

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

**THE IMPACT OF THE REHABILITATION SERVICES ON
CHILDREN WITH ORTHOPEDIC IMPAIRMENT**



DAMENECH CHAFFO

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**THE IMPACT OF THE REHABILITATION SERVICES ON
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BY

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Acronyms/Abbreviation

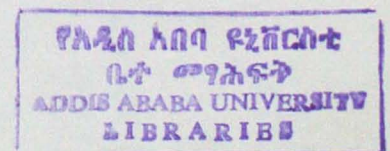
AMRC	Arba Minch Rehabilitation Center
BA	Bachelor of Art
OI	Orthopedic Impairment
CRW	Community Rehabilitation Worker
CRC	Community Rehabilitation Committee
CBR	Community Based Rehabilitation
ICRC	International Committee for Red Cross
HKAFO	Hipknee, Ankle, Foot Orthosis
KAFO	Knee Ankle Foot Orthosis
AFO	Ankle Foot Orthosis
FO	Foot Orthosis

Glossary

Kebele - The lower most administrative district consisting of 10,000 people on the average.

Woreda - Second higher administrative district consisting of ten kebeles on the average

Region - Higher administrative area consisting of ten woredas or the average.



Abstract

This study attempts to explore the impact of the Rehabilitation services on children with orthopedic impairment at Arbaminch Rehabilitation center in Arbaminch town.

In collecting data for the study, four children with orthopedic impairment, four parents of children with orthopedic impairment, three community based Rehabilitation workers (CRWs), counselor, Orthopedic technician of the sampled organization were contacted. In addition, these sources of data were selected based on purposive and available sampling techniques. Regarding children with orthopedic impairment, they are four in number three of them are males and one is female. Their age range was from 14-18 years.

In this study, the prevalence of polio is higher among the study cases of orthopedic impairment. Three of them were polio cases & the rest was children with spina bifida. Moreover, there appears to be a relationship between educational level, income of parents and prevalence of orthopedic impairment. In this regard, all of children with OI, who are involved in Rehabilitation program are from families of low income and low educational level.

The methods of data collection employed were semi-structured interview, focus group discussion, observation and consultation of documents. The data obtained through these four instruments were organized and analyzed using qualitative approach.

This study also finds that rehabilitation programs has been able to brought about substantial changes in the lives of children served at AMRC. In regard with the effect of the Rehabilitation service on children with OI, the study revealed that social rehabilitation services such as counseling, awareness raising, and child to child program to children with OI had enhanced their self confidence and reduced feelings of isolation and dependency. And also, the belief and perception of parents regarding the causes of orthopedic impairment was changed from religious belief to possible causes of OI.

Related to the functional aspect of children with OI, all have been benefited from medical/physical Rehabilitation services of the center. Therefore, the result of the study seemed to indicate that there was significant improvement on the daily living skills and mobility of the child.

The other change observed were on educational aspect. Three of the case were attending school after they were provided physical/medical Rehabilitation services such as braces, crutches and shoes. The remaining one, even though he had got a wheelchair he couldn't attend school because he is unable to control his urine and stool. Besides his problem, no attention was given by the CRW in order to cure the pressure sore found at his buttock. It seems this is due to lack of knowledge in relation to rehabilitation of children with spina bifida.

Based on this result, discussions and conclusions are made. Finally, some recommendations are indicated for possible interventions and further study.

Chapter One

Introduction

1.1. Background of the Study

At present, persons with disabilities live in especially difficult circumstances. The emergence of the social model of disability has equipped us with a different conceptual framework for understanding that difficulties for disabled children stem not from their impairment but from peoples attitudes towards it and towards disabled people (Selamwit, 2001). This condition has a profound implication on the effective functioning and adjustment of persons with disabilities. This shows how challenging and sever the social environment is for the persons with disabilities. If the environment is a rejecting, insensitive, hostile and degrading type, that will not only complicate the adjustment o f the person but also affects their development. This in turn adversely affects the self-esteem of the person with disabilities. This is usually characterized by lack of trust and confidence in oneself and the surrounding, low self-esteem, and a feeling of hopelessness (Tirussew, 2000).

Moreover, the reasons attributed to disability, how it is perceived as a value loss by a given community complied with the limitation imposed by the physical disability affect the psychological and the social situation of person with disabilities. If society tends to ascribe negative attributes for the source and the persons with disabilities, this is likely to adversely affect the available

provisions and services as well as the nature of policies pertaining to persons with disabilities. This by and large affects not only their psychological and social dimensions but also their overall performance and role in the society (Ibid.).

Furthermore, early parenting style adversely affects the psychological development of the child with disabilities. If it is more of over protection, restriction, rejection and neglect type, such psychological influences can in one way or another affect the different developmental dimensions of the child with disability. All these threads of psychological and social factors complicate the child's functioning in the different factors of life (Ibid).

Therefore, the psychological implications of disability should be given due consideration in any effort geared towards the promotion and enhancement of the quality of the life of the person.

From this particular discussion, it is easily drawn that individuals experiencing various types of disabilities, including those who are physically handicapped, deserve receiving proper rehabilitation services which help them overcome their disabling conditions and promote the development of their potentials as well as change their psychological and social conditions.

However, different governmental and non-governmental organizations have been trying to ameliorate the situation of these persons, among which Arbaminch rehabilitation center is one, which is working for the benefit of people with diverse kinds of disabilities.

Therefore, assessing the impact of the rehabilitation services on orthopedically impaired children at the center is important to design effective and successful intervention strategies for children with orthopedic impairment.

1.2. Statement of the Problem

Orthopedic impairments create obviously special problems. Most psychologists recognize the importance of movement in the development of social and emotional behavior. Being restricted from social and school activities can hinder the social and emotional development of persons with physical impairment (Yesseldyke and Algozine (1995) cited by Tirussew 2000).

Due to the body being different, persons with physical disabilities are ashamed of their body and this gives rise to poor self-image because their self-concept is influenced by the concept they have of their body. In addition, the perception and attitude of others in the immediate environment have profound effect on the psychological make up of children who suffer from excessive pity, sympathy, overprotection and general behavioral withdrawal.

Therefore, in order to tackle their problems many children with physical impairment use orthopedic devices to increase their mobility and help their bones muscles and joints. Regarding this Heward and Orlasnkyl (1988) noted that some may use assistive or adaptive equipments such as wheelchair, braces and crutches, others may rely on other for assistance at certain times in certain situations.

Regarding the provision of rehabilitation services for physically impaired person, Arbaminch rehabilitation center is the one working with the provision of rehabilitation services to person with disabilities. Hence various types of medical physical, educational social and vocational rehabilitation services rendered for the clients according to the nature and the severity of the impairments. It is therefore important to assess the impact of the rehabilitation on children with OI.

The study tries to answer the following basic questions:

1. What are the psychosocial conditions of children with orthopedic impairment prior to the provision of rehabilitation services?
2. What beliefs do parents of children with orthopedic impairment have about the causes of the impairment before and after provision of rehabilitation services?
3. What are the rehabilitation services that the center renders for children with orthopedic impairment?
4. What are the changes observed on children with orthopedic impairment as a result of rehabilitation services?
5. Which type of rehabilitation component is more effective in changing the condition of the children (Is it the social, psychological or the physical)?

1.3. Objectives of the Study

1.3.1. General Objective

To assess the impact of the rehabilitation services on children with orthopedic impairment.

1.3.2. Specific Objectives

- To find out the psychosocial condition of the children prior to provision of services.
- To investigate the beliefs of parents about the causes of the impairment before and after provision of rehabilitation services.
- To find out the rehabilitation services rendered by the center for children with orthopedic impairment.
- To find out the impact of the rehabilitation services on children with orthopedic impairment.
- To investigate the type of rehabilitation component that is more effective in rehabilitating the children.

1.4. Significance of the Study

The study is believed to have the following importance.

- Motivates concerned bodies to give due attention to the problems and play an active role in providing the services.



- Gives insight to governmental and non-governmental organizations on the importance of designing possible intervention program for the orthopedically impaired.

1.5. Delimitation of the study

This research work is delimited to urban kebele's of Arba Minch town of which the rehabilitation center operates.

In general, the study is delimited to:

- Rehabilitation services carried out by Arba Minch rehabilitation centre (AMRC) in Arba Minch town only.
- Among different types of orthopedic impairments, the study is only delimited to polio and spina bifida.

1.6. Limitation of the Study

The study was unable to follow the development of children with OI, which existed before the involvement of Rehabilitation program because it needs long-term study starting from infancy age to early childhood. Consequently, their psychosocial status prior to their involvement of the Rehabilitation programs was investigated through interviews of children with OI, their parents, and the counselor of the center.

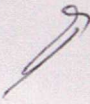
1.7. Definitions of Terms

"Child" in this study is used as defined by the United Nations Convention on the Rights of the child, Article 1 as every human being below the age of 18 years. Thus, in this study, children with orthopedic impairment with the age range 14-18 years is said to be a child.

Impairment

Is any loss or abnormality of psychological, physiological, or anatomical structure of function. This means non- functional hand, paralyzed leg MOLSA, 1999).

Orthopedic Impairment



Is a physical disability caused by congenital anomaly (e.g., clubfoot, absence of some member), impairment caused by disease (e.g., poliomyelitis, bone tuberculosis), and impairment from other causes (e.g. cerebral palsy, amputation, and fractures or burns that cause contractures).
(<http://www.lynchburg.org/specialed/definitions.htm>)

Psychosocial

It comes from the words psychological and social interrelationship of the psychological aspects pertaining to the thoughts, feelings, reactions, behavior of a person with the social aspect pertaining to the situation circumstances, events, relationships, other people which influence, or affect the person sometimes to the point of causing distress.

Rehabilitation

Is a goal oriented and time bounded process aimed at enabling persons with disabilities to reach and maintain their optimal physical, sensory, intellectual, psychiatric and social functional levels, thus providing them with the tools to change their lives towards a higher level of independence. It may include measures to provide and/or restore functions, or compensate for the loss or absence of a function or for a functional limitation (MOLSA, 1999).

Chapter Two

Review of Literature

① 2.1. Definitions, Types and Causes of Orthopedic Impairments

2.1.1. Definitions

The term orthopedic impairment generally refers to conditions of the muscular or skeletal system and some times to physically disabling conditions of the nervous system (Kirk and Gallagher, 1993). It includes impairments caused by congenital anomaly (e.g., Clubfoot, absence of some member), impairment caused by disease (e.g., poliomyelitis, bone tuberculosis) and impairment from other causes (e.g., cerebral palsy, amputation, and fractures or burns that cause contractors). (<http://www.lynchburg.org/specialed/definitions.htm>).

2.1.2. Types of Orthopedic Impairment

There are different types of orthopedic impairments. These are polio, cerebral palsy, club feet, contractors, muscular dystrophy, tuberculosis, spinabifida, amputations, and So forth (Werner, 1994).

2.1.3. Causes of Orthopedic Impairment

2.1.3.1. Congenital

Some children have congenital conditions. They are born with physical disabilities or develop them soon after birth. These children do not have the same developmental experiences that other children have.

The extent of the differences depends on the type and severity of the condition. At one extreme, some youngsters never sit or walk. At the other extreme, some children with congenital conditions will grow up and adapt with the help of prostheses or technological device. Modern technology has provided devices and aids to help these children attain normal growth and development while trying to compensate for their disability (Kirk and Gallagher, 1993).

2.1.3.2. Acquired

Some children progress through normal developmental sequences and experiences, and then develop or acquired through injury or disease a physically disabling condition (Ibid).

2.2. Prevalence of Orthopedic Impairment

Figures from the U.S. Department of education (1986) indicated that out of 200,000 students which are being served under three special education categories, about 59,000 were orthopedically impaired (Hallahan and Kauffman (1988).

∅ Additionally Kirk and Gallagher (1993) indicated that about 0.5 percent of all school age children have physical disabilities (U.S. Department of education, 1989).

✕ A survey conducted by Tirussew and et. al., (1995) indicated that person with mobility (motor) disorders constitute 30.9% among the disabled population. According to the results of this finding, motor disorder stands as the major disability group in Ethiopia.

2.3. Parental Reactions to Having a Child with a Disability

It is natural for parents to want their children to be smarter, more accomplished, and happier than themselves. When parents first learn that their child has a severe disability, these hopes are dashed. However, initial feelings may differ, depending on the parents religious and cultural backgrounds and whether the disability is identified prenatally, shortly after birth, or later in the child's life (Davis, 1987) cited in Batshaw and Perret (1992).

Moreover, Zuk (1962) cited in Tirussew and et. al., (1995) has identified three major emotional reactions common among parents when they come to realize that the child is physically handicapped. These are disappointment, anger, and guilt.

According to him, these reactions are likely to occur soon after the discovery of the problem. Disappointment arises from awareness that the child will not be able to fulfill all of the fond hopes and expectations that have been built up



even prior to his birth. Anger is initially directed at the child as the obvious source of frustration of those expectations. In addition, guilt feelings arise from the need of parents to deny that they are angry at the child (Ibid).

In relation to this, in Eastern and Southern Africa, parents first reaction to finding out that a child is handicapped is often one of shock and denial. Then, terrified, they rush from doctor to specialist, if in a rural area, perhaps from witch doctor to local healer hoping for a miraculous cure (Ross, 1988) cited in Tirusew et. al, (1995).

2.4. Parental Attitudes Towards Children with Disabilities

According to the studies conducted by Barker, Wright, and Gonick (1946) as cited in Tirssew and et. al (1995) has revealed three sorts of parental attitudes towards "crippled" children which were considered distinctly harmful. These are:

1. Inconsistent behavior involving careful provision for necessary physical care, together with resentment at the burden it entails.
2. Out right rejection of the child, and
3. Overprotection of the child.

On the other hand, mixed sort of attitudes were found in a study that examined the attitudes of parents of 51 orthopedically crippled children (5-20 years of age) who were patients at a public medical clinic. According to this study four

categories of parental attitudes were identified on the basis of interview and case history material (Ibid).

1. complete emotional acceptance of the child without full intellectual realization of the situation facing him.
2. unfavorable emotional attitudes (overprotection, rejection, or pushing beyond capacity) with adequate understanding of the child's physical state and educational and medical requirements, and
3. extreme ignorance of the physical requirements of the child together with the destructive emotional attitudes.
4. complete emotional acceptance of the child (providing him with security and protecting him from feelings of inferiority) together with a realistic intellectual insight into his physical condition, and medical and educational requirements.

2.5. Effects of Attitude on Self-concept

Self-concept is created largely through our interaction with others. The feedback we receive, from those with whom we interact give us a picture of cheerful, shy, friendly, etc. Some of this feedback comes from the non-verbal messages we receive, such as facial expression, and body language. Many individuals with disabilities learn early in life that they have a negative role in this society. They have negative feedback about their worth, both verbally and non-verbally. Their response is often passivity rigid thinking, and failure to take

part in life because the expectations placed on the individuals with a disability are negative (Seligman, 1975) cited in [http://www. a stalavista infomedia](http://www.a stalavista infomedia).

Negative attitude can be more debilitating and damaging to a person than the physical disability itself. School aged youth, who are involved in the development of self identity, learning social skills as well as academic growth are most susceptible to devaluation by their peers and adults around them. When a child's interaction is limited to their family that experience may be supportive and non-threatening. Because the environment has been supportive, they may not perceive themselves as disabled; as the child's world grows larger, the generally negative attitude that the society holds towards disability has its effect on the individual (Ibid). Rejection by peers has a profound negative effect on self-confidence and self esteem. Avoidance by peers and teachers, coupled with lowered expectations by adults about them all hamper motivation to achieve and participate (Ibid).

2.6. Self-Concept of Children with Disabilities

Self-concept as an emotionalized concept has tremendous importance for any individual because it affects his integration as a "whole' person. For person with disability, the concept of his own body image has emotional substance and meaning for him far beyond his own motor or sensory abilities (Routh, 1965 cited in Tiressew and et al., 1995).

Due to their body being different, persons with physical disability are ashamed of their body and this gives rise to poor self-image because of their self-concept

is influenced by the concept they have of their body (Heward and Orlansky, 1988).

Generally, the feelings of disabled person about themselves are that of inadequacy, unworthiness, and confusion. Many children with disabilities are able to put their plight into words. They can express their awareness of physical difference from other children and can reveal their self-concept and some of the factors, which have contributed to their life problems.

2.7. General Overview of Rehabilitation

Rehabilitation is the restoration of the physically disabled to the maximum possible physical, vocational and economic independence and social integration. It implies all measures taken or need to be taken to reduce the impact of disabling conditions, and the other way round enable people with disabilities achieve social integration. In this case rehabilitation services and facilities are generally directed to minimize impairments and negative attitudes in the society and to facilities adaptation to the new life style (Tirussew et. al., 1995).

According to Herr (1993), the aim of rehabilitation is at understanding people with disabilities, their rights and special needs to empower them. In this regard, provisions of all rehabilitative services being carried out are justified by the human rights perspective rather than charity approach (Tirussew, 1998). Regarding this United Nations declaration on the rights of people (UN, 1975), emphasis that persons with disabilities have the right to service as human and

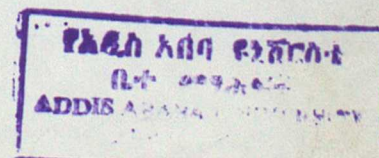
legal rights (WHO, 1997, 32). Additionally the UN's convention on the rights of the child (UN, 1989) recognized children's right to education and the right to rehabilitative services, ensuring that children with disabilities have effective access to and receive education, training, health care rehabilitation services, preparation for employment and recreational opportunities in a manner conducive to the child's achieving the fullest possible social integration and individual development, including his/her cultural and spiritual development. This implies that people with disabilities have the need and rights to all aspects of rehabilitation (medical, psychological, social, educational, and vocational), in order to maximize their potential and minimize disability (Tirussew et. al 1995).

Therefore, rehabilitation is an integrated and broad program needing the skill of many professions and cooperation of many agencies. The whole programme of total rehabilitation can be divided in to the following phases.

2.7.1. Medical Rehabilitation

Rehabilitation is the restoration of the handicapped to the maximum physical and mental utilization of which they are capable. In rehabilitation we need to focus on the individuals abilities than the disabilities. In other words the disabled is helped to live within the limits of his or her disabilities but to the fullest of his or her capabilities (Tirussew et. al. 1995).

Medical Rehabilitation program is a performance referred to a health care which enables a person with disability to have a meaningful life by supporting them to develop psychological and participation capabilities and if need arises



apply and replace the disabled part of the body by prosthetic and orthotic devices (MOLSA, 1999).

This service sector includes general medication, prosthetic and orthopedic appliances physiotherapy, training of specialists and the like.

Prosthesis is an artificial appliance replaced for leg or arm due to various reasons. Similarly, orthopedic device is an appliance fitted for paralyzed part of the body in convenient manner for mobility. These are artificial arm and leg, corset, brace, crutch, wheel chair, orthopedic shoe, and other similar aids (MOLSA, 1999).

On the other side, physiotherapy is a scientific medical method, which encompasses therapy of heat, cold, radiation, water, sound, physical exercise and massage by medical equipment which are product of technology. Indeed, it is a treatment method that enables to cure the patient in collaboration with other medical professionals, to speed up remedying period and to halt the disease from becoming worse when various illness or accidents cause complication on the body (Ibid).

If persons with disabilities get appropriate prosthesis and orthopedic appliances as per the type of their disability, it could enable them to actively participate in socio-economic activities by developing their potentials and involving in all spheres. However in this respect, when the service rendered is compared with the size of the needy, it is quite minimal (MOLSA, 1999).

2.7.2. Educational Rehabilitation

Educational Rehabilitation is to enable persons with disabilities to become self-reliant using the knowledge they acquire by creating as equal opportunities as any other citizen in regular and non-regular educational programs (MOLSA, 1999).

Physically disabled children may be provided an education in any one of several different settings, depending on the type and severity of the condition, the service available in the community, and the medical prognosis for the condition (Hallahan Kauffman, 1988).

Educational placement for these learners range from home-bound tutoring, to segregated special classes, to mainstreamed regular education. Taylor and Walker (1991) indicate that when these learners are in the public school systems, they are typically provided the assistance of either a private-duty nurse or other trained individual (Shea and Bauer 1994).

The unique needs of children with physical disabilities demand expansion of the traditional school curriculum into three areas: motor skills and mobility, self-care skills, and social and emotional adjustment (Kirk and Gallagher, 1993).

Motor Skills and Mobility

A critical area of skill development for children with physical disabilities is motor skills and mobility. These skills are necessary to maintain upright

postures (Sit, stand), perform functional movement (reach, grasp), and move around in the environment. The programming priorities for motor skill development should include developing functional movements and postures that are needed to perform classroom and school activities.

1. Development of head control and trunk control to maintain an upright sitting posture to perform needed activities through out the school day.
2. Development of arm movements and fine motor skills for performing of needed activities throughout the school day.
3. Development of standing and balance for assisted ambulation (using braces and crutches).
4. Development of skills needed to maneuver a wheelchair in the classroom and throughout the school environment.

Self Care Skills

Being able to take care of themselves is another critical area for children with physical disabilities. Self-care skills include eating, toileting, dressing, bathing, and grooming. Some children need assistive devices or physical help to perform many of these tasks.

Social and Emotional Adjustment

Research shows that people are more likely to accept their physical disability when the environment is supportive (Heinemann and Shontz, 1984) when they

achieve some sense of control over the handicapping condition (Rosenbaun, 1984), and when they begin to demonstrate new competence (Patrick, 1984 cited by Kirk and Gallager 1993).

2.7.3. Social Rehabilitation Services

These service are interrelated with the medical and vocational service and in most cases, are relatively more supportive than independent.

Social rehabilitation services are given before, during, and after medical and vocational rehabilitation and aimed at assessing the needs of the individual, his/her functions as an accepted productive and self-supporting member of his community (CRDA, 1992).

For person with disabilities the social environment is more disabling than their physical disability. This affects the effective functioning and adjustment of the person and reflects how challenging and severe the social environment is for persons with disabilities (Tirussew, 2000).

From this we can understand that children with disability are more affected not from the disabling condition but form attitude and beliefs of the society and way of treatment of these children (Yirgashewa, 2004).

Due to the above reasons the self-esteem of children with disabilities was affected. It is usually characterized by lack of trust and confidence in one self and the surrounding, low self-esteem and feeling of hopelessness. So that inappropriate behavior may develop these children.

Therefore, attitudinal change about disabilities and counseling services are provided for these children in order to develop their confidence and participation in different social settings.

Social rehabilitation of children with disabilities should include family members, peers, neighborhood and all others who are significant for these children. Since these group of community have decisive role in laying down the necessary foundation for the children's social development and well being. Counseling awareness creation and negative attitudinal changes within the society would also facilitate the children's social interaction.

2.7.4. Vocational Rehabilitation

Vocational rehabilitation is one of components of rehabilitation and is a task exercised to enable persons with disabilities to become self-reliant and make proper contribution for their nation by being equipped with useful skill which could be a base for their future life (MOLSA, 1999).

In addition to this, International Labour Organization (ILO) define vocational rehabilitation: "That part of the continuous and coordinated process of rehabilitation which involves the provision of these vocational services, e.g. vocational guidance, vocational training and selective placement, designed to enable a disabled person to secure and retrain suitable employment." The purpose is to "further a disabled person's integration reintegration into society" (ILO 1996).

In spite of the fact that some non-governmental organizations have set up vocational training centers it is possible to suggest that their impact in upgrading sustainable lives of the beneficiaries was minimal for they have very limited capacity and concentrated in training streams that are highly saturated and have fierce competition (MOLSA, 1999).

The developmental social welfare policy which was prepared by the Ministry of Labour and Social Affairs and adopted recently, provides for creating conditions where rules, regulations, programs and services could be strengthened and expanded which enhance vocational training and placement opportunities for persons with disabilities. Accordingly necessary efforts have to be made to enable persons with disabilities become beneficiaries of equal opportunity in vocational training (Ibid).

2.8. Rehabilitation of Children with Orthopedic Impairment

Orthopedic Disabilities include a wide range of disabilities which are severe enough to challenge the learners participation in daily activities. Lawrence (1991) argues that physical ability is crucial to self-concept development. As a consequence, person with orthopedic impairments may be challenged through difficulties in mobility, managing body functions, social interaction, and achieving life goals (Lawrence, 1991 cited in Shea and Bauer 1994).

2.8.1. Rehabilitation of the Child with Paralysis Caused by Polio

Poliomyelitis (Polio) is an acute disease that inflames nerve cells of the spinal cord or brainstem and leaves a residual paralysis or muscular atrophy. Formerly resulted in many individuals with physical handicaps (Vergason 1990). It is an acute communicable disease caused by the polio virus. The disease can be very mild, showing no apparent symptoms, but may progress to a severe, case of paralysis, muscular atrophy, and even fatal paralysis (Ysseldyke, and Algozine, 1995) cited by Tirussew 2000).

Maximum gain of rehabilitation of the poliomyelitic child is achieved in the first one or two years after the initial illness state (acute state). During this period, judicious use of heat, exercise and drugs and also appropriate nutrition are required. After this period the aim of rehabilitation will be to help the child make maximum use of his or her remaining abilities. The self help devices that can be availed for such use are; Braces, wheelchairs, crutches, special shoes and clothings. These devices should be prescribed by the orthopedic surgeon after proper examination of the child (Tirussew et. al., 1995).

Additionally, Werner (1994) states that all children paralyzed by polio can be helped by certain basic rehabilitation measures such as exercise to keep a full range of motion in the affected limbs.

However, each child will have a different combination and severity of paralyzed muscles, and therefore will have his own special needs (Ibid).

For some children, normal exercise and play may be all that are needed. Others may require special exercises and playthings. Still others may need braces or other aids to keep them more about better, do things more easily, or keep their bodies in heal their, more useful positions. Those who are severely paralyzed may be helped most by a wheel board or wheel chair (Ibid).

➤ **2.8.2. Rehabilitation of Children with Spina bifida**

Spina bifida (also called meningocele or myelomeningocele) is a defect that comes from a problem in the very early development of the unborn child. It happens when some of the back bone (vertebrae) do not close over the center tube of nerves (spinal cord). As a result, a soft unprotected area is left, which may bulge through the skin as a dark bag. This 'bag of nerves' is covered by a very thin layers (membrane) which may leak liquid from the spinal cord and brain. Nobody knows what causes it. But 1 of every 250 to 500 babies is born with spinal bifida (werner, 1994)

Problems that occur with spina bifida

- High risk. Without early surgery to cover the bag of nerves, it always gets infected and the child dies of meningts
- muscle. weakness and loss of feeling. The leg of feet may be paralyzed and have little or no feeling
- Hips. one or both hips may be dislocated
- The feet may turn down and in (club feet), or up and out.

- If the defect is relatively high up the back, there may be muscle spasms (spasticity) in the legs and feet
- poor urine and bowel control. The child may not feel when he pees or has a stool. When he gets older he may not develop control, and will pee or shit without knowing it.
- Bighead. 'Hydrocephalus, which means 'water on the brain develops in 4 out of 5 children with spina bifida. The liquid that forms inside the head cannot drain normally into the spinal cord, so it collects and puts pressure on the brain and skull bones. Although the child's head may look normal at birth, little by little it becomes swollen with liquid.
- Brain damage. without early surgery to lower the pressure of the liquid in the head (and sometimes even if the surgery is done), some children become blind, mentally retarded, have fits (epileptic seizures) or develop cerebral palsy
- Werner (1994) also indicated Problems that may occur when the child is older:
 - Curve of the spine
 - Urinary infections & kidney damage
 - Pressure sores may form over the bones, because the child cannot feel

- Foot injuries. Children who can walk but have no feeling in their feet may easily develop sores or injuries. If neglected, these can lead to severe infections of the flesh, bone infection, and deformities or loss of the feet

Caring for the Child with Spina bifida

Care of the defect: when there is a 'bag of nerves' on the spine of newborn baby, his chances of living are much better if he has an operation within a few weeks. The surgery covers the defect with muscle and skin. Without this operation there is a high risk of injury and brain infection (meningitis; the child will probably not live very long (Werner, 1994). For children who cannot get an operation, try to protect the bag of nerves so that its thin covering is not injured or broken. (If it breaks, meningitis can occur) One way to protect the bag is to make a ring or 'donut' of soft cloth or foam rubber, and to tie it so that it surrounds the bag. Do not let the ring or clothing touch the bag (Ibid).

Hydrocephalus:- It is important to measure the distance around the head of the child at birth, and every week or so afterward. If head size increases faster than normal, or if you notice that the head is swelling a lot, the child probably has hydrocephalus. A surgical operation called a 'shunt' may need to be done before the pressure of the liquid in the brain causes much damage. A tube is run from a liquid-filled hollow in the brain into the entrance to the heart or into the belly (abdominal cavity). This way the extra liquid is drained from the brain. Not all children who have early signs of hydrocephalus need this operation. If the

head is not very swollen and stops increasing rapidly in size, it may get better by itself (Ibid).

CAUTION: 'Shunts' do not always give good results. Even with surgery. 1 out of 5 children with hydrocephalus dies before age 7, and more than half become mentally retarded. Others are intelligent, however, and develop normally. Before deciding on the operation, get advice from 2 or 3 specialists.

Bladder and bowel management

A child with spina bifida usually does not develop the same control of peeing (bladder control) and shitting (bowel control) as other children do. The child may always dribble urine. Or, as the child as the child gets older, he/she may continue to empty his/her bladder or bowels without warning, perhaps without even knowing or feeling it. Standard method of toilet training will not work. Do not blame or scold her/him for her his accidents. (Werner, 1994)

- A mother can learn to feel how full the bladder is, and to tap on it gently to see if this makes the baby pee. If not, she can regularly press gently on the bladder to push out the urine.
- Later some children can learn to empty their bladders by crying, rolling over, laughing, or sneezing. Others learn to do it by pressing on the stomach.
- Some children may need to use a 'catheter' or rubber tube to get the urine out. By age 5 they can often learn to 'catheterize' themselves.

- Girls often need to empty the bladder regularly with a catheter, and perhaps use diapers to catch any urine that drips out in between. For girls, a mirror helps in finding the urine hole. As they grow older, boys are often able to use a 'condom' connected to a bag that collects the urine.

Most children with Spina bifida can be helped to take care of both their bladder and bowel so that they stay relatively dry, clean, and healthy. Then they can go to school and do things outside the home with greater confidence. Therefore, it is extremely important that rehabilitation workers and family members help the child work out a good bladder and bowel program (Ibid).

Planning a Bowel Program

Any bowel program will work better if you

- Do the program every day (or every other day) and at the same hour. Do it even if the person has had an accidental bowel movement shortly before, or has diarrhea.
- Do the bowel program at the same time of day that the person usually had bowel movements before his injury. Often the bowels move best after a meal or a hot drink.
- If possible, do the program on a toilet or pot. The bowels work better sitting than lying.



- Be patient. The bowels sometimes take days or weeks to change their pattern

Pressure Sore

Pressure sores, or 'bed sore', are sores that form over bony parts of the body when a person lies or sits on that part of the body for too long without moving. Where the skin is pressed against the bed or chair, the blood vessels are squeezed shut so that the blood cannot bring air to the skin and flesh. If too much time passes without moving or rolling over, the skin and flesh in that spot can be injured or die. First a red or dark patch appears. And if the pressure continues, an open sore can form. The sore may start on the skin and work in, or it may start in deep near the bone and gradually work its way to the surface (werner, 1994)

Preventing pressure sores (bed sores)

When feeling has been lost, pressure sores can easily form on the skin over bony areas-especially on the hips and butt. The biggest risk of sores is in the first weeks after the injury. This is because the child must stay very still, and has not yet learned to move or turn over his body. Prevention of pressure sores is extremely important, and needs understanding and continuous care, both by the child and those caring for the child.

Early prevention of pressure sores

- Lie on a soft mattress on thick, firm, foam rubber pad.

- Place pillows and pads to keep pressure off bony areas
- Change position (turn over from front to back and side to side) every 2 to 3 hours. To avoid pressure sores, lying on the belly is the best position)
- Keep skin and bed clothes clean
- Eat good food rich in vitamins, iron, and protein
- Move and exercise a lot to promote good flow of the blood
- Check skin daily for earliest signs of pressure sores and keep all pressure off beginning sores until the skin is healthy again

If A pressure sore has already formed (Werner, 1994)

- Keep pressure off the sore area completely and continuously.
- Keep the area completely clean wash it gently with clean or boiled water twice a day. Do not use alcohol, iodine, merthislite, or other strong antiseptics.
- Eat well. If lots of liquid comes out of the sore, a lot of protein and iron are lost with it. These must be replaced for quicker healing. Also take iron pills if signs of anemia are present. Eat foods rich in protein: beans, lentils, eggs, meat, fish, milk products.

Two Fold Treatments that Help in Curing Pressure Sore (Werner, 1994)

Papaya

Papaya has chemicals that digest dead meat. Cooks use it to soften meat. The same chemical can help soften the dead flesh in a pressure sore, and make it

easier to remove. First clean and wash out a pressure sore that has dead flesh in it. Then soak a sterile cloth or gauze 'with milk' from the trunk or green fruit of a papaya plant and pack this into the sore. Repeat cleaning and repacking 3 times a day.

Honey and Sugar

Once a pressure sore is free of dead flesh, filling it 2 to 3 times a day with honey or sugar helps prevent infection and speeds healing. To make filling the sore easier, mix honey with ordinary sugar until it forms a thick paste. This can easily be pressed deep into the sore. Cover the sore with a thick gauze bandage.

Chapter Three

Methodology

3.1. Research Design

The intention of this study was to collect empirical data specific to the impact of the rehabilitation services on children with orthopedic impairment. In order to meet this purpose, a qualitative study design was employed to investigate a contemporary phenomenon with in its real life context of the orthopedically impaired. The research was conducted through indepth analysis of the condition of the orthopedically impaired children served at Arbaminch Rehabilitation Center.

3.2. Study Area (Site)

The study was conducted at Arbaminch Rehabilitation Center, which is located at Arbaminch town, the capital city of GamoGofa zone, in the south Western part of Southern Ethiopia peoples regional government. It was estimated that the total population in the town is 70,000. The town is about 505 km away from Addis Ababa.

The GamoGofa Catholic Church has been undertaking the home based rehabilitation programme along with other social welfare activities in GamoGofa and South Omo zone for a couple of years. However, the service delivery and the need remained with wider gap. This is due to the fact that on one hand, the

community awareness about the rehabilitation programme of the church grew fast and on the other hand, the extent of the service didn't grow in line with the need because of shortage of budget and skilled manpower.

Therefore, the GamoGofa Catholic Church has approached different governmental and non-governmental organizations both to join efforts for the betterment of persons with disabilities. And initially the AMRC undertakes physical rehabilitation programme, but after having seen the needs of the persons with disabilities in the area other rehabilitation services such as social, educational. Vocational and legal aspects are included in the programme.

The Arbaminch Rehabilitation Center (AMRC) undertakes its CBR programme in four (4) zones and two (2) special weredas. There is no other institution in the area whose integral focus is on disability.

According to the census result (CSA, 1994), the project area accounts for 27.4% of the regional population and 44.6% of the area. Moreover, this data reveals that 1.69% of the region's population is categorized as disabled, of which 18.96% are below the age of 15 and those between the age of 15-49 constitute 53.5% where as 27.5% are age 50+.

The Arbaminch Rehabilitation Center (AMRC) has started its activities in 1996. The project has designed to carryout the rehabilitation process in a five-year phase from the period 1996-2000 and continued its 2nd phase for the period 2001-2005. The AMRC currently undertakes its CBR project for four zones and two special woredas of the South Ethiopia Regional Stage.

3.3. The Participants and Selection Techniques

3.3.1. The Participants

The Participants of the study includes four orthopedically impaired children, their parents/care givers of each child, the counselor, three community rehabilitation workers (CRWs), and orthopedic technician of the center.

3.3.2. Selection Techniques

Qualitative research naturally recommends purposive sampling method, and hence the same is applied in this study to select the participants of the study.

Firstly, the researcher proposed to include four children with orthopedic impairment from each type of orthopedic impairment, which was available at the study area. The factors taken into consideration to select children with orthopedic are the following:

- Children who were served for four and above years in the rehabilitation program.
- Children within the age ranges from 14-18.
- Children who were using orthopedic appliances.
- Children and parents willingness to participate in the study.

A. Children with Orthopedic Impairment

At the beginning, four children with orthopedic impairment, such as children with cerebral palsy, amputation clubfeet, and polio case were planned to include in the study.

However, it was difficult to find children from each category of orthopedic impairment. Therefore the researcher was forced to include three children with polio cases and one children with spina bifida.

Children who are served for four and above years were considered because, rehabilitation needs times to realize the benefits from the service. Moreover children within age ranges from 14-18 were selected for the mere reason that they were believed to give appropriate information about themselves. The other selected children were those who were using orthopedic appliances. Finally parents who were volunteer to be involved in the study were also selected. Furthermore considerations were made to involve both sexes. So out of four cases, three were males and one was female.

B. Parents of Children with Orthopedic Impairment

Involving parents of children with orthopedic impairment as data source was believed to be appropriate to give reliable data for the study. Therefore, parents of four children who were already selected for the study were selected purposely. In this case due to the death of her parents/caregiver of one case

(aunt) and the three children parents (both mother and father of each child) were included in the interview as well as in the focus group discussion.

C. Community Rehabilitation Workers (CRWs)

After selecting children with orthopedic impairment from the three sites of the center found at Arbaminch town, the rehabilitation workers who have been working with the selected children in each site were selected purposefully for interview.

D. Counselor and Orthopedic Technician

The interview with counselor and orthopedic technician was the other method employed for the data collection. Therefore, the available counselor and orthopedic technician of the center were selected for data source. The numbers of respondents are summarized in the following table:

Table 1: Demographic Characteristics of the Participants

	Children with orthopedic impairment	Parents of children with OI	Community rehabilitation workers (CRWs)	Counselor	Orthopedic technician	Total
Male	3	3	2	1	1	10
Female	1	4	1	-	-	6
Total	4	7	3	1	1	16
%	25	43.65	18.75	6.25	6.25	100

The total number of respondents is 16 (10 males and 6 females). 25% of the respondents were children with OI. Parents of children with OI were 43.7%. The remaining 31.25 of the respondents were the staff of the organization (the CRWs, counselor, and orthopedic technician of the center).

3.4. Methods of Data Collection

As mentioned above the study used qualitative case study method. The study was concerned with the effect of the rehabilitation services for children with orthopedic impairment.

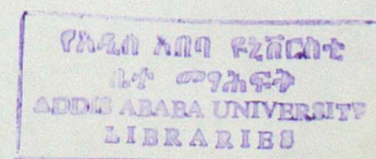
Qualitative research method invites the researcher to investigate different theoretical and practical conditions of the children in naturalistic condition. Therefore, the data gathering techniques were a combination of interview, focus group discussion, observation and consultation of documents.

3.5. Instrument for Data Collection

To obtain adequate information, a multiple method triangulation approach was used. These multiple methods includes semi-structured interview, focus group discussion, observation, and review of written documents. The semi-structured interview was the main data collection instruments. Focus group discussion, observation and review of written documents were supplementary data collection instruments.

3.5.1. Semi-structured Interview

The interview guide that was organized for children with orthopedic impairment mainly focus on the situation of children before provision of rehabilitation services and the outcomes of rehabilitation services. The interview was conducted at their home two times with each child for two hours each time.



Furthermore, semi-structured interview was conducted with parents to examine their reactions, the onset of the impairment, the treatment and the result of the treatment at their home for one hour with each parent.

In addition to this, interview was organized for counselor and orthopedic technician in their office for one and half hours on how they help the clients in order to cope up with their disability and types of appliances as well as its effect on the clients.

Finally, interview was conducted with the community rehabilitation worker at their site for one hour and will focus on the types of services and the outcomes of rehabilitation on the children with orthopedic impairment.

3.5.2. Focus Group Discussion

Focus group discussion was employed to enrich the data gathered by interviewing the impaired children and their parents, the counselor, rehabilitation workers, and orthopedic technician of the center. It was conducted with four parents of children with orthopedic impairment, who were selected for the study. The discussion was held at the rehabilitation center and it took one hour and thirty minutes. It was focused mainly on their outlook towards rehabilitating children with OI and their participation in the programs of rehabilitation.

3.5.3. Observation

Observation of children with orthopedic impairment was made with the aim of cross-checking the responses of the impaired children and their parents, the counselor, CRWs, and orthopedic technician about the effect on children as a result of rehabilitation. It was guided using observation check list and basically considers the functional, educational, vocational and social aspects of the children in their home during morning and afternoon time for two hours with each child.

3.5.4. Secondary Data or Written Documents

It was used to identify the background of the organization, the activities that take place in the organization as well as its mission and objectives.

3.6. Procedure

First of all, the problem was identified while the researcher was holding informal discussion with the manager of the center in his office. Then, relevant literature was reviewed. Based on the review of literature and other relevant information, data collection instruments were devised.

Before the main study was conducted, a pre-pilot work and pilot test were done. First, data collection instruments were devised based on the research questions and translation from English to Amharic was done by the researcher. Then both version were given to an Amharic language expert for correction. After, the Amharic version of the instrument was given to an English language

expert to translate back into English. And then, the researcher were given both Amhairc and English version of the interview guide to the advisor for approval. Finally pilot test was carried out at Cheshire CBR to identify and modify the short comings of the instrument.

At the organization selected for the main study, first contact was made with the manager and the purpose of the study was explained. Then, the researcher was referred to the CBR coordinator of the center and similar explanations was made to him in his office. Following this activities the identification of children was made according to the criteria set up for selection by the researcher. Then the researcher contacted the children and introduced the mission and objectives of the research and ask them and their parents willingness and cooperation to participate in the study. After this, necessary arrangements were made and data collection was undertaken using the aforementioned data collection instruments with the children and parents of the children, counselor, community rehabilitation workers and orthopedic technician of the center.

The data collected through all these tools were analyzed and interpreted. Then, discussion referring the findings of the data collected through instruments was made. Finally conclusions were drawn and pertinent recommendations were forwarded.

3.7. Method of Data Analysis

The data collected by all the techniques was analyzed qualitatively, by relating all the findings with relevant literature and necessary discussion was made. Finally, relevant conclusions were drawn and pertinent recommendations were given.

Chapter Four

Findings and Discussions

4.1. Presentation of the Findings

The purpose of the study was to identify and describe the impact of the rehabilitation services on children with orthopedic impairment.

The following data are about the background information of children with orthopedic impairment which was collected and organized in the form of table followed by statements of the findings.

Table 2: Background information about children with orthopedic impairment

	Name of targeted children	Sex	Age	Educational level	Parented economic level	Parental education level	Family size	Age of onset	Type of physical disabilities	Causes of physical disabilities
1	Tigist (case 1)	F	18	10	Very low	Reading & writing	3	After six months birth	Poliomyelitis	Polio virus
2	Abebe (case 2)	M	14	2	Low	Illiterate	6	After 1 year & 3 months	Poliomyelitis	Polio virus
3	Aweke (case 3)	M	14	2	Very low	Illiterate	9	After 2 years of birth	Poliomyelitis	Polio virus
4	Seifu (case 4)	M	14	Not enrolled	Low	Illiterate	9	At birth	Spina bifida	Unknown

∴ Note that the names used to represent the child is pseudonyms.

4.1.1. Presentation of the Findings from the Interview of Children with orthopedic impairment

Case - 1

Case - 1 an eighteen years old young lady who has moving difficulty. Her two legs became paralyzed because of poliomyelitis caused by polio virus when she was six months old. She is grade 10 student. She lives with her aunt and her brother

A. Psychosocial conditions prior to the provision of rehabilitations services.

When she was asked about her psychosocial condition prior to the provision of rehabilitation services, she replied that after six months of her birth her two legs became weak and did not move. At that time her mother took her to the hospital and told that her child was victimized with poliovirus. Then she was referred to the Catholic Church Rehabilitation Center for person with disabilities. At that moment she moved by crawling. She also stated that up to five years of her age she couldn't stand, walk, and move out of the home. Moreover, she was unable to interact with others outside the home environment. So she became isolated and remain alone at her home. This affected her feeling towards herself because of her total dependence on her family.

B. Types of Rehabilitation Services

Regarding rehabilitation service that she was rendered by the center, she stated that at the time she was referred to the Catholic Church Rehabilitation Center she was given walking frame. She started practicing standing and walking with that frame. When she was 5 years old the organization brought her to the Cheshire CBR Addis Ababa. The Center provided her crutches, braces and shoes.

Furthermore, she was asked about the way she has joined the Arbaminch Rehabilitation Center for persons with disabilities. She stated that she was a client of Catholic Church Rehabilitation Center and after the establishment of the new center with collaboration of Catholic Church aid that they transferred her file to the Arbaminch Rehabilitation Center.

In addition to this, she has mentioned about the types of rehabilitation services that she has got from the new Center. She said that she was provided appliances such as braces, crutches, and shoes. The previous appliances that was provided by the Cheshire home CBR has become smaller and shorter than her actual height and body size. So, it was replaced by the new appliances. Moreover, she stated that she was provided with counseling and income generating services that is to be saved and has credit schemes.

The center gave her counseling services at the rehabilitation center as well as at home-to-home visit by counselor and CRW of the center respectively.

Regarding income generating activities the center provided her saving and credit scheme in collaboration with the micro finance institute in order to make her to live an independent life.

C. Changes observed as a result of provision of rehabilitation services.

• • She was also asked about the changes observed on children with orthopedic impairment after provision of the rehabilitation services. She replied that after she was involved in the rehabilitation programme, she has changed the negative feelings that she had before towards herself. She further reported that she started to cope up with her disability by accepting herself. After the provision of the services changes in functional, educational, vocational and social aspects were observed. The changes observed are summarized in the following tables.

Table 3: Changes observed on the functional aspects

Aspects	Components	Task	Present level
Functional aspects	Daily living skills	❖ Feeds herself including eating and drinking	Alone
		❖ Keep herself clean	Alone
		❖ Uses latrine	Alone
		❖ Dressed herself	Alone
	Mobility	Sits (including sitting up from lying down with technical aid)	Alone
		❖ Stands including standing up from sitting	Alone
		❖ Walk with help of walking aids or with help of a person	Alone
		❖ Moves inside the home	Alone
		❖ Moves around in the village (including walking, crawling, using, trolley, wheelchair, or with help of a person	Alone
		❖ has aches and pain in the back or the joints	Sometimes but can still work

Regarding functional aspects, conditions related to daily living skills and mobility of the child after the involvement of the rehabilitation programme is the major concern.

Accordingly, in this finding her caregiver and CRW, indicated that case-1 was unable to feed herself, unable to keep herself clean, unable to use the latrine and not dressed her self. Moreover, she was unable to sit, stand, walk and move around in the village, but she was able to move in side the home by crawling.

After she got intensive physiotherapy and frequent exercise by CRW and her caregiver, and provided with walking frame, crutches braces, and shoes she became independent and able to feed herself, keep herself clean, uses latrine and she dressed herself. Moreover, she was able to sit, stand, walk, and move around the village with the help of orthopedic appliances. Additionally, she stated that sometimes she has aches and pain in the back and the joints.

Table 4: Changes observed on educational aspects

Aspects	Components	Task	Present level
Educational aspects	School readiness/ attendance	Plays like other child at the same age	Yes
		Goes to school	Yes, in a regular school

The above table indicated that at present, she plays like other children at the same age and she goes to school, and she attend in a regular school. She was also asked about her happiness and sorrows in the use of the appliances, she

explained that, "I was grown with it and I am familiar with it because I have got it in my early age. I experienced living with appliances.

Table 5: Changes observed on vocational aspects of case-1

Aspects	Components	Task	Present level
Vocational aspect	Skills	Have skills for income generation	Haven't sufficient skill
	Income generation	Has a work or has un income	Some income

As it was observed by the researcher and indicated in the above table she haven't sufficient skill for generating an income but she generates some income from the small scale business (small shopping) that she runs with the credit that she was provided by saving and credit scheme of micro-finance institute.

Table 6: Changes observed on social aspects of case-1

Aspects	Components	Task	Present level
Social aspects	Participation in family life	Participates in family activities	Quite a lot
		Does household activities	Yes, very often
	Participate in community life	Participates in community activities	Sometimes

Based on the researcher observation, the above table shows that at present she Participates in her family activities, and she did household activities as well as sometime she joins in the community activities.

Case-2

Case - 2 is a fourteen years old young boy. Who has a physical disability. His left leg was paralyzed because of poliomyelitis caused by polio virus. He lives with his parents. He has two brothers and one sister. His impairment was identified when he was unable to stand and walk at the age of one year and three months.

A. Psychosocial conditions prior to the provision of rehabilitation service

When he was asked about his previous psychosocial condition, he replied that the disability occurred at his early age when he was one year and three months old. When he couldn't start to stand and walk. At that time his mother brought him to the hospital and after diagnosis they referred him to Catholic Church Rehabilitation programme for persons with disabilities.

He couldn't stand and walk. He was crawling, he couldn't move any where out of his home.

B. Types of rehabilitation services

The child was asked about the types of rehabilitation services that he received from the center. He replied that he has been provided with physical (medical) rehabilitation such as braces, crutches and shoes for his leg and also given a physiotherapy service in order to give strength to his weak muscles. The other was educational rehabilitation that the center sponsored for him. They covered

his school fee, and provided education materials such as exercise books, pens, and pencils.

The other service that he provided was counseling services. They gave counseling services in order to help him to cope up with his disability.

C. Changes observed on children as a results of provision of rehabilitation services

He was asked about the benefits he has got from the rehabilitation services. He replied that his life was changed as a result of rehabilitation services. The change observed in the life of the child was presented on the functional, educational, vocational and social aspects as follows:

Table 7: Changes observed on the functional aspects

Aspects	Components	Task	Present level	
Functional aspects	Daily living skills	Feeds himself (including eating and drinking).	Alone	
		Keeps himself clean	Alone	
		Uses latrine	Alone	
		Dressed himself	Alone	
	Mobility	Sits (including sitting from lying down with in technical aids	Alone	
		Stands (including standing up from sitting)	Alone	
		Walk with the help of walking aids	Alone	
			Moves in side that home (including working, crawling, using trolley, wheel chair).	Alone
			Moves around in the village (including walking, crawling, using trolley, wheelchair).	Alone

Table 7 shows that there were a progress on the child functional aspects. His daily living skills and mobility were changed after his involvement in the rehabilitation programme. Regarding daily living skills, he started feeding by himself, keeps himself clean, uses latrine and dressed by himself. Change on the mobility of the child was the major concern on the rehabilitation of

functional aspect before he started rehabilitation programme he was unable to stand and walk. He moved only by crawling. Then after he has provided physiotherapy services as well as supportive devices such as crutches, braces, and shoes he was able to stand and walk. Moreover, he was also provided counseling service in order to cope up with his disability.

Table 8: Changes observed on educational aspects

Aspects	Components	Task	Present level
Educational aspects	School readiness/ attendance	Plays like other children at the same age	Yes
		Goes to school	Yes, in a regular school

Table 8 shows that the boy started to play like other children with the same age and able to go to schools and attended his regular class.

Table 9: Changes observed on the social aspects

Aspects	Components	Task	Present level
Social aspects	Participation in family life	Participates in family activities	Yes
		Does household activities	Yes
	Participation in community life	Participates in community activities	Sometimes

The above table shows that at present he joins in his family activities, and he did household activities. Sometimes he participate in community activities.

Case 3

Case- 3 is a fourteen years old young boy who has moving difficulty. His right leg became paralyzed because of poliomyelitis caused by polio virus when he was two years old.

A. Psychosocial condition prior to provision of rehabilitation services

The boy was asked on the state of his psychosocial conditions prior to the provision of rehabilitation services. He replied that upon the occurrence of the disability, he was a two years old child. The young boy stated that as his parent told him he was a victim of polio virus and suddenly he became sick.

The child's mother took him to a hospital for treatment. After the diagnosis, he had been given a medicine but it didn't cure him. During that time his leg became weak and paralyzed. Hence, he was unable to sit, stand and walk. Finally his mother took him to the traditional healer for treatment. But his condition was not improved. He also stated that his parent didn't allow him to go out of home. They hide him at home and prevented him not to interact with others. He was isolated and he stayed at home alone. No body was in a position to take care of him because his parents are poor and they were seeking for their daily bread. So that he was left alone at home.

Due to the societal stigma his parents were not interested to take him to the rehabilitation center. They were afraid of having a child with disability.

Moreover, they did not allow him to enroll in to school as they fear that he will be teased and bitten by children at school.

B. Types of rehabilitation services

The young boy was asked about the types of rehabilitation services that are rendered to him by the center. He replied that he has been provided with physical/medical rehabilitation such as braces, crutches, and shoes. In addition to this he has been provided educational rehabilitation service. The center has sponsored him and covered his school fee. School materials such as exercise book, pen, and pencil are also provide. Besides, a counseling services was given to him in order to cope up with his disability.

C. Changes observed on children after the provision of rehabilitation services

The young was asked about the benefits he has got from the rehabilitation services. He replied that his life was changed as a result of rehabilitation services. Changes observed on the life of the child as the result of provision of rehabilitation services in terms of functional, educational, and social aspects are respectively presented as follows.

Table 10: Changes observed on the functional aspects

Aspects	Components	Task	Present level
Functional aspects	Daily living skills	Feeds himself including eating and drinking	Alone
		Keeps himself clean	Alone
		Uses latrine	Alone
		Dressed himself	Alone
	Mobility	Sites (including sitting upon from lying down with technical aids	Alone
		Stands (including standing up from sitting	Alone
		Walk (with help of walking aids	Alone
		Moves in side the home (including walking, crawling, using trolley, wheelchair etc.	Alone
		Moves around in the village (including walking, crawling, using trolley, wheelchair etc.	
		Has aches and pain in the back or the joints	Some times

Table 10 shows the progress made by provision of rehabilitation services. After provision of rehabilitation services the child developed in his daily living skills and show mobility change. Regarding daily living skills the child was able to feed himself, keep himself clean, uses latrine, and dressed himself. Referring to changes on the mobility of the child, he was able to sit, stand, walk, move inside, and around in the village with the help of appliances.

Table 11: Changes observed on the educational aspects of case-3

Aspects	Components	Task	Present level
Educational aspects	School readiness/ attendance	Plays like other children at the same age	Yes
		Goes to school	Yes, in a regular school

The above table shows after provision of the services that the boy plays with other children of the same age and with his schoolmate.

Table 12. Changes observed on social aspects of case-3

Aspects	Components	Task	Present level
Social aspects	Participation in family life	Joins in family activities	Quite a lot
		Does household activities	Yes, very often
	Participate in community life	Joins in community activities	Some times

The above table indicated that the participated in his family, life and did household activities and sometimes he joined in community activities.

Case - 4

Case - 4 is a fourteen years old young boy who lives with his parents, three brothers and three sisters. His lower limbs became paralyzed as a spina bifida had occurred during birth due to unknown causes. He is also hydrocephalus.

At the time of birth there was a bulge at the back of the child and his parents had taken him to hospital. After a diagnosis it had been recommended that surgery shall be made.

Despite the fact that, the surgery had been done, there was no progress in the child's health even the conditions was worsen than before. Finally the lower limbs of the child became paralyzed and the head of the child was also very

big/hydrocephalus/. Moreover, the child couldn't control his urine and stool as he had a problem in controlling bladder and bowel movement.

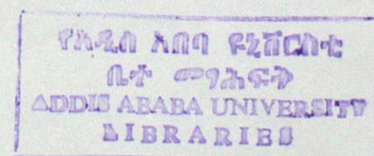
When the child was in his two years of age his parents took him to Addis Ababa Black Lion Hospital for looking treatment. But, after a diagnosis the physician told them that it was impossible to cure the child and they returned back to their home with great sadness and hopelessness.

A. Psychosocial conditions prior to the provision of rehabilitation services.

The child was asked about his psychosocial conditions prior to the involvement of rehabilitation programmes, and he replied that before the provision of rehabilitation services he was unable to walk as well as he moved with great difficulty using his buttack and as a result of this he developed a pressure sore on his buttack.

Due to the fact that the child was hydrocephalus (too big headed), when people saw him around his home, they say that "is he a human being?". They are surprised by the nature of the child. In addition to this some children laughed and teased at him.

Because of societal stigma, the parents were ashamed of the child and they were not willing to take him out of their home. Eventhough a sit with a tyre from locally available materials is made for him, they don't allow him to go out of his home. He is only allowed to move with in the home.



Due to this reason the child could not get the opportunity to interact and communicate with others.

B. Types of rehabilitation services

When he has been asked about the types of rehabilitation services that the center rendered for him/he stated that a wheelchair has been provided for him. He also stated that a wheelchair does mean a leg for him and moreover, he has got counseling services to help him to cope up with his disability.

C. Changes observed after the rehabilitation services

According to his response the provision of rehabilitation services enabled him to move with the help of a wheelchair. He taught a wheelchair as his own leg. Nowadays his mobility has been changed and he is exposed to the outside world, joined with his peers and he becomes very happy. Unfortunately, he has a problem in attending schools due to a problem in controlling bladder and bowel movement. So that, for the time being his siblings teaches him Amharic and English Alphabet.

Table 13: Changes observed on functional aspects of case-4

Aspects	Components	Task	Present level
Functional aspects	Daily living skills	Feeds himself	Alone
		Keeps himself clean	Alone
		Uses the latrine	Not at all
		Dressed	With little help
	Mobility	Moves inside the home (including walking, crawling, trolley, wheelchair etc.	With help of wheelchair
		Moves around in the village (including walking, crawling using trolley, wheelchair etc.	With help of wheelchair

Table 13 shows that the child can feed himself and keep himself clean by his own and he dressed with little help of others. But, he is unable to use a Latrine as he has a problem in controlling bladder and bowel movement.

Furthermore, he moves inside home and around the village with the help of a wheelchair.

Table 14: Changes observed on the social aspects of case-4

Aspects	Components	Task	Present level
Social aspects	Participation in family life	Joins in family activities	Sometimes
		Does household a activities	Yes
	Participate in community activities	Joins in community activities	Sometimes

The above table indicates that sometimes the child joins in family activities, he did household activities and participates in community activities.

4.1.2. Interview Result with Parents of Children with Orthopedic Impairment

Parents were interviewed about the time of on set and cause for children's disabilities the parents of the three cases. Case - 1 Case - 2 and Case - 3 indicated that their children's disabilities had occurred after birth while the parent of case - 4 said that it occurred at birth. In addition to this as they were asked about the causes for their children's disabilities, they said that it was caused by diseases, accident, and unknown causes. But before their

involvement in the rehabilitation programme, they believed that it was caused by punishment due to sin or curses from God/Allah.

The parents were also asked on how they noticed, the children's disability for the first time. And, they responded that the disability was discovered when the children had been taken to hospital to get treatments for their diseases.

Table 15: Onset and causes of orthopedic impairment perceived by parents

No.	Cases	On set of the impairment	Causes before involvement	Causes after involvement
1	case 1	After birth	Punishment from God	Diseases
2	case 2	After birth	"	Accident and disease
3	case 3	After birth	Demon or evil spirit	Disease
4	case 4	At birth	Punishment from Allah	Unknown

After that the parents were asked about their reactions when they first realized that their child become physically disabled, all of them reacted similarly. And, they explained that a severe psychological problem was experienced immediately after realizing the child's disability more over they were disappointed and mourned, became sad, and hopeless in their child's condition. They were also asked where they took the child for treatment, and all of them responded that they took them to the hospital.

Finally, they were asked on the number of years of involvement in the rehabilitation programme and they stated that two of the case were involved for 4 years and the other two were 5 years.

4.1.3. Focus Group Discussion Results with Parents.

In a focus group discussion, parents were asked about their belief towards causes of orthopedic impairment before and after their involvement in rehabilitation programme. They replied that before they were involved in the rehabilitation programme they believed that it was a curse from God or some other super natural being. For instance, one of the fathers stated that "Allah gave me this child because of my sin".

In addition to this, one of the mothers stated her prior understanding towards causes of physical disability that her child became physically impaired because she was possessed by demon or evil spirit, and she said that "when she sat on chair, demon failed down her from the chair and suddenly she became physically disabled. This was their prior feelings when they were not involved in rehabilitation programme.

After they were involved in rehabilitation programme of their children their understanding changed. They understood that disability in general and physical disability in particular was caused by either congenitally or acquired through time. They are born with physical disability or develop soon after birth and acquired through injury or disease a physically disabling condition.

In addition to this in a focus group discussion they were asked about their outlook towards rehabilitating children with physical disability. They replied that rehabilitation for children with physical disability was the most crucial aspect in their life. One of the father (parent) of the sampled physically disabled child

stated that my child was paralyzed at his lower extremities his two legs became paralyzed he was unable to walk and move and he stayed at home. He couldn't interact with others outside home. Therefore, when we saw him at home every time, we feel sad because always he stayed at home. His little brothers and sisters were attending school and went every where as they like but he was the only child who stayed at home and couldn't move at all. After he got a wheelchair he started to move with the help of it. Now he has got a leg because a wheelchair is a leg for him. The father added, " now I am very happy because my child is able to move. He is going every where as he wants."

The rest of the parents also confessed about the benefits of rehabilitation services. All of them replied that before they were involved in rehabilitation services their child were doing nothing. Hence, they cannot walk, to go to school, visit friends, and play. They stated that they were moving by crawling. But, after they have got the necessary rehabilitation services, we wondered and considered them as if they were born all over again.

They were asked about family involvement in the rehabilitation programme. They replied that they were involved on their children rehabilitation programmes by participating on disability awareness raising activities on different occasions like on coffee ceremony, kebele meetings, on school parents day and on public gatherings. On the other hand, their siblings were also involved in school child-to-child programme.

In addition to this, in a focus group discussion the father of a 14 years old polio case child responded that he prepared a walking stick for his child in order to practice standing and walking with the help of the stick. Moreover, the father of another 14 years old spina bifida case child replied that he prepared a sit for his child from local materials in order to help his child to move around his home. The mother of the child with polio case also stated that helped her child in their small scale business/small shopping by the credit she provided with micro-finance by purchasing and selling goods from different places for her business.

4.1.4. Interview Results with Community Rehabilitation Workers

First of all, CBR workers (CRW's) were asked about the trainings and experience that they had in the field.

Regarding training they took three types of training namely introduction training, basic training and follow up training. In introduction training, a training was given for 15 days regarding strategies of CBR, how to approach children with disabilities. The second was basic CBR training, in this training they trained about how to prepare participatory rural appraisal in order to know the community that they started to work. The third one was follow up training it was given in every three months for 7-8 days

The next question forwarded for them was about the most prevalent type of disability in their sites, they replied that physical disability /moving difficulty is the most prevalent among other types of disabilities.

The other question asked by the researcher was the types of rehabilitation services that they rendered for the disabled children, they responded that for those children with physical disability, first of all they brought the child to physiotherapist and orthopedic technician of the center. Hence if the case is managed by them, they started treatment but if the case is beyond their capacity, it will be managed by the professionals of the center.

They also responded about the types of services that they render for children with physical disabilities in their sites. These are:-

- Simple physiotherapy services in order to strength their weak muscles.
- Preparing tools from local materials in order to help them for doing physical exercise.
- Training children who are provided appliances from the center about how to use the appliances and also how to care & maintain them.
- Giving counseling services in order to build their self-confidence.
- Preparing conditions for attending school.
- Creating awareness about disability and children with disability and also prevention and intervention strategies for children with disabilities, their parents, and for the community in various settings like during coffee ceremony. Child-to- child programme and at community meetings, and house-to-house service.

In the ceremony, the center covers the expense for the coffee and it was prepared at one of the parents' house. Their neighbors as well as others like health professional are also invited for coffee drinking programme. At that time they discussed about the causes, prevention and intervention mechanism of disability.

The other was child-to-child club, in this club children with disability, volunteer non disabled children and teachers were involved in the club. CRW's thought for the club about the causes of disability prevention and measures to be taken to tackle their problems. Then after, the child disseminate those information for their family, peers and for other community members in various settings in the form of poems, drama music and different shows.

Regarding community meeting, CRW's providing information concerning prevention, and giving awareness about disability and children with disability as well as how to help children with disabilities in their community.

The other programme was house-to-house program. In this programe the CRW's counsel the child and their parent about the coping mechanisms.

The other role of CRW's was establishment of self-help groups within parents of children with disabilities with the aim to support each other in different social, economic, human right aspects and to share experience (learn from one another). Likewise, they shared their feelings and problems with each other in a similar situation, to develop their self-confidence, etc. In general self-help

groups are expected to hand over the CBR activities in collaboration with community rehabilitation committee (CRC) during the time of phase out period.

The CRW's asked about the outlook of the community towards rehabilitation of physically disabled, they replied that, at the beginning of the rehabilitation program they have a negative feelings towards rehabilitating children with physical disabilities. They believed that rehabilitating those children can do nothing and they think that it is a waste of time and resources. Therefore, they said no need of rehabilitating those children.

But now, after they saw a lot of changes in the lives of those children such as changes in the mobility of the child, those who didn't move, stand and walk became able to move, stand, and walk and joined with the society as well as goes to school their outlook was completely changed. Now they believe that rehabilitation is very essential and crucial in changing the lives of children with disability.

They asked about parental participation in rehabilitation programs, one of the three CRW's replied that their participation was low in her site because they assumed that the center has more responsible for their children than them. The rest two indicated that their participation is relatively better in their site.

The CRW's asked about the benefits and the changes that are observed in cases of this study, they replied that all the cases benefited from each rehabilitation components. They have shown psychosocial changes. All of the sample children were unable to stand and walk before the provision of the services. They moved

only by crawling. Their major problem was mobility problem but, after involvement of the rehabilitation programme, they started moving, standing and walking so that, they are able to go to school and interact as well as play with others. Their self-esteem has also changed because they participate in every aspect equally as that of their non-disable peers and also the counseling services that they are provided as a result of their disability.

Moreover, they also benefited from income generating activities and educational rehabilitation programmes.

Finally, they were asked about the most effective type of services, they responded that all of the services are equally important. Children with disabilities needs total rehabilitation prgrammes such as medical/physical educational, social and vocational rehabilitation.

4.1.5. Interview Result with Counselor of the Center

In this section an attempt has been made to investigate the role played by counselor. In the first place, the counselor was asked how he was trained and for how long he worked as a counselor. He replied that he was trained for four years, he is a BA holder in psychology and has three years of experience in the organization.

He was asked about the psychological condition of physically impaired child at the time they came to the center. Their feelings about themselves and towards disability. He responded that children with physical disability came to the

center consider in themselves as hopeless and worthless due to their problem in moving. Moreover, they think that disability is caused by punishment of God due to the disobedience to God.

He stated that the counseling services that gave for them includes awareness raising about disability, the way how they cope up with their disability and make them to accept and live with their disability.

4.1.6. Interview Result with Orthopedic Technician

The orthopedic technician was asked about the types and kinds of orthopedic appliances. He replied that there are various types of orthoses. These are Hipknee, Ankle Foot Orthoses (HKAFO), Knee Ankle Foot Orthoses (KAFO), Ankle Foot Orthoses (AFO), and Foot Orthoses (FO).

He also asked about the provision and usage of orthopedic appliance, he responded that orthopedic appliances are used when parts of body are not well functional to move from place to place. To solve these problem orthopedic appliance are needed by persons with orthopedic impairment. He was asked about the common types, gender and age range of the users. He replied that accident and disease doesn't differentiate age and sex but every body can have the opportunity to be a disabled. The orthopedic technician asked about the change that can be seen as a result of using the appliances by children with orthopedic impairment such as happiness and sorrows. The technician replied that orthoses and prosthesis have a long history in our country because of manmade and national calamities causes different types of disability so that

such people have got orthosis and prosthesis. But he told that the provision of the appliances are backward.

But twenty five (25) years ago the government of Ethiopia in collaboration with ICRC (International committee for Red Cross society) launched a strategy to help person victimized with man-made calamities. In order to enhance the technological advancement they train manpower in the field with in a short period of time and changed the technology from wood technology to plastic technology. Because of the advancement in technology there is a progress in provision, usage and quality of the product.

The production units found in our country has provided the necessary orthosis and prosthesis services for persons with disability with the help of raw materials, machineries and various equipments supplied by the ICRC.

Persons with orthopedic impairments have benefited from the services and by fully moving from place to place. Now they are able to stand and walk. That make them very happy because before they got the services they couldn't stand and walk but they move only with crawling, which was a great change in their life.

Nowadays, raw materials that we used are made up of plastic and that makes our provision faster and gives quality and easy for the beneficiaries to use as well as to clean it easily with in a few minutes.

Therefore, the demand and acceptance of the appliances became increased by the beneficiaries and great attention was given for the provision of the services.

4.2. Discussions

In this chapter, the results of the findings in relation to the research questions and theoretical assumptions will be discussed and interpreted. Therefore, major thematic contents are presented based on the findings.

4.2.1. Causes of Orthopedic Impairment

As the present study indicates prior to their involvement in the rehabilitation programme, all of the parents stated that their perception about the causes of orthopedic impairment was a curse imposed from God. Presently, however, the parent's perception is changed and they could understand that the causes for orthopedic impairment are accident, diseases, and unknown causes. This implies that parent's awareness about causes of orthopedic impairment has significantly changed from superstitions belief to possible factors after the rehabilitation service has been introduced in the area.

The same result was obtained in a focus group discussion held with parents.

Just to mention a statement from one mother, stated:

Previously, I thought that the causes of polio was a punishment from God for my sin. However, at present I realized that the causes of my child's disability is associated with disease.

One can infer from this that, initially polio was thought and related to punishment from God and other religious beliefs. But due to the measures taken by the rehabilitation services parents' belief is now being changed.

4.2.2. Parental Reactions by having a Child with Orthopedic Impairment

The findings of this study also indicate that parents of children with orthopedic impairment were asked to explain the condition of their reactions when they realized that their child became orthopedically impaired. Unfortunately, all of the parents explained that they were experienced severe psychological problems such as grief and sadness and they became disappointed.

In this connection, a mother of a polio case child stated her experience as:

when my child was two years old, he had had a fever and he became sick. All of a sudden his two legs became weak and unable to walk and even to sit. At the time grievance and sadness began to attack my life.

Similarly, a parent of a spina bifida case child also stated "when we realized that our child became disabled, we felt hopeless and feel sadness."

In relation to this, Zuk (1962) cited in Tirusew et. al (1995) has identified three major emotional reactions common among parents when they come to realize that the child is physically handicapped. These are disappointment, anger, and guilt.

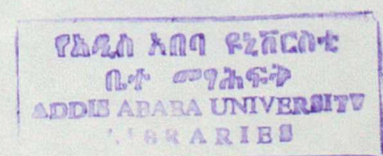
According to him, these reactions are likely to occur soon after discovery of the problem. Disappointment arises from awareness that the child will not be able to fulfill all of the fond hopes and expectations that have been built up even prior to his birth. Anger is initially directed at the child as the obvious source of frustration of those expectations. In addition, guilt feelings arise from the need of parents to deny that they are angry at the child.

Regarding this, Donna (1995) stated that there is no pain quite like the pain parents feel when they discover that their child has a disability. Whether it is evident at birth, a genetic problem that becomes apparent later, or a sudden accident that causes the disability, the emotional burden can overwhelm them, especially in the beginning.

4.3. The Psychosocial Conditions of Children with Orthopedic Impairment Prior to the provision of Rehabilitation Service

The social and emotional behaviors manifested by children with physical disabilities are functions of two factors: the specific nature of the condition and its severity. Most notably, the reactions of parents and other care-givers as well as teachers and students do influence the social and emotional behaviors the children exhibit in school, at home, and in the community.

Any physical disability affects the expectations that parents and others hold for the development of children. Most psychologists agree that the development of healthy social and emotional behaviors depend to a large extent on children's



participation in positive interactions with and positive feedback from care takers (Tirusew, 2000).

Regarding their psychosocial condition of the cases children prior to the provision of rehabilitation services, they had a difficulty in their movement. Due to this, they were unable to interact with outer environment. This impedes their social and emotional development and they developed low self-esteem.

In relation to this Kirk et. al, (1993), Schulz et. al (1991) stated that due to their difficulty in moving children with physical disabilities experience different psychological problem. They have lower sense of self-worth, greater anxiety and a less interpreted view of self-esteem than do children without handicaps. Additionally, Heward and Orlansky (1988) indicated that disabling physical conditions gives rise to frustration, resentment, with drawal and aggression.

Moreover, Bekalu (2004) indicated that their low self-esteem may also result from the influence of others in the immediate environment. The perception and attitude of others in the immediate environment have a profound effect on the psychological make up of the children with orthopedic impairment.

Furthermore, most psychologists recognize the importance of movement in the development of social and emotional behaviors. Young children must move about to learn to be independent and to interact with other young children. Limited motor skills, with limited self-help and self-care skills can limit children's social interactions.

Before their involvement in the rehabilitation programme the parents of disabled children experienced negative feelings towards the disability of their children. In this regard it has been noted that mother of case 2 child desired her child to die. Due to her feelings of hopelessness. She was not happy in her disabled child. From this, it can be understood that the parent were negatively reacting with their children.

In this Regard Heward and Orlansky, (1988) Ysseldyke and Algozine (1995) stated that the reactions of parents and other care-givers as well as teachers and students do influence the social and emotional behavior of children that they exhibit in school, at home and in the community.

In relation to this, by limiting movement and mobility, orthopedic impairment adversely affect a child's psychosocial, educational and other developmental achievements (Garwood, 1983 cited in Tirussew, 2000).

According to Ysseldyke and Algozine (1995), orthopedic impairment limit muscular movement and mobility and differ in severity. Children who evidence mild impairments can function very well in general education classroom with little or no special help. Those with severe disabilities may need special furniture or devices, or the help of trained personnel.

Regarding this, in this study three of the cases, which are polio cases were categorized in mild category and hence the children moved easily by using orthosis they interact with the environment in a greater extent and attend in

regular school. The remaining one case is a child with spinabifida. He is severely impaired.

His muscles became weak and loss of feelings. His legs are also paralyzed and have no feelings at all. His feet turned up and down and he had poor -urine and bowel control." He didn't feel when he pees or has a stool. Besides, he is hydrocephalus and has pressure sore in his buttack. Due to this problems he is confined to a wheelchair. Hence forth, he is not enrolled and attended school.

4.2.4. Types of Rehabilitation Services

Rehabilitation is the restoration of the physically disabled to the maximum possible physical, vocational and economic independence and social integration. It implies all measures taken or need to be taken to reduce the impact of disabling conditions, and the other way round enable people with disabilities achieve social integration. In this case rehabilitation services and facilities are generally directed to minimize impairments and negative attitudes in the society and to facilitate adaptation to the new life style (Tirussew et al, 1995).

In this regard the Arbamich Rehabilitation Center is undertaking rehabilitation programme with the vision and strategy to address physical medical, social, economic, education, vocational, and legal aspects of rehabilitation.

Therefore, the center renders different rehabilitation services for children with orthopedic impairment. Some of the services are mentioned as follows:

4.2.4.1. Social, Educational, Economic and Vocational Programme

In this programme children with orthopedic impairment benefited from sponsorship programme, vocational skill training, disability awareness raising programme, counseling, and employment and income generating activities and self help group activities.

a. Sponsorship

Children with physical disabilities sponsored by attending their education at different regular schools of elementary, junior and secondary level at AMRC project area. All the students sponsored by AMRC were economically from poor families and that is why AMRC sponsoring them in its educational rehabilitation program.

b. Vocational Skill Training

Children with physical disabilities were sponsored and began training \on different vocation skills such as by Garment making, animal husbandry/ dairy farming, hair dressing, computer training and others.

c. Disability Awareness Raising Programme

Disability awareness rating activities were undertaken at different times is different AMRC project operational sites. The awareness- rising program was undertaken by CRWS, CRC, and CRW supervisors on different occasions like on coffee ceremony, kebele meetings, on school parents day and on public

gatherings, etc. They were awarded on disability, and its prevention method in all AMRC project areas,

On the other hand, the child-to-child club members on the school parent day celebrations undertaken disability awareness raising activities in different elementary schools. The school parent day celebrations were taken place and it was celebrated using drama, poem, music, different shows, etc in an educable manner on different disability prevention methods, attitudinal and behavioral changes among the communities.

In addition, using IEC materials disability awareness was undertaken at different sites in and on different occasions leaflets/ brochures, newsletters, and posters were distributed to the participants.

d. Counseling Services

Counseling services had been given to children with physical disabilities on social, educational, economical, vocational, medical aspects and income generating activities.

e. Employment and Income Generation Activities

AMRC made an agreement with Omo micro-finance institutions, and gave credit to children with physical disabilities in order to support them to undertake their own small scale business under the income generation activities of its economic rehabilitation by counter signing with them the agreement paper.

Based on that, most of them started their own small scale business in different tasks/ like petty trading, shoe polishing and preparing, diary farming, electronics maintenance service, photographing, small shopping, cereal trading, etc.

4.2.4.2. Orthosis and Prosthesis Services

In this section different orthosis and prosthesis services are provided for physical rehabilitation activities for children with orthopedic impairment at head office.

This section has been engaged in providing physical rehabilitation activities for children with orthopedic impairment at the head office they provide different orthosis and prosthesis services. Among these corrective shoes and shoe raise, braces, crutches, orthopedic shoe, and other orthosis and prosthesis services has been delivered as it has been displayed. Maintaining different supportive materials is also the other activity of the section.

4.2.4.3. Physiotherapy Services

The center provides physiotherapy services at head office by referral services from the operational sites of the center and at site level. They provided an appropriate active and passive exercise such as balance and coordination exercise, pop correction, electric stimulation, and referred services for orthopedic surgery.

4.2.5. Changes Observed on Children with Orthopedic Impairment

In this study, all of the cases were benefited from mobility training and provisions of different types of devices. The study also shows that mobility of children with physical disability has increased significantly.

Concerning the change observed a parent of case 2 child noted the following.

Our little boy had polio wherle he was 1 years and 3 months old because of this his left leg became paralyzed. He was unable to stand and walk, and be begun to move by crawling. Due to the provision of rehabilitation services our child could stand and walk with the help of crutches and braces. At present, he is in grade 2.

Similarly a father of a spina bifida case child expressed his self satisfaction and improvement on the child in the following manner.

A wheelchair shall mean a leg to my child. He had provided with a leg for his movement and I become pleased with his wheelchair because he had got a leg.

The above findings indicate that positive results are obtained. Children had received psychological satisfaction from the rehabilitation services.

In addition to this, all of the cases have shown mobility changes with the help of devices such as braces, crutches, and wheelchair.

Moreover, from the counseling services children were benefited and change their attitude, accept their own selves, develop their self-confidence and became self reliant on their lives.

Table 16. Change observed on the functional aspects of four cases after provision of rehabilitation services

Functional aspects	Case I	Case II	Case III	Case IV
Daily living skills				
▪ feeds himself or herself? (including eating and drinking	√	√	√	√
▪ keeps himself/herself clean? (Including washing, bathing and cleaning teeth	√	√	√	√
▪ uses the latrine	√	√	√	X
▪ dressed (including with little help)of others).	√	√	√	√
Mobility				
▪ sits? (Including sitting up from lying lawn with technical aid)	√	√	√	√
▪ stands? (Including standing up from sitting)	√	√	√	X
▪ walk (with help of walking aids or with help of a person	√	√	√	X
▪ moves inside the home? (Including walking, crawling, using trolley, wheelchair etc, or with help of a person	√	√	√	√
▪ moves around in the village? (Including waking, crawling, using trolley, wheelchair etc, or with help of a person	√	√	√	√

Table 17: Changes observed on the educational aspects of the four cases

Educational aspects	Case I	Case II	Case III	Case IV
School readiness/ attendance				
▪ plays like other children at the same age	√	√	√	√
▪ goes to school?	√	√	√	X

Table 18: Changes observed on the Social Aspects of the of four cases

Social aspects	Case I	Case II	Case III	Case IV
Participation in family life				
▪ joins in family activities	√	√	√	√
▪ does household activities (some times)	√	√	√	√
Participation community life				
▪ joins in community activities (some times)	√	√	√	√

Regarding, the most effective type of rehabilitation component in changing the life condition of children with orthopedic impairment, children with orthopedic impairment as well as community rehabilitation workers indicated that all of the rehabilitation components are equally important for their overall life changes.

Similarly, Mengesha H/Melekot (1992) indicated about the modern concept of rehabilitation that is, total rehabilitation. He noted that countries are increasingly beginning to realize that they must adopt the modern concept of rehabilitation. In other words isolated services are not enough, they must progressively aim at the total rehabilitation of the individual. This programme is a step-by-step process which begins with a careful diagnostic study of pertinent medical, social, psychological factors, and of the potentiality for employment involved in each person's case, and the drawing up of individual plans for his rehabilitation, they follow medical and related services including necessary surgery, to remove or reduced so far as possible the disability. This may cover

treatment of a disabling chronic diseases, sometimes over a considerable period.

Physical aids such as braces, crutches, shoes are supplied and instructions are given on their use. Individual counseling services help the person throughout the process; especially in selecting the kind of job he would like to do and is capable of doing. After that, he is given systematic vocational training to fit him for his work. And after he has been thoroughly trained, his counselor helps place him in the right kind of job.

Chapter Five

Conclusion and Recommendation

5.1. Conclusion

The findings of the study reveals that prior to the provision of rehabilitation services children with orthopedic impairments couldn't interact with others due to their problems in mobility. As a result their psychological and social conditions were affected inversely and they experienced isolation and developed low self-esteem.

The Arbaminch Rehabilitation Center provides community based rehabilitation services which enhances possible physical, vocational and economic independence, and social integration. Because of the physical rehabilitation the mobility of the children was changed from crawling to walking and they were attending their education in the regular school. Moreover, they were also provided awareness raising and child-to-child program in order to enhance the social interaction of the children and to make an attitudinal and behavioral change among the communities.

In addition to this, children with orthopedic impairment benefited from the income generating activities. In this study, as it has been observed, One of the cases has started leading an independent life.

From this we can conclude that children with orthopedic impairment have benefited from the total rehabilitation program.

As it has been clearly indicated here above the children have benefited from the rehabilitation program in that their self-reliance has developed and their mobility is getting well. The findings of the study shows that children's improvement in mobility has increased their school enrollments.

Moreover, parental belief towards the causes of physical disability was changed from religious beliefs to the possible causes as a result of rehabilitation program intervention. There is also a relationship between educational levels of parents, poverty and the occurrence/prevalence of physical disabilities in this study. In this regard, all of the children with orthopedic impairment, who are involved in rehabilitation program are from families of the low income and low educational level.

Lack of knowledge of CRWs related to rehabilitation of children with orthopedic impairment especially children with spinabifida indicates that they lack training on how to manage such children.

5.2. Recommendation

In relation to the above-mentioned conclusions, the following major recommendations have been forwarded.

1. The rehabilitation center should be encouraged to strengthen the existing services to bring considerable change in the life of children with orthopedic impairment.
2. Parents of children with orthopedic impairment should be involved in income generating activities, in order to empower them economically and to change the living condition of the family.
3. The existing self-help group and the CRC (Community Rehabilitation Committee) should have to be supported and encouraged to hand over the rehabilitation activities to community during the time of phase out period.
4. As the finding indicates that most of the study cases are polio cases caused by polio virus. Therefore, the rehabilitation center should stress working on the preventive measures of disability in collaboration with the health center.
5. CRWs, family and community members have to be oriented to produce simple, cost effective, and locally made appliances with a technical support of orthopedic workshop workers.
6. Organizing interdisciplinary team which include special needs educators, physician, rehabilitation counselor, orthopedic technician, and physiotherapist so that they serve the center by rendering professional service as well as by providing effective training for CRWs and family

members on how to manage children with various types of orthopedic impairment.

7. Rehabilitation programs should enhance full involvement of families members in rehabilitation activities.
8. Further researches need to be conducted on the impact of rehabilitation services in the future to make wide scale investigations.

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Appendixes

APPENDIX A:

Addis Ababa University
School of Graduate Studies
Department of psychology

Semi-structured Interview guide for children with orthopedic Impairment

1. Background information
 - 1.1. Sex _____ Age _____ Religion _____ Ethnicity _____
 - 1.2. Address
Wereda _____ Zone _____ Region _____
 - 1.3. Educational condition _____ grade _____
 - 1.4. Onset of the impairment _____
 - 1.5. Causes of the Impairment _____
 - 1.6. Types of the impairment _____
2. Psychosocial condition of children prior to the provision of Rehabilitation Service
 - 2.1. What do you feel at the occurrence of the impairment _____
 - 2.2. What is your belief towards the causes of the impairment _____
 - 2.3. What do you feel when you compare your self with you non-disabled peers _____
 - 2.4. What about your mobility _____
 - 2.5. Did you participate in community activities _____
 - 2.6. Did you perform daily living activities _____

- 2.7. Do you attend School _____
3. About Rehabilitation Services and psychosocial conditions of children after provision of the services
- 3.1. What services do you get from the center _____
- 3.2. How did you get the services _____
- 3.3. When did you get the services _____
- 3.4. What do you benefit from the physical/ medical Rehabilitation services _____
- 3.5. What are the benefits that you get from social rehabilitation _____
- 3.6. What do you benefit from vocational rehabilitation _____
- 3.7. Explain about your benefit that you get from the educational rehabilitation service _____
- 3.8. Which one is the most effective in rehabilitating the orthopedically impaired? _____
- 3.9. What is your opinion towards the services _____
4. How do you explain the overall life changes after getting the service _____

- 2.4. What was your reaction at that time _____
- 2.5. Where did you take the child for treatment _____
- 2.6. What were you told about the problem/diagnosis was?
- 2.7. What treatment was given _____
- 2.8. What changes are occurred in the Childs life after he gets the services
- Daily living activities
 - Movement
 - Education
 - Independent living
- 2.9. What was your attitude towards Rehabilitation of children with orthopedic impairment

APPENDIX C

Focus Group Discussion for parents / care-givers

Discussion themes

- Belief towards causes of orthopedic impairment before and after their involvement in rehabilitation program.
- Their out look towards rehabilitating children with physical disabilities.
- Their involvement in the rehabilitation program

APPENDIX D

Semi-structured interview guide for community rehabilitation workers (CRWs).

1. Training and working experience in the field
2. Types of rehabilitation services that they rendered for children with orthopedic impairment.
3. The outlook of the community towards rehabilitation of children with orthopedic impairment.
4. Parental participation in rehabilitation program
5. The benefits and changes that are observed on the sampled children
6. The most effective type of services among others.

APPENDIX E

Semi structured interview guide for orthopedic technician

- Types and kinds of orthopedic appliances
- Provision and usage of orthopedic appliance
- Types and number of users by age and sex
- Changes that can be seen as a result of using appliances such as happiness or sorrows.

Appendix F

Semi structured interview guide for counselor

- ❖ Training and working experience in the field
- ❖ Psychosocial condition of children with OI prior to the provision of rehabilitation services.
- ❖ Counseling services that rendered by the counselor in order to make them to cope up with the impairment.

APPENDIX G

Document analysis Guide

1. Background of the sample organization
 - Year of establishment
 - Major activities involved
 - The main objective of the organization
2. Types of Rehabilitation services rendered for children with orthopedic impairment

Appendix H

Interview cross-check observation guide

Functional aspects

- Daily living skills
 - Feeds himself/herself

- Keeps himself/herself clean (including washing, bathing and cleaning teeth)
- Uses the latrine
- Dressed and undressed
- Mobility
 - Sits (including sitting up from lying down with technical aid).
 - Stands (including standing up from sitting)
 - Walk (with help of walking aids or with help of a person)

Educational aspects

- School Readiness/attendance
 - Plays like other children at the same age
 - Goes to school

Vocational aspects

- Skills
 - Have skills for income generation
 - Has a work or has an income

Social aspects

- Participation in family life
 - Joins in family activities
 - Does household activities
- Participation in community activities
 - Joins in community activities

Source: Adapted from Ture Jönsson, (1994).