

Peer Review File

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Reviewer A

Comment 1- How was postoperative smoking relapse confirmed?

Reply- The smoking status of all the patients was determined by reviewing electronic medical records. The status was reported in a binary fashion (yes or no) without commenting on the timing and frequency of relapse as doing that could have led to inaccurate data. The primary reason for this is the variability in the details of smoking habit reported by the patient during each clinical visit.

Comment 2- It is not known how smoking cessation programs were implemented for individual patients.

Reply: We do not have this information for this database. The results of this study will potentially allow us to tailor the efforts of our smoking cessation programs.

Comment 3- Why did you compare annual income with the “poor” group, which has fewer cases?

Reply: Our hypothesis was that patients belonging to lowest economic strata would be at higher risk of relapse due to disparities in access to services. Therefore, we used the “poor” group as our primary reference.

Reviewer B

Comment 1: Abstract: On lines 50-52, please include 95% CIs in your reporting of adjusted odds ratios (aOR). Income is cited as a statistically significant determinant of smoking relapse, but statistics are not provided.

Reply: 95% CIs have been included in reporting of adjusted odds ratio. With regards to income, significant difference was registered between the two groups after chi-square analysis, but the multivariable logistic regression did not reflect statistical significance. Therefore, statistics were not included in the abstract.

Changes in the text:

line 43-46 - “Multivariable logistic regression reflected that black patient had higher odds of relapse than white patients (OR=3.26, CI (1.54-6.89), P=0.002) and the chances of relapse decreased as the age increased (Five-year age gap, OR=0.70, CI (0.58-0.85), P<0.001).”

Comment 2: I think the Introduction could be strengthened with an additional paragraph on what is known about the barriers to smoking cessation in the population of interest, for example attitudes and beliefs, social and cultural norms, access to smoking cessation services, etc.

Reply: Additions have been made in the text elaborating these problems.

Changes in text:

Lines 64-71: The higher prevalence of smoking in the vulnerable population is compounded by lower rates of smoking cessation due to barriers present during all phases of access to healthcare. These barriers encountered by the vulnerable population in attempts to quit smoking can be broadly classified into the abilities of the smoker and the dimensions of support available for the same. Lower risk perception, lower self-efficacy, and inability to pay for supportive measures are some of the factors that can be attributed to the individual smoker. Ineffective recruitment strategies for smokers, making smoking cessation a lower priority due to competing health

problems, unavailability of supportive measures at the local level, and insufficient intensity and flexibility are examples of barriers attributable to the healthcare system.

Comment 3: The methods are not described in sufficient detail. Please include further details: how was race categorized (including ‘other’ races)? How was smoking relapse/abstinence measured? How was ‘inadequate smoking history’ defined in patients who were excluded on this basis? Were efforts made to reduce bias, for example by having more than one researcher reviewing the medical records?

Reply: The post-operative smoking status was reported in a binary fashion (yes or no) without commenting on the timing and frequency of relapse as doing that could have led to inaccurate data. The primary reason for this is the variability in the details of smoking habit reported by the patient during each clinical visit. Additional information has been added to the text.

Changes in the text:

Lines 95-97: Despite our institution catering to a diverse population, the number of patients belonging to races apart from black and white were very few. Therefore, the major categories for race were white, black and others which included patients that were Asian and Hispanic

Lines 102-107: Smoking status of a patient after surgery was determined by reviewing medical records by two independent researchers. We reviewed at least 5 physician encounter per patient after surgery to confirm if they had relapsed to smoking. We reported if the patient had relapsed to smoking in a binary fashion (Yes or No). Time to relapse was not calculated due to variable information volunteered by the patients during clinical encounters regarding their smoking habits. If there was no information about the smoking status in the records, these patients were excluded from the study due to insufficient smoking data.

Comment 4: The discussion would benefit from some further reflection on behavioral barriers to smoking cessation in this population, and intersecting influences of race, income, rurality, and access to smoking cessation services.

Reply: Additional literature review has been conducted and appropriate text has been added to the manuscript.

Changes in text:

Lines 178-190: The increased rate of smoking prevalence can be mitigated by practical smoking cessation efforts comprising both pharmaceutical adjuvants and non-medical measures to address the underlying problems. However, multiple barriers exist in all phases of care that makes it very difficult for the patient to quit smoking. Van Wijk E et al. summarized these barriers and classified them in to two broad groups: the abilities of a smoker from the vulnerable population to quit smoking and problems related to the dimensions of support available. Smokers in the at-risk population have low motivation to quit and have a lower risk perception due to inadequate information about the toxic effects of smoking. Smoking also serves as an automatic coping mechanism to the stressful living conditions. The pro smoking social norms in this population due to high acceptance of smoking and embedment of smoking in social structures diminishes the ability of a smoker to perceive the need for support. Other problems related to the dimensions of support available to quit smoking are ineffective recruitment strategies, presence of competing health problems that make smoking cessation a lower priority and higher costs of healthcare which make it unaffordable for a smoker to utilize these support measures.

Reviewer C

Comment 1: They decided to analyze only stage I patients to have a more homogenous group of patients. However, this resulted to a rather low number of patients. I would suggest adding the Stage II patients in the analysis and check if chemotherapy was a significant variable.

Reply: We agree with the reviewer that the sample size is small as a result of limiting our study population to stage I surgically resected patients. The intent in this initial study, however, was to keep the study population very homogenous. We intentionally did not include loco-regional population (stages II-IIIa) as the adjuvant treatment, as the reviewer states, may be factor. For similar reason, we did not include stage I patients undergoing SBRT as we believe this population would potentially have a different set of comorbidities. We do plan to expand the study population in future studies building on the current initial study.

Comment 2: In text, references should be revised according to the JTD-Guidelines.

Reply: All the references have been updated according to Journal guidelines.

Reviewer D

Comment 1: Please explain why the authors did not perform time-to-relapse analyses?

Reply: This is something we very much considered. In the end, based on the chart reviews, the smoking history had a lot of variations. And we decided to keep the smoking relapse a simple yes/no. We have ongoing efforts such that the providers can better document the smoking history, and we hope that in future studies, the results will be reliable enough to perform analysis such as time-to-relapse.

Comment 2: Could you elaborate on the methodology of “the median annual household income was determined based on the residential zip code.”?

Reply: The United States Census bureau provides the details of median annual household income based on zip code on their website. We utilized this resource for our paper.

Comment 3: Univariate and multivariate should be univariable and multivariable, respectively.

Reply: These corrections have been made throughout the manuscript.

Comment 4: Please discuss a bias related to the fact that no descriptions on the smoking status of patients were made in the medical chart, those patients were excluded from the analysis. This is a very important matter in assessing the bias that was related to this study.

Reply: This issue has been addressed and the required changes have been made as mentioned below.

Changes in text:

Lines 102-107: Smoking status of a patient after surgery was determined by reviewing medical records by two independent researchers. We reviewed at least 5 physician encounter per patient after surgery to confirm if they had relapsed to smoking. We reported if the patient had relapsed to smoking in a binary fashion (Yes or No). Time to relapse was not calculated due to variable information volunteered by the patients during clinical encounters regarding their smoking habits. If there was no information about the smoking status in the records, these patients were excluded from the study due to insufficient smoking data.

Comment 5: What does the safety net hospital mean?

Reply: This issue has been addressed and the required changes have been made as mentioned below.

Changes in text:

line 159-161: A safety net hospital provides health care services to uninsured, unhoused, and other vulnerable patients thereby catering to a diverse population.