Author's response to reviews

Title: Illness cognition as a predictor of exercise habits and participation in cardiac prevention and rehabilitation programs after acute coronary syndrome

Authors:

Orna Reges (orna.reges@gmail.com)
Noa Vilchinsky (Noa.Vilchinsky@biu.ac.il)
Morton Leibowitz (LeibowM@clalit.org.il)
Abdulraham Khaskia (khaskiaa@clalit.org.il)
Morris Mosseri (Morris.Mosseri@clalit.org.il)
Jeremy D Kark (jeremy1@vms.huji.ac.il)

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Author's response to reviews: see over
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Prof. Oscar Franco,
BMC Public Health

RE: Resubmission of manuscript 1674492181987400

Dear Prof. Franco,

Thank you very much for the opportunity to revise and re-submit our MS titled: "Illness cognition as a predictor of exercise habits and participation in cardiac prevention and rehabilitation programs after acute coronary syndrome ". We thank the reviewers for their helpful and constructive comments that have guided our revision. Enclosed please find our revised manuscript.

Our item-by-item responses are as follows (reviewers' comments are in blue font)

Reviewer 1:

Major:

1. Were all Arab patients interviewed in Arabic? I assume some Jewish immigrants were excluded due to language problems; this should be noted in the results.
   Indeed, all Arab patients were interviewed by Arabic-speaking research assistants. We added the following clarification to the methods section (page 7): "Patients were interviewed face-to-face (by interviewers proficient in Hebrew and Arabic)"

2. The sociodemographic and clinical characteristics of patients excluded from the study should be compared to the study participants.
   Pursuant to reviewer's 1 comment we added the following information to page 7: "Response rates were similar between Arabs and Jews.
There were higher response rates at follow up among men versus women, among patients admitted directly to the CCU versus transfers for interventional treatment, and among MI versus ACS patients.

3. The baseline characteristics of the participants (demographic, clinical etc.) should be included in the results. It is not sufficient to provide a reference to a previous paper.

Pursuant to reviewer's 1 comment, we added the following information to page 7: "The final study sample included 304 Jews (72.4%) and 116 Arabs (27.6%) with mean age of 59.6 ± 10.9 years, 84.5% were male, and 71.7% had a discharge diagnosis of acute myocardial infarction (compared to 28.3% with unstable angina)".

4. The level of activity at six months, both independent activity as well as participation in CPRP, should be clearly noted and compared between the groups. If available, the number of weeks of participation in PCRP (rather than just enrollment to a program) and the type of employment (as a representation of the non-exercise activity) should be noted. If not available, these should be noted.

Pursuant to reviewer's 1 comment, the following information was added to the limitation section (page 13): "Third, in our analysis we incorporated a dichotomous yes/no response based on levels of reported exercise at follow up, while controlling for baseline level activity. We deliberately refrained from predicting actual levels of physical activity (energy expenditure), as the focus of the current publication was the stage of change in which an actual action is taken and the person is acquiring a new health behavior, in this instance from sedentary to active lifestyle".
Regarding precise length of participation in CPRP, estimates were made at the follow up interview and the minimum period to count as participation was one month.

Discretionary Revisions:

5. It has previously shown that Jewish immigrants have a lower rate of participation in CPRP than veteran Israelis (Gendler et al. Harefuah 2012, 151:511-7, 558, 557). Did you evaluate the differences in IC among Jewish immigrants and veterans?

Pursuant to reviewer's 1 comment, we added the following information to page 13: "Finally, the current study did not distinguish between Jewish immigrants and veteran Israelis although lower rates of participation in CPRP have been demonstrated among immigrants [36]."

6. Do you have data on the distance of residence from the nearest rehabilitation center? This might be different between Jews and Arabs, and might influence participation in CPRP.

The Meir medical center serves as the catchment area for a large Arab [and Jewish] population, and has large number of Arab patients as it is proximate to two large Arab towns. We added the following information to the text (page 6): "All patients residing in the catchment area of the Meir Medical Center in Israel admitted to the coronary care unit …"

7. A sample-size calculation for the study might be appropriate.

Indeed, one limitation of our study is limited power to explore interactions between ethnicity and illness cognition to predict participation in CPRP. This limitation derives from lower participation rates of Arab patients in CPRP. Therefore, the following was noted on page 13: "Second, the lower participation rates of Arab patients in CPRP, a phenomenon well recognized among ethnic minorities,
affected the power to adequately explore interactions of ethnicity with illness cognition.

Minor Essential Revisions:

8. Some of the references (e.g. #1, #4) appear to be unrelated to the text. All the references were checked and corrected.

9. Reference #11 is incomplete
   As above

10. The sentence “Based on the health belief model.....acute coronary syndrome” in the abstract (lines 8-11) is flawed grammatically. This sentence has been re-worded as follows: “Based on the Health Belief Model (HBM) and the Common Sense Model (CSM), the objective was to assess the association of IC with exercising and with participation in CPRP among Jewish/majority and Arab/minority patients hospitalized with acute coronary syndrome”.

Reviewer 2:

1. A table with the baseline demographic, cognitive, and clinical characteristics of the patients should be reported.
   The cognitive variables of the participants are described in Table 1. In addition, we added the following information to page 7: “The final study sample included 304 Jews (72.4%) and 116 Arabs (27.6%) with mean age of 59.6 ± 10.9 years, 84.5% were male, and 71.7% had a discharge diagnosis of acute myocardial infarction (compared to 28.3% with unstable angina”).

2. Both the introduction and discussion may be substantially shortened. Pursuant to Reviewer’s 2 comment, both were extensively shortened.
The manuscript has been re-edited for conciseness and clarity. We also scrutinized the discussion to avoid over-interpretation of the results as was correctly mentioned by reviewer 1.

In addition, to improve the modeling and to simplify tables 2 and 3 we performed backward logistics models (which we now on reconsideration consider to be preferable to the forward procedure) for each outcome (exercise at follow-up and participation in CPRP). In addition, since a putative mediation role of CPRP was never speculated upon, nor should have been, we have omitted the redundant fourth block of the backward regression (which included participation in CPRP). It is of interest, that with these revisions perceived personal control becomes significant in predicting exercise at follow-up, the significance level of SEP in prediction of CPRP was weakened and become borderline (0.09 instead of 0.02). There were also some small changes in the coefficients of the significant predictors. The revised tables are now appended and we updated the text accordingly.

We would like to thank the reviewers and the editor for the time and thought you have invested to improve this paper. We hope we have responded satisfactorily to all of the comments and that you will now consider our revised manuscript suitable for publication in the *BMC Public Health*.

Sincerely,

Orna Reges