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OPEN PEER REVIEW

Investigating the Relationship Between Cigarettes and Hookah Smoking with Coronary Artery Disease

Ali Daryanavard, Mehran Ghasemzadeh, Soghra Fallahi, Shideh Rafati, Atefeh Ghareghani, Masoomeh Latifi, Fatemeh Khajavi Mayvan, MohammadHosein Sheybani-Arani, Marzieh Nikparvar

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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

2 comments · 16 Dec 2023 – 16 Dec 2023

Referee 1 Reviewer

MAJOR REVISION 16 Dec 2023

Dear Authors
Please respond point by point to the comments that were highlighted in the text and also attached to the PDF of the manuscript.

Associate Editor

MAJOR REVISION 16 Dec 2023

Dear Authors
Please respond point by point to the comments that were highlighted in the text and also attached to the manuscript PDF.

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Reviewers' Comments:

Reviewer 1:

1. You can't talk about the effect in a case-control study. The association was replaced rather than the effect.

2. Please revise "a total number of 256 patients were divided into two groups: 128 patients as the case group" based on the type of the study. If you divide the total sample size, type of the study is cross-sectional. Thank you for saying. This was a written error that was corrected.

3. Revise the conclusion based on type of the study. it was corrected

4. Describe the random sampling process step by step in each group. Added.

5. How about the exclusion criteria in each group? Added.

6. How about the sample size calculation? Added.

7. How about the variable selection technique in the regression modeling?

After adjusting the effect of variables of age, sex, marital status, occupation, education, residence, hypertension, diabetes, and hyperlipidemia (HLP), the binary logistic regression analysis was performed to determine the strength of the relationship between smoking and the extent of coronary artery disease (CAD)

8. What do you mean by "low education"? Corrected.

9. What do you mean by "+" symbol in Table 1? Removed.

10. In Table 2, just report a P-value for the last three rows. Added.

11. Revise "Multivariate analysis". Multiple regression is true. Corrected.

Reviewer 2:

Dear Authors

Please, response to comments which were highlighted as a text and also were attached to the PDF of manuscript, point to point.

2 Revision 1

1 comment · 14 Mar 2024

Associate Editor

MINOR REVISION 14 Mar 2024

Please revise "50% accuracy,and 1.25 chance", as stated before in the 1st review. Which formula was used for sample calculation?

3

Revision 2

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Thank you for your very valuable comments. We are sorry for our careless mistakes in the manuscript. According to your suggestion, we have revised this sentence in a new revised manuscript. We hope that these revisions and the improved text will be satisfactory.

Reviewers' Comments:

Reviewer 1:

1. Describe the random sampling process step by step in each group.

Author Response: *In this case-control study, simple random sampling method was used to select the patients who referred to the angiographic center of Shahid-Mohammadi Hospital, Bandar-Abbas, Iran from Feb2019 to Oct 2020. The sample size was estimated to be 128 people in each group*
assuming an expected probability of 15%, and the frequency of cigarette and hookah consumption in patients without cardiovascular disorders, as well as 50% precision, 95% confidence limit, and 1.25 odds ratio based on the following formula. It should be mentioned that a random number table was used in the selection of patients.[We have revised the random sampling process in the first paragraph of Methods section, in yellow highlight.]

$$\frac{(n_1-1)s_1^2+(n_2-1)s_2^{\ 2}}{n_1+n_2-2}=\partial^2$$

2. How about the exclusion criteria in each group?

Author Response: *Patients whose stenosis was less than 50% in the angiography report or who had malignancy, a history of radiotherapy and chemotherapy, patients with chronic inflammatory disease and patients with chronic kidney disease, critically ill patients, heart failure, malignant cardiac arrhythmia, deceased people and also, the patient's lack of consent to participate in the study were excluded from the study. [We have revised the exclusion criteria in the second paragraph of Methods section, in purple highlight.]*

3. Revise "50% accuracy, and 1.25 chance ratio".

Author Response: *It was corrected as 50% precision, 95% confidence limit, and 1.25 odds ratio. [We have revised the sentence in the first paragraph of Methods section, in red highlight.]*

4. Revise "patients were divided into two groups including a case group".

Author Response: *It was corrected as, the patients were divided into two groups, case and control. [We have revised the sentence in the second paragraph of Methods section, in blue highlight.]*

5. How about the variable selection technique in the regression modeling?

Author Response: *In this study, we examined the relationship between hookah and cigarette smoking with CAD.After adjusting the effect of variables(possible risk factors) of age, sex, marital status, occupation, education, residence, hypertension, diabetes, and hyperlipidemia (HLP), the binary logistic regression analysis was performed to determine the strength of the relationship between smoking and the extent of coronary artery disease (CAD), with the extent of CAD serving as the dependent variable. [We have revised the variable selection technique in the Data Analysis part of Methods section, in gray highlight.]*

Associate Editor's Comments:

Associate Editor 1:

Please, revise "50% accuracy,and 1.25 chance",as stated before in the 1st review. Which formula was used for sample calculation?

Author Response: *The sample size was estimated to be 128 people in each group assuming an expected probability of 15%, and the frequency of cigarette and hookah consumption in patients without cardiovascular disorders, as well as 50% precision, 95% confidence limit, and 1.25 odds ratio based on the following formula. [We have revised the it in the first paragraph of Methods section, in yellow and red highlight.]*

$$\frac{(n_1-1)s_1^2+(n_2-1)s_2^2}{n_1+n_2-2}=\partial^2$$

3 Revision 2

1 comment · 4 Aug 2024

Associate Editor

MAJOR REVISION 4 Aug 2024

Dear Authors

Your manuscript has improved a little, but the main points remain and should be revised.
1. Consider the points raised by all reviewers. In particular, the sample size and its assumptions are not logical. Consult with a biostatistician.
2. All tables (univariate and multivariate analyses) should be rewritten to show the relation between CAD and smoking. (You showed an association between smoking and other risk factors!)
3. Show the complete regression results (beta, exp beta, CI, ...).
4. Consider the duration of smoking in the analysis of both groups.
5. This study, with the information that you provided, is not a case-control study, but a cross-sectional study with a control group.

4

Revision 3

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Reviewers' Comments:

Reviewer 1:
1. The sample size calculation is not true. Please report the P1 and P2 based on a reference, report the type one and type two errors and use an appropriate formula.

Based on the findings of a previous study(1) and the following formula, the minimum sample size for each group was estimated to be 125 people. $n = (Z_{\alpha/2}+Z_{\beta})^2 * (p_1(1-p_1)+p_2(1-p_2)) / (p_1-p_2)^2$, where $Z_{\alpha/2}=2.57$, $Z_{\beta}=2.33$, $p_1=0.39$, $p_2=0.13$. Three people more than the calculated sample were included in each of the two groups, ie, 128 people in each group and a total of 256 people were studied. .(Revised in the method section)
2. Remove "50% precision" and "1.25 odds ratio". Removed.
3. Remove "It should be mentioned that a random number table was used in the selection of patients". Removed.
4. The patients were divided into two groups, case and control!? It is not true. Please talk about the sampling process, separately in each group.

In this hospital-based cross sectional study, 256 patients who referred to the angiographic center of Shahid-Mohammadi Hospital, Bandar-Abbas, Iran, from Feb2019 to Oct 2020 were selected to investigate the relationship between cigarettes and hookah smoking with CAD. The patients were divided into two groups with a ratio of 1 to 1, one group who had at least 50 percent stenosis in left main or more than 70 percent stenosis in other arteries and another group were patients with normal coronary arteries according to coronary angiography. Convenience sampling was used to select people in each group based on the ease of access to the information in their files that were archived in the angiography department. .(Revised in the method section)
5. How about the variable selection technique in the regression modeling?

First, univariable binary logistic regression was used and then independent variables with P value less than 0.25 were included in the multivariable logistic regression to estimate the adjusted odds ratio. By adjusting the effect of variables of age, sex, marital status, occupation, education, residence, hypertension, diabetes, and hyperlipidemia (HLP); the odds ratio and confidence interval were calculated to find the relationship between hookah use and cigarette smoking with coronary artery disease.(Revised in the method section)

Associate Editor's Comments:

Associate Editor 1:
Dear Authors

Your manuscript has been improved a little but main points have been remained that should be revised.
1. Consider points of all reviewers. Especially, Sample size and its presumptions that are not logical. Consult with a bio-statistician .

Based on the findings of a previous study(1)and the following formula, the minimum sample size for each group was estimated to be 125 people. $n = (Z_{\alpha/2}+Z_{\beta})^2 * (p_1(1-p_1)+p_2(1-p_2)) / (p_1-p_2)^2$, where $Z_{\alpha/2}=2.57$, $Z_{\beta}=2.33$, $p_1=0.39$, $p_2=0.13$. Three people more than the calculated sample were included in each of the two groups, ie, 128 people in each group and a total of 256 people were studied. All the valuable comments of the reviewers were applied.(Revised in the method section)

2.All tables(uni and multi variate analysis) should be rewrite to show the relation between CAD and smoking. (you showed association between smoking and other risk factors!)

Except for Table 1, which shows the characteristics of the participants based on both groups (with and without CAD), the rest examine the relationship between CAD and smoking.(Revised the the tables)

3. Show the result of regression completely(beta , exp beta ,CI ,...). Added in the method section.

4. Consider duration of smoking in analysis of both groups.

A variable called smoking duration was not available in the data. The only relevant variable was a categorical variable with three levels (non-smoker, ex-smoker, and current smoker) for each cigarette and hookah. Also, because of the low frequency of ex-smokers, we had to consider the current smokers and ex-smokers as the smoking group and compare with non-smokers.

5. This study, with these information that you provided, is not a case-control study ,but it is a cross sectional study with control group. Revised in the method section.

References:

1. Basnet TB, Xu C, Mallah MA, Indayati W, Shi C, Xu J, et al. Association of smoking with coronary artery disease in Nepalese populations: a case control study. Toxicol Res (Camb). 2019;8(5):677-85.

4 Revision 3

1 comment · 24 Oct 2024

Associate Editor

ACCEPT 24 Oct 2024

Accepted