



## ONGOING RESEARCH PROJECTS DURING 2009-10

Research projects have been designed to increase and improve rehabilitation services. 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.

System : The Academic Committee is constituted as required under the bye-laws of the Institute. The members are approved by the Executive Council of the Institute. All the projects and academic activities of the Institute are placed before the Academic Committee. The Academic Committee meets twice in a year.

During the reporting year a new project titled "Development of Low Cost Noise Level Indicator with Audio Visual Alarms" was approved by the Academic Committee and a sum of Rs.1.80 lakhs was sanctioned for this project. The eight Projects approved in previous years are under progress and no project was completed during the reporting year. Status of ongoing projects and their outcome is given below -

### I) Development of Low Cost Noise Level Indicator with Audio Visual Alarms

Investigator : Dr. S.G.R. Prakash  
Co - Investigator : Mr. P. Jeethendra

During the reporting year visits have been made to few organizations for getting information regarding circuit details and measurement facilities. Three numbers of circuits were short listed and the prototype circuit was 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 field testing and documentation. IC components and good quality microphone was procured.

### 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. During the reporting year following progress is made -

1. Development of all four sub-tests (TSR-R,W,M,L) and two rating scales (TSR-SEM, C) was completed.
2. TSR test was administered on approximately 150 children with hearing impairment from all over Maharashtra for the purpose of standardization of test.
3. Data entry was completed and data analysis and manual writing are in progress.



### 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.

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 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. The project also intends to develop the courseware. It includes adaptation of text (theory) book, diagram, glossary of terms, self learning/evaluation material consisting of model question answers and question bank in the line of All India Trade Text conducted by NCVT. Instructor's Manual is comprised of development of 'Model', lesson plan, teaching aid/model observation report, self evaluation format.

The prototype is ready for field testing with the trainees with hearing impairment at ITI/Polytechnic for the persons with hearing impairment. It is expected that the project will be completed by 2010. The training package will be made available to mainstream ITI for replication.

### V) 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 the test in Hindi.

In the reporting year the sentences which were prepared at AYJNIHH and sent to House Ear Institute (HEI), Los Angeles, USA were recorded with a native Hindi speaker. This was done at HEI, USA. Subsequently these recorded sentences were edited at AYJNIHH. Currently the material is awaiting post processing at HEI, USA, so that preliminary data collection can be done subsequently at AYJNIHH.

## VI) 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.

Statistical analysis of data of 518 subjects has been done in the reporting year. Reliability and validity of the conduct disorder scale has been established.

## VII) 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 in 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 are to study and profile the psychosocial status and problems of children, adolescents and adults with hearing impairment. So far data collection included children, adolescents and adults totaling 394.



## VIII) 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. List of colleges and institutions in the country that are conducting the professional courses relating to the field of hearing impairment was collected. Finalization of the questionnaire and rating scale has been done.

Research tool was translated into eight regional languages and 26 faculty members have been nominated for data collection. For training and familiarization with the tool, one day workshop was conducted for 22 faculty members. Each faculty member has been allotted 3-4 training institutes for data collection. Data including contact details of students passed out in the past five years were collected and the research tool was sent to them.