Article details: 2018-0165	
Title	Changing provider behaviour to increase nurse visits for obesity in family practice: the 5As Team randomised control trial
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Reviewer 1	Sophia Papadakis
Institution	Division of Prevention and Rehabilitation, University of Ottawa Heart Institute, Ottawa, Ont.
General comments (author response in bold)	ABSTRACT: The background section is extremely brief. Consider adding a statement as to the extent of this problem if word count permits. **Page 3 - Thank you, we have edited the section.** While the methods section is rather detailed I do not have a good sense after reading it as to what the intervention consisted of. It would be helpful to include this for readers. The terms "6-month co-created theoretically informed educational intervention" in fact does not say much to readers. It would be helpful to instead state "The intervention consisted of twelve two-hour large group interactive educational sessions delivered over six months which was based on the 5As of Obesity Management™, a previously tested intervention model." **Page 5-7 - Thank you, we have edited the section. See #14 above.** The study population is not well described in the abstract in terms of 1) how many teams participated (ie were randomized), what patient groups were eligible and participated. **Page 8-10 - Thank you we have edited the abstract** Add to the abstract timeframe when this study took place. **Page 10 - There are 250 words in the abstract. We have edited it extensively to address the comments and have regrettably had to omit this in the interest of word count. This is in the methods.** The results show no significant effects and the authors note that there was wide variety among nurses but this variability is not then described. Since this is the main finding a brief synopsis of what was learned about the root cause of the observed variability would be of value. (i.e. the barriers, challenges and facilitators that are referred to in the interpretation section). **Table 4 and Appendix 5 & 6 - Thank you this is in Appendix 5 Supplemental information due to length. We have created a new Table 4 to try to draw attention to Supplemental Appendices 5 and 6.** The introduction is very brief which is fine. However, I am missing the justification regarding what this trial adds relative to previous evaluations of the 5As of Obesity Management™. This should be clearly articulated in the introduction. (i.e. here is what we know and here is what this trial set out to do that is different or validates previous work in same or different setting and this why this is important). **Page 5 - Thank you we have added a section.** METHODS Eligibility criteria and recruitment methods of teams from PHN, which participated. Reading between the lines all 24 primary care teams with interdisciplinary team support were eligible and were randomized. It would be helpful to state this more clearly. **Page 7-8 - Thank you, we have now stated this explicitly.** No information was provided on subject content of intervention, how 5As mode was used and how this relates to primary outcome measure. **Page 7 - Thank you we have edited the intervention section as much as possible in the space available. We have detailed the derivation of the intervention according to the TIDIER framework elsewhere, see above.** No information was provided on who eligible patient population was and/or eligible visits. This is very important to include in the paper. i.e all visits with patients with BMI over 30, 35, 40. **Page 9 - We have tightened the text to make this more clear. All adult patient visits counted for the total clinical activity in each quarter, and all patients where obesity assessment or management was a focus of the consultation were included in the numerator.** Time frame of study should be stated. Ie see from table 3 it was 2014. **Page 10 - This is in the statistical analysis section** It appears the intervention targeted nurses, dietician and mental health works working in primary care (but not GPs), however the main outcome measure is nurse visits for obesity. Please justify choice of RNs, non-inclusions of GPs **The PCN chronic disease nurses, dietitians and mental health workers in this context are the focus of this 5AsT intervention. The companion qualitative papers detail the results from the perspective of the team.** **This paper is about the quantitative and mixed-method results on the RNs. The GPs are not employees of the PCN and are not the group we were targeting in this study. We are doing different work focusing on GPs, which is not a part of this project. Now that we have the learnings from the 5AsT intervention, we have used them in crafting our MD intervention. If you are interested in this GP work, the course can be found at: http://obesitycanada.ca/wp-content/uploads/2018/08/Obesity-Management-Workshop-Manual_Aug16-2018-2.pdf** The choice of a process measure, occurrence of substantive conversations by nurses about obesity requires further justification. **Page 10 - Thank you, this is now discussed in the text. See #15 above.** How did you deal with multiple visits with same patient in analysis i.e. did this count as individual visits. All these details should be described in the methods so readers can interpret results. **Page 9 - Thank you we have clarified this in the text. If a patient had repeat visits, each visit was eligible and included.** Sample size calculations should be added to methods i.e. see from the results the sample consisted of 17 nurses in control and 14 in intervention. I suspect this sample size was too small to power the trial. This should be discussed. **Page 16 - Thank you as above please see #16 above** RESULTS

The study population in terms of number of eligible patients and clinic appointments and is not described by authors in the main text. Please add short description as OR alone can be misleading.
Page 7-9 - Thank you we have clarified this in the text.

If the study was not powered appropriately this should be discussed.
Page 16-18 - As above we have added to the discussion.

While 'wide variability' is spoken to in abstract it is not mentioned in terms of the qualitative analysis in the results nor any statistical results presented. While a spearman coefficient is mentioned in the paragraph which follows other statistical tests should be presented using solely quantitative data to support the existence of variability between RNs.
Table 4 and Appendix 5 & 6 - Sorry for the confusion. In this we refer to the very broad confidence intervals, which reflect that individual nurse clinical variability. We used the mixed methods analysis to endeavour to understand this. Please see Table 4, Appendices 5 & 6.

Perhaps the biggest omission in my view is the lack of description in the results of the qualitative analysis results. It would be important to describe the main findings in the results section.
Appendix 5, Table 4 - Apologies, due to the length this was included in Appendix 5. But, this is less than ideal as it may be readers will not read it. We have created a new shorter table, which could be included in the text, with this as supplemental information.
As mentioned above, the extensive qualitative results have been published in those publications, we have added some details in the text.

DISCUSSION

In the first paragraph of the discussion the authors speak to a 30% and 38% increase in visits but neglect to state that the differences observed were not significant. I caution authors not to present results alongside the statistical tests to avoid the risk of over stretching or mis-interpretation of findings.
Page 14 - Thank you. We had emphasized this point in the abstract, results and conclusion; we have added it here as well. We apologize for the oversight.

I would ask authors to verify that this is in fact the largest trials on obesity management to date. I have not checked all of the literature but it struck me as odd given sample size was 30 RNs.
Page 14-16 - Note our discussion says this is one of the largest real world studies on provider behaviour change in obesity management to date, not that this is the largest trial on obesity management.
Flodgren and colleagues have republished their Cochrane review on the topic in 2017. It is astonishing that more has NOT been done in this area, which is why we tackled this RCT. When we wrote the grant in 2012 we just had the 2010 Flodgren systematic review. It is notable that there is little additional data in their 2017 repeat.

Please see:
Flodgren G, Gonçalves-Bradley DC, Summerbell CD.
Interventions to change the behaviour of health professionals and the organisation of care to promote weight reduction in children and adults with overweight or obesity.
Cochrane Database of Systematic Reviews 2017, Issue 11. Art. No.: CD000984. DOI: 10.1002/14651858.CD000984.pub3.

There is no discussion of the lack of statistical significance and reasons for this in the discussion (i.e. sample size limitations). It is briefly mentioned (almost in passing that sample size was rather limited) however I would like to understand if in fact the trial was powered or not appropriately to detect significant differences.
Page 14-16 - Please see our discussion on this in the comments above.

There is again no discussion about the barriers and facilitators identified and how this can be applied to future research ie what did we learn from this trial specifically beyond there is lots of variability among RNs.
Page 14-16, Appendix 5 - We have expanded on this in the discussion, please refer to Appendix 5 on the mixed methods.
The main qualitative results are published in:
Asselin J, Salami E, Osunlana A, Ogunleye A, Cave A, Johnson J, et al. Qualitative study of the impacts of the 5As Team study to change clinical practice in primary care obesity management. CMAJ Open. 2017;5(2):E322–9.

While the lack of involvement of GPs is mentioned as a study limitation by authors as well as being the focus of a new study it is not clear to me why this is important ie did it come up as a key barrier in the present study. I suspect this might have been the case and it is worthwhile speaking to this further.
No it was not a key barrier, although differential messaging between team members was. This has been published in detail in our qualitative papers:
Asselin J, Osunlana A, Ogunleye A, Sharma AM, Campbell-Scherer D. Challenges in interdisciplinary weight management in primary care: lessons learned from the 5As Team study. Clin Obes. 2016;6(2):124–32.

Please define clinic panel size. I have assumed this means entire PCN population rather than eligible patients/visits for the present trial. If this could be clarified.
Table 1- Thank you for this, we have replaced the term clinic panel size with Number of clinic patients. (The PCN had a total panel population of 157470 patients, which is in the text.) The term is defined in the text.

I see we have both RNs and NPs included in the trial this is worth mentioning in the main body of the paper.
Table 1 - Thank you yes this is under participants. There were only a few and they are referred to as nurses, which we have clarified.

Use a standardize decimal place when presenting percentages. At present there are 1, 2, and 3 decimal places presented.
Table 1 - Changed to 2 decimal places
TABLE 2

	Should be reformatted to assist with clarity to reader. Ie column 1 should merge rows relevant to same variable. **Table 2 – Done** The title states cluster level analysis. Please clarify this as the methods state minimal clustering was identified and as such unit of analysis was RN. **Appendix 2, Statistical analysis section. We have moved this to under the table. -** **Thank you. As per the statistical analysis section, and the appended statistical model in Appendix 2, we accounted for the minimal clustering in the analysis as well as the stratification variable. The reference to this approach from BMJ 2010 is highlighted.** Main outcome is stated when referring to number of RN Visits for obesity. The table should stand-alone and as such the main outcome should be clearly stated. **Table 2 - Thank you, we have made the edit.** The term intervention group * intervention is not clear. Please clarify. **Table 2 - This is jargon from the statistician and not relevant, we have removed it here.** It is not clear here is authors controlled for the baseline differences between groups. **Yes, the analysis controls for this. Please see the appended statistical analysis details.** Did you explore if RN vs NP explained some of the variation? **No the numbers are too small.** **TABLE 3** The title is lengthy and much of the information describing labels for each row is contained there but is not clear on its own. Reword this title and labels within table so it is clear to readers what measurement point is presented. **Table 3 - Thank you, we have edited the table.** Is there a hypothesis or explanation (eg. time of year) for the drop in IQR during the intervention period relative to baseline in both intervention groups? **This is intriguing. Unfortunately the confidence intervals are broad so explanations are not possible.**
Reviewer 2	Roy Dobson
Institution	College of Pharmacy and Nutrition, University of Saskatchewan, Saskatoon, Sask.
General comments (author response in bold)	Overall, I found the paper to be a bit hard to follow and would like to see a bit more precision in describing to whom the intervention was applied and why it was expected to change behaviour. **Thank you. We have edited the text as described in the response to comments above and emphasized the companion TIDieR paper on the intervention.** **Please see:** **Ogunleye A. et al. The 5As Team intervention: bridging the knowledge gap in obesity management among primary care providers. BMC Res Notes (2015) 8:810 PMID 26695407** Also, how is the change in the number of visits linked to patient outcomes; while this link is suggested, it wasn't argued convincingly from a theoretical perspective. **Thank you we agree this is an important area, however the focus of this paper is not our patient work. We have published a number of qualitative papers on patient perspectives and have done theoretical work on this. Please see:** **Luig T et al. Facing obesity: adapting the collaborative deliberation model to deal with a complex long-term problem. Patient Educ Couns 2018 Sep 28 PMID:30292424** I believe the team is more correctly described as interprofessional rather than interdisciplinary. **Thank you, we have reviewed the definitions and concur that interprofessional is more appropriate. We have made this change throughout.** In discussing the quantitative results, the authors explain the lack of statistical significance. What about clinical significance? That is the say, if the results had shown less variance and had sufficient power to reach statistical significance, would the change seen have been meaningful? **Thank you we concur with this comment, which is why we published a separate results paper on the qualitative findings from the study (cited above), which highlights the multilevel clinical impacts observed from this study. We felt that the paper was already very dense, and trying to put all of this into one paper was overwhelming.**