Morbidity and Mortality Among Adults Experiencing Homelessness Hospitalized With COVID-19

Chang Yun Hsin, Kao Chi Ching, Fang Jia Jun, Yung-Heng Lee, James Cheng-Chung Wei

Chang Yun Hsin

School of Medicine, Chung-Shan Medical University, Taichung, Taiwan

cindympvup@gmail.com

Kao Chi Ching

School of Medicine, Chung-Shan Medical University, Taichung, Taiwan

splendia1008@gmail.com

Fang Jia Jun

School of Medicine, Chung-Shan Medical University, Taichung, Taiwan

andy31887@gmail.com

Correspondence

Yung-Heng Lee, MD, PhD

Department of senior services industry management, Minghsin University of Science and Technology, Hsinchu, Taiwan.

Department of Recreation and Sport Management, Shu-Te University, Kaohsiung, Taiwan

Department of Orthopedics, Cishan Hospital, Ministry of Health and Welfare, Kaohsiung, Taiwan

yhlee061300@gmail.com

James Cheng-Chung Wei, MD, PhD.

Department of Allergy, Immunology & Rheumatology, Chung Shan Medical University Hospital, Taichung, Taiwan

Institute of Medicine, Chung Shan Medical University, Taichung, Taiwan

Graduate Institute of Integrated Medicine, China Medical University, Taichung, Taiwan No. 110, Sec. 1, Jianguo N. Rd., South District, Taichung City 40201, Taiwan.
jccwei@gmail.com

Correspondence: YH lee and JC Wei

Chang Yun Hsin, Kao Chi Ching and Fang Jia Juncontribute equally.

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To the Editor:

We have read with great interest the article by Cha et al. on the risk of morbidity and mortality among homeless adults hospitalized due to COVID-19[1]. According to the COVID-NET database, they concluded that most homeless people with COVID-19 are men with ethinic minority backgrounds and most of them have underlying health conditions. This article provided great insight into the minority communities we often overlook to raise awareness in treating people with similar backgrounds. However, we believe some concerns should be discussed in this important study.

First of all, the authors made a conclusion that Hispanics and non-Hispanic blacks accounted for most documented mechanical ventilation and deaths. However, in table 2, the most frequent usage of invasive mechanical ventilation in different races include Hispanic (n=6, 12.6%), non-Hispanic white (n=4, 11.6%), and non-Hispanic black (n=7, 11.6%). Based on the data in table 2, Hispanic, non-Hispanic whites and blacks have similar frequencies of invasive mechanical ventilation usage. Therefore, we suggest that the authors include non-Hispanic white in their final conclusion on the most documented mechanical ventilation and deaths.

We believe age is a confounding bias that is not included in this study. It was demonstrated byKim et al that an increase in age will elevate the risk of using invasive mechanical ventilation[2]. We suggest that the authors stratify a subgroup analysis based on age between ethnic groups to reduce confounding bias. As is we do not know if the current conclusion is affected by age groups within each ethnic group. Therefore, additional investigation and stratification are required to remove confounding bias.

Cha et al. concluded that the elderly and those with underlying health conditions have severe outcomes during COVID-19. However, the outcome severity was not clearly defined in this article as mortality, ICU admission frequency or invasive mechanical ventilation rate, which may cause confusion for readers. For example, in table 2, we found that people with no underlying health conditions have the highest use of invasive mechanical ventilation. Moreover, people between the ages of 18-49 have the highest tendency of being admitted to the ICU, as shown in table 2. Therefore, we suggest that the authors define the severity of outcomes in this study to eliminatee confusion.

In conclusion, we are convinced that the authors' conclusion should be changed to Hispanic and non-Hispanic white and black to account for most documented mechanical ventilation

and deaths. In addition, we believe age should be considered as a confounding variable and that stratification is required. Finally, the severity outcome should be clearly defined.

References:

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2. Kim, L., et al. (2021). "Risk Factors for Intensive Care Unit Admission and In-hospital Mortality Among Hospitalized Adults Identified through the US Coronavirus Disease 2019 (COVID-19)-Associated Hospitalization Surveillance Network (COVID-NET)." Clin Infect Dis 72(9): e206-e214.