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## Response to Hernández-Almonacid and Marín-Quintero concerning their comments on the article: "Metabolic disorders across the body mass index spectrum in a Colombian population with nonalcoholic fatty liver disease"



### Respuesta a Hernández-Almonacid y Marín-Quintero sobre sus comentarios al artículo: «Trastornos metabólicos en el espectro completo del índice de masa corporal en una población colombiana con enfermedad de hígado graso no alcohólico»

We appreciate the interest in and comments on our work, "Metabolic disorders across the body mass index spectrum in a Colombian population with nonalcoholic fatty liver disease", shown by Drs. Hernández-Almonacid and Marín-Quintero.

Our responses to their questions and comments follow below.

1 The recent change in nomenclature of nonalcoholic fatty liver disease (NAFLD) to metabolic dysfunction-associated steatotic liver disease (MASLD) that includes the presence of cardiometabolic risk factors in its definition, involves taking a new look at association conclusions, given that considering the risk of presenting with comorbidities is now posited as a necessary condition for speaking of the entity. This would make the prevalence of the different comorbidities evaluated in the article perhaps the most important calculation. Of course, this study limitation is understood due to the fact that its time frame was from 2010 to 2020, and the changes in nomenclature and the new definition were not published until 2023.

We fully agree with Drs. Hernández-Almonacid and Marín-Quintero. Changing NAFLD to MASLD is more than a simple renaming of the disease. It was motivated not only by social factors, such as avoiding any stigma caused by the name, but also by advances in the understanding of the etiopathology of this condition. In our study, we reported that the possibility of having a concomitant metabolic comorbidity at the time of the first evaluation for MASLD did not vary in the different body mass index categories. Even though the study design enabled only the description of associations, they are in line with the importance of thinking of liver disease in the metabolic continuum beyond obesity.

2 As can be inferred from the article, all the variables were collected from the first evaluation of liver disease symptoms. Given the follow-up time, this raises the question of whether the authors had considered evaluating the subsequent incidence of said comorbidities in the cohort, to establish a different risk measurement, such as relative risk.

Regarding this query, the continuation of our work analyzes the risk for developing diabetes during the follow-up of these patients. This second phase of the study is pending publication.

3 The high number of male patients in the study (92% of the total) was striking. Even though previous studies have established that the risk for presenting with MASLD is higher in men, as described in the meta-analysis by Chan et al.,<sup>1</sup> the number of men and women is not as disparate in the different studies as that reported by Builes-Montaño et al. A study conducted in Mexico showed the number of men at close to 50%,<sup>2</sup> suggesting there are different associations in the Chilean environment from those of Mexico, or the effect of possible selection bias.

The high number of male patients was possibly the consequence of a systematic error. In the complete group of patients (n = 603), only 43% were men.

4 Lastly, for purposes of validating the conclusions reached by the researchers, unfortunately a considerable number of patients were lost due to not having their height and weight registered in their medical records. This underlines the fact that, regardless of the level of care, including specialized care, such simple interventions should not be overlooked, especially in patients that are seen for hepatic steatosis, where body mass index is crucial and defines the entity. Even though an effort was made to overcome said difficulty by bootstrapping data, the confidence intervals of the association between comorbidities and the risk for steatohepatitis could be interpreted as wide, revealing that the study's accuracy was affected by those losses.

We agree with the conclusion derived from interpreting the confidence intervals as wide. The loss of data appears to have affected the accuracy of the results but does not appear to have had an effect on the direction of the association, reinforcing the conclusions discussed in section number 1 of the comments.

## Ethical considerations

The Ethics Committee of the *Hospital Pablo Tobón Uribe* approved the study. Only one of the researchers could identify the patients. The rest of the authors accessed an unidentified database. Informed consent was not required by the committee, given the study design. All authors accessed the study data and reviewed and approved the final manuscript. No experiments on animals or humans were conducted in this study.

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## Declaration of competing interest

The authors declare that there is no conflict of interest.

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