Reviewer's report

Title: The association between history of diabetic foot ulcer, perceived health and psychological distress: the Nord-Trondelag Health Study

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Reviewer: Loretta Vileikyte

Reviewer's report:

This large, population-based study of over 60,000 participants, with and without diabetes and with and without diabetic foot ulceration addresses an interesting, yet relatively under-researched topic. The authors examine the associations between foot ulcer history and several psychological constructs, including generalized distress (anxiety, depression and psychological well-being) and self-rated health. The paper is well-written and concise and of potential interest to the readership of Endocrine Disorders. It highlights the relationship between foot ulceration and poorer self-rated health, which in turn is a well-established predictor of poor medical outcomes, such as mortality.

This reviewer has several concerns/comments regarding study methodology and the interpretation/discussion of the results.

Major Compulsory Revisions

1. Although the authors discuss the use of the self-report measures of foot ulceration among the study limitations, this reviewer wondered whether there might be ways of validating the self-reports, by, for example, verifying ulcer self-reports with medical records. It is especially relevant in view of qualitative studies showing that patients’ understanding of what the foot ulcers mean is very poor to non-existent and therefore the self-reports are highly unreliable. Related to this, how did the authors come up with a 3-week timeline as a diagnostic cut-off for an ulcer? Perhaps they could cite the source. Moreover, in the case of diabetes diagnosis, while those answering affirmatively were verified based on biochemistry results, it is likely that a substantial proportion of subjects might have been unaware of their diabetes and therefore were misclassified.

2. Diabetes-specific variables do not seem to include other important complications of diabetes such as nephropathy and, in particular, neuropathy. A study by Vileikyte et al (Diabetes Care, 2005) shows that it is neuropathy and its symptoms, including pain, loss of feeling, and in particular unsteadiness, that are important determinants of depression. I would recommend to include and discuss this important study, as some of their results echo with those of the present report (e.g., the lack of independent association between ulcers and depression).

Discretionary Revisions

3. Psychological assessment. While this reviewer is familiar with HADS and SRH, the 4-item measure of psychological well-being is somewhat less known. Is
4. Increasing evidence points to the importance of assessing diabetes-specific and/or ulcer-specific distress rather than just generalized distress, as the former seem to have stronger associations with predictors. Perhaps the authors would consider the inclusion of some of this literature into their discussion? Similarly, when citing generic studies on SRH and mortality, they might wish to consider studies specifically examining the link between SRH and poorer outcomes in diabetes.

5. The authors recommend that in future research patients with ulcers should be monitored to identify potential need for intervention (what kind of intervention?) In the same para (p14) they state the need for assessing whether patients with ulcers are at higher risk for mortality (see your ref 6, this is exactly what that study shows). Wouldn't it be better to re-phrase by stating "to determine whether SRH is a predictor of mortality in patients with past foot ulceration"

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests' below