Reviewer 2 v.2

Comments to the Author

Dr. Sethi and his colleagues provided a narrative review of “The use of nebulized pharmacotherapies during the COVID-19 pandemic”. The review is certainly helpful and gives a good overview of the literature, however, there are some points that need to state more clearly. The authors should also add several current publications to this manuscript. Please see below for more information.

INTRODUCTION: The introduction should provide an objective evaluation of nebulizers and current literature. Please revise this section based on the articles listed below.

Page 3, Line 18-25: A few organizations and recently published papers that did not recommend using nebulizers in COVID-19. Please add them to the paper to provide a more objective review. I copy them below for your convenience.

The Canadian Paediatric Society Practice Point. Paediatric asthma and COVID-19. 2020 May 25, 2020]: Available from: https://www.cps.ca/en/documents/position/paediatric-asthma-and-covid-19

Global Initiative for Asthma. www.ginasthma.org COVID-19: March 25 2020. https://ginasthma.org/covid-19-gina-answers-to-frequently-askedquestions-

on-asthma-management/.

Mei-Zahav M, Amirav I. Aerosol treatments for childhood asthma in the era of COVID-19. Pediatric pulmonology. 2020.

Amirav I, Newhouse MT. Transmission of coronavirus by nebulizer: a serious, underappreciated risk. CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne. 2020; 192:E346.

Ari A. Practical strategies for a safe and effective delivery of aerosolized medications to patients with COVID-19. Respiratory medicine. 2020; e-pub ahead of print.

Ari A. Use of aerosolised medications at home for COVID-19. Lancet Respir Med. 2020

SELECTION OF ARTICLES FOR REVIEW

Page 4, Line 14-23 I am surprised to see that some of the references that I listed above were missed by the authors. Please update this section as more paper has been published since May 11.

OVERVIEW OF THE TRANSMISSION ROUTES OF RESPIRATORY VIRUSES

Page 4, Line 37: Please cite the following sentence "These generally travel no further than 1 meter before settling." After reading the study conducted by Tang et al, I believe that it is not true for jet nebulizers. Please revise this section based on the article below and add it to your references.

Tang JW, Kalliomaki P, Varila TM, Waris M, Koskela H. Nebulisers as a potential source of airborne virus. J Infect. 2020

REVIEWS ON THE TRANSMISSION OF CORONAVIRUSES

Page 5, Line 3-5: The following statement is not correct based on the study above. Please revise. "The concentration of SARS-CoV-2 RNA detected in aerosols in isolation wards and ventilated patients' rooms was very low"

Page 7, Line 19-20, and Line 26. I don't agree with these statements. I also believe that it is important to provide an objective evaluation on nebulizers. Therefore, please remove these sentences from the paper. It is also important to add the following references to explain issues with hand-held jet nebulizers and exhaled air dispersion due to external gas flow used to operate the hand-held jet nebulizer. Also, Tang's study is a piece of evidence that hand-held nebulizers may increase viral transmission even in isolated rooms.

D. Ciuzas, T. Prasauskas, E. Krugly, et al., Characterization of indoor aerosol temporal variations for the real-time management of indoor air quality, Atmos. Environ. 118 (2015) 107–117.

J. McGrath, M. Byrne, M. Ashmore, A. Terry, C. Dimitroulopoulou, A simulation study of the changes in PM2.5 concentrations due to interzonal airflow variations caused by internal door opening patterns, Atmos. Environ. 87 (2014) 183–188.

Rau JL, Ari A , Restrepo R. Performance comparison of nebulizer designs: Constant-output, breath-enhanced, and dosimetric. Respiratory Care 2004; 49(2): 174-179

Ari A. Jet, mesh and ultrasonic nebulizers: An evaluation of nebulizers for better clinical practice. Eurasian Journal of Pulmonology. 2014

THE RIGHT TOOL FOR THE RIGHT PATIENT & PROTECTIVE MEASURES

These sections are nicely written. Some of the concepts were introduced in the previous publications listed below. Please cite them in this section.

Ari A. Practical strategies for safe and effective delivery of aerosolized medications to patients with COVID-19. Respiratory medicine. 2020; e-pub ahead of print.

Ari A. Use of aerosolised medications at home for COVID-19. Lancet Respir Med. 2020

Ari A, Fink JB. Guidelines for aerosol devices in infants, children, and adults: Which to choose, why, and how to achieve effective aerosol therapy? Expert Review of Respiratory Medicine 2011; 5(4): 561-572

After working as a staff respiratory therapist, education coordinator, department manager, and faculty for the past 27 years, I realize I’m in love with my job, my department, my university, my colleagues, and everything about it. As an academic, I have the opportunity to guide and empower the next generation of respiratory therapists. At other jobs, you might only get to work on something that truly interests you for a few hours of your workday, but as an academic, you can devote all of your time to pursuing your passions in teaching, research, and service. I am proud of my profession that continues to be recognized for holding high standards year after year. I'm also proud to be a respiratory therapist because I can make a difference.