

Should Every One Wearing Face Mask? An Important Question

Fariba Shirvani¹, Mozhgan Hashemieh², Anahita Sanaie Dashti³

¹ Pediatric Infections Research Center, Research Institute for Children Health, Shahid Beheshti University of Medical Sciences, Tehran, Iran

² Department of Pediatrics, Imam Hossein Medical Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

³ Alborzi Clinical Microbiology Research Center, Namazi Hospital, Shiraz University of Medical Sciences, Shiraz, Iran

Received: 02 Feb. 2019; Accepted: 24 Mar. 2020

In late December 2019, a novel outbreak by coronavirus disease (COVID-19) causing severe respiratory syndrome coronavirus (SARS-CoV-2) infection occurred in China. Face masks are thought to prevent transmission during respiratory viral infection, but whether using face masks by patients with coronavirus disease 2019 (COVID-19) can prevent environmental contamination is uncertain. (1). This virus is transmitted through contact and droplet and, to a lesser extent, by aerosols (2). Wearing a mask has always been a precautionary measure and has been recommended by many centers and institutes. It is being suggested that the mask became symbolized to SARS that condoms for HIV/AIDS (3). There are several types of masks to prevent the transmission of the disease. These types include medical (surgical or procedure mask), 100% cotton mask (1), FFP, N95, and N99 (4). Many studies and guidelines supported Medical mask-wearing for the general population, but it was opposed by others (5) (6). In a study in Mar 2020 in China, N95 masks, medical masks, and homemade masks (four-layer kitchen paper and one-layer cloth) were able to block 99.98%, 97.14%, and 95.15% of the virus in aerosols (7). In a study in April 2020, in South Korea, petri dish containing 1 ml of transport media was placed 20 cm to the mouth of patients infected with Covid-19 in sequences of no mask, surgical mask, and cotton mask after five times cough. The median viral loads were 2.56 log copies/mL, 2.42 log copies/mL, and 1.85 log copies/mL, respectively. All outer mask surface swabs were positive for SARS-Cov-2, and inner mask surface swabs were negative (1).

CDC recommends cloth mask-wearing in public settings with difficulty in maintaining social distances such as grocery and pharmacy because it slows the virus transmission from asymptomatic to healthy persons (6). WHO recommends avoiding presence in crowded spaces, maintenance of at least 1-meter distance from persons with respiratory symptoms, perform hand washing frequently with alcohol-based hand rub or soap and water, cover nose and mouth with a flexed elbow or disposable

tissue while coughing and sneezing, there is no need for the medical mask, but some countries have a cultural habit of wearing a mask in viral respiratory infection epidemics. Due to the fact that the mask alone cannot prevent the spread of disease, attention to other measures such as frequent hand washing and keep a distance of at least one meter from persons with respiratory symptoms must be taken into account. However, the appropriate way of mask wearing must be considered. The mask should not be touched and moved on the face. The mask should be removed without contact with its surface, and it should be discarded immediately (5). Wearing a mask falsely may make you feel safe and less to do other health care activities, and not using the mask properly increases the risk of SARS-CoV-2 disease in the community. In conclusion, in our society, wearing a mask may play a role in controlling the disease, because hand hygiene and keep a distance of one meter is not respected, and there are many asymptomatic and less symptomatic carriers. If the mask is used properly, it is better to wear it than not to wear it.

References

1. Bae S, Kim M-C, Kim J-Y, Cha H-H, Lim J- S, Jung J, et al. Effectiveness of Surgical and Cotton Masks in Blocking SARS-CoV-2: A Controlled Comparison in 4 Patients Free. *Ann Intern Med* 2020;M20:1342.
2. Wu H, Huang J, Zhang C. JP, He Z, Ming W-k. Facemask shortage and the coronavirus disease (COVID-19) outbreak: Reflection on public health measures. *medRxiv* 2020;11:20020735.
3. Syed Q, Sopwith W, Regan M, M A Bellis. Behind the mask. Journey through an epidemic: some observations of contrasting public health responses to SARS. *J Epidemiol Community Health* 2003;57:855-6.
4. Ferioli M, Cisternino C, Leo V, Pisani L, Palange P, Nava S. Protecting healthcare workers from SARS-CoV-2 infection: practical indications. *Eur Respir Rev* 2020;29:200068.

Corresponding Author: F. Shirvani

Pediatric Infections Research Center, Research Institute for Children Health, Shahid Beheshti University of Medical Sciences, Tehran, Iran
Tel: +98 2122226941, Fax: +98 2122226941, E-mail address: Shirvanifariba@rocketmail.com

5. Interim guidance. Advice on the use of masks the community, during home care and in health care settings in the context of the novel coronavirus (2019-nCoV) outbreak. World Health Organization. 29 January 2020. (Accessed at WHO/nCov/IPC_Masks/2020.1.)
6. Use of Cloth Face Coverings to Help Slow the Spread of COVID-19. CDC factsheet. CS316353B 04/04/2020, 12:22 PM. [cdc.gov/coronavirus](https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html) (Accessed at <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html>.)
7. Yang R-M, Chen J-M. Potential utilities of mask-wearing and instant hand hygiene for fighting SARS-CoV-2. *J Med Virol* 2020;10:1-5.