Author's response to reviews

Title: The Heart Health Study - Increasing cardiovascular risk assessment in Family Practice for first degree relatives of patients with premature ischaemic heart disease: a randomised controlled trial

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Author's response to reviews: see over
Dear Editor,

Re:

MS: 1662569951558703

Research article
The Heart Health Study - Increasing cardiovascular risk assessment in Family Practice for first degree relatives of patients with premature ischaemic heart disease: a randomised controlled trial Nigel P Stocks Prof, Jessica L Broadbent Ms, Michelle F Lorimer Ms, Derek P Chew Prof, Philip Tideman Prof, Gary Wittert Prof and Philip Ryan Prof BMC Family Practice (Section: Service organization, utilization, and delivery of care)

Response to reviewers

We would like to thank the reviewers and editors for their comments and helpful advice.

Reviewer 1

Major Compulsory Revisions
1. This study is not an examination of the impact of simple written advice versus usual care. It is an examination of the impact of two different types of written information: the intervention group got additional information on the benefits of risk factor assessment but both groups received a brief explanation of PIHD and information on CV risk factors. Is the provision written advice to relatives of PIHD patient part of usual care in Australia? I am assuming from the Background section that it is not, so if this is correct, throughout the paper, the word “usual care” should be replaced with “control group” and the Discussion in particular should more accurately report what has been tested.

We accept that the provision of usual care in Australia to patients and relatives does vary throughout Australia. We made an assumption that relatives, if they were aware of a relative’s hospitalisation and had some contact with a physician, would be told something about CVD risk factors. In addition, because this was a study that required patient and relative consent, we were constrained by ethics to provide a minimum of information about CVD risk as a justification for participation. We have changed the wording in the paper to control group.

2. The primary outcome stated is the proportion of relatives who attended their GP for CVD risk assessment within 6 months of the patients’ PIHD event. But it is not clear what the denominator should be. Although 541 relatives were eligible to participate, only 97 (<20%) consented to take part. But of the remaining 444 (over 80%), how many received packs? How many decided not to consent? OR decided not take take action? OR decided to go to their GP for a risk assessment without consenting? The answer to these questions is not known.
We have acknowledged in the paper what our participation rate was and this was discussed under study limitations. We believe that the majority of relatives did receive the study packs because patients could have easily chosen not to participate if the felt that forwarding the packs was too hard for them. Of course some may have changed their mind but if this intervention is applied in practice this would be a possible outcome anyway. We do know how many consented because we received their form however we do not know how many saw their medical practitioner without returning their consent form.

In addition to the results presented, the Results section should also present the number who attend a risk assessment as a proportion of the overall number in each group – so 14% versus 3.5%.

We have added the following statement in the results

“Overall (14%; 41/ 288) of relatives in the intervention group attended for cardiovascular risk assessment vs (3.5%; 9/253) for control group relatives. “

We have also changed the abstract to

Results: 144 patients were recruited who had 541 eligible relatives. Although only 98/541 (18%) of relatives participated a larger number of intervention 41/55 (75%) than control group 9/42(21%) [difference 53%, 95% CI 36% - 71%] relatives attended their GP for a CVD assessment, and 34% of these had moderate to very high 5-year absolute risk for CVD.

The first statement in the Discussion overstates the findings: when “simple written advice” is given to relatives of patients with PIHD, we do not know what percentage undertake a GP CV risk assessment within 6 months. What we do know is that of those consenting to take part in the study, more of those who received additional information on the benefits of risk factor assessment, attended their GP for a risk assessment compared to those who received only a brief explanation of PIHD and CV risk factors – the Discussion should include reference to the other 80%.

The discussion has been expanded to include reference to the other 80%

The study results, interpreted in the light of these two comments, lead to some very interesting and useful conclusions, which the Discussion should reflect. It seems to me perhaps the content of the written information provided is of great importance and that further research is required to find more effective methods of ensuring that relatives receive the information and act on it.

The discussion has been expanded to include – see yellow highlighted.

Our study potentially incentivised the GP visit by offering to pay for any gap to ensure equity of access for all, however if the intervention was applied in practice any gap payment might reduce the number of relatives seeking GP CVD risk assessment. Considering that approximately 80% of all GP service are currently bulk billed (at no cost to the patient)[21]
the impact might be limited and in any case there is mixed evidence that financial incentives improve attendance rates for CVD risk assessment[22].

The participation rate of relatives was low but amongst all relatives who were eligible to participate at least 10% (14% vs 3.5%) more in the intervention group attended for cardiovascular risk assessment. A result, if attendance for risk assessment is seen as beneficial and given the low cost of the intervention, makes providing information to patients to distribute to their relatives worthwhile. The participation rates may have been low because: it was a research study that required consent, patients may not have forwarded the information on to relatives, or reflects a lack of interest in preventive health care. Equally relatives may have received the information and acted upon it without formally being part of the study. Unfortunately, due to ethical constraints, we could not send reminders or follow up non-responders.

Conclusions

Providing simple written and verbal advice to patients hospitalised with PIHD to distribute to their adult children, brothers and sisters leads more people to have a cardiovascular risk assessment by their GP. Given the simplicity of the intervention, and the number of relatives at moderate or high CVD risk who could benefit from primary prevention, it is likely to be a cost effective way of reducing the burden of CVD in Australia and all developed countries around the world. More research is required to evaluate if the content of the information provided improves response rates, what mechanisms improve the distribution of information to first degree relatives and how to encourage more relatives to attend for CVD risk assessment.
Minor Essential Revisions

These have all been addressed except where highlighted in yellow

3. Line 59: Should this read:…. can be targeted for early intervention...

We believe ‘are targeted’ is better grammatically.

4. Lines 150-159: Consider re-ordering the information in this section – follow the guidelines outlined in items 8a to 11b of the CONSORT checklist. Currently, this section is confusing.

We have included a CONSORT checklist

5. Lines 153: Replace ‘Randomisation allocation’ with ‘randomisation’. Please specify how the statistician generated the random numbers? State the randomisation ratio.

6. Lines 157-158: Explain in plain English who provided the packs to the relatives and how this was achieved?

7. Lines 167-173: This information about how the 5 year CV risk value was calculated better included in the Outcomes section, see item 6a of CONSORT. Also, please clarify who calculated the CV risk score?

8. Lines 196-201: Move outcomes further up the paper, as per CONSORT.

We would be happy to move the sections around if that is what the editors want.

9. Lines 260-266: Indicate whether the difference in proportions is significant. Present the results from the generalised linear model and generalised estimating equations described in the Statistical Analysis section.

We do not believe that stating the difference in proportions is significant is not required in the reporting of these results. A confidence interval should be sufficient and many epidemiological journals do not require P values just CI’s. In fact the difference is statistically significant at <0.01.

Comments on Figure 1 Consort Flow Diagram and related text:

These have all been addressed except where highlighted in yellow.

10. There are inconsistencies in terminology between the inclusion/exclusion criteria (lines 120-133), the Patients section of the Results (lines 233-240) and the text in the Excluded box (describing 203 patients excluded) in Figure 1. Be clear on what are the inclusion and exclusion criteria and use the same terminology to describe the same criterion throughout the paper. For example:

a. Figure 1 shows n=137 were excluded for “not meeting inclusion criteria”. Line
238 states that …. *They did not meet the inclusion criteria (n=76), had preexisting heart disease (n=61), ….* “First PIHD event” is an inclusion criteria, therefore, reword line 237/238.
b. Fig 1 *were not interested* n=24 is presumably the same as line 239 *declined to participate* – use the same wording in both places
c. Fig 1 *other reasons* n=42 is presumably a combination of *lived in a remote Aboriginal community* n=28 and *for other reasons* n=14. Have you a solid reason for singling out one exclusion criteria above the others? Does *other reasons* imply met some exclusion criteria other than Aboriginal community? Clarify and be consistent.
11. Re Allocation box: Lines 246 and 247 tell us that patients did not send a pack to all eligible relatives. So perhaps relatives were *eligible* to participate rather than *invited* to participate. Similarly, reconsider use of word invited in line 250.
12. In a Consort Flow Chart the Analysis box usually gives the numbers analysed (/excluded from analysis), rather than give the primary outcome.

**We believe the numbers as reported are consistent with the requirements of CONSORT.**

**Comments on figures:**
13. **Figure 2:** Missing a label on Usual Care side.
14. **Figure 3:** Rephrase label on X axis to read: 5 year absolute risk of cardiovascular Disease.

**Discretionary Revisions**

These have all been addressed except where highlighted in yellow.

15. Consider following the guidelines in the CONSORT statement to structure the reporting of the RCT.
16. Line 98-102: Making two points here: i) relatives of PIHD patients are being overlooked in primary prevention ii) studies have highlighted benefits of focusing on high-risk families. Please check that references 10 and 11 related to point ii) and is EUROSPIRE II an example of point i) – if so revise these sentences.
17. Line 123: Clarify the definition of IHD: check the usage of ‘or’ and ‘and’.
18. Line 138: Not clear where 31 months comes from – do you need to state how many months, perhaps just give the dates July 2009 – Feb 2012?
19. Lines 142-149: use “project” or “study” consistently.
20. Line 147: why did you collect initials of relatives?

**We did not, at that stage, have consent to collect names of the relatives so we used initials for future reference.**

21. Line 148: what do you mean by “parent’s initials”? **We did not, at that stage, have consent to collect names of the relatives so we used initials for future reference.**
22. Line 148: If the patient reported that a relative already had a diagnosis of IHD, did you exclude that relative immediately?
23. Line 177: is this a **study** nurse or doctor?

24. Lines 249-251: Include % in parentheses after the numbers e.g. intervention (n=55, 19%)

25. Line 265: How were you able to track that 7 usual care participants visited their GPs after being contacted by the research team? Line 266 says *ascertained from late return of the GP postcards after the 6 month follow-up*. Elsewhere it says that the postcards were in the pack that each intervention patient received. So did control participants get GP post cards also?

At the end of the study control group relatives – who had not attended for CVD risk assessment (as determined by the telephone call) were sent information about the importance of doing. We included postcards to see how many might attend even though the study had been completed.

26. **Abstract:** General comment: please consider impact of all other comments on the Abstract

**Reviewer 2**

We believe we have addressed reviewer’s 2 comments in our response to reviewer 1.

**Editorial comments**

"Please address all the comments by the peer reviewers. In addition please provide a CONSORT Checklist. Please adjust the CONSORT flow to give idea of total number eligible rather than the number assessed for eligibility or clarify if this can't be done.

We have added a CONSORT checklist but have not altered the flow diagram because we believe it is consistent with the directions given in the CONSORT statement.

I agree with both reviewers that one of the key conclusions is the relatively low uptake rate? please include this in the abstract conclusions.

We have added comments about the low participation rate in the abstract and main text.

While there is clearly a window of opportunity for family members to learn about their CV risk following an event in a family member, there is also potential to generate significant anxiety, which may only be appropriate in the sub-group who turn out to have high risk. Please address this potential harm of the intervention in the discussion.

We have included the following in the discussion

“There is, of course, the potential to do harm by generating anxiety in relatives who are actually at low risk. Given our finding that it was siblings who were found to be moderate or high risk it may be appropriate to limit dissemination of information to this group only.”

Abstract methods: please clarify what you mean by a tertiary care setting.
Intro: please provide more detail about previous interventions and how they informed your intervention development."

‘Tertiary care’ has been removed.