Author's response to reviews

Title: Implementation of a lifestyle intervention for type 2 diabetes prevention in Dutch primary care: opportunities for intervention delivery.

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Author's response to reviews: see over
To the editor,

We would like to thank both the editor and the reviewers for the effort they put into reviewing our manuscript and for their valuable comments. We have endeavored to make the changes suggested. Please find editors’ and reviewers’ comments and our specific responses below,

**Editor comments:**

"The authors must address Dr. Blaak's comments about the effectiveness of the intervention. The reader needs that context. Study of implementation is relevant only in the setting where we have an effective intervention. Studying implementation of an intervention that is not very effective is not very captivating, unless it leads to insights about why the intervention was not effective. Both reviewers make important suggestions for improving the description of the methods."

We thank the editor for her useful remarks and we have endeavoured to acknowledge them as described below.

**Reviewer 1. Ellen E. Blaak**

**Major compulsory revisions**

1. Major compulsory revisions include a clearer link between the results as described in this manuscript with clinical intervention outcome, like change in body weight, glucose, etc.

   We agree with mrs. Blaak that a clearer link between the results and the clinical intervention outcomes could provide valuable additional information. We have therefore performed several additional analyses, including the ones suggested by mrs. Blaak. The results of these analyses are described in the results section in lines 194-195, 200-205, 209-211, 224-229, 241-247, and 249-251 and are discussed in line 324-332. In line 327-329 we furthermore refer to a recent publication of the APHRODITE study, in which we investigated the influence of motivation, confidence and self-efficacy of providers on participant weight loss success.

2a. In the Background, it would be interesting to add results of Dutch evidence-based programs, if these are available, which show the effectiveness of programmes to reduce disease risk in the Dutch population and make a comparison with these effective interventions.

2b. Furthermore, is anything known how the risk prediction by the FINDRISC score in the Dutch population? This would be valuable to add.

   We thank mrs. Blaak for the useful suggestions and we have acknowledged them in line 59-62 and in line 85-87 of our manuscript.
3. In the methods, it would be helpful to add more information on the time point when events took place (early in the intervention or later), like the 1 hour personal consultation with the dietician and the data collection via questionnaires of participants. In the 2nd paragraph of participant and provider questionnaire, information needs to be added on the time point of data acquisition.

In line 109 we refer the reader to table 1, in which we show the details of the planning of the intervention (among which the personal consultation with the dietician). The time points of data collection of participants and providers via the questionnaires are described in line 143-146 of our manuscript. To further clarify the time points of participant clinical and lifestyle measurement taking, we added two sentences about this topic in line 99-100.

4. In the methods, the definition of ‘confident’ (medium or high confidence) and ‘satisfied’ as used in the results section is missing and needs to be explained for better understanding.

We regret not having been clear enough in our methods section and we further clarified the definitions used in line 149-154.

5. Because ‘evening doesn’t suit me’ is a major reason for missing group-consultations, information on whether the group consultations were planned on fixed evenings or more flexible (sign in system) needs to be provided in the methods.

We thank mrs. Blaak for her useful suggestion and we have acknowledged it in line 106-108. Participants were invited for the group-meetings in their own town directly by the dietician or physiotherapist. Participants could call the dieticians’ or physiotherapists’ office to join another meeting if the day or time didn’t suit them. We therefore believe that ‘evening doesn’t suit me’ actually refers to participants with work- or family-related commitments in the evening, making it impossible for them to join any group-meeting. Other participants for example indicated not having a car and not feeling safe to cycle in the dark.

6. Please provide more details on the 23% of GPs who consider the chance of prevention success (very) low. When was this measured, before, during or after the intervention? Were participants visiting these GPs less satisfied, did they drop out more easily, were any differences in intervention outcome measured? Is anything known about the reason for participation in this intervention by these GPs?

Providers were asked about their opinion on the chance of success of diabetes prevention by lifestyle intervention in primary care in the provider questionnaires. As indicated in line 143 provider questionnaires were filled out within one month after finishing the project. As suggested by mrs. Blaak we performed additional analyses comparing the results of participants visiting either type of provider. As described in line 223-229 and discussed in line 324-332, drop-out was lower and increases in 2h plasma glucose were smaller in participants receiving counselling from providers.
who considered the chance of success of diabetes prevention in Dutch primary care low or very low than in participants from providers who considered the chance of success medium or high. As discussed in line 321-322 all practices were part of an association, which as a whole decided to participate in the project. The level of enthusiasm, confidence and self-efficacy therefore differed between GPs and nurse practitioners, reflecting a real-life situation.

7. In the discussion, dropout levels are compared with studies describing dropout after 1 year. Please provide dropout data after 1 year in the APHRODITE intervention and compare these with the mentioned studies.

We thank mrs. Blaak for her useful suggestion and we have acknowledged it in line 189-190 of the results section and in line 291-293 of the discussion section.

Minor essential revisions

1. In the results section, some baseline characteristics of the intervention and control group and differences between the groups would be very informative. Were the reasons for withdrawal similar in both groups?

We thank mrs. Blaak for her useful suggestions and we have acknowledged them in the results section in line 180-182 and in table 2.

2. In the first paragraph of the expertise of providers, please specify ‘nearly all participants’ as a percentage.

We thank mrs. Blaak for her useful remark and we have acknowledged it in line 234-236.

3. In the second paragraph of the Expertise of providers section, it is stated that 40% of participants was moderately satisfied with GP counselling. What about the other 60%, were they highly satisfied or unsatisfied?

The sentence ‘Half of the participants indicated to have received proper guidance from their GP about lifestyle modification’ referred to the 50% of participants that was satisfied with GP-counselling. As we understand that this way of expressing may cause confusion we have rephrased this sentence to ‘Half of the participants was satisfied and 40% was moderately satisfied with the guidance from their GP regarding lifestyle modification’ in line 240-241.

Reviewer 2. Claire Collins.

Major compulsory revisions.

1. The methods section of the main paper should indicate how many practices invited- it is only in the discussion that this is explained re all in the same association.

We regret not having been clear enough in our methods section and we further
clarified the number of practice involved in line 83-83. Only the 14 practices from
the association were invited; as discussed in line 321-322, the association as a whole
decided to participate in the project.

2. The methods section of the main paper should include the sample size
calculations.

We thank Mrs. Collins for her useful suggestion and we have acknowledged it in line
170-172 of the statistical analysis section.

3. The methods section does not say anything about the usual care group (other
than the number of consultations in the table). Suggest that you add at least a
basic description in the text to highlight the difference in terms of number of
consultations with GP and NP.

We thank Mrs. Collins for her useful suggestion and we have acknowledged it in line
118-122 of the methods section.

4. Methods section - was it random allocation of patients; was allocation practice
based?

Randomization was performed on the level of the individual. We have added a
sentence about randomization in line 88-89 of the methods section.

5. Results - was the effect of clustering taken into account?

We agree with Mrs. Collines that it would be interesting to investigate to which extent
GP, nurse practitioner and practice level variables play a role in for example drop-
out and attendance of participants or to correct these outcomes for for example GP /
nurse practitioner influences. However, as the main reasons for drop-out from the
project or for not attending consultations were not related to dissatisfaction with GP
or nurse practitioner guidance, we expected these effects to be small and we
therefore decided to not take the effect of clustering into account in the analyses in
this manuscript. It must be remarked that in our article on the effectiveness of the
intervention (Vermunt P et al, Diabetes Care.34:1919-1925) we did correct for
higher level influences.

6. Results - how many training and return meetings were involved for GPs and
NPs?

We thank Mrs. Collins for her useful remark and we have acknowledged it in line128-
129.

7. Results- only data on the intervention group is provided in terms of
participant satisfaction; if similar is available for the usual care group, it should
be provided.

As extensive lifestyle guidance by the GP and the nurse practitioner was only
provided to participants in the intervention group, we did not assess satisfaction with
GP or nurse practitioner guidance of participants in the usual care group. We can
therefore regrettably not provide Mrs. Collins with this information.
8. Discussion- new data is provided in this section, which is not in the results section e.g. the participants outcomes of intervention compared to usual care group. These should be presented in the results before discussion in the discussion section.

We thank mrs. Collins for her useful remark and we have removed the analyses regarding differences in clinical outcome measures between participants with high attendance and low attendance from the discussion section and added them to the results section (line 200-202)

9. Discussion- either here or in the methods section, outline the (average) length of GP and NP consultations in both the intervention and usual care group.

As outlined in line 101 of the methods section (under intervention protocol), the length of consultations with the GP and nurse practitioner was 20 minutes.

10. Discussion - either here or in the methods section, outline if there was a payment to practices (relevant to interpretation under the title ‘organisational level’).

We thank mrs. Collins for her useful remark and we have acknowledged it in line 110-112

**Minor Essential revisions**

1. the methods section of the abstract should contain some information on number of practices (or GPs and nurses) and patients participating.

We thank mrs. Collins for her useful suggestion and we have acknowledged it in the methods section of our abstract.

2. If available, the methods section of the main paper could provide a comparative basic description in text of the content or other of usual care.

As discussed above, we added information on the usual care group in line 118-122 of our manuscript.

3. Results - it is not clear what the phrase ‘preliminary withdraw’ means.

We understand that the word ‘preliminary’ may cause confusion and we have therefore replaced ‘preliminary withdrew’ with ‘withdrew’ in line 214 in our manuscript.

4. Results - rephrase ‘Half of the participants indicated to have received proper guidance.. to ‘half of the participants indicated they had received proper guidance.’.

We thank mrs. Collins for her useful remark; as a result of one of the comments of mrs. Blaak this sentence was replaced. Rephrasing is therefore no longer applicable.

5. Discussion. Rephrase ‘…appointments for the next visit were made at once
during consultations’ to ‘…appointments for the next visit were made before completing of the current consultation’.

6. Discussion. Rephrase ‘…reported a lack in nutritional knowledge’ to ‘…reported a lack of nutritional knowledge’.

7. Discussion. Rephrase ‘…disturbed glucose values were no prerequisite for participation’ to ‘…disturbed glucose values were not a prerequisite for participation’.

8. Discussion. Rephrase ‘Reasons for withdrawal did however not…’ to ‘Reasons for withdrawal did not however…’.

9. Conclusions - suggest you add ‘in the Netherlands’ to the end of the first sentence.

We thank mrs. Collins for her useful remarks and we have acknowledged them in line 298, in line 345, in line 368-369, in line 404-405 and in line 410.