

LETTER TO EDITOR

Letter in response to an article published in your Journal COVID-19 infection in obese individuals

Respected Editor,

The entire humanity has been in the grip of the COVID-19 pandemic over the last more than a year that has inflicted incredible damage, caused untold miseries, and led to thousands of deaths. Although a mild self-limiting disease in the majority, this may not be the case in diabetics, elderly, obese, and in patients with underlying malignancy, CKD, Chronic Lung Disease, CVD, and in those on immunosuppressive medications. Studies have shown that these high-risk individuals have a higher propensity to have adverse outcomes (morbidity and mortality) if they contract the infection^{1,2}.

Worldwide obesity is on the rise both in developed and the developing world for varied reasons. We read the mini-review titled "The potential impacts of Obesity on Covid-19" published in the Journal of Medical Sciences (JMS) recently³. Authors Dr. Khan and Khan have very well summarized the harmful impact (on morbidity and mortality) that COVID-19 infection will have in obese individuals and elucidated the mechanisms thereof. The mechanisms of this adverse outcome are related to a decrease in respiratory reserve, imbalance of RAAS, impaired immune state, and less viral/bacterial clearance in obese individuals. However, the real impact of such an association was not well documented in the studies at the time this article was published.

The effects of COVID-19 on patients with obesity have by now been well described. We will try to expand on the assertions that Drs Khan and Khan have made in their review. Data suggests that outcomes with COVID-19 are worse in obese individuals and that a significant proportion of such patients need intensive care management⁴. The

latest systemic reviews have emphasized that obesity is a risk factor for a worse prognosis of COVID-19^{4,5}.

Tamara and Tahpary did a systematic search in four databases: Cochrane, MEDLINE, EMBASE, and PubMed, and identified three retrospective cohort studies using the chosen eligibility criteria which were critically appraised using Newcastle Ottawa Scale. All studies reported that obesity increased the risk of requiring advanced medical care⁴. Similarly, Chu Y et al did a systematic review and meta-analysis to investigate the association between obesity and poor outcomes in patients with COVID-19 pneumonia⁵. Twenty-two studies (n = 12,591 patients) were included. Pooled analysis demonstrated that body mass index (BMI) was higher in severe/critical COVID-19 patients than in mild COVID-19 patients. Additionally, obesity in COVID-19 patients was associated with poor outcomes, which comprised severe COVID-19, ICU care, invasive mechanical ventilation use, and disease progression. However, obesity did not increase the risk of hospital mortality.

There have been many small case studies and observational studies from India about Covid-19 and its impact but most of these have not reported the adverse impact of obesity as recording the weight and height may not be possible in patients who are sick and/or being treated in newly created medical settings. Even from our institute obesity as a variable in the COVID-19 cohort has not been studied (unpublished data of 2500 COVID-19 admissions) as mentioned in personal communication by Consultant

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Medicine, Dr. Umar Hafiz.

As a result of a potentially critical role of obesity in determining the severity of COVID-19, it is important to collect anthropometric information for COVID-19 patients, especially the younger group. Even though obesity may not be associated with hospital mortality, but efforts to understand the impact of obesity on the morbidity and mortality of COVID-19 patients should be a research priority in the future.

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