



## Facemasks and Deaf People: A Reflection on the Problems of the Silent People during the COVID-19 Pandemic

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### Abstract

The spread of the COVID-19 disease has changed all areas of the personal and social life of people. Issues that did not exist in the past, such as the mandates of wearing masks and social distancing, have become the most important concerns and are part of daily routines. With the start of the COVID-19 pandemic, the use of facemasks grew exponentially. Global experts have recommended the use of masks and maintaining social distance as an effective barrier to facing the pandemic. In the meantime, the deaf and people with hearing loss faced problems in "communicating" and "losing the ability to read lips" due to the prevalence of wearing masks against the spread of infection. These problems might lead deaf people to isolation, depression, anxiety, and the risk of developing dementia and reducing their quality of life.

Scientific evidence shows that although covering the face with surgical masks helps lower the spread of large particles from an infected person to other people, it does not prevent the passage of small particles such as the coronavirus. Therefore, it is suggested that the legislative and decision-making institutions, when enacting laws, whether in normal or special conditions and crises such as the COVID-19 pandemic, consider all people of the society, especially those with disabilities; insist on the prevention of COVID-19 and promote it in a language that everyone can understand. It is also suggested that a representative of these people is present when making important decisions for the people of the society as a member of the decision-making committee to defend the rights of this group of people. Also, transparent face masks, compensatory strategies, and optimization of virtual health and telehealth, telerehabilitation, and tele-education services can be helpful for deaf people during the pandemic.

**Key Words:** Challenges, COVID-19, Deaf people, Facemasks.

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Coronavirus disease 2019 (COVID-19) is a contagious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first known case was identified in Wuhan, China, in December 2019. The disease quickly spread worldwide, resulting in the COVID-19 pandemic. COVID-19 is mainly transmitted when people breathe air contaminated by droplets/aerosols and small airborne particles containing the virus. Infected people spread those particles as they exhale, talk, cough, sneeze, or sing. Transmission is more likely the more physically close people are. However, the infection can occur over longer distances, particularly indoors (1-8).

The WHO (World Health Organization) and the US CDC (The Centers for Disease Control and Prevention) recommend that individuals wear non-medical face coverings in public settings where there is an increased risk of transmission and where social distancing measures are difficult to maintain. This recommendation is meant to reduce the spread of the disease by asymptomatic and pre-symptomatic individuals and is complementary to established preventive measures such as social distancing (9-11). People with physical disabilities face numerous problems in normal conditions. The COVID-19 pandemic has multiplied these problems for deaf people as they usually use facial expressions and lip reading to communicate. Sign languages commonly rely on visuals and movements. When using sign language, in addition to the hands, the movement of lips is also necessary to convey the message. However, facemasks prevent a deaf person from understanding the meaning of the speaker. While wearing a mask is a protective measure against contracting and transmitting the coronavirus, the use of this mask has made it difficult for the deaf community to communicate with others. The use of facemasks to prevent the spread

of the coronavirus is a controversial issue. It is interesting to note that the World Health Organization does not recommend the use of masks in all places (12, 13). According to the declaration of the WHO, in 2020, more than 5% of the world population (432 million adults and 34 million children) were deaf and hard of hearing (14). Deafness has different definitions in cultural and medical contexts. In medical contexts, the meaning of deafness is hearing loss that precludes a person from understanding spoken language and an audiological condition. In this context, deafness is defined as a degree of hearing difference such that a person cannot understand speech, even in the presence of amplification (15, 16).

Hearing loss creates various communication problems. These problems may lead to isolation, depression, anxiety, the risk of dementia, and reduced quality of life. The unintended consequence of using masks can be social isolation for deaf and hard-of-hearing people. This problem would cover a huge part of every society. When deaf people are admitted to the hospital, then their problems could be doubled because the medical staff use protective equipment much more than ordinary people and are often not familiar with sign language. Wearing a mask makes lip reading impossible for the deaf.

Most deaf people and those suffering from hearing-loss use sign language to communicate. They may also use speaking, but as they are not fluent in the spoken language, difficult hearing conditions such as the presence of disturbing noise in the environment, physical distance, and the inability to read lips due to the presence of a mask on the mouth create problems in communicating with society. On the other hand, due to the COVID-19 pandemic, wearing a facemask and observing social distance in public places is a necessity (17-20). Deaf and hearing-loss people living during the

COVID-19 pandemic face unique challenges, including the following:

- The mask reduces the clarity and loudness of sounds.
- Cloth and surgical masks reduce the sound of speech by five decibels.
- When using a mask, the sound is not only reduced but muffled.
- Research shows that problems increase when using an N95 mask and the loudness of the sound decreases by 12 decibels.
- Social distancing and protective barriers make hearing more difficult (14, 16).

**The following suggestions may help counter these challenges:**

1. Promoting prevention methods: Evidence shows that although covering the face with surgical masks prevents the spread of larger particles from an infected person to other people, it does not prevent the passage of small particles such as the coronavirus (12, 13). In view of this issue, extensive information in mass and social media such as television, newspapers, and social networks is necessary regarding ways to prevent the spread of the coronavirus (e.g., vaccination, proper ventilation of rooms by opening windows, washing hands, and using a handkerchief when sneezing) in a language that everyone can understand.
2. Do not speak to the person while moving.
3. Look directly at the person and make good eye contact while communicating.
4. Try to minimize background noise or move to a quiet area if possible.
5. If the person uses a hearing aid or listening device, ensure that they are available and in use.

6. Speak clearly and at a slightly slower pace, but do not shout.

7. The person may want to communicate by writing. This will take a little longer; be patient and respond in writing.

8. Be responsive in the conversation. You will support understanding if you use gestures, body language, and facial expressions to communicate information, but do not be overly dramatic. Try to remember to nod rather than say "Hmmm".

9. Refer to visual information (drawings, diagrams, or photographs) during conversations.

10. Be prepared to repeat and rephrase information if necessary.

11. Working/studying from home using e-learning and social networks.

12. Stay in touch with people. COVID-19 has forced many to use video-call technology instead of face-to-face meetings. This kind of communication poses a unique challenge for deaf and hard-of-hearing people. The video-call company Zoom has seen a huge user uptake since the COVID-19 outbreak. For people with hearing loss, Zoom has useful accessibility features like closed captioning (subtitles), and automatic transcripts.

13. Wearing accessible face masks.

14. Learning new skills online for better communication and better learning.

15. Look after their mental health. Many deaf people are already familiar with feelings of isolation due to societal stigma, prejudice, and communication challenges. During the COVID-19 pandemic, deaf individuals experience the same mental health concerns as their hearing peers and, as such, seek out the same services to address these concerns. However, unlike hearing individuals, deaf people do not

always find equitable access to mental health services.

16. Captioning resources for live streaming or video conference calls.

17. Use captioned phone services. If there is an option for an individual with normal hearing to dial a phone number (e.g., to find out that the homework assignment and participate in a conference call), there needs to be an accessible option for your student/employee who is deaf or hard of hearing.

18. Inviting representatives of deaf people in decision-making meetings to reflect the opinions and problems of this group of society (12-16, 21-25).

## REFERENCES

1. Page J, Hinshaw D, McKay B (26 February 2021). "In Hunt for Covid-19 Origin, Patient Zero Points to Second Wuhan Market – The man with the first confirmed infection of the new coronavirus told the WHO team that his parents had shopped there". *The Wall Street Journal*. Retrieved 27 February 2021.
2. CDC (11 February 2020). "Coronavirus Disease 2019 (COVID-19)". *U.S. Centers for Disease Control and Prevention (CDC)*. Retrieved 6 December 2020.
3. "Clinical Questions about COVID-19: Questions and Answers". *U.S. Centers for Disease Control and Prevention (CDC)*. 17 November 2021. Retrieved 25 January 2022.
4. Wang CC, Prather KA, Sznitman J, Jimenez JL, Lakdawala SS, Tufekci Z, Marr LC. Airborne transmission of respiratory viruses. *Science*. 2021 Aug 27;373(6558):eabd9149. doi: 10.1126/science.abd9149. PMID: 34446582; PMCID: PMC8721651.
5. Greenhalgh T, Jimenez JL, Prather KA, Tufekci Z, Fisman D, Schooley R. Ten scientific reasons in support of airborne transmission of SARS-CoV-2. *Lancet*. 2021 May 1;397(10285):1603-1605. doi: 10.1016/S0140-6736(21)00869-2. Epub 2021 Apr 15. Erratum in: *Lancet*. 2021 May 15;397(10287):1808. PMID: 33865497; PMCID: PMC8049599.
6. Bourouiba L. Fluid Dynamics of Respiratory Infectious Diseases. *Annu Rev Biomed Eng*. 2021 Jul 6. 13;23:547-577. doi: 10.1146/annurev-bioeng-111820-025044. PMID: 34255991.
7. Stadnytskyi V, Bax CE, Bax A, Anfinrud P. The airborne lifetime of small speech droplets and their potential importance in SARS-CoV-2 transmission. *Proc Natl Acad Sci U S A*. 2020 Jun 2;117(22):11875-11877. doi: 10.1073/pnas.2006874117. Epub 2020 May 13. PMID: 32404416; PMCID: PMC7275719.
8. Miller SL, Nazaroff WW, Jimenez JL, Boerstra A, Buonanno G, Dancer SJ, Kurnitski J, Marr LC, Morawska L, Noakes C. Transmission of SARS-CoV-2 by inhalation of respiratory aerosol in the Skagit Valley Chorale superspreading event. *Indoor Air*. 2021 Mar;31(2):314-323. doi: 10.1111/ina.12751. Epub 2020 Oct 13. PMID: 32979298; PMCID: PMC7537089.
9. "Wear masks in public says WHO, in update of COVID-19 advice". *Reuters*. 5 June 2020. Retrieved 3 July 2020.
10. "Recommendation Regarding the Use of Cloth Face Coverings, Especially in Areas of Significant Community-Based Transmission". *U.S. Centers for Disease Control and Prevention (CDC)*. 11 February 2020. Retrieved 17 April 2020.
11. European Centre for Disease Prevention and Control. Considerations for the use of face masks in the community in the context of the SARS-CoV-2 Omicron variant of concern. 7 February 2022. ECDC: Stockholm; 2022.
12. World Health O. Rational use of personal protective equipment for coronavirus disease (COVID-19): interim guidance, 27 February 2020. Geneva: World Health Organization; 2020. Contract No.: WHO/2019-nCov/IPCPPE\_use/2020.1.
13. Science Brief: Community Use of Masks to Control the Spread of SARS-CoV-2. CDC. Assessed Mar. 20, 2020. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-sciencesars-cov2.html>.
14. World Health Organization. Deafness and hearing loss. Available at:

<https://www.who.int/news-room/fact-sheets/detail/deafness-and-hearing-loss>.

15. Elzouki AY. Textbook of clinical pediatrics (2 ed.). Berlin: Springer. p. 602, 2012. ISBN 9783642022012. Archived from the original on 2015-12-14.

16. World Health Organization. Deafness and hearing loss. Available from: [https://www.who.int/health-topics/hearing-loss#tab=tab\\_1](https://www.who.int/health-topics/hearing-loss#tab=tab_1).

17. Poon BT, Jenstad LM. Communication with face masks during the COVID-19 pandemic for adults with hearing loss. *Cogn Res Princ Implic.* 2022 Mar 21;7(1):24. doi: 10.1186/s41235-022-00376-8. PMID: 35312877; PMCID: PMC8935619.

18. Atcherson, S. R., Mendel, L. L., Baltimore, W. J., Patro, C., Lee, S., Pousson, M., Spann, M. J. The effect of conventional and transparent surgical masks on speech understanding in individuals with and without hearing loss. *Journal of the American Academy of Audiology*, 2017;28(01): 058–067.

19. Chodosh, J., Weinstein, B. E., Blustein, J. Face masks can be devastating for people with hearing loss. *BMJ*, 2020;370: m2683. <https://doi.org/10.1136/bmj.m2683>.

20. Deardorff, W. J., Binford, S. S., Cole, I., James, T., Rathfon, M., Rennke, S.,

Wallhagen, M. COVID-19, masks, and hearing difficulty: Perspectives of healthcare providers. *Journal of the American Geriatrics Society*, 2021;69(10): 2783–85.

21. Ghazanfarpour, M., Yazdanparast, A., Saeidi, M. To Mask or Not To Mask? A Review of Literature. *Health Providers*, 2022; 1(1): 21-32. doi: 10.22034/hp.2022.149029.

22. Homans, N. C., Vroegop, J. L. Impact of face masks in public spaces during COVID-19 pandemic on daily life communication of cochlear implant users. *Laryngoscope Investigative Otolaryngology*, 2021;6(3): 531–39.

23. Thibodeau, L. M., Thibodeau-Nielsen, R. B., Tran, C. M., & de Souza Jacob, R. T. Communicating during COVID-19: The effect of transparent masks for speech recognition in noise. *Ear and Hearing*, 2021;42(4): 772–81.

24. Chodosh J, Weinstein BE, Blustein J. Face masks can be devastating for people with hearing loss. *BMJ*. 2020 Jul 9;370:m2683. doi: 10.1136/bmj.m2683. PMID: 32646862.

25. Garg S, Deshmukh CP, Singh MM, Borle A, Wilson BS. Challenges of the Deaf and Hearing Impaired in the Masked World of COVID-19. *Indian J Community Med.* 2021 Jan-Mar;46(1):11-14. doi: 10.4103/ijcm.IJCM\_581\_20. Epub 2021 Mar 1. PMID: 34035568; PMCID: PMC8117910.