

Description of the ongoing Research Projects of 2012-13:

Institute funded Projects (8):

1. Effectiveness of sensory integration therapy on sensory processing & adaptive behaviour of children diagnosed as Autism with or without Mental retardation (A comparative study):

The primary objective of the study is to develop an assessment tool to evaluate the sensory processing dysfunctions in children with autism spectrum disorders and to investigate the correlation between sensory processing dysfunctions and occupational performance of the sample

It also aims to develop a sensory integration therapy module for children with autism spectrum disorders. A manual on sensory integration therapy for parents and professionals is also intended to come out of this study.

2. Facilitation of differentiation ability in persons with mental retardation – A cognitive approach:

The study aims to measure the construct and types of response inhibition and behavioural inappropriateness or inadequacies in persons with mental retardation and find the efficacy of a cognitive training program in addressing this problem.

3. Cluster based placement service:

Cluster based placement service enables persons with mental retardation and their parents/ families in touch with the community resources, which are identified and generated for their rehabilitation.

Very often, services tend to be concentrated in well-to-do urban localities. To overcome this lopsided approach, a community orientation is necessary, so that services are available to large section of society in their own vicinity. With this background the cluster based placement service program is proposed,

4. Development of toolkits for assessing work competencies among post secondary and pre vocational students

The purpose of the study is to develop a comprehensive toolkit for assessing work competencies of children with mental retardation in a systematic manner. Attempts are made to ease the process of assessment and make it more appropriate. The developed toolkit will come in handy for the teachers working in the field. It serves as a good reference for the trainees in preparing their assessment kits and gives direction for the

TLM preparation. The objectives of the study are: a) to develop a work competency checklist for secondary and pre vocational students with Mental Retardation and b) to develop a toolkit for assessing work competencies of secondary and pre-vocational students with Mental retardation. The Outcome of the study will be: 1) Checklist for work competency assessment and 2) A comprehensive tool kit.

5. Effects of collaborative virtual environment (CVE) on electrophysiology of Theory of Mind (ToM) in children with Autism and Mental Retardation

The theory of mind impairment describes a difficulty someone would have with perspective taking. This is also some times referred as mind-blindedness. This means that individuals with theory of mind impairment would have a hard time seeing things from any other perspective than their own.

This study aims to investigate theory of mind for the Autistic group with or without mental retardation and children with mental retardation to note variance in belief vs. reality.

6. Development of An Indian Test of Intelligence

There is a plethora of tests and tools available for assessment of intelligence suitable for Indian conditions. Most of these tests are complex, time consuming and need highly trained specialists. There is a dearth of such specialists in large numbers in our country; hence many persons with mental retardation are not been able to government concessions and social benefits. The aim of this study therefore, is to develop an Indian test of Intelligence. The test so developed will be useful for assessment of intellectual level of persons with mental retardation so that they can avail various government concessions and social benefits. The test can also be used for planning intervention programs based on strengths and weaknesses found in an individual.

7. Development of a CBR model for persons with disabilities

Community-Based Rehabilitation focuses on enhancing the quality of life of persons with disabilities and their families by meeting their basic needs and ensuring their inclusion and equal participation in the community. CBR activities were initiated in 80s and evolved since then to become a multi-sectoral strategy empowering persons with disabilities and their families. However, it is noticed that there is a lack of accurate database at the Gram Panchayat level. The purpose of this study is to identify the persons with disability, severity of disability, economic status of the family, services available at the Gram Panchayat level. This would be used for developing a uniform model for CBR activities across the regional and cultural diversities in the country.

8. A Study on Dental Problems in Persons with Mental retardation

Dental care is consistently reported as one of the top medical needs of persons with mental retardation. Children and adults with mental retardation have poor oral health

than the general population. They require assistance or support from caregivers to maintain their oral health. This study will find out the various dental problems seen in persons with mental retardation attending NIMH. This will enable us to document the frequency of different dental problems seen in our clientele and plan to establish better dental services for them.

Projects in Collaboration with Other Agencies (2):

1. Adaptable e-Learning Accessibility model for the disabled

E-learning has been perceived as one of the most comfortable mode of learning for the children with mental retardation. But the issues of outline content accessibility have not been addressed effectively and it remained as elusive asset for the children with mental retardation. Accessibility specifically in the domain of e-learning has its own demands which have to be specifically addressed through proper implementation strategies and Accessibility Models. This study is committed to provide as e-learning environment and a model that is accessible to the individuals with mental retardation concentrating on the cognitive and learning deficiencies of individuals with mild mental retardation and Autism Spectrum Disorders. The project aims at working closely with educators and the organizations working for persons with mental retardation to produce effective e-learning environment for them.

2. Molecular Genetic Study of Beta Amyloid Precursor Protein (APP) in different Neurological Disorders including Autism

This is an ICMR approved and funded project testing hypothesis that in the four neurological conditions namely: Alzheimer's disease, Downs Syndrome, Fragile X Syndrome and Autism Spectrum Disorders, the basic defect may lie in the manner the Amyloid Precursor Protein (APP) gene is inherited and metabolized. The work would examine the mutations in hotspots of APP gene in individuals having these conditions. The DNA repair capacity will be examined for each of these four conditions. As the incidence of autism has been reported to be on increase and its cause is unclear till date, this study will highlight the role of APP and DNA repair in the pathogenesis of Autism. The individuals with Downs syndrome, Fragile X syndrome and Autism attending NIMH have been recruited into this study.