Author’s response to reviews

Title: Commitment devices in the treatment of diabetic foot ulcers

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Response to reviewers

Reviewer #1:

First there's the difference between devices for healing and devices for prevention. Nonremovable devices are currently only recommended for ulcer healing. I think the commentary can improve on clarity by only focusing on this process. The writing now goes back and forth between healing and prevention devices. However, healing is generally a shorter process, while prevention devices are "for life". I think the discussion on commitment devices and improving adherence should only focus on healing devices. At the end of the commentary, a short discussion can then be added that an improved adherence to a healing device thanks to this communication might carry forward to a prevention device. However, that's probably as far as I would go regarding the latter.

Author (A): I agree with the reviewer about the difference between devices used for healing and prevention. Still, I disagree with focusing solely on the healing process as the spillover effect between the healing period and the following prevention period is a central point of the study. If we only wished to heal the ulcer, the conceptualization of the device would not be very important. As long as the patient agrees to use a non-removable device and the ulcer heals, it would not matter if the patient thought this was only because of the offloading effect and did not understand that non-removability/full adherence is an essential component. However, if we view the entire process, including both the healing and prevention period thereafter, this misattribution becomes central: if the patient downplays the role of non-removability/high adherence during healing, this may spill over into the prevention period, resulting in low adherence and higher risk of reulceration after healing.
Please see our previous article, Jarl and Lundqvist (2017), for a more thorough discussion of the value of viewing healing and prevention as two aspects of one single process: https://www.tandfonline.com/doi/full/10.1080/2000625X.2017.1380477

Second, I wonder about the working mechanism if starting to discuss devices as commitment devices indeed improves adherence. It might be the specific context related to the commitment device, as eloquently explained by the author. However, it could perhaps also be the result of improved communication, irrespective of the content. Because in my opinion, communication about offloading treatment and treatment decisions is generally rather short, and any improvement may increase adherence. I think the commentary can be strengthened if the author would add some short reflection on this. There is an enormous body on general patient-clinician communication and potential positive outcomes thereof, but directly related to our field specifically, the only paper I'm aware of is a commentary we wrote two years ago discussing communication as a method to improve footwear adherence (Van Netten et al, 2017 Prosthetics Orthotics Int). I'll leave it to the author to consider if some reflections on this can be added as a discussion on a potential working mechanism.

One minor point: the Beattie et al qualitative study is referenced. Perhaps consider to check the nice meta-synthesis by Coffey and colleagues, as I'm sure that one contains multiple examples relevant for this paper, also from other qualitative studies.

A: I agree that defining non-removable offloading devices as commitment devices is at best only one of many factors affecting adherence and that good communication often is not given the role it deserves. I have now added a little more on communication, but I refrain from going into details about communication styles as this is beyond the scope of this article and there is very little evidence for any specific communication style when it comes to offloading devices. I also thank the reviewer for the suggestions for references to use, and have added them to the text.

Reviewer #2:

The word conceptualizing is used 5 times in your abstract, does this need to be the case? Consider revising the abstract to reduce this.

A: I have now rephrased the abstract to make it less repetitive.
Line 85 - 90 you discuss ways to improve adherence and mention motivational interviewing which is a very current concept which proves to be extremely useful for patients displaying ambivalence to change. It would be useful to elaborate on this and provide the reader with more information on ways that they can help their patients to become more compliant.

A: Although motivational interviewing (MI) and other communication styles have been studied a lot, there is (as far as I know) only one pilot study (Keukenkamp et al., 2018) specifically investigating MI as a means for improving adherence to using offloading devices. I have now added a reference to another study (Van Netten et al, 2016) suggesting some other communication techniques, but refrain from going into more details as this is not the main focus of the article and the evidence base at present is very weak.

Line 95 - clarity needed on this sentence.

A: I have now tried to clarify the sentence.

Consider reducing the use of the word conceptualize throughout your article as this is overused.

A: I have now rephrased the text to avoid overusing the term.

Lines 104-114 - you mention three studies in this paragraph and very much skim over these, it would be useful to add more detail on the relevance of these studies.

A: I have now elaborated a little bit more on the concepts, but prefer not to go into too much details as the concepts are not the main point in themselves, but are meant to serve only as examples of how new concepts can be introduced in an attempt to change the clinical mindset.

You make big assumptions in your conclusion - consider revision of this to reflect what you have discussed.
A: I agree that the study does not include any empirical data to support the hypothesis made, i.e., that a different conceptualization of treatment with non-removable offloading devices would improve adherence in the long term. Thus, I tried to use terms like “seems” and “hopefully” and invite other researchers to investigate the practical implications. Please let me know if you have any other suggestion for how to clarify that this study is only a starting point for further discussions and studies.