

Manuscript 4119181_Reviewer_3

We sincerely thank you for the relevant feedback, which helped improve the quality and relevance of our study

The introduction could be strengthened by explicitly stating specific research questions or hypotheses, which are optional but commonly included in academic introductions. Presenting specific research questions would provide clarity and focus to the study's objectives	We sincerely thank you for your insightful suggestion and for the careful reading of our manuscript. As this study is designed as a pilot primarily aimed at assessing feasibility and optimizing study procedures, we formulated clear study objectives rather than testing formal hypotheses. This approach is consistent with methodological recommendations for pilot studies, which caution against hypothesis testing when studies are not powered for confirmatory analyses (CONSORT) - Eldridge SM, Chan CL, Campbell MJ, et al. CONSORT 2010 statement: extension to randomised pilot and feasibility trials. BMJ. 2016;355:i5239. - Leon AC, Davis LL, Kraemer HC. The role and interpretation of pilot studies in clinical research. Journal of Psychiatric Research. 2011;45(5):626–629.	
While the description of the meteorological data collection is comprehensive, the methods section lacks detail on the procedures for matching meteorological data with patient data	We sincerely thank you for this valuable comment and for highlighting the importance of methodological transparency. In response, we have revised Section 2.3 (Procedures) to provide a clearer, more detailed description of the process used to match meteorological data with patient records. Specifically, we added a dedicated paragraph outlining the spatiotemporal data linkage procedure, including the alignment of environmental exposures with the exact day of the emergency department consultation, the assignment of data from the monitoring station closest to each patient's place of residence, the approach used when multiple stations were involved, and the construction of lagged exposure variables. This revision was undertaken to enhance methodological clarity, strengthen reproducibility, and ensure that the linkage procedure can be readily understood and replicated by future researchers.	2.3 Procedures
The decision to aggregate data at the weekly level due to low daily admission counts should be carefully considered, as it may obscure important temporal dynamics. The methods section could benefit from a more detailed justification of this decision and an exploration of alternative modelling strategies that could capture finer temporal variations. There is ample literature that establishes a direct and immediate relationship between high concentrations of pollutants such as	The decision to aggregate admissions at the weekly level was both deliberate and methodologically justified. The pilot dataset had very low daily admission counts, resulting in sparse data structures with a high frequency of zero values. Under such conditions, daily modelling would likely have resulted in unstable parameter estimates, substantial overdispersion, and an increased risk of model overfitting, thereby limiting the validity and interpretability of the findings. Weekly aggregation is a well-established strategy for stabilizing count data when event frequencies are low. This approach improved variance stability, enhanced model convergence, and allowed us to adopt a parsimonious analytical framework aligned with	2.3 Procedures

ozone or nitrogen oxides, particulate matter, and sudden hospital admissions or cases of mortality due to cardiopulmonary diseases	the exploratory objectives of a pilot study—namely, assessing feasibility, generating preliminary effect estimates, and informing the design of a future large-scale investigation. We carefully considered alternative statistical approaches, including zero-inflated Poisson and negative binomial models, as well as time-series methods such as generalized additive models and distributed lag models. While these techniques are highly appropriate for detecting fine temporal associations, they require substantially more daily observations to produce reliable and interpretable estimates. Given the limited duration of observation and the small number of daily events, their application would have introduced a considerable risk of over-parameterization and compromised statistical robustness. To address your concern, we have revised the Methods section to provide a stronger, more explicit justification for this analytical choice and to clarify that future studies based on larger, high-frequency datasets will implement advanced time-series modelling to capture short-term environmental effects with greater precision.	
The methods section lays a robust groundwork for the pilot study; however, there are multiple aspects that could be refined to bolster methodological rigor, particularly concerning the confidence level of the results. Each consideration should be supported by bibliographical references from prior similar research.	We have carefully revised the Methods section to further enhance the transparency and statistical justification of our analytical choices, particularly regarding the confidence and robustness of the results. Specifically, we expanded the description of our modelling strategy and supported these methodological decisions with references to established literature. We have now cited Bhaskaran et al. (2013) to justify the application of regression approaches commonly used in environmental epidemiology, and Babyak (2004) to support our parsimonious modelling strategy aimed at reducing the risk of overfitting in the context of a limited sample size. These additions reinforce the methodological foundation of the study and align our analytical framework with recognized best practices.	2. Methods
The Results section starts by detailing the involvement of patients and their sociodemographic characteristics, with the intention of connecting these findings to the study's objectives. Nonetheless, the section does not provide a clear summary that directly links the results to the specific research questions or hypotheses. To enhance this part, the section should begin with a concise introduction that restates the study's objectives and clarifies how the following results align with these aims.	Thank you for this constructive comment. An introductory paragraph has been added at the beginning of Section 3. Results to restate the study objectives and clearly indicate how the reported findings align with these aims. This addition strengthens the coherence of the section and improves the linkage between the research questions and the presentation of the results.	3. Results

The section on data aggregation and longitudinal description of atmospheric pollutants and temperatures is informative but lacks a clear connection to the study's objectives. It would be beneficial to explicitly state how these descriptive analyses contribute to understanding the impact of meteorological conditions on health outcomes.	Thank you for this insightful comment. The section has been revised to better contextualize the atmospheric pollutant data by integrating the reported values into a clearer narrative. We strengthened the linkage with the Introduction, which establishes the impact of air pollution on cardiopulmonary health, thereby clarifying the relevance of these environmental exposures to the study objectives.	4.3.2 Longitudinal Description of the Evolution of Atmospheric Pollutants and Temperatures
The presentation of atmospheric pollutant data is somewhat disjointed, with numerical values listed without sufficient context. Consider integrating these values into a description that explains their significance in relation to the study's aims.	Thank you for this insightful comment. The description of Figure 3. The section has been revised to better contextualize the atmospheric pollutant data by integrating the reported values into a clearer narrative. This revision enhances the interpretability of the data and supports a more coherent understanding of their significance for subsequent analyses.	4.3.2 Longitudinal Description of the Evolution of Atmospheric Pollutants and Temperatures
Table 2 is referenced in relation to participants' sociodemographic and health data, but the text does not provide enough detail about its contents. Why is it important in this study.	Thank you for this constructive comment. We have revised the Results section to provide a clearer description of Table 2 and to emphasize its relevance to the study objectives. Specifically, we added interpretive statements highlighting how participants' sociodemographic and clinical characteristics contextualize population vulnerability and environmental exposure.	4.2 Sociodemographic characteristics, health status, and reasons for emergency visits
The Discussion section needs major revisions to improve its conceptual and interpretive profundity. By identified weaknesses and incorporating the recommended enhancements, the authors can more effectively highlight the originality and significance of their findings	Thank you for this insightful comment. The Discussion section has been revised to enhance its conceptual depth and interpretive strength. We clarified the originality and significance of our findings by strengthening the integration between environmental exposures, population vulnerability, and healthcare utilization, while more explicitly situating our results within the existing literature. These revisions improve the analytical perspective of the manuscript and better highlight its contribution to climate-sensitive health research.	5. Discussion
The conclusion section does not sufficiently connect back to the original research question or problem. It must be improved using results that are more detailed and discussions	Thank you for this constructive comment. The Conclusion section has been revised to more explicitly connect with the original research question and better reflect the study's findings. We strengthened this section by incorporating more detailed results and by ensuring closer alignment with the discussion to enhance the overall interpretive coherence of the manuscript.	6. Conclusion
The bibliography provided is quite limited. It would be advisable to broaden it by incorporating the earlier remarks and recommendations.	The reference list was deliberately constructed to reflect the multidisciplinary nature of climate-sensitive health research. It integrates high-level evidence, including systematic reviews and meta-analyses, with large epidemiological studies and national data sources	References

	relevant to the Swiss context. This approach ensures both strong theoretical grounding and contextual applicability, thereby supporting the scientific coherence and relevance of the manuscript. New references have been added to respond to the following commentary “The methods section lays a robust groundwork for the pilot study; however, there are multiple aspects that could be refined to bolster methodological rigor, particularly concerning the confidence level of the results. Each consideration should be supported by bibliographical references from prior similar research.”	
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