PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Secondhand smoke exposure for different education levels: findings from a large, nationally representative survey in Turkey
AUTHORS	Alkan, Ömer; Ünver, Şeyda

VERSION 1 – REVIEW

REVIEWER	Murty, Komanduri Fort Valley State University, Behavioral & Social Sciences
REVIEW RETURNED	06-Oct-2021

GENERAL COMMENTS	The topic and the analyses seems to be appropriately conceived and executed. The results and information reported in the manuscript adds to the existing literature and contributes to the tobacco control in Turkey. 1. The manuscript was based on a respondent sample of 17,084 but in the methodology, it was mentioned that the sample was 9,470 household. It could be beneficial to add a sentence to clarify the sample used for the analyses and explain the difference/relation between households and respondents 2. Suggest providing the rationale for the age categorization (less than 35, 35-44, 45-54 and 55+)? Also, in page 9, suggest correcting the typo '35-34' to '35-44' 3. Provide rationale for the analyses and inclusion of models based on education categorization 4. Typo in the table 1 - '1129' vs. '11.29' 5. Suggest including 'NA' with a footnote in all the tables where education categories were not included in the models 2-5 6. When reviewing the tables, it was observed that the pattern of association across education categories in models 2-5 appears to be the same though there are differences in the magnitude of the effect. Suggest describing the rationale for inclusion of education categories and justification of the analyses based on each education category. Could it potentially be due to sampling variations or sample size 7. In page 17, psycho-social support and health status variables association with exposure to tobacco smoke appears to be demonstrating reverse relationship 8. Discussion and conclusions are entirely based on the standard independent variables and not discussed specific to each education category (no models 2-5 were explained). All the possible

	explanations and conclusions are based on model 1, then suggest removing the analyses and results from models 2-5
	9. Suggest adding limitations of the study in discussion and/or conclusions

REVIEWER	Frazer, Kate University College Dublin, School of Nursing, Midwifery and Health Systems
REVIEW RETURNED	25-Oct-2021

GENERAL COMMENTS	This is an important analysis of a national survey to add to the body of knowledge of impact of SHS exposure to reduce risks. Please can I confirm if this is a secondary analysis of data? It's stated in the abstract it's a cross-sectional study. However, there is evidence that this is a secondary analysis of a data set. Perhaps this needs to be clarified within the abstract and paper. I would suggest adding to the literature and referencing it within the discussion as well. There are studies that have examined educational impact on exposure See Nan 202 Vitoria 2017 Lopez 2018 Jeong And it would be where your paper adds to this body of knowledge for an international audience of BMJ open. Additionally adding the Cochrane Systematic Review of Impact of legislative smoking bans 2016 would be useful as context explaining laws in Turkey (adding to where you identified law is strong in comparison with other countries). Frazer et al 2020 report partners of pregnant women are a risk for SHS exposure - another body of evidence exists for this perspective and those at greatest risk (unborn / newborns/ children).

VERSION 1 – AUTHOR RESPONSE

REVIEWER'S COMMENT
Reviewer: 1
Dr. Komanduri Murty, Fort Valley State University
Comments to the Author:
The topic and the analyses seems to be appropriately conceived and executed. The results and information reported in the manuscript adds to the existing literature and contributes to the tobacco control in Turkey.
1. Comment: The manuscript was based on a respondent sample of 17,084 but in the methodology, it was mentioned that the sample was 9,470 household. It could be beneficial to add a sentence to clarify the sample used for the analyses and explain the difference/relation between households and respondents.
1. Response: Thank you for the comment. Considering the comments of the reviewer, "Secondary data of individuals aged 15 years and over were employed in the study. The total sample volume has been determined to be 9,470 household addresses due to the study's design. From these households, data were gathered from a total of 17,084 people." statement has been incorporated into paper in the methods/data section.
2. Comment: Suggest providing the rationale for the age categorization (less than 35, 35-44, 45-54 and 55+)? Also, in page 9, suggest correcting the typo '35-34' to '35-44' .
2. Response: Thank you for the comment. In accordance with the criticism of the reviewer, "In this study, the age variable was included in the model as a qualitative variable. The inclusion of age as a qualitative variable in the model allows for a more detailed examination of its variation across age groups. [85, 86]. Most people complete their education at an early age and continue it throughout their

adult lives [87]. Therefore, 34 and under is considered as a category. In order to avoid the multicollinearity problem in the models, 55 and above are considered as a category." statement has been incorporated into paper in the methods/independent variables section. The necessary correction in page 9 has been made in accordance with the reviewer 's recommendation.

3. Comment: Provide rationale for the analyses and inclusion of models based on education categorization.

3. Response: Thank you for the comment. In accordance with the criticism of the reviewer, "Education is frequently considered the key indication of individual socio-economic status (SES) and is one of the core determinants of health [44, 45]. Occupation, income, and education are the key indices of SES, which is a multidimensional concept. In the literature, many researchers have preferred education as the primary indicator of SES. Earnings and occupational position may fluctuate with changes in health because educational attainment tends to stable in early adulthood. Furthermore, whereas educational status may be determined for everyone, occupational status cannot be determined for those who have recently entered or never entered the labor [46].", "Material, behavioral, and cognitive theories about the relationship of SES to health and death are all linked to educational attainment [47]. The relationship between education and health is well-established, with better-educated people living longer and experiencing fewer ailments throughout their lives. Individuals' income-earning abilities are directly influenced by their educational attainment, and thus their access to adequate nutrition, shelter, health care, and other material conditions that can help them live a long and healthy life. Education can also improve one's capacity to use information to make better judgments that will improve one's prospects in life [44, 48]. A protective impact of educational attainment against drug use and SHS exposure, including alcohol use and binge drinking, has been observed in the literature [49, 50]. As a result, research have been conducted in a variety of disciplines, including health [51-53], education [54-56], and the arts [57, 58]. Furthermore, there are studies in different fields of social sciences in which educational differences are discussed [59-61].", and "This research looked at five different groups, ranging from the least educated to the most educated. Studies investigating educational differences in various fields in the literature were considered to determine the education categories [49, 50, 52, 56, 83, 84]. In the study, a separate binary logit model was estimated for each education level." statements have been incorporated into paper in the introduction and methods/outcome variables section.

4. Comment: Typo in the table 1 - '1129' vs. '11.29'.

4. Response: Thank you for the comment. The necessary correction has been made in accordance with the reviewer 's recommendation.

5. Comment: Suggest including 'NA' with a footnote in all the tables where education categories were not included in the models 2-5.

5. Response: Thank you for the comment. The necessary correction has been made in accordance with the reviewer 's recommendation.

6. Comment: When reviewing the tables, it was observed that the pattern of association across education categories in models 2-5 appears to be the same though there are differences in the magnitude of the effect. Suggest describing the rationale for inclusion of education categories and justification of the analyses based on each education category. Could it potentially be due to sampling variations or sample size.

6. Response: Thank you for the comment. The necessary correction in the discussion section has been made in accordance with the reviewer 's recommendation.

7. Comment: In page 17, psycho-social support and health status variables association with exposure to tobacco smoke appears to be demonstrating reverse relationship.

7. Response: Thank you for the comment. In accordance with the criticism of the reviewer, "Interventions aimed at reducing SHS exposure can help people's mental health. Individual-level therapies, such as education regarding the dangers of SHS exposure and avoidance techniques, may also be explored as supplementary strategies for depression management [7]" statement has been incorporated into paper in the discussion section. We had misspelled the comment for the health status variable. The necessary correction in the discussion section has been made in accordance with the reviewer 's recommendation.

8. Comment: Discussion and conclusions are entirely based on the standard independent variables and not discussed specific to each education category (no models 2-5 were explained). All the possible explanations and conclusions are based on model 1, then suggest removing the analyses and results from models 2-5.

8. Response: Thank you for the comment. In line with the reviewer's suggestion, the discussion and conclusion sections were revised, taking into account the points mentioned.

9. Comment: Suggest adding limitations of the study in discussion and/or conclusions.

9. Response: Thank you for the comment. Considering the comments of the reviewer, "This study is not without limitations. To begin, the study relies on secondary data. The variables required for statistical analysis are those found in the data set. Additionally, some variables such as individuals' occupations, home ownership status, levels of exposure to tobacco smoke by parents, siblings, as well as other household members and friends were not included in the analysis. Furthermore, because the data set did not include information about the location of tobacco smoke exposure, this study focused on general SHS exposure. The distinction between SHS-exposed locations such as homes, public places, workplaces, restaurants, and bars was omitted. Secondly, because tests to determine individuals' exposure to tobacco smoke could not be conducted in a laboratory setting, the study relied on the women's own responses. The data obtained might be biased as a result of this data collection method." statement has been incorporated into paper in the discussion section.

Reviewer: 2
Dr. Kate Frazer, University College Dublin
Comments to the Author:
1. Comment: This is an important analysis of a national survey to add to the body of knowledge of impact of SHS exposure to reduce risks. Please can I confirm if this is a secondary analysis of data? It's stated in the abstract it's a cross-sectional study. However, there is evidence that this is a secondary analysis of a data set. Perhaps this needs to be clarified within the abstract and paper.

1. Response: Thank you for the comment. The necessary correction has been made in accordance with the reviewer 's recommendation. The statement "cross-sectional study" has been changed.

2. Comment: I would suggest adding to the literature and referencing it within the discussion as well. There are studies that have examined educational impact on exposure
See
Nan 202
Vitoria 2017
Lopez 2018
Jeong
And it would be where your paper adds to this body of knowledge for an international audience of BMJ open.

2. Response: Thank you for the comment. A comprehensive literature research was carried out and the title "Literature review" was added into the paper. The studies recommended by the Reviewer was examined in detail and used in the paper.

3. Comment: Additionally adding the Cochrane Systematic Review of Impact of legislative smoking bans 2016 would be useful as context explaining laws in Turkey (adding to where you identified law is strong in comparison with other countries).

3. Response: Thank you for the comment. The necessary correction in the introduction section has been made in accordance with the reviewer 's recommendation.

4. Comment: Frazer et al 2020 report partners of pregnant women are a risk for SHS exposure - another body of evidence exists for this perspective and those at greatest risk (unborn / newborns/ children).

4. Response: Thank you for the comment. The study recommended by the reviewer was examined in detail and used in the paper.