PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	A cross-sectional study on tobacco advertising, promotion and sponsorship (TAPS) and violations of tobacco sale regulations in Myanmar: Do these factors affect current tobacco use among Myanmar high school students?
AUTHORS	Cho, Su Myat; Saw, Yu Mon; Latt, Nyi Nyi; Saw, Thu Nandar; Htet, Hein; Khaing, Moe; Than, Thet Mon; Win, Ei Mon; Aung, Zaw Zaw; Kariya, Tetsuyoshi; Yamamoto, Eiko; Hamajima, Nobuyuki

VERSION 1 - REVIEW

REVIEWER	Eniola Olubukola Cadmus University of Ibadan
REVIEW RETURNED	22-Jun-2019

GENERAL COMMENTS	Author needs to provide more details of methodology employed. Please see attached edits The reviewer provided a marked copy with additional comments. Please contact the publisher for full details.

REVIEWER	Julia Chen-Sankey NIH
REVIEW RETURNED	06-Sep-2019

GENERAL COMMENTS	Reviewer comments The manuscript provides data and results on an important tobacco control issue- whether the exposure to TAPS and illicit tobacco sales would increase the use of tobacco among high school students in Myanmar, where tobacco use prevalence is still high. This paper can benefit from clear description of introduction and methods, as well as a more succinct and focused description of discussion and its implications. Specifically, the authors need to be clear about what specific tobacco products they were examining in terms of the outcomes, TAPS, and illicit tobacco sales. The results and discussion can be more succinct through cutting down the description of other risk factors (gender, age etc). Introduction

	o The prevalence cited in this section needs to specify whether they are past-30-day use and other measures. And some of the data you cited did not include the year. o You also need to compare those data to highlight the fact that cigarette smoking and smokeless tobacco use in Myanmar are not only high in Asia but also in the world. o The second paragraph—you did not mention the harm of using smokeless tobacco at all. You emphasized the context of cigarette smoking. o Somewhere in the introduction, you probably need to include why this paper only focuses on high school students instead of all youth. Maybe it's because HS students have higher prevalence of tobacco use than MS students? Methods o Study population—Please include information on how the survey was administered (paper-pencil?) and the response rate. o What's the IRB status of this study? o Outcome variable: current smoking includes cigarettes and cigars or just cigarettes? Need to specify which product it was measuring o Independent variables should be TAPS exposure and illicit sales, right? All the other variables you listed in this section should be considered as covariates? o You probably need to state the definition of cigars much earlier in the methods since it is super confusing to read these measures with cigars appearing so many places without the context. I am also wondering whether the authors explained the definition clearly: "The word "cigar" used in our variables meant "any cigarette, cheroot, cigar, or smoking pipe or any other similar material prepared by any means for inhalation of smoke emitted from the burning of a tobacco product," So cigars also included cigarettes and cigars? I think you are referring cigars to combustible tobacco products if it makes more sense. o In the illicit sales section, you wrote "having seen selling cigarettes singly or in packs containing less than 20 within the last 12 months." So, in this case, cigarettes are not considered as cigars? o I think it should be "multivariable logistic regression" instead of "multiple logistic regression," right? Results o Not sure if I understand why you stratified the sample by gender. You need to provide more context for this. Discussion o In the first paragraph, you discussed all the risk factors for tobacco use, however, your main focus is TAPS exposure and illicit tobacco sales exposure. o You did not cite any data/evidence to show that there is a lack of enforcement of these laws. If the lack of enforcement is the main reasons for kids to be exposed to these ads, you need to provide more context about it. o The discussion section needs to be focused on how findings can be used to inform policy change and enforcement on TAPS and illicit tobacco sales in the country. Some of the data/content included in the discussion currently (how TAPS exposure is associated with tobacco use) needs to be placed in the introduction section.

VERSION 1 – AUTHOR RESPONSE

Reviewer#1

General comment: Author needs to provide more details of methodology employed. Please see attached edits.

Authors' response: Thank you very much for your valuable comments and suggestions. As you suggested, we revised the previous methodology providing more information. [Materials and methods, Page 9-11, Line 158-203)

Q1: Delete the word "on", it is redundant in the title.

"A cross-sectional study on tobacco advertising, promotion and sponsorship (TAPS) and violations of tobacco sale regulations in Myanmar: Do they affect on the current smoking and smokeless tobacco use among Myanmar high school students?"

Authors' response: Thank you very much for your comment. As you suggested, we deleted "on" from the title. [Title, Page 1, Line 2]

To make it clear, we revised the previous title "A cross-sectional study on tobacco advertising, promotion and sponsorship (TAPS) and violations of tobacco sale regulations in Myanmar: Do they affect on the current smoking and smokeless tobacco use among Myanmar high school students?" to read as follows: "A cross-sectional study on tobacco advertising, promotion and sponsorship (TAPS) and violations of tobacco sale regulations in Myanmar: Do these factors affect current tobacco use among Myanmar high school students?" [Title, Page 1, Line 1-3]

Q2: Change the word "recruited" to "interviewed." Recruited suggests this is the sampling strategy while the author is describing data collection.

Authors' response: Thank you very much for your comment. As you suggested, we changed the word "recruited" to "interviewed" [Abstract, Page 2, Line 36]

To make it clear, we revised the previous sentence "In total, 1,174 (482 males and 692 females) high school students were recruited using a self-administered questionnaire." to read as follows: "In total, 1,174 high school students (482 males and 692 females) were interviewed using a self-administered questionnaire." [Abstract, Page 2, Line 35-36]

Q3: Multicountry

Authors' response: Thank you very much for your comment. As you suggested, we changed the word "multicounty" to "multi-national." [Introduction, Page 4, Line 75]

To make it clear, we revised the previous sentence "A recent multicounty study reported that the prevalence of adolescent smokeless tobacco use in the World Health Organization (WHO) South-East Asia Region was highest in Bhutan (23.2%), followed by Nepal (16.2%), Timor-Leste (14.2%), Myanmar (9.8%), India (9.0%), Sri Lanka (8.5%), the Maldives (6.2%), Bangladesh (5.9%), and Thailand (5.7%).3) " to read as follows: "A recent multi-national study reported that, between 2006 and 2013, adolescent smokeless tobacco use in the World Health Organization (WHO) South-East Asia Region was at its highest in Bhutan (23.2%), followed by Nepal (16.2%), Timor-Leste (14.2%),

Myanmar (9.8%), India (9.0%), Sri Lanka (8.5%), the Maldives (6.2%), Bangladesh (5.9%), and Thailand (5.7%).3)" [Introduction, Page 4, Line 75-79]

Q4: What about obtaining consent from parents since we respondents were minors and assent from the respondents? Asking permission from school authorities alone is not sufficient.

Authors' response: Thank you very much for your valuable comments and suggestions. As you concerned, we also considered and conducted this study very carefully in each and every step as our study participants are minors. The obtaining permissions to study the minor population are not easy in Myanmar as we need to deal with central (Ministry) authorities, local authorities, and academic board to parental level before the survey. Besides, we also needed to get ethical approvals from national and international committees to study among minors where many rules have been set up to follow to protect the right of minors. Before conducting the survey (before sample schools were selected), we have to conduct many advocacy meetings at central to regional (local) levels to explain the study's objectives, the contents of the questionnaire, the voluntary nature, and procedure of the survey, and the rights of the study participants. We would like to briefly explain the ethical procedures at a local level that we had undertaken during the study. First, after obtaining the permissions from central and ethical committees. We need to advocate and explain the study's objectives, the contents of the questionnaire, survey nature and procedure, voluntary participation, and the rights of the study participants to parents, teachers, local educational steering committees, and authorities. After many meetings, we had obtained the permissions to conduct the study at sampled schools. After survey schools were fixed, we had to send the survey information to parents that included a written informed consent a week prior to the survey. Parents did not need to return the envelope that included written informed consent if they did not agree with their child's participation. In addition, we did not interview students who did not want to participate in the study even their parents had already agreed the participation. During the survey, the researcher team members explained the study's objectives, contents of the survey questionnaire, the voluntary nature and procedure of the survey, and the rights of the participants to collaborators, students, and teachers. [Ethical approval and consent to participate, Page 23-24 Line 424-445]

To make it clear, we revised the previous paragraph "This study was approved by the Department of Medical Services, Ministry of Health, Myanmar (Letter No. 617 of Planning/Research issued on August 26, 2015), and the Ministry of Education, Myanmar (Letter No. 12125 of Information/Research issued on October 19, 2015), as well as the ethical review committee of Nagoya University School of Medicine (No. 6518 issued on August 31, 2015). All data collection and analytical processes retained anonymity for privacy and confidentiality. The locations, names, and numbers of the eligible participants of the schools involved were not documented." to read as follows: "This study was ethically approved by the Department of Medical Services, Ministry of Health and Sports, Myanmar (Letter No. 617 of Planning/Research issued on August 26, 2015), and the Ministry of Education, Myanmar (Letter No. 12125 of Information/Research issued on October 19, 2015), as well as the ethical review committee of Nagoya University School of Medicine (No. 6518 issued on August 31, 2015). To conduct this school- based survey, permissions from Ministry of Education, Regional Offices of Basic Education, Ministry of Health and Sports, local educational steering committees and authorities, the schools' authorities, the headmasters of participated schools and local Parents-Teacher Associations were obtained. The survey procedure was approved by Ministry of Education and Ministry of Health and Sports. After thoroughly explaining the study's objectives, contents of the survey questionnaire, and rights of the study participants, the written-informed consents from local educational steering committees and authorities, the schools' authorities, the headmasters of participated schools, local Parents-Teacher Associations, and parents. One week prior to the survey, the information sheet and the written-informed consents that stating the study's objectives, the survey's procedure and the contents of the questionnaires, and the rights of the study

participants were sent to parents. Researchers also explained the study's objectives, contents of the survey questionnaire, the voluntary nature and procedure of the survey, and the rights of the participants to collaborators, students and teachers before conducting the survey. All data collection and analytical processes remain anonymous for privacy and confidentiality. The locations, names, and numbers of the eligible participants of the schools involved were not documented." [Ethical approval and consent to participate, Page 23-24 Line 424-445]

Q5: The author needs to provide more information on how this variable was determined. Was it a single question in the survey instrument, or two questions. How did the author code the responses to come up with a single variable.

Authors' response: Thank you very much for your valuable comments. For this variable, we asked two questions in the survey questionnaire: one question asking if the student was the current smoker and one asking if he/she was the current smokeless tobacco user. If the students answered "Yes" to any of these two questions, he/she was considered to have the current smoking and/or smokeless tobacco use. To make it clear, we amended the dependent variable "current smoking and smokeless tobacco use" to read as follows; "current tobacco use" throughout the manuscript. [Materials and Methods, Page 10, Line 177-179]

Q6: As stated in the previous comment, the author should provide more information about how this variable was generated considering the fact that several questions were used to assess this variable.

Authors' response: Thank you very much for your valuable comments and suggestions.

For illicit tobacco sale exposures, we measured four different types of tobacco sales related to students out of several tobacco sale regulations prohibited by Myanmar Tobacco Control Law as our study participants were high school students.

To provide more information on this variable as you suggested, we revised the previous sentence "Exposure to the illicit sales of tobacco was measured by using the following variables: 1) having seen selling cigars inside or within 100 feet of the school premises within the last 12 months, 2) having seen selling or giving cigars to minors within the last 12 months, 3) having seen selling or distributing cigars by minors within the last 12 months, and 4) having seen selling cigarettes singly or in packs containing less than 20 within the last 12 months." to read as follows: "For illicit tobacco sale exposures, we measured four different types of tobacco sales to students contravening several of the tobacco sale regulations prohibited by Myanmar Tobacco Control Law. These four variables were: 1) having seen any smoked tobacco product for sale inside or within 100 feet of the school premises within the last 12 months, 2) having seen the sale or gifting of any smoked tobacco product to minors within the last 12 months, 3) having seen the sale or distribution of any smoked tobacco product by minors within the last 12 months, and 4) having seen the sale of cigarettes singly or in packs containing less than 20 within the last 12 months." [Materials and Methods, Page 11, Line 190-197]

Q7: What informed your choice of cut-off?

Authors' response: Thank you very much for your comments. We used the mean score as the cut- off point for the perception of tobacco use. We also calculated the medium score which was not much different from the mean score. [Materials and Methods, Page 12, Line 212-214]

Reviewer#2

Introduction

Q1: The prevalence cited in this section needs to specify whether they are past-30-day use and other measures. And some of the data you cited did not include the year.

Authors' response: Thank you very much for your comments and suggestions. As you suggested, we specified that the prevalence cited was the past-30-day use and included the year of the data we cited.

To make it clear, we revised the previous sentences "Globally, it was estimated that 24 million (7%) adolescents aged between 13 and 15 years smoked cigarettes and 13.4 million (3.6%) used smokeless tobacco products in 2017.1) In the United States, it was reported that 4 million high school students were current tobacco users in 2018.2) In Southeast Asia region, tobacco use prevalence was 5.7% and smokeless tobacco use prevalence was 7.2% among adolescents.1) A recent multicounty study reported that the prevalence of adolescent smokeless tobacco use in the World Health Organization (WHO) South-East Asia Region was highest in Bhutan (23.2%), followed by Nepal (16.2%), Timor-Leste (14.2%), Myanmar (9.8%), India (9.0%), Sri Lanka (8.5%), the Maldives (6.2%), Bangladesh (5.9%), and Thailand (5.7%).3)" to read as follows: "Globally, it was estimated that 24 million (7%) adolescents aged between 13 and 15 years had smoked cigarettes in the past 30 days and 13.4 million (3.6%) had used smokeless tobacco products in the past 30 days during 2017.1) In the United States, it was reported that 4 million high school students were current tobacco users in 2018.2) In Southeast Asia , the prevalence of adolescents' tobacco use in the past 30 days was 5.7% and that of smokeless tobacco use was 7.2% over the period of 2007 to 2017.1) A recent multi-national study reported that, between 2006 and 2013, adolescent smokeless tobacco use in the World Health Organization (WHO) South-East Asia Region was at its highest in Bhutan (23.2%), followed by Nepal (16.2%), Timor-Leste (14.2%), Myanmar (9.8%), India (9.0%), Sri Lanka (8.5%), the Maldives (6.2%), Bangladesh (5.9%), and Thailand (5.7%).3)" [Introduction, Page 4, Line 69-79]

Q2: You also need to compare those data to highlight the fact that cigarette smoking and smokeless tobacco use in Myanmar are not only high in Asia but also in the world.

Authors' response: Thank you very much for your suggestion. As suggested, we have added this information in the 1st paragraph of the introduction section as follows: "Myanmar is one of the countries with high prevalence of tobacco use among young population in the WHO South-East Asia Region.4) Cigarette smoking among schoolchildren is much higher in Myanmar compared to other SEAR countries, i.e., Bangladesh, India, Maldives, Nepal, and Sri Lanka.5) The use of smokeless tobacco product is also highly prevalent in Myanmar as compared to other countries.6)" [Introduction, Page 4, Line 80-84]

Newly added references for these sentences are listed below.

4. World Health Organization, Regional Office for South-East Asia. (2015). Monitoring tobacco control among youth in countries of the South-East Asia Region: 2014. World Health Organization. https://apps.who.int/iris/handle/10665/155159. [References, Page 26, Line 462-465]

5. Tun NA, Chittin T, Agarwal N, et al. Tobacco use among young adolescents in Myanmar: Findings from global youth tobacco survey. Indian J Public Health 2017; 61(Suppl 1):S54-S59. doi: 10.4103/ijph.IJPH_236_17. [References, Page 26, Line 466-468]

6. World Health Organization, Regional Office for South-East Asia. (2012). Expert group meeting on smokeless tobacco control and cessation: New Delhi, India, 16-17 August 2011. WHO

Regional Office for South-East Asia.https://apps.who.int/iris/ handle/10665/205054. [References, Page 26, Line 469-471]

Q3:The second paragraph—you did not mention the harm of using smokeless tobacco at all. You emphasized the context of cigarette smoking.

Authors' response: Thank you very much for your comments. As suggested, we have included the information about the harms of smokeless tobacco use in the 2nd paragraph of Introduction section as follows: "Smokeless tobacco use is as dangerous as smoked forms of tobacco because it contains nicotine, carcinogens and other toxic chemicals.13) Smokeless tobacco use has deleterious effects to oral health including the staining and discolouration of teeth, leukoplakia, erythroplakia and oral cancer.14)A recent systematic review from India reported a positive association between smokeless tobacco use and various cancers (oral, oesophageal, pancreatic) in the South-East Asian Region (SEAR) and Eastern Mediterranean Region (EMR).15) Moreover, another recent systematic review in the United States found an increased risk of heart disease and stroke among smokeless tobacco users.16)" [Introduction, Page 5, Line 94-101]

Newly added reference for these sentences are listed as below.

13. Kyaing N, Sein T, Sein AA, Than Htike MM, Tun A, Shein NN. Smokeless tobacco use in Myanmar. Indian J Cancer. 2012;49(4):347-351. doi: 10.4103/0019-509X.107727.

[References, Page 27, Line 492-493]

14. Muthukrishnan A, Warnakulasuriya S. Oral health consequences of smokeless tobacco use. Indian J Med Res. 2018;148(1):35–40. doi:10.4103/ijmr.IJMR_1793_17.

[References, Page 27, Line 494-495]

15. Gupta S, Gupta R, Sinha DN, Mehrotra R. Relationship between type of smokeless tobacco & risk of cancer: A systematic review. Indian J Med Res. 2018;148(1):56–76. doi:10.4103/ijmr.IJMR_2023_17.

[References, Page 27, Line 496-498]

16. Rostron BL, Chang JT, Anic GM, Tanwar M, Chang CM, Corey CG. Smokeless tobaccouse and circulatory disease risk: a systematic review and meta-analysis. Open Heart. 2018;5(2):e000846. Published 2018 Oct 8. doi:10.1136/openhrt-2018-000846.

[References, Page 27, Line 499-501]

Q4: Somewhere in the introduction, you probably need to include why this paper only focuses on high school students instead of all youth. Maybe it's because HS students have higher prevalence of tobacco use than MS students?

Authors' response: Thank you very much for your valuable comments. We have added the justification for focusing on high school students in the 3rd paragraph of Introduction section. We have revised the previous 3rd paragraph of Introduction section "Since 2001, the Global Youth Tobacco Survey (GYTS) has been implemented every three to five years in Myanmar to monitor school-going students' tobacco use. The 2016 GYTS reported that 10.6% of students used tobacco (21.1% for boys and 2.4% for girls). The prevalence of smokeless tobacco use was 11.0% for boys and 1.5% for girls.10) In parallel with the GYTS, Myanmar has been conducting the nationwide Global School-

based Student Health Survey (GSHS) to monitor the understanding of health risk behaviours among students aged between 13 and 17 years, including students' tobacco use. The GSHS survey reported that the prevalence of current tobacco smoking and current smokeless tobacco use in Myanmar students were 7.2% and 8.5%, respectively, in 2016.11)" to read as follows: "Studies have shown that tobacco and smokeless tobacco use is highly prevalent among Myanmar high school students. Since 2001, the Global Youth Tobacco Survey (GYTS) has been conducted every 3 to 5 years in Myanmar to monitor tobacco use among high school students .The findings from the 2016 GYTS conducted among high school students pointed out that the prevalence of the current use of smoked tobacco products and the prevalence of the current use of smokeless tobacco products was 10.6% and 5.7 respectively.17) In parallel with the GYTS, Myanmar has been conducting the nationwide Global School-based Student Health Survey (GSHS) to monitor the understanding of health risk behaviours among high school students. The 2016 survey also reported that the prevalence of current tobacco smoking and current smokeless tobacco use among high school students was 7.2% and 8.5%, respectively.18) Another study conducted among high school students in 2015 in Nay Pyi Taw, Myanmar, reported that 34.7% were smokers and 28.3% were smokeless tobacco users.19) Therefore, the use of smoked and smokeless tobacco among high school students in Myanmar is an important public health issue as well as a social one. Moreover, all these studies also pointed out that most high school students began using tobacco before the age of 14. However, in Myanmar, parents tend to show less concern about their children becoming smokeless tobacco users (especially chewing betel quid with tobacco) because there is a widespread misconception that the use of smokeless tobacco is not as harmful as the use of cigarettes.13) It is important to monitor the initiation and pattern of tobacco use among adolescents and youths, especially among high school students." [Introduction, Page 5-6, Line 101-120]

Materials and methods

Q5: Study population—Please include information on how the survey was administered (paper-pencil?) and the response rate.

Authors' response: Thank you very much for your valuable comments and suggestions.

As you suggested, we revised the previous paragraph "Data were collected by using a pre-tested, anonymous, self-administered questionnaire. The questionnaire in the Myanmar language contained 40 questions, covering nine components:1) background information, 2) experience with tobacco products, 3) exposure to second-hand smoking, 4) perception of smoking and smokeless tobacco products, 5) sale of tobacco, 6) health warnings and information, 7) tobacco advertisement, promotion, and sponsorship, 8) smoke-free areas, and 9) the Tobacco Control Law and its enforcement. Permissions were obtained from local educational steering committees and authorities, schools' authorities, and teachers after a thorough explanation of the study's objectives and the contents of the questionnaire. Before taking part in the study, researchers explained clearly the nature and aims of this study, and the questionnaire's contents to all participants." to read as follows; "Data were collected by using a pre-tested, anonymous, paper and pencil self-administered questionnaire. The questionnaire in the Myanmar language contained 40 questions, covering nine components:1) background information, 2) experience with tobacco products, 3) exposure to second-hand smoking, 4) perception of smoked and smokeless tobacco products, 5) sale of tobacco, 6) health warnings and information, 7) tobacco advertisement, promotion, and sponsorship, 8) smoke-free areas, and 9) the Tobacco Control Law and its enforcement." [Materials and Methods, Page 9-10, Line 169-174]

Q6: What's the IRB status of this study?

Authors' response: Thank you very much for your comment. The IRB status of this study was fully explained in the Ethical approval and consent to participate section as follows:

"This study was ethically approved by the Department of Medical Services, the Ministry of Health and Sports, Myanmar (Letter No. 617 of Planning/Research issued on August 26, 2015), and the Ministry of Education, Myanmar (Letter No. 12125 of Information/Research issued on October 19, 2015), as well as the ethical review committee of Nagoya University School of Medicine (No. 6518 issued on August 31, 2015). To conduct this school- based survey, permissions from the Ministry of Education, Regional Offices of Basic Education, Ministry of Health and Sports, local educational steering committees and authorities, the schools' authorities, the headmasters of participated schools and local Parents-Teacher Associations were obtained. The survey procedure was approved by the Ministry of Education and the Ministry of Health and Sports.

To make it clear, we revised the previous paragraph "This study was approved by the Department of Medical Services, Ministry of Health, Myanmar (Letter No. 617 of Planning/Research issued on August 26, 2015), and the Ministry of Education, Myanmar (Letter No. 12125 of Information/Research issued on October 19, 2015), as well as the ethical review committee of Nagoya University School of Medicine (No. 6518 issued on August 31, 2015). All data collection and analytical processes retained anonymity for privacy and confidentiality. The locations, names, and numbers of the eligible participants of the schools involved were not documented." to read as follows: "This study was ethically approved by the Department of Medical Services, Ministry of Health and Sports, Myanmar (Letter No. 617 of Planning/Research issued on August 26, 2015), and the Ministry of Education, Myanmar (Letter No. 12125 of Information/Research issued on October 19, 2015), as well as the ethical review committee of Nagoya University School of Medicine (No. 6518 issued on August 31, 2015).

To conduct this school- based survey, permissions from the Ministry of Education, Regional Offices of Basic Education, the Ministry of Health and Sports, local educational steering committees and authorities, the schools' authorities, the headmasters of participated schools and local Parents-Teacher Associations were obtained. The survey procedure was approved by Ministry of Education and Ministry of Health and Sports. After thoroughly explaining the study's objectives, contents of the survey questionnaire, and rights of the study participants, the written-informed consents from local educational steering committees and authorities, the schools' authorities, the headmasters of participated schools, local Parents-Teacher Associations, and parents. One week prior to the survey, the information sheet and the written-informed consents that stating the study's objectives, the survey's procedure and the contents of the questionnaires, and the rights of the study participants were sent to parents. Researchers also explained the study's objectives, contents of the survey questionnaire, the voluntary nature and procedure of the survey, and the rights of the participants to collaborators, students and teachers before conducting the survey. All data collection and analytical processes remain anonymous for privacy and confidentiality. The locations, names, and numbers of the eligible participants of the schools involved were not documented."

[Ethical approval and consent to participate, Page 23-24, Line 424-445]

Q7: Outcome variable: current smoking includes cigarettes and cigars or just cigarettes? Need to specify which product it was measuring.

Authors' response: Thank you very much for your comments and suggestions. The outcome variable: current tobacco use was defined as the use of any kind of smoked or smokeless tobacco product on at least one occasion within the 30 days preceding the survey. Therefore, it includes all forms of smoking and smokeless tobacco. [Materials and Methods, Page 10, Line 177-179]

Q8: Independent variables should be TAPS exposure and illicit sales, right? All the other variables you listed in this section should be considered as covariates?

Authors' response: Thank you very much for your valuable comments. To make it clear we revised the previous sentences "The independent variables were socio-demographic characteristics, smoking exposure at home and school, perception and receiving health education about tobacco products, illicit sale exposure, and exposure to any kind of TAPS." to read as follows: "After controlling socio-demographic characteristics, smoking exposure at home and school, the receiving health education about tobacco use, and the perception of tobacco use as covariates, the independent variables in this study were participants' exposure to any kind of TAPS and illicit tobacco sale exposures." [Materials and Methods, Page 10, Line 181-184]

Q9: You probably need to state the definition of cigars much earlier in the methods since it is super confusing to read these measures with cigars appearing so many places without the context. I am also wondering whether the authors explained the definition clearly: "The word "cigar" used in our variables meant "any cigarette, cheroot, cigar, or smoking pipe or any other similar material prepared by any means for inhalation of smoke emitted from the burning of a tobacco product," So cigars also included cigarettes and cigars? I think you are referring cigars to combustible tobacco products if it makes more sense.

Authors' response: Thank you very much for your valuable comments and suggestions. Yes, "cigars" referred to all types of combustible tobacco products according to Myanmar Tobacco Control Law. To avoid confusion, we changed the word "cigar" into "any smoked tobacco product" thorough out the manuscript. And we omitted the definition of "cigar" as it is no longer needed.

Q10: In the illicit sales section, you wrote "having seen selling cigarettes singly or in packs containing less than 20 within the last 12 months." So, in this case, cigarettes are not considered as cigars?

Authors' response: Thank you very much for your comment. As our questionnaire was based on Myanmar Tobacco Control Law, we used the word "cigarettes" for this variable.

Generally, cigars mean all types of combustible tobacco products as described in Myanmar Tobacco Control Law. But the law does not prohibit the sales of other types of tobacco products in small quantities except the sale of cigarettes. We also pointed it out as one of the weak points of Myanmar Tobacco Control Law and recommended to regulate sales and purchase of all types of tobacco products in small quantities. [Discussion, Page 19, Line 337-347; Conclusion, Page 21-22, Line 386-388]

Q11: I think it should be "multivariable logistic regression" instead of "multiple logistic regression," right?

Authors' response: Thank you very much for your suggestion. As you suggested, we changed "multiple logistic regression" into ""multivariable logistic regression". [Materials and Methods, Page 11, Line 199-203]

Results

Q12: Not sure if I understand why you stratified the sample by gender. You need to provide more context for this.

Authors' response: Thank you very much for your valuable comments and suggestions. We stratified the sample by gender because our outcome variable (the current smoking and smokeless tobacco use) was found to have a significant gender difference during analysis. The prevalence of the current smoking and smokeless tobacco use were (25.3%) in males and (1.3%) in females. [Results, Page 12, Line 207-209; Table 1, Page 30]

Discussion

Q13: In the first paragraph, you discussed all the risk factors for tobacco use, however, your main focus is TAPS exposure and illicit tobacco sales exposure.

Authors' response: Thank you very much for your valuable comments and suggestions. As you suggested, we revised the previous paragraph "To the best of our knowledge, this is the first study to report the associations of current smoking and smokeless tobacco use with TAPS and illicit tobacco sale exposures among high school students in Myanmar. Majority of the study participants reported having exposures to TAPS and illicit tobacco sales. TAPS exposure increases the odds of current smoking and smokeless tobacco use among high school students. Similarly, being aged above 14 years, being male, and having been exposed to illicit tobacco sales were risk factors for current smoking and smokeless tobacco use among high school students. However, having received health education and having a higher perception score of smoking and smokeless tobacco use were negatively associated with current smoking and smokeless tobacco use." to read as follows: "To the best of our knowledge, this is the first study to report the associations of current tobacco use with TAPS and illicit tobacco sale exposures among high school students in Myanmar. The majority of the study participants reported having been exposed to TAPS and illicit tobacco sales. TAPS exposure and illicit tobacco sale exposures increase the odds of current tobacco use among high school students." [Discussion, Page 14, Line 246-250]

Q14: You did not cite any data/evidence to show that there is a lack of enforcement of these laws. If the lack of enforcement is the main reasons for kids to be exposed to these ads, you need to provide more context about it.

Authors' response: Thank you very much for your valuable comments and suggestions.

To make it clear, we revised the previous two paragraphs "In this study, a high prevalence of TAPS exposure (91%) was found among high school students in Myanmar, a country that has completely banned all forms of direct or indirect TAPS, including Corporate Social Responsibility (CSR) activities by tobacco industry.16) Myanmar has a well-established Tobacco Control Law, the "Control of Smoking and Consumption of Tobacco Product Law," which has been enacted since 2006.16) Nevertheless, the lack of enforcement of this law in Myanmar creates opportunities for tobacco companies and retailers to violate it. Our findings highlighted the urgent need to enforce this law in Myanmar to reduce TAPS exposure among adolescents in order to decrease tobacco use.

The global tobacco industry has been focusing on expanding its market in developing countries that have low tobacco taxes, partial TAPS bans, and weak law enforcement of TAPS regulations, rather than developed countries with high tobacco taxes, comprehensive complete TAPS bans, and strict implementation of TAPS regulations.17-20) Moreover, it is not rare to see sponsored events and CSR activities by tobacco companies, violating the TAPS regulations and reframing tobacco products' image among Myanmar youths.21,22) Nigerian researchers have reported that exposure to events sponsored by the tobacco industry was associated with current cigarette use and increased susceptibility to cigarette use.13) This study encourages Myanmar policy makers to formulate specific TAPS regulations addressing newly developed smoking and smokeless tobacco

products and complete comprehensive TAPS bans, including cross-border TAPS. Local authorities need to monitor TAPS among Myanmar youths strictly and to punish the tobacco companies, stores, and retailers violating TAPS regulations." to read as follows: "In this study, a high prevalence of TAPS exposure (91%) was reported among high school students in Myanmar, a country that has completely banned all forms of direct or indirect TAPS, including Corporate Social Responsibility (CSR) activities by the tobacco industry.27) Myanmar has a well-established Tobacco Control Law named the “Control of Smoking and Consumption of Tobacco Product Law,” which has been enacted since 2006.27) However, the monitoring, reporting and punishment of TAPS activities prohibited by the law are not common in Myanmar. Other studies conducted in Myanmar also pointed out that the awareness of the tobacco control law among high school students was low and that the lack of tobacco control law enforcement was in a critical state.19,26) It is not rare to see sponsored events and CSR activities executed by tobacco companies, violating the TAPS regulations and reframing tobacco products’ image among Myanmar youths.19,26) The global tobacco industry has been focusing on expanding its market in developing countries that have low tobacco taxes, partial TAPS bans, and weak law enforcement of TAPS regulations, rather than in developed countries with high tobacco taxes, comprehensive and complete TAPS bans, and the strict implementation of TAPS regulations.28-31)" [Discussion, Page 14-15, Line 251-265]

Q15: The discussion section needs to be focused on how findings can be used to inform policy change and enforcement on TAPS and illicit tobacco sales in the country. Some of the data/content included in the discussion currently (how TAPS exposure is associated with tobacco use) needs to be placed in the introduction section.

Authors’ response: Thank you very much for your valuable comments and suggestions.

As you suggested, we cut some facts from discussion section and added in the introduction section. "A positive association between exposure to cigarette advertisements and initiating smoking has been reported among Indonesian students.20) A longitudinal study conducted in Germany also pointed out that, with every additional 10 tobacco advertisements, the adjusted relative risk for established smoking and daily smoking was raised by 38% and 30%, respectively.24) Adolescent students, in a phase of life where curiosity is at its peak, are vulnerable to adopting smoked or smokeless tobacco use.13, 25)" [Introduction, Page 8, Line 143-149]