Author’s response to reviews

Title: The role of text messaging intervention in Inner Mongolia among patients with type 2 diabetes mellitus: a randomized controlled trial

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Author’s response to reviews:

Dear editor,

We really appreciate your great effort in reviewing our manuscript and provide us an opportunity to improve the quality of our paper.

According to the editor/reviewer’s suggestions, we have carefully revised and improved our manuscript. In addition, we invited a native speaker, Jennifer Barrett (Ph.D.), who helped us to edit and modify our manuscript again. All authors declared that they have no competing interests.

Your comments and suggestions really helped us a lot. We have put great efforts on them. In order to more clearly explain the answer to your questions, we have broken some questions down to answer. We wish it can be satisfactory. If have any information I can provide, please don’t hesitate to contact me.

Thank you again for your time and patience. Looking forward to hearing from you.

Sincerely yours,
Xuemei Wang.

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Title: The Role of Text messaging Intervention in Inner Mongolia among Patients with Type 2 Diabetes Mellitus: A Randomized Controlled Trial
Reviewer reports:
Leila Ahmadian (Reviewer 1): There are some grammatical and language errors in the text that need to be corrected before publication.
In line 55 of the introduction, it is written "patients cannot adhere to an extended time after discharge", do the authors mean after diagnosis?
When the authors explain the patient population, they should mention the type of diabetes.
How many SMS had been sent and how was the timing and the frequency?
Why the positive score related to "the participant's willingness" was 2 compare the score related to "the participant's understanding".
What the authors mean by "deleted the average score of messages &lt;4 after SMS quality evaluation.". What the authors mean by "discharged participants"? do they only invited the hospitalized patients to participate in the study? If this is the case, the sampling has bias.
Authors mentioned that they sent regular messages, mostly limited to general theoretical knowledge for control group, I think sending this messages are also a kind of intervention and may affect the behavior of the participants.
In table 2, a high number of participants reported that the content of weight control and diet control messages were "unknown and not have done". This issues should be discussed in the discussion section. Why participants found these messages unknown? Is there any educational program before the intervention regarding the diabetes in the country? If so what are they?
What are the limitations of the study?

Reviewer:
Thank you for your careful review and valuable comments. In order to more clearly explain the answer to your questions, we have broken some questions down to answer.
Point 1: There are some grammatical and language errors in the text that need to be corrected before publication.
Response 1: Thanks reviewer for the recommendations. We invited a native speaker, Jennifer Barrett (Ph.D.), who helped us to edit and modify our manuscript again. And according to your recommendation, we checked all the English grammar issues throughout the text and modified them in red font.

Point 2: In line 55 of the introduction, it is written "patients cannot adhere to an extended time after discharge", do the authors mean after diagnosis?
Response 2: Thank you for your valuable comments. It is difficult for people with diabetes to manage themselves. Only when receiving treatment in the hospital, they would follow the advice of doctors and nurses, but once when they leave hospital, it is difficult to ensure a healthy lifestyle for a long time, which may affect blood sugar control. Once diagnosed as diabetic, almost all patients face this situation.
The meaning of the sentence "patients cannot adhere to an extended time after discharge" is indeed that patients cannot adhere self-management to an extended time after diagnosis.

Point 3: When the authors explain the patient population, they should mention the type of diabetes.
Response 3: Thanks reviewer for the comments. We have added the type of diabetes in patient population part. (Methods, Patient population, Line 89, Page 6)

Point 4: How many SMS had been sent and how was the timing and the frequency?
Response 4: Thank you for your careful review and valuable comments. According to your advice, we have added the number of text messages we sent in line 122-124. In addition, in Line 165-166, we had described that the messages were sent twice a week, only one message at a time. And In line 167-169, we have modified the description with messages that need to be sent repeatedly. (Methods, SMS design, Line 122-124; SMS Intervention, Line 167-169, Page 7)

Point 5: Why the positive score related to "the participant's willingness" was 2 compare the score related to "the participant's understanding".
Response 5: Thank you for your careful review. I am sorry for what we expressed was not clear. The reason why the positive score related to "the participant's willingness" was 2 compare the score related to "the participant's understanding" was based on the degree of the patients’ demand and relevance for messages.
As we had described in line 150-152, SMS quality evaluation included three aspects, the first was the patients’ understanding of the message content; the second was the patients’ willingness to act on the message content; the third was patients’ current status in response to the messages. Among them, what patients’ current status response, which were unknown and had not been taking action, had the highest degree of demand and relevance, which of the patients’ willingness was the second, which of the patient's understanding was third. Therefore, we assigned 4 points, 2 points, and 1 point, orderly.

Point 6: What the authors mean by "deleted the average score of messages <4 after SMS quality evaluation.".
Response 6: Thank you reviewer for the recommendations. The total score of each message was calculated as the sum of the scores of the five questions, reflecting the overall quality of the message, with a maximum total of 10 points. And we classified by score: >7 as high quality, 4-7 as medium quality and <4 as low quality. Low quality means that patients' demand in diabetes management were low, and such messages was eliminated and not included in the scope of SMS intervention. In our research of intervention, there were no text messages with a score lower than 4. (Methods, SMS Quality Evaluation, Line 161, Page 9)

Point 7: What the authors mean by "discharged participants"? do they only invited the hospitalized patients to participate in the study? If this is the case, the sampling has bias.
Response 7: Thank you for your careful review. Yes, we only invited the hospitalized patients to participate in the study. There were two main reasons for choosing hospitalized patients. The first was to ensure consistency of baseline information among all patients. Because during hospitalization, patients received treatment and health education, their physical indexes, such as blood glucose, blood pressure, blood lipid have been effectively controlled when they discharged. The second was to ensure the patients’ compliance with the intervention in study. They had developed relationship with doctors and nurses when they discharged. At the end of each intervention phase, we followed up the patients cooperated with nurses to confirm whether the patient had improved behavior based on the content of the text message.
Point 8: Authors mentioned that they sent regular messages, mostly limited to general theoretical knowledge for control group, I think sending this messages are also a kind of intervention and may affect the behavior of the participants.
Response 8: Thanks reviewer for the recommendations. The purpose of sending messages to the control group is to reduce the rate of lost follow-up. Previous communication with patients and previous studies had showed that it is difficult to ensure patient compliance if the control group does not provide any interventions.
In China, basic public health services had always focused on managing all people with diabetes or hypertension, and our participants are all from the basic public health service. In fact, the control group's messages content we sent was included in basic public health services. And both the intervention and control groups received management of basic public health services. Therefore, in order to avoid many lost follow-ups in control group, we give regular message intervention.

Point 9: In table 2, a high number of participants reported that the content of weight control and diet control messages were "unknown and not have done". This issues should be discussed in the discussion section. Why participants found these messages unknown?
Response 9: Thank you for your careful review. Thank you very much for your careful and detailed reading. Allow me to correct, it is in Table 5 and not in Table 2, a high number of participants reported that the content of weight control and diet control messages were "unknown and not have done". I have added this part in the discussion section in line 261-266. (Discussion, SMS Quality Evaluation, Line 261-266, Page 14)

Point 10: Is there any educational program before the intervention regarding the diabetes in the country? If so what are they?
Response 10: Thank you for your careful review. In China, basic public health service project is the main health education program, which are the most basic public health services provided by the Chinese government to the current urban and rural residents, focusing on children, pregnant women, the elderly, and patients with chronic diseases, such as hypertension and diabetes. Although basic public health services also include disease management, it does not provide systematic and targeted health education for patients, and it lacks long-term follow-up of patients who see a doctor irregularly.
Based on the high prevalence and low glycemic control rate of diabetes in China, this study aimed to formulate patient-centered targeted text messages covering five main domains: health awareness, diet control, physical activities, living habits and weight control, so as to improve unhealthy lifestyles and achieve the purpose of effective blood glucose control.

Point 11: What are the limitations of the study?
Response 11: Thanks reviewer for the recommendations. According to your suggestion, we have added the limitations at the end of the article in line 325-332.
The sample size of this study needs to be further expanded, and considering that we only selected hospitalized patients, we will select some community patient to expand the sample size in the next step. In addition, the main outcome indicators were FBG and PBG, but owing to HbA1C is the gold standard for measurement for the assessment of glycemic control, which can effectively reflect the situation over the past 1-2 months blood sugar control in diabetics, we will consider HbA1C as the main outcome indicator in the next study. (Limitation, Line 327-332, Page 17)