

**HEALTH SERVICES AND EDUCATION OF THE MULTIPLY  
HANDICAPPED IN SPECIAL SCHOOLS OF  
NYANDO DISTRICT, KENYA**

**BY**

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Requirement For The  
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**DECLARATION**

I, Ooko Willis Otieno, Registration Number BED/13386/61/DF, hereby declare that, this research report is my own original work and not a duplication of similarly published work of any scholar for academic purpose as partial requirement of any college or otherwise

I further declare that, the literature referred to have been duly acknowledged.

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## **DEDICATION**

This academic paper is dedicated to my parents Malon and Sarah, for their moral support; to Mildred my beloved wife whose endless love and encouragement has motivated me throughout.

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**ABSTRACT**

In an attempt to investigate on the problem, the researcher identified Nyando District from which he objectively selected the special schools as the research environment. The study was guided by research objectives which included determining the health problems of the Multiply Handicapped; to identify therapeutic, medical and nutritional services provided to these learners with Multiple Handicap. To gather more information on the issue related literature was reviewed on areas such as health problems, therapeutic and medical services. Primary and secondary literature sources were used. Some pieces of information were surfed from the web. In data collection, survey was adopted as the research design. This was used because a large group of respondents was targeted. Questionnaires were then developed, tested for validity, reliability. They were dispatched to the respondents who gave their views by answering the question items. The data collected were analyzed and presented quantitatively in form of tables, figures and graphs. Other data were presented qualitatively in descriptive form. The main findings included concomitant existence of health problems, inadequate provision of therapeutic, medical and nutritional services. It was also established that inadequate provision of these services impact greatly in the education of learners with Multiple Handicaps. In order to intervene for the above issues, the researcher made some recommendations valuable to service providers and relevant stake holders involved with learners who are multiply challenged. The recommendations included provision of adequate therapeutic services, establishment of sickbays geared towards adequate provision of medical services, provision of balance diet, timely diagnosis and early intervention to check conditions which could precipitate the disabling conditions.



**DEFINATION OF TERMS**

- Concomitant - Together / simultaneously
- Heterogeneous - Diversified Groups / Conditions
- Multiple Handicapped - More than one Handicap
- Multiply Handicapped - Persons with more than one Handicap
- Multiply Challenged - Persons with more than one Handicap
- Special need Education - Education of Persons with Disabilities

**ABBREVIATIONS**

AIDS - Acquired Immuno Deficiency Syndrome

ARVs - Aritrovirals

CNS - Central Nervous System

HIV - Human Immunodeficiency Virus

IDEA - Individuals with Disability Education Act

MD - Muscular Distrophy

PKU - Phenylkettonuria

SNE - Special Needs Education

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Background of the Study.**

The right of children with disabilities to education came to the public forum as part of larger social issues in the United States: the civil rights of people from differing ethnic and racial background, the civil rights movement of the 1950s and 1960s awakened the public to the issues of discrimination in employment, access to public services and education.

Education was reaffirmed as a right and not as a privilege by the United States Supreme Court in the landmark case of *Brown versus Topeka, Kansas, Board of Education* (1954). In its decision, the court ruled that education must be made available to everyone on equal basis. A unanimous supreme court stated, " In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education, such an opportunity where the states has undertaken to provide it, is a right which must be made available to all on equal terms" (*Brown v. Topeka, Kansas, Board of Education, 1954*).

Federal courts were confronted with the issues of a free and appropriate education for disabled children for a long time; eventually major pieces of state and federal legislation were enacted to reaffirm the right of students with disabilities to a free public education.

On the same concern, one of the notable federal legislation was the individuals with Disabilities Education Act (IDEA) that stipulates that students with disabilities must receive any related services necessary

to ensure that they benefit from their educational experience. Related services in this case include developmental, corrective and supportive services (including speech – language pathology and audiology+ services, psychological services, physical and occupational therapy, recreation, including therapeutic recreation, social work services, including rehabilitation counseling, orientation and mobility services, medical and nutritional services) as may be required to assist a child with disability to benefit from special education. (1997 Amendment to IDEA PL105- 17, sect 602 {22}).

Education for all handicapped children Act passed in 1975 was yet another subsequent federal legislation that concurs with the idea on the provision of a free and appropriate public education available to all eligible students, regardless of their disability. The act further consent that eligible students must receive special education and related services necessary to meet their individual needs.

In Kenya, elements of this legislation have been incorporated in children's Education Act and the disability rights which mandate access to free and quality education, health services. In spite of the guidelines above, persons with multiple handicaps find it difficult to access the relevant health services to enhance their physiological functioning. On these basics, the researcher therefore wants to take a survey study in selected special institutions in Nyando District, Kenya to establish the available health services and how it affects the education of the multiply handicapped.

## **1.2 Statement of the Problem.**

People with multiple disabilities have significant physical and healthcare needs. For instance, those individuals have higher incidence than others of congenital heart diseases, epilepsy, respiratory problems, diabetes, and metabolic disorders. They also exhibit poor muscle tone and perceptual disorders. Such conditions require intervention to enhance their participation in learning process by managing the conditions and restoration of the physiological functioning of the body to normal. Therapeutic, medical and nutritional interventions are the available options to check such complications.

Education for all handicapped children Act mandated for free and quality public education to eligible students with provision of related services to meet their individual needs; prepare them for employment and independent living.

Education and provision of related services are inseparable if the disabled has to achieve or realize his potentialities. However, it appears as if there is insufficient provision of these services to persons with disabilities in their learning institutions and the researcher therefore feel indebted to investigate on the provision of health services and its effect on the education of the multiply handicapped.

## **1.3 Purpose of the Study**

The purpose of the study is to investigate on the availability of the health services to learners with multiple handicaps in their learning institutions and possibly determine the relevance of these services to their education.

### **1.4 Objectives of the Study**

The study was guided by the following research objectives:-

1. To determine the health problems of learners with multiple handicaps.
2. To identify therapeutic services available to the multiply handicapped.
3. To establish the medical services available to the multiply handicapped.
4. To assess the nutritional services provided to the multiply handicapped.
5. To make recommendations so as to assist in finding workable solutions to the provision of adequate health services to boost the learning of learners with multiple handicap.

### **1.5 Research Questions**

- What are the health problems learners with multiple handicaps have?
- Which are the therapeutic services available to the multiply handicapped?
- Which are the medical services available to the multiply handicapped?
- What nutritional services are provided to the multiply handicapped?

### **1.6 Scope of the Study**

The study was conducted in all (five) special schools in Nyando District, Nyanza province, Kenya. This district is bordered by Bomet district to the East, Lake Victoria to the west, Kisumu district to the

North and Rachuonyo district to the South. During the study, issues of concern were health problems of the multiply handicapped, medical services, nutritional services, therapeutic services, and their value in the education of the multiply handicapped.

### **1.7 Significance of the Study**

The researcher has drawn conclusion and stipulated recommendations based on the research findings. The recommendations shall benefit caregivers, teachers, government, and other researchers.

The caregivers shall appreciate the importance of medication, nutrition, and therapy to the multiply handicapped and strive to source for the services to address the needs of the affected learners.

Teachers will design school activities inclusive of these services and network with relevant professionals for adequate provision of health services to the multiply handicapped.

The government of Kenya will utilize the information in reinforcing the existing policies as regards to health service provision, and planning for sufficient provision of health services.

Other researchers may identify related issues of concern on this study requiring further research.

### **1.8 Theory**

Abrahams Maslow a proponent of motivation theory categorically came up with a hierarchy of needs he classified as physiological, safety, love/belonging, esteem and self actualization in his pyramid.

The first four layers of the pyramid are what Maslow called "deficiency needs" or "D-needs". If they are not met, the body gives no indication of it physically, but the individual feels anxious and tense. He highlights survival needs, safety and security, love and belonging, and esteem as D-need.

This study, "health services and education of the multiply handicapped" circumnavigates around physiological needs and safety needs leading to the achievement of growth needs or B-needs.

Physiological needs are the basic human needs for such things as sex, warmth, water and other bodily needs. If a person is hungry or thirsty or their body chemically unbalanced, all of their energies turn toward remedying these deficiencies and other needs remain inactive. Maslow explains that "Anyone who attempts to make an emergency picture into a typical one and who will measure all of man's goals and desires by his(her) behavior during extreme physiological deprivation, is certainly blind to many things. It is quite true that man lives by bread alone – when there is no bread"

The physiological needs of the organism (those enabling homeostasis) take first precedence. These consist mainly of (in order of importance): breathing, drinking, eating, excretion, sex. If some needs are not fulfilled, a person's physiological needs take the highest priority. Physiological needs can control thoughts and behaviors and can cause people to feel sickness, pain and discomfort.



With their physical needs relatively satisfied, the individual's safety needs take over and dominate their behavior. These needs have to do with people's yearning for a predictable, orderly world in which injustice and inconsistency are under control, the familiar frequent and the unfamiliar rare. In the world of work, this safety needs manifest themselves in such things as a preference for job security, grievance, and procedures for protecting the individual from unilateral authority, savings account, insurance policies and the like.

For the most part, physiological and safety needs are reasonably well satisfied in the "First World". The obvious exceptions, of course, are people outside the main stream- the poor and the disadvantaged. If frustration has not led to apathy and weakness, such people struggle to satisfy the basic physiological and safety needs. They are primarily concerned with survival; obtaining adequate food, clothing, shelter, and seeking justice from the dominant societal groups. He further highlights that safety and security needs include personal security for crime, financial security, health and wellbeing, safety net against accidents/illness and the adverse impacts.

In his observation, deficiency needs must be met first. Once they are met, seeking to satisfy growth needs drives personal growth. The higher needs in this hierarchy only come into focus when the lower needs in the pyramid are satisfied. Once an individual has moved up to the next level, needs in the lower level will no longer be prioritized if a lower set of needs is no longer being met, the individual will temporarily rep-prioritize those needs by focusing attention on the unfulfilled needs, but will not permanently regress to the lower level. For instance, a businessman at the esteem level who is diagnosed with

cancer will spend a great deal of time concentrating on his health (Physiological needs), but will continue to value his work performance (esteem needs) and will likely return to work during periods of remission.

Health being a lower need must be satisfied before concentrating on education. A child with handicapping conditions will not learn well if intervention strategies are put in place to meet his/her health needs. It is on this theory which this research is based.

## **CHAPTER TWO**

### **REVIEW OF THE RELATED LITERATURE.**

#### **2.0. Overview.**

This chapter captures health problems faced by the multiply handicapped. This includes motor problems, nutritional, metabolic, diseases and other health related conditions. Information on nutritional, medical, therapeutic services and their value on education of the multiply handicapped have also been included.

#### **2.1 Health problems of the multiply handicapped.**

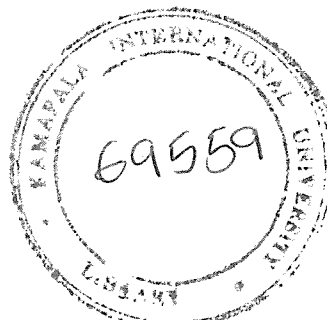
The multiple handicapped presents with various heterogeneous problems ranging from motor, metabolic, diseases and health conditions which impede the realization of their potentials fully in education.

Drew and Hardman (2004) observe that metabolic disorders are characterized by the body's inability to process (metabolize) certain substances that can then become poisonous and damage tissues in the Central Nervous System (CNS). The duo further illustrates one of such inherited metabolic disorder as Phenylketonuria (PKU). A disorder in which the body is not able to process Phenylalanine results in accumulation of poisonous substances in the body. This if goes untreated or if not treated promptly (mostly through dietary restrictions), causes from moderate to severe mental retardation. If treatment is promptly instituted, however, damage may be largely prevented or at least reduced. Milk also presents problem for infants affected by another metabolic disorder with galactosemia, the child is unable to process lactose, which is primary sugar in milk and is also

found in other foods. If galactocemia remains untreated serious damage results, such as cataracts heightened susceptibility to infection and reduced intellectual functionary.

Ault, Rues, Gaff, & Holvet (2000) assert that people with multiple disabilities have significant physical needs. They exhibit poor muscle tone and often have conditions such as spasticity, athetosis and hypotonia. Ndurumo (1993) comments that these conditions greatly impairs gross and fine motor abilities, thereby limiting not only movement of the arms and legs but also their functional use such as manipulations, writing and holding eating utensils. Other physical impairments results in having limited strength, vitality, or alertness due to chronic or a cute health problems such as seizure disorders (Epilepsy), diabetes, asthma, cystic fibrosis, hemophilia and Acquired Immunodeficiency Syndrome (AIDS)(Heward, 2000).

Seizure disorders (Epilepsy). Theoretically, anyone can have a seizure, a disturbance of movement, sensation, behaviour and / or consciousness caused by abnormal electrical activity occurring in the brain. Hill (1999) observes that regardless of whether an individual is awake or asleep, at a given moment, there is electrical activity occurring in the brain. Some groups of neurons of the brain are actively firing, some are firing but with less vigour, and others are inactive. In some individuals, for variety of reasons, some known and others unknown, there can be, at certain times, a sudden excessive, disorderly discharged neuronal excitation in the brain, which may result in an involuntary, transient impairment, of consciousness, sensation, memory, movement, behaviour, or autonomic functioning in



the human body. Some have analogized the event, known as a seizure, to an engine misfiring or to a power surge in a computer.

It is common for a seizure to occur when someone has a high fever, drinks excessive alcohol, or experiences a blow to the head. When seizure occurs chronically and repeatedly, however, the condition is known as seizure disorder, or more commonly, epilepsy. Epilepsy is not a disease, and it constitutes a disorder only while a seizure is actually in progress. Types of seizure include: Generalized tonic-clonic seizure (grandmal), absence seizure, (Petitmal), a complex partial seizure (Psychomotor seizure) and a simple partial seizure. Teachers, school healthcare personnel, and perhaps classmates need to be aware that a child is affected by a convulsive disorder so that they can be prepared to deal with a seizure if one should occur in school (Heward, 2000).

Some children require such heavy doses of medication, however, that their learning and behaviour are adversely affected, and some medications have undesirable side effects, such as drowsiness, nausea, weight gain, and thickening of the gums. All children with seizure disorders benefit from a realistic understanding of their conditions and accepting attitudes on the part of the teachers and classmates. Further observation is that although the student with seizure disorders may be uncomfortable about letting friends know about the condition, classmates should be aware so that they will know how to, and how not to, respond in the event of a seizure(Hill,1999).

According to Whatley and Wong (1995) Juvenile diabetes mellitus, a chronic disorder of metabolism is a common childhood disease, affecting about 1 in 600 school age children. It is most likely that teachers will encounter the multiply handicapped with this condition. The duo observes that without proper medical management, the diabetic child's system is not able to obtain and retain adequate energy from food. Not only does the child lack energy, but many important parts of the body – particularly the eyes and the kidneys – can be affected by untreated diabetes.

The class teacher and caregivers should be conversant with early symptoms of diabetes which include thirst, headaches, weight loss (despite a good appetite), frequent urination, and cuts that are slow to heal.

Children with diabetes have insufficient insulin, a hormone normally produced by the pancreas necessary for proper metabolism and digestion of foods. To regulate the condition, insulin must be injected daily under the skin. Most children with diabetes learn to inject their own insulin in some cases as frequently as four times per day and to determine the amount of insulin they need by testing the level of sugar and other substances in their urine. Children with diabetes must follow a specific and regular diet prescribed by a physician or nutrition specialist. A regular exercise program is also usually suggested. Teachers who have a child with diabetes in their classrooms should learn how to recognize the symptoms of both too little sugar and too much sugar in the child's blood stream and the kind of treatment individual by each condition (Yousef, 1995)

Kraemer & Biérman (1983) asserts that Asthma is a chronic lung disease characterized by episodic bouts of wheezing, coughing and difficulty in breathing. This is a common health disorder of the multiply challenged. The two further observe that Asthma is a complex disease in which inflammation of the airways is both the cause and the effect of the problem. An Asthmatic attack is usually triggered by allergens (pollen, certain food, pets), irritants (e.g. cigarette smoke, smog), exercise, or emotional stress, which results in a narrowing of the airways in the lungs. This reaction increases the resistance to the air flow in and out the lungs; it makes it harder for the individual to breathe. The severity of the Asthma varies greatly: the child may only experience only a period of mild coughing or extreme difficulty in breathing that requires emergency treatment. Many Asthmatic children experience normal lung functioning between episodes.

They further posit that primary treatment for Asthma begins with a systematic effort to identify the stimuli and environmental situations that provoke attacks. The number of potential allergens and irritants is virtually limitless, and in some cases it can be extremely difficult to determine the combination of factors that results in asthmatic episode. Changes in temperature, humidity, and season are also related to the frequency of asthmatic symptoms. Rigorous physical exercise produces asthmatic episodes in some children. Asthma can be controlled effectively in most children a combination of medications and limiting exposure to know allergens. Most children whose breathing attacks are induced by physical exercise can still enjoy physical exercise and sports through careful selection of activities (e.g. swimming generally provokes less exercise – induced asthma than running) and/or taking certain medications prior to vigorous exercise.

A clear relationship also exists between emotional stresses and asthma. Periods of psychological stress increase the likelihood of asthmatic attacks and asthmatic episodes produces more stress. Treatment often involves counseling or an asthma teaching programme (Abid) in which children and their families are taught ways to reduce and cope up with emotional stress.

Zamula (1990) observes that asthma is the leading cause of absenteeism in school. Chronic absenteeism makes it difficult for the child with asthma to maintain performance at grade level, and homebound instructional services may be necessary.

The majority of children with asthma who receive medical and psychological supports however, successfully complete school and lead normal lives. By working co-operatively with parents and medical personnel to minimize the child's contact with provoking factors and constructing a plan to assist the child during attacks, the classroom teacher can play an important role in reducing the impact of asthma (Getch & Neurharth-pritchet, 1999).

Cystic fibrosis is a genetic disorder of children and adolescents in which the body's exocrine glands excrete thick mucus that can block the lungs and parts of the digestive system. It is heredity disease that adversely affects the multiply handicapped (Fitz Simons, 1993). Children with cystic fibrosis often have difficulty in breathing and are susceptible to pulmonary disease (lung infections). Malnutrition and poor growth are common characteristics of children with cystic fibrosis because of pancreatic insufficiency that causes inadequate digestion



and malabsorption of nutrients, especially fats. They often have large and frequent bowel movements because food passes through the system only partially digested. A study found that 40% of children with cystic fibrosis were below fifth-percentile weight for their age (Cystic Fibrosis Foundation, 1992).

This organization continues to suggest that the medication prescribed for children with cystic fibrosis include enzymes to facilitate digestion and solutions to thin and loosen the mucus in the lungs. They further posit that many children and young adults with cystic fibrosis are able to lead active lives. However, during vigorous physical exercises, some children may need help from teachers, aides, or classmates to clear their lungs and air passages.

Hemophilia refers to a group of hereditary disorders in which blood does not coagulate as quickly as it should because one of 13 clotting factors is missing or deficient contrary to popular opinion, persons with hemophilia are not in danger of bleeding to death as the result of a minor cut or injury. 'Persons with hemophilia do not bleed faster but they bleed longer than those with a normal level of a clotting factor (Hill, 1999). The most serious consequences are usually internal, rather than external, bleeding. Internal bleeding can cause swelling, pain, and permanent damage to joints, tissues and internal organs and may necessitate hospitalization for blood transfusions. The primary treatment of hemophilia is factor replacement therapy, in which the deficient clotting factor is directly transfused into the vein to stop the bleeding. A student with hemophilia may need to be excused from some physical activities and use wheel chair during periods of susceptibility.

AIDS is yet another problem that affects the education of a school child. It is contracted when HIV is passed from a carrier (not all persons who have HIV get AIDS) to another person through sexual contact or through the blood (via intravenous drug use with shared needles or transfusions of unscreened contaminated blood). Some of the children diagnosed with AIDS have survived to school age, the continuing development of drug treatments to counter or slow the progression of the disease means it is likely that increasing numbers of children with HIV infection and AIDS are afforded legal protection and the right to a public education under section 304 of the Rehabilitation Act of 1973, which states that 'no otherwise qualified individual with handicaps shall solely by reason of his handicap be excluded from the participation in, be denied the benefit of, or be subjected to discrimination under any program or activity receiving Federal financial assistance(Herdman and Drew, 2003).

Bartlett (1996) suggests and comments that medication helps in modifying HIV infection, manages related infections or treats cancer. He further prescribes antiviral agents which slow the spread of the virus and prolong life alongside antibiotics used to treat opportunistic infections.

## **2.2 Therapeutic Service Available for the Multiply Disabled.**

The multiple handicapped have some health problem which can be managed with therapies. Some of the conditions which respond well to therapies include: motor dysfunctions, speech disorders and behaviour problems.

### **2.2.1 Psychotherapy.**

This is a form of counseling used in the treatment of mental and emotional disorders. It attempts to uncover reasons for problem behaviours and promotes effective coping and adaptation skills. It aims to change a person's attitudes, feelings or behaviour. To promote such changes, the therapists may use methods such as reinforcement, persuasions, suggestions, reassurance and confrontation (Warfield, 1996).

In his further statement, he maintains that Psychotherapy is used to bring about positive changes in a persons attitudes, emotions, or behaviour. Psychotherapy is useful for a wide range of mental and emotional problems. Individual therapy may be used when the person develops distress or dissatisfaction with self or in relationship with significant other, coworkers, friends, or family.

**2.2.2 Physiotherapy.** Involves the development and maintenance of motor skills, movement, and posture through the prescription of specific exercise to help a child increase control of muscle and use specialized equipment, such as braces, effectively. Massage and prescriptive exercise are perhaps the most frequently applied procedure, but physical therapy can includes swimming, heat treatment, special positioning for feeding and toileting, other techniques inclusive. Functionally it encourages children to be as motorically independent as possible, help develop muscular functions and reduce pain, discomfort, or long- term physical damage. This therapy spells out the do's and don'ts for sitting positions and activities in the classroom and may device exercise or play programs that children with or without disabilities can enjoy (Heward, 2000).

This form of therapy alleviates pain, gives comfort and boosts motor functioning involving the fine and gross motor muscles of the body. This in turn enhances participation of the child in a learning environment.

**2.2.3. Behaviour therapy.** This assumes that problem behaviours are learned and that they can be unlearned and replaced by acceptable ones through special training. Unlike psychotherapy, behaviour therapy doesn't attempt to uncover the reasons for problem behaviours. Instead, it deemphasizes the person's thoughts and feelings about them. The goal is to unlearn destructive and unproductive behaviours that result from faulty learning and to enhance effective social and adaptive behaviours. It can change a negative behavioural pattern through various techniques such as positive or negative reinforcement, shaping, modeling, punishment or extinction (Warfield, 1996).

Further, he posits that behaviour therapy is performed to eliminate problem behaviours or replace them with more appropriate and acceptable behaviours; to remove or reduce behavioural excesses, such as compulsive behaviours and rituals; and to reduce behavioural deficits, such as memory impairment or limited social skills. Maladaptive behaviours such as phobias, temper tantrums, migraine headaches and hyperactive bowel syndrome can be rectified using this therapy.

The researcher observes that behaviour therapy is valuable in improving the mental health of the child who may be suffering from mild psychotic disorders.

#### **2.2.4. Milieu therapy.**

It Involves use of a person's environment as a tool for overcoming mental and emotional disorders. Specifically, the person's surrounding become a therapeutic community, with the person involved in a goal setting, which includes planning, implementing, and evaluating the treatment as well as in sharing with staff and other people the responsibility for establishing group roles and policies. The person may then progress to a transitional or a half way house. Then, if the person continues to improve in this less structured environment, he or she may return to the outside community ready to apply the positive behaviours and skills that have been learned.

The researcher considers application of this therapy in a classroom as effective for behaviour modification in which hyperactive child is put in a cubicle and later taken back to class after sometime having achieved the required behaviour.

#### **2.2.5 Occupational therapy.**

This Involves a child's participation in activities, especially those that will be useful in self- help skills, employment, recreation, communication, and aspects of daily living. This helps a child learn (or re-learn) diverse motor behaviours such as drinking from a modified cup, buttoning clothes, tying shoes, pouring liquids, cooking and typing on the key board (Hardman and Drew,2002).

Such activities offered by occupational therapist can enhance physical development, independence, vocational potential and self concept.

### **2.2.6 Speech Therapy.**

Focuses on receptive language, or the ability to understand words spoken to you, and expressive language, or the ability to use words to express oneself. It also deals with the mechanics of producing words such as articulation, pitch, fluency and volume. Learners may need speech therapy after a stroke or traumatic accident that changes the ability to use language; for children it generally involves pursuing milestones that have been delayed. Some children only need help with language, others have the most problems with the mechanics of speech, and some need every kind of speech help there is. The professional in charge of child's speech therapy called a speech language pathologist, speech therapists, speech teacher, or whatever combination of these words your school district pastes together will work to find fun activities to strengthen children in areas of weakness. For mechanics these might involve exercises to strengthen the tongue and lips, such as blowing on whistles or licking up Cheerios. For language this might involve games to stimulate word retrieval, comprehension or conversation.

### **2.3 Medical Services Available for Persons with Multiple Handicaps.**

Learners with multiple challenges exhibit multiple conditions which can be checked through the provision of medical services. These services are valuable in treating conditions affecting muscles and bones; nutrition and metabolism; brain and nervous system; heart and circulation disorders.

Warfield (1996) suggests drug therapies, surgeries, exercise and movement as some of the appropriate medical services for treating bone and muscle disorders. Under drug therapies, antimusculars also called cholinesterase inhibitors has been one of the primary treatments for muscle diseases especially the myasthenia gravis characterized by progressive muscle weakness. Antimusculars can also be used to treat muscular dystrophy (MD) that presents with similar symptoms.

Skeletal muscle relaxants are also used to help people with painful muscle spasm resulting from minor strains, sprains or fractures. These drugs are also potent CNS depressants.

A surgery is yet another procedure used to check musculo-skeletal conditions. These include amputations, open fracture reduction and joint replacement. Amputations, the partial or complete removal of a body part or organ, may be performed as an elective surgical procedure in severe disease such as malignant bone tumors, or it can occur traumatically as the result of an accident. In traumatic amputation, surgery is required to care for the resulting wound.

As an elective surgical treatment, amputation is performed to preserve function in the remaining body part or, at times, to prevent death. It is a reconstructive surgery that attempts to improve the person's quality of life by relieving symptoms and improving functioning. Complications of diabetes, congenital deformity, malignant tumors, frost bite or gangrene can be checked by elective surgical operation.

Total or partial replacement of a joint with a synthetic prosthesis aims to restore mobility and stability and to relief pain. Recent improvements in surgical techniques and prosthetic devices have made joint replacement increasingly common. All joints except the spine can be replaced with prosthesis (ibid).

He continues to suggest that in open structure reduction, application of pasta of paris could be used with young children unlike adults with which internal fixation devices- pins, screws, nails, wires, rods, or plates- to maintain positioning until healing occurs.

Spinal instrumentation is used to correct any disorder in the spinal cord. These disorders may include lordiosis, scoliosis or spinal cord injury. Each disorder is corrected with the right spinal instrumentation. The available types of instrumentation include Laque rod instrumentation, Harri-Drummond instrumentation, Dotrel- Dubousset instrumentation, Zeilke instrumentation and the Kaneda device.

The researcher has a dissenting view in that other than highly technological interventions, some conditions like the curvatures of the spine can managed by adapted seats when the learner is in a sedentary position.

#### **2.4 Nutritional Services Available for the Multiply Handicapped.**

Drew and Hardman (2000) posit that nutritional and metabolic disorders can be treated using low phenylalanine diet, Lactose diet and tube- feeding. The low phenylalanine diet, if begun shortly after birth and scrupulously followed, prevents mental retardation and neurological damage in children with Phenylketonuria. This is a



congenital deficiency of the liver enzyme phenylalanine hydroxylase. The doctor further warns that although the low-phenylalanine diet is effective, it is difficult to follow. Nevertheless, the child with Phenylketonuria must begin to take responsibility for the diet at an early age- even before understanding the consequences. Pregnancy women with PKU must strictly follow the diet because excess phenylalanine can be transmitted to the fetus and cause congenital defects. The low-phenylalanine diet is recommended for all people with PKU. It reduces phenylalanine intake and prevents accumulation of excessive phenylalanine levels in the blood, while providing sufficient amino-acids and nutrients for normal growth and development. A child can develop normally- physically and psychologically- only if the diet is followed scrupulously.

A lactose-reduced diet is the only treatment for lactose intolerance (deficiency of the enzyme lactase). A common disorder that causes difficulty in digesting dairy products. Most people can tolerate some milk if it's carefully spaced throughout the day and many can tolerate cheese or yogurt (in which lactose is broken down by the active cultures) as well as sweet acidophilus milk (which contains an enzyme that hydrolyzes lactose). Over-the-counter lactase enzyme tablets permit digestion of lactose-reduced diet is used to alleviate the gastrointestinal symptoms of lactose intolerance, such as abdominal cramps, bloating, gas and diarrhea.

Tube feeding is given to provide necessary nutrition in people who are unable or unwilling to eat. If their gastrointestinal system is at least partially functioning, they may be candidates for feeding tube. People who need this procedure include those with high metabolism; those

with oral or esophageal obstruction or injury; some people with neurological diseases, such as stroke; unconscious peoples; and some people with psychological disorders.

Wardlaw, Hampal and Disilverstro (2004) maintain that balance in diet involves eating variety of foods which provides all nutrients needs to the body. They further state that variety in diet means choosing a numbed of different food group rather than eating the 'same old thing' day after day. They also remark that fiber is the portion of ingested food that remains undigested as it enters large intestine and can be obtained from food stuffs such as whole grain. They add bulk to feces. It's the opinion of the researcher that learners with structural defects in the jaws and esophagus due to paralysis may benefit much from this technique. The researcher further suggestion is that high- fiber diet such as vegetables and fruits be provided to boost mechanical digestion and the elimination of body waste.

### **2.5 Gap in Knowledge.**

Though the review of the related literature has been successful on other objectives, literature on effects of health services on education of the multiply handicapped is lacking however the researcher is set to gather relevant information from the respondents.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY.**

#### **3.0. Overview**

This chapter discusses the procedures and strategies used in the study. The research design, target population, sampling technique, research instruments.

#### **3.1 Research Design:**

The design used for this study is descriptive survey. It's appropriate because this is an educational research involving gathering data from a large number of samples selected from known population; it helps in securing evidence concerning the ousting situation and conditions of the problem under investigation.

#### **3.2 Target Population:**

The target population for this included only teachers trained in special needs education and teaching in special institutions of Nyando District.

#### **3.3 Sampling Technique:**

The study employed purposive sampling technique as the study targeted only special schools in the District.

#### **3.4 Research Instruments:**

The research tool used in the study is questionnaire. This was designed for special needs education teachers. The questionnaires designed had two parts. Part one was background information and part two with the items which sought to generate information on the

problem under investigation. The items were both structured and unstructured.

### **3.5 Research Procedure:**

Upon consultation with friends, scholars and other existing authorities, the researcher came up with a research problem that was eventually approved. Review of the related literature was done and questionnaires designed. The se were pre-tested with a few respondents to the validity and reliability before getting to the field to collect data.

Permission to carry out the research was availed by the university's director of studies. Data was then collected through survey design, analyzed and interpreted. Lastly conclusion was drawn and recommendations made based on research findings.

### **3.6 Data Analysis:**

The study generated both qualitative and quantative data. Descriptive statistical methods such as frequencies, tables, and graphs were used to analyze the data. Open ended questions were also analyzed thematically.

## CHAPTER FOUR DATA PRESENTATION AND ANALYSIS.

### 4.0 Overview

This chapter captures the results of the investigation on health services and education of the multiply challenged, presented quantitatively in tables, figures, graphs and qualitatively in descriptive form. The numbers of questionnaires dispatched were 48 and only 42 were returned duly completed.

### 4.1 Background information.

#### 4.1.1 Table 1 Number of teachers trained in special needs education.

GENDER	FREQUENCY	PERCENTAGE
Female	20	47.62
Male	22	52.38
<b>TOTAL</b>	<b>42</b>	<b>100.00</b>

The table above shows that out of the 42 respondents, 22 were male teachers and 20 were female teachers. There were more male teachers than female teachers however there is almost gender parity in the number of respondents.

**4.1.2 Table 2 Level of training in special needs education among the respondents.**

<b>LEVEL</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Certificate	6	14.29
Diploma	25	59.52
Bachelors Degree	10	23.81
Masters Degree	1	2.38
<b>TOTAL</b>	<b>42</b>	<b>100.00</b>

The above item was intended to establish the educational level of the respondents. From the table it's evident that all the respondents are trained in special needs education across all levels up to master's degree, with majority of the teachers 59.52% trained at diploma level and the minority 1% trained at master's level.

**4.1.3 Table 3 Age brackets for teachers trained in SNE.**

<b>AGE BRACKET</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
21-25	0	0
26-30	6	14.95
31-35	13	30.95
36-40	11	26.19
41-45	7	16.67
46-50	3	7.14
51-55	2	4.76
<b>TOTAL</b>	<b>42</b>	<b>100.00</b>

The above item was to ascertain the age brackets for SNE teachers.

The above table shows that majority of the SNE teachers fall in the age bracket of 31-35 and 36-40 standing at 30.95% and 26.19% respectively, however age bracket with minority is 51-55, standing at 4.76% with no SNE teacher below 26 years of age.

The researcher feels that the non-existence of SNE teachers at age bracket 21-25 is because of the training trend in Kenya where one has to undergo certificate training in primary education, serve in the field for a minimum of five years before one qualifies certificate or Diploma training in special needs education at the Kenya Institute of Special Education (KISE).

#### **4.2.0 Health Problems of the Multiply Handicapped.**

##### **4.2.1 Table 4 Health problems and their prevalence.**

<b>PROBLEM</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Physical impairments	14	33.33
Neurological disorders	10	23.81
Metabolic disorders	1	2.38
Behaviour disorders	10	33.81
Psychiatric disorders	0	0.00
Chronic ailments	4	9.52
Respiratory problems	1	2.38
HIV/AIDS	2	4.76
<b>TOTAL</b>	<b>42</b>	<b>100.00</b>

The item above was to establish health problems and their prevalence. The above table indicates that the health problems exhibited by the multiply handicapped include physical impairments which was named by 14 respondents, neurological disorders named by 10 respondents,

metabolic disorders 1 respondent, behaviour disorders 10 respondents, chronic ailments by 4 respondents, respiratory problems 1 respondent and HIV/AIDS by 2 respondents, however psychiatric disorders was not cited as one of the health problems of the multiply handicapped. It's also evident from the table that physical impairment is the most prevalent health problem among the multiply handicapped.

#### **4.2.2 Table 5 Manifestation of the health problems.**

<b>MANIFESTATION</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Together	42	100.00
Isolation	0	0.00
<b>TOTAL</b>	<b>42</b>	<b>100.00</b>

The above item was to find out whether these health problems occur together or in isolation.

All the respondents concurred in their observation that health problems occur together and not in isolation.

#### **4.2.3 Question 6: Intends to find out the intervention measures for the health problems of the multiply handicapped.**

Dietary selection, medical intervention, therapeutic services, and counseling are intervention measures mentioned by the respondents to manage the health problems of the multiply handicapped.

#### **4.2.4 Question 7 and 8: Intends to establish the physical and neurological problems of the multiply handicapped.**

The respondents mentioned muscular dystrophy, cerebral palsy, poliomyelitis, amputations, osteogenesis imperfecta, sprains and fractures as the physical impairments of the multiply handicapped.



Neurological problems given were spina bifida, epilepsy, hydrocephaly, and microcephally.

#### **4.2.5 Question 9: Intends to ascertain behaviour problems exhibited by the multiply challenged.**

It was established from the respondents that behaviour disorders exhibited by the multiply challenged include: - attention deficits, impulsiveness, hyperactivity, and hypo activity.

#### **4.2.6 Question 10 and 11: Aimed to find out the respiratory and metabolic disorders experienced by the multiply challenged.**

The respondents named Asthma, Tuberculosis, and pneumonia as the respiratory problems. PKU, galactocemia, and diabetes were also named as the metabolic disorders.

### **Questionnaire findings**

#### **4.3.0 Therapeutic Services for the Multiply Handicapped.**

##### **4.3.1 Question 12: The item was intended to establish the therapies given to the multiply handicapped learners at school.**

The respondents mentioned physiotherapy, occupational therapy, and drug therapy as the ones offered to the multiply handicapped in their schools.

**4.3.2 Question 13:** The item aimed at ascertaining the other therapies seriously lacking. It was established from the respondents that the seriously lacking therapies were speech therapy and hydrotherapy.

#### 4.4.0 Medical Services Available to the Multiply Handicapped

##### 4.4.1 Question 14: The item aimed at establishing post natal medical services offered to learners with multiple handicaps.

The respondents mentioned immunization, treatment by curative drugs, surgeries, provision of management drugs as the post natal services offered to the multiply handicapped.

##### 4.4.2 Question 15: The item was intended to establish medical services provided to learners at school.

The respondents asserted that management drugs, treatment by curative drugs were provided at school under the doctor's prescription. Immunization was also instituted when necessary.

##### 4.4.3 Question 16: The item was intended to establish where other medical services are got.

It was confirmed from the respondents that surgeries were not availed at all but the schools always referred their learners to other health facilities for this service.

##### 4.4.4 Table 6 Management drugs mostly used at school.

DRUG	FREQUENCY	PERCENTAGE
Anti-seizure	36	85.71
Anti-diabetic	0	0
Anti-hyperactivity	0	0
Anesthetics	6	14.29
ARVS	0	0
<b>TOTAL</b>	<b>42</b>	<b>100.00</b>

The table above shows that out of 42 respondents, 36 contend that anti-seizure drugs are mostly used. The other 6 have also named anesthetics. Anti- seizure drugs are therefore mostly used compared to any another drugs.

#### **4.5.0 Nutrition Services for the Multiply Handicapped**

##### **4.5.1 Question 17: The item was intended to establish nutritional services provided to learners with multiple handicaps at school.**

The respondents identified provision of balanced diet and high fiber content diet as the only nutritional services.

##### **4.5.2 Table 7: Most prevalent nutritional problem of the multiply handicapped.**

<b>CONDITION</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Poor health	28	66.67
Digestive disorders	13	30.95
Phenylketonuria	0	0
Galactocemia	0	0
Diabetes	1	2.38
<b>TOTAL</b>	<b>42</b>	<b>100.00</b>

The table shows that out of 42 respondents who responded to the question regarding the most prevalent nutritional problem of the multiply handicapped, 28 singled out poor health, 13 digestive disorders and diabetes. The table therefore indicates that the most prevalent nutritional problem of the multiply challenged is poor health.

## **CHAPTER FIVE**

### **DISCUSSION, CONCLUSION AND RECOMMENDATION.**

#### **5.0 Overview.**

In this chapter, the researcher discussed the research findings based on research questions/objectives. Conclusion and recommendations are also presented based on research findings.

#### **5.1 Discussion.**

This section provides a detailed discussion on research findings on the basis of research questions in which the researcher objectively relates the reviewed literature with research findings and where applicable the researchers view is also incorporated.

##### **5.1.1 Health Services of the Multiply Handicapped.**

It was established that the multiply handicapped exhibit heterogeneous health problems which include physical impairments, neurological disorders, metabolic disorders, behaviour disorders, metabolic disorders, behaviour disorders, chronic ailments, respiratory disorders and HIV/AIDS occurring concomitantly and not in isolation. This is in concurrence with Drew and Hardman (2004) who assert that multiple handicap is associated with concomitant conditions which cause such severe educational needs. However the researcher feels that one way of addressing the educational needs is by adequate provision of health services.

The respondents did not single out psychiatric disorders are institutionalized in psychiatric clinics and not special schools.

The respondents contended that intervention criteria for the health problems of the multiply handicapped include dietary selection, medication, therapy and counseling. This is in agreement with various authorities quoted in the literature on health problems of the multiply handicapped. Hill (1999) suggested medication as useful in managing epilepsy; Whatley and Wong(1995) without proper medical management, the diabetic child's system is not able to obtain and retain energy from food, however Yousef (1995), suggested injection by insulin as a control measure of the problem observed by Whately and Wong. Drew and Hardman (2004) also assert that PKU if not treated promptly (mostly through dietary restrictions) it causes from moderate to severe mental retardation.

Even though the enlisted intervention criteria were availed, other suggestions obtained from the literature were careful selection of exercises in classroom, identification and elimination of stimuli which may provoke asthmatic attacks (Kraemer & Bierman, 1983).

### **5.1.2 Therapy Services for the Multiply Handicapped.**

Physiotherapy, occupational therapy, and drug therapy were mentioned by the respondents as therapeutic services provided at school. These are of great value to motor and physiological functioning as remarked by different authorities. Heward (2000) contends that physiotherapy is valuable in encouraging children to be as motorically independent as possible, helping in developing muscular functions, reducing pain, discomfort, or long term physical damage. Occupational therapy increases independent functioning and quality life, enhance development and prevent disability (Drew & Hardman, 2002).

The researcher has dissenting view that therapies such as psychotherapy, behaviour therapy, milieu therapy and speech therapy are also of significant value to the multiply handicapped.

Psychotherapy helps to bring about positive changes in a persons attitudes, emotions or behaviour especially in mental and emotional problems. Behaviour therapy changes negative behavioural pattern through positive and negative reinforcement, shaping, modeling, punishment, or extinction. On the other hand milieu therapy involves the use of less structured environment to train positive behaviours (Warfield, 1996).

It's the opinion of the researcher that behavior and milieu therapies are effective in behaviour modification in the classroom for learners exhibiting behaviour and hyperactivity disorders. Speech therapy is also important in training verbal communication to learners with speech defects.

### **5.1.3 Medical Services for the Multiply Handicapped.**

The respondents contended that medical services necessary for these learners include immunization, treatment by curative drugs, surgeries, provision of management drugs, and first aid however the services provided at school were mainly management drugs (anti-seizure, anesthetics), treatment by curative drugs under the doctors prescription and first aid where necessary.

In researchers view, medical services provided at school are inadequate. More medical services should be instituted. These include drug therapies, surgeries, exclusive exercises, and movement appropriate for treating bone and muscle disorders (Warfield, 1996).

It is the researchers opinion that these services should all be provided at school from a well established sickbays staffed with qualified personnel to handle all medical related cases and emergencies. Anti-retroviral drugs, drug therapies, inhalers and other important drugs should be used other than administering anti-seizure and anesthetic drugs only. This view concurs with Barttlet (1996) who suggested the use of anti-retroviral agents to slow the spread of virus, on the other hand Warfield (1996), prescribes cholinetrage inhibitors for treatment of muscle disorders.

#### **5.1.4 Nutritional Services of the Multiply Handicapped.**

The respondents mentioned provision of balanced diet and high fiber content foods as the nutritional services availed at school for these learners. This is in agreement with Wardlaw etal (2004) who observed that balanced diet provides all ingredients for growth and high fiber content food which helps in elimination of wastes from the bowels. However low phenylalanine, lactose reduced, low- sugar content dietary were not mentioned by the respondents possibly because of technicality in diagnosis of conditions requiring these interventions as they may manifest on the leaner unnoticed.

A critical look at table 7 indicates that the most prevalent nutritional problem of the multiply handicapped is poor health. This is opposed to Drew and Hardman (2000) who identified PKU and galactocemia. Possibly this is because of technicality in the diagnosis of the conditions unlike poor health which can be seen at glance.

### **5.1.5 Impact of Health Services on Education of the Multiply Handicapped.**

The literature did not give the information but the respondents said that medical focus on biological problems, nature of disease and intervention of pathological effects. They also pointed out that this increases vitality, alertness, and learning potential of the multiply handicapped.

Concerning therapy they observed that physiotherapy restore, maintain and promote overall fitness and health for people of all ages. They further noted that occupational therapy increases independent functioning especially through the use of adaptive aids like penholders for writing, page turners for opening pages and head pointers for typing.

On nutrition, the respondents asserted that value added diet boosts growth of functional components in learning such as motoric and brain functions. They further contend that a balanced diet nourishes the brain leading to high intelligence.

## **5.2 Conclusion**

It was established that multiple handicap consist of heterogeneous conditions occurring concomitantly and not in isolation with physical handicap manifesting more conspicuously than any other concomitant handicaps. The intervention strategies for these conditions include medication, therapy and nutrition.

There is need to provide adequate medication, therapy and nutrition to the multiply challenged as this has been identified to be minimal hence



impacting negatively on the education of learners with multiple handicaps.

### **5.3 Recommendations**

The recommendations which are of significant importance to educationists, policy makers, caregivers and researchers who may be interested in conducting further research on a problem in special needs education related to this report. The following recommendations were made:-

- Provision of adequate therapeutic services. This can be done by paramedics such as occupational therapists, speech therapists, counselors and psychologists. The personnel should be staffed in special schools to offer these services.
- Establishment of sick bays in special schools. Such facilities should be well equipped with modern technological equipment and trained personnel. Medical services such as immunization, treatment of ailments, diagnosis of diseases and surgeries can be done in such facilities.
- Early intervention for the health problems to reduce the severity of the disability and to enhance maximum development of multiply handicapped. This can be achieved through medical and education assessment.
- Use of balance in diet and dietary selection to check for the metabolic and nutritional disorders. These can be done by nutritionists who will identify the nutritional needs and intervene appropriately.

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**QUESTIONNAIRE FOR SPECIAL NEEDS EDUCATION TEACHERS.**

My name is WILLISE OTIENO OOKO, a student at Kampala International University, taking a course in Bachelor of Education Special Needs. I am carrying out research in on health services and education of the multiply handicapped. This questionnaire is for collecting data from the respondents and the information gathered is intended for research purposes only. For confirmation of the above information, refer to the letter of introduction from the director of studies of the university attached to the questionnaire.

**INSTRUCTIONS:** Kindly tick or fill in the blank spaces appropriately.

**GENERAL INFORMATION:**

(a) Which category of gender do you belong?

MALE  FEMALE

(b) Have you been trained in special needs education?

YES  NO

(c) If YES, at what level?

Certificate  Bachelors Degree

Diploma  Masters Degree

Any other  Specify \_\_\_\_\_

(d) Which of the following age brackets do you fall?

21-25  26-30  31-35

36-40  41-50  51-55

(a) Which are the health problems learners in your school have?

- Orthopedic impairments
- Neurological disorders
- Metabolic disorders
- Behaviour disorders
- Psychiatric disorders
- Respiratory problems
- Heart problems
- Diseases
- HIV/AIDS

(b) Do these problems occur together or in isolation?

- Together
- Isolation

(c) What are the physical impairments learners in your school have?

- Muscular dystrophy
- Cerebral palsy
- Paralysis due to poliomyelitis
- Amputations
- Fractures
- Orthogenesis imperfecta
- Sprains

(d) Which are the neurological problems your learners have?

- Spina bifida
- Epilepsy
  
- Hydrocephally

- Microcephally

(e) Name some of the intervention procedures for health problems.

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_
- (v) \_\_\_\_\_

(f) Which behaviour disorders do your learners exhibit?

- Attention Deficits
- Impulsivity
- Hyperactivity
- Hyperactivity

(g) Which is the respiratory disorder prevalent among your children?

- Asthma
- Tuberculosis
- Pneumonia

(h) Which metabolic disorders are mostly found with your learners?

- Phenylketonuria
- Galactocemia
- Diabetes

## 2. THERAPEUTIC SERVICES FOR THE MULTIPLY HANDICAPPED

(a) Which are the therapeutic services offered to learners in your school? (Tick only ones offered at school)

- Physiotherapy
- Milieu therapy
- Occupational therapy

- Speech therapy
- Behaviour therapy
- Drug therapy
- Hydrotherapy.

(c) List important therapies missing in your school.

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_
- (v) \_\_\_\_\_
- (vi) \_\_\_\_\_

### 3. MEDICAL SERVICES FOR THE MULTIPLY HANDICAPPED.

(a) Which are some of the post natal medical services offered to your learners?

- Immunization
- Treatment by curative drugs
- Surgeries
- Provision of management drugs

(b) Name the medical services provided to learners at your school.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

(c) Where do you get other medical services?

- Sick bays at school
- Other health facilities

(d) Which is the management drugs provided at school?

- Anti- seizure drugs
-

- Anti-diabetic drugs
- Anti-hyperactivity drugs
- Ana esthetics
- Aritroviral drugs (ARVs)

**4. NUTRITION SERVICES FOR THE MULTIPLY HANDICAPPED.**

(a) Which nutritional services are provided to learners in your school?

(Tick the ones offered in your school)

- Balanced diet
- High fiber content diet
- Low phenylalanine diet
- Lactose reduced diet
- Low sugar content diet

(b) Which are the most prevalent conditions amongst your learners that require the above suggested nutritional services?

- Poor health
- Digestive disorders
- Phenylketonuria
- Galactocemia.
- Diabetes

**5. MENTION HOW ADEQUATE PROVISION OF THE HEALTH SERVICES WOULD IMPACT ON THE EDUCATION OF THE MULTIPLY HANDICAPPED.**

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**BUDGET**

<b>ITEM</b>	<b>QUANTITY</b>	<b>UNIT PRICE</b>	<b>TOTAL COST (KSH)</b>
Traveling expenses	80 km	@Ksh 50	4,000.00
Printing	50 pages	@ Ksh 40	2,000.00
Pens	3	@Ksh 20	60.00
Spring Files	2	@Ksh 50	100.00
Photocopy	40	@Ksh 2	80.00
Foolscaps	200 pages	@ Ksh 2	400.00
Typing	40 pages	@ Ksh 30	1,200.00
Binding	4	@ Ksh 400	1,600.00
<b>Sub Total</b>			
<b>9,340/=</b>			
<b>10% Contingencies</b>			
<b>934/=</b>			
<b>Total</b>			
<b>10,274/=</b>			

**TIME FRAME**

<b>TIME</b>	<b>ACTIVITY</b>
1 <sup>st</sup> Jan 2008 – 31 <sup>st</sup> Jan 2008	Identification of Research Problem
1 <sup>st</sup> Feb. 2008 – 10 <sup>th</sup> March 2008	Literature search and Development of Literature Review
16 <sup>th</sup> March 2008 – 31 <sup>st</sup> March 2008	Development of Research Design
15 <sup>th</sup> April 2008	Submission of Research Proposal
1 <sup>st</sup> June 2008 – 30 <sup>th</sup> June 2008	Collection of Data
1 <sup>st</sup> July 2008 – 31 <sup>st</sup> July 2008	Data Analysis
1 <sup>st</sup> August 2008 – 30 <sup>th</sup> August 2008	Writing of the Research Report
10 <sup>th</sup> September 2008	Submission of Research Report

# MAP OF RESEARCH ENVIRONMENT: NYANDU DISTRICT

