

Editorial

Hearing Health: A Major Concern for the 21st Century

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The results of the most recent studies on Global Burden of Disease (GBD) indicate a growing and, now, alarming burden of hearing loss.


Researches involved in hearing loss are being targeted to provide detailed information that decision-makers need to position hearing loss among health care priorities; to present best practices for hearing health care; to indicate the many additional conditions of change for hearing healthcare around the world; and to offer recommendations to first stop the burden of hearing loss growth and then to reduce it.

One of the key drivers of economic vitality is an educated and healthy workforce. In addition, the proportions of jobs that depend on spoken communication or on high literacy, or on both, are high, and are growing rapidly worldwide.

The important points to consider are:

- The absence or substantial attenuation of auditory input to the brain alters the connectivity and processing of the brain, especially before the age of 3 years old, and perhaps again after the age of 60 years old.
- Children with severe or with a considerable degree of hearing loss have a lower literacy level than their listening peers, and their educational achievements are severely compromised.
- Most adults with disabling hearing loss have a feeling of deep isolation and, typically, distance themselves from society, and even from family interactions.
- Many people with hearing loss try to hide it, because it is commonly associated with aging and low intelligence. Stigma can prevent treatment and greatly reduce self-esteem.

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Psychological illnesses are more prevalent in individuals with hearing loss than in the general population.

- A growing number of significant associations have been demonstrated between hearing loss in older people (aged ≥ 60 years old) and several negative health outcomes, including associations between hearing loss and dementia.

Prevalence

- 10% of the world population has some hearing impairment.
- Between 5 and 6% of the world population presents some degree of hearing loss.
- Approximately 2% of the world population presents severe and profound hearing loss.
- The World Health Organization (WHO) predicts that, by 2050, 500 million young people and young people will have hearing loss due to the use of headphones.
- The number of elderly people impacted by hearing loss is increasing, and almost 100% of the elderly population worldwide will have hearing loss.
- Hearing loss is the most common communicable disease in man.
- Severe and profound hearing loss:
 - From 1 to 6 in 1,000 normal live births.
 - From 1 to 4 in 100 newborns attended at a neonatal intensive care unit.

All data suggest that a high emphasis on the prevention and on the treatment of childhood hearing loss would be more effective in reducing the burden of hearing loss in countries at the lower levels of economic prosperity and of sociodemographic indices, while special attention to adults would be more effective in highly developed countries.

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In the last annual GBD¹, it was announced that hearing loss ranked 4th among 347 illnesses in years of life lost through disability (YLD).

According to the WHO, ~ 50% of hearing loss cases could be avoided, and most of the remaining ones could be treated effectively.

The WHO and the World Bank have categorized prevention at three levels: primary prevention to avoid an adverse health condition; secondary prevention to detect a condition at an early stage and to treat it promptly; and tertiary prevention to reduce the impact of an established condition and to restore function to the maximum possible extent.

Prevention is usually better than treating a condition; it is usually less expensive and can often be implemented at the community level. Among the avoidable causes are otitis media, maternal rubella, other infectious diseases, birth problems, excessive use of ototoxic drugs, consanguinity, and exposure to harmful sounds.

Secondary and tertiary interventions are generally more expensive than primary prevention, but are becoming more viable in many low- and middle-income countries due to the improvement of their economies. Thus, the scope of decision-making considerations can be expanded to further reduce the burden of hearing loss.

The main treatments for hearing loss today are hearing aids for mild to severe loss, and cochlear implants for severe to complete loss.

A cost-effectiveness analysis (CEA) can provide cost and cost-effectiveness inputs that can assist with decisions. The results may indicate whether an addition to an existing combination of interventions would be very cost-effective, cost-effective, or not cost-effective.

Cost-effectiveness analyses have been made to evaluate interventions for hearing loss in low- and middle-income countries: chronic otitis media with aural hearing aid plus topical antibiotics and meningitis.

A generalized CEA that includes a broad spectrum of possible interventions for hearing loss prevention and treatment still needs to be done for each country or region.

Hearing health professionals are lacking in most low- and middle-income countries. Impediments to increasing or even maintaining supply include inadequate funding for the education of these professionals, migration of trained professionals to high-income countries, low pay, and lack of a career plan for nonmedical hearing healthcare professionals.

The high and increasing burden of hearing loss should be a compelling argument for collaboration and international assistance. Even before the present burden, the WHO and non-governmental organizations (NGOs), such as the Fundação de Otorrinolaringologia (Otorhinolaryngology Foundation), in Brazil, have been working for decades to improve hearing health care services.

Fortunately, other factors favor the additional funding needed: the shift in emphasis from noncommunicable diseases and injuries to prominent development agencies and NGOs; the fact that 5 of the 17 United Nations (UN) 2030

targets for sustainable development are “inclusive of disability” goals; and the rights of individuals with disabilities to receive the best health care and education available, and to participate as widely as possible in society, as repeatedly and forcefully affirmed by the UN and as required by the laws of many countries.

The current costs are high, but could be reduced by innovations in technology, new models, and more competition. For cochlear implants, for example, smart choices and increased competition can also produce large reductions in costs.

In addition, the assessment of hearing loss and the adaptation of hearing aids and of cochlear implants remotely via internet, and appropriate equipment and personnel at each end have the potential to dramatically increase the impact of hearing health professionals, particularly in the coverage of large geographic areas.

In middle-income, populous countries, and in large regions of the world, setting up centers of excellence could reduce costs and improve the handling of complex cases, as has been experienced in high-income countries and in some middle-income countries. These centers bring together in one place the knowledge needed for complex cases and reduce costs through scale efficiencies.

Committees were created in at least 24 countries. The groups represented on the committees usually include professional associations, academic institutions, organizations for persons with disabilities, NGOs, and Ministries of Health, Education, and Social Assistance. The important point is that country-level engagement is critical to the optimal provision of hearing healthcare, in which conditions may vary widely from country to country, and most decisions are made at the national level.

Doctors, speech therapists, scientists, and other health professionals at universities should be heavily involved in hearing healthcare. Health foundations can also help to reduce the impact of hearing loss.

Global multidisciplinary and collaborative efforts are needed to address the health needs of children and of adults with hearing loss. Hearing loss cannot and should not continue to be a silent epidemic.

Conflicts of Interests

The authors declare that there are no conflicts of interests.

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- 1 Wilson BS, Tucci DL, Merson MH, O'Donoghue GM. Global hearing health care: new findings and perspectives. *Lancet* 2017;390(10111):2503–2515. Doi: 10.1016/S0140-6736(17)31073-5

Related Readings

- 1 The Lancet. Prioritising prevention of hearing loss. *Lancet* 2019; 393(10174):848. Doi: 10.1016/S0140-6736(19)30403-9
- 2 Wilson BS, Tucci DL, O'Donoghue GM, Merson MH, Frankish H. A Lancet Commission to address the global burden of hearing loss. *Lancet* 2019;S0140-6736(19):30484–2