Author's response to reviews

Title: Do smoking, alcohol consumption, physical activity, and family history have different effects on the risks of acute myocardial infarction and unstable angina pectoris? A prospective cohort study

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Dear Editor,

Please find enclosed a manuscript entitled ‘Do smoking, alcohol consumption, physical activity, and family history have different effects on the risks of acute myocardial infarction and unstable angina pectoris? A prospective cohort study’ which we would like to submit for publication in *BMC Cardiovascular disorders*. The manuscript describes the results of a prospective cohort study in which the associations between smoking, alcohol consumption, and physical activity and the risk of acute myocardial infarction (AMI) and unstable angina pectoris (UAP) were investigated. To our knowledge, only few studies have investigated the associations between these lifestyle factors and the risk of UAP, while the strength of these associations may differ for UAP compared to other coronary diseases such as AMI. Therefore, the objective of this study was to compare the strength of the associations with smoking, alcohol consumption and physical activity between AMI and UAP.

In addition, few studies investigated a possible synergistic effect between family history and other risk factors for coronary heart diseases (CHD). As subjects with a positive family history of CHD may be more susceptible to other risk factors, the associations between lifestyle factors and the coronary disease risk may differ for subjects with and subjects without a positive family history. Therefore, we also investigated whether the effects of smoking, alcohol consumption, and physical activity on the risk of both coronary diseases were different for subjects with and subjects without a family history of premature myocardial infarction (MI). Additionally, we compared the strength of the association with family history between AMI and UAP.

In our study, we found that smoking, alcohol consumption, and physical activity affected the risk of both AMI and UAP. These associations were nearly always stronger for AMI than for UAP. Opposed to this, the association with family history of MI was stronger for UAP. Although no synergistic effects were found between the lifestyle factors and family history of premature MI, the highest risks were found in subjects with both a positive family history and the most unfavourable level of the lifestyle factors. Therefore, changes in the prevalences of these factors may benefit the primary prevention of both AMI and UAP.
The study has been approved by the Medical Ethics Committee of the University Hospital Maastricht and written informed consent has been obtained from all study participants at baseline.

All authors of the research paper have participated in the writing of the manuscript, in the planning, execution or analysis of the study and have read and approved the final version submitted. The author’s responsibilities were as follows: LJS, EJMF, APMG, and PAVDB: responsible for the study concept and design; AHHM, JMAB, LJS, EJMF, WMMV, APMG, and PAVDB: acquired the data; AHHM, JMAB, LJS: analyzed and interpreted data; AHHM: performed statistical analyses and drafted the manuscript; JMAB, LJS, EJMF, WMMV, APMG, and PAVDB: were responsible for critical revision of the manuscript for important intellectual content; EJMF and PAVDB: obtained funding; JMAB, LJS, EJMF, APMG, and PAVDB: supervised the study.

The contents of this manuscript are not now under consideration for publication elsewhere and will not be copyrighted, submitted, or published elsewhere while acceptance by the Journal is under consideration. The contents of this manuscript have not been copyrighted or published previously. There are no potential conflicts of interest.

We hope that you will consider this manuscript for publication as an article in your journal.

Yours Sincerely,

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