CHAPTER 1

1. INTRODUCTION

A child is a special way of adding joy every day and childhood is believed to be one of the most interesting, enjoyable and happiest period in one’s life. Child gives a unique chance to rediscover the pleasure, experience, new heights of joy, love, pride and excitement of childhood. Every child requires love, care, nurturing, health, nutrition and protection to survive, grow and develop. Children in the earliest years of their lives are of critical importance, both to their immediate well-being and to their future [1].

Children are a blessing from the Lord. With these blessings also come responsibilities. As stewards of God's, children’s parents are responsible for helping children to grow physically, intellectually, emotionally and spiritually. Parents, grandparents, aunts, and uncles should recognize that their child is unique, discover special needs and strengths, moods and vulnerabilities and specially sense of humour and committed to provide every advantage possible to the children in their families and to ensuring that they are healthy and have the opportunities that they need to fulfil their potential. Yet communities vary considerably in their commitment to the collective health of children and in the resources that they make available to meet children’s needs. This is reflected in the ways in which communities address their collective commitment to children, specifically to their health [2].

Children are vital to the nation’s present and its future. Children must get the best possible start in their life. Every child has the right to possess good health with special emphasis on the immunization, good nutrition, clean water, adequate sanitation and safe healthy environment. We should make concerted efforts to fight
infectious diseases, tackle major causes of malnutrition and nurture children in a safe environment that enables them to be physically healthy, mentally alert, emotionally secure, socially competent and able to learn. As we all are human beings we cannot escape from diseases and injuries; the children are also the part of this human population. Many kinds of diseases and injuries may results in permanent or temporary disability [1].

Children are one third of our population and all of our future in order to develop a healthy society, it is important that we should have healthy children [3]. The disabled children are also the part of this population. The only thing that distinguishes a child with disability is that they may be unable to do certain things in the same way that most people in the main stream of society do without some form of adaptation or alterations [4].

As per WHO Action Plan 2006-2011, an estimated 10% of the world’s population experiences some form of disability or impairment [5]. The term disability has many different meanings; the Global Burden of Disease (GBD) uses the term disability to loss of health, where health is conceptualized in terms of functioning capacity in a set of health domains such as mobility, cognition, hearing and vision [6]. In South-East Asia, the prevalence of disability ranges from 1.5% – 21.3% of the total population, depending on definition and severity of disability [7].

Disability can result from accident, illness, congenital or genetic disorders. Children who are poor are more likely to become disabled through poor healthcare, malnutrition, lack of access to clean water and basic sanitation, dangerous living and working conditions. Poverty and disability reinforce each other contributing to increase vulnerability and exclusion [8]. A disability may be visible or hidden, may be permanent or temporary and may have a minimal or substantial impact on person’s abilities. In daily life, their abilities and capacities are underestimated, their needs are given low priority, their civic, social and political rights are violated or neglected in almost all areas of their lives and therefore they are largely deprived of personal freedom as well as of effective and full participation in
family life and in society. They are also especially vulnerable to neglect, physical abuse, sexual violence and exploitation [9].

Children living with disability are often at increased risk for the development of secondary conditions that can lead to further decline in health status, independence, functional status, life satisfaction and overall quality of life [10]. Despite the increase in prevalence of disability and secondary conditions worldwide, due to various reasons, not much attention has been paid to its evaluation, management and prevention. Disability experts suggest that early initiation of comprehensive health promotion intervention and continuation of this throughout the life could arrest and minimise the occurrence and severity of secondary conditions and promote quality of life in this population [11].

1.1 BACKGROUND OF THE STUDY

Disability is an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is a complex phenomenon, reflecting an interaction between features of a person’s body and features of the society in which he or she lives [12]. In India: persons with disability act 1995, defined disability as a person suffering from not less than 40% of any disability as certified by a medical authority. The disabilities identified are blindness, low vision, hearing impairment, locomotor disabilities, mental illness, mental retardation and multiple disabilities [13].

World total population is around 7 billion with the population of 1 billion (15%) disabled people, among them 150 million are disabled children under the age of 18 years suffering with different kind of disabilities. Disability affects hundred millions of families in developing countries. 80% of persons with disabilities live in developing countries [14]. India with 1.21 billion (17.31% of the world’s population) people is the second most populous country in the world, with a population of 2.68
crore (2.21% of total population) disabled people; among them 35.29% are disabled children [15].

The person with disability includes disabilities in seeing, hearing, speech, movement, mental retardation, mental illness, multiple disability and any other. The prevalence of locomotor disability among these different kinds of disabilities is highest in younger population in the country [15]. Locomotor disabilities are the disabilities of the bones, joints or muscles leading to substantial restriction of movement of the limbs. As per type of locomotor disability, about 45% of the locomotor disability attributes to deformity of limb, 23% to dysfunction of joints of limb, 15% to paralysis, 5% to loss of limbs and 10% to any other deformity of body. Some common conditions give rise to locomotor disability could be poliomyelitis, cerebral palsy, amputation, injuries of spine, head, soft tissues, fracture, muscular dystrophies etc. But among all these causes polio (62.4%) and injury other than burns (9.8%) are the two major cause of locomotor disability among children [16].

Poliomyelitis is a debilitating viral disease that attacks the brain and ventral horn of the spinal cord. Damage to the lower motor neurons usually results in atrophy and weakness of muscle groups, perhaps paralysis and possibly deformity. Post polio residual paralysis usually occurs after acute poliomyelitis which leads to disability [17]. A significant proportion of disabilities are caused by injuries including those which result from traffic crashes, falls, and acts of violence such as child abuse, youth violence, intimate partner violence, and war and conflict [14].

Human being is a complex entity consisting of the physique and psyche, that is, the body and mind. Physical disability is accompanied by some sort of psychological disturbances. Mathew Varghese in 2011 on BBC news said that children with locomotor disability do not just suffer physically; they also face various forms of psycho-social problems. The usual physical problems faced by these children’s are: motor weakness/ paralysis, spasticity, sensory loss, pressure ulcers, deformities and contractures, loss of limbs or its parts, urinary and faecal incontinence, urinary retention, pain etc [18].
The patterns of motor weakness commonly seen are: monoplegia, paraplegia, hemiplegia and quadriplegia. Weakness can be complete [paralysis] or partial [paresis]. Weakness of upper limb can result into decreased dexterity, inability to grasp, pinch, write etc. Weakness of lower limb can lead to difficulty in walking. Sensory loss often accompanies motor weakness. Loss of sensations can lead to loss of sensory feedback injuries, pressure sores etc. in the affected area. In neuromuscular conditions there may be spasticity (increased tone) in the muscles that may cause loss of power and coordination and this later on can lead to muscle imbalance and development of deformities. Bladder and Bowel problems are common in paraplegia and quadriplegia. These include retention of urine, loss of voluntary control over urination, overflow, recurrent urinary tract infections, constipation etc. [19].

Physical impairment of a disabled child, substantially limit his activity, places him/her under great emotional stress. The common reactions of an individual to his/her disabled condition are: feelings of inferiority, self-devaluation, fear, anxiety, depression, hostility, resignation and a tendency to accept the role of a recluse. These symptoms are not only themselves causing distress but are also preventing these individuals from making life style changes necessary to manage these symptoms[19].

Members of the society show conflicting attitudes towards a disabled child. Most of them exhibit pity or believe in charity for them. Many treat them with indifference, while some demonstrate a tendency of aversion. Only a small number have a positive attitude towards them. The negative attitudes shown by a large number of people emotionally undermining the capacity of the disabled to cope with the disability. Attitude of the parents/family members exerts a great influence on the disabled child. Some parents regard the disabled child as useless. Consequently, the child develops feelings of worthlessness. Some parents, on the other hand, pamper such a child so much that he/she becomes completely a dependent. The dependence causes frustration and hinders development. Other member of the family shows jealousy towards the disabled child who then faces isolation [19].
Locomotor disabilities, being the largest group of disabling disorders, call for a gigantic effort to tackle. Rehabilitation of locomotor disabilities is demanding, and it is challenging too so the government as well as the public need to work hand in hand. In developing countries like India for the battle against the infliction on medical or social fronts there is a necessity of lot of funds which are in short supply, high level of professionalism, costly equipment and a higher degree of social understanding. More importantly the persons inflicted with the disability may themselves become a burden on the society if the measures to prevent it or at least lessen its ferocity are not taken in time. [19]

1.1.1 Global scenario on childhood disability

Over one billion people or 15% of the world’s population live with some form of disability, and of these between 110 to 190 million have significant difficulties in functioning. The estimated number of children with disabilities between 0 to 18 years ranges between 93 to 150 million [14]. Citing the Global Burden of Disease study of 2004, the world report further estimates that amongst those aged 0–14 years, roughly 5.1% (93 million) of all children live with a moderate or severe disability and 0.7% (13 million) children, live with severe difficulties. In the years ahead, disability will be an even greater concern because its prevalence is on the rise [20]. The United Nations Children’s Fund (UNICEF) in 2005 estimated that 150 million children with disabilities are under the age of 18 [21]. A recent review of the literature in low and middle income countries reports child disability prevalence from 0.4% to 12.7%. Bangladesh had the highest prevalence rates of 5.6% compared with a 1.5% rate in Timor-Leste [22].

As regarding disability in children, surveys have been carried out in various other countries and the prevalence rate varies from country to country. The prevalence of childhood disability has been reported, 1.36% in China; 1.2% in rural community of Southern Thailand; 6.3% in Saudi Arabia; 1.8% in Ghana; 4.9% in Northern Ethiopia and 1.6% in Sri Lanka. There is a growing concern in all developing countries regarding the importance of early identification and treatment
of disability in infants and young children with active involvement of the family in the prevention of disability [14].

Article 40 of the World Programme of Action (WPA) concerning disabled persons listed out a comprehensive range of causes of disability by taking into consideration certain factors like natural disasters, wars, civil conflicts, industrial, agricultural, and transportation related accidents, poverty, stressful life, overcrowding and unhygienic living conditions; constraints of resources, geographical distance and physical, psychological and social barriers [23].

Disability among females is estimated to be 11% higher than among males over the course of their lifetimes due to factors such as poorer working conditions, poorer access to quality health care, violence and childbirth [14]. Girls with disabilities suffer a double discrimination facing not only the stigma, prejudice and inequities encountered by many persons with disabilities, but also exclusion as a consequence of gender discrimination [24]. This makes them less likely than either boys with disabilities or girls without disabilities to obtain health care, get an education, receive vocational training, find employment or benefit from full inclusion in the social, political or economic lives of their families [25].

Consistent evidence emerging from research throughout the world revealed that children with disabilities are 3-4 times more likely to experience physical, emotional and sexual violence and neglect than nondisabled children. Violence takes place everywhere including the family, schools, community, justice system, work place and residential care [26].

Children with disabilities have the right to education without discrimination on the basis of equality of opportunity. The facts indicate that only 10% of all children with disabilities are in school and of this number only half actually complete their primary education, with many leaving after only a few months or years, because they are gaining little from the experience [27]. Children with disabilities from rural areas, poor urban neighbourhoods and those are from nomadic, ethnic and linguistic minorities are particularly at double risk of not receiving an education [28].
The Convention on Rights of Person with Disabilities (CRPD) recognizes the right of children with disabilities to live in the community, backed up with the necessary support and services but many children with disabilities in both industrialised and developing countries continue to spend much or all of their lives in institutions, nursing homes, group homes or other residential institutions. Some countries still encourage parents to place children with disabilities in institutional care immediately after birth or as soon as they are diagnosed. The UNICEF estimates that in the central and Eastern Europe region a child with disability is almost 17 times as likely to be institutionalized as one who is not disabled [29].

World wide, children living with disability are often at increased risk for the development of secondary conditions. Secondary conditions may be a new pathology, an additional impairment, a new functional limitation, or an additional disability. A wide range of secondary conditions have been reported including urinary tract infections, contractures, depression, pain, fatigue, pressure sores, deconditioning, osteoporosis, obesity, bowel problems, and poor cardio-respiratory function [10].

There is little emphasis is given in the paediatric health literature on general health needs of children with disabilities and on the systematic inclusion of this population in general child health activities. The lack of access to basic healthcare is one of the accountable cause of mortality among children with disabilities being as high as 80% in countries where under-five mortality overall has decreased to below 20% [30]. The access to basic healthcare can be influenced by cultural attitudes and economic development. Take for example; immunization rates for children with disabilities in parts of Ecuador are higher than in Canada and the United States [31]. Children and young people with disabilities have been almost entirely overlooked in HIV and AIDS programmes because they are actually at increased risk of becoming infected with HIV and at the same time are significantly less likely than their peers without disabilities to receive appropriate HIV and AIDS prevention, treatment, care and support services [32].
A child with disability depending on the type of impairment may need specific additional support and resources to fulfil their potential including rehabilitative care, surgical intervention, assistive devices and environmental modifications like ramps and accessible transport. In more developed countries, medical and surgical advances have brought significant improvements to the health and well-being of many children with disabilities but comparable improvements have not been evidenced in low and middle-income countries, because such advances are usually available only to children with disabilities from the wealthiest households or to a small number of children with disabilities fortunate enough to be reached by special programmes or interventions [24]. In many low income countries, children and adults who require assistive devices and technologies only 5 to 15 per cent have access to them [33].

1.1.2 Indian scenario on childhood disability

The issue of disability is a global phenomenon but the types and magnitude of disability vary from developing to developed countries. Different prevalence rates for disability are available in India. According to the census 2011, there are 2.68 crore people with disabilities in India who constitute 2.21% of the total population, among them 35.29% are disabled children of 0-19 years. One in every 10 children is born with or acquires a physical, mental or sensory disability, so India is probably home to millions of disabled children. Out of the 26,810,557 people with disabilities 14,986,202(56%) are males, 11,824,355(44%) are females and 18,631,921(70%) live in rural areas and 8,178,636 (30%) lives in urban areas [15].

According to the census 2001, there are 2.19 crore people with disabilities in India who constitute 2.13 % of the total population. Out of the 21,906,769 people with disabilities, 12,605,635(58%) are males and 9,301,134(42%) are females and these includes persons with visual, hearing, speech, locomotor and mental disabilities. Prevalence rate have shown 0.7% decadal increase during 2001-2011 for all types of disability. Number of disabled person has increased among both the sexes and both in rural and urban areas during the last decade [34].
The inter-state percentage of disabled population to total population varies in different states of India (Figure 1.1). The prevalence of disabled population to total population is observed highest in Odisha 2.96%, lowest in Meghalaya 1.49%, and in certain states like Delhi 1.40%, Tamil Nadu 1.64% and in Punjab 2.36%.

Among the states, Tamil Nadu is the only state, which has a higher number of disabled females than males whereas Arunachal Pradesh has the highest proportion of disabled males and lowest proportion of disabled females. The disabled people are suffering with different kind of physical (65.5%), mental (8.3%), multiple (7.9%), and other (18.4%) disabilities. The physical disabilities include disability in seeing (18.8%), hearing (18.9%), speech (7.5%), movement (20.3%) and mental disabilities include mental retardation (5.6%) and mental illness (2.7%). The prevalence of locomotor disability among these different kinds of disabilities is highest in the country. The proportion of locomotor disabled population is higher among younger age males than females and in rural population in comparison with urban population [15].

As per National Sample Survey Organization (NSSO) 2002 survey report, locomotor disabilities are the most prevalent type of disabilities affecting of all ages in India but the onset mainly occurs at early ages. The incidence rates have declined during 1991-2002 for all types of disability groups in lower and high age groups, however, the incidence rates for locomotor disabilities among the age groups of 15-29 years have increased. The polio (62%), injury other than burns (9.8%), cerebral palsy (1.5%), stroke (1.3%) and unknown (4.3%) are the major causes of locomotor disability among children under 15 years of age in India [35]. Lower socio-economic status is the biggest predisposing factor for disability in India. The disabled children because of poverty are more likely to suffer from malnutrition, live in crowded and unsanitary conditions (increasing risk of infectious disease), have limited access to medical care and remain unimmunised [36].
Figure 1.1: Percentage of disabled population to total population in different states of India (census of India 2011)

The pace of disability transition in India is predicted to be most rapid between 1990 and 2020 due to communicable diseases, a doubling of disability years due to injuries/accidents, and a more than 40% increase in the share of disability years due to non-communicable diseases [37].

In India, there are a substantial number of individuals who acquired a functional limitation or locomotor disability due to poliomyelitis during the epidemics of the first of the 20th century as a child and have survived. Recent research findings and clinical reports indicate that many persons aging with polio/locomotor disability are experiencing premature losses in function and developing secondary conditions [38]. Secondary conditions are new conditions or
problems that develop during the life course of a person with a primary disabling condition, may interact with old impairment and together they may limit substantially functional abilities. A wide range of secondary conditions have been reported including urinary tract infections, contractures, depression, pain, fatigue, pressure sores, deconditioning, obesity, bowel problems, and poor cardio-respiratory function. Other secondary conditions known to occur in polio survivors include peripheral nerve entrapment caused by skeletal deformity and respiratory insufficiency related to progressive nocturnal hypoventilation [10].

Some children with locomotor disabilities may be less active due to their functional limitations and attitudinal, social and physical access barriers further may increase the likelihood of physical inactivity. Physical inactivity can exacerbate conditions that children with locomotor disabilities have and can precipitate secondary conditions to which they are prone. The most commonly observed secondary conditions are fatigue, low functional capacity, obesity, pressure sores, chronic stress, anxiety, depression and decreased social interactions. These conditions are not only themselves causing distress but are also preventing these individuals from making lifestyle changes necessary to manage these symptoms [39].

Today, the whole world is already entered in the 21st era. India is also speedly developing in this era. We can see all these developments in every field as well as with the people of all classes. Generally in the society every person has his/her own aspirations, adjustments, personality and different scholastic achievement [40]. It is reality that the children with disabilities especially girls still continue to experience discrimination and exclusion from education, marriage and motherhood at all levels of society, they are kept hidden away at home by families and are also excluded from mainstream services that are relatively more resourced, less costly and within reach. Children with disability still do not have access to services (mainly educational and rehabilitation) despite policies on their rights and the roles and responsibilities of departments due to physical structures, communication barriers, negative attitudes and inexperienced service providers [41].
The plight of a disabled girl is aptly summed up by Neera, a 19-year-old orthopaedically challenged girl living in a resettlement colony in Delhi with her family, who dropped out of school in the 10th standard said that in order to seek help I visited many organisations the people promised me various things that they never delivered, which has further increased my frustration and I stopped going out of the house except to the hospital in the company of my father. All disabled people face such numerous problems during their life time [42].

Disability is a source of stigma for the child and his/her family. They are ostracized and looked down upon by the community and faces a combination of social, cultural, behavioural and physical barriers. They are particularly exposed to discrimination from individuals, community and institutions that fail in their obligation to protect them and to include them in society [43]. In daily life, disabled children’s abilities and capacities are underestimated, their needs are given low priority, their civic, social and political rights are violated or neglected in almost all areas of their lives and they are largely deprived of personal freedom as well as of effective and full participation in family life and in society [44].

Disabled children are vulnerable to neglect, physical abuse, sexual violence, exploitation and they lack recognition of their equal humanity by their families and communities. Violence against children with disabilities occurs at annual rates of 1.7 times greater than for their non-disabled peers. The girls with disabilities are particularly vulnerable to abuse. A small 2004 survey conducted in Orissa, India, found that virtually all of the women and girls with disabilities were beaten at home, 25 per cent of women with disabilities were raped and 6 per cent of disabled women were forcibly sterilized [44].

Sexual identity is a critical component of overall personality development and self-esteem, which crystallises during adolescence. Children with disabilities are at a particular disadvantage in this regard as well. There is a strong attitude of overprotection towards the disabled child. Parents infantilise disabled children and imply that sex is only for the able-bodied and of no relevance to the disabled. These parental attitudes are transmitted to the child in subtle ways making
him/her feel that he/she is inferior and unworthy of love. Parents of children with disabilities encourage dependence and share in a general societal perception of disabled persons as essentially child like, innocent and by extension asexual. To make matters worse, these attitudes also colour the perceptions of teachers [42].

In India, there are more than three thousand special schools. Out of these are nine hundred for the hearing impaired, four hundred for the visual impaired, seven hundred for the locomotor disabled and one thousand for the mentally disabled children. The 90 per cent of disabled children do not get any form of schooling because very few schools have resource rooms and employ special education teachers to help keep children with special needs in their system and sadly, these amenities are found in very few cities [45]. According to the Indian office of the World Bank, Indian children with disabilities are five and a half times more likely to be out of school than non-disabled children. However, currently, 52 per cent of adults with disabilities are illiterate, compared to 35 per cent amongst the general Indian population [46].

Children with disabilities face many barriers within and outside the Indian school system. The Disability, Education and Poverty Project, a part of the Research Consortium on Educational Outcomes and Poverty (RECOUP) to give insights into the experiences of schooling and its perceived benefits, interviewed young people with disabilities and their parents from poor households in Madhya Pradesh and found that the majority of the disabled children attended mainstream schools were unable to cope up due to inadequate resources, the inability and unwillingness of teachers to teach them, and the irrelevance of the curriculum. These inadequacies of mainstream education have also been highlighted in other school-based research in India [46].

Over the years there has been a gradual, but very slow change of attitude of society towards people with disabilities. However, children with disabilities remain mostly marginalized and particularly vulnerable to negative social attitudes. Rejection in formative years for young children has a significant role to play in the exclusion from normal development of a child and participation in family and
community life. Disabled persons face challenges everyday and would like to be viewed as people with challenges and not some "human rejection defect". They are not ashamed of their disabilities and they do not want to be looked down with pity. Offering help and assistance is not the same as assuming a disabled person cannot handle matters of themselves so look directly at a disabled person and address them while speaking directly to them in order to help them cope up with all the physical changes, emotional anxieties and social conflicts of their non-disabled counterparts, in addition to those produced by their disability along with the physical and communication related limitations that their disability places on their daily activities [47].

Children with physical disability constantly face varieties of secondary physical, psychological, and social problems along with their primary disability. The secondary problems as intersect with primary disability, the impact of disability can be devastating and have negative impact on quality of life of physically challenged children [10].

Quality of life (QoL) has been defined by the World Health Organization (WHO) as “the individual’s perceptions of their position in life in the context of the cultural and value systems in which they live and in relation to their goals, expectations, standards and concerns”. It is a broad-ranging concept incorporating in a complex way a person’s physical health, psychological state, level of independence, social relationships, and personal beliefs, as well as their relationships to salient features of the environment [48]. The term health related quality of life (HRQOL) refers to physical, psychological, and social domain of health, which are distinct areas that are influenced by a person’s experiences, beliefs, expectations and perceptions [49].

Detection and diagnosis of impairment should be made as early as possible so that the necessary medical care and treatment can be followed in time to prevent disability or at least prevent it from escalating into more limiting secondary disabilities. The provision of rehabilitation services is needed for persons with
impairments to enable them to reach optimum physical, mental and social functional level [44].

The rehabilitation of disabled children should be holistic and should include physical, emotional, intellectual, mental and social rehabilitation. One of the cornerstones for increasing capacity and empowering individuals is education. Suggestions for intervention have included disease specific programmes (Halstead, 2006) [50] based on multidisciplinary teams (Kling et al, 2000) [51], psychological (Kemp et al, 1997; Hollingsworth et al, 2002) [52], social support (Stuifbergen, 2005) [10], and health promotion through weight maintenance, and physical activity (Hofoss, 2004) [53]. The traditional approach to rehabilitation is institution based. At present efforts are required to develop and strengthen community based rehabilitation services with local government support as the mainstay of rehabilitation programmes to help communities and families to reinforce the efforts of their disabled members to overcome the disabling effects of impairment within their normal environment. All types and levels of services for disabled persons need to be provided, whenever possible within the existing health, social, educational and labour structures [19].

Many international organizations vary in their approach to the management and treatment of disabled people’s needs. The WHO promotes a medical rehabilitation approach to disability issues; UNESCO promotes inclusive education policies; the International Labour Organization (ILO) has a policy of including disabled people in their employment; UNICEF focuses on prevention of impairment in children through health and immunization programmes. However, disabled people themselves are rarely involved in the policy making of these organizations, thus lack of comparable information on disability issues makes difficult to develop or evaluate effective policies/strategies in tackling disabled population needs [54].

Ministry of Social Justice and Empowerment (MSJE), Government of India, is the key line ministry with responsibility for disability, though there are several other ministries and government departments that are directly engaged with
addressing the problem of disability in India, and many have earmarked funds to develop activities concerning disabled people [36]. In India, the proportion of health expenditure on the welfare of persons with disabilities is a negligible portion of total budgetary spending and the MSJE budget for disability is consistently under-spent [37]. NGOs reports that the current system is bureaucratic and difficult to access the amount of grants given is often considerably less then that originally requested and that payments are slow and irregular[36]. Anecdotal evidence suggests that the slow disbursement of funds has resulted in closing of NGOs programmes. Ongoing research programmes on disability are limited in India. Although, one of the objectives of National Policy for PWD 2006 and the PWD Act 1995 was to support the research in prevention and management of disability, the major focus was on the social upliftment, monetary benefits (like job opportunities, exemption from taxes, pensions, etc.) and provision of rehabilitation facilities to disabled people. The major projects run by international organizations include the Disability Knowledge and Research Programme (Disability KaR) funded by DFID, UK with focus on mainstreaming disability in India by using wide range of approaches in order to bring together knowledge and research on international disability issues [55].

Currently diagnostic, therapeutic, remedial, educational and vocational services to physically challenged children are provided within the outpatient departments of Institute for the Physically Handicapped, National Institute for Orthopaedically Handicapped and National Institute of Rehabilitation Training and Research. Outreach programmes with multi-professional rehabilitation services to the slums, tribal belts, foothills, semi-urban and rural areas are sensitized on early identification, prevention, intervention and rehabilitation of the disabled. The analysis of these institutes out patient’s services was undertaken and it was found that the majority of organizations providing special education for the impaired children are only doing so up to primary level, very few disabled persons received the vocational training, the nature of training received was in non-engineering skills, which fetch lower profile jobs and have lower income generation prospects. Thus the majority of them lacked earning capacity through the training provided to them. Only
1.2% disabled persons had received vocational training in engineering skills and only 10% NGOs and other organizations provide aid and appliances to the impaired [56].

Locomotor disabilities are not life threatening, more than 75% of these are preventable. There has been some improvement in the status of health, nutrition and education among normal children but the situation of children with disabilities remains deplorable that greatly affects the quality of life led by them. Timely health promotion interventions go a long way in disability limitation [14]. In 1970's disability specialists began to recognize that early intervention could arrest and diminish the effects of disability in children. The early intervention activities involves intense stimulation with mentally delayed children, targeted exercises and therapy with physically disabled children, orientation and mobility work with blind children and early sign language with deaf children [57].

Quality of life is considered as the ultimate goal of health promotion interventions [58]. Health promotion intervention is a person’s sustained participation in managing their health in a way that creates the necessary self-efficacy to achieve physical, psychological and social wellbeing. It includes intake of healthy diet, maintenance of personal hygiene, regular performance of exercises, encouragement and continuous capacity building to ensure confidence in self representation and understanding of own potential. Children with disabilities need awareness regarding health promotion intervention which ultimately will assist them to overcome from secondary conditions and interact with the mainstream society and enhance overall quality of life [49].

A nutritious diet is the foundation of good health and an essential ingredient for quality of life. The physically challenged children nutritional needs are similar to normal children. The diet of these children should be rich in carbohydrates (60%), proteins (20-25%), vitamins and minerals and low in fats. The intake of nutritious diet help them to prevent the risk of developing malnutrition and nutritional deficiency diseases, develop the natural immunity and overcome from the effect of primary disability so health care professionals, school teachers and
community organizations should bring awareness among the affected child and his/her family members about provision of a well balanced diet [59].

Personal hygiene refers to the personal care and grooming of an individual's body. This includes regular healthy habits of hand washing, brushing teeth, bathing, wearing of clean clothes etc. The maintenance of proper personal hygiene has various physical, psychological, social and spiritual benefits. The physically challenged children because of functional limitation may not be able to maintain proper personal hygiene so family member should assist and school teachers, community health nurses should motivate and teach them and their family members about the multiple benefits associated with regular practice of personal hygiene to improve their quality of life [60].

There are people with locomotor disabilities who have had little or no experience of physical activity or exercise [61]. Physical activity refers to all forms of bodily movement which use energy including such tasks as house work and gardening whereas exercise refers to purposeful physical activity, which is often structured and pursued for health and fitness benefits [62].

The Different kinds of exercise can be performed by locomotor disabled children depending on the purpose and deformity these include: Range-of-motion exercises, Stretching exercises and Strengthening exercises [63]. The benefits of physical exercises have been recognised from centuries. Fuller in 1705 (cited by O’Dohery, 1999) stated: “if some of the benefits accruing from regular physical activity could be procured by any one medicine, then nothing in the world would be held in more esteem than that medicine.” This report not reviewed in depth the benefits of physical exercise. However, it is important to reiterate the incalculable benefits of physical activity, and to promote an awareness of wider benefits of exercise and fitness [64]. The performance of regular physical exercises has various physical, psychological, social and spiritual benefits, these are: physical fitness, cardiovascular fitness, maintenance of joint movements, and reduction of joint pain, contracture, bowel, bladder and mood state problems and improvement in self esteem, team spirit, social integration, faith in God etc [65, 66].
"Disabled children are equally entitled to an exciting and brilliant future. We must see to it that we remove the obstacles ... whether they stem from poor access to facilities; poor education; lack of transport; lack of funding; or unavailability of equipment such as children's wheelchairs then only the rights of the disabled to equal opportunities become a reality [67]. International Day of Persons with Disabilities launched by the World Programme of Action for Disabled Persons, declared by the UN General Assembly in the year 1982 is annually celebrated on 3rd December with an objective to promote an awareness of disability issues, the fundamental rights of persons with disabilities and integration of persons with disabilities in the main stream of each aspect of the social, political, economic and cultural status of their communities. The day extends an opportunity to initialize action to reach the target of full and equal pleasure of human rights and contribution in society by disabled persons [68].

Nowadays, the worldwide attention is given to the needs of physically challenged children in order to improve their quality of life. The situation of these children is slightly improving, but there are still severe gaps both between and within countries. In many countries, local groups and NGOs have joined forces to create regional or national organisations that have lobbied for reform and changes to legislation. However, many countries have not enacted protective legislation at all and physical barriers to their integration remain. So, to make the physically challenged children as a valuable member of the family, society and nation, pay the attention to their disabilities and needs of early stimulation, interventions, health care and education. The health care organizations should act as a champion, vigilant and an ongoing basis to negotiate their inclusion in global programme aimed at all children's in need in order to improve their quality of life [43].
1.2 SIGNIFICANCE AND NEED FOR THE STUDY

Childhood is a period of physical, emotional, cognitive, speech and social development. Child growth and development is determined by various personal and environmental factors. The personal factors include heredity, gender, race, nationality, growth potential, health status etcetra. and the environmental factors includes physical environment (housing, living conditions, sanitation, ventilation etc.), psychosocial environment (good parent child relationship, healthy relations with neighbours, relatives and society), culture, play and exercises etc. These factors influence directly or indirectly by promoting or hindering the process. The children with physical disabilities face various obstacles in day to day life due to personal and environmental limitations that hinders their healthy growth and development and put them at the risk of developing secondary conditions along with primary disability [69].

Numerous recent research study findings and clinical reports indicate that children with disability are often at increased risk for the development of secondary conditions that affects their quality of life. The most commonly reported secondary problems are: progressive muscle weakness, joint pain, contractures, mobility restrictions, fatigue, cold intolerance, malnutrition, poor oral health, lack of appetite, constipation, mood state disturbances, low self esteem, perceived control, poor social relationship, lack of social support and negative societal attitude etc [70 - 73].

Abraham S conducted a descriptive study to analyse the quality of life of adolescents with physical disability who attend normal school as part of integrated education in government and aided schools in Angamaly- Perumbavoor sub-district in Kerala. The sample were 25 physically disabled adolescents with locomotor disabilities who attend 8th to 12th class. Quality of life was measured using WHOQOL-BREF Scale (1997). Result showed that out of 25 students, 18 (72%) had average quality of life, 3 (12%) had below average quality of life and 4 (16%) had high quality of life. The findings in the various domains of quality of life represent that 76% in physical, 72% in psychological, 84% in social relations and 72% in environment domain had average quality of life. These finding clearly indicate the
need of more interventions for adolescents with physical disability to improve and attain high quality of life in physical, psychological, social and environmental domains. The family, school and the community as a whole need to go hand in hand to ensure a high quality of life for the disabled adolescents [73].

Jacob T and Shapira A conducted an observational study to evaluate the perceptions of health and quality of life among a group of polio survivors in Israel. The study participant consisted of 101 polio survivors who sought treatment at 2 post-polio clinics in Israel. These participants were invited to attend a seminar, where they were asked to complete a questionnaire on demographic variables, mobility, perceptions of satisfaction with health status and quality of life, and the potential contribution of 16 activities in improving their quality of life. The result showed that participants had low physical scores and normative mental scores. Mean scores on the Short Form - 12 questionnaires for physical and mental components were 32.9 and 50.3, respectively. Approximately 70% expressed the belief that exposure to up to date information about post-polio, as well as participation in social activities, might improve their quality of life [74].

Takemura J, et al conducted a cross sectional survey to determine the number of polio survivors living and the prevalence of post-polio syndrome in Kitakyushu, Japan. A total of 342 possible polio survivors were selected from the list of physically disabled persons’ certificates administered by the Department of Health and Welfare, Kitakyushu City Government. A self-administered questionnaire concerning the diagnosis, paralysis, limitation in daily living, and use of adaptive devices was mailed to the 342 possible polio survivors. The results revealed that by confirmation of the diagnosis, 241 of the 342 turned out to be polio survivors, and the number of polio survivors per population of 100,000 amounted to 24.1. 85% of the polio survivors complained of new health problems such as difficulty in climbing stairs, muscle weakness, difficulty in walking, fatigue, joint pain, cold intolerance/numbness, muscle pain and shortness of breath. According to Halstead’s criteria, 180 polio survivors suffered from post-polio syndrome, and the prevalence of post-polio syndrome in Kitakyushu was 18.0 per population of 100,000. Hence,
this survey provides the basis for further epidemiological study in Japan in order to minimize the risk of PPS [70].

Tak M, et al conducted a comparative study on the oral hygiene and periodontal status among children with poliomyelitis having upper limb disability, lower limb disability and both upper and lower disability at Udaipur city, Rajasthan, India. Total sample comprised of 344 poliomyelitis children in the age group of 12-15 years. Clinical examination included recording of Simplified Oral Hygiene Index and Community Periodontal Index. The results of the study depicted an overall poor oral hygiene and periodontal status of the group. The mean OHI-S (2.52 ± 1.05) score was found to be the highest among children who had both upper and lower limb disability (p<0.05). The highest and the lowest mean number of healthy sextants were found among those with only lower limb disability (4.53 ± 2.05) and among those with both upper and lower limb disability (0.77 ± 1.39), respectively (p<0.05). Hence study concluded that disability had an impact on the oral hygiene and periodontal condition. The situation in this specialized population draws immediate attention for an integrated approach in improving the oral health and focus towards extensive research [71].

Pai M, et al conducted a pilot study on the nutritional status of disabled and non-disabled children living in Dharavi, Mumbai. The sample were of children between 2 and 10 years of age. The children were divided into three groups: Group I comprised of disabled children, group II comprised of non-disabled children from the same neighbourhood matched for age and sex with the disabled children and group III comprised of siblings of either sex, nearest in age to the disabled child. The data were collected through anthropometric measurements [heights, weights, and mid-upper arm circumferences (MUAC)], hemoglobin level estimation and dietary intake history. Three main Z scores assessed the nutritional status: weight-for-age (WAZ) as a measure of underweight, height-for-age (HAZ) as a measure of stunting and weight for height (WHZ) as a measure of wasting. The result revealed that children in all three groups were malnourished as compared to the NCHS reference population. Stunting was a larger problem than wasting. Of the total study population, 71% were identified as being moderate to severely malnourished
(WAZ < -2 SD), 66% were identified as being moderate to severely stunted (HAZ < -2 SD) and 21% were identified as being moderate to severely wasted (WHZ < -2 SD). No differences were found between the siblings and the neighbour controls. Each group had a mean MUAC below 13.5 cm indicative of moderate and severe malnutrition, and 63% of the total study population had low MUAC. The mean haemoglobin results for each group were below 110 g/L, the cut off point indicative of anaemia in children, and 57% of the total study population were found to be anaemic. The food frequency results show that for the majority of food group’s intake was similar between the two types of families. However, meat and vegetables were eaten a little more frequently among families without disabled children. The study clearly shows a lack of variety in the diet [75].

The prevalence of psychological sufferings in people with physical disabilities varies greatly according to the studies. Yelnik A & Laffont I in France conducted a review study on the psychological aspects of polio survivors through their life experience based on an analysis of the literature and the authors’ experience and found that the literature does not report a higher prevalence of psychological disorders (mood disorders, depression) in polio survivors than in the general population [76]. On the one hand, Hazendonk KM and Crowe SF in Australia compared a cohort of 23 patients with PPS to 20 patients without PPS and 22 patients in a control group noticed a higher percentage of depression and hypochondriac syndrome in the PPS group [77]. Similarly, the study conducted by Hosain Monawar G.M. revealed that 84.2% of disabled people had a variety of emotional problems and the reasons were guilt over disability (24.3%), afraid of complications (17.5%), people do not interact (16.5%) and will never be an able-bodied person(14.6%) etc [78].

In India, Laskar AR, et al undertaken a cross sectional study to assess the psychosocial changes and its determinants in disabled children in comparison with apparently healthy children in the Institute for Physically Handicapped, New Delhi from April 2005 to March 2006. Parents of 100 children with physical disability of age group 6-15 years were interviewed using semi-structured questionnaire and Childhood Psychopathology Measurement Scale (CPMS). The
result revealed that 37% of the disabled children and 17% of healthy children had psychosocial problems according to the CPMS scale. The psychosocial disorders were found to be significantly associated with lower socio-economic status (p=0.001), large family size (p=0.009), child educational status (p=0.01) and disabled children mother’s educational status (p=0.0001). The study concluded that presence of high proportion of psychosocial problem indicates a need for screening and early detection of psychosocial problems in developing rehabilitation programmes for children with physical disabilities. On the other hand, similarly, Abraham S from Kerala, India in his study found that majority of disabled adolescent perceive that they are having moderate level in all the psychological factors like having enjoyment in life (64%), find meaning in life (56%), ability to concentrate (80%), acceptance of body appearance (64%), satisfaction with oneself (72%) and negative feelings (80%). It is essential to have a good knowledge of the symptoms and therapeutic treatment to minimise the impact of disability on psychological wellbeing of a person [73].

Disability attitudes are major barriers in improving life conditions of physically challenged people in developing countries. Studies have shown that people in general, harbour negative and paternalistic attitudes towards persons with disabilities. Myths, legends, scriptures and folklores are all part of the cultural belief system that shape such attitudes. The physically challenged frequently suffer more due to societal prejudices than due to their disabling physical conditions. The social and physical environment in which these physically challenged live is often designed without much consideration of their special needs [80].

A number of studies conducted in the Asian region shows that people experience wide discrimination because of their physical disability. Literature in this area provides substantial evidence that the physically challenge feel discriminated in all societies. Nowicki and Sandieson meta-analysed 20 studies spanning the period 1990 – 2000 which met the inclusion criteria, allowed for 65 comparisons across 2240 participants from different countries. Factors of interest were attitudinal components, type of disability, age and gender of respondents, and role of inclusion. The majority of research findings revealed that children prefer target children
without disabilities compared to targets with physical or intellectual disabilities. Attitudinal handicaps are pervasive and often far more devastating than the environmental handicaps [81]. Similarly, in a national survey conducted in Korea, about 85% of the population with disabilities felt that they are discriminated against because of their physical condition (Kim) [82].

In India, Dalal et al, conducted a survey study on societal attitude towards disabled people in rural areas of North India and found that almost 50% of local community people and family members of person with disability had negative and patronizing attitude. They feel that person having disabilities could do nothing in terms of contributing to family income. These negative attitudes are considered major sources of social discrimination in terms of delayed treatment and rehabilitation, school drop-out and for giving low priorities to disability services. Similarly, another survey study conducted by Paterson on attitudes of Community Based Rehabilitation (CBR) workers towards people with disabilities and found that CBR worker had slightly more positive attitude towards those with orthopaedic disabilities and their attitudes are not affected by age, gender, marital status, work experience and contact with a person with a disability. The only significant influence on attitudes was of the overall years of school attended. These studies concluded that, when the negative attitudes are of aversion, fear, guilt, anger, pity or sympathy, there is a need to change these attitudes to ensure better social integration of persons with disability [84].

Self-concept is the internal compass which directs a person’s physical and metaphysical outlook, beliefs and attitudes and human relationship. Self-concept forms an essential determinant in the holistic development of a child’s personality in general and for the differently abled children it is very much essential to cope up with the disability and improve standard of living. Neeraja P conducted a descriptive study on assessment of self concept among physically challenged children attending department of orthopedics, S.V.R.R. Hospital, Tirupati, Andhrapradesh. The sample were 32 orthopedically challenged children (18 boys and 18 girls) in the age group of 11 – 14 years. Tennessee self-Concept Scale revised by Vasundara Devi (1985) consisting of 8 domains viz., physical self, family self, social self, personal self,
identity, behaviour and self satisfaction, moral self and ethical self was used to assess the self concept of physically challenged children. The results showed that none of the orthopedically challenged children had high self-concept and 75% of boys and 82% of girls showed low self concept. So there is a need of developing positive self concept among children with physical challenges [85].

Children with physical disability due to functional limitations are unable to maintain personal hygiene and did not participate in sports, exercises and leisure activities as much as non disabled children that further put them at the risk of secondary conditions. Various study findings report that health promotion opportunities i.e. provision of nutritious diet, maintenance of personal cleanliness and physically active life style of disabled children improves strength, coordination, flexibility, behavior, self esteem, social interaction and decreases the incidence and severity of secondary health conditions but these benefits should be further tested and explored [86, 87].

Dongre AR, et al studied the effect of a health promoting school based intervention for disadvantaged children in the residential Ashram schools of rural Wardha, Maharashtra. At baseline, 1287 children in 10 Ashram schools were examined using a locally adapted Global School based Student Health Survey Questionnaire. The haemoglobin level of all children was estimated using the haemoglobin colour scale. Body mass index and physical activity score for each child was calculated. The intervention was carried out through school health committees. After 1 year, 1226 children were examined using the same questionnaire. The result showed that there was significant improvement in personal hygiene and reduction in hygiene-related morbidity among the children. The median haemoglobin level of the children increased from 10.7 g/dl to 11.4 g/dl. There was also a significant increase in the proportion of children with body mass index that was normal for age (5th–85th percentile) from 32.2% to 38.5%. The study concluded that the need-based participatory health-promoting school initiative for disadvantaged children in Ashram schools led to an improvement in their personal hygiene and health [88].
Liusuwan RA, et al conducted an experimental study to determine the effects of Behavioral intervention, Exercise and Nutrition Education (BENEfit) on the health and fitness of adolescents with mobility impairment at Shriners Hospital for Children, Northern California, USA. Samples were taken of 20 children with mobility impairment in the age group of 11-18 years. Subjects were participated in a 16-week intervention programme. Participants were given a schedule of aerobic and strengthening exercises and attended nutrition education and behaviour modification sessions every other week along with their parent(s). Subjects were tested immediately prior to starting and upon completion of the programme. The result showed that fourteen individuals completed all testing sessions. There was no significant overall change in weight, body mass index, body mass index z-scores, or serum chemistry. Overall, there was a significant increase in whole body lean tissue without a concomitant increase in whole body fat. Fitness measures revealed a significant increase in maximum power output. Strength measurements revealed a significant increase in shoulder extension strength and a trend towards increased shoulder flexion strength. There were no significant changes in high-density lipoprotein, low-density lipoprotein, total cholesterol, or triglycerides. The study concluded that the BENEfit programme shows promise as a method for improving the health and fitness of adolescents with mobility impairments who are at high risk for obesity and obesity-related health conditions [89].

According to a study conducted by Emory University and the University of Georgia the disabled children who participate in sports improve in strength, coordination, flexibility and are less likely to be depressed and often show improvement in behaviour, academics, and social interaction. The study also indicated that many parents noted a decrease in secondary health complications when their children became less sedentary [90].

Biddle SJH & Asare M conducted a review of reviews study on physical activity and mental health in children and adolescents. The main objective of study was to synthesise reviews investigating physical activity and depression, anxiety, self-esteem and cognitive functioning in children and adolescents and to assess the association between sedentary behaviour and mental health by performing
a brief review. Searches were performed in 2010. Inclusion criteria specified review articles reporting chronic physical activity and at least one mental health outcome that included depression, anxiety/stress, self-esteem and cognitive functioning in children or adolescents. The result revealed that four review articles reported evidence concerning depression, four for anxiety, three for self-esteem and seven for cognitive functioning. Nine primary studies assessed associations between sedentary behaviour and mental health. Physical activity has potentially beneficial effects on reducing anxiety and depression, but the evidence base was limited. Intervention designs were low in quality, and many reviews include cross-sectional studies. Physical activity can lead to improvements in self-esteem, at least in the short term. However, there is a paucity of good quality research. Reviews on physical activity and cognitive functioning have provided evidence that routine physical activities can be associated with improved cognitive performance and academic achievement, but these associations are usually small and inconsistent. The study recommended the need of conducting experimental studies with well structured methodology to evaluate the effect of physical activity on mental health [91].

Scully D, et al conducted a review of evidence on the psychological benefits of exercise in Northern, Ireland. The review examined existing literature on exercise and mental health in relation to changes in anxiety, depression, mood, self-esteem, and stress reactivity, premenstrual syndrome and body image. The result revealed that a range of exercise regimens play a therapeutic role in healing of number of psychological disorders but the different psychological conditions respond differently to differing exercise regimens [92].

Martin JJ conducted a review study on benefits and barriers to physical activity for individuals with disabilities and found that Individuals who are physically active enjoy a range of benefits spanning physiological, emotional, cognitive and social categories. Unfortunately, many people cannot enjoy the benefits of physical activity because of many medical, psychological, social and environmental barriers that makes physical activity quite difficult for them. The study concluded that rehabilitation professionals can provide a better standard of care to clients if they are aware of the benefits and barriers of physical activity [93].
National Centre on Physical Activity and Disability and Royal College of Physicians Guidelines recommended that before anyone -- whether they are handicapped in some way or not -- begins an exercise programme, seek the advice of their physician and, if possible exercise to be performed under the supervision of trained exercise professional to function optimally. “The minimum levels of recommended physical activity are an accumulated 30 minutes of moderate intensity physical activity over the course of most days of the week, in terms of measurable physical health the target is to take enough regular exercise to improve or maintain stamina, to strengthen muscles, and to improve or maintain the range of joint movement [90, 94].

Rimmer JH & Ravesloot Chetal reported that despite the growth in health promotion programmes for person with physical, cognitive and senses disabilities; programmes for children with disabilities must be developed with full recognition of limitation caused by both the primary and secondary disabilities so that children with disabilities can benefit from health promotion opportunities to reduce the incidence and severity of secondary conditions that further limit their participation in the society [95, 96].

Based on various statistical reports, the investigator noticed that despite increased concern for health related quality of life (HRQOL) of people with disabilities little is known about the HRQOL of children with disabilities and despite the increase in quality of life research in adults, quality of life in children is relatively neglected and methods to assess the quality of life of children with chronic conditions are still in development. Much of what is known about the effects of health promotion intervention has been learned in adults. Although research is progressing in the area of health promotion intervention in children, the physical, psychosocial, and medical effects are still not well defined. These aspects of health promotion intervention are even less understood in children with disabilities. The great diversity of disabling conditions makes difficult to generalize information that has been gathered on the general population of children or on other disabilities to a specific child or group of children. Hence, investigator felt that there is the concurrent interest and need to provide comprehensive description of health related
quality of life and to find out evidence based health promotion intervention for maintaining and improving overall health status among physically challenged children. Therefore, the present study aimed to evaluate the effectiveness of health promotion intervention in improving the quality of life among physically challenged children.

1.3 STATEMENT OF THE PROBLEM

A study to evaluate the effectiveness of health promotion intervention in improving the quality of life among physically challenged children in selected schools, Punjab.

1.4 OBJECTIVES

1. To assess and compare the pre interventional and post interventional level of quality of life among physically challenged children in study and control group.

2. To determine the effectiveness of health promotion intervention on quality of life among physically challenged children in study group.

3. To find out the association between mean difference score of quality of life of physically challenged children in study and control group with their selected demographic and clinical variables.

1.4.1 Secondary objective

1. To assess the level of satisfaction on health promotion intervention among physically challenged children in study group.

1.5 OPERATIONAL DEFINITIONS

1.5.1 Effectiveness

It refers to determine the extent to which health promotion intervention has resulted in improvement in the quality of life among physically challenged children as evidenced by increase in the post interventional mean scores of quality of life measured at 12th weeks (Post interventional I), 24th weeks (Post interventional
II), and 36\textsuperscript{th} weeks (Post interventional III) through structured quality of life questionnaire developed by the investigator.

1.5.2 Health promotion intervention

It is a planned intervention which is taught and provided by investigator and qualified physiotherapist to the physically challenged children in study group which consists of health teaching on diet, personal hygiene and exercise programme.

1.5.2.1 Health teaching on diet

It refers to need based dietary advice planned in consultation with dietician consisted of introduction, definition, types and amount of food stuff to be taken to have a well balanced diet and remain healthy with disability, and risks associated with eating unhealthy diet provided to physically challenged children, their caretakers and teachers after assessing pre interventional level of quality of life of physically challenged children by investigator himself for the duration of 30 minutes by adopting lecture cum discussion as a method of teaching and power point as a visual aid thereafter they were reinforced to practice healthy dietary habits for the duration of 36\textsuperscript{th} weeks.

1.5.2.2 Health teaching on personal hygiene

It refers to advice on personal care and grooming of an individual’s body consisted of definition, various aspects of personal hygiene i.e. care of skin, hair, mouth, eyes, ears, hands, nails and menstrual hygiene etc, benefits of maintaining good personal hygiene and consequences of poor personal hygiene provided to physically challenged children, their caretakers and teachers after assessing pre interventional level of quality of life of physically challenged children by investigator himself for the duration of 30 minutes by adopting lecture cum discussion as a method of teaching and power point as a visual aid thereafter they were reinforced to practice personal hygiene habits for the duration of 36\textsuperscript{th} weeks.
1.5.2.3 Exercise programme

It consisted of introduction, definition, three kinds of exercises i.e. range of motion exercises, stretching exercises and strengthening exercises, and advantage of doing regular exercises. To perform these exercises intensively the sample of study group were divided into two groups (30 in each). For each sample, range of motion (10 minutes), stretching (10 minutes) and strengthening (10 minutes) exercises were administered by a qualified physiotherapist and assisted by investigator himself for 30 minutes/day thrice in a week for the duration of 24 weeks thereafter for the next 12 weeks they were reinforced to practice these exercises by their own. A practice diary was maintained to confirm regular practice of health promotion intervention.

1.5.3 Quality of life

It refers to physical, psychological and social wellbeing of physically challenged children as evaluated by investigator by asking / assessing with the help of structured quality of life questionnaire consisted of 70 items developed by investigator and validated by experts in the field of paediatrics, orthopaedics, physiotherapy and paediatric nursing.

1.5.4 Physically challenged Children

It refers to children with locomotor disabilities certified by medical officer and are in the age group of 10 to 19 years.

1.6 ASSUMPTIONS

1. Disability has devastating effect on quality of life of physically challenged children.
2. Children with disability are often at increased risk for the development of secondary conditions that may further decline their overall quality of life.
3. Regular practice of health promotion intervention may have various physical, psychological and social benefits and improve the overall quality of life among physically challenged children.
1.7 RESEARCH HYPOTHESES

**RH1** – There is a significant difference in the post interventional level of quality of life among physically challenged children between study and control group at 0.05 level of significance.

**RH2** – There is a significant difference in the pre interventional and post interventional level of quality of life among physically challenged children with in study group at 0.05 level of significance.

**RH3** – There is a significant association between the mean difference score of quality of life of physically challenged children in study and control group with their selected demographic and clinical variables at 0.05 level of significance.

1.8 DELIMITATIONS

The study is delimited to only

1. Physical, psychological and social well being dimensions of quality of life among physically challenged children.
2. 120 physically challenged children with locomotor disabilities between the age group of 10 to 19 years studying in Blind and Handicapped Development Society Special School, Hoshiarpur and Vocational Rehabilitation and Training Centre, Ludhiana, Punjab.

CHAPTERIZATION

**Chapter I:** It dealt with introduction, background of the study, significance and need for the study, statement of the problem, objectives, operational definitions, assumptions, research hypotheses and delimitations.

**Chapter II:** It deals with review of literature and conceptual framework