Thank you so much for your time and effort to revise our manuscripts. This has surely improved the quality of our manuscript. The modifications we did are marked with red color in the manuscript.

Introduction section.

Please describe the full name in the first time (HIV, FSW, IDU, MSMs, PMTCT) and illustrate the mean of 90-90-90 targets. The article should show the current status or backgrounds of HIV in Nepal? Including prevalence, incidence, and mortality in the Introduction section. Please describe the motivation and significance of the article in the Introduction section. The article should add references regarding the influence factors of HIV screening in other countries. Do you have any theoretical framework to predict HIV screening?

Answer
1. Full form of HIV, FSW, IDU, MSMs, PMTCT are mentioned (Introduction, page-2; line:65-66,199)
2. Meaning of 90-90-90 targets is included (page 2, line 58-61)
4. For the theoretical model, we have included the following information in the manuscript “A theoretical framework considered for the study is, in addition to individual behavioral change and knowledge, the broad determinants of sexual behavior, such as gender, poverty, and mobility, should be focused in public health interventions” based on the reference of Wellings et al, 2006 (page: 2, line 62-64)

Materials and methods

Please comment on the representative and data quality of NDHS. Does the questionnaire have been verified by reliability and validity before the survey was conducted? There are not necessary to show all items of HIV screening in Table 1. You should mention the representative items of HIV, which can be accurately measured HIV knowledge. Items of HIV knowledge were measured by quantitative scale (such as Likert’s scale), not just use the binary variable. Generally, answers with no or do not know were not equal, it should separate in each item. The explanatory variables should define clearly in section 2.3, such as ecological region, developmental regions, wealth quintile, mobility etc. Multiple sexual partners were duplicated in Table 2. Schooling is replaced by education levels. HIV knowledge score should be measured by scores (means±SD), not shown by percentage Age at first sex (in years) is needed to explain, which means the age at first sexual experiences.

Answer
1. NDHS 2011 is a nationally representative cross-sectional survey conducted under the government of Nepal. It is a part of worldwide Demographic and Health Survey (DHS)
Program of USAID, which is carried out at every five years. This information is added in the manuscript (page 2, line 76-78).

2. The questionnaire was developed by DHS program and used internationally; for the survey, the questionnaire was translated into three major languages of Nepal and was pretested. (page 2; lines: 82-84)

3. Each item of HIV knowledge was measured as binary variables. Ten questions relevant to HIV knowledge were selected from the DHS questionnaire. Correct responses were coded as “1,” whereas incorrect or uncertain responses were coded as “0.” Items were summed to obtain the HIV knowledge score, with higher scores indicating more knowledge about HIV transmission and prevention. Thus, in logistic regression it summed value was used as continuous variables. It was performed based on the reference of Yaya, et al., 2016. This is included in the manuscript. (page: 3; lines: 101-105)

4. Schooling is replaced by education (Table 2, Table 3, Table 4 and related description)

5. Multiple sexual partners that were duplicated in Table 2 are deleted now.

6. Measurement of some explanatory variables is explained. Two variables are excluded from the analysis (development region and ecological zone) (page: 3; lines: 93-100)

7. HIV knowledge score and age at first sex are presented as mean (±SD) (table 2)

Results

Table 4 was analyzed by multiple or univariate logistic regression? Do you have to test the association between explanatory variables? HIV knowledge was used by continuous variable or ordinal scale? HIV knowledge was positively associated with HIV testing, meaning higher HIV knowledge had a high percentage of HIV testing. Marital status had significance in Table 4, but OR=0.98 for the married group was similar to 1 for another group.

Answer

1. Table 4 was analyzed by multiple logistic regressions. This is added in the table title. (Table 4)

2. We did test the association between explanatory variables.

3. Knowledge was measured by continuous scale (measurement of variables, page 3; line: 102-106)

4. Yes, HIV knowledge was positively associated with HIV testing, meaning higher HIV knowledge had a high percentage of HIV testing (Measurement of HIV knowledge, page: 3; line 104-105)

5. As marital status was not significant in bivariate analysis, it was not now included in the multivariate analysis models for both male and female (Table 3 and Table 4).

Discussion

The article should use the theory to explain the behavior of HIV testing and highlight the knowledge of HIV. We need to improve the knowledge or attitude and eventually modify the behavior of HIV testing, not focus on the demographic characteristics which may be related to HIV knowledge. If you have to measure the attitude or self-efficacy for all participants, the HIV testing will be fully explained by them. I recommended that you find the article highlight the link
between HIV knowledge and behavior of HIV testing, also find explanatory variables to explain HIV knowledge. Based on the theory, there is a high correlation between knowledge, attitude, and behavior. Most explanatory variables were first predicted to knowledge but directly predict to the behavior of HIV testing. It is needed to add more references regarding risk factors for the knowledge and behavior of HIV. We are interested to the result of HIV testing and what are the risk factors for positive findings. Also, you can elaborate on each item of HIV knowledge. What item are a usual mistake? Why? How to improve HIV knowledge in the future. Limitations should highlight the theory is needed to explain your findings.

Answer:

1. One of the limitations of the study is that we could use only the variables that were available in the data set provided by NDHS as factors associated with HIV testing in the model. This is added to the limitation now. (Limitation, page, 10, line: 278-280).
2. We used previous article that shows HIV knowledge and socio-demographic factors is associated with HIV testing. (page:9; lines:260-268)
3. Discussion part is rewritten as per new analysis for sex disaggregated analysis (discussion; page:8-9; lines: 190-272).
4. New references are added to add the importance of HIV knowledge (discussion, page: 9; lines:260-68
5. Knowledge was used as continuous variable in descriptive statistics and in the multivariate analysis, thus proportion of individual item was not done (table 4).