

Building National Capacity for the Provision of Hearing Aids and Services: The Indian Scenario

Vijayalakshmi Basavaraj

India, with a population of over one billion has an area of 3.288 million km². It is a 'Potpourri' of all possible terrains spread across the 35 states and union territories having snow clad mountains, deserts, coastal areas, valleys and hill stations. From time immemorial India has promoted an inclusive society for the persons with disabilities.

Estimates about number of persons with Hearing Impaired:

The focus of the government of India on persons with disabilities was enhanced from the year 1980 after the observance of the International Year of the disabled. The census of India data included information on persons with disabilities. A separate National sample survey of persons with disabilities was instituted. Since then, this is being done every ten years. Thus, India has some estimates regarding persons with hearing impairment.

As per the National Sample Survey Organization (NSSO) report of 2002, there are 30.62 lakhs number of persons with hearing impairment in the country with more number in rural than in the urban sectors. As per the report, there were 3 lakhs children with hearing impairment who are below 6 years age in the year 2000. This is considered as a very rough estimate as the personnel involved in the survey did not have the skills and tools to identify hearing loss of less than moderate in one or both ears. In addition to this figure, it is estimated that about 21,000 children are born with bilateral severe to profound loss every year as the birth rate in the country is 21 (per 1000).

There have been attempts to estimate the number of persons with hearing impairment in the country by various small-scale survey by Government and Non Government organizations. A WHO project entitled "Prevention of Deafness and Communication Disorders" was undertaken at All India Institute of Speech and Hearing, Mysore in the year 2001. It has now become an ongoing project with the institute research funds. The extrapolated estimates from the project data (1996 till date) puts the incidence of hearing impairment (i) in infants as between 3.29% to 7.67%; (ii) in school going children as between 9.07% to 38.1%.

Sporadic studies on neonate hearing screening programs are also underway. One such program undertaken by Ali Yavar Jung National Institute for Hearing Handicapped (AYJNIHH), Mumbai in collaboration with King Edward Memorial (KEM) Hospital, Mumbai reports that the incidence of hearing impairment in high risk neonates is 3.97% (Basavaraj & Nandurkar, 2006).

Available infrastructure for service provision

There are about 20 government organizations, which have "the state of art" facilities for early identification, diagnosis and intervention of persons with hearing impairment. AIISH, Mysore and AYJNIHH, Mumbai are among the leading organizations. In addition to this, there are about 150 government organizations, 350 NGOs and about 500 private clinics providing such services. The Ministry of Social Justice & Empowerment, Government of India has set up about 130 District Disability Rehabilitation Centers (DDRC's) covering all zones in the country in the year 2001. There are five Composite Rehabilitation Centers (CRCs) providing services to persons with all types of disabilities. It is envisaged to setup DDRCs in all the 600+ districts in the country in the next 5 years to come.

Director, All India Institute of Speech and Hearing, Mysore 570 006

Further, there are about 270 medical colleges in the country. It is mandatory for the medical colleges to have facilities for audiometry, hearing aid evaluation and dispensing as per the Medical Council of India requirements.

Manpower available for service provision

There has been a slow but steady attempt to develop manpower to serve persons with hearing impairment. Undergraduate (UG) and postgraduate (PG) programs were on from 1967 albeit in few institutes. As on today, there are 26 Rehabilitation Council of India (RCI) accredited training centers, which offer the 4-year UG program or 2-year PG program in Audiology & Speech-Language Pathology. A couple of institutions are recognized to run the PhD program as well. An estimated 1500 qualified Speech Language Pathologists / Audiologists have been trained in the country till today. However, over 50% of them have migrated to other countries with brighter job prospective. Those with PG and PhD are more involved as master trainers than direct service providers.

The RCI has recognized Diploma in Hearing, Language & Speech disorders (DHLS) since 1984. The entry level for enrollment is 10+2 education for this 10 months' duration course. Currently there are about 400 diploma holders in the country. This program is now offered at 12 training centers across the country awarding about 180 persons with the diploma every year. Diploma (of 2 years duration), graduates and PG programs (of one year duration each) in special education are also available in the country. As per the estimation of RCI (RCI, 1996) there are about 20,000 trained special educators.

The other potential manpower who can be included for hearing screening and assisting service delivery are the gross root workers such as the Anganwadi workers, Multipurpose Health workers, the Accredited Social Health Activists (ASHA). As per the information available from the website and the annual reports of Ministry of Health and Family Welfare, Government of India, there are about 11 lakh anganwadi workers who are available in the ratio of one per 1000 population. The ASHAs are a relatively new concept and hence their exact number is not documented yet.

The status of hearing aid

Prior to 1960s, opticians imported and dispensed hearing aids in India. The first indigenous hearing aid (body worn) was reported by Arphi Pvt. Ltd., in 1962. Hearing aids on donation from Denmark, called as Danaid, were distributed through central government schemes from 1960s to 80s. Several other Indian makes of hearing aids have come into the market in the last two decades. There are about 8 to 10 hearing aid manufacturers offering over 40 models today.

The quality control of body worn hearing aids is done by International Standards Institute (ISI), now known as Bureau of Indian Standards (BIS). Their first standard for hearing aid was published in 1967 (IS: 4406 & 4482).

Today, with the liberalization of import policies, all the well-known international brands of hearing aids are available in the Indian market. The body worn hearing aids cost between Rs. 500 to 10,000 (i.e. US\$ 10 to 200) and the Behind-the-Ear (analogue & digital) cost between Rs. 2,500/ to 80,000/ (i.e. US\$ 50 to 1,600). It is estimated that the MRP of an aid is never less than 10 times the manufacturing cost of the aid. The money consumed in the pipeline of distribution is alarmingly high making the product cost exorbitant.

Of the 3 million hearing aids available to the developing countries 1.0 to 1.25 lakh of them are manufactured and distributed in India every year. In addition, 50-60 thousand hearing aids are annually imported from other countries. Thus, less than 2 lakh hearing aids are available to the estimated 30 lakh population with hearing impairment.

The status of hearing aid provision

The hearing aids are either purchased from various procurement channels or received through the schemes of Government of India. The sources to purchase hearing aids are Otolaryngologist, Audiologist / Speech Language Pathologists, Special Educators, Opticians, Pharmacists and even grocers and 'Panwalas' (beetle leaf vendors). There is no government policy of licensing for dispensing hearing aid.

In 1981, the Ministry of Social Justice & Empowerment, Government of India introduced a scheme entitled "Assistance to Disabled Persons Scheme" (ADIP scheme) for distributing hearing aids at 50% or 0% of cost. From those whose family monthly income is less than Rs. 6500 (i.e. US \$ 130) is eligible for free hearing aids and those whose monthly family income is between Rs. 6501 to 10,000/ (i.e. between US \$ 130 to 200) are eligible for 50% concession. Under the ADIP scheme, hearing aids and its accessories are selected under a rate contract. Presently only body worn hearing aids are distributed through the scheme whose cost varies from Rs. 440 to 1,500/ (i.e. US \$ 10 to 35). There are 38 models of 4 to 5 manufacturers listed in the rate contract for the year 2007-08.

Along with the hearing aids, AA solar battery chargers (with two chargeable batteries) are also provided. The solar battery costs about Rs. 214 (i.e. US \$ 4.5). Provision to provide aids and appliances costing upto Rs. 8000/- (i.e. US \$ 160) for each ear is made under the ADIP scheme. Children studying in upto 10th standard are given binaural hearing aids. They are eligible for new hearing aids every two years. It is estimated that about 90,000 hearing aids manufactured in India are distributed through the ADIP scheme by about 200 implementing agencies (both government & NGOs) spread across the country. The ADIP scheme has also made provision for reimbursement of earmold and travel expenses to avail the services.

A project to study the feasibility of providing binaural BTE under the ADIP scheme is underway. The project is expected to throw light on the cost effectiveness of providing binaural BTE hearing aids and the issues involved in its maintenance etc.

A couple of government institutions are dispensing hearing aids of all makes and models at the dealers' rate. This has enabled the beneficiaries to obtain good quality hearing aids with a discount of 25 to 50% on the MRPs. It is estimated that about 1000 hearing aids are dispensed in this manner every year.

The other sources of funds for the purchase of hearing aids are the Central Government Health Scheme (CGHS) which provides upto Rs.60,000/ (i.e. US \$ 1200) for digital hearing aids, Employees Scheme of Insurance (ESI) and charitable organizations.

Other indigenous technological development

Apart from the body level hearing aids manufactured in India, attempts have been made to develop hearing screening devices and other aids and appliances. Handheld hearing screeners costing Rs. 1500 to 2000 (i.e. US \$ 30 to 40) have been developed by AYJNIHH, Mumbai and AIISH, Mysore. CROS hearing aids using two BTE shells is yet another development at the Eastern Regional Center (ERC), AYJNIHH, Kolkata. Solar battery chargers have been developed which are distributed through the ADIP scheme. Prototype development of digital hearing aids by All India Institute of Medical Sciences (AIIMS), New Delhi, Indian Institute of Technology (IIT), New Delhi, Impact, New Delhi, Center for Design of Advance Computing (CDAC) of Ministry of Information and Technology, Government of India, in Collaboration with AIISH, Mysore are also worth mentioning. A prototype of FM hearing aid has also been designed at AIISH, Mysore. However, none of these developments (except solar pentorch battery charger) has seen the market for wider use and distribution through a manufacturer.

Recent developments in National Capacity building in India

The Ministry of Health & Family Welfare, Government of India, has drafted a proposal to launch the 'National Program of Prevention & Control of Deafness' in the 11th Five-year plan of

the country (w.e.f April, 2007). The pilot phase of the program has been initiated in August 2006. The overall objective of the program is to prevent hearing loss due to disease or injury, carry out early diagnosis, treatment, medical rehabilitation, strengthen linkages, creation of database and facilitation of need based research. The long term objective is to reduce the total disease burden from 6.3% to less than 3% in the designated areas by 2012. The strategies planned are:

- To strengthen the service delivery including rehabilitation.
- To develop human resources for ear care.
- To promote outreach activities and public awareness through innovative and effective Information, Education and Communication (IEC) strategies with special emphasis on prevention of deafness.
- To develop institutional capacity.

In the preparatory phase of the program, it is envisaged to plan training activities to train health workers; sensitize the state health society and State Medical College staff regarding the national program; fund the state health society / District Health Society for the procurement of equipment, aids and appliances. In the second phase, active manpower trainings and capacity building will be undertaken. Hearing screening at schools and camps will be conducted followed by rehabilitation of the identified population. The third phase would focus on monitoring and evaluation of manpower training, capacity building, service provision and IEC activities.

Answering to the call to speedup manpower development, AIISH, Mysore is launching the DHLS program using alternate strategy of education, i.e., through e-mode. The program, which was launched in the year 2007-08, will have AIISH as the nodal implementing center providing the e-mode theoretical input. This will be supported by the course material being developed at the institute. The collaborating medical colleges / institutes will provide the clinical training. It has been planned to enroll at least 100 candidates across the country in the first year.

As a next stage, course material will be developed in the regional languages and candidates will be enrolled from all over India. The program also plans to enroll international students.

To conclude, India is gearing up to cater to the needs of over 3 million persons with hearing impairment by:

- Launching a National program for Prevention & Control of Deafness,
- Producing large number of low end manpower (who would work at district levels) adopting the distance education strategy.
- Planning strategies to produce and distribute quality hearing aids and other assistive listening devices to the unreached so that their quality of life is improved.

India seeks cooperation and extends its cooperation to other countries in strengthening the national capacity for the provision of hearing aids and services.

(Presentation made at the 4th WHO / CBM workshop on the provision of Hearing Aids & Services for Developing Countries. 9-10 November 2006 at WHO Headquarters Geneva)

References

Basavaraj, V. & Nandurkar, A. (2005). Implication of hearing impaired in a child and neonatal hearing screening program. Paper presented at the 7th course of Neuro-otology and Audiology. Hinduja Hospital, Mumbai, October.

NSSO (2002). Disabled persons in India. Report No.485: 58th Round. New Delhi, Department of Statistics, Government of India.

RCI (1996). Report on manpower development, Rehabilitation Council of India, Ministry of Social Justice and Empowerment, Government of India

<http://www.bis.org.in>

<http://mohfw.nic.in>

