**PEER REVIEW HISTORY**

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form [here](http://bmjopen.bmj.com/site/about/resources/checklist.pdf) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

**ARTICLE DETAILS**

| TITLE (PROVISIONAL) | A cross-sectional survey for assessing cancer care providers’ characteristics and attitudes on smoking cessation in Colombia and Mexico |
|---------------------|--------------------------------------------------------------------------------------------------------------------------|
| AUTHORS             | Tami-Maury, Irene; Suchil, Laura; Reynales-Shigematsu, Luz Myriam; Garcia, Leonor; Chen, Mixing; Shete, Sanjay; Betancur, Alejandro; Cinciripini, Paul M.; Hawk, Ernest; Garcia, Hector |

**VERSION 1 – REVIEW**

| REVIEWER            | Hoda Jradi |
|---------------------|------------|
| King Saud Bin Abdulaziz University for Health Sciences |
| REVIEW RETURNED     | 14-Jul-2020 |

**GENERAL COMMENTS**

This is a well written paper and may contribute to the tobacco control efforts in Latin America by providing this additional epidemiological evidence. The Introduction can benefit from additional literature review about tobacco use among oncologists and their tobacco cessation efforts then narrowing it down to Latin America and then to Mexico and Colombia in particular. Please remove the % annotation from the tables since the top of the column indicates that the number in parenthesis is a percentage. I would have been more engaged with the results if I saw any significant association between the characteristics of the physicians and their knowledge, practices, and reported barriers. Assessing the likelihood of reporting certain barriers by characteristics of the physicians will help focus efforts.

| REVIEWER            | Dr Martin Mlinaric |
|---------------------|---------------------|
| Institute of Medical Sociology, Medical Faculty – Martin Luther University Halle-Wittenberg, Germany |
| REVIEW RETURNED     | 17-Jul-2020 |

**GENERAL COMMENTS**

This study investigates barriers and facilitating factors among cancer care provider's (N=238) in a unique geographical context/setting such as Mexico & Colombia. A cross-sectional standardized online survey among health professionals was carried out. The study is very relevant, methodologically solid and comes to expectable results. The vast majority in both cases considers tobacco use as the major cause of lung cancer and reports to have inadequate training in smoking cessation. The reported barriers in facilitating cessation service (e.g., lack of time (resources), resistance among patients, and lack of training) correspond with findings from other countries.
The paper has potential to be published in BMJ Open, but next to potentially missing novelty of findings there are some substantial concerns regarding the sample (N=238), descriptive analysis, and study design.

Major comments and concerns

I see 2 main limitations in this study concerning the methods/study design and theoretical dimension of the field studied.

- I'm afraid that some of the proposed research questions (e.g., knowledge among CCPs, challenges and barriers for implementation of smoking cessation) cannot be appropriately studied by applying only quantitative methods (online survey). For this, an exploratory/explanatory qualitative (e.g., semi-structured interviews or focus groups with nurses, doctors, and other health care professionals) or at least a convergent or sequential mixed methods design would have been more suitable. Therefore the focus of the paper should be narrowed to characteristics and attitudes of CCPs towards tobacco cessation/practices. Perceptions and barriers/practices the in implementation can be studied qualitatively more adequately from my point of view. The absence of qualitative instruments should be also critically discussed in the Limitations.

- Two-thirds report asking patients about tobacco use, but we hardly know how they ask (or why they do not ask in 30% of cases) and approach the patients (for instance those with lower educational levels and higher smoking rates and probably less quit intention). Here again, qualitative exploration would have been perhaps more favorable.

- Moreover, the study lacks theory, especially in the Intro. What are the theoretical considerations concerning worker/staff/professionals (CCPs in that case) in smoking cessation (e.g., their supportive role in the trans-theoretical model, organizational health care theories, etc.)?

Minor

- in the Intro the location of Mexico/Colombia/Latin American countries in the cigarette epidemic model (Lopez 1994) could be mentioned and contextualized briefly
- in the Methods I miss an information about the N (=238) and number/treatment of missing data
- in the Methods the main outcomes measures and covariates could be more carefully distinguished (outcome vs. independent variables vs. mediators) and described, so far it is just a summative description of many measures, as far as I understand CCPs’ knowledge and perceptions about tobacco use and smoking cessation practices are the main outcome measures of interest and should be usually controlled for mediators/moderators/covariates, but the analysis remains - probably due to the relatively low N (Colombia: 94 vs. Mexico: 144) - at a descriptive level. Would be a simple logistic or linear regression really unfeasible?
- a chi-square test and p values could be possibly added to the descriptive analyses & tables (2-4)
- in the Discussion there is a little disproportion between interpreting the characteristics of CCPs (e.g., smoking prevalence) and the barriers/perceptions in facilitating cessation service
- the potentially innovative role of alternative nicotine products (e.g., e-cigarettes vs. nicotine-replacement therapy, see RCT of Hajek in
2018 on 18% success rate of e-cigarettes compared to 10% in NRT) in smoking cessation could be briefly discussed (for me the question remains: is this strategy already applied/recognized in Latin American clinical practice?). This could be linked to the fact that a vast majority of CCPs perceive a lack of training in (modern/contemporary) smoking cessation.
- the absence of qualitative instruments should be also critically discussed in the Limitations

### VERSION 1 – AUTHOR RESPONSE

| Comments                                                                 | Responses from Authors                                                                 |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| **From Reviewer 1**                                                     |                                                                                        |
| **Overarching comment:** “This is a well written paper and may contribute to the tobacco control efforts in Latin America.” | We appreciate this thoughtful comment about our manuscript. We are committed to the integration of tobacco cessation services into cancer care in Latin America. |
| **Introduction:** “The Introduction can benefit from additional literature review about tobacco use among oncologists and their tobacco cessation efforts then narrowing it down to Latin America and then to Mexico and Columbia.” | We appreciate this reviewer comment and agree with his/her suggestion. The newer version of the manuscript will include the following:

“In a systematic review of 229 studies representing 63 countries, the overall pooled prevalence of tobacco use among 457,415 healthcare workers was 21% (6). Findings from an online survey conducted in 2012 among 1,507 members of the International Association for the Study of Lung Cancer (IASLC) revealed that 5% and 24% of the respondents were current and former smokers, respectively (7). Despite that a review of the trials reported by the Cochrane Tobacco Addiction Group and six Latin American databases suggest that systematic identification of patients’ smoking status and a brief simple advice routinely offered by their physicians will benefit motivated smokers (8), the credibility of such professionals is undermined by their smoking behavior (9).” |
| **Results:** “Please remove the % annotation from the tables since the top of the column indicates that the number in parenthesis is a percentage.” | Thanks for pointing out this redundancy. The tables have been revised in the newer version of the manuscript. |
| **Results:** “I would have been more engaged with the results if I saw any significant association between the characteristics of the physicians and their” | We recognize this significant limitation in our study. Nevertheless, except from the Sansores et al. 1999 study, where smoking prevalence was assessed among 14,220 health care
**Comments**

- Knowledge, practices, and reported barriers. “Assessing the likelihood of reporting certain barriers by characteristics of the physicians will help focus efforts.”

**Responses from Authors**

- Professionals (including 87 oncologists), ours is the first study in Latin America addressing not only cancer care providers’ characteristics but also their attitudes towards smoking cessation. However, following the reviewer suggestion, relevant variables were compared between cancer centers using \( \chi^2 \), Fisher’s exact, and Two-Sample t-Tests, when appropriate.

**From Reviewer 2**

- **Overarching comment:** “The study is very relevant, methodologically solid and comes to expectable results.”
  - We appreciate this thoughtful comment about our manuscript. We truly believe that our pilot study provides a starting point for developing future training programs specifically designed for cancer care providers in the region.

- **Limitation:** “I'm afraid that some of the proposed research questions (e.g., knowledge among CCPs, challenges and barriers for implementation of smoking cessation) cannot be appropriately studied by applying only quantitative methods (online survey). For this, an exploratory/explanatory qualitative (e.g., semi-structured interviews or focus groups with nurses, doctors, and other health care professionals) or at least a convergent or sequential mixed methods design would have been more suitable.”
  - We fully agree with this reviewer’s comment and are grateful for this suggestion. We will seek funds for supporting future efforts aiming at presenting the findings of a qualitative study reporting cancer care providers’ perspectives and opinions about integrating smoking cessation into their oncology services.

- **Limitation:** “The absence of qualitative instruments should be also critically discussed in the Limitations.”
  - We have revised the Limitations paragraph to include the following:
    “This study set a foundation for subsequent qualitative methods that can shed light on facilitators of and barriers to integrate smoking cessation into oncology services. Also, quantitative research with broader samples will help to determine the statistical associations between qualitatively identified factors and outcomes for implementing smoking cessation approaches.”

- **Discussion:** “Two-third report asking patients about tobacco use, but we hardly know how they ask (or why they do not ask in 30% of cases) and approach the patients (for instance those with lower educational levels and higher smoking rates and probably less quit intention). Here again, qualitative exploration would have been...”
  - We fully agree with this comment. The lack of a qualitative approach in our study has been discussed in the Limitation paragraph. Please refer to response #11.
| Comments                                                                 | Responses from Authors                                                                                                                                                                                                 |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| perhaps more favorable.”                                                 | We appreciate the recommendation. We have referred to the Self-Efficacy Theory by including the following sentence in the Introduction: “Gaps in knowledge, attitudes, and perceived self-efficacy (i.e., ability of healthcare providers to counsel patients about smoking cessation) cannot be overlooked when considering further integration of cessation interventions into clinical practice.” Additionally, we revised the Discussion section. The new version of our manuscript will include the following: “While our findings can contribute to the successful design and implementation of smoking cessation programs in oncology settings, it is important also to consider a wide range of additional factors. The socioecological model could be used as a framework for this purpose as it would address individual CCPs’ characteristics and attitudes, but also patient-provider relationships, in addition to organizational, community, and societal factors that shape the adoption and implementation of sustainable smoking cessation interventions.” |
| **Introduction:** “…the study lacks theory, especially in the Intro. What are the theoretical considerations concerning worker/staff/professionals (CCPs in that case) in smoking cessation (e.g., their supportive role in the trans-theoretical model, organizational health care theories, etc.)?” | We thank this reviewer for the opportunity to revise the Introduction. We have cited the 2012 paper of Lopez regarding the stages of the smoking epidemic. We added the following paragraph to the Introduction: “Cancer is now one of the most important causes of illness, disability, and death among adults in Latin America, particularly those forms of cancer attributable to smoking. Smoking-related deaths in the region are closely associated with previous and current patterns of smoking prevalence with stages of the smoking epidemic varying from one country to another (e.g., Stage 1: <20% smoking prevalence, mainly among men; Stage 2: Rapid increase in male smoking prevalence towards a peak of 40% to 80%; Stage 3: Flattening of the smoking curve and some convergence of male and female smoking prevalences; and Stage 4: Declined of smoking prevalence in both genders with the continued increase of deaths for a time, particularly among men). However, the anticipated mortality decline due to chronic conditions closely connected with smoking will...” |
| **Introduction:** “…in the Intro the location of Mexico/Colombia/Latin American countries in the cigarette epidemic model (Lopez 1994) could be mentioned and contextualized briefly.” |                                                                                                                                                                                                                         |
| Comments | Responses from Authors |
|----------|------------------------|
| Slow down considerably if prevention and control strategies are not implemented and sustained over time, particularly among vulnerable groups. | slow down considerably if prevention and control strategies are not implemented and sustained over time, particularly among vulnerable groups. |
| **Methods:** “In the Methods I miss an information about the N (=238) and number/treatment of missing data.” | We have added the sample size of cancer care providers participating in our research study in the Study design and participants section (Methods). |
| **Methods:** “…in the Methods the main outcomes measures and covariates could be more carefully distinguished (outcome vs. independent variables vs. mediators) and described, so far it is just a summative description of many measures, as far as I understand CCPs’ knowledge and perceptions about tobacco use and smoking cessation practices are the main outcome measures of interest and should be usually controlled for mediators/moderators/covariates, but the analysis remains - probably due to the relatively low N (Colombia: 94 vs. Mexico: 144) - at a descriptive level. Would be a simple logistic or linear regression really unfeasible?” | While we originally conceived this manuscript as a descriptive report, we have followed this reviewer’s recommendation and included two logistic regression models to examine factors associated with the provision of cessation care or referral to cancer patients at the initial visit. We have included the following section in the Methods: “In an exploratory analysis, CCPs’ characteristics and reported barriers were used to predict the provision of cessation treatment or referral to cancer patients at the initial visit using logistic regression for each study site. We did not conduct any variable selection, such as stepwise selection, because such approaches are known to lead to biased coefficient estimation(17). The significance threshold was set at 0.05. All analyses were conducted using Stata v. 15.1 (StataCorp, College Station, Texas).” |
| **Results:** “…a chi-square test and p values could be possibly added to the descriptive analyses & tables (2-4)” | Following this reviewer’s suggestion, we added the following to the Results section in the newer version of our paper: |
| “Data analysis….Relevant variables were compared between cancer centers using χ2, Fisher’s exact, and Two-Sample t-Tests, when appropriate.” | “Determinants of providing cessation care or referral to cancer patients at the initial visit. Results of the logistic regression models assessing CCPs’ factors associated with providing cessation treatment or referral to more specialized programs are presented in Table 5. The resulting regression model for IDC did not retain statistically significant variables. CCPs appointed at INCan were less |
likely to provide cessation treatment or referral to their patients if they had less than 50% of their time devoted to patient care (OR 0.24; 95% CI 0.06-0.88; \( p = 0.03 \)) and were former or current smokers (OR 0.31; 95% CI 0.1-0.88; \( p = 0.03 \))."

We have included the p values resulting from comparing descriptive variables between cancer centers in Tables 1, 2, 3, and 4.

We have also included an additional table for the logistic regression models (Table 5), which can be deleted if reviewers believe that the information is redundant or the paper exceeds the maximum number of tables allowed by the journals.

**Discussion:** “…in the Discussion there is a little disproportion between interpreting the characteristics of CCPs (e.g., smoking prevalence) and the barriers/perceptions in facilitating cessation service”

In agreement with this reviewer and considering the results of our regression analysis, we added the following to the Discussion: “When assessing determinants for providing cessation care or referral services to cancer patients at their initial visit, we found that being a current or former smoker and having less than 50% of dedicated time to patient care could undermine smoking cessation efforts in oncology settings. However, these results should be interpreted with caution because these statistically significant associations only were found among CCPs at INCan.”

**Discussion:** “…the potentially innovative role of alternative nicotine products (e.g., e-cigarettes vs. nicotine-replacement therapy, see RCT of Hajek in 2018 on 18% success rate of e-cigarettes compared to 10% in NRT) in smoking cessation could be briefly discussed (for me the question remains: is this strategy already applied/recognized in Latin American clinical practice?). This could be linked to the fact that a vast majority of CCPs perceive a lack of training in (modern/contemporary) smoking cessation.”

We appreciate the recommendation. We reviewed the scientific literature, revised the discussion, and included the suggested reference. The following paragraph has been added: “Finally, 8.7% of the CCPs at IDC and 7.6% of the CCPs at INCan participating in our study were either current or former users of e-cigarette. Considering the overall market growth of these new products in Latin America, the potential of e-cigarette use as a harm reduction strategy or cessation tool is worth mentioning as it remains controversial within the scientific community. A randomized trial conducted in the United Kingdom among 886 adult smokers suggests that e-cigarettes may..."
| Comments                                                                 | Responses from Authors                                                                                                                                                                                                 |
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| be more effective than nicotine-replacement therapy for smoking cessation(37). However, “Switching to e-cigarettes does not mean quitting... Quitting means truly ending the addiction to nicotine,” according to The American Lung Association(38). Therefore, Latin American healthcare professionals, researchers, and policymakers should proceed with caution when considering e-cigarettes as a harm reduction alternative to smoking until the long-term health effects of these new emerging products are well established." |                                                                                                                                                                                                                         |
| Limitation: “…the absence of qualitative instruments should be also critically discussed in the Limitations” | Please refer to response #11.                                                                                                                                                                                            |