

Hearing Impairment and Deafness- Magnitude of Problem and Strategy for Prevention

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The ability to communicate is a crucial aspect of human life as auditory sense is very important for communication of any kind. It is indispensable for normal mental development of a child. Hearing impairment and Deafness (HI&D) acquire a special significance as a large percentage of population affected are children. Along with this increase in elderly population, rapid industrialisation and use of aminoglycoside and other ototoxic drug is rapidly increasing this problem.

Magnitude of Problem

a) Global :

- 5 million of the world population has profound degree of HI.
- 120 million world wide have hearing loss of atleast 40 dB.
- 200 million have varying degree of hearing loss
- 30% of the population 7/65 years of age have hearing less to affect their well being.
- 750% global burden is preventable (Kacker-1993)

b) Developing countries in South East Asia:

- 2/3 of the deaf population live in developing countries
- 10% of the population in South East Asia

region has hearing impairment.

- 6.5% of male and 3.5% of female in Nepal have hearing impairment
- 39% of total population with 25% children in the age 15 years have hearing impairment in Thailand
- /0.5 million people having hearing less are due to ototoxicity in China. This is a major public health problem which needs concern of WPRO & WHO.

c) INDIAN SCENE :

- 2 deaf babies are born/hour i.e. 1/2000 to 1/6000 live births (Kumar & Chaturvedi 1996)
- 18000 deaf babies are added to our population every year.
- 5% of India population have speech and hearing problem
- Prevalence of hearing loss is 10.7% in rural area and 6.8% in Urban area (ICMR 1983)
- Prevalence of middle ear disease in school going children is 4.6%,. In urban area varies from 5.4% to 14.9% and among rural areas is 03.9% (Mishra 1961). Puyam 1998).
- Presbycusis and congenital sensori neural hearing (SNHL) with delayed development of speech and language (DDSL) are

common cause for hearing loss. The incidence of the later is 0.9/1000 in ENT OPD cases (Chaturvedi & Kumar 1993)

Strategy for Prevention of HI&D

a) Global level:

- Dr. Genji Murai, President of Asia International Federation Tokyo Japan was first to support and promote the development of global ear care programme for prevention and management of HI&D.
- Dr. Y.P. Kapur was appointed short term consultant by WHO for South East Asia region
- Division of prevention of HI&D created by WHO in Geneva in June 1991.
- Hearing International was set up in 1992 as an independent agency and expanded into International Agency for Primary Ear care (IAPEC). Major Goals of Hearing International are :
 - a. Primary ear care is to be a part of Primary Health Care programme.
 - b. Prevention and management of hearing impairment and deafness at Primary, Secondary and at tertiary level.
- On Jan 25, 1995 executive board of WHO unanimously adopted resolution No. WHA 38.19(HI&D) and WHA 42.28 (Disability) prevention and rehabilitation).
- On May 1995 the 48th World Health Assembly passed this resolution.

Role of WHO: It aims at providing technical assistance;

Formulation of national policies; Development and training of man power and providing information and creating awareness (U.KOKO Dir WHO)

For exchange of information and to have meaningful compilation and analysis of epidemiological data it is essential for us to adhere to the various term as defined by WHO.

- Impairment : It is increased Less of function of hearing range from elevation of threshold through impaired frequency resolution to more complex measures such as speech discrimination.
- Disability : It entails the hearing difficulty experienced by the individual in his life.
- Handicap: Effect of hearing loss of the individual life e.g. emotional etc.

b) Indian Level : There is

- Lack of adequate and proper data
- Lack of uniformity in collecting epidemiological data e.g. conductive hearing loss included wax, otitis and or middle ear effusion together.
- Till date there is only one multi centre survey carried out under the aegis of ICMR (1983)
- A study on two centres at New Delhi and Trivendrum to explore feasibility of prevention of hearing disability in 1986 to 1989 (Kackar, 1993)
- There is some sort of complex in citing Indian work and Indian Literature in publication arising out of India by Indians (Chaturvedi 1996)
- So far efforts have failed to achieve a National Programme for Prevention of Hearing Impairment and Deafness. Thus there is no organised plan to prevent and combat this problem in a structured fashion.
- **Presbycusis:** This alone comprises 38-40% of cases of SNHL among Indian population (ICMR 1983). In 1961 population in India above 60 year of age comprised 24.71 million of total population. This figure reached to 43.8 million in 1981;55.30 million (increased by 4.0%) in 1991 and it is projected that this figure will be 75.10 million (increase by 4.8%) by the year 2001 i.e. we are and will be adding 2 million to this age group every year. Thus India will be having highest population of elderly in the

world (Shah 1993). The early onset of presbycusis is (at the age of 45 years) and increasing elderly population will lead to tremendous increase in this population with hearing impairment.

- • **Cong. SNHL with DDSL:** This group also forms a substantial number of cases because of customs of consanguineous marriage. This is seen in 17.3% of cases of cong. SNHL (Chaturvedi & Kumar 1993), inadequate antenatal care (29% of the case of cong. SNHL have pathology attributed to rubella but mothers were not aware of this infection), increase use of antimalarial drugs, irrational or uncontrolled use of aminoglycosides, iodine deficiency and illiteracy. The paradox is that they are preventable but it will require an organised effort.
- **Conductive Hearing Loss:** Though there is improvement in health care services but in rural areas they are still inadequate. Lack of health education, inadequate primary ear care programme, poor environmental condition and neglect of upper respiratory infection are common predisposing factors for development of conductive hearing loss. In addition running nose and ears are taken as more nuisance and accepted as a part of childhood. In view of the above facts and the increasing magnitude of the problem it is essential to have National Programme for Prevention of Hearing Impairment and Deafness. In this respect all of us in general and Association of Otolaryngologists of India in particular must make concentrated effort so as to develop a well defined and time bound programme to prevent the magnitude of this problem. This is all the more important because rehabilitation programme and hearing aids are very expensive and are beyond the reach of majority of population due to socio-economical reason and physical inaccessibility to these centres. Also in dis-

trict places these facilities are inadequate (Kumar & Chaturvedi 1996). It will also be necessary to incorporate primary ear programme as an integral component of primary health care and undergraduate (MBBS) Curriculum.

Think Globally Act Locally: This slogan given by WHO has to be followed in letter and spirit. In view of these various efforts being made at MGIMS Sevagram.

- A total of 5186 children (2633 Urban and 2553 rural schools) in Wardha district have been screened for otological problems in 1996-97 (Puyam 1998)
- School survey where in 11313 children were examined from 29 schools and diagnostic camps are held periodically in rural areas in and around Wardha District (Chaturvedi 1993).
- Out patient cases having otological problem are given printed handouts in regional language on primary and secondary ear care including proper instructions for use of ear drops.
- Cases of SNHL are given printed handout in regional language on prevention of hearing loss, avoidance of ototoxic drugs, noise induced hearing loss and advice on marriage counselling.
- Audiological evaluation of children prior to admission to special school or rehabilitation center in and around Wardha Distt.
- Recently teachers and parents of children having otological problem were given lecture on primary and secondary ear care at the school itself by clinical residents from the department.
- It is planned to develop hearing aid service comprising of dispensing, minor repair and preparation of custom mould at MGIMS so as to make these facilities within the easy reach of population.

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