

## Use of protective face mask by the population against infection by the SARS-CoV-2: expectations and reality

*Uso de máscara de proteção pela população contra infecção pelo SARS-CoV-2: expectativas e realidade*

*Uso de mascarilla protectora por parte de la población frente a la infección por el SARS-CoV-2: expectativas y realidad*

<https://doi.org/10.17058/reci.v12i3.17530>

Received: 04/12/2022

Accepted: 05/19/2022

Available online: 09/26/2022

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Dear Editor,

Due to the Coronavirus Disease 19 (COVID-19) pandemic, society has sought for alternatives for prevention and health care. One of the most recommended strategies is physical distancing, hygiene care in general, particularly hand and environmental hygiene and the use of face masks.<sup>1,2</sup> From this premise, the regular use of protective face masks is essential, as it works as a barrier to prevent infection by SARS-CoV-2 and the spread of viral particles that can be released by those infected, including asymptomatic ones.<sup>2</sup>

In April 2020, the Brazilian Ministry of Health recommended the use and released a manual with guidelines for making homemade face masks for the entire population as a strategy to deal with the spread of COVID-19 in the country, although they were aware that face masks cannot completely prevent an infection, but are capable of minimizing contamination, with the added benefits of ease of use, low cost, and reutilization.<sup>3</sup>

Specialists in the area suggested that the efficiency of fabric face masks was conditioned to the type of fabric

used in their manufacture, number of layers, adjustment to the face and care adopted during the use.<sup>4</sup>

In this way, the population was instructed on the time of use and the appropriate procedures for washing and reuse, so that the use would not compromise the effect desired and increase the risk of contamination of the population.<sup>5</sup>

Thus, in the course of the COVID-19 pandemic, the expectation was that everyone would wear face masks, either by government decree or out of awareness. However, reality shows the lack of or incorrect use of homemade face masks. The habit of not covering the nose is common, as well as leaving the chin exposed or even lowering it completely. In addition, touching the face mask improperly and removing it from the face without any care contradicts the recommendations for its use. The moment of packaging for reuse or disposal of the equipment is also very important to ensure that the care taken has not been in vain, as the external face of the mask may be contaminated after some time of use.

A study carried out from 12,588 observations reve-

aled that 45.1% of people used the mask properly, 15.5% did not use it at all and 39.5% used it inappropriately (12.9% with the nose and/or mouth exposed, 12% with the nose exposed, 7.8% touching the mask frequently and 6.8% with the mask poorly fitted to the face).<sup>6</sup>

However, there are still gaps in the scientific literature regarding the effectiveness of masks to reduce the transmission of COVID-19 in the community. There is experimental evidence that masks are able to retain infectious droplets and potentially reduce transmission. there are also reports of decreased transmission due to mask use, however, there is no evidence to demonstrate that such reduction occurs in a community setting.<sup>5</sup>

The behavior adopted by the population with regard to the use of face masks (already reported), suggests that their use has caused a false sense of protection, when in fact it is possible that they are even more susceptible to contamination by SARS-CoV-2, because the effect is the same as not being under any protection.

This perception is reinforced by the literature, which states that the routine use of protective face masks against COVID-19 generates a false sense of security, in a way that can increase viral transmission due to inadequate handling and hygiene of the mask.<sup>5-7</sup>

Therefore, reality imposes that collective measures to prevent infections and diseases, now and in the future, require to be accompanied by intense campaigns of permanent health education for the communication of risk and to increase the adherence to the recommendations, as well as actions to engage the community and develop in the citizens a sense of responsibility for their own health and the community. In this way, health authorities need to be concerned with educating people about the need and scope of prevention measures more than making them mandatory, so that adherence occurs out of awareness of the importance and need rather than by an imposition.

**Descriptors:** *Coronavirus Infections. COVID-19. Protective Equipment. Personal Protection. Health Risk Behaviors.*

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## AUTHORS' CONTRIBUTION

**Ernandes Gonçalves Dias, Débora Rejane Santos Veloso Ribeiro e Vanessa Augusto Bardaquim** contributed to the conception, design, analysis and writing of the article.

The authors have approved the final version to be published and are responsible for all aspects of the work, including ensuring its accuracy and integrity.

The authors declare no conflict of interest.