REPORT CARD



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With the spread of the Corona virus pandemic around the world, health professionals have announced some simple and protective measures to increase protection against Covid-19 infection. They are:

(a) Maintain physical distance;
(b) Wear face masks;
(c) Ventilate the house well;
(d) Avoid crowds;
(e) Wash hands;
(f) When you cough cover your mouth with your elbow or a tissue.

The focus of this newsletter is the face mask. Covid-19 virus severely affects the respiratory system and is transmitted through inhalation or ingestion of respiratory droplets. Due to the seriousness of the pathology and its easy spread through the population, the use of a face mask as a form of personal protective equipment has become mandatory in many countries. A



face mask covers the nose, mouth, and chin, substantially reducing spread of the virus.

The use of a face mask has brought many gains in the control of viral transmission, but at the same time there has been an increase in the number of people who complain of difficulty in understanding speech. Due to the large number of people affected, studies have been carried out to understand if there is any difference in speech perception depending on the type of face mask used.



than surgical type masks or masks made of fabric. However, there were important differences in the acoustics of the frequency bands affected – speech bands are altered differently depending on the mask.

Face masks impair communication and speech intelligibility due to the decrease in visual cues, lip gestures, articulatory movements, and changes in speech acoustics. Theobservationoffacialmovements while talking – lip reading – is supplementary to the auditory data, and provides an auditory and visual combination that gives better speech comprehension.

Because any type of mask will affect speech intelligibility, there is a need for compensatory strategies to improve communication. Improvements will depend on the situation.

For example, schools will need to make several changes in how children are taught, especially with children who have neurodevelopmental disorders or special needs. These children already show several kinds of learning impairment which was greatly accentuated during the pandemic.

Studies have shown that the use of a transparent mask, which allows the speaker's face to be seen, improves speech intelligibility. Individuals with learning problems can then, through associating auditory and visual information, make use of a transparent mask to understand speech better. However, the level of personal protection provided by a transparent mask may not be as good as from other masks, such as those approved by Anvisa.

Thus, it is understandable that a teacher or educator may not adopt transparent masks because of the school's safety protocols.

Research on the impact of face shields on communication has found that masks and face shields work as acoustic filters. With speech, attenuation mainly involves the highest frequencies and can range from 5 to 21 dB. Surgical masks have the better performance in terms of lower speech attenuation. affecting communication to a lesser extent.

Another factor to consider when using face shields is the reduction of external cues, such as facial expressions, associated with auditory cues, the absence of which impairs communication.



Empirically, it is observed that students and teachers tire more quickly in classrooms when wearing face shields. Presumably, this is due to greater demands on attention and greater effort in auditory discrimination, especially in schools.

A reduction in explicit cues places greater demands on the auditory perceptual system, and this implies greater cognitive effort. To improve communication and reduce the impact of using face shields, certain environmental and communication strategies can be adopted, such as:

- control of indoor noise in the classroom;
- decreased reverberation in the classroom;
- use of a microphone by the teacher;
- reformulation and improvement in speech;
- use of clear communication;
- speaking more slowly;
- speaking louder;
- speaking more clearly;
- use of speech modeling and melodic variations;
- use of objective language;
- use of simple language.

A more structured communication process, together with the above adjustments, can overcome the impacts arising from the use of a face mask. Also, an environment with good acoustics will allow better processing of auditory information and ease cognitive demands.



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