Reviewer's report

Title: Foot structure, pain and functional ability in people with gout in primary care: cross-sectional findings from the Clinical Assessment Study of the Foot

Version: 0 Date: 28 Oct 2018

Reviewer: Matt Carroll

Reviewer's report:

Thank you for the opportunity to review the article. I enjoyed some of the new insights provided by the authors. I have a few general comments to address:

Participant inclusion criteria
How can you truly be sure your all your participants had gout?
With regard to the inclusion criteria can the author please comment/justify on why the 2015 ACR/EULAR criteria were not used? Reference below. This needs to be highlighted a limitation of the study

Introduction
The authors have missed a key reference that will add context to the introduction that describes gait and ankle function in gout.

Disease severity and duration
You report the disease severity may be lower in your participants compared to studies cited in your introduction. How do you know the disease severity is lower in your population? Can you please provide further detail surrounding disease severity and duration so the reader can put your data into context? This would include inclusion of:

Medications

Serum urate levels
The inclusion of ethnicity data is also important particularly when comparing UK data to US and Australasian data.

Subtalar joint motion
Whilst you did demonstrate that frontal plane motion in the rearfoot was reduced compared to control participants I note the mean values for the gout groups still falls within clinically accepted expected normal values. That is, 20° inversion and 10° eversion, a 2:1 ratio. Although there has been research in the last 3 years questioning the use and validity of measures of related to STJ motion these measurement norms are still used clinically. Based on your data do you feel
the STJ is functionally restricted being that you have demonstrated a relatively normal value for rearfoot frontal plane motion?
I feel your findings surrounding frontal plane rearfoot motion should state that you found decreased frontal plane motion in the rearfoot when compared to controls in a non-weightbearing position. As opposed to simply stating reduced STJ motion. I feel there needs to be a clear distinction between non-weightbearing and weightbearing findings. The reason behind this is that based on provided you are able to make inferences between a static non-weightbearing measurement and dynamic function.

Ankle OA
A point that should be raised in your limitations is that you did not determine the extent to which the participants with gout were affected by OA. You state that OA could be a cause of reduced STJ ROM but it is not clear if you population had ankle OA? I find this statement to speculative based on the data provided.

Walking Speed
You state you found no significant differences in walking speed. Could you please provide more detail on how you measured gait speed? The differing methodologies of measurement will be one of a few possible reasons for the differences found in your study versus previous study. This needs further discussion as you findings differ from numerous recent publication.

Level of interest
Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable
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