

Audiology During Trying Times: The Impact of Covid-19 Pandemic on Children with Hearing Loss in a Disproportionately Affected Community

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BACKGROUND

The COVID-19 pandemic is a historic event that has altered the world we live in. As the poorest borough in NYC, the Bronx was disproportionately affected by the COVID-19 pandemic. According to the New York City Department of Health (n.d.), the Bronx had the most reported COVID-19 cases, hospitalizations, and death rates since March 2020 compared to the other four boroughs. The circumstances provoked by COVID-19 precautions resulted in an abrupt and unprecedented response by schools across the country to transition to a remote learning or blended/hybrid learning platform. This drastically changed the learning environment for school-aged children without warning or adequate preparations. Children with hearing loss often utilize specific technology and communication strategies available in the classroom to increase auditory access and perform at a level closer to, or equal to, their normal hearing peers. According to Halliday, Tuomainen, and Rosen (2017), studies have shown that children with a mild to moderate sensorineural hearing loss perform more poorly than their peers with normal hearing in the academic setting. Further, Colella and Pain (2020) note that children with hearing loss are not only at higher risk for lower academic and testing performance, they are also at higher risk for increased stress, fatigue, and self-esteem problems compared to their peers with normal hearing (Colella & Pain, 2020).

For students who attend school remotely, poor or degraded computer audio and presence of background noise may make learning more challenging. Further, children from low socio-economic areas, such as the Bronx, may not have access to reliable internet service. According to Colella and Pain (2020) many students with hearing loss reported a preference for removing their hearing aids and using headphones during remote learning, leading to decreased hearing device usage and concerns about appropriate listening levels of headphones. Students with hearing loss who attend school in-person or via a blended/hybrid model will also face challenges. With the introduction of mask/face shield requirements in the classroom, students no longer have access to important visual cues and lip-reading to supplement auditory information learning and conversation. Additionally, socially distancing recommendations increase the distance between speakers which in turn decreases the audibility of the signal. This study sought to survey school-aged children with hearing loss, as well as parents/caregivers, to assess perceived difficulties with remote learning and how this transition has impacted hearing aid use and/or additional supportive services. We anticipate this information will help to increase knowledge and awareness of limitations experienced by children with hearing loss during remote learning to better serve our patients and their families.

METHODS

Parental and patient questionnaire to assess perceived difficulties with remote learning and how this transition has impacted hearing aid use and/or additional supportive services

Data to be collected: Survey delivered to the parents/caregivers of school-aged patients and/or to school-aged patients themselves, conducted during scheduled audiologic appointments at RFK CERC or over the phone.

Exclusion criteria: Patients over the age of 18, patients who do not have hearing loss, children with hearing loss who are not followed at RFK CERC.

- Aim 1** • To assess perceived difficulties with remote learning
- Aim 2** • To determine how this transition has impacted hearing aid use and/or additional supportive services
- Aim 3** • To increase knowledge and awareness of limitations experienced by children with hearing loss during remote learning

EXPECTED RESULTS

Based on information obtained via traditional case history during scheduled Audiology appointments at RFK CERC, many school-aged children with hearing loss and their parents/caregivers report difficulty navigating and being attentive during remote learning.

Informal results suggest that many patients/parents are reporting a disruption in hearing aid use and/or additional services

- Utilizing headphones rather than their personal hearing aids during remote learning
- Suspension of supportive services, or lack of perceived benefit from remote services
- Many patients previously only wore hearing aids in school, however now have not been utilizing their devices at all due to the transition to remote learning
- Parental concerns regarding inattention and lack of focus

TIPS FOR HELPING STUDENTS WITH HEARING LOSS IN VIRTUAL/REMOTE LEARNING SETTINGS

Utilize available technology and services, including real-time captioning, interpreter services, and hearing assistive technologies (when available).

Encourage use of video, including students and teachers, to provide access to visual cues.

Ensure adequate lighting in front of the student's/speaker's face. This will reduce shadows and optimize the visibility of facial features.

Reduce excess background noise, including television noise or noise from other members in the household. This can be done by asking students/teachers to mute themselves when not speaking.

Allow time at the beginning of the day/class to briefly converse with peers/teachers to ensure that the students can hear everyone clearly and that the appropriate technology is functioning well.

TIPS TO HELP STUDENTS WITH HEARING LOSS ADVOCATE FOR THEMSELVES

Understand and be able to describe their hearing loss as well as how it affects their day-to-day communication

Know available resources, including school staff and medical professionals and where to locate them if needed

Be responsible for managing, transporting, and caring for amplification and/or hearing assistive technology

Know how to identify situations where communication and understanding is difficult, and how to address these situations



FORESEEABLE LIMITATIONS

Potential limitations of this study include:

- Sample size
- Selection bias

SAMPLE SURVEY QUESTIONS

How is your child currently attending school?
Online only
In person
Hybrid/blended learning

Is your child currently receiving services through school (i.e. speech, OT, PT, HES)? Please specify which.
Have any of these services been changed and/or stopped due to the pandemic?

If your child is remote learning, does your child wear his/her hearing aids during sessions? If not, what method do they use to listen? (using computer speaker, headphones)

Have you noticed a difference in your child's use of hearing aids since the beginning of the pandemic? (1=declined, 3=remained the same, 5=improved)

On a scale 1-5, how would you rate your child's academic performance since the beginning of COVID-19? (1=declined, 3=remained the same, 5=improved)

References

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