

Global Epidemic of Hearing Loss: Challenges and Opportunities for Pakistan

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Hearing is a special sense that across the lifetime allows us to engage with environment, communicate with fellow beings, express our thoughts, gain education, seek employment and opportunities to improve quality and standard of lives for ourselves, our families and the communities we live in. It is not surprising that hearing loss, an *invisible* disability, can be devastating not only for the individual suffering from it but for their families, communities and society at large.

Burden of Hearing loss across the globe and in Pakistan:

On March 3rd, 2021 the World Health Organization (WHO) published the first-ever *World Report on Hearing*. This comprehensive document described the global burden of hearing loss, its distribution amongst member nations and the status of hearing health care[1]. Concurrently, in an article published in *The Lancet*, the Global Burden of Disease (GBD) 2019 Hearing Loss Collaborators highlighted the trends in global hearing loss over the last 30 years and its impact on the years-lived with disability (YLD)[2]. Using the data from 1990 to 2019 the GBD group made predictions for 2050 that are a cause of concern for health care systems, policy makers, people living with hearing loss and society at large. This is particularly of alarm for low- and middle-income countries such as Pakistan.

An estimated 1.57 billion people across the world had some degree of hearing loss in 2019, accounting for 20.3% of global population.³ Of these, 466 million people have disabling hearing loss that includes 34 million children. Vast majority of people with hearing loss (80%) live in low- and middle-income countries. The burden of hearing loss as measured by the years-

lived with disability increased by 73% from 1990 to 2019 as 43 million years of quality of human life time was lost due to hearing related disability in 2019 alone.² While there are no large-scale Data indicating the exact incidence and prevalence of hearing loss in Pakistan, a survey conducted in 1998, noted a point prevalence of 8% in a sample of 607 children.⁴

Impact of Hearing Loss

The impact of hearing loss depends on several factors; the most important being the age of onset, severity, socioeconomic status of the family and the country people with hearing loss live in, the public health infrastructure and the access and quality of hearing healthcare.

In children, hearing loss is particularly damaging as if unaddressed it leads to poor language development, lack of communication, poor self-esteem, lack of schooling, behavioral and mental health issues. Continuing into adulthood these issues lead to poor social connectivity, isolation, anxiety, depression and lack of employment. Parents and families caring for children with hearing loss suffer emotional and psychological distress, loss of family income and decline in quality of life.⁵

Adult onset hearing loss is typically the result of excessive noise exposure (from occupation, increased ambient noise or personal audio devices). It can result in loneliness, isolation, declining quality of life, increased risk of depression and anxiety. There is increasing evidence that hearing loss in adult life is associated with poor outcomes in patients suffering from chronic medical comorbidities such as diabetes, hypertension, coronary artery disease and the likes.⁶ Furthermore, it increases the risk of dementia by 9%.⁷ Adult onset hearing loss also takes significant toll at the family and close relationships and the patients become increasingly isolated fueling the vicious circle of loneliness and depression. This also results in decline in gainful employment and adds significant burden to the healthcare systems.

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Why urgently addressing Hearing loss is important for Pakistan?

Using a conservative estimate of population level prevalence of 15% it is expected that there are 34 million people living with some degree of hearing loss in Pakistan including approximately 6.5 million children. As noted in the GBD study these numbers are expected to grow by 56% in the year 2050. The WHO very conservatively estimates the annual global cost of unaddressed hearing loss to be close to 1 trillion US dollars. Health-care sector cost for providing care for children and adults with hearing loss is estimated to be around \$314 billion. This does not include the cost for provision of services and rehabilitation. The primary education cost for children with hearing loss between age 5-14 years is \$27 billion in excess of that for their normal hearing peers. The cost related to unemployment and premature retirement is estimated to be \$182 billion. More importantly, cost to the humanity resulting from social isolation, communication difficulties and stigmatization of hearing loss is an additional \$456 billion- The *World Report on Hearing* notes these costs to be a very conservative estimate.^{1,8} It is clear that unaddressed hearing loss is a direct contributor to poverty and declining socio-economic status and addressing this epidemic should be a priority at all levels of human-social enterprise.

What should be done?

It is clear that the implications of unaddressed hearing loss for low- and middle- income countries such as Pakistan are colossal. Awareness is the first step in solving any problem. Engaging various stakeholders from public and private sector to coordinate the health awareness campaigns around March 3rd as the world hearing day will go a long way to engage public.

Approximately, 60% of childhood hearing loss can be prevented by preventive health services that include vaccinations, family education on nutrition and hearing health, early identification and treatment of ear infections. Several initiatives of the recently rolled out comprehensive *Ehsaas* program by the Poverty Alleviation and Social Safety Division can provide a great platform to address this epidemic. The *National Socio-Economic Registry 2020*, in addition to advising policymakers, will provide much-needed data to prioritize funding for resource allocation. Coordinating and escalating existing vaccination

drives to provide comprehensive vaccination coverage to population against the organisms causing otitis media is a critical step to reduce the burden of childhood hearing loss. Hearing health screening at school entry should be an important focus as timely intervention at this stage can prevent the vicious circle of personal and social decline in children with hearing loss and their families. Access to assistive technologies and rehabilitative services is critical so effective interventions can ensure that a child with hearing loss can continue with education attainment. Trained social workers and guidance and career counselors working with the departments of education and health can be a great resource as these children walk into adulthood.

Educational campaigns focused on general public and private sector should raise awareness on the impact of noise pollution. Medical school education should increase focus on preventive services and family and population counseling on healthy hearing related lifestyle interventions. Such interventions include increasing awareness of noise pollution, monitoring and reducing exposure to “toxic” levels of sound through personal audio devices and use of proper protective equipment for high risk occupational roles. Investing in and developing a competent workforce of audiologists, otolaryngologists and speech therapists is critical to meet the needs of this growing group of vulnerable people. Legislative and policy making efforts should focus on providing access to technology that can address the communication needs.

In summary, Pakistan is at the forefront of the global hearing loss epidemic. If unaddressed this would be a significantly strain to the human, societal and financial capital of the country. The good news is that with proper planning, co-operation, stakeholder engagement and resource management cost effective interventions can change the trajectory and significantly improve the lives of Pakistanis living with hearing loss and contribute to the economic and social uplifting of the country.

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