PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (**http://bmjopen.bmj.com/site/about/resources/checklist.pdf**) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Effect of simple, targeted diet in pregnant women with metabolic risk factors on maternal and fetal outcomes (ESTEEM): Study protocol for a pragmatic multi-centre randomised trial
AUTHORS	Al Wattar, Bassel; Dodds, Julie; Placzek, Anna; Spyreli, Eleni; Moore, Amanda; Hooper, Richard; Beresford, Lee; Roseboom, Tessa; BesRastrollo, Maira; Hitman, Graham; Khan, Khalid; Thangaratinam, Shakila

VERSION 1 - REVIEW

REVIEWER	Kelli K Ryckman Associate Professor, College of Public Health, University of Iowa, USA
REVIEW RETURNED	11-Aug-2016

GENERAL COMMENTS	The authors present a study protocol for a pragmatic randomized trial of a diet intervention in pregnant women to reduce adverse maternal and fetal outcomes. Publication of study protocols are important particularly for RCTs. This protocol is well written and information is clearly presented. I have two major comments regarding this protocol: 1) The protocol is written in the future tense - however it appears that most of the trial would have already occurred as the setting (p.6) is given as Sept 2014 to Sept 2016. And I assume for the setting this is enrollment during that time not necessarily delivery. It is also unclear from Figure 1 if this is expected enrollment or actual enrollment. And wouldn't there be some numbers available that you could present in the figures on what the current enrollment and adherence is which might be more informative that what is presented? Importantly you have a paragraph (p.15) on an internal pilot that will be completed in the first 3 months of the study - wouldn't this have already occurred if the study began in 2014? If so, why not share these results within this study protocol? 2) This is written more in the format of a grant proposal and I am unclear if it is customary or necessary to include things in this published protocol such as the paragraph on dissemination of study findings. Minor comments: What percentage do you expect to be preterm birth and would those be "loss to follow-up" if they weren't able to complete the questionnaires after delivery and how do you plan to analyze when you have a preterm birth if it occurred for example at 28 weeks

	gestation?

REVIEWER	Margaretha Haugen Norwegian Institute of Public Health, Norway
REVIEW RETURNED	08-Sep-2016

GENERAL COMMENTS	This is a well written paper of a protocol for the project “ESTEEM”. It should be possible to replicate the study, with exception of the treatment. Very much is written about how to acquire dietary information, which is sound, but what is the program for the women included in the study? Very little information is given regarding the program – personal counselling and group sessions. Maybe there are some pamphlets or other material that can be used to evaluate the program. Personal goals are difficult and will result in problems for interpretation. Perhaps more overall goals would help the reader to understand the project program. I had problems understanding the main outcome? Should the second composite be excluded? Furthermore, I have problems with the group C in figure 1. Who are they and why are they recruited? And how can this group be used in the analyses?

VERSION 1 – AUTHOR RESPONSE

Reviewer’s comment Authors reply

1) The protocol is written in the future tense - however it appears that most of the trial would have already occurred as the setting (p.6) is given as Sept 2014 to Sept 2016. And I assume for the setting this is enrollment during that time not necessarily delivery. Thank you. As per the editor’s comment we kept the manuscript in the future tense for consistency

It is also unclear from Figure 1 if this is expected enrollment or actual enrollment. And wouldn't there be some numbers available that you could present in the figures on what the current enrollment and adherence is which might be more informative that what is presented? Thank you for this comment. Figure (1) is presenting the trial design not he current trial status or partial results. Therefore, we did not amend it.

Importantly you have a paragraph (p.15) on an internal pilot that will be completed in the first 3 months of the study - wouldn't this have already occurred if the study began in 2014? If so, why not share these results within this study protocol? Again, we are presenting the design of our study. Our ethical approval does not allow us to present partial data from the pilot phase. These were done for internal quality and feasibility check and not for dissemination.

2) This is written more in the format of a grant proposal and I am unclear if it is customary or necessary to include things in this published protocol such as the paragraph on dissemination of study findings. Detailing the dissemination plan is part of the Spirit checklist.

Minor comments:

What percentage do you expect to be preterm birth and would those be "loss to follow-up" if they weren't able to complete the questionnaires after delivery and how do you plan to analyze when you have a preterm birth if it occurred for example at 28 weeks gestation? Thank you for this comment. Preterm birth is a secondary outcome and the study is not powered for its rate. We expect our population to have the same incidence of preterm birth as per national figures in the UK.

Participants who did not complete the questionnaires will be marked as deviation from protocol.

We plan to dichotomise the incidence of pre-term birth per gestation week. We feel that details on the planned analysis plan for every outcome is outside the scope of a protocol. We are preparing a separate manuscript describing our planned statistical analysis plan in details. If the editor feels this is relevant we do not mind amending the manuscript accordingly.

Very much is written about how to acquire dietary information, which is sound, but what is the program for the women included in the study? Very little information is given regarding the program – personal counselling and group sessions. Maybe there are some pamphlets or other material that can be used to evaluate the program. Thank you. We have reported in great detail the nature of the intervention to be delivered over face to face and group sessions (page 9-10).
We did provide our participants in the intervention group with tailored pamphlets to explain the benefits of nuts and Olive oil as well as suggested cooking recipes to adhere to a Mediterranean diet. We have attached these pamphlets as supporting materials.
Personal goals are difficult and will result in problems for interpretation. Perhaps more overall goals would help the reader to understand the project program. The overall goal is to introduce personally tailored changes towards a standardised Mediterranean diet lifestyle. We are assessing compliance based on attendance to the intervention sessions rather than the personal goals achieved.
We have detailed this on page 10 ln 50-53.
I had problems understanding the main outcome? Should the second composite be excluded? The primary composite outcomes were discussed at length with the TSC and agreed based on input from multi-stakeholders in research on obesity in pregnancy. Due to the possibility of diabetes and pre-eclampsia to affect birth weight we separated the two primary composite outcomes to maternal and fetal. We amended the manuscript to make this clearer (Page 20, Ln 452- 454)
Furthermore, I have problems with the group C in figure 1. Who are they and why are they recruited? And how can this group be used in the analyses? Group C is those pregnant women with no metabolic risk factors who will form the cohort group. This group will be used in a secondary analysis to contrast the effect of metabolic risk factors on pregnancy outcomes. We have made this clearer in the manuscript (Page 8, Ln 203)
Please carefully check the manuscript for typos/ grammatical errors e.g. “mixed nuts the will be provided to the ESTEEM participants”. We have checked and amended the manuscript accordingly
- Please include an 'ethics and dissemination' section in the main manuscript after the methods section, as per journal requirements for study protocols We have amended the manuscript accordingly (page 18)
- Please review the following SPIRIT checklist items and update your manuscript/ checklist where applicable: We have amended the manuscript accordingly
Item 8: Please clarify where a description of the trial design is given on pages 8-9. Please remember to include the type of trial, allocation ratio, and framework (if applicable). We have clarified this in the checklist

Item 16c: Please clarify who will generate the allocation sequence, who will enrol participants, and who will assign participants to interventions. It is unclear where this is reported in the manuscript We have clarified this in the checklist