CHAPTER I
INTRODUCTION

1.1. Context of the study
1.2. Need and significance of the study
1.3. Statement of the problem
1.4. Operational definition of the terms
1.5. Objectives of the study
1.6. Hypotheses
1.7. Methodology in brief
1.8. Scope of the study
1.9. Format of the report
INTRODUCTION

1.1 Context of the study

In India, special education is an emerging discipline and is an essential part of modern education system which has aimed at providing equalization of educational opportunities to all. The core idea of special education is giving educational facilities to the disadvantaged groups irrespective of gender, age, race, religion, abilities and disabilities. It is a right based education than charity oriented by providing barrier free physical, psychological, social and learning environment from childhood to old age. Among the differently abled population who requires the special education services, the category of cerebral palsies and their services needs a special attention as it is in its budding stage in India, particularly in the state of Kerala.

The term cerebral palsy (CP) covers a group of non progressive, but often changing, motor impairment syndrome secondary to lesions or anomalies of the brain arising in the early stages of development (Mutch et al.,1992). It is one of the most common causes of severe physical disabilities in children and results in considerable suffering to both affected individuals and their families. Studies on prevalence in industrialized nations have shown a range averaging between 1.5 and 2.5 per 1000 live births (Pharoah et al.,1998; Wellesley et al.,1992; Grether et al., 1992). The disorder was first linked to perinatal events by Little over 150 years ago (Little,1843), but recent
studies have shown that only a minority can be attributed to birth injury or asphyxia (Nelson and Ellenberg, 1986; Blair and Stanley, 1990). Etiology in individual cases is often impossible to ascertain and is likely to be multifactorial. In 1999, The International Cerebral Palsy Task Force issued a consensus statement attributing the main origins of the condition to events occurring prior to labour and in neonatal period following delivery (Mac Lennan, 1999). Despite the remarkable advances in obstetric and perinatal care, prevalence of cerebral palsy does not seem to be declining (Stanley and Blair, 1991). In fact, there is some evidence to show that it may be increasing due to the enhanced survival rates of low birth weight and very low birth weight babies (Hagberg et al., 1993; Topp et al., 1997).

In India, with a population of 1 billion, is having roughly 25 lakh people with cerebral palsy and roughly 150 children are born everyday which later develop this disorder (Purohit, 2005). One recent study conducted in Edayoor gramapanchayath in Malapuram district of Kerala state indicated that among 2089 children under 5 years of age, 12 were diagnosed as cerebral palsy. Even though the definition for cerebral palsy concentrates on the developmental delay and motor impairment, the practical picture is more complicated. The associated impairments can be observed in different levels-sensory (vision, hearing, touch), neurological (epilepsy), intellectual, speech and language (Lord, 1984). The increased life expectancy of cerebral palsy
children over last decades have brought about an additional demand for health, educational and social services (Hutton et al., 1994).

1.2 Need and significance of the study

When a child with cerebral palsy is born in a family, the parents of that child follows a typical pattern in which they take the child from one place to another within the city or go to different cities to get their child habilitated. During this period they meet many specialists in search of a better treatment and in fact they get confused as to which treatment is good. The end result is utter confusion, despair and depression. Sooner or later they land up in the hands of non-scientific measures. In this way years pass and the child becomes 8-12 years old. By this time the brain gets matured. The chances of improving the condition become meager. He develops complications of spasticity and other impairments. He grows in height and weight, becomes tall and heavy. This results in difficulty in carrying and nursing the child. Now a battle to fight with these complications and biomechanical problems begin. The problems which could have been solved with one battle at an early age become terrible because they have to fight an additional battle to relieve the complications. Thus the ideal age for the schooling becomes a period of loss for the child.

In the state of Kerala where literacy is hundred percent, parents of normal healthy children are very much keen about the educational system
they are providing to their child. The governmental and nongovernmental institutions are providing a major role in satisfying these educational needs. But when it comes to the matter of a child with cerebral palsy, parents are least bothered about the educational aspects of their child. Lack of political interest in governmental levels makes the least financial support to the educational needs of the children with cerebral palsy. There are only a few non-governmental organizations in Kerala which deal with the therapeutic and educational needs of children with cerebral palsy. As part of governmental policy on the inclusive education, the education of a child with cerebral palsy has to be provided in the normal school itself. But when it comes to the practical point of view, only a few schools are allowing such children with disability in their schools and that also with minimum disability with the support of teachers from Sarva Shiksha Abhayan (SSA). Because of the physical and other impairments, providing education to a child with cerebral palsy is a challenging process to the parents as well as to the professionals in this field. Early intervention programmes are of particular relevance to infants with cerebral palsy because motor disabilities can limit the sensory motor experiences available to them, affecting subsequent learning and developmental progress. Helping these children access the learning experiences normally available to non-disabled infants seem to be an important intervention goal in this field of special education. At present what is
happening in our society is that the management of the children with cerebral palsy are done by professionals from physiotherapy field with the concept that independency in physical mobility is the primary aim of rehabilitation for these children. Surgical interventions, appropriate calipers and other types of walking aids are required for this purpose. Along with this, development of communicative capacity, academic skills, and vocational training for becoming an earning member in the society are other key areas to be addressed. Thus for satisfying this comprehensive method of rehabilitation, a total change in the present attitude is required among the health persons in this field. As soon as the diagnosis of cerebral palsy is made, directing that child to the early intervention classrooms of a special school is the primary step that has to be done where the physical needs, occupational needs, educational needs, psychological needs and nutritional needs are managed by professionals.

The Right to Education Act implemented by the government of India in April 2010, provides free and compulsory education to all children aged between 6 to 14 years. At present, children with cerebral palsy are not covered by this policy, but discussion has already been started at higher levels regarding what has to be done to include these group of children also into this policy. Then the question arises - In which type of schools this free and compulsory education has to be given? In special schools or in regular
schools? What should be the curriculum for these children? For getting satisfactory solutions to these types of questions, research works have to be done to explore the present academic functional abilities of children with cerebral palsy.

The content and curriculum design for satisfying the educational needs of these children with cerebral palsy are still in its budding stage. In these children with cerebral palsy, the acquisition of different skills such as gross and fine motor function or language are usually delayed. The most frequent disabilities are found in mobility, activities of daily living and in communication skills. These problems naturally can have its effects on functional academics of these children. This produces an obvious need to identify the different problems experienced by these children and how these disabilities interfere with their academic activities. This piece of research investigates the gross motor and fine motor abilities of children with cerebral palsy and their ability in the functional academics.

Professionals involved in placement decisions on the suitability of available educational interventions for children with cerebral palsy and those responsible for designing and planning intervention programmes must not only take account of children’s needs, parental wishes and local provision, but also need to base their advice and practice on empirical evidence. For that we need wealth of research on the present strategies, methods and contents
of special education for children with cerebral palsy. Unfortunately, reviews related to this area are not available from the state of Kerala and the researcher can confidently state that this work is the first step towards that area of interest. Based on their motor abilities, whether children with cerebral palsy who attend special schools are functionally independent in their academic skills? This is the key question the researcher is trying to answer in this work. Mobility and functional academic activities are the important factors that enable children with cerebral palsy to negotiate the relevant environments of home, school and community settings in order to participate in society with their family, peers and members of community. Hence it is highly significant to conduct a study on motor abilities and the functional academic skills of the children with cerebral palsy.

1.3 Statement of the problem

Cerebral palsy being a neurological disorder primarily affecting the locomotor system, early identification and interventions throughout the entire life of the affected individual, are very essential in bringing up the maximum available potentials in their academic skills as well as activities of daily living. Motor problems itself or along with other impairment such as mental retardation, visual or hearing or speech problems can interfere with the academic abilities of these children who attend schools. Thus the relation of motor abilities with the functional academic skills of children with cerebral
palsy mainly in the area of language, reading, writing and arithmetic abilities are addressed in this work. Hence problem for this investigation is stated as “Motor abilities and functional academic skills of children with cerebral palsy”.

1.4 Operational definition of the terms

The key words used in the title of this study are motor abilities, functional academic skills, and children with cerebral palsy. The researcher gives the following definitions for these words.

I. Motor abilities: - In this study, the term motor abilities refers to the gross motor and fine motor abilities of the children with cerebral palsy, measured by Gross Motor Function Classification System (GMFCS), Gross Motor Function Measure-88 (GMFM-88) and Manual Ability Classification System (MACS).

II. Functional academic skills: - In this study, the term functional academic skills refers to the academic ability of the children with cerebral palsy that are essential in the daily life in expressive language, receptive language, reading, writing, numerical and time related abilities which are measured by Behavioral Assessment Scales for Indian Children with Mental Retardation, part -A (BASIC–MR).
III. Children with cerebral palsy:- Diagnosed cases of cerebral palsy children aged between 6 to 14 years attending special schools with or without multiple disabilities.

1.5 Objectives of the study

In relation to the main theme of the investigation, the following objectives are formulated

1. To identify the extent of gross motor and fine motor abilities of children with cerebral palsy.

2. To find out the relation between gross motor and fine motor abilities of children with cerebral palsy.

3. To identify the extent of functional academic skills present in children with cerebral palsy.

4. To analyze the functional academic skills of children with cerebral palsy with respect to gross motor abilities.

5. To analyze the functional academic skills of children with cerebral palsy with respect to fine motor abilities.

6. To analyze the functional academic skills of children with cerebral palsy with respect to certain child related and parent related variables.
1.6 **Hypotheses**

With reference to the objectives, the following hypotheses are formulated

1. There is no statistically significant relation between the gross motor and fine motor abilities of children with cerebral palsy.

2. There is no statistically significant relation between the functional academic skills and gross motor abilities of children with cerebral palsy.

3. There is no statistically significant difference in the functional academic skills of children with cerebral palsy with respect to difference in their gross motor abilities.

4. There is no statistically significant relation between the functional academic skills and fine motor abilities of children with cerebral palsy.

5. There is no statistically significant difference in the functional academic skills of children with cerebral palsy with respect to difference in their fine motor abilities.

6. The functional academic skills of children with cerebral palsy do not vary with respect to certain selected child related and parent related variables.
1.7 **Methodology in brief**

This study is conducted on a sample of 100 children with cerebral palsy studying in two special schools of Kottayam and Ernakulum districts. The tools used for the collection of data are

1. Case Record Sheet
2. Gross Motor Function Classification System (GMFCS)
4. Manual Ability Classification System (MACS)
5. Behavioral Assessment Scales for Indian Children with Mental Retardation (BASIC-MR) part- A

The data collected are analyzed using t test, analysis of variance, Bonferroni test, Spearman's rank correlation and stepwise multiple regression etc. The results obtained are interpreted accordingly.

1.8 **Scope of the study**

This study is expected to high light the relation of gross motor and fine motor abilities with the functional academic skills of children with cerebral palsy. Assessment of children with cerebral palsy helps to find out a cross sectional picture of the present physical and academic status of these children. It is hoped that the descriptive and exploratory nature of the study will help to identify the extent of different impairments experienced by children with cerebral palsy and how it is related to their ability in functional academic level. Assessment of gross motor and fine motor abilities of children with
cerebral palsy using GMFCS and MACS are less time consuming and make it more easy to categorize the children into different functional groups. Similarly assessment using GMFM-88, is the best assessment chart that can be prepared for each and every child with cerebral palsy for establishing his/her present state and is useful in checking the improvement of treatment programme given to them. Assessment of functional academics and how it varies with gross motor and fine motor abilities of children with cerebral palsy gives us the present academic levels of these children which can be taken into account in changing and modifying the present curriculum and educational strategies needed for these children. In general, considering the paucity of the research studies in this area, the findings of this study will provide much needed information for special educators, physiotherapists, occupational therapists, parents and other rehabilitation professionals. The findings of the study may give directions for further research in this field. In short the investigator expects that the results of the study would be of immense use to the children with cerebral palsy as well as to all concerned with the education and welfare of the children with cerebral palsy.

1.9 Format of the report

The report consists of five chapters. Chapter I is the introduction which contains need and significance, scope, operational definitions, objectives and hypotheses of the study. Chapter II consists of the relevant background
literature and abstracts of related research findings. Chapter III presents the
details of the method adopted, the tools used, the data collection procedure
adopted and the statistical techniques used for the analysis of the data.
Chapter IV deals with the analysis of data and the interpretations of the
results and chapter V provides the summary of the study, major findings,
implications of the results and suggestions.