The Consequences of Age-Related Hearing Loss
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ABSTRACT

With Baby-boomers entering retirement, age-related deficits of all kinds are increasing in prevalence, warranting the attention of the general public. One such deficit—hearing loss—is often overlooked and treated lightly by those afflicted with it, despite the evidence showing that it has profound effects on quality-of-life.1,2,3 The purpose of this literature review was to evaluate the findings of several studies pertaining to Age-Related Hearing Loss (AHL) and consolidate them to better explain the major etiologies and symptoms of AHL. Making information on AHL more accessible and understandable to the general population is important because of the high prevalence of AHL and common misconceptions about it. This review addresses some of these misconceptions including preventative measures against AHL, the experiences of living with AHL, and available treatment options for it. Many recent studies have tested the effects of AHL in several aspects of the sufferers’ lives. The results have shown that these effects are pervasive. The body of work on AHL has demonstrated cognitive, communicative, and social challenges associated with this condition. Fortunately, additional sources have a consensus on which therapies and assistive devices are most effective in helping patients cope with their AHL and treat their symptoms.

CAUSES OF AHL

AHL is typically bilateral and can greatly impair one’s ability to understand speech.4 Because they are embarrassed about their hearing loss, AHL sufferers will often pretend to understand something that they couldn’t hear.5 This typically leaves the hearing-impaired person in the dark and the hearing person frustrated (as their partners often won’t laugh at their jokes or follow instructions).6 Added to these mutual frustrations is fatigue. A recent German study found that people with slight-to-moderate hearing losses considered conversations challenging “half of the time.”7 This means that half of time, people with AHL need to focus harder on what they are trying to listen to. This extra energy ultimately leads to fatigue. Unsurprisingly, having AHL is associated with social isolation and with relationship strain.8 Between the social isolation and the negative self-image, many AHL sufferers experience emotional problems including depression.9 Those with moderate-to-severe hearing losses were eight times more likely to develop these emotional problems10. Hearing loss is also associated with poor cognitive function as measured by both verbal and nonverbal tests.11 People with AHL often struggle with working memory.12 The mechanism for why linking hearing loss to cognitive declines is yet unknown.

HEARING WITH AHL

Biological processes associated with typical aging contribute to AHL.13 These processes occur mostly at the cochlea—the hearing organ in the inner ear. Death of inner hair cells and the stiffening of the basilar membrane on this organ lead to poorer hearing in older adults. These changes in the inner ear can be exacerbated by excessive noise exposure over time.14 Individuals who live in urban areas or who work with loud machinery are, therefore, more likely to experience hearing loss as they age.15 Twenty-percent of America’s workforce are routinely exposed to noise levels that put them at risk for developing a hearing loss.16 Outside of work, the popularization of MP3 players has also been linked with earlier onset and a greater prevalence of AHL.17 Drugs which are known to cause hearing loss are considered “ototoxic,” many of which kill the hair cells of the inner ear. Because AHL is primarily a result of hair cell death, and older populations of people tend to have more fatigue. A recent German study found that people with slight-to-moderate hearing losses considered conversations challenging “half of the time.”7 This means that half of time, people with AHL need to focus harder on what they are trying to listen to. This extra energy ultimately leads to fatigue. Unsurprisingly, having AHL is associated with social isolation and with relationship strain.8 Between the social isolation and the negative self-image, many AHL sufferers experience emotional problems including depression.9 Those with moderate-to-severe hearing losses were eight times more likely to develop these emotional problems10. Hearing loss is also associated with poor cognitive function as measured by both verbal and nonverbal tests.11 People with AHL often struggle with working memory.12 The mechanism for why linking hearing loss to cognitive declines is yet unknown.

CONSEQUENCES

There are many options for treating AHL and improving quality-of-life after diagnosis, although some have proven more successful than others. Hearing aids are the most common treatment for AHL. They have been shown to improve both pure-tone thresholds and speech comprehension.4 Users report an improved quality of life after receiving their hearing aids.8 Studies show that people who wear hearing aids are happier and have better cognitive functioning than their AHL counterparts that don’t wear hearing aids.18 Still, only twenty-percent of people with AHL seek help, and among those with hearing aids, twenty-four percent never wear them.19

In lieu of or in addition to hearing aids, many individuals with AHL could benefit from specialized counseling or behavior modifications. Research has shown that people who acknowledge their hearing loss are perceived as more friendly and approachable than those who do not.20 Teaching people how to talk about AHL could help them maintain their social lives by improving other people’s perceptions of them. Several conversation techniques have been recommended for people with AHL and their partners. Facing each other, using visual cues, speaking slowly, and talking in a quiet environment typically improve understanding in conversations. Ineffective conversation techniques include shouting.21

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DISCUSSION

Hearing loss due to aging is highly prevalent, and its incidence is only expected to increase. Despite this, the general public has a poor appreciation for the social, emotional, and cognitive consequences of AHL. These repercussions are, however, felt to the fullest extent by people who suffer from AHL. Fortunately, amplification devices and behavioral modifications offer the chance to restore both hearing and relationships that might otherwise be negatively affected by AHL. Unfortunately, socially-constructed stigmas about hearing loss keep many individuals from seeking these treatments. It is important that these stigmas are overcome in order to provide appropriate care to anyone with AHL. Additionally, people with AHL have a hard time discriminating between the signal and background noise.1 Difficulties focusing on just one sound leads to communication breakdowns, especially in noisy environments.

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