Author's response to reviews

Title: Effect of a printed reminder in the waiting room to turn off mobile phones during consultation: a before and after study

Authors:

Ludovic Reveiz (mmreveiz@hotmail.com)
Sylvia de Aguiar (sylvia_deaguiar@hotmail.com)

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Author's response to reviews: see over
The Editor

Re: Submission of manuscript for publication

Dear Sir,

Thanks for the opportunity to continue in the peer review process. We have included the comments in the revised manuscript and are providing a point-by-point response to the concerns.

Reviewer: Rohan Jayasuriya

1. The conclusions are not warranted as there are many unknowns.
   a) as it is a before-after (pre-post non experimental design) study, many of the weaknesses have not been acknowledged. The temporal effect of change due to other factors cannot be excluded. Were there other “messages” in the media or even in the rooms (such as reception staff alerting patients). One could have had a “window period” where the intervention was taken out...to find out if the interruptions returned to the usual level. 
   Response: Limitations were mentioned in the discussion

   b) we are not told how many had mobiles? How many had it switched off? If an exit survey was conducted at the same time this information would have been available.  
   Response: Limitations were mentioned in the discussion: “We did not perform a survey asking participants if they saw the sign, how many had mobiles or had it switched off because this may have introduce some communication bias taking into account that a number of participants are related to patients that attend the office”

   c) the methods section lacks critical information. As this was in a single practice, of consecutive patients, it is very likely that in a period of five months, there were patients (and relations) who returned. How did the authors control for this bias? If that is the case, the statistical analysis is inappropriate as tests assume independent groups. 
   Response: Although a number of patients returned to consultation they were included only once. This was included in section methods.

   d) there are too many factors that would influence the behaviour that have (to the extent reported) not been controlled for. If such data was not collected, then statistical control is not possible. 
   Response: this is a limitation of before and after studies. We included more details in the manuscript that describe methodological issues. Although a number of factors could have influence the behaviour, most of them were controlled or reported as limitations.

2. The study is not situated in the wider literature. The authors have not referred to what is already known about patient behaviour and communication. Some of the references are not relevant as they address the content of physician - patient
communication not the mechanics (such as interruptions). The role of culture is not well discussed, it may be that in other interactions, such interruptions are common place. The discussion is weak.

**Response:** In fact we could not find literature concerning this topic. We have done a search in PUBMED, the Cochrane Library, LILACS and Scirus and we did not found literature concerning this topic. The literature used in the discussion section address physician – patient communication and particularly a review of the impact of interruptions on the perception’s of patients and physicians. No other studies were found and this study explores new issues in the relation between patients and physicians.

3. Finally, it is of concern that this is not a definitive study, but a preliminary investigation, that may provide valuable in-sight for designing a study. The findings (due to limitations in internal and external validity) do not add to the knowledge in this area, at this time.

**Response:** we agree that this is a preliminary investigation with external validity limitations. However, the study provides the basis for further quantitative and qualitative research. As clinicians, we took the time to perform the study, because we believe that a number of interruptions’ are affecting physicians – patients relations, and consider that they should be explored in many different ways.

**Reviewer:** Christopher Pearce

I think the article would benefit from reconsidering parts of the introduction. The introduction focuses on the issue of mobile phone use and the medical environment. Whereas the research is about reminders in waiting rooms. It could be argued that whether or not mobile phones should be turned off is irrelevant to the research, which is about the waiting room reminder. With that in mind I wonder if they could include here some discussion about the cultural phenomenon of mobile phones, particularly in their culture. there are writings on how mobile phones are now part of 'an extended humanity', and the like. The next stage is probably to ask patients to turn their phones to silent (rather than off). Is that more tolerable?

**Response:** We included a new paragraph in the introduction section concerning the cultural phenomenon of mobile phones.

**Reviewer:** Ray O’Connor

2. Are the methods appropriate and well described? Some revision is needed here. How prominent was the sign. How large was it? Was it in colour? How many other signs were there in the waiting room that might have caused distraction. What is the literacy level among their patients Would some have seen but not understood the sign. What is their average waiting time for patients in the waiting room. If this is short one would expect less of them to see the sign. What is the prevalence of mobile phone ownership among patients in their practice?

**Response:** Sign’s description was included in the methodology section. Information from the average waiting time was available from medical systems records and included. The
prevalence of mobile phone ownership among patients in our practice is not currently available. We did not performed a survey asking participants if they saw the sign, how many had mobiles or had it switched off because this may have introduce some communication bias taking into account that a number of participants are related to patients that attend the office.

6. Are limitations of the work clearly stated? To an extent. However the points raised in item number 2 above are not addressed.
Response: they were included in the manuscript.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes although their literature search is not comprehensive. For example I published a paper on the topic of interruptions in the consultation in 2007 in the Irish Medical Journal which does not appear in their literature review. However, overall the literature review appears to be adequate.
Response: Many thanks the this reference which was included. We also included other relevant literature that was mentioned in the Dr O’Connors study.

8. Do the title and abstract accurately convey what has been found? Some revision is needed here. The abstract does not clearly indicate what kind of printed reminder is used. In fact it is just another sign in the waiting room.
Response: This was included in the abstract

Reviewer: Meredith Makeham

1. There is no evidence presented that patients receiving mobile phone calls during a consultation is likely to be related to a poor health outcome.
Response: This was not one of the objectives of the study. However, we included some relevant reference in the background and discussion sections that provides more details concerning the effect of interruptions.

2. There is no background work done considering whether either the physician or patient felt that the health care being provided or received was in any way compromised by the patient receiving or making a call. In fact, the authors even suggest that some of the calls MADE by a patient during the consultation were to gather information required such as medication details. However calls 'made or received' are a single outcome measure in table 2.
Response: we included some relevant reference in the background and discussion sections that provides more details concerning the effect of interruptions and phone interruptions.

3. There is a general statement towards the end of paragraph 1 of the introduction that "Several studies suggested that communication during medical consultation has a significant association with patient outcomes" - this statement is so broad that it is basically meaningless, however the authors provide three references to support it.
Response: We eliminated this sentence from the introduction section.
4. This is followed by a subjective opinion statement from the authors that "almost everyone realizes it is discourteous to start a conversation during consultation". There is no consideration of whether a phone is left on despite a sign in the waiting room because for example the person is in a work or personal situation that requires them to be contactable at all times.

Response: We modified this sentence in the manuscript.

5. In terms of methodological design, the authors guess the number of phone interruptions "based on personal experience". Was this a pilot study of some kind? Is their recall reliable?

Response: In fact, we evaluated during 20 days the number of phone interruptions and estimated it.

6. The data collection technique is unclear. I am presuming that the GP saw 498 patients, measured their call patterns, then displayed the sign, and measured the next 498 patient's call patterns... The first sentence of the methods section is poorly constructed.

Response: We modified the text.

7. Who made the measurements of time? Was this the work of a single GP in the practice? Did the GP stop during every consultation when a patient's mobile phone rang and collect the fairly detailed list of data and enter into Access? How long an interruption to the consultation did the data entry make? Did the GP perhaps report less in the 'after' group because of the time being taken in interruptions to record the data?

Response: The length of the calls was measured using a pocket chronometer by three general practitioners when the patient responded or made a call during consultation. Demographic data is part of clinical history. The measurements of time take few seconds as did data entry. All GPs were trained and motivated to participated in the study.

8. Was the GP measurement checked by anyone as to its reliability? eg the data is presented in the second in terms of time of call - based on a device in the GP's pocket. If there were several GPs collecting or if different GPs collected before and after, this could affect its validity.

Response: Both GPs were trained and standardize the way in which measurements were done. Both collected before and after.

9. Did the patients actually see the sign? They were not asked by the GP and this may be the reason the phone was on. Although the authors presume they saw the sign in the waiting room ("easily visible"), this is not measured and they may simply not have been aware of the request.

Response: This is a limitation of the study as patients were not asked if they saw the sign. However, we do not think that this could have introduce bias, as this is what we want to
10. Table 2 of the results is inconsistent with the data presented in the text. Table 2 combines the outcome measure 'received or made', and the text in paragraph 2 of the results gives the same figure as 'receiving a call'.
Response: We modified the text to: “a significant difference was found in the proportion of patients receiving or making a call during the consultation (8.7% vs. 13.5%, \( p=0.021 \))”

11. There is no explanation of what would or would not have constituted patients excusing themselves for receiving or making a call, (this data could greatly vary from one GP to the next depending on their personal opinion of manners), or any discussion of how this is important to answer the research question.
Response: We included a commentary on this

12. The methods don't describe any collection of the data on the nature of the call, and yet data is presented on the number of calls related to medications and test reports, and that a large number of calls were from "relatives worried or inquiring about the medical consultation output".
Response: This was eliminated as it was not considered in the protocol and was not measured. It was just a perception of both GPs: “that a large number of calls were from "relatives worried or inquiring about the medical consultation output".

13. The result that no gender difference was found "when comparing the exposed and non-exposed groups" in the first sentence of paragraph 3 in the results section is unclear as to whether the authors are referring to the proportion of calls answered, or to all aspects measured.
Response: This was modify in the manuscript.

14. The next phrase doesn't seem to make sense "Although no significance was found among groups, the mobile phone was useful for identifying the names and doses of previously described medications... etc - this was not measured based on methods and results presented, so what data was being tested for significance here?
Response: This was modify in the manuscript.

15. The first sentence of the discussion makes a claim that the sign was "helpful to decrease the number of interruptions during consultation". However, this study was not measuring the number of interruptions per consultation, so this should be qualified as it is in the final paragraph. There is no evidence presented that the findings of this study could be generalised in any way.
Response: As discussed in the discussion section, phone calls are one of the most frequent cause of interruptions during consultation. We think that we may conclude that the sign decrease the number of interruptions during consultation. As discussed in the
discussion section, this studies has external validity limitations. However, the study provides the basis for further quantitative and qualitative research.

16. We are presented with the proportion of patients that received or made calls in total, and it is problematic that this is mixed, with no explanation of whether a call made was actually at the request of the doctor to get information.
Response: This was modify in the manuscript: no call was made at the request of the doctor to get information.

17. Overall, there are a large number of grammatical errors that would require editing before publication. They are too numerous to be listed.
Response: Editing was performed

**Editor’s commentaries**

We would be grateful if you could address the comments in a revised manuscript and provide a cover letter giving a point-by-point response to the concerns.

To be reconsidered, the paper would have to be extensively revised addressing each of the issues raised by each of reviewers. In particular there needs to be more detail:

Literature review: The study needs to be situated in the wider literature on patient behaviour, communication, use of mobile phones in clinical practice
Response: A literature review was performed and some relevant references included in the manuscript.

Intervention: Description of the poster and how it was used in the waiting room. Were instructions given by practice staff? Why was the period chosen and would this have any effect on the reasons patients were attending (eg respiratory infections).
Response: This was included in the manuscript

Data collection: How many patients were seen before and after the sign was displayed?
Response: 498 in each group
How was the information on the calls occurring during consultation recorded.
Response: This was included in the manuscript

Participants: Description of the patient population (apart from age and gender) including its language and culture, literacy level, ownership of mobile phones, number who switched them on or off, etc
Response: This was included in the manuscript. However we did not collected information on the ownership of mobile phones and number who switched them on or off as this could had bias the study.

Conclusions: As this is a preliminary, before after study in one practice with limited
evaluation of impact, the conclusion that a waiting room reminder is helpful is not justified.

Response: This was included in the manuscript