



## ONGOING RESEARCH PROJECTS DURING 2008-09

Research projects have been designed to increase and improve rehabilitation services. Modules have been developed to serve the persons with hearing handicap, who are living in semi-urban and rural areas.

The projects are aimed at evolving service modules and diagnostic tests that can be used or replicated by other organisations. Modules for early identification and intervention of children with hearing impairment have been prepared and are on field trial. Work is under progress on the following projects at AYJNIHH Headquarter, Mumbai and its Regional Centres.

- I) Development of Kit for Auditory Training titled " Home Auditory Training Programme(HAP)".** *The project is funded by Science & Technology Mission Mode, Ministry of Social Justice & Empowerment, Govt. of India.*

**Investigator** : Mrs. Anjali Kant  
**Co-Investigator** : Dr. Medha Adhyaru

### **The project is taken up with the following objectives -**

- i) To develop a kit for enabling parents and teachers to improve the auditory skills of children with hearing impairment.
- ii) To design a kit in such a manner so as to provide easily available simple material in Hindi and Marathi.

### **Progress made during the reporting year is given below -**

The design of the cover for the CD in Hindi and Marathi for level I of auditory training i.e. auditory awareness was finalised. 15 pictures required for the level 3 auditory training viz. identification and suprasegmental perception were designed.

- II) Developing and Standardizing a Test of School Readiness (TSR) for Children with Hearing Impairment**

**Investigator** : Mrs. Varsha Gathoo  
**Co-Investigator** : Mrs. Suni Mathew



The objective of the project is to develop a Test of School Readiness (TSR) to assess the readiness skills of children with hearing impairment, which are essential for formal primary school in different educational setups.

### **Progress made during the reporting year is -**

1. Socio - emotional maturity rating scale and Communication rating scale were developed and validated with the help of 10 Judges. The changes suggested by the Judges were incorporated.
2. Writing Test was edited on the basis of data analysis of pilot study done before. Writing test was edited under the guidance of experts / special educators. The changes suggested by the experts were incorporated.
3. Test - plates were designed for all 4 sub - tests and printed in calendar booklet form for administration of test on child with hearing impairment.
4. Administration of all 4 sub - tests and 2 rating scales on children with and without hearing impairment was started for the purpose of standardization of test taking samples across Maharashtra.
5. Manual writing started.

### **III) Aphasia Diagnostic Battery in Indian Sign Language - An Adapted Version of the Western Aphasia Battery.**

**Investigator** : Dr. Gouri Shanker Patil  
**Co-Investigators** : Mr. R. Rangasayee  
Dr. Geetha Mukundan

Aim of the project is to develop a test for diagnosis of aphasia in users of Indian Sign Language by suitable adaptation of the Western Aphasia Battery (Kertesz & Poole, 1974). The test will assist in determining the presence of aphasia and its subtypes in users of Indian Sign Language.

### **Progress made during the reporting year is given below -**

The Pilot study for selection of test items for the development of main test is under progress. In this regard, 430 pictures have been prepared to determine familiarity of signs for sign comprehension and sign expression. Subsequently, a video for the task of examining the sign comprehension of adult deaf participants has been developed. The data in the domains of comprehension and expression of signs has been collected in 10 adult deaf participants.



## **IV) Development of Low Cost Noise Level Indicator with Audio Visual Alarms.**

**Investigator : Mr. S.G.R. Prakash**

**Co - Investigator : Mr. P. Jeethendra**

The Project commenced on 3.11.2008. Visits have been made to few organizations for getting information regarding circuit details and measurement facilities. Three numbers of circuits are short listed and the prototype circuit is developed. The circuit was found to be more appropriate and low cost with large signal production. The signal strength can be decided by the resistance from an adjustable potentiometer. After further calibrations and modifications, the circuit will be ready for the field testing and documentation.

## **V) Development of training packages in three trades at ITI level for persons with hearing impairment.**

**Investigator : Mr. R. Bhattacharya**

The project intends to improve the vocational training programme and in turn, the employment opportunities of persons with hearing impairment through developing a series of training packages.

**Progress made during the reporting year is -**

1. Chapterwise "Model Lesson Plan" (draft - 1) is ready for review.
2. Development of required "Teaching Aids" like charts, posters, slides and other visual aids is under preparation.
3. Chapterwise Functional Vocabulary / Glossary of Terms (trade specific) is prepared for review.
4. Development of 'Test Papers' containing model questions and answers is under preparation.

## **VI) Development of the Hearing in Noise Test (HINT) in Hindi Language.**

**Investigator : Mrs. Anuradha Bantwal**

**Co-Investigator : Mrs. Anjali Kant**

The Hearing In Noise Test (HINT) evaluates an individual's ability to understand speech in the presence of noise. The test material consists of sentences presented in an open set format. The HINT has been standardized in over 15 languages across the world. It has many applications in Diagnostic Audiology. Currently the HINT is not available in any Indian language and hence this project was taken up at NIHH to develop this test in Hindi.



## Progress made during the reporting year is -

1. Review of literature was done for the project.
2. 500 sentences were constructed for recording after two rounds of modifications by a group of native Hindi Speakers.
3. The 500 sentences were finalized and sent to House Ear Institute in November, 2008. 250 of these will be eliminated later in the course of data collection and 250 will be retained for the final recorded version.
4. The hardware for the HINT system was procured from Natus (Biologic Corp.)
5. Probable subjects were short - listed.
6. A detailed consent form in English and Hindi was finalized in readiness for data collection.
7. Data collection on the project has not yet begun. It will be done after the sentences are recorded and sent back from House Ear Institute, Los Angeles, USA.

## VII) Conduct Problems among Children with Hearing Impairment in Special Schools

**Investigator** : Mrs. Alka Sapru-Joshi  
**Co-Investigator** : Dr. Geeta Rao

The project is aimed to establish the prevalence and nature of conduct problems among children with hearing impairment in special schools in and around Mumbai. During the reporting year the data collection has been completed

## VIII) Psycho - Social Profile of Persons with Hearing Impairment

**Investigator** : Mrs. Alka Sapru-Joshi  
**Co-Investigators** : Dr. Geeta Rao  
Dr. Sadhana Deshmukh

Hearing impairment is one among many physical impairments that impacts the affected individual's development and learning. Primarily, it causes language delay and deficit communication ability. It affects self image, personality development and adjustments. These psycho-social difficulties can persist through childhood into later stages of life. This study is being undertaken as there is paucity of research in this area in the Indian context. Objectives of the project is to study and profile the psychosocial status and problems of children, adolescents and adults with hearing impairment.



During the reporting year five temperament scales for different age ranges, multidimensional student life satisfaction scale, culture free self esteem inventory - primary form, intermediate form and adolescent form have been translated into two local languages i.e. Hindi and Marathi. Twelve schools have been contacted for data collection. Students from Central School for Deaf, Agripada, Kamalini Karnabhadhir Vidyalaya, Thane and Save the Children, Bandra have been assessed. Clients reporting to the Institute have also been included for data collection after obtaining informed consent.

## **IX) Developing Teaching Learning Material to Facilitate Reading Acquisition for Children with Hearing Impairment Between 4 to 6 Years.**

**Investigator** : **Mr. B. Nageshwar Rao**  
**Co-Investigators** : **Mr. Nachiketa Raut**  
**Mrs. Supriya Sen Gupta**  
**Mrs. Silpi Makar**

Aim of the project is to develop guideline and materials, which will facilitate pre-reading and reading acquisition to the children with hearing impairment in the age range of 4 to 6 years, based on the guideline prescribed.

The Project work was initiated in May 2008. Teaching learning materials to facilitate reading skills have been identified and selected. The related articles, reviews and information on the following topics are being collected.

- Acquisition of reading skills
- Language domains required to learn reading
- Activities and the possible TLM to develop Phonological Awareness, Print Awareness, Print Motivation, Letter Knowledge and Vocabulary.
- Stages of reading development.
- The characteristics of material.

## **X) Profile of Post Training Activities of Rehabilitation Professional with Reference to Persons with Hearing Impairment in India in the last Five Years.**

**Investigator** : **Mr. R. Rangasayee**

Aim of the project is to study the current employment status of the rehabilitation professionals. During the reporting year questionnaire needed for the research is prepared. List of college and institutions all over India that are conducting the professional courses relating to the field of hearing impairment was prepared. Finalization of the questionnaire and rating scale has been done.