Author's response to reviews

Title: Perceived risks and benefits of cigarette smoking among Nepalese adolescents: A population-based cross-sectional study

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Author's response to reviews: see over
Reviewer: Ryan David Kennedy

We thank the Reviewer for his constructive criticism and comments. Below, we list the Reviewer’s concerns in bold, followed by our responses. New text is in italics.

Reviewer’s report:

This is an interesting article that describes reported perspectives of cigarette smoking benefits and risks from youth in Nepal – an area with limited published material.

We agree that there are a limited number of publications on smoking and youth in Nepal. Such research data on tobacco use are essential to develop effective control tobacco programs presently lacking in Nepal. Currently, tobacco research receives low priority and should be promoted urgently to reduce prevalence of smoking in the Nepalese community; the most recent survey from 2011 shows that 30% men and 9% women smoke cigarettes.


All Comments are Discretionary –

This article is largely hinged on the idea that susceptibility to smoking is a good predictor of smoking initiation – and that susceptibility includes knowledge of the harms of smoking, relative risk, perceived personal ability to quit etc. Most of the literature used to support these ideas are from western studies and were published 10-20 years ago.

Specific comments from the draft are outlined below – but generally I feel this manuscript would be greatly strengthened if the background did a better job of setting up your study. Make the case that smoking/tobacco use is an issue in Nepal – use published/accessible sources for this. The literature around perceived risk needs to be rounded out – and focus more on how relevant perceived risks and benefits of cigarette smoking might be relevant to smoking rates. Much of the literature used in this background is very old – things that might have predicted youth smoking in 1985 are arguably not as relevant today (and further – may not be relevant at all in the context of Nepal).

The first article examining the history of tobacco research in Nepalese adolescents was published in 1987 by Professor M.R. Pandey. The next article was published 20 years later in *BMC Public Health* in 2007. After 2008, a few more articles were published in Nepal. It is clear that there is lack of data about tobacco use and the factors influencing on tobacco smoking among adolescents in Nepal.

In contrast to western countries (e.g., the United States and European countries), Nepal does not have a regular data collection system to monitor the magnitude, patterns, determinants, and consequences of tobacco use and exposure in adolescents. Only the Global Youth Tobacco Survey addresses tobacco use among adolescents, but it has not explored the factors that influence such use among. All these studies have investigated is the prevalence of smoking, based on adolescents’ smoking behavior in 30 days; they fail
to explain the role of susceptibility to smoking. Our literature search identified no study on susceptibility in Nepal and its neighboring countries. One study, published in 2008, explained susceptibility to smoking and its associated factors in South East Asia (this reference was not included in the revised manuscript, as the article does not cover perceived risks and benefits of smoking). It was the first study in low-income countries to examine the factors associated with susceptibility to smoking. However, that study did not discuss perceived risks and benefits of smoking. Such studies are lacking in low- and middle-income countries, including Nepal. Limited information on cigarette smoking in youth hinders the development and implementation of interventions for smoking prevention and control.

Therefore, most of our references are based on US studies older than ten years, when the Nepalese research community was not aware of the importance of tobacco research in Nepal and remains largely unaware today. We hope our findings will give new ideas to policymakers regarding the beliefs of young people in Nepal regarding cigarette smoking. Another factor is the tobacco industry’s marketing shift from high-income to low- and middle-income countries, where they specifically target youth to expand their market.

Thus, our revised manuscript removed unnecessary background information, as per your comments, and attempted to better set the stage for the Nepalese cultural context.


Numbered comments: The Abstract –

1. Consider re-wording the first sentence to “Perceived risks and benefits of smoking may play an important role in adolescent smoking behavior.”

We have reworded the first sentence in response to your comments.

Abstract, page 2, lines 3–6:

The perceived risks and benefits of smoking may play an important role in determining adolescents’ susceptibility to initiating smoking. Our study examined the perceived risks and benefits of smoking among adolescents who demonstrated susceptibility or non-susceptibility to smoking initiation.
2. Methods section of Abstract –

Given that Nepal will be unfamiliar to most readers – consider adding a little more detail about the study area – how large are the communities – why was this region chosen (?) – What is the adult smoking prevalence (why did you pick this community?).

We revised the Methods section in the Abstract.

Abstract, page 2, lines 8-16:

In October-November 2011, we conducted a population-based cross-sectional study in Jhaukhel and Duwakot Villages in Nepal. Located in the mid-hills of Bhaktapur District, 13 kilometers east of Kathmandu, Jhaukhel and Duwakot represent the prototypical urbanizing villages that surround Nepal’s major urban centers, where young people have easy access to tobacco products and are influenced by advertising. Jhaukhel and Duwakot had a total population of 13,669, of which 15% were smokers. Trained enumerators used a semi-structured questionnaire to interview 352 randomly selected 14- to 16-year-old adolescents. The enumerators asked the adolescents to estimate their likelihood (0%–100%) of experiencing various smoking-related risks and benefits in a hypothetical scenario.

We have also applied the same change to the main text of our revised manuscript

Methods, page 7, lines 3-10:

In October–November 2011, we conducted a population-based cross-sectional study in Jhaukhel and Duwakot Villages in Nepal. Located in the mid-hills of Bhaktapur District, 13 kilometers east of Kathmandu, Jhaukhel and Duwakot represent the prototypical urbanizing villages that surround major urban centers in Nepal, where young people have easy access to tobacco products and are influenced by advertising. Jhaukhel and Duwakot had a total population of 13,669, of which 15% were smokers. Of these, 909 adolescents between 14 and 16 years of age and the male to female ratio was 1.06:1. Among the 909 adolescents, 491 lived in Duwakot.


3. I would recommend listing that the analysis was done with 352 participants.

We agree with the Reviewer and have made this correction in the revised manuscript (see Comment 2). We also explained these details regarding sample size in the Methods section.

Methods, page 2, lines 13-14:

Trained enumerators used a semi-structured questionnaire to interview 352 randomly selected 14- to 16-year-old adolescents.

Methods, page 7, lines 17-21:

Among 500 potential participants, 498 responded, one refused, and one had a hearing impairment. Among the 498 respondents, 485 were nonsmokers and 13 were smokers. Among the 485 nonsmokers, 29.3% were excluded from analysis because they did not answer the questions related to susceptibility to smoking. We performed our final analysis on 352 respondents.
4. Wording - ‘To prevent susceptibility to smoking among adolescents,’ –Really the goal is to prevent smoking – consider re-wording to ‘To prevent uptake in smoking."

Youths are most susceptible to initiating smoking during adolescence, when they are more vulnerable and more influenced by tobacco marketing. They wrongly believe that smoking has many benefits (e.g., more friends and looking cool and sophisticated). If their siblings and friends smoke, they are more likely to initiate smoking. Many adolescents tried their first puff due to peer pressure; later on, it becomes a habit.

Adolescents appear ignorant of or do not care about the long-term health effects of smoking because its impacts become clear only cumulatively (30–40 years after smoking during adolescence). They also do not understand the addictive nature of tobacco. The proper estimation and analysis of these aspects is the basis of public action to prevent and control smoking hazards. Any intervention program should include these components. The overall aim of an intervention program should be to discourage or prevent youth from initiating smoking. Therefore, we revised the Conclusion in our manuscript.

Abstract, page 3, lines 8-10:

To discourage or prevent adolescents from initiating, future intervention programs should focus on communicating not only on the health risk, but the social and addiction risks as well as counteract the benefits of smoking.

Our scientific editor Karen Williams has suggested replacing the jargon word “uptake” with Standard English wording. Thus, we have rephrased the suggested wording as mentioned above. Having the same meaning, we hope that this editorial edit will further smooth the revised text.

5. Conclusion – the authors don’t really narrow it down for us – I request the authors be more definitive in the Abstract’s conclusion what they feel they can conclude from this work.

Our revised manuscript rephrases the Abstract’s conclusion to make it more clear and concise (Please see Comment 4). We also revised the last paragraph of the Conclusion in the main text.

Conclusion, page 19, lines 17-21:

Finally, our results strongly suggest that a successful intervention program to discourage or prevent adolescents from initiating smoking should focus not only on increasing their understanding of long-term physical risks but also draw adolescents’ attention to shorter-term physical risks and actively question their belief that becoming a smoker would make them more socially attractive.
BODY of PAPER:

This is where I think a little re-organizing and further referencing could strengthen the paper.

6. The references for the Nepal deaths/impacts from tobacco and School study – are those available online anywhere? (refs 1-3) - Consider adding other references that are accessible to readers. Consider moving up some of the historic tobacco work discussed in the 'Discussion' section.

Yes those references are available online and we have added website links to the reference list (refs. 2, 3, and 5) in our revised manuscript. We also changed reference 1 and it does not available online. For greater clarity, our revised manuscript includes are organized Background section that explains “beliefs and attitudes about the harmful effects of smoking” from historic tobacco work

Background, page 6, lines 3-9:

In 1983–1984, the first community survey of young people (8–19 years of age) in Nepal was conducted to determine the prevalence of tobacco use as among adolescents as well as their attitudes and beliefs about smoking behavior. This study revealed that more than 50% educated adolescents believed (i) smoking is bad for health, (ii) smokers die earlier than non-smokers, and (iii) smoking can irritate others. Nonsmoking adolescents also believed that their family members did not want them to smoke. Surprisingly, no other studies have measured such beliefs.


7. GYTS add in the text that those youth were 13-15 (correct – that is what the reference indicates). Do you know anything from the GYTS data about who these never-smokers-who-would-like to smoke are? This would be relevant to help identify who is at-risk.

To date, there is no full report of the GYTS 2011 survey, and our article presented the results based on the available fact sheet. Thus, it is not possible to identify who is at risk. But GYTS 2007 reports that a boy who has never smoked is more likely to initiate smoking than a girl.

After reviewing your comments, we realized that the school-based GYTS is not relevant to the present study. Consequently, we deleted the sentence “The Global Youth Tobacco Survey 2011 reported that 1 in 10 Nepalese adolescent students have ever smoked cigarettes, and 16.4% of never smokers would like to initiate smoking next year”.

Health risks associated with smoking cigarettes – is there any Nepalese report that calculates the potential impact smoking will have on Nepal? (The reference and facts feel forced there.)

An article published by the Journal of the American Medical Association evaluated the association of risk factors including smoking behavior for acute myocardial infarction (AMI)
in South Asians compared with individual in other countries\textsuperscript{1}. In this case control study, the Authors compared different risk factors and found that smoking (current or former) is associated with acute myocardial infarction (AMI). Their country-specific results divided the countries into three categories: India; Pakistan; and Nepal, Sri-Lanka, and Bangladesh, which were combined due to small sample size.

We added a new sentence to the Background section in our revised paper.

**Background, page 4, lines 9-12:**

*Further, cardiovascular risk factor studies reported that the risk of acute myocardial infarction is 2.61-fold higher (95% CI: 1.99–3.44) in South Asian smokers (Nepal, Bangladesh and Sri Lanka) compared with individuals outside South Asia and population attributable risk is 43\%\textsuperscript{1}.*


**9. The psycho-social research referenced in the background – Most of this is based on western research – and some of the sources used are 10+ years old – and seem to not be relevant to either this population or time period. Later in the paper you do link your findings to these works - so I don't suggest dropping them- If the authors are unable to find similar recent work about perceived risk in Nepal – the authors should state this in the background and not wait for limitations.**

During our literature search, we found that most research on smoking risk perceptions among youth was conducted in the United States. Therefore, we moved the following revised sentences from the Discussion section to the Background section.

**Background, page 6, lines 10-14:**

*In the United States (US), numerous studies on risk perceptions and benefits of smoking among adolescents and adults have assessed the link between risk and benefit perceptions and tobacco use among adolescents with different smoking experiences. Although such studies are scarce in low-income countries like Nepal, this approach would be highly useful in tailoring and implementing effective tobacco control programs.*

Social and psychological factors have primarily been suggested for engagement in the initiation of smoking among adolescents with supervening physical dependence. Multiple factors are involved in the initiation of smoking, including perceptions towards smoking. However, these factors vary from culture to culture. Therefore, our study investigated the influence of risk perceptions in the initiation of smoking. Such research on smoking risk perceptions is essential to develop sensitive and effective anti-smoking programs in any country.
10. Reference 9 – to balance this belief - there are several reference that explain youth tend to overestimate risk of smoking – see Slovic – the issue is that even with gross over estimates of risk, youth do not abstain from smoking (this is the point isn’t it?).

Our revised manuscript now includes the Slovic article. This addition is essential because he has stated that the risks of smoking mean appreciating the nature and the probability of consequences. Slovic has also explained that knowledge, cognitive skill, and communication are necessary for good decisions in defining risk. His studies describe four important issues related to cigarette smoking: (i) risk as probability, (ii) optimistic bias, (iii) the cumulative nature of risk from smoking and (iv) the risk of addiction. Based on his studies, we revised the sentence that relates to reference 9. In this regard, please see also our response to Comment 11.

Background, page 4, lines 13-15:
Adolescents may incorrectly believe that cigarette smoking is less risky than other behaviors, such as alcohol consumption and drug use, and they do not understand the short-term effect and addictive nature of smoking.


Consider adding additional references to support this point – possibly: “A systematic review of smoking Youths’ perceptions of addiction and health risks associated with smoking: Utilizing the framework of the health belief model”2012

This review of 10 studies of 2,500 participants evaluated the perceptions of health risks and addiction risk related to cigarette smoking and found that youth are optimistic and hold self-exempting beliefs about risk perception1. It has also explained that smokers are better able to identify the benefits of cessation. We agree that this is a good reference for those who research youth smoking, especially regarding risk perception. It also provides guidelines to policy makers and stakeholders for developing effective anti-smoking programs using the Health Belief Model. The article also provides support for our study and we have added it as a reference in our revised manuscript.

Background, page 4, lines 18-20:
A systematic review revealed that youthful optimism and self-exempting beliefs about the likelihood of addiction, health risks, and consequences of smoking associate with smoking behavior1.

11. Reference 10 seems misplaced – this article was about household smoking affecting adolescent smoking. Was there a reference in that manuscript that highlighted how adolescents inaccurately believe that cigarette smoking is less risky than other behaviors?[further – if you want to make that statement in your article you should list some of these other behaviors]

We agree that the purpose of reference 10 in the earlier version of our manuscript was to access the impact of adolescents’ beliefs about the personal harm and general immediate harm of smoking on smoking behavior and whether these beliefs mediated the relationship between exposure to peer and household smoking. In paragraph 2 of the Background section (original version of submitted manuscript), reference 10 describes that adolescents inaccurately believe that smoking is less likely to happen than, for example, drunk driving and that they underestimate the short-term impact of smoking. Further, adolescent smokers tend to be optimistic about their ability to quit before smoking damages their health. Therefore, adolescents may initiate and progress to regular smoking. This is why we used this reference. However, this paper also refers to work done by Slovic P, Romer D, and Jamieson P, so we updated the revised manuscript. Thus, we revised the sentences that discuss conclusions from Slovic and Romer D, Jamieson P because it is not possible to add other behaviors explained in reference 10 in our manuscript. (Background,page4, lines13-15)

1. Rodriguez D, Romer D, Audrain-McGovern J: Beliefs about the risks of smoking mediate the relationship between exposure to smoking and smoking. Psychosom Med 2007, 69(1):106-113. (Has been removed in revised manuscript)


METHODS –

12. Note - Your background did not explain that smoking is a sensitive issue in Nepal.

In the Nepalese culture, parents always disapprove of their children smoking. Children who smoke are always afraid of their parents and elders because they scold children for such a behavior. They think smoking by children is immoral and disrespectful to the family and its values and norms. Children do not want to be victimized for smoking, so they hide it from family members, neighbors, and other senior persons. Lacking proper guidance from their parents, children become curious about smoking, peer pressure encourages them to smoke, and they quickly become addicted. Thus, smoking is indeed a sensitive issue in Nepalese society. However, it is not possible to address everything in detail in a Background section, and we decided to delete the sentence “Because smoking is a sensitive issue among adolescents in Nepal” in the revised manuscript.
13. Sample size – unless this is customary for this journal the justification for your sample size does not seem necessary to me. (Power calculations)

We included sample size in the current manuscript for several reasons. First, sample size calculation is an essential part of research that wishes to make statistical inference; researchers require adequate sample size to address research questions effectively and to estimate parameters of population. Second, we read articles related to smoking in South Asian countries in *BMC Public Health* and found that the Authors of those articles clearly explained their sample size calculation in the Methods section. Therefore, we believe it is also important in our study.

14. Perceptions of smoking-related risks and benefits –It is interesting that ‘bad breath’ is considered a physical risk and not a social risk(?) Further – it would seem that the range of physical risks were wide – from chronic disease to wrinkles. Is this consistent with the Halpern-Felsher article?

This is the only issue I have with the results - the way the responses were organized. However this might also be influenced by ideas of health in Nepal – please explain in the text why you grouped the 'risk' categories as you did.

In the Methods section (data analysis and management), we mentioned how 13 items of risk and perceptions were categorized into four components based on factor loading. Factor loading less than 0.4 was not reported in the analysis because this is the most common cut-off point in principal component analysis. We labeled four components according to item loaded. The first two components contain items related to physical risks as described by Halpern-Felsher et al. In the first component, three of four items are related to long-term risks that describe physical problems caused by habitual smoking except bad cold. Because bad colds, short-term risk appeared in the first component, restricting us to label it as a long-term risk, we labeled this component as ‘physical risk I’.

In ‘physical risk II’, all items are related to short-term risk of smoking as defined by Song et al. It can be defined simply as short-term risk. If we label the first component as physical risk and the second component as short-term risk, there will be no consistency between first and two components.

Next, the third component is known as ‘social risk’, which was consistent with Halpern-Felsher et al. The fourth component contains benefit items related to smoking and can be defined as social benefits. Our classification of items is consistent with Halpern-Felsher et al. and Song et al.

Regarding your query on bad breath, principal components analysis does not allow us to classify bad breath as ‘social risk’ because the loading factor for bad breath was -0.249, which is below 0.4 and indicates a negative relationship to the items.

Our broad findings regarding physical risks (i.e., from chronic disease to wrinkles) are similar to those reported in previous studies that defined these items as long-term risk.

In general, principal component analysis is a model-based technique that measures
relationships between measured variables, latent factors, and error. The identification of latent factors helps to design effective structural tobacco intervention program in any community. Factor analysis is typically used to confirm the latent factor structure for a group of measured items. These factors are unobserved variables, which cannot be directly measured, but they are assumed to compute the scores we observe on the measured variables.

In our revised manuscript, we changed ‘benefits’ to ‘social benefits’ as described by Song et al. We also added the following text to the Methods section (data management and analysis):

Methods, page 11(lines 20-22) and page 12(1-17) :

Analysis reduced these 13 items into four meaningful categories, based on the factor scores (factor loading less than 0.04 is not reported). Categories I and II contain items related to perceived likelihood of physical risks, Category III relates to perceived likelihood of the social risks and Category IV relates to perceived likelihood of social benefits [22, 23]. Further, physical risks are categorized as physical risk I and physical risk II as bad cold, the short-term risk item, is listed in the first component where all other 3 items (Lung cancer, heart diseases and facial wrinkles) are related with long term risks [23]. Perceived physical risk I includes items describing physical problems caused by habitual smoking (long-term risks and bad cold). Perceived physical risk II comprises items describing short-term risks (bad cough, bad breath, and trouble breathing) of smoking [23]. Perceived social risks included getting into trouble and smelling like an ashtray. Perceived social benefits included looking cool, feeling relaxed, becoming popular, and feeling grown-up [23]. Next, we computed the composite scores for the four categories and also for addiction risk. To aid data interpretation and discussion, we coded mean scores into quartiles, where 0 = first quartile and 3 = fourth quartile.

Using univariate analysis, we computed the unadjusted odds ratio (OR) according to quartile score for each perception item with susceptibility to smoking. For multiple logistic analysis, we entered all five perception components, including addiction risks simultaneously into the model and computed the adjusted odds ratio (AOR). We set the significance level at 5% (alpha=0.05) and excluded missing cases and “do not know” answers.

We have also added this information to the legend for Table 2 to elaborate the table further.

(Page 26; lines 4-8)


15. Were any incentives given to participants?

No incentives were given to any study participants. Their participation was voluntary, which is mentioned in the second sentence of “ethical issues” in the Methods section of the manuscript.

Methods, page 12(lines 21-22) and page 13(line 1):

Further, we informed all respondents that their participation was voluntary and told them they were free to terminate the interview if they did not want to continue or to opt for the next question if they were unwilling to answer a particular question.
Results -

16. How did you measure literacy and parental literacy (is it just reported or were they tested?)

Literacy is defined ability to read, write, and do simple mathematical calculations\(^1\). The Central Bureau of Statistics in Nepal has used definition in their censuses since 2001. We used the same definition (Page 25 lines 10-11). Literacy was reported by respondents, not tested. Furthermore, we explained the definition of literacy in the Results section:

Results, page 13, lines 12-13:

All were literate (capable of reading, writing and simple calculations)


Discussion –

17. This historic data would fit better in the introduction. (This was mentioned above)

We agree with the Reviewer and moved the data to the Background section to strengthen the section and better explain the importance of our study.

Background, page 6, lines 3-9:

In 1983–1984, the first community survey of young people (8–19 years of age) in Nepal was conducted to determine the prevalence of tobacco use as among adolescents as well as their attitudes and beliefs about smoking behavior. This study revealed that more than 50% educated adolescents believed (i) smoking is bad for health, (ii) smokers die earlier than non smokers, and (iii) smoking can irritate others. Nonsmoking adolescents also believed that their family members did not want them to smoke. Surprisingly, no other studies have measured such beliefs.

18. In general I would suggest re-wording the idea of smoking benefits to perceived benefits throughout the document.

We agree with the Reviewer and have changed the wording to ‘perceived benefits’ wherever required in the revised manuscript. We also defined ‘benefits’ as ‘social benefits’ in the Methods and Result sections.

Similarly, we changed the heading “Perception on smoking-related risks and benefits” to “Perception of risks and benefits of smoking” in our revised manuscript.

Level of interest: An article whose findings are important to those with closely related research interests

Thank you.
Quality of written English: Acceptable

Thank you. Similar to our original submission to *BMC Public Health*, the revised manuscript has again been edited by our scientific editor, Karen Williams of Kwills Editing Services, which is located near Boston, MA, USA. We have maintained a longstanding collaboration with Karen for the past 10 years. Karen is a native English speaker with almost 20 years editing experience (among them, 10 years for Harvard Medical School). Because she edited both our original submission and this revised manuscript, we believe that we have addressed any concerns in relation to language issues from the outset. We are glad that the Reviewer appreciates the quality of English in our manuscript.

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Thank you. Two Authors of our manuscript (URA and MP) are statisticians by profession. We hope that this contributes to the trustworthiness of our analyses, results, and conclusions.
Reviewer: Bill King

We thank the Reviewer for his constructive criticism and comments. Below are the Reviewer’s concerns in bold, followed by our responses. New text is in italics.

Reviewer's report:

This is an interesting and well conducted study of the cognitive and social-influence determinants of susceptibility to smoke amongst Nepalese adolescents. I believe this study will be of interest to tobacco control researchers and advocates throughout the developing world. The study should not be treated as representative of all Nepalese adolescents and it should be noted that the number of respondents included in the analysis is modest. However I do not believe the number of respondents is so small as to invalidate the study.

We agreed that a few publications have reported smoking and adolescents in Nepal. Scientific data on tobacco use are essential to develop effective structural tobacco control programs, which are lacking in Nepal. Currently, tobacco research receives a lower priority and needs to be promoted urgently to reduce prevalence of smoking in the Nepalese community because the most recent survey (2011) shows alarmingly that 30% men and 9% women smoke cigarettes1.


I suggest a number of minor editorial changes:

p2. First and second sentences in Background should read: "The perceived risks and benefits of smoking play an important role in determining susceptibility to smoking uptake among adolescents. Our study examined the perceived risks and benefits of smoking among adolescents who were found to be susceptible or not susceptible to smoking uptake."

We revised the first sentence accordingly and added the word ‘may.’

Abstract, page 2, lines 3- 6:

The perceived risks and benefits of smoking may play an important role in determining adolescents’ susceptibility to initiating smoking. Our study examined the perceived risks and benefits of smoking among adolescents who demonstrated susceptibility or non susceptibility to smoking initiation.

-p2. Methods should make clear that 352 Ss appeared in the analysis not 500.

Our revised Methods section corrects this oversight and also explains the sample size.

Methods, page2, lines 13-14:

Trained enumerators used a semi-structured questionnaire to interview 352 randomly selected 14- to 16-year-old adolescents.
Methods, page 7, lines 17-21:
Among 500 potential participants, 498 responded, one refused, and one had a hearing impairment. Among the 498 respondents, 485 were nonsmokers and 13 were smokers. Among the 485 nonsmokers, 29.3% were excluded from analysis because they did not answer the questions related to susceptibility to smoking. We performed our final analysis on 352 respondents.

-p3 Conclusion should read: "To reduce susceptibility to smoking uptake...."
Tobacco companies target adolescents to replace smokers who have died. The companies may disseminate incorrect messages, such as smoking benefits, and also may attempt to hide the adverse effects of smoking. When adolescents believe that smoking has many benefits, they respond to peer pressure, initiate smoking, and eventually become habitual smokers. Adolescents also underestimate their own risk and do not understand the cumulative nature of smoking. Furthermore, they also may believe that they can quit smoking whenever they want. Therefore, public health action for the prevention and control of smoking hazards requires effective intervention programs. Such programs are designed to prevent the youth from initiating smoking and to reduce smoking prevalence through cessation programs. Thus, we have rephrased our Abstract to make the conclusion more clear and concise.

Abstract, page 3, lines 8-10:
To discourage or prevent adolescents from initiating smoking, future intervention programs should focus on communicating not only the health risks but also the social and addiction risks as well as counteract the social benefits of smoking.

Our scientific editor Karen Williams has suggested replacing the jargon word “uptake” with Standard English wording. Thus, we have rephrased the suggested wording as mentioned above. Having the same meaning, we hope that this editorial edit will further smooth the revised text.

We also applied this revision to the last paragraph of the Conclusion section.

Conclusion, page 19, lines 17-21:
Finally, our results strongly suggest that a successful intervention program to discourage or prevent adolescents from initiating smoking should focus not only on increasing their understanding of long-term physical risks but also draw adolescents’ attention to shorter-term physical risks and actively question their belief that becoming a smoker would make them more socially attractive.

-p4 Sentence 1 should read: "Smoking and the use of other tobacco products..."
We revised this sentence in accordance with your suggestions.

Page 4, line 2:
Smoking and the use of other tobacco products kill 15,000 people in Nepal each year.

-p4 Sentence 3 should read: "... smoking initiation age ranges between... with most occurring between...."
We revised this sentence.

Page 4, lines 5-7:

*Studies among school-age and college students report that most students begin smoking between 13–16 years of age and that initiation age ranges between 5–18 years.*

- **p4 Sentence 4 can be deleted.**

Our revised manuscript deleted this sentence because it did not provide information related to susceptibility to smoking and associated risk factors.

- **p4 incorrectly, not inaccurately.**

We restructured this sentence and also replaced ‘inaccurately’ with ‘incorrectly’.

Background, page 4, lines 13-15:

*Adolescents may incorrectly believe that cigarette smoking is less risky than other behaviors, such as alcohol consumption and drug use, and they do not understand the short-term effect and addictive nature of smoking* [1-3].


- **p4 Sentence 8 should read: "Many adolescent smokers understand the risks of smoking in general terms but greatly underestimate the risks to them personally. This is in large part because they believe they will quit before becoming addicted."**

We revised the sentence as suggested. To further support this statement, we also added a new reference (a systematic review) on smoking Youths’ perceptions of addiction and health risks associated with smoking [1].

Background, page 4, lines 15-18:

*Many adolescent smokers understand the risks of smoking in general terms but greatly underestimate the personal risks, largely because they believe they can quit before becoming addicted. Adolescents underestimate the effects of smoking and overestimate their ability to quit before smoking affects their health.*

Background, page 4, lines 18-20:

*A systematic review revealed that youthful optimism and self-exempting beliefs about the likelihood of addiction, health risks, and consequences of smoking associate with smoking* [1].

- **p7** Suggest “perception of risks and benefits of smoking.”

We applied this suggestion throughout the manuscript wherever required. We also changed the ‘idea of smoking benefits’ to ‘perceived benefits’ throughout the document wherever required. The Methods and Results sections now define ‘benefits’ as ‘social benefits.’

- **p11** the subjects should be described in the Methods section. Should write “Among 500 potential participants….”

The number of participants relates to sample size estimation. We estimated sample size before conducting our study but in practice we were unable to include all 500 theoretically estimated respondents due to non-responses and smokers who reduced the overall number of eligible participants. As suggested, our revised manuscript moved this paragraph to the Results section, thus justifying the reason for using 352 respondents during data analysis.

**Methods, page 7, lines 17-21:**

Among 500 potential participants, 498 responded, one refused, and one had a hearing impairment. Among the 498 respondents, 485 were nonsmokers and 13 were smokers. Among the 485 nonsmokers, 29.3% were excluded from analysis because they did not answer the questions related to susceptibility to smoking. We performed our final analysis on 352 respondents.

**P15 sentence 4 Suggest highly useful rather than essential**

As suggested, we revised this sentence and moved it to the Background section. Additionally, we changed ‘essential’ to ‘highly useful.’

**Background, page 6, lines 10-14:**

In the United States (US), numerous studies on risk perceptions and benefits of smoking among adolescents and adults have assessed the link between risk and benefit perceptions and tobacco use among adolescents with different smoking experiences. Although such studies are scarce in low-income countries like Nepal, this approach would be highly useful in tailoring and implementing effective tobacco control programs.

**P16 sentence 1 suggests “Our results provide further empirical support for the contention that adolescents employ wishful thinking [or an optimism bias] in the process of deciding to take up smoking.”**

We thank the Reviewer for this constructive contribution to include an optimism bias, which is usually observed in adolescents in the decision-making process to initiate smoking. Thus, we have revised the sentence in the Discussion as suggested.

**Discussion, page 16, lines 19-20:**

Our results provide further empirical support for the contention that adolescents employ wishful thinking (i.e., an optimism bias) in the process of deciding to smoking.
P18 Suggest “Finally, our results strongly suggest that a successful intervention programme to reduce the susceptibility of adolescents to smoking uptake would pay attention not only to increasing the understanding of long-term physical risks but would draw adolescents’ attention to the shorter-term physical risks and would actively question their belief that becoming a smoker would make them more socially attractive.”

We revised this sentence with minor editing

Conclusion, page 19, lines 17-21:

*Finally, our results strongly suggest that a successful intervention program to discourage or prevent adolescents from initiating smoking should focus not only on increasing their understanding of long-term physical risks but also draw adolescents’ attention to shorter-term physical risks and actively question their belief that becoming a smoker would make them more socially attractive.*

Also see Abstract, page 3, lines 8-10:

*To discourage or prevent adolescents from initiating smoking, future intervention programs should focus on communicating not only the health risks but also the social and addiction risks as well as counteract the social benefits of smoking.*

**Level of interest: An article of importance in its field**

Thank you.

**Quality of written English: Needs some language corrections before being published**

Similar to our original submission to *BMC Public Health*, the revised manuscript has again been edited by our scientific editor, Karen Williams of Kwills Editing Services, which is located near Boston, MA, USA. We have maintained a longstanding collaboration with Karen for the past 10 years. Karen is a native English speaker with almost 20 years editing experience (among them, 10 years for Harvard Medical School). Because she edited both our original submission and this revised manuscript, we believe that we have addressed any concerns in relation to language issues from the outset.

Most recently, Karen also edited our recently published article in *BMC Research Notes*: “Establishing a health demographic surveillance site in Bhaktapur district, Nepal: initial experiences and findings” (BMC Research Notes 2012; 5:489).

**Statistical review: No, the manuscript does not need to be seen by a statistician.**

Thank you. Two of the Authors of the manuscript (URA and MP) are statisticians by profession. We hope that this contributes to the trustworthiness of our analyses, results, and conclusion.