

# An overview on wearing the face mask to avoid transmission of coronavirus disease 2019

Maryam Mohammadbeigi<sup>a</sup>, Maryam Meskini<sup>b,c</sup>  
and Safarali Alizadeh Koshkoki<sup>d</sup>

In December 2019, a report of a novel coronavirus which called severe acute respiratory syndrome coronavirus 2 from Wuhan, China shocked the world. Severe acute respiratory syndrome coronavirus 2 affects both humans and animals. Here, we attempted to have an overview of different perspectives of the need to use a face mask against coronavirus disease 2019. The primary objective of this article is to reinforce awareness of common hazards in which voluntary and precautionary use of face mask respirators may be advantageous to healthy people and the safety of the healthcare workers.

Copyright © 2020 Wolters Kluwer Health, Inc. All rights reserved.

*Reviews in Medical Microbiology* 2020, **31**:000–000

**Keywords:** COVID 19, coronaviruses, coronavirus disease 2019, face mask, prevention, severe acute respiratory syndrome coronavirus 2, transmission

## Introduction

Novel coronaviruses (CoVs) were zoonotic pathogens, but the first human-to-human transmission has been reported recently. Pneumonia of unknown cause detected in Wuhan, China, was first reported to the WHO Country Office in China on 31 December 2019 [1]. As mentioned in the chart Table 1, as of 12 February 2020 to 4 May 2020, 3467321 cases and 246979 death of coronavirus disease 2019 (COVID-19) had been reported [2].

With the passage of time and the spread of COVID-19, since there are no particular therapies available, standard public health measures appropriate for a virus spread by droplets were instituted. People began to wear face masks, which, due to masks scarce at the beginning of the COVID-19 outbreak. To avoid significant disasters, use straightforward and inexpensive methods such as face masks is serious. Face masks can prevent respiratory infections from human-to-human [3,4]. Use the strategy of face masks with ideal levels of compliance could potentially reduce the number of observed cases of respiratory infection. One of the approaches was

imperative to control and prevent the transfer of infection in healthcare settings [3].

This is a smart decision to use a face mask to avoid virus transmission for vulnerable people who were exposed to high-risk areas [3,4]. The use of the face mask is also recommended for controlling and preventing respiratory infections [5]. Observations have shown that viruses can remain viable infectious drop aerosols for hours and on surfaces up to days [6], and it was accepted that the coronavirus could be transmitted through aerosols [7]. Evidence showed that protective effects had been observed when hand washing is combined with the use of face masks [3].

The standard public health measures were the main initial fight factor to control this epidemic in the world. The findings show that COVID-19 could be transmitted and can cause severe disease and death; therefore, the world needs to hang up high readiness [5]. Analysis of the spatial broadcast of coronavirus showed that the distance of transmission outbreaks could be more than 200 m [7]. Estimated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) remains viable in aerosols throughout

<sup>a</sup>Department of Microbiology and Immunology, School of Medicine, Qazvin University of Medical Sciences, <sup>b</sup>Mycobacteriology & Pulmonary Research Department, Pasteur Institute of Iran, <sup>c</sup>Student Research Committee, Pasteur Institute of Iran, Tehran, Iran, and <sup>d</sup>Assistant Professor of Medical Microbiology Research Center, Qazvin University of Medical Sciences, Qazvin, Iran.

Correspondence to Maryam Meskini, Mycobacteriology & Pulmonary Research Department, Pasteur Institute of Iran, Tehran, Iran. E-mail: m\_meskini@pasteur.ac.ir, Meskini155@gmail.com

Received: 4 May 2020; accepted: 12 May 2020.