Author's response to reviews

Title: Trichotillometry: the reliability and practicality of hair pluckability as a method of nutritional assessment.

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Author's response to reviews: see over
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Editor-in-Chief
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Dear Nehme Gebrayel,

**Re: Response to reviewer’s comments (MS: 6702738061122278)**

Thank you for your feedback on our paper “Trichotillometry: the reliability and practicality of hair pluckability as a method of nutritional assessment”. We have revised the manuscript with respect to the comments from the two reviewers. Details of the changes made in response to the reviewer’s comments are provided below. We hope that this will be to their satisfaction.

Yours sincerely,

Laura Wyness.
Responses to Reviewers comments (Reviewer Sue Green)

Comments:

The scientific background informing the article need to be strengthened and reported in relation to the study aims i.e. reliability testing and the effect of patient characteristics on the measure.

Page 4, end of paragraph 2, changed text: From "The potential usefulness of this method however, required further investigation. The present study was conducted to investigate the reliability of hair pluckability as measured by a trichotillometer. A comparative study was also conducted to investigate the effect of patient characteristics on the epilation force required to pluck hair. Primarily, the effects of age, gender and ethnicity, in “white” and “black African” individuals, were investigated. The effects of characteristics of the hair, such as length, colour, styling and the use of hair styling products on the pluckability were also investigated." to read "However, to be useful in the field the method needs to have low within- and between observer variation and low intra-individual variation. The present study was therefore conducted to investigate the reliability of hair pluckability as measured by a trichotillometer."

The concept of screening for malnutrition as opposed to assessment of nutritional status needs to be considered.

Page 3, last line, added text: “In complex emergencies inexpensive and simple methods for screening for malnutrition and for assessing changes in nutritional status are required.”

In the abstracts the authors suggest that hair pluckability “could be a useful method of nutritional assessment in complex humanitarian emergencies”. However, the results do not support this statement.

If the reliability of this method was improved it would be a useful method of nutritional assessment in complex emergencies. The wording in the abstract has been changed to emphasise this more.

Abstract conclusion, changed text “If this variation could be reduced, it could be a useful method of nutritional assessment in
complex humanitarian emergencies.” to read “Hair pluckability could be a useful method of nutritional assessment in complex humanitarian emergencies but only if the reliability was improved.”

Key literature is not considered in the introduction e.g. Collins et al 2000. Hair pluckability in relation to marasmus and kwashiorkor are also not considered.

Page 3, last paragraph, added text: “Chase et al. (1981) found patients with kwashiorkor or marasmic kwashiorkor had slightly decreased epilation force than patients with “pure” marasmus. This should be borne in mind when assessing malnourished individuals. Further investigation of this issue was beyond the scope of this paper.”

It is more likely that hair pluckability could be used as part of the process of the assessment of nutritional status during clinical examination...Although many patients may object to having 10 hairs pulled out and the acceptability of the measure needs to be considered.

Page 11, end of paragraph 1, added text: “Although none of the participants in this study objected to having ten hairs pulled out, the acceptability to some individuals may be lower, for example due to a lower pain threshold or traditional beliefs not permitting the removal of hair, as in some African cultures.”

The number of participants in the study seems small...what was the required sample size to detect a difference with respect to the inter-rater and intra-rater reliability testing? And what was the required sample size when testing the effect of patient characteristics on the measure?

Page 5, paragraph 3, added text:

“Measurements from ten individuals were required to test the within-observer reliability and three observers were required to test the between-observer reliability.”
Minor essential revisions:

Page 3, last paragraph: Blood can be classified as a tissue – structural protein may be a better term to use

The text has been amended accordingly

Page 3, last paragraph: The term “crash dieting” needs to be explained.

Text has been changed to provide explanation of the term. “Studies have shown that crash dieting, where the diet is severely constrained over a short period, can precipitate hair loss [4, 5]. Chronic starvation, especially marasmus, is also associated with…”

Page 7, paragraph 1: The use of percentages with such small numbers is questionable

The percentages have been deleted.
Responses to Reviewers comments (Reviewer Ingegerd Johansson)

Comments:

This paper would gain considerably if shortened and focused on the essential findings only.

The results section has been condensed by removing repetition and unnecessary detail.

Table 1 does not add information

Table 1 has been deleted, and Table 2 is now changed to “Table 1”.

Figure 1 is a normal box plot, which should be stated in the figure legend. Therefore, the explanatory text in the figure, though not wrong, may be deleted.

The title of Figure 1 has been changed to “Figure 1 – Box plot showing the distribution of hair pluckability measurements obtained across the three observers.” The explanatory text has been removed.