (2005)(Tricco et al. 2018; Arksey and Malley 2005). The PRISMA-ScR suggests that a scoping review “may be used to systematically search and examine the extent, range, and nature of the evidence on a topic or question. Still, it might aid the planning and commissioning of future research” (Tricco et al. 2018). Indeed, the author may not be aware or may have forgotten to adopt the classic best-practices framework for a scoping review proposed by Arksey and O’Malley (2005) which includes: 1) Identifying the research questions; 2) Identifying relevant studies; 3) Study selection; 4) Data extraction; 5) Collating, summarizing and reporting the results in a manuscript format(Arksey and Malley 2005). Despite our efforts, we observed no evidence of conducting a formal data extraction, collating, summarizing, and reporting the results. Based on these elements, it becomes difficult to understand the integrity and completeness of the scoping review by the author. Therefore, this manuscript should be considered, at most and still with some concerns, as a a narrative review with an attempt to describe a novel-proposed theory to explain MPS and fibromyalgia and not a scoping review.

Looking specifically at the study selection, the single author’s approach to include studies, along with numerous lines of discussion following record selection, is of concern. The methodology outlines an extensive database search, albeit with

limited details provided in a PRISMA diagram. Of particular note, a single author performed all searching, screening, and selection of studies for inclusion. While the author noted this limitation, the lack of a second author to reach an agreement on inclusion and exclusion criteria does not add much credibility to the 'systematic' approach applied in record selection. The main concern here is reproducibility and the risk of bias from a single author in the selection of records for inclusion. Of course, if very strict inclusion and exclusion were disclosed in the methodology, these concerns would be lessened. However, the author did not disclose specific inclusion or exclusion criteria in the methods section. Specifically, 'Items off-topic, foreign language, and in journal ranked Q4 were excluded' is a general comment that requires more explanation. Additionally, there are no specific reasons for exclusion given in the PRISMA diagram, nor supplementary materials. Therefore, elements that are recommended on PRISMA-ScR, guidelines and that should be met, were not adopted as per the author's description.

When examining the numbers of records throughout the PRISMA diagram, along with the lack of disclosed methods for record selection, there are further concerns about the quality and repeatability of this scoping review. Following screening from their search, the author was left with 390 records for inclusion. The author then included 409 additional records from 'side topics encountered'. These side topics were never disclosed, and their sources included medical textbooks and 'more studies from searching databases'. The author did not disclose the details of these new database searches, yet these records outnumber the previously included studies from the original systematic search. Perhaps this was an indication to redo the original database search. When digging deeper into the numbers, following the original database search (N=390) and the inclusion of 'side topics encountered' (N=409), the author reported a total of 799 records included in their scoping review. Yet, their reference list only includes 298 records. Are these 298 records from the systematic search of 390 records, the additional records of 409, or some combination of the two? The reader is left to wonder what happened to the 501 records that were included in the scoping review, yet never referenced in the manuscript text. Given the immense length of the scoping review as published, and the lack of scientific-based discussion on the overwhelming of records included in the review, the reader wonders what is the point of conducting this study without following the minimum widely described PRISMA standards?

If one disregards the poor methodology employed, we wish to point out that the contents of this article are discordant with the working knowledge of hypotheses and theories that exist for myofascial pain syndrome. The author is clear and confident about where assumptions were made. However, numerous examples from the discussion point to a lack of understanding of the literature, or complete disregard for relevant studies, thereby they are not supported by actual data. For example, at one point the author makes the following statement. "In addition, MPS and fibromyalgia are suggested to be two sides of the same coin [2, 154, 261]." This statement implies the known substantial symptomatic overlap between conditions, or perhaps that they are one and the same. These references included are 2 – a citation for the author's search terms of www.uptodate.com, 154 – A rheumatology textbook from 2013, and 261 – a scoping review where the authors examined the lexicon of the current diagnostic criteria for these two conditions. The only peer-reviewed reference here is, perhaps that the "two sides of the same coin" allegory which was the title of record number 261. However, the content of record 261 pointed to these two differing pathologies sharing common descriptors in their diagnostic criteria.

Another example of the author's liberal citation style: "A study suggested that in fibromyalgia, a global pathology involving tryptophan might come at the expense of other serotonergic operations such as the brain [211]." Here, the referenced study examined cerebral spinal fluid and specifically stated in their limitations that they did not measure from the brain and that their findings should not be interpreted as being taken with respect to brain regions. While these are only a few examples from the lengthy discussion, they further evidence of concerns for the content within this scoping review.

Figures 2 through 6 provide no intellectual contribution to the manuscript. If the author was attempting to provide some schematic representation of how fascia acts as a framework, perhaps they could have made their own anatomical or physiologically based illustration or borrowed one from one of their 799 records.

Overall, this lengthy review presents numerous methodological and content concerns. Most notably, the scoping review was carried out by a single reviewer, with no proper disclosure of inclusion/exclusion criteria, nor the ability to verify the reproducibility of findings. We suggest that the issues described above, combined with the disconnect between the records screen, records found from 'other' sources, and the reference list should have been major red flags for the editorial team at Plos ONE. Despite this appraisal may sound negative there is not intent to discourage or disqualify the author and their work. We hope that this critical appraisal inspires the author and readers to improve the scientific standards seeking to produce high quality scientific communications in the future.

References

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