Reviewer's report

Title: Evaluation of the short message service reminders on patient's medication adherence results of a controlled study to assess the effects of and satisfaction with incoming messages

Version: 2 Date: 1 June 2013

Reviewer: Marcia Vervloet

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Minor Essential Revisions

1. Figure 1 appears to be incomplete; some of the text appears to be invisible (e.g. in the block “Assigned to the intervention and control” and the block “Intervention”).

2. Table 6, first sentence (“preferred text message to be sent before time medication should be consumed”) needs rewriting as it is not clear what is meant by this.

3. What is meant by the term ‘phone monitoring’ (p.3)?

4. The term ‘demand for text message reminders’ is a bit confusing. What exactly do the authors wish to assess? The three statements with which ‘demand’ is assessed (“The SMS clearly described the frequency…, the method… and drug dose”) are also used to assess patients’ satisfaction with the SMS (which is indeed more appropriate in my opinion).

5. It would be interesting to know whether patients could choose the times at which the medication reminder would be sent. The authors only mention that the reminders were sent at ‘specific times’. If patients were able to choose the times themselves, they might be more positive about or satisfied with the reminders than when the times were set for them by the hospital pharmacists.

6. It would be interesting to know what the specific text of the SMS reminder could be. Maybe the authors can provide some examples? The authors state that “the SMS content depended on the extent of patient involvement in the text message reminder service”. What exactly is meant by this statement? Does the content differ between patients regarding the amount of information given? Or how specific the information was?

7. I would recommend being consistent in reporting percentages concerning the number of decimals (now sometimes none, sometimes one or sometimes two decimals are used).

8. When presenting results regarding medical history, it is confusing that the authors mention patients without diseases or patients without a disease (p.11): they probably mean patients without that specific disease, as they do have other diseases for which they take medication?
Major Compulsory Revisions

1. The abstract is missing!

2. The background lacks a clear aim. Is the aim of this study to establish a ‘personal medication management system’ (as was stated as the aim by the authors), or to improve medication adherence by sending patients SMS reminders for medication intake, or to improve patients’ satisfaction and loyalty towards health care institutions? In addition, more studies using SMS reminders to improve patients’ medication adherence have been conducted over the past years, which are not acknowledged in the background section.

3. It is unclear whether patients might receive SMS reminders for more than one type of medication. If patients use multiple medication, do they receive reminders for each medication? This may be an important factor! Especially when the authors state in the discussion (these are actually results that are not included in the result section!) that patients reported the frequency of the text messages was too high / the number of messages was excessive. This annoyance with the reminders can have an impact on adherence.

4. It is unclear whether all patients, thus also the patients in the control group, had access to the PMP system during the intervention period? Through this platform, patients could obtain information regarding their medication use, medication history and free professional medical consultations (as was stated by the authors at p.6). If all patients had access to this platform during the SMS-intervention, this might have influenced the results? As the authors also state that “this service can enhance medication adherence”. A large improvement can be observed in the control group for both delayed (46.4%) and missed (60.1%) doses. Can this also be a result of use of the PMP system, but then without the SMS reminder service?

5. Table 1 shows significant differences between the groups concerning education level, occupation, income, marital status and medical history. This is not consistent with the authors stating that “analyses of basic information indicated that no significant differences existed between groups” (p.10)?

6. As also mentioned in my third comment: the discussion includes presents new results. Another example is the subgroup analyses with 54 patients (p.17). The authors may want to move these results to the results section, and keep the discussion section for reflecting on these results.

7. Similar to my comment concerning the background section, the discussion section seem to lack relevant references to previous studies employing SMS reminders to improve adherence. There are much more studies being conducted in the past years! In addition, ref 13 is referred to as an article showing similar results as this study, but is a study protocol. In addition, some explanations given by the authors are not supported with any reference. The authors might want to search for more relevant literature to add to the discussion for a better reflection of their results.

8. An important limitation of the study, which is not mentioned, is that a self-report measure is used to assess medication adherence. Self-report is
generally acknowledged as a less reliable method, as patients tend to overestimate their adherence. In addition, the short follow-up might also be a limitation. Patients received reminders for only seven days.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests