

## EDUCATIONAL SERVICES FOR STUDENTS WITH MENTAL RETARDATION IN KENYA

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*Research pertaining to issues on educational services for individuals with disabilities in developing countries is scarce. The purpose of this article is to two fold: first, to contribute to the already existing literature, and, secondly, and perhaps more importantly, to provide a foundation for prospective readers to better understand literature regarding educational services for students with mental retardation. This article guides the reader to understand the perspectives towards students with mental retardation, discusses the definition and causes of this condition, and discusses issues pertaining to the identification, assessment and evaluation of these students in Kenya. The core of the article contains a discussion of the various placement options available for this population along with the curriculum in operation in the various settings. Existing barriers to effectively serving this population in Kenya and in other developing countries is also discussed.*

The concept of mental retardation is continually changing and these changes can be seen as a reflection of a change in the perspective of individuals with mental retardation based both on research and a clearer understanding of the issues involved in defining the concept. For example the American Association on Mental Retardation (AAMR), a professional organization founded in 1876, recently drafted a new definition of mental retardation which not only maintains a functional perspective on retardation but also focuses on the relations among capabilities, environments, and functioning (Luckasson, Coulter, Polloway, Reiss, Schalock, Snell, Spitalnik, & Stark, 1992). According to this definition, *mental retardation refers to substantial limitation in present function. It is characterized by significantly sub-average intellectual functioning existing concurrently with related limitations in two or more of the following applicable adaptive skill areas: Communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure and work. Mental retardation manifests before age 18* (1992). In addition to the perception of mental retardation with respect to a person's functioning in daily life according to his or her practical, social, and conceptual intelligence, the AAMR lists four essential assumptions to be carefully considered in the application of this definition. Without going into a lengthy elaboration of this definition, it is important to note that it has far reaching implications which have not been addressed. The more widespread definition of mental retardation is the AAMR's sixth definition used in the American-based Individuals with Disabilities Education Act (IDEA).

Under IDEA mental retardation is defined as *significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period* (Grossman, 1983 p.11) that adversely affects a child's educational performance. Significantly sub-average intellectual functioning is defined as a score that is at least two standard deviations below the mean on a test of intelligence. Based on the American Association on Mental Retardation (Grossman, 1983) and the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994) and using intelligence (IQ) test scores, mental retardation occurs on the four levels of mild (score 50 through 55 to

approximately 70), moderate (score 35 through 40 to 50 through 55), severe (score 20 through 25 to 35 through 40), and profound (20 through 25).

Adaptive behavior is an indication of independence and social competence. It refers to an individual's ability to meet the social requirements of his or her community that are appropriate for his/her chronological age. Standardized tests such as the AAMR Adaptive Behavior Scale (Lambert, Nihira, & Leland, 1993) and the Vineland Adaptive Scales are used to determine an individual's adaptive skills. Using the *sub-average intellectual functioning* and the *adaptive behavior skills deficits* an individual would only be identified as having mental retardation if their IQ scores and their adaptive behavior skills scores were below average.

In Kenya a *mentally handicapped child is one who has a limited level of intelligence and deficits in adaptive behavior. This condition usually arises between conception and 18 years of age* (Ministry of Education, 1995, p.6 ). The Kenya Ministry of Education, in its handbook on how to handle children with special needs goes on to note that *mentally handicapped children are usually categorized according to severity of mental impairments as mildly, moderately, severely, or profoundly handicapped; or as educable, trainable, severe, and profound in terms of their measured intelligence scores on IQ tests*. The classifications of *educable* and *trainable* are referred to by other authors (e.g.,Bernie-Smith, et. al., 1998). It would appear that the definition of mental retardation used in Kenya has some parallels with the IDEA definition used in the United States.

#### *Causes*

The various factors associated with incidences of mental retardation in Kenya as well as most other countries are pre-, peri-, and postnatal, and environmental. Although research (e.g., McDermott, 1994) indicates that a majority of incidences of mental retardation are attributed to environmental factors, environmental factors need to be viewed as interacting with psychosocial and genetic or biological factors (Office of Special education Programs, 2000 & Schettler, Stein, Reich, Valenti, & Wallinga, 2000). Hence, such factors as lack of early exposure to intellectually stimulating experiences, inadequate health care, adverse living conditions, and nutritional problems when, associated with mental retardation can not be said to cause the condition but individuals who are exposed to these factors are at a greater risk for demonstrating low cognitive abilities.

Prenatal factors include disorders associated with chromosomes, metabolic disorders, and infections of the mother during the period of pregnancy. An initial infection of cytomegalovirus (CMV), for example, can be potentially very dangerous to the unborn child posing risks for brain damage, hearing impairments, and mental retardation. Toxoplasmosis, (Centers for Disease Control & Prevention, 2003), another maternal infection, may be contracted through consumption of undercooked or raw meat and eggs or exposure to cat feces. Initial infection during pregnancy puts the unborn baby at risk for very serious complications including blindness, jaundice, cerebral palsy, enlarged liver and spleen, microcephaly, and mental retardation. Sexually transmitted diseases such as gonorrhea, syphilis, and the acquired immune deficiency syndrome (AIDS) are other causes of mental retardation and other problems. These viruses are able to cross the placenta and attack the fetus's central nervous system. Along with attacking the central nervous system of the developing fetus, the AIDS virus also damages the fetus's immune system leaving it at risk for opportunistic infections. Research indicates that pediatric AIDS is both the fastest growing infectious cause of mental retardation (Baumeister, Kupstas, & Klindworth,1990) and the single most preventable type of infectious mental retardation (Cohen, 1991).

German Measles (Rubella) is another infection that has been linked to mental retardation and other birth complications such as low birth weight, heart defects, and vision and hearing problems especially if infection occurs during the first trimester of pregnancy. The Rhesus

factor, a disease caused by blood group incompatibility between a mother and her unborn child (Beirne-Smith, Ittenbach, & Patton, 1998 & March of Dimes, 1997d), often leads to serious complications for the unborn fetus. These include mental retardation, cerebral palsy, and epilepsy. Incidences of German measles infections have greatly decreased since the introduction of a rubella vaccine in 1969. An injection of the Rh immune globulin within 72 hours of delivering an Rh positive baby, greatly reduces problems in any future pregnancies.

Phenylketonuria (PKU) and galactosemia are two inborn errors of metabolism associated with mental retardation and whose effects may be greatly reduced by dietary restrictions (Dyer, 1999 & Koch & De la Cruz, 1999). Galactosemia is a disease that results from an infant's inability to process galactose, a form of sugar that is usually found in products such as milk. Phenylketonuria results from an inability to process phenylalanine, a protein found in milk and other products. An accumulation of phenylalanine in the blood stream leads to brain damage and mental retardation which is often severe. Galactosemia is manifested by cognitive impairments, vision problems, vomiting, retarded development, liver damage, jaundice, and greater risks for infections (Drew, Hardman, & Logan, 1996).

About 5 percent of all people with mental retardation have Down syndrome. While some individuals with Down syndrome may have almost average intelligence, most have mild through profound mental retardation and others have associated conditions such as leukemia, vision and intestinal problems and a susceptibility to thyroid problems (March of Dimes, 1997a). Distinctive physical characteristics are also often observed in individuals with Down syndrome (March of Dimes, 2003). These include short fingers, reduced muscle tone, an enlarged and protruding (sometimes) tongue, flat nose, short stature, and an upper slant of the eyes. While people without Down syndrome have parallel lines, people with Down syndrome have a single crease-called a Simian crease- on the palms of their hands.

Fragile X, one of the leading inherited causes of mental retardation, results from a weakness or fragility in the structure of the X chromosome of the twenty-third pair. More at risk for this condition are males because, unlike females who have two X chromosomes, they have one X and one Y chromosome in each pair (Kozma & Stock, 1993). This condition affects 1 in 750 males and 1 in 1250 females (Kozma & Stock, 1993). Individuals with Fragile X syndrome may have autism and they may manifest attention disorders (Beirnie-Smith, et al., 1998 & Santos, 1992), speech and language problems, and self-stimulatory behavior. Distinctive physical characteristics for these individuals may include prominent forehead, large head circumference, a long narrow face and large ears, and enlarged testicles at puberty (Rogers & Simensen, 1987).

Mental retardation may also result from unsafe behaviors of mothers during pregnancy. Consumption of alcohol before or during pregnancy can lead to severe effects on the baby, a condition referred to as Fetal alcohol syndrome (Bauer, 1999 & Jones, Smith, Ulleland, & Streissguth, 1973). Infants with fetal alcohol syndrome (FAS), now a leading cause of mental retardation in the United States could have a damaged central nervous system and brain damage. These infants have mild to moderate mental retardation, attention deficits, behavior problems, physical deformities, heart defects, low birth weight, and motor dysfunctions. Fetal alcohol effects (FAE) are milder forms of the effects of a mother's alcohol consumption during pregnancy on the infant. These include mild learning disabilities and problems paying attention (Melner, Shackelford, Hargrove, & Daulton).

Some prenatal causes of mental retardation are unknown. Conditions such as encephalocele, anencephaly, microcephaly, and hydrocephalus can not be explained. All these conditions affect the brain in some way. Encephalocele involves an opening in the skull from which part of the brain material protrudes. Anencephaly is a condition in which a large portion of the brain fails to develop properly. An unusually small head and severe mental retardation characterize microcephaly. In hydrocephalus, a large amount of cerebrospinal fluid

accumulates in the brain area leading to an enlarged cranial cavity and compression of the brain with dire consequences for the affected infant. A shunt inserted into the cranial cavity removes the excess fluid from the brain area and minimizes the impact of the consequences.

Among the perinatal factors associated with mental retardation are low birth weight, prematurity, and other neonatal complications. Low birth weight (less than 5 pounds, 8 ounces) and premature birth (birth prior to 37 weeks of gestation) are two gestational disorders associated with mild to severe mental retardation. It is important to keep in mind that not all infants with gestational disorders will have a disability or even have learning difficulties. Other perinatal events include neonatal complications neonatal complications which can result from prolonged and difficult deliveries or damaged umbilical cord. These events can result in a fetus being completely or partially cut off from oxygen. Indeed, anoxia has been implicated in as many as one out of every five births that result in mental retardation (McLaren & Bryson, 1987). Breech presentation, quick deliveries (lasting less than two hours), hypoxia, and birth trauma are all perinatal factors that may lead to various degrees of mental retardation.

In breech presentation, rather than the typical head-first birth procedure, the fetus exits the birth canal rear first. This increases the risk of damage to the umbilical cord and a greater risk of injury to the infant's head resulting from the greater intensity of uterine contractions later in the birth process. These risks also exist when a rapid short duration birth process occurs. Drew et al 1996--notes that a rapid birth precludes the chances for the gentle molding of the head increasing the risk for tissue damage and mental retardation. Improper use of forceps and application of vacuum procedures during the delivery process can cause brain damage to an infant and the possibility for mental retardation exists.

Mental retardation may also result from factors occurring postnatally. These include infections, such as meningitis and encephalitis, intoxicants, environmental factors. Lead poisoning (Centers for Disease Control & Prevention, 2003), which results from ingesting lead, can affect the central nervous system and cause seizures and mental retardation. Meningitis is a viral infection that causes damage to the meninges or tissues covering the brain. Meningitis can result from typical childhood complications such as mumps and measles. This infection causes seizures, damages the brain, and has a possibility of resulting in mental retardation. Encephalitis, on the other hand, is an inflammation of the brain tissue and may also result from complications of infections associated with childhood. This infection can cause brain damage and has the possibility of leading to varying degrees of mental retardation. As in other parts of the world, the above factors are major causes of mental retardation and other developmental disabilities in Kenya.

#### *Identification of Mental Retardation in Kenya*

If mental retardation is very severe, a child may be identified as having mental retardation very early in his/her life. In some cases, determination of this condition is made at the moment of birth. Less severe cases of mental retardation may not be that easily identified. Earlier in this paper, it was mentioned that children with mental retardation in Kenya are usually categorized according to severity of mental impairments as mildly, moderately, severely, or profoundly handicapped or as *educable*, *trainable*, *severe*, and *profound* in terms of their measured intelligence scores on IQ tests.

It would appear that intelligence tests are used in determining the level of mental retardation of students *suspected* of having intellectual disabilities in Kenya. However, whether these tests are actually used with children who have mental retardation in placement decisions is not clear. It is important to understand that in Kenya, students who are *labeled* as having *mental retardation* are those who have such significant and obvious limitations in their cognitive and adaptive behaviors that administration of standardized tools may not be deemed necessary. Such students may also have other disabling conditions.

Given that at least 10% of a population have disabilities according to United Nations Educational, Scientific, and Cultural Organization (UNESCO,1994) it would appear that there are many more students with mental retardation than the ones currently receiving services. A majority of students with mental retardation are those with mild mental retardation. *Identification* of these students may consist of observations for pointers of low intellectual functioning and deficits in adaptive behavior. These characteristics may be indicated by an impaired ability to learn, acquire and generalize concepts, process, understand and respond to information, and apply knowledge in various settings such as school and community. It is also important to note that the learning and social behavioral characteristics of students with mild mental retardation, learning disabilities, and those who are *unmotivated* low achievers are often so similar to observers that misdiagnosis occurs often. In any case, services for students with learning disabilities and mild mental retardation are not yet developed in Kenya and in many cases these children may not be recognized as having a disability.

The Kenya Ministry of Education, in its guidelines on students with disabilities (1995), notes that children with mental retardation: *develop more slowly than other children, learn more slowly than people of the same age, have low attention abilities, lack motivation, have poor memory, have problems with language and other social skills, experience low academic achievement, have personality and behavioral problems, experience low academic achievement, are withdrawn and experience difficulties in making friends, lack self-help skills, lack work adjustment skills, may be aggressive, may have physical defects and associated disabling problems such as autism, epilepsy, and cerebral palsy* (p.6-7). This may be another way in which students with mental retardation are identified.

#### *Placement Options*

Given that their condition is in most cases never identified or recognized as a disability, children with mild mental retardation in Kenyan schools are educated with students without disabilities in regular schools and classrooms (Mutua & Dimitrov, 2001) with no supports, adaptations, or modifications. Students with moderate to severe forms of mental retardation are educated mainly in *units* in regular education schools and in special schools and residential settings for children with mental retardation (Kiarie, 2005 & Mutua & Dimitrov, 2001). Whether they are in the units, special schools, or residential settings, their educational services are *specialized* in that they do not follow the academic curriculum. Services for these individuals in specialized settings date back to 1948 when two schools, later merged into the Jacaranda Special School, were established. Programs for these students have continued to grow as enrolment has continued to increase. In the mid 80s, students with mental retardation were served in 52 programs *which included 17 schools, 30 units, three pre-vocational schools, and one sheltered workshop* (Ndurumo, 1993, p. 20).

As was the case in the United States before the enactment of the Education for all Handicapped Children Act (1975), (Ryndak & Alper, 1996), it is very likely that majority of children with profound mental and other disabilities do not receive any educational services in Kenya. These are the children and youth most likely to be denied access to the schools as they are deemed unlikely to benefit from any education or be hidden away (Dorothy, 2003) by their parents. The absence of a *zero reject* principle, the equivalent of the one embodied in the American-based Individuals with Disabilities Education Act (IDEA) means that even though parents may recognize education as a right for every child and rise above society's negative attitudes, they can not require that schools open their gates to all children. Schools can still decide that some children are *ineducable* and therefore do not belong in the school environment.

### *Curriculum*

In the general education settings, students curriculum is very academic oriented and all students are exposed to the same subjects. This orientation illuminates the disadvantage at which students with mild mental and other intellectual disabilities are placed. As Mutua and Dimitrov further note *Kenya's educational system is characterized by entrance examinations that are used to predict academic success. Non-successful students are often retained in grades until they are deemed successful, drop out, or are too old to stay in the same grade* (p.178).

One of the government's objectives in educating students with disabilities is the acquisition of literacy and numeracy skills. However, in the separate settings, other than very elementary basic skills, the curriculum is geared towards functional education and life skills training (Mutua & Dimitrov, 2001). Teachers for individuals with mental retardation in separate facilities for students with mental retardation focus on teaching their students how to communicate their needs, employ self-care skills for basic hygiene, maintain appropriate behavior, employ functional academics, be safe, and employ appropriate social skills (Mwangi, Kerre, Wabuge, & Mugo, 1989). To realize their objectives, teachers are required to use task-analysis in which they break learning tasks into smaller sequential skills which they systematically teach to the students until they master. These are recommended in a guidebook on handling students with special needs published by the Kenya Ministry of Education (Kenya Ministry of Education, 1995). Other instructional considerations recommended by the Kenya Ministry of Education for use with this population include: Modeling, drills and practice to promote over-learning, attention to relevance and applicability to the students' lives, short learning activities, generous use of prompts and rewards, use of concrete materials as much as possible, use of visuals to promote understanding of concepts, and explicit teaching of such self-care skills as toileting, dressing, and grooming.

Teachers of students with mental retardation in Kenya can benefit from exposure to current literature on meeting the needs of these students. This literature emphasizes the need for teachers to plan their materials well, have clear goals and objectives, teach to their objectives, and assess students directly and frequently. Since individuals with mental retardation experience difficulty in maintaining the skills and knowledge they have acquired, they require frequent opportunities to practice new academic and functional skills. Not only must curriculum focus on skills that these individuals need to use frequently in school, at home, and in the community but teaching functional skills in the natural contexts in which they are performed is necessary.

It is important to note that the curriculum in units and separate schools and residential settings for students with mental retardation in Kenya does not seem to be consistent. Muuya (2002) found that rather than the more appropriate curriculum combining literacy and numeracy with functional academics and life skills training discussed earlier, programs for these children focused more on behavioral control and containment and moral behavior. Due to certain factors, the curriculum orientation of a certain program, although guided by the need for the children to acquire skills in self-reliance among others, are largely dependent on the goals and orientations of the funding religious, private, or other organization.

### **Conclusions**

Issues affecting other areas of special education services in Kenya also affect the area of services for students with mental retardation. Foremost among this is lack of vital human and material resources (Kiarie 2005). Another is the lack of a law that mandates funds and enforces educational and other services for all students with disabilities. In the education of students with disabilities a law is needed to provide and enforce services for this population. Without laws and national mandates, and ways for ensuring that schools abide by these laws, many students with disabilities are likely to be locked out of the educational arena.

Development of a transition-based service provision model is vital especially for students with severe mental retardation. Students with disabilities need to be taught with attention to what, where, and how they are going to live and work as adults. This aspect is lacking in the education of students with disabilities in Kenya.

In view of the above and other barriers quite evident in the education of students with disabilities in Kenya, it is safe to say that although a lot remains to be done, Kenya is making steps in the right direction with regard to services for students with disabilities. With awareness of the rights of individuals with disabilities being raised by the most recent act, the Persons with Disabilities Act passed in 2003, it is reasonable to expect that services for children, youth, and adults with disabilities in Kenya will continue to improve, albeit very gradually.

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