

REVIEWER'S REPORT

Manuscript No.: IJAR-56971

Title: Pneumonia in the Republic of Kazakhstan: Epidemiological Analysis (2019–2023)

Recommendation:

Accept after minor revision

Rating	Excel.	Good	Fair	Poor
Originality		✓,		
Techn. Quality		✓,		
Clarity	✓,			
Significance	✓,			

Reviewer Name: Dr Abdul Haseeb Mir

Detailed Reviewer's Report

The article titled "Pneumonia in the Republic of Kazakhstan: Epidemiological Analysis (2019–2023)" offers a timely and statistically grounded evaluation of public health trends in a Central Asian context. By focusing on a five-year window that encompasses the pre-pandemic, peak-pandemic, and post-pandemic recovery phases, the author provides a necessary roadmap for understanding how respiratory morbidity and mortality have shifted under extreme global health stress. This research is of significant value to epidemiologists, public health officials, and infectious disease specialists, particularly those interested in the long-term systemic impacts of COVID-19 on regional healthcare delivery.

The methodological foundation of the manuscript is robust, relying on official data from the Ministry of Health of the Republic of Kazakhstan. The use of a longitudinal analysis from 2019 to 2023 allows for a clear visualization of the "pandemic spike" and the subsequent stabilization of the healthcare system. The author correctly identifies pneumonia as a major contributor to national mortality, aligning the study with broader World Health Organization (WHO) concerns regarding the global burden of respiratory diseases. The clarity with which the author presents the correlation between the 2020 pandemic peak and the surge in pneumonia-related deaths provides a stark empirical record of the crisis.

A primary strength of the article is its focus on age and regional disparities. The author notes that while the pandemic affected the entire population, the "restoration" phase has been unevenly distributed across Kazakhstan's diverse regions. By highlighting the need for a "regionally differentiated approach," the paper moves beyond simple data reporting and enters the realm of actionable policy advice. This regional lens is essential for a country as geographically vast as Kazakhstan, where urban and rural healthcare

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infrastructures often operate at different levels of capacity. The analysis of morbidity in children versus adults—as illustrated in the figures—adds a vital layer of demographic nuance to the findings.

The discussion on post-pandemic changes in the morbidity structure is another highlight. The author identifies that the etiology of pneumonia in the Republic has been altered by the widespread presence of SARS-CoV-2 and the changes in diagnostic protocols that followed. The transition from "traditional" pneumonia to "COVID-associated" pneumonia is handled with appropriate academic rigor, acknowledging the complexity of pathogen spread before and during the pandemic. By citing recent 2023 and 2024 studies from Glebova and Luo, the manuscript ensures it is situated within the most current international and local scientific discourse.

To further enhance the manuscript for publication in a high-impact medical or public health journal, a few minor revisions are recommended. While the data from 2019 to 2023 is comprehensive, the author could strengthen the "Analysis" section by providing a deeper look at the "Specific Pathogens" involved in the post-pandemic phase. For instance, detailing whether there has been a significant rise in antibiotic-resistant bacterial pneumonia or changes in the prevalence of seasonal influenza-related pneumonia would provide more clinical depth. Additionally, a brief exploration of the "Vaccination Coverage" (e.g., Pneumococcal or Influenza vaccines) during this period would help explain some of the regional variations in mortality that the author currently attributes primarily to infrastructure.

From a structural perspective, the article is logically organized and maintains a high standard of professional academic English. The figures provided are clear and directly support the text, although a more detailed caption for "Figure 1" that explains the specific methodology behind the "Sickness rate per 100 thousand population" would be beneficial for international readers. The bibliography is current and well-cited, though the author should ensure that the formatting of all references—especially those from the Ministry of Health—is consistent with the journal's preferred style. Providing a brief "Policy Recommendation" table that summarizes the necessary steps for "regionally differentiated pulmonary care" would also improve the article's utility for public health administrators.

In summary, this article represents a significant contribution to the epidemiological literature of Central Asia. It successfully captures the dramatic shifts in pneumonia dynamics caused by the COVID-19 pandemic and provides a clear-eyed assessment of the recovery phase. By emphasizing the intersection of regional geography and healthcare capacity, the author provides a compelling argument for targeted

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investments in pulmonary health. With the addition of more specific pathogen data and a look at vaccination trends, this paper will be an excellent resource for researchers and health policymakers dedicated to improving respiratory health outcomes in the post-pandemic era.

Recommendation: Recommend for publication with minor revision.