

BOOK REVIEW

AUDIOLOGY IN DEVELOPING COUNTRIES

Editors: *Bradley McPherson & **Ron Brouillette

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The book *AUDIOLOGY IN DEVELOPING COUNTRIES* has 12 chapters written by chosen authors from the area of public health, audiology or education and who are from or have worked in developing countries. Chapter 1 is Introduction to the book written by the editors which outline the design and coverage of the book.

Chapter 2 is on *AUDIOLOGY: A developing country context*: is written by Bradley McPherson, University of Hong Kong, China and describes various definitions of the developing countries from different parameters as delineated by UN authorities and WHO based on the criteria like mostly agriculture based with less industrial income, more rural population than urban, less homogenous in terms of factors of ethnicity, multi lingual & soica-cultural diversity, multi community with unequal wealth distribution etc. In the view of the authors, economic difficulties force governments in developing countries to give no or less priority to hearing health care. Thus the primary audiologic services are nonexistent or insufficient in these countries. Table on development indices of selected developing countries shows India at 73rd position in terms of quality of life index. Not much on current practices in audiology in India is included and most of the discussion is based on developing countries from Africa. However WHO initiatives on hearing healthcare have been well summarized.

Chapter 3 is on *Demographics of Hearing loss in Developing Countries* written by Andrew Smith of London School of Hygiene and Tropical Health. This provides a world view on burden of hearing impairment. Accordingly 278 million people across the world are affected by hearing loss and hearing impairment ranks 3rd according to Years Lived with Disability (YLD) by individuals, which is a component of Global Burden of Disease. Included in this chapter are WHO estimates of HI in various countries, methods used for estimation, difficulties encountered in estimation, role of practicing Audiologist and

researchers in audiology. On the whole this chapter presents a global view of hearing impairment though quoted studies from India are limited to only 3. Thus graduate students in Speech and Hearing in India gain valuable information on demography and other issues as required to be discussed in their course work on "community based professional practices", even though information on prevalence across countries is very limited.

Chapter 4, *Education and Practice of Audiology Internationally: Affordable and sustainable education models for developing countries* by Helen Goulios and Robert Patuzzi enlists need of audiologists at different levels in various set ups, tries to work out a world wide requirement of Audiology professionals and personnel by gathered information on available training programs from certificate, diploma, degree, post graduate and doctoral levels. Provide their own model for training and recommend that a strong alliance with in and between countries involving governments, private industries, educational institutions, professional bodies and wherever possible consumer organizations must be considered. Not much is reflected on audiology training in India.

Chapter 5 on *Screening for Hearing loss in developing countries* is written by Bradley McPherson and Bolajoko O. Olusanya of Department of Community Health and Primary Care, University of Lagos, Nigeria. In this chapter, the importance and need for hearing screening as a priority component of primary health care/screening is stressed and recommended that all governments should promote this. They discuss the basic requirements for infant and other hearing programs especially in situations where limited financial and technical personnel & resources are available. Importances of School based hearing screening specially at entry points in countries where a significant proportion of births occur outside regular hospital facilities are stressed. Most of what is discussed in this chapter is part of curriculum of

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Chapter 6 on Providing Diagnostic audiology services in Economically challenged regions is by Jackie, L. Clark and Valerie Newton, from University of Texas at Dallas, USA and University of Manchester, UK respectively. They discuss the limited facilities that may be available in developing economically challenged countries for audiology assessment and diagnosis and further on problem faced by them in terms of absence or limited facilities for calibration and/ or repair of diagnostic equipment. To overcome above problems the authors recommend certain steps to be strictly followed by professionals. Also high light WHO recommended guidelines on awareness creation in the community and on training of supportive staff. Nothing new will be gained from this chapter for a trained professional in audiology.

Chapter 7 is on Rehabilitation of Hearing Loss: Challenges and Opportunities in developing countries by Ron Brouillette, Director of primary and mass education, Dhaka, Bangladesh. It provides information on innovative aural rehabilitation alternatives to meet hearing health care as used in 149 lower and lower middle income group nations following the guidelines of WHO. Anecdotal information gathered from different countries is discussed.

Chapter 8 on Hearing Aid Provision in Developing Countries: An Indian case study, written by Vijayalakshmi Basavaraj, Director: All India Institute of Speech and Hearing, Mysore, India, makes a very good and interested reading on provision of hearing aid and its development in the country. Further the

chapter depicts contribution of various agencies like Government, institutions, industries and professionals in the development and building of a viable and largely sustained hearing aid distribution facility in India. The author has rightly pointed to the paucity of systematic demographic information on Hearing impairment in the Indian population and that the existing facilities to cater to this large number of population with hearing impairment in the country is limited. Existing infrastructure of 2 national institutes with their branches, 150 Government aided organizations, 5000 and odd private clinics, 130 DDRc's, 5 CRC's and 270 medical colleges have been sited as having audiological diagnostic and rehabilitative facilities. Majority of the available facilities are in cities. The manpower and professional development in the country has been slow and gradual, starting from two institutions in 1967 till mid 80 there were hardly any private or voluntary agencies involved in speech and hearing training. Now there are 30 institutions accredited and listed by RCI as providing Speech and hearing training at graduate or post graduate levels. The author has explained at length the efforts of AIISH on providing distance mode education at DHLS level at various remote places with the help of virtual classes and study centers as addition to existing training programs at graduate, PG and doctoral levels. However, the author is mostly silent on details of teacher training programs and the role of NGO organizations involved in training and other activities like creation of awareness in community on education of the HI, etc. Under the section on status of hearing aid provision in India, the author explains at length the distribution of hearing aid under Government schemes. She estimates that 100000 to 125,000 hearing aids as being manufactured in India and about 50 to 60000 hearing aids are said to be imported from other countries as against the requirement of about 30 million persons with hearing impairment. Thus there is a huge gap in the need and availability of aids. A detailed account of past and present scenario specially after 1980's is presented and discussed. The author estimate the cost of hearing aid in India to vary between Rs 500 to 10,000 (10 to 250 \$) & Rs 2500 to 80000 (US \$ 50 to 1600) for BTE's depending upon whether they are Digital or analog Aids. Mention on availability of hearing aid at subsidized rate at Ailsh and free & subsidized hearing aid distribution system through many Government and voluntary agencies under ADIP scheme has been explained. Further it comes out clearly while discussing prescription of hearing aids that probably audiologists are not the first but last professional to

be contacted in prescription and dispensing of the aids. Depending upon the set up procedure of prescription varies and by and large procedure followed for prescription is not satisfactory. Quite a lot of information on batteries for hearing aids, ADIP scheme implementing agencies, has been provided. A separate section on ear moulds and facilities to promote use and maintenance of hearing aids is provided. Some information on assistive listening devices has also been included. Some recent developments regarding National Program of Prevention and Control of Deafness (NPPCD) and other Government initiatives are discussed. By and large the author has succeeded in presenting an objective picture of facilities available and their limitations for provision of hearing aid to individuals with hearing impaired in India. However, it would have been apt to have included role of NGO institutions in a wider perspective, specially in reaching rehabilitation to rural people at primary levels. This chapter should make the reader know the difficulties encountered in audiology practices in developing countries and this book can be recommended as one of the texts for paper on Community based professional practices of BASLP course in India.

Chapter 9 is on Educational Audiology in Developing Countries written by Susie Miles and Wendy McCracken of University of Manchester, UK. Explains how schools for the children with hearing impairment having audiology services can help in providing hearing aid guidance to children with HI in the absence of audiology clinics. School based audiology service can take care of hearing health care and hearing assessment services effectively. Authors recommend educational and school based audiologic facility as alternate to clinical facility wherever they are not available. The chapter discusses the challenges faced in setting up such facilities in schools as gathered from a range of audiology practitioners in developing countries.

Chapter 10 on Audiological Counseling in developing countries: A journey through Guatemala is written by Patricia Castellanos de Munoz and Sandra E. Sosa, Guatemala. The authors explain the progress made despite severe restriction of finance, lack of encouragements and potential obstacles, proactive measures taken, some amount of success in providing cultural sensitive family counseling and improved healthcare facilities to persons with hearing problems in Guatemala. The description depicts some resemblance to the Indian scenario.

Chapter 11 on Occupational Hearing Loss in

developing Countries, authored by Geoffrey K. Amedofu and Adrain Fuente from Ghana and Chile makes an interesting reading on noise and its effects on health specially sensorineural hearing loss. Noise is also recognized to be a preventable cause. Studies have shown that industrialization not only brings noise but also chemicals and other pollutants/solvents as causative agents of hearing loss. Exposure to solvents such as toluene, xylene, styrene and n-hexane are expected to be very high in developing countries due to laxity of control in industrial work place. This accompanied by exposure to noise will have the combined effect of increased chances of hearing loss and found to be higher than in the developed countries. Similarly the authors note that there is large scale and uncontrolled use of pesticides, herbicides, insecticides for agriculture purposes in developing countries which are also known to have effect on nervous and auditory systems. Thus this chapter which discusses thread bear issues related to occupational hearing loss become very meaningful in Indian context as industrial pollution, environmental pollution and recycling of industrial waste and world scrap in India have all increased substantially the chances of workers to develop occupational hearing loss. Thus this chapter makes a good reading for graduate students.

Chapter 12 on Resources for Audiologists in Developing Countries written by the editors give a list of sources from where practicing audiologists and interested readers can access information and help on hearing loss and also funding information.

This book on Audiology in developing countries is a very useful source for information on audiological practice and other issues like diagnosis and assessment, school based audiological services, hearing screening and occupational hearing loss, Noise control and hearing conservation. This is recommended for all libraries and institutions conducting training courses in the area of speech and hearing.

Reviewed by

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