

1.THE PROBLEM AND ITS SETTING

1.1 INTRODUCTION

Rehabilitation services have traditionally been neglected in South Africa. Predominantly based within the health sector, with the Departments of Labor and Education carrying some rehabilitation related programmes, these services tend to be fragmented and uncoordinated. This is mainly due to the lack of a comprehensive national inter-sectoral rehabilitation policy.

white paper on disability , 2002

Cerebral palsy is not a disease, it's a disability. In very rare and severe cases people can die of the overwhelming impact of physical impairment.

Phelps states:

“seven children are born with Cerebral Palsy per 100 000 people. Of these seven, one dies during the first year of life; six remain. Of these six, two are so severe as to require institutional treatment and four are left for treatment; one is amenable only to home or day care, two are moderately involved and benefit from treatment, and one child is so mild that no special treatment is required”

(Bleck & Nagel, 1975:6)

People affected by Cerebral Palsy and Spinal cord injuries have to live out their potential with their impairment. Although therapy, specialized surgery and medication are means of treatment, these can only improve their condition and not remove it. This means that they need to adapt to their physical condition.

Cerebral Palsy and spinal cord injuries does not only effect the child or individual, but it also has a significant affect on their parents and immediate families. “Sometimes the parent needs more counseling and help than the actual disabled child” (interview: Evette Sunderland 2009)

These parents need to adjust their lives. They must be educated to care for their child, amend their homes and lifestyles.

Physical disability in people of all ages is more common than people realize and can happen to any of us at any time.

More than 20% of the South African population may either have a disability or live in a household with a person who has a disability. (South Africa Human Rights Commission Report, November 2002)

The proposed precinct for this project is New Hope School in the Menlo Park area in Pretoria. New Hope School is one of the biggest schools in South Africa that provides education for disabled children, in particular for children with Cerebral Palsy .

1.2 PROBLEM STATEMENT

Pretoria is in need for a proper rehabilitation centre for children with cerebral palsy. Although New Hope School provides education and rehabilitation for children with Cerebral Palsy, these facilities are inadequate and outdated

The area that is currently allocated for rehabilitation is not big enough for the number of children in need of rehabilitation and uses space where more class rooms could be built.

The design problem is to create a new rehabilitation facility for New Hope School that will accommodate children from all over Gauteng and South Africa.

1.3 THE PROJECT

A Rehabilitation Centre for Children with Cerebral Palsy is the proposed project for this dissertation.

The proposed site is bordering to the north western side of the existing campus of New Hope School in the Menlo Park area in Pretoria. The author proposes for the existing School site to be consolidated with the project site, as the project would form an extension of the School's services.

New Hope School is one of the major Schools in Pretoria and Gauteng which caters only for children with mobility and mental impairments.

The School is located on the border of a very important economical node that connects to a direct link between Pretoria east and the CBD.



Figure 1. Location of site

“...architecture has to be experienced by all the senses, rather than just sight. The visual image may provide us with pictorial information, yet beauty is never skin deep.” (Papanek, 1995:76)

1.3.1 THE AIM OF THE PROJECT

The centre will be seen as a play therapy centre, which is rehabilitation through play or enjoyment. The children will be physically and mentally rehabilitated, while being sensory developed by moving through and around the building.

Although children will receive a form of education and medical attention, this centre will not be used as a school or a hospital. The main idea of this centre will be to rehabilitate through alternative non-medical methods.

This centre will help educate and prepare the disabled children along with their parents or caretakers for the future, with the hope of one day integrating the disabled person into society.

The vision for this project is to create a “Cerebral Palsy” play environment. This could become their only normal, place where everything will be designed for their purposes and upliftment of their spirits and skill levels.

1.3.2 WHY A REHABILITATION CENTRE FOR CHILDREN WITH CEREBRAL PALSY?

1. To develop each child to his/her full potential and to integrate him/her into society.
2. To create a specialized facility for Cerebral Palsy children up to the age of 16, covering all aspects and phases of their rehabilitation.
3. To provide a 24 hour care facility for babies born with Cerebral Palsy and newly diagnosed children after they leave hospital.
4. To help educate the parents for the lifestyle changes they need to accommodate their Child's specific needs.
5. To create a support structure for people with cerebral palsy and educate people about cerebral palsy and spinal cord injuries.
6. Create an environment where people will notice and recognize a disabled person's rightful place as part of society.

1.3.3 THE CLIENT

The Life Healthcare Group in association with the Cerebral Palsy organization of South Africa will be the primary clients for this project along with New Hope School for disabled children in Menlo Park.

Life Healthcare group is one of the largest private hospital groups in South Africa, operating 62 acute care facilities and 4 rehabilitation units across the country. Life Rehabilitation runs a group of quality rehabilitation units whose main purpose is to provide acute rehabilitation for patients disabled by traumatic brain injury, stroke, spinal cord injuries and other disabling conditions, facilitating optimal functional independence.

New Hope School is multi-cultural School for Cerebral palsied and multi-disabled learners.

The school has hostel facilities to accommodate pupils from rural areas and neighbouring countries like Namibia, Zimbabwe, Botswana, Swaziland and Tanzania.

New Hope School is responsible for all transport of disabled pupils to and from all suburbs in the Pretoria region and would be utilized to make the proposed Rehabilitation Centre accessible on a daily basis to all children from Pretoria.

National Association for Persons with Cerebral Palsy. This is a non-profit organization that assists and care for all persons with Cerebral Palsy. This organization also helps disabled people to integrate into the community. They also contribute to establishment of schools for children with Cerebral Palsy, raising funds for support and educate and train individuals working with CP people.



Figure 2. Life healthcare logo



Figure 3. New Hope School logo



Figure 4. United Cerebral Palsy logo

1.4 PROJECT BRIEF

- To design a centre for children with Cerebral Palsy which will accommodate educational, mental and physical forms of rehabilitation under one roof.
- Rehabilitation should take place as a form of play and enjoyment through sensory development.
- Educational, social, rehabilitation and play areas to be integrated with each other.
- The building should be integrated with the natural and urban environment.
- The center should form part of the functions that New Hope School provides for their scholars as well as the public.

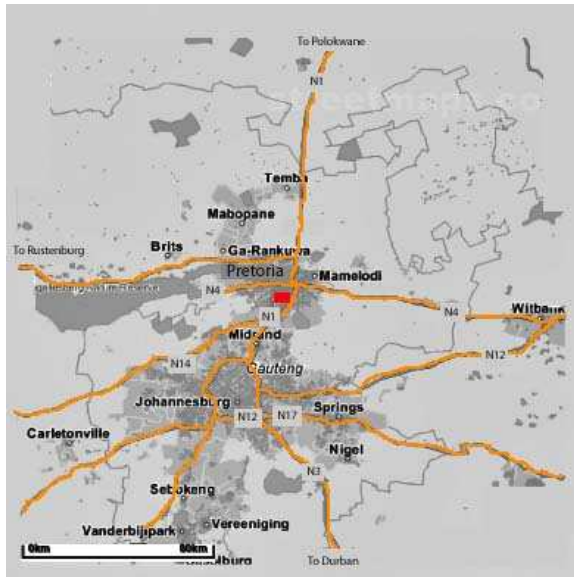


Figure 5. Gauteng context map

1.5 DESIGN OBJECTIVES

- Create a tranquil environment suitable for rehabilitation.
- Provide a designed environment for disabled children.
- To provide the pupils with sensory stimulation as they walk through the building, which in turn helps the therapists with their therapy.
- Associate nature with the building thereby exposing the visitor to natural textures, sounds and views.
- The architecture should be simplistic and should follow the existing style of the school.
- Movement should be economical and predictable.
- Rehabilitation should happen through enjoyment.



Figure 6. 20 km radius map



Figure 7. 2 km radius map

1.6 WHAT IS CEREBRAL PALSY?

Cerebral Palsy (CP) is the name given to a group of conditions in which there are disorders of movement, balance or posture caused by a defect or lesion/damage to parts of the brain, which control the muscles, balance and voluntary movements. (A Guide for parents, Genop healthcare pamphlet,2008)

Cerebral Palsy affects the messages sent between the brain and the muscles. There are three types of Cerebral Palsy, depending on which part of the brain is affected. They are spastic, dyskinetic and ataxic. Many people with Cerebral Palsy have a combination of two or more types, and one of the difficult things about the condition is that its effects vary so much from one person to another. (Bleck & Nagel, 1975:4)

1.6.1 SPASTIC CEREBRAL PALSY

Spastic Cerebral Palsy is due to damage or abnormal development of the cortex (brain cells), which controls movement. Spastic describes the disorder in which some muscles become stiff and makes movement difficult. (Bleck & Nagel, 1975:4)

1.6.2 DYSKINETIC CEREBRAL PALSY

Dyskinetic Cerebral Palsy occurs due to an abnormality in the basal ganglia (group of brain cells deep in the brain). As basal ganglia help movement become organized and graceful, an abnormality causes various involuntary movement disorders. (Uncontrollable movements of

limbs and body) (Bleck & Nagel, 1975:4)

1.6.3 ATAXIC CEREBRAL PALSY

Children with ataxic cerebral palsy find it difficult to balance and co-ordinate hand movements. They are unsteady and may have frequent falls. They may also have shaky hand movements and unclear jerky speech. Ataxic cerebral palsy is a result of defect or damage of the cerebellum at the base of the brain. (Bleck & Nagel, 1975:4)

There is no cure for Cerebral Palsy. With detailed assessment of the child's problems, and skilful patient rehabilitation, partnership of professionals and parents, a great deal can be done to minimize the secondary problems and ensure that each child achieves as much of their potential as possible. Appropriate active management from an early age can enable many children to lead a full and reasonably independent life. This involves the creation of an individual treatment plan with clearly identified practical goals. (A Guide for parents, Genop healthcare pamphlet,2008)

1.7 RELEVANCE TO DESIGN

Movement becomes a very important aspect when designing for children with Cerebral Palsy, as this can provide a sensory stimulation to the child as they move through a space.

Movement through the building should be economical and because movement will be slow, attention to detail of all textures, elements and connections becomes integral for the designer.



Figure 8; 9 & 10. visual identification of children with Cerebral Palsy

1.8 CAUSES OF CEREBRAL PALSY

This may be caused by a developmental abnormality or an injury to the brain occurring while the baby is developing in the womb or during pregnancy, delivery, or shortly after birth. Cerebral Palsy is a permanent condition but sometimes the effects become less. *(Lingam and Lloyd-Evans, 1997: 9)*

The following activities form part of one's everyday life that could cause cerebral palsy and spinal cord injuries.

Prenatal Causes Infections in the mother during pregnancy

- It could be inherited (very small percentages)
- Pregnant woman in a motor accident
- Premature birth
- Diabetes in pregnant women
- Birth injuries

Postnatal Causes

- Head injuries
- Brain infections like meningitis and viral infections
- Drowning
- Cardiac arrest
- Brain tumors.

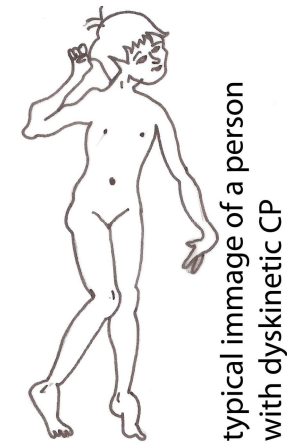
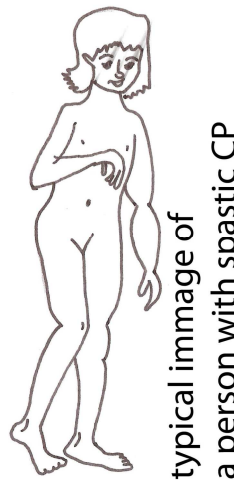
(Bleck & Nagel, 1975: 21)

1.8.1 TREATMENT

The treatment of Cerebral Palsy comes from various therapists and professionals and it's vital that the child undergo these treatments with their parents or caretaker.

The various professionals are:

- Physiotherapy
- Orthopedic surgeon
- Pediatrician
- Community or district nurse
- Psychologist
- Occupational therapist
- Speech therapist
- Social worker



1.8.2 THE WAY FORWARD

More effort, funding and research should go into the designing and site selection of rehabilitation centers in South Africa.

The government, as well as the private sector tend to discard design values when it comes to building for the disabled.

These institutions always seem to be the background buildings and priorities in the cities and need to be incorporated into the able-bodied society for more opportunities.

Figure 11; 12 & 13. Illustrations from cerebral palsy brochure, life health, 2009