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## SARS-CoV-2-host dynamics: Increased risk of adverse outcomes of COVID-19 in obesity

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### Abstract

#### Background and aim

The pandemic of COVID-19 has put forward the public health system across countries to prepare themselves for the unprecedented outbreak of the present time. Recognition of the associated risks of morbidity and mortality becomes not only imperative but also fundamental to determine the prevention strategies as well as targeting the high-risk populations for appropriate therapies.

#### Methods

We reviewed, collated and analysed the online database i.e. Pubmed, Google scholar, Researchgate to highlight the demographic and mechanistic link between obesity and associated risks of severity in COVID-19.

#### Results

We observed a changing dynamic in the reporting from the time of initial pandemic in China to currently reported research. While, initially body mass index (BMI) did not find a mention in the data, it is now clearly emerging that obesity is one of the profound risk factors for complications of COVID-19.

#### Conclusion

Our review will help clinicians and health policy makers in considering the importance of obesity in making the prevention and therapeutic strategies of COVID-19. An extra attention and precaution for patients with obesity in COVID-19 pandemic is recommended.

**Keywords:** Obesity, COVID-19, SARS-CoV-2

### 1. Background

On December 31, 2019 several cases of pneumonia with an unidentified origin emerged from Wuhan, China which were reported to World Health Organisation (WHO) [1]. The cause of these cases was confirmed to be severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) after a week [2]. Considering its spread; the outbreak was declared a Public