World Health Organization

SEVENTIETH WORLD HEALTH ASSEMBLY **A70/34**
Provisional agenda item 15.8 **4 May 2017**

Prevention of deafness and hearing loss

Report by the Secretariat

1. In May 2016, the Executive Board, at its 139th session, noted an earlier version of this report and adopted resolution EB139.R1, which recommended to the Health Assembly the adoption of a resolution relating to prevention of deafness and hearing loss.

CONTEXT

2. Globally, 360 million people (about 5% of the world's population) live with disabling hearing loss, of whom 32 million are children. The prevalence of hearing loss increases from 1.7% among children to 7% in adults (including 183 million males and 145 million females).[1] Nearly 180 million people aged 65 years or older (that is, more than 30% of the population in this age group) have hearing loss that interferes with understanding normal conversational speech.[2] High-quality, national and local epidemiological data on hearing loss, however, are generally lacking and this scarcity contributes to low awareness of the problem.[3]

3. Nearly 90% of those with hearing loss live in low- and middle-income countries. High-income countries account for only 11% of people with hearing loss. Detailed analysis of existing data reveals that prevalence of hearing loss decreases exponentially as the gross national income per capita increases. In children, prevalence of hearing loss is also inversely related to the literacy rate of parents.

4. In addition to this, more than 1000 million young persons between the ages of 12 and 35 years are estimated to have an increased risk of developing hearing loss because of the unsafe use of personal audio devices and exposure to damaging levels of sound in noisy entertainment venues.[4] This risk is reflected in the growing use of smartphones and the increasingly popular practice of listening to music through headphones.

5. Untreated hearing loss has a profound impact on both the individuals affected and their families and communities. The most obvious effect of childhood hearing loss is on communication. Deaf children fail to develop language unless timely interventions are put in place. Hearing loss thus

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[1] WHO global estimates on hearing loss: http://www.who.int/pbd/deafness/estimates/en/ (accessed 25 April 2017).

[2] World report on ageing and health. Geneva: World Health Organization; 2015. http://apps.who.int/iris/bitstream/10665/186463/1/9789240694811_eng.pdf?ua=1 (accessed 25 April 2017).

[3] Multi-country assessment of national capacity to provide hearing care. Geneva: World Health Organization; 2013. http://www.who.int/pbd/publications/WHOReportHearingCare_Englishweb.pdf?ua=1 (accessed 25 April 2017).

[4] Hearing loss due to recreational exposure to loud sounds: a review. Geneva: World Health Organization; 2015. http://apps.who.int/iris/bitstream/10665/154589/1/9789241508513_eng.pdf?ua=1&ua=1 (accessed 25 April 2017).

undermines or impedes literacy, self-esteem and social skills. In those places where people do not have adequate access to services, children with hearing loss often do not receive any schooling.[1]

6. Adults with unaddressed hearing loss have higher unemployment rates than the rest of the population. Among those who are employed, a higher percentage of people with hearing loss are in the lower grades of employment compared with the general workforce. Older adults with hearing loss face significant physical and social challenges, and disability contributes to social isolation and loss of autonomy with associated anxiety, depression, cognitive decline and dementia.

7. Overall, unaddressed hearing loss poses a considerable economic burden on countries, including the cost of health care provision, loss of earnings, the need for education, provision of care and intangible costs due to loss in quality of life. WHO estimates that the annual cost of unaddressed hearing loss is US$ 750 billion.[2] On the other hand, timely interventions to address hearing loss can be cost-effective and contribute to the economic independence of affected individuals.[3]

THE IMPORTANCE OF PREVENTION AND INTERVENTION

8. Many of the causes of hearing loss can be avoided through public health measures; it is estimated that 60% of hearing loss in children can be prevented. This figure is higher (75%) in low- and middle-income countries than in high-income countries (49%).[4]

9. In childhood, more than 30% of hearing loss is caused by diseases such as measles, mumps, rubella, meningitis and cytomegalovirus infection; these can be prevented through immunization and hygienic practices. Another 17% of childhood hearing loss results from complications at birth, including prematurity, low birth weight, birth asphyxia and neonatal jaundice. Improved maternal and child health practices would help to prevent these complications and their consequences for hearing.

10. Untreated ear infections are a common cause of hearing loss among children and adults. Studies show that up to 330 million people are affected by chronic ear infections, such as chronic suppurative otitis media. Commonly accompanied by ear discharge, these infections lead to hearing loss and may cause life-threatening complications, such as meningitis and brain abscess.[5] Published reports indicate that globally complications of otitis media cause annually as many as 21 000 deaths.[6] Early

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[1] http://www.who.int/pbd/deafness/news/Millionslivewithhearingloss.pdf?ua=1 (accessed 25 April 2017).

[2] http://apps.who.int/iris/bitstream/10665/254659/1/9789241512046-eng.pdf (accessed 25 April 2017).

[3] http://www.bmj.com/content/344/bmj.e615; http://www.ncbi.nlm.nih.gov/pubmed/19283586 (accessed 25 April 2017).

[4] Childhood hearing loss: act now, here is how! http://www.who.int/pbd/deafness/world-hearing-day/2016/en/ (accessed 25 April 2017).

[5] Chronic suppurative otitis media: burden of illness and management options. Geneva: World Health Organization; 2004. http://www.who.int/pbd/publications/Chronicsuppurativeotitis_media.pdf (accessed 25 April 2017).

[6] Monasta L, Ronfani L, Marchetti F, et al. Burden of disease caused by otitis media: systematic review and global estimates. PLoS One. 2012; 7(4):e36226. http://fc7jk4ac4t.search.serialssolutions.com/?ctx_ver=Z39.88-2004&ctx_enc=info%3Aofi%2Fenc%3AUTF-8&rfr_id=info:sid/summon.serialssolutions.com&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&rft.genre=article&rft.atitle=Burden+of+disease+caused+by+otitis+media%3A+systematic+review+and+global+estimates&rft.jtitle=PloS+one&rft.au=Monasta%2C+Lorenzo&rft.au=Ronfani%2C+Luca&rft.au=Marchetti%2C+Federico&rft.au=Montico%2C+Marcella&rft.date=2012&rft.eissn=1932-6203&rft.volume=7&rft.issue=4&rft.spage=e36226&rft_id=info:pmid/22558393&rft.externalDocID=22558393¶mdict=en-US (accessed 25 April 2017).

identification and prompt management of ear infections can greatly reduce the consequent hearing loss and minimize complications.

11. The use of ototoxic medicines such as aminoglycosides and certain antimalarial medicines is another preventable cause of hearing loss. Ototoxicity can be prevented through awareness among health care providers and by the rational use of ototoxic medicines. Regulating and monitoring their use can minimize the danger posed by their indiscriminate use.

12. Exposure to recreational noise poses a serious threat to hearing in adolescents and young adults. Such exposure includes the unsafe use of personal audio systems[1] and exposure at recreational venues such as discos, clubs, bars, concerts, sport settings and other locations. The consequent hearing loss can be prevented through raised awareness and safe-listening practices. At the same time, hearing loss induced by occupational noise can be avoided by the effective implementation of hearing-conservation programmes at the workplace. Effective implementation of legislation for control of occupational, environmental and recreational noise exposure can mitigate the risk of permanent hearing loss that occurs following exposure to loud sounds. The impact of an individual’s hearing loss can be minimized by early identification followed by timely and appropriate interventions, especially as new solutions and technologies are available. For instance, it is now possible to screen for hearing loss as early as the first day of life. Improvements in the design of hearing aids and availability of cochlear implants have greatly improved the possible outcomes in those who are either born deaf or acquire hearing loss later in life. The appropriate use of hearing devices (such as hearing aids and cochlear implants), assistive technologies (such as wireless FM systems, sign language translation and captioning) and social support can facilitate access to communication, education and equal opportunities.

13. Older adults who develop age-related hearing loss can maintain good social and occupational functioning and enjoy an improved quality of life if suitable rehabilitation programmes are in place. Use of technology, environmental adaptations and support can improve access to information and maximize functioning among those living with age-related hearing loss.

14. At present, it is estimated that hearing aid production meets only 10% of the global need, and in developing countries only about 3% of those who need hearing devices have access to one.[2] The problem is compounded by the fact that close to 80% of persons with hearing loss cannot access hearing health care services because they live in low- and middle-income countries where audiologists or other hearing health care workers are unavailable. The high cost of hearing devices is also a barrier, even in well-resourced settings. Moreover, only a few countries have developed any policies or strategies to address this issue.[3]

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[1] Personal audio systems include personal music players such as MP3 players or smartphones and earphones/headphones.

[2] World Health Organization, World Bank. World report on disability. Geneva: World Health Organization; 2011. http://www.who.int/disabilities/world_report/2011/en/ (accessed 25 April 2017).

[3] Multi-country assessment of national capacity to provide hearing care. Geneva: World Health Organization; 2013. http://www.who.int/pbd/publications/WHOReportHearingCare_Englishweb.pdf?ua=1 (accessed 25 April 2017).

WHO'S RESPONSE

15. In 1995, the Health Assembly adopted resolution WHA48.9 on prevention of hearing impairment,[1] which expressed concern at the growing problem of largely preventable hearing impairment in the world. Aware of the significant public health aspects, it urged Member States "to prepare national plans for the prevention and control of major causes of avoidable hearing loss, and for early detection in babies, toddlers, and children, as well as in the elderly, within the framework of primary health care".

16. In 2005, the Health Assembly adopted resolution WHA58.23 on disability, including prevention, management and rehabilitation. This resolution highlighted the facts that 80% of people with disabilities (including hearing loss) live in low-income countries and that poverty limits access to rehabilitation services. It urged Member States to take all necessary steps for reduction of risk factors contributing to disabilities and to promote early identification and intervention.

17. Over the past two decades, the Secretariat has developed technical materials to support the planning and implementation of hearing care strategies by Member States. Through its programme for prevention of deafness and hearing loss,[2] WHO has provided guidance on: hearing aid provision; newborn and infant hearing screening; and community-based rehabilitation for hearing care. An ear and hearing survey protocol provides a uniform method for estimation of hearing loss prevalence. Training manuals on ear and hearing care at the primary health care level contain stepwise guidance for health workers, primary level functionaries and doctors. These manuals have been adapted and used by many countries across the world. Recently, a situation analysis tool for ear and hearing care, and a manual for planning and monitoring of national hearing care strategies have been launched.

18. In recent years, regional or subregional meetings have been held in WHO's Region of the Americas, South-East Asia Region and Eastern Mediterranean Region in order to promote the concept of ear and hearing care among the Member States. At the country level, the Secretariat has continued to provide support to Member States for conducting epidemiological surveys, establishing training programmes, and developing and implementing national hearing care strategies.

19. In order to raise awareness of the different aspects of hearing loss, WHO has created global advocacy campaigns for World Hearing Day, marked on 3 March each year. Different themes have been promoted, which include over the past four years:

(a) Healthy hearing, happy life – hearing health care for ageing people (2013)

(b) Ear care can avoid hearing loss (2014)

(c) Make listening safe (2015)

(d) Childhood hearing loss: act now, here is how! (2016).

20. Taking cognizance of the growing risk of noise-induced hearing loss due to recreational causes, WHO launched the Make Listening Safe initiative in 2015. The Secretariat is engaging with

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[1] http://apps.who.int/iris/bitstream/10665/178405/1/WHA48_R9_eng.pdf (accessed 25 April 2017).

[2] http://www.who.int/pbd/deafness/en (accessed 25 April 2017).

stakeholders in order to raise awareness about the risks posed by exposure to sounds in non-occupational settings and to promote safe-listening practices through innovative means. WHO has cooperated with the International Telecommunications Union to develop standards for personal audio devices, such as MP3 players and smartphones, in order to make them consistent with recommendations for safe listening.

21. The relevance of improving hearing care has been highlighted in numerous WHO documents and reports, including the *World report on disability* and the *World report on ageing and health*. The WHO global disability action plan 2014–2021 also refers to the need for providing rehabilitation services for all, including people who are deaf, and improving access to hearing aids in countries. Incorporating ear and hearing care into health services will be a step towards achieving the goal of universal health coverage.

ACTIONS NEEDED AT COUNTRY LEVEL

22. Given the persistence of the traditional causes of hearing loss, such as infections and demographic shifts in population profile, and emergence of new threats, such as recreational noise exposure, the prevalence of hearing loss is likely to continue to rise unless concrete steps are taken. The following important actions should be initiated in order to make progress in dealing with this public health issue.

23. **Raising awareness and building political commitment.** Awareness needs to be raised among decision-makers and the general public about the high prevalence of hearing loss and its social and economic impact. The availability of cost-effective interventions to reduce the prevalence of ear diseases and hearing loss as well as the need to promote access to means of communication, education, employment and social integration for those with hearing loss should be highlighted. Political commitment is essential to achieve integration of ear and hearing care into countries' primary health care systems and to assure better funding.

24. **Integrating strategies for ear and hearing care in the health care system.** Such strategies should address various aspects of prevention, early identification, and management and rehabilitation of hearing loss and its causative diseases. Strengthening maternal and child health programmes, including vaccination against rubella, measles, mumps and meningitis, could prevent many cases of hearing loss. This activity should be in line with the immunization targets of the global vaccine action plan 2011–2020 and in accordance with national priorities. Early identification and management of ear diseases at the community level would also reduce the prevalence of hearing loss as well as morbidity and mortality related to ear disease.

25. **Improving data on ear diseases and hearing loss, to inform policy decision-making.** In order to formulate evidence-based strategies and policies on ear and hearing care, Member States need to gather reliable, population-based data through population-based surveys and inclusion of relevant indicators within established data-collection systems.

26. **Develop human resources for ear and hearing care.** Countries should ensure the availability of human resources in the field of hearing through establishing training programmes for health professionals and ensuring the retention of trained professionals through suitable career-development opportunities.

27. **Implementing screening programmes.** In order to ensure equal opportunities for all people, countries should put in place hearing screening programmes, which can identify and diagnose ear

diseases and hearing loss early, and provide appropriate interventions for persons with ear diseases and hearing loss. Particular attention should be paid to high-risk populations including infants, young children, older adults, people exposed to noise in occupational and recreational settings, and patients receiving ototoxic medicines.

28. **Provide access to hearing devices.** The screening programmes should be accompanied by action to provide hearing devices, which can include hearing aids, cochlear implants and other assistive devices. Countries should develop sustainable initiatives for the fitting and maintenance of appropriate, high-quality, affordable hearing devices as part of universal health coverage.

29. **Draft, adopt and implement regulations for control of ototoxic medicines.** Injudicious use of ototoxic medicines leads to irreversible hearing loss. Ototoxic hearing loss can be prevented through raised awareness, training of health care providers and appropriate regulations.

30. **Raise awareness of noise-induced hearing loss and draft, adopt and implement legislation for its prevention.** The risk of permanent hearing loss posed by noise can be mitigated through raised awareness and implementation of hearing-conservation programmes. Effective legislation for occupational, environmental and recreational exposure can play a significant role in preventing noise-induced hearing loss.

31. **Improve access to communication.** Alternative means of communication (for example, sign language and captioning) should be promoted by Member States to ensure that people with hearing loss have access to information and be able to communicate with their hearing peers.

32. The issue of hearing loss assumes further importance in the context of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals on health and education (Goals 3 and 4). Hearing loss is the commonest sensory disability and in children has a direct impact on access to good-quality education. The Agenda specifies Member States' commitment to prevention and treatment of behavioural, developmental and neurological disorders as well as management of functional decline in the context of older adults. Hearing loss also relates with the issue of cognitive decline, and mental health is highlighted in the Sustainable Development Goals. Including people with ear diseases and hearing loss is essential to achieve the main goal of right to health.

ACTIONS NEEDED AT THE SECRETARIAT LEVEL

33. The Secretariat should continue to provide support to Member States, in particular technical support in the development and implementation of strategies for ear and hearing care and for implementing the actions urged upon them through Health Assembly resolutions.

34. The Secretariat aims to continue and intensify collaboration with stakeholders in the field of ear and hearing care. Partners will include Member States, other bodies in the United Nations system, nongovernmental and other civil society organizations, professional bodies and funding bodies.

35. The Secretariat further plans to develop technical support tools to facilitate Member States' activities in data collection; planning, implementing and monitoring of strategies for ear and hearing care; raising awareness; developing programmes for screening of ear diseases and hearing loss; training and development of human resources; and providing assistive technologies, such as hearing aids, cochlear implants and others.

36. The Secretariat aims to intensify work on the Make Listening Safe initiative, in order to reduce the risks posed by recreational hearing loss. Activities may include awareness campaigns on safe listening with innovative information products and suitable messages; development of standards for personal audio systems, which promote safe-listening practices; and development of a mobile software application to promote safe-listening practices among listeners. In order to ensure uniform collection of scientific data on exposure and prevalence of hearing loss due to recreational exposure, a standardized assessment protocol will be developed.

37. Advocacy to raise awareness and promote ear and hearing care will continue through all means, including World Hearing Day.

38. It is proposed that the Director-General commission a world report on ear and hearing care, which will be based on the best available scientific evidence of need, human resource availability, current practices and recommendations for future actions.

ACTION BY THE HEALTH ASSEMBLY

39. The Health Assembly is invited to take note of the report and to adopt the draft resolution recommended by the Executive Board in resolution EB139.R1.

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