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The Impact of the COVID-19 Mask Mandate on Effective Communication Between Healthcare Providers and Deaf/HoH Patients

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ROWAN - VIRTUA
School of Osteopathic Medicine

The Impact of the COVID-19 Mask Mandate on Effective Communication Between Healthcare Providers and Deaf/HoH Patients

Antonia Conti, OMS III and Alexa Gingerich, OMS III

Background

Sign language is the primary mode of communication amongst deaf and hard of hearing (HoH) individuals. Sign language is a visual language that utilizes hand gestures, facial expressions, and body movements to convey meaning.[1] Facial expressions are a crucial component of sign language, as they add punctuation to a statement and can alter the meaning of a particular sign.[2] In addition to sign language, deaf and HoH individuals often observe lip and mouth movements to enhance speech and word recognition during social interactions.

During the peak of the COVID-19 pandemic, many countries mandated the use of facial masks in public environments, especially in healthcare settings.[3] While this was beneficial in reducing the spread of the coronavirus disease, it created many challenges for the deaf/HoH community.[4] In particular, it limited effective communication between healthcare providers and deaf/HoH patients. Opaque face masks may obstruct the visualization of mouth movements and facial expressions necessary for facilitating effective communication with deaf/HoH patients.[5,6]

Significance

Effective communication between healthcare providers and patients is necessary to reduce the risk of poor health outcomes.[7] This is particularly important when communicating with deaf/HoH patients, as they are at higher risk of experiencing adverse health outcomes when compared to their non-deaf/HoH counterparts.[8]

Methods

Study selection:

- Peer-reviewed cross-sectional and observational English written studies published after 2020.
- Deaf/HoH individuals of all ages and genders.

Data analysis: No further analysis.

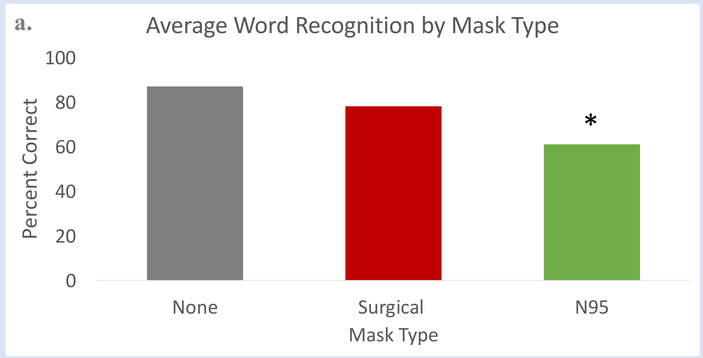
Data analysis used in citations: t-tests[9,10,11], chi squared[9,10], ANOVAs[10]

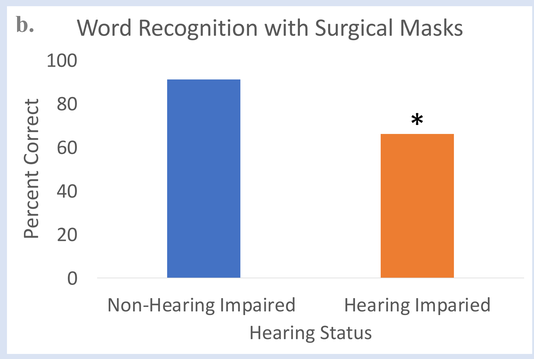
Search strategy:

Database Searched	Date Searched	Keyword String	Number of Results
PubMed	12/18/2023	Masks AND hard of hearing	272
		Masks AND deaf patients	8
		Facial expressions AND masks	184
		Lip reading AND masks	25
SCOPUS	12/18/2023	Masks AND deaf patients	11
		COVID-19 AND deaf patients	29
MedLine	12/18/2023	Masks AND effective communication	20

Results

Figure 1.[9] Statistical significance P < 0.05 indicated by *





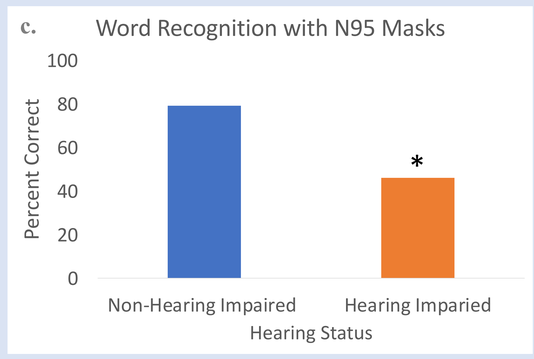


Figure 2.[10] Statistical significance P < 0.001 indicated by *

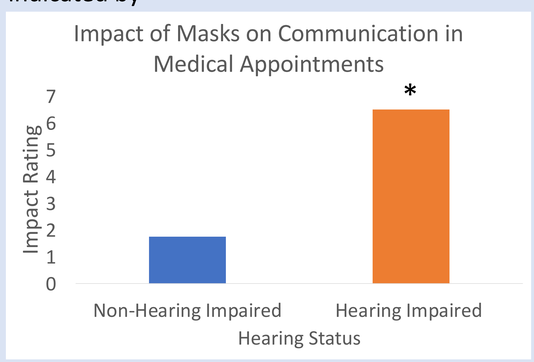


Figure 3. [11] Statistical significance P < 0.05 indicated by *

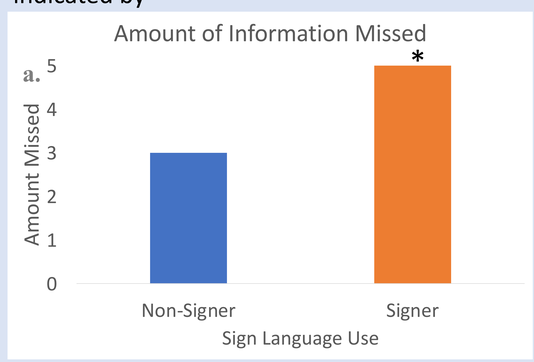
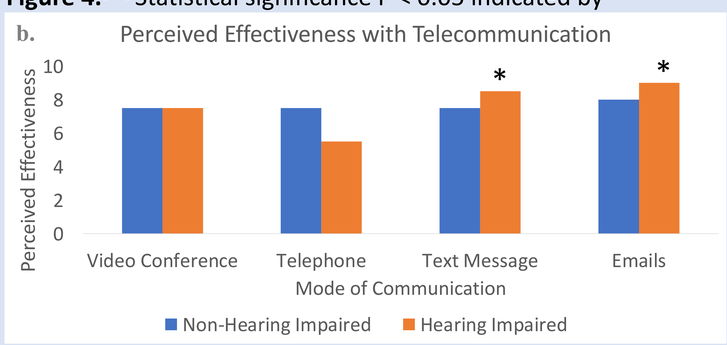


Figure 4.[10] Statistical significance P < 0.05 indicated by *



Discussion

- Masks limit word recognition for both deaf/HoH and non-deaf/HoH individuals.
  - Ritter et al.[9] demonstrated that collectively, participants recognized an average of 87% of words while speakers were not wearing masks. Participants only identified an average of 61% of words while speakers wore N95 masks (Fig. 1a).
- Both surgical and N95 masks hinder word recognition for deaf/HoH individuals.
  - Ritter et al.[9] showed that deaf/HoH individuals correctly identified an average of 66% of words while speakers wore surgical-grade masks, whereas non-deaf/HoH individuals identified 91% (Fig. 1b). With N95 masks, deaf/HoH individuals recognized 49% of words, whereas non-deaf/HoH individuals recognized 79% (Fig. 1c).
- Masks significantly impact communication during medical appointments for deaf/HoH patients.
  - Pinsonnault-Skvarenina et al.[10] demonstrated that deaf/HoH patients feel that the impact of masks on communication during medical appointments is an average of 6.5 out of 10 on the Likert scale (0 being unaffected; 10 being immensely affected) (Fig. 2).
- Masks effect communication for sign language users.
  - Gutierrez-Sigut et al.[11] used a 5-point Likert scale to show that while wearing masks, those who use sign language tend to miss a significant amount of information compared to those who do not use sign language (0 being no information lost, 5 being a great deal of information lost) (Fig. 3).
- Pinsonnault-Skvarenina et al.[10] used a 10-point scale to demonstrate that telecommunication, specifically emails and text messages, helps provide more effective communication with those who are deaf/HoH (0 being completely ineffective; 10 being very effective) (Fig. 4).

Future Direction

Increasing education and access to video remote interpretation and sign language assistive technology can help ensure effective communication between providers and deaf/HoH patients. [12,13,14]

References: