Author's response to reviews

Title: Idiopathic Environmental Intolerance attributed to Electromagnetic Fields (IEI-EMF): A systematic review of identifying criteria.

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Author's response to reviews: see over
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Title: “Idiopathic Environmental Intolerance attributed to Electromagnetic Fields (IEI-EMF): A systematic review of identifying criteria”

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Authors’ response to reviews: Please see below
Dear Professor Russi,

We would like to thank you and the reviewers Dr Eltiti and Dr van Rongen for your remarks and feedback that helped us improve our work. On behalf of the co-authors I would like to submit the revised version of our manuscript with the title “Idiopathic Environmental Intolerance attributed to Electromagnetic Fields (IEI-EMF): A systematic review of identifying criteria.” After your request, I have listed below all the revisions we made (in blue colour). All the requested text changes and additions are underlined in the manuscript.

Yours Sincerely,

Christos Baliatsas, MSc
Reviewer's report (Dr Stacy Eltiti)

Major Compulsory Revisions:

The data presented in figure 3 is unclear and inaccurate. The figure caption says the figure contain data on the prevalence in percent of IEI-EMF. For our study (Eltiti et al., 2002) the figure says the prevalence rate is about 19%; whereas, we reported a prevalence of 4%. The information in this figure should be double-checked and perhaps presented in a table for ease of understanding.

The studies and figure have been double-checked and all the necessary corrections have been made. In addition, the studies of Mohler et al., (2010) and Roosli et al. (2010) are based on the same sample, therefore in the revised figure we included only the study of Mohler et al. (2010), in which two different definitions for IEI-EMF were used (A1&A2).

Discretionary Revisions:

I believe the manuscript would benefit from a more detailed description regarding the similarity in both the symptoms experienced as well as the pattern of symptoms between IEI-EMF individuals and control individuals and how this is problematic in creating a diagnostic criterion. For example, previous attempts by Hillert and colleagues (2002) and Eltiti and colleagues (2007) have failed to identify an unique symptom pattern, which is evident in most physiological and psychological illnesses. Often a disorder has a cluster of symptoms that are associated with a given disorder and are thus used as criteria. Given the combination of diversity of symptoms, the ordinariness of the symptoms, and unknown etiology, the only thing that really distinguishes IEI-EMF from control individuals is the causal attribution of their symptoms to EMFs.
Reviewer's report (Dr Eric van Rongen)

Major Compulsory Revisions

1. Abstract, Conclusions: ‘Further work is required to produce consensus criteria not only for research purposes but also for use in clinical practice.’ – the paper would considerably gain importance if a proposal for this would be given.

   Information has been added (page 3, “Abstract” part, “Conclusions”).

2. Discussion, Possible subgroups, 4th para: ‘Table 5 illustrates a number of proposed aspects for IEI-EMF’ – it is nice to provide these in the table, but they need to be discussed in the text too.

   Information has been added (page 14, second paragraph).

3. Discussion, Possible subgroups, 6th para, 2nd sentence: ‘Nevertheless, without the harmonization of the conceptual framework…’ – and then the reader expects that to be provided here. So please do.

   Information has been added (page 15, second paragraph).
4. Conclusions, 2nd sentence: ‘the necessity to develop uniform criteria’ – and this paper should do that!

Information has been added (page 16, “Conclusions”).

Minor Essential Revisions:

5. Abstract, Results, 3rd sentence from end: insert full stop after ‘source-specific’.

The requested correction has been made.

6. Introduction, last para: delete ‘a’ before ‘widely supported case definition criteria’.

The requested correction has been made.

7. Methods, Data extraction, first sentence: ‘(Tables 2 & 3)’ – and 4!

The requested correction has been made.

8. Discussion, 4th para, 1st sentence: ‘IEI-EMF, as it appears in the literature

IEI-EMF is still predominantly a self-reported condition’ – delete the second ‘IEI-EMF’.

The requested correction has been made.

9. Discussion, Possible subgroups, 1st para, 1st sentence: ‘IEI-EMF is a heterogeneous condition.’ – you don’t know that. Calling it a ‘condition’ (just like ‘disorder’) might already be a step too far. The heterogeneity derives for a large part from the heterogeneous inclusion criteria.
That sentence has been deleted and the words “disorder” and “condition” have been replaced with “IEI-EMF” or “self-reported sensitivity” or “sensitivity” or “phenomenon”.

10. Discussion, Possible subgroups, 6th para, 1st sentence: ‘possible cultural differences’ – this isn’t discussed anywhere. Discuss or leave out.

We added a sentence in order to be more specific (page 15, first paragraph).

11. Conclusions, 2nd sentence: ‘The lack of validation and heterogeneity…’ – this could be read as lack of heterogeneity, but that is not what you mean.

Reformulate this to be clear.

The sentence has been changed into: “Heterogeneity and ambiguity of the existing definitions and criteria for IEI-EMF...”

12. Tables: please check accuracy of names. In many cases the ‘ö’ has been replaced by ‘o’. I think in general the reference list is ok.

All names in the text have been double-checked and the requested corrections have been made.

13. Table 3, Hietanen et al 2002: ‘f.g.=65.’ should be ‘f.g.=65%’

The requested correction has been made.

14. Table 3, Osterberg et al 2004: this is a case-control study and should be in table 4.

There was a mistake regarding the design of that study (it is a prevocational one). A correction has been made.
15. Table 4, Hocking 1998: ‘N=0.’- so no subjects at al??

That study was not primarily focused on IEI-EMF; the authors employed some criteria for the identification of sensitive to EMF people, but none of the respondents reported IEI-EMF.

16. Table 4, Hillert et al 1999: ‘a.r.=20#.’ – something is missing here.

A correction has been made (“age range = 20≤”).

17. Table 4, footnote: start the abbreviations at a new line.

The requested change has been made.

18. Table 4, footnote, 1st sentence: ‘Osterberg et al.’ – first: this is not in this table, but in table 3 (see earlier remark; second: do you mean Östergren et al (which is in the ref list but not in any table)?

The studies of Carlsson et al., and Österberg et al., are both based on the same sample (from the study of Östergren et al., which is included in the reference list but not in the eligible studies, since reports have been excluded according to our criteria). We now mention this also in the footnote of table 3. Moreover, at page 41 (footnote) we added some clarifying text for the studies of Mohler et al., 2010 and Röösli et al, 2010.

Discretionary Revisions:

19. Abstract, Results, 2nd sentence from end: ‘The case definition was in most of the cases exclusively based on subjective report.’ – and in the other cases?
We reformulated the last lines of the “Results” paragraph in the abstract in order to be more concise (page 3).

20. Abstract, Results, last sentence: ‘Experimental studies used a larger number of criteria than observational ones.’ - but still the same 4 mentioned earlier?
Yes, in most of the cases.

21. Introduction, 1st para: ‘the underlying cause’ – I’d say ‘the possible underlying causes’.
The suggested correction has been made.

The suggested correction has been made.

23. Introduction, 1st para: ‘case definition’ – this is very broad in this context, since you are talking about ‘environmental exposures’ here.
In this paragraph we replaced the “case definition” with “identification of patients”.

24. Introduction, 2nd para: ‘its estimated prevalence varies considerably’ – true, but that is also depending very much on the chosen definition and the method of inventarisation; this is of course discussed later in the paper but could be mentioned here already; much higher % than given here are shown in fig 3 (up to >20%).
We added the sentence “..usually due to different methodological approaches”.

25. Methods, Inclusion criteria, last sentence: ‘there is no robust evidence for prevalence of the disorder in this population group’ – true, but that is also the case for
>14-y-olds! I would prefer another argument – are there any studies on <14-y-olds? Also, I wouldn’t call it a disorder, that gives it more of an established feeling than warranted.

We deleted that sentence since indeed there is no evidence for self-reported IEI-EMF in such population groups. The word “disorder” in the text has been replaced by either “self-reported sensitivity” or “IEI-EMF”.

26. Methods, Data extraction, first sentence: ‘female gender distribution’ sounds strange – I’d say ‘gender distribution’ or ‘male/female ratio’ or something like that.

The suggested correction has been made.

27. Methods, Review Process, last sentence: ‘Whenever necessary,..’ – I assume that was always the case.

The last lines of the “Review Process” part have been slightly reformed in order to be more concise.

28. Results, Study characteristics, first para, last sentence: ‘In 37 studies the case definition procedure was solely based on the subjective report of the respondents.’ – and in the other studies?

Page 9, first paragraph: The last lines have been reformulated and some corrections regarding the number of studies have been made.


The suggested correction has been made.
30. Results, Observational studies, 4th para: ‘The prevalence of the disorder’ – do you mean the prevalence in the population? If you want to say something about prevalence (which is not the objective of this paper) this para should be more elaborated, e.g. are the population studies representative for the entire population, what is the possible explanation for the huge difference between the studies of Eltiti [56] and Mohler [86] and the rest.

Some clarifying text has been added (page 11, second paragraph).

31. Discussion, 4th para, last sentence: ‘In addition, the large variation in estimates of the prevalence of IEI-EMF in the population-based observational studies is influenced by the heterogeneity in the identifying criteria.’ – some elaboration would be helpful for the reader.

We moved this part to page 11 (please see previous question).

32. Discussion, Possible subgroups, 2nd para, 2nd sentence: ‘Previous studies have identified occasionally high levels of other diagnoses in such patients which might adequately account for their ill-health’ – strange formulation: what are high levels of other diagnoses?

We included some clarifying text (page 13, first paragraph).

33. Discussion, Possible subgroups, 3rd para, 5th sentence: ‘NSPS and other possible physiologic reactions’ - perhaps it is better to make a distinction between subjective and objective reactions?

The distinction is now mentioned in the text.
34. Discussion, Possible subgroups, 5th para: ‘Based … etiologic associations.’ can be removed. This is all unnecessary excuses.

*We only kept a small part of the provided information which we consider as useful for the readers.*

35. Discussion, Possible subgroups, 6th para, 1st sentence: ‘which will be used’ – better ‘should’ or ‘could’.

*The suggested correction has been made.*

36. Discussion, Possible subgroups, 7th para, last sentence: ‘the main issue at this point of time should not be the recognition of IEI-EMF as a clinical syndrome, but the recognition of its multidimensional nature.’ – So? How does that help the people with symptoms?

*We considered that sentence as unnecessary and it has been excluded.*