Reviewer’s report

Title: The effect of variation in interpretation of the La Trobe radiographic foot atlas on the prevalence of foot osteoarthritis in older women: the Chingford general population cohort

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Reviewer: Yvonne Golightly

Reviewer's report:

This study examines different interpretive approaches for the LaTrobe Foot Atlas for scoring radiographic foot OA. Clarification is needed in several parts of the manuscript, particularly related to the sample and methods (see specific comments below).

Abstract, Background: The first two sentences of the Background do not seem to correspond to the aim of the study. What is the value of examining different interpretative approaches for an atlas that is not widely used?

Abstract, Methods: What was the mean age of the participants by this time point? Also, it should be stated in this section that radiographic OA was defined for the foot collectively and separately for individual joints.

Background, page 5, lines 103-104: Please provide values for reliability and validity.

Methods: A figure is needed to describe the flow of participants from the initial Chingford cohort to the current analytic sample. (https://strobe-statement.org/index.php?id=strobe-home)

Methods, Radiographic Scoring of foot osteoarthritis: For Techniques 2 and 3, the authors describe the procedures for joints that were difficult to interpret and score. This also should be described for Technique 1.

Methods, line 182-4: This sentence appears to be a result and should be included in the Results section.

Methods, Statistics: Details on the statistical tests are needed.

Results: Please describe how the participants in this analysis (Visit 23 with foot radiographs) differed from the original cohort in terms of demographic and clinical characteristics.

Discussion, lines 239-243: More details about the sample for the study by Menz et al. (e.g., sample size, sex, age, geographic location) are needed to help the reader understand the comparisons being made between the study and the present analysis.

Discussion, lines 289-291: Was the same positioning of participants used to obtain the foot radiographs from Year 6 as from Year 23?
Discussion, lines 298-301: It is unclear how the differences in the cohorts are a limitation.

Discussion, line 308: The prevalence of radiographic foot OA is very high in this study. The authors should comment on whether this finding is clinically meaningful.

Conclusion: The authors should elaborate on how this work in a single cohort using different interpretations of the same atlas "strengthens the case for harmonisation of case definitions."

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Please indicate how interesting you found the manuscript:

An article of limited interest

**Quality of written English**

Please indicate the quality of language in the manuscript:

Acceptable

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