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Exploiting Genetic Counseling as a Tool for the Analysis of Dissociative Behavior and Sub-normality from Conception to Birth among Maladjusted Blind, Deaf and Dumb Infants

Effiom, Bassey Ekeng [a*], Lucy Obil Arop [a], Maria Enemeba Ngwu [a], Florence Banku Obi [b] and Godwin Michael Ubi [c]

[a] Department of Guidance and Counselling, faculty of Educational Foundations, University of Calabar, Calabar, Nigeria.
[b] Department of Special Education, Faculty of Educational Foundations, University of Calabar, Calabar, Nigeria.
[c] Department of Genetics and Biotechnology, Faculty of Biological Sciences, University of Calabar, Calabar, Nigeria.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

This paper analyzes the dissociation behavior of children from pregnancy to birth and resultant sub-normality using genetic counseling in an attempt to mainstream children with birth disabilities and the challenges of the genetic counselor. Genetic counseling is a process of communication to provide information about a genetic condition, or inheritance, and support decision making and adjustment in families with the inheritance gene. It uses children that need special needs, the blind, deaf and dumb. Genetic counseling approach, re-affirmation, care and integration, and confidence-building institutionalized in school and family life remains some of the vital tools needed to support these children using genetic guidance and counseling as the best approach to adjusting the different maladaptive behavior of children. The genetic counseling approach includes information about the implications of testing positive for the genetic disorder, including the psychological impact

**Corresponding author: E-mail: drbasseyekeng111@gmail.com;*

and other consequences, whether to inform relatives of your intention to test, or not to test and the usual pattern of progression of the sub-normality identified tested for and its potential treatments. Thus, the paper seems to analyze sub-normality as classified within the adequacy of social adaptation. Analysis of dissociation behavior associated with sub mentality shows discouragement, contempt, and neglect from an early age, emotionally and maladjusted social growth. Therefore, the counselor must experience sub-normality by getting involved and clarifying their feeling toward the children with these disabilities.

Keywords: Genetic counseling; dissociative behavior; subnormality; deaf dumb blind; maladjustment and infant.

1. INTRODUCTION

Childhood learning may be more influential than learning dissociative behavior involves dullness & backwardness, heartbeat, muscle tension, and brain waves [1]. The class of children that need special education treatment is the blind, the partial sighted, deaf, partially deaf, and the delicate. Others are educational sub-normal, the epileptic, the maladjusted, the physically handicapped, and those with speech defects. This condition occurs in a normal family. Effiom, B. & B. A [2] observed "that of all the factors in a school environment which affect adult learners' academic ability, intelligence and self-esteem showed the strongest relationship. He, therefore, suggested that since self-esteem was the most important factor in educational achievement, changes are required in school according to expressed teaching of adult learners".

Sub-normality is complex, uncertain, and quite confusing. Rather, segregated children with disabilities, have re-enforced stigmatization inclusive approaches through mainstreaming are more institutionalized. Disabilities children should be careful and integrated through re-affirmation, confidence-building understanding, and acceptance alongside disability education [3]. Counseling, therefore, is a service that is both preventive and corrective, especially with mental sub-normality and treatment strategies for mental disorders.

Davidoff [4]. Cites three therapeutic orientations considered fundamental: Psychoanalysis behavior, humanistic and existential. The three restored healthy functions though differ in the conception of maladaptive behavior and primary procedure. The education of all mentally handicapped children is both the responsibility of the government and families noting that this condition tends to occur in families.

Submental abnormality in some instance arise as a result of a large family arising from genetic inheritance, neglect, inadequate food overlook of early infection, the mother may be promiscuous and the father may be a drunkard, this is frequently with juvenile delinquency – so it is important that subnormality should be detected at an early stage and be given attention example, reading, writing and simple number work or an intellectually stimulating atmosphere and opportunity to develop good social and emotional adjustment [5,6]. Subnormal children grow up to be self-respecting and supporting adults. The student that is subnormal should be always reported to a guidance counselor in the school, subnormal students sometimes come from a family with lower social-economic status [7]. According to [8,9] Poverty has affected access and quality of education and deprived people of getting an adequate education. Poverty has become the 'boss' with the help of corruption determining who should go to school and who should not. Effiom et al 2021 said that, "A career guidance counselor is needed to unreliable and dangerous sources in search of career information such as cultural peer groups which can lead their graduating into armed robbery and other criminal business unintentionally. The primary goal of career guidance 6and counseling is to make it possible for an undeniable fact that the major service areas of guidance and counseling are, educational guidance and counseling which assists students in their choices of career, vocational guidance, and counseling which assists the individual to choose and prepare for an occupation that is compatible with his interests and aptitudes, and personal and social guidance and counseling" [10,11].

2. CAUSE OF MENTAL SUB-NORMALITY

Genetic disorders, birth injuries, early infection, metabolic disorder, severe emotional disturbance, poor upbringing, and poor quality of neural mechanism in which the child is born and caused by poor environmental stimulation Genetic alliance [12].

2.1 Parental Development Disorder

At birth, children have different problems associated with pregnancy and the different environmental conditions viewing the social, physical-economic structure of the parent, the Educational level, and proximity to health and medical facilities. Therefore, mal-function in the fetus during growth within the mother's uterus can bring about injuries, body temperature conditions, chemical conditions, temperature conditions, interference with oxygen supply, and nutrition. Under development in the size of the brain in microcephalic [12].

Although, such disorder is sometimes due to genetic causes, toxic substance produced in a mother if the blood is negative and she is carrying a foetus whose blood is positive. This poison when reach the foetus may cause damage to the blood, liver, brain, at birth such children may have anemia, jaundice, or paralysis etc. According to [13] “Sub mentality suffer discouragement, contempt and neglect from early age. Emotionally and social growth they cannot respond as adequately to the environment as can normal children, they are likely to feel isolated and to be excluded from social activities from early childhood. Therefore ,counsellor must experience sub normality by getting involve and clarify their feeling towards children with disabilities”.

2.2 Infectious Diseases

Children suffer different early birth disease which causes different malfunctions and impair their health and circumstance of their birth such disease as measles, scarlet fever, mumps, whooping cough etc. this may cause retardation in learning process example to speak, walk and intelligent development [14].

Metabolic disorder may arise as a result mental deficiency e.g amaurotic, idiocy, gargoylism and phenylketonuria.

2.3 Hormonal Imbalance as Drastic Mental Deficiency

This can be referred to mongolism resulting to short growth, slanting eyes, depressed nose bridge, dry lips, open mouth, enlarged and fissured tongue, flat facial features.

Consequently, when the ovum is formed after fertilization the body cells of the embryo contain an unusual numbers of chromosomes leading to abnormal development [15].

2.4 Birth Injuries

Cerebral palsy is a disorganization of the motor control system as a result of damage to the central nervous system. Birth injuries can be viewed as a complication either before or after birth process.

Mainstreaming disabilities in children building self-confidence and informing about wholeness and ability with strong disposition in addition with strong teacher advocacy, guidance and counseling of disabilities is to equip the school population with forth right attitude, technique and skill of acceptance and integration of disable children [16] as he or she prevails over the area of difficult in life. He has self-management affirmation and resources and self-understanding in area of great strength.

3. THE CHALLENGES OF THE COUNSELING PROFESSION

Social development involves the training the child receives on his interpersonal life and how he relates socially with his peers and others. The child is observed on how he resolves small conflicts; whether he cooperates, leads, fellows or play along when in a group, how he responds to simple training in manners and independence. Specifically, the teachers should study the child’s social development through his family type i.e. living together or separated. father’s occupation, wealth of the family, attitude of the parent to child and vice-versa, the peer group he plays with, his neighborhood, his moral standard and the type of people he appreciate or copies as models [17].

The mental health is important for elimination of tension of the client, such traits, like anxiety, hostility, depression, feeling of inferiority, inadequacy, unhappiness and other emotional symptoms such be put under conscious control which involve internal and external environment [18].

Counseling help the client/person with sub-normality towards overcoming obstacles to their personal growth and development wherever the maybe encountered. The counselling service provide to children with disabilities are significantly outside the average range of general counselling. Many area of the counselling profession in primary school has fallen short, with

a luck of understanding and appreciation (e.g., attitude, values, and belief), a limited repertoire of skills. When school counselor do not provide service or develop programs to accommodates the needs of children with disabilities, they deny these student of their expertise and themselves of the enrichment that come with working with children with disabilities who are challenging, deserving and responsive [19]. There are a number of additional factors that are contributing to the low professional visibility of school counselors; lack of well defined school counselor's roles, goals and job description too many administration routine assignments and too high counselor – student ratio that don't allow school counselors to use their special skills. However, all student refers to those who are average, gifted and talented. Low achieving and to those with handicaps and disabilities; those in all ethnic, and cultural, groups; those who speak Turkish as a second language; migrants; boys and girls; and any other "special student" in the school. this principal indicates that all students, including children with disabilities, should have equal access to counselors, the guidance curriculum, counselling resources, and all other direct and indirect services. Children with disabilities will experiences some of the following problems throughout their school age years. They may be subjected to a multitude of obstacles and barriers. In some cases, these children experience more than their normal share of frustration and difficulty in attempting to resolve the issue that are encounter with daily living activities. It is not uncommon for children with disabilities to experiences chronic hopelessness as a result of anxiety and depression. Sometimes they have access and performance problem in schools, which could or would not be related to the disability. Also, they show delayed in development of self – concept that can influence one's sense of self – worth, and viewing one's self as dumb, damages, weak, and vulnerable. Counselling professionals historically, have had limited contact with this population for a variety of reasons. Some counselors lack confidence and training to serve these groups. Some are uncomfortable around peoples with disabilities. According to [13] "mental sub normality, mainstreaming children with disabilities andthe challenges of the counselling profession. Its use children that need special education, the blind,epileptic, partial deaf. Since they have rein-force stigmation. Inclusive approach, re-affirmation ,care and integration, confidence building institutionalized in school and family life. Using guidance and counselling as the best approach to adjust the different maladaptive behavior of children in school. This works seem to view sub Normality as classify within range although adequacy of social adaptation is taken into account. As it may include brighter even cluster student, this children maybe term educational sub normal. They may have weak intellectual capacity, some educational authorities have special school for them. But else where they are accumulated in normal school example Nigerian".

Others have incorrect information about or prejudices towards those with exceptional needs in addiction, because services to children. Although children with disabilities are extremely heterogeneous group of diverse leaners, each with unique learning strengths and needs many of the graduates counselor education programs have not provided prospective school counselor with adequate training for the development and provision of services or how to professionally interact with children who have disabilities, which includes physical behavior, emotional and mental disabilities. In addition, limited preparation is provided in the area of cooperation and collaborative effort in working with other specialist and professionals to provide children with disabilities a more comprehensive developmental holistic approach to services through the adoption and use of genetic counseling principles and processes.

The genetic counseling process involves:

1) Obtaining detailed family, medical, and lifestyle histories;
2) Documentation of cancer-related diagnoses;
3) Pedigree analysis;
4) Risk assessment and counseling;
5) General discussion of options for early detection and prevention;
6) Provision of genetic testing

"Genetic counselling is a process of communication to provide information about a genetic condition, inheritance and support decision making and adjustment in families. Genetic testing for inherited eye diseases is rapidly advancing with massive improvements in high throughput molecular testing. While this can allow accurate diagnosis and information, the issues of genetic heterogeneity, variable penetrance and overlapping phenotypes mean that the provision of accurate information particularly challenging for genetic eye disease.

These scientific advances have also led to increased patient demand and expectations. Complex cases presenting to the multi-disciplinary genetic eye clinic in Manchester will be presented to highlight the needs of families requesting genetic counselling including approaches to complex situations such as pre-symptomatic testing, childhood testing and pre-natal diagnosis. Qualitative data involving in-depth interviews with families with inherited retinal dystrophy describes the burden of living with the risk of blindness and decision making around genetic tests. Research evidence also demonstrates that families feel their needs are not met by current services, suggesting a need for improvements in evidenced-based practice" [12].

3.1 Genetic Counselling Information for the Maladjusted Blind, Deaf and Dumb

The information obtained from genetic testing can have a profound impact on the life of the disable children. Genetic counselling is useful after any form of genetic testing. Genetic counselling is not a psychological therapy. It aims to provide the patient or care givers with all the information needed to make a decision about their health and wellbeing and the need to have a genetic test.

Genetic counselling may include information about:

i. The implications of testing positive for the genetic disorder, including the psychological impact and other consequences.
ii. Whether to inform relatives of your intention to test, or not to test.
iii. The usual pattern of progression of the disease you are being tested for and its potential treatments.

The information is given in a way that will allow you to make your own decision. Only you can decide what is right for you. The counselling is essential to make sure you have all the information you need to make the decision.

As they consider the options available to them, children with these disabilities are influenced by:

i. The risk of transmitting a disorder.
ii. The severity of a disorder.
iii. The availability of diagnosis before birth (prenatally).
iv. Moral, social and religious convictions.

Post-test counselling is also available to help you deal with the results of the test.

3.2 Ethical, Legal and Social Implications of Genetic Counseling on Maladjusted Blind, Deaf and Dumb

There are concerns on the use and misuse of genetic information. These concerns range from the clinical validity of the genetic test to the stigmatization that may follow the individual and family. Proper communication of result outcome is necessary for the purpose of clarity; since some genetic results do not show a yes or no, but rather give an estimate of risk associated. In addition, result presentation should be done privately. Under no situation should the result be made available to a third party without the consent of the patient or test recipient. However, in situations where other family members stand a chance of having the disorder, or there is a remedy, then the patient can choose to disclose the result to relatives [16].

The fear of discrimination and stigmatization can restrain one from utilizing genetic testing services. The genetic testing results are included in medical records of a patient in the clinic, and can be accessed by another party. Because of this, the former US president George Bush signed the Genetic Information Nondiscrimination Act into law in 2008. The Act aims at protecting individuals from discrimination on the basis of genetic information in health insurance and employment.

It is usually important to seek the consent of the individual before embarking on the testing. The client should understand the following before making any choice on accepting or rejecting the testing:

- Risk limitation and benefits of testing and not testing.
- Alternative(s) to testing.
- Testing procedures.
- Privacy of the test result.
- Testing is optional.
- Possible consequences related to test results.

The psychological impact of genetic testing is another issue that deserves consideration. Although there are different responses to the test results by individuals, it is the responsibility of the genetic counselor to give a good post-testing advice which should include the consequences and possible solutions; or make referral to a higher specialist.

Concerning societal values, genetic information can raise questions on how responsible the individual might be mentally and physically. On this, the response will certainly be influenced by cultural, communal and personal factors; depending on the value or role of that individual in the society. It is, however, believed that close monitoring of the client and proper follow-up right from the time of diagnosis can be very helpful.

4. MATERIALS AND METHODS

The survey and descriptive methods were adopted for the study. The CHOP Department of the University of Calabar Teaching Hospital and the children unit of the general hospital Calabar, were used for the study. The survey instrument was well structured questionnaire designed for caregivers and parents who pleaded anonymous and who are responsible for their infants in the sick baby and CHOP units of the health institutions.

4.1 Genetic Screening Tools for Control of Dissociative Behavior in Maladjusted Blind, Deaf and Dumb Children

4.1.1 Amniocentesis

Screening of babies for gross chromosomal aberrations (such as polyploidy, deletions, translocation, extrachromosomes) as well as sex prediction is made possible by the technique of amniocentesis. It simply involved the removal of amniotic fluid and culturing the foetal cells for kayotype and DNA analysis. This techniques have been used to detect more than 35 genetic disorders in children.

4.1.2 Forms of genetic testing and counseling for the maladjusted blind, deaf and dumb

The results of a genetic test can confirm or rule out a suspected genetic condition or help determine a person's chance of developing or passing on a genetic disorder [12]. Genetic testing and counseling is performed in different ways including:

4.1.3 Newborn screening

Newborn screening is done just after birth to identify genetic disorders that can be treated early in life. For example, every baby in the developed nation is tested for cystic fibrosis as part of the heel prick test [12].

4.1.4 Diagnostic testing

Diagnostic testing is used to identify or rule out a specific genetic disorder if a baby or person has symptoms to suggest a certain genetic disorder (for example, Down's syndrome).

4.1.5 Carrier testing

Carrier testing is used to identify people who carry one copy of a gene mutation (a genetic change) that, when present in two copies, causes a genetic disorder. This type of test can be useful to provide information about a couple's risk of having a child with a genetic disorder.

4.1.6 Prenatal testing

Before birth (prenatal) testing is used to detect changes in an unborn baby's genes. This type of testing is offered during pregnancy if there is an increased risk that the baby will have a genetic or chromosomal disorder. It cannot identify all possible inherited disorders and birth defects, however.

4.1.7 Pre-implantation testing

Pre-implantation genetic testing is available for couples who are at risk of having a child with a specific genetic or chromosome disorder, eg cystic fibrosis, sickle cell disease or Huntington's disease.

Egg cells are removed from the woman's ovaries and then fertilized with sperm cells outside the body. This is called in-vitro fertilization (or IVF). The eggs are fertilized with sperm cells to form embryos. The fertilized embryos develop for three days and then one or two cells are removed from each embryo.

The genetic material (DNA and chromosomes) from the cells are tested for the known disorder in the family. One or two of the unaffected

embryos are then transferred into the mother's womb (uterus). If the pregnancy is successful, the baby will not be affected by the disorder it was tested for.

4.1.8 Predictive testing

Predictive testing is used to detect genetic mutations associated with disorders that appear after birth, often later in life. These tests can be helpful to people who have a family member with a genetic disorder but who have no features of the disorder themselves at the time of testing (for example, breast cancer associated with the BRAC1 gene). Predictive testing can identify mutations that increase a person's risk of developing disorders with a genetic basis, such as certain types of cancer.

Testing can also determine whether a person will develop a genetic disorder, such as hemochromatosis, before any signs or symptoms appear. People in families at high risk for a genetic disease have to live with uncertainty about their future and their children's future.

A genetic test result showing a known gene mutation responsible for a certain disease as not being present in a person can provide a sense of relief. However, a positive result may have a devastating effect on a person's life, especially if there is no known treatment.

4.1.9 Echo testing

This test involved the detection of hole in the heart in infants using sonographic medical equipment. The amplitude and peaks of the sound troughs and chromatograms indicate the presence of openings in the heart.

4.1.10 Chest x - rays

This involves the use of x- rays machine to analyze the chest of infants for the detection of respiratory tract infections, malformations, injuries, and dysfunction.

5. RESULTS

5.1 Genetic Diseases in maLadjusted blind, Deaf and Dumb Children

5.1.1 Thalasamia or Cooleys anemia

This is a hemoglobin disease somewhat similar to sickle cell anaemia that is genetically inherited. It occurs mostly in children and is mostly 100% lethals. This is controlled by a single gene c which in homozygous condition (cc) produces the severe thalasamia major and causes death of the child. The heterozygous condition of this lethal gene (Cc) results in mild thalasamia with dissociative behavior of continuous thinness, loss of weight, anemic and general weakness. Some caregivers reported the conditions for their wards in the study area (Table 1 and 2, Figs 1 and 2).

5.1.2 Infantile amaurotic idiocy

This is a recessive allele that in homozygous condition (cc) causes the fatal disease, especially in juvenile stage. Children that inherit this genotype begin to lose their eyesight (blindness) between the ages of four to seven years. This is followed by complete blindness, dissociative behavior of mental degeneration, and finally death before attaining adolescence. Some caregivers reported the conditions for their wards in the study area (Table 1 and 2, Figs 1 and 2).

5.1.3 Congenital ichthyosis

At childbirth, children with this genetic defect show crusted leathery skin with deep fissures across the subcutaneous tissues of the skin. (Table 1 and 2, Figs 1 and 2). The fissures lead to bleeding, infection, and death. Congenital ichthyosis occurs in children only when the inherited genes occur in homozygous (cc) condition for its recessive lethal genes. Dissociative behavior includes high mental degeneration and itching sunken skin with burns. Some caregivers reported the conditions of their wards in the study area.

5.1.4 Erythroblastosis fetalis

The incompatibility of Rh +ve positive and Rh – ve negative blood can also cause the death of a child before or soon after birth. If a Rh-negative woman marries a Rh + positive man and bears a Rh-positive foetus, as a result of placental defect, some of the foetal red blood cells (RBC) carrying the RH antigen pass into the mother's bloodstream and trigger the production of Rh-antibodies in her. The concentration of the anti-Rh antibodies as the gestation progresses gradually builds up in the mother and she becomes sensitized only at or just before the birth of her first Rh – positive child (Table 1 and 2, Figs 1 and 2).

Table 1. Available genetic testing tools for the various genetic maladjusted disorders for the deaf, blind and dumb infants in the study area

	Thalassamia	Infantile amaurotic idiocy	Congenital ichthyosis	Erythroblastosis fetalis	Haemo philia	Cri du chat	Trisomy - 21	Trisomy - 18	Trisomy - 13
Amniocentosis	✓	✓	✓	✓	✓	✓	✓	✓	✓
Newborn screening	✓	✓	✓	✓	✓	✓	✓	✓	✓
Diagnostic testing	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carrier testing	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prenatal testing	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pre-implantation testing	✓	✓	✓	✓	✓	✓	✓	✓	✓
Predictive testing	✓	✓	✓	✓	✓	✓	✓	✓	✓
Echo testing	✓	✓	✓	✓	✓	✓	✓	✓	✓
Chest X – rays	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 2. Dissociative behavior among blind, deaf and dumb maladjusted infants in study area

	Dissociative behavior	Blindness	Dumbness	Deafness	General symptoms/ characteristics	Available types
Thalassamia	Anaemic	poor vision			Severe type is 100% lethal	Mild, Moderate Severe
Infantile Amaurotic idiocy	Mental degeneration	Lost of eye sight				Partial to Complete Blindness
Congenital ichthyosis	Itching crusted leathery skins	Eye infections	Bleeding gums	Bleeding from ears		Severe
Erythromblastosis fetalis	Anaemic				Jaundice	Severe
Haemophilia	Anaemic and haemorrhagic					Type A severe Type B mild
'Cri du chat'	Mental retardation, very low IQ		Malformed and Distorted Larynx	Low set ears		Moderate
Trisomy -21 or Down's syndrome	Mental retardation	Up slanting eyes	Underdeveloped ears	Large and wobbly tongue		Moderate
Trisomy – 18 or Edward's syndrome	Mental retardation	Facial and skull malformation	Low set ears	Small jaws/hard palate		Severe
Trisomy – 13 or Patau's syndrome	Severe Mental retardation	Facial and skull malformation with Sloping forehead	Underdeveloped ears	Hardened cleft palate	Polydactyly	Severe

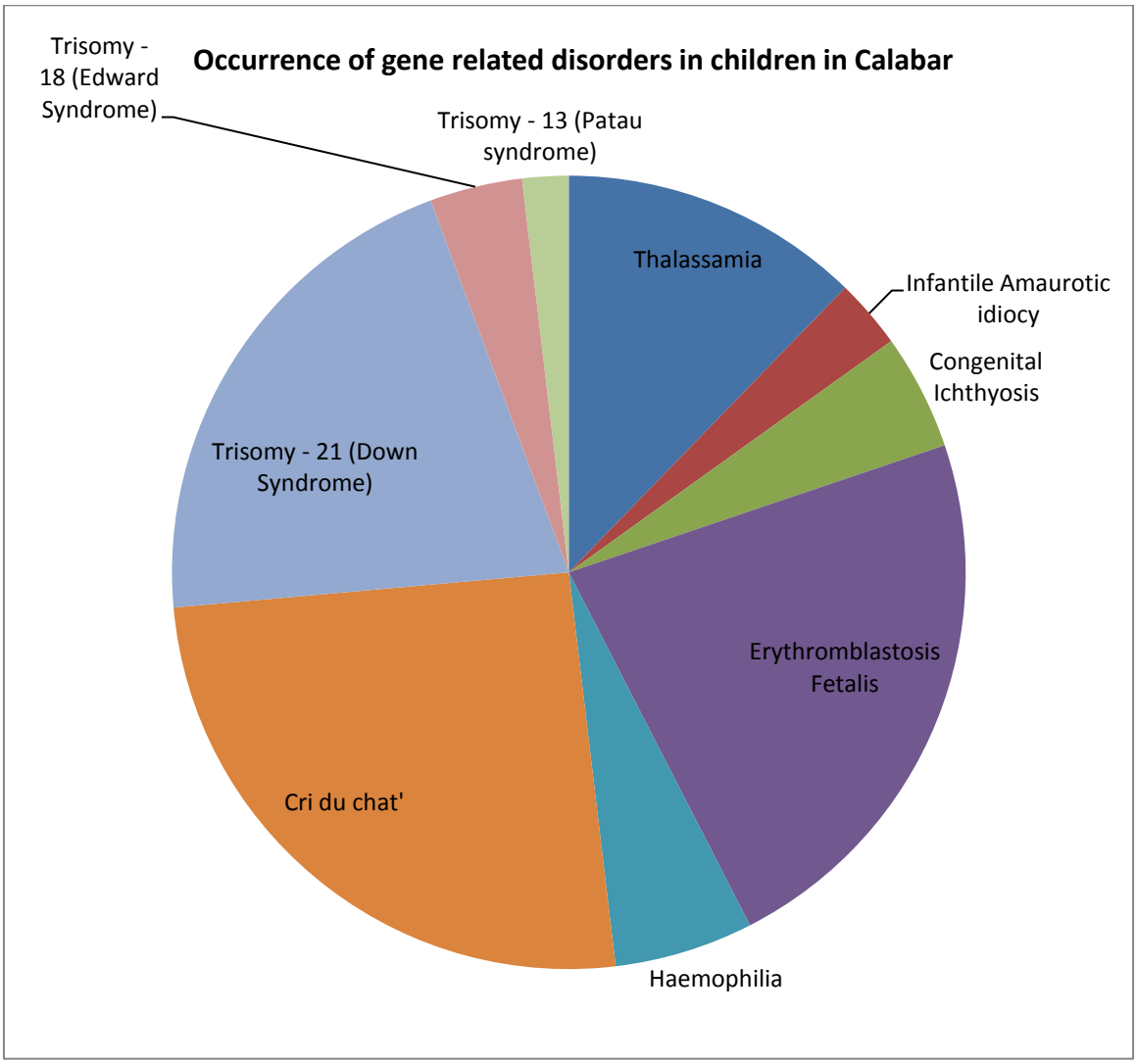

Fig. 1. Prevalence of genetic disorder among maladjusted blind, deaf and dumb infants in the study area

However, in the second and subsequent pregnancies involving te Rh-positive child, these anti-Rh antibodies returns to the foetus through the placenta and destroy the Rh-antigen carrying RBC of the foetus. Dissociative behavior shows that the child suffers from erythroblastosis fetalis which is a hemolytic anaemia often accompanied by Jaundice due to the clogging of the liver capillaries, causing the absorption of bile in the bile. Death of foetus may occur before birth or soon after birth. Some caregivers reported the conditions of their wards in the study area.

5.1.5 Haemophilia

Haemophilia is the most serious and deadly disease which is more common in male children than in female children. It is sometimes called bleeders disease. The child who inherits the recessive gene from parents lacks in normal clotting substance called thromboplastin in blood. Dissociative behavior results from minor injuries due to continuous bleeding and ultimate death of the child due to hemorrhage. These can be of two types, haemophilia A – characterized by the lack of antihaemophilic globuin (factor viii) and is the dominant type. Haemophilia –B is characterized by a defect in plasma thromboplastin component (factor xi) and is a mild type. Some caregivers reported the conditions for their wards in the study area (Table 1 and 2, Figs 1 and 2).

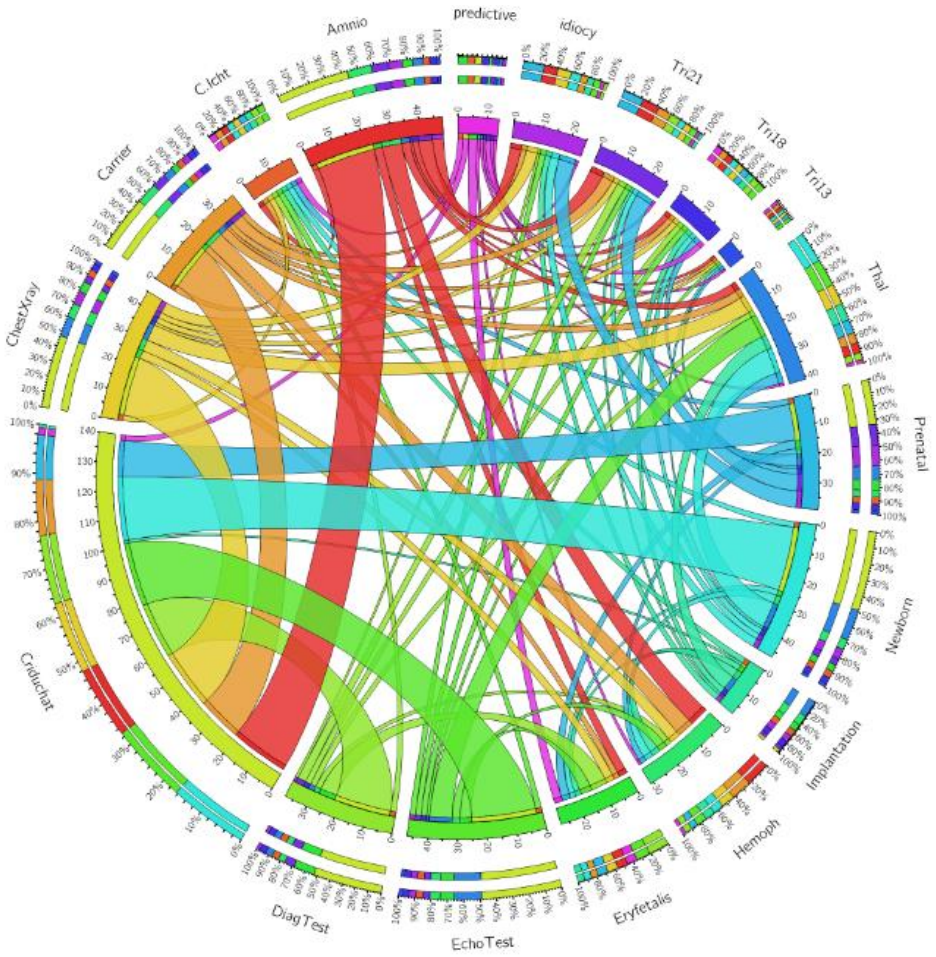

Fig. 2. Circular visualization of genetic counseling tools among identified genetic maladjusted disorders in blind, deaf and dumb infants

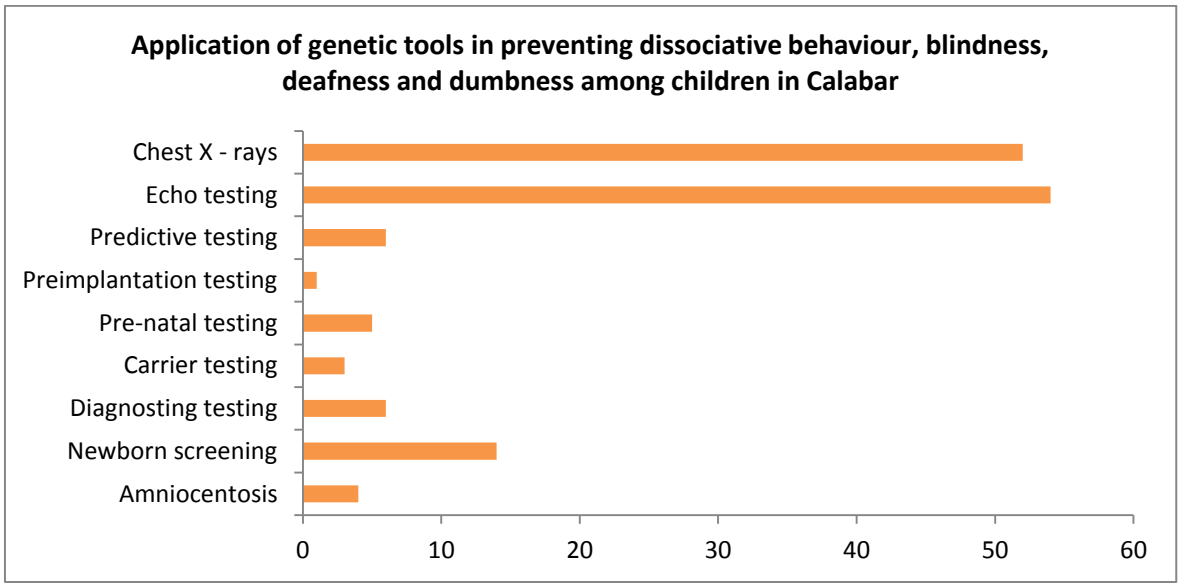

Fig. 3. Use of genetic tools in curbing and prevention of dissociative behavior among maladjusted blind, deaf and dumb infants in the study area

5.1.6 Cri du chat

Human babies or children born with a missing (deleted) portion of the short arm of their chromosome 5 (Autosomes) show a dissociative behavior of a distinctive cat – like cry hence the French translated name of "cri du chat" (cry of the cat) observed in some newborn babies with the mutated chromosome 5 syndrome as first described by Lejaume et al., 1963. Further Dissociative behavior also shows that these children are mentally retarded, and show intelligent quotient below 20%. There is also malformation of larynx (voice box), have moon faces, saddle noses, small mandibles, malformed low set ears and small head. Most caregivers reported these conditions for their wards in the study area (Table 1 and 2, Figs 1 and 2).

5.1.7 Down's syndrome (DS) or Trisomy – 21

This is a genetic defect usually associated with extra chromosomal addition due to translocation or trisomic condition in one of the smallest human autosomes (chromosome – 21) and is the most common chromosomal abnormality in live birth (i/650 live births). It is caused by nondisjunction of chromosome pair 21 during oogenesis (Table 1 and 2, Figs 1 and 2). It is characterized dissociative behavior such as mental retardation, up slanting eyes, large tongue, small and underdeveloped ears, short status, stubby fingers and enlarged liver or spleen. Studies, shows that women above 45 years of age are likely to have children with DS. This was first reported by J. Langdon Down in 1866. Some caregivers reported the conditions for their wards in the study area.

5.1.8 Trisomy -18 or Edward's syndrome

First reported by John Edward in 1960.This occurs in 0.3% in every 1000 births. It is the addition of an extra chromosome in chromosome – 18. It is caused by nondisjunction at chromosome 18 during oogenesis (egg development). It is characterized by multiple malformations, low set ears, small jaws, clenched fingers, cardiac malformation and is a dissociative behavior from normal characterized by severe mental retardation and various deformities in skull, face, and feet. Harelip and cleft palate often occurs (Table 1 and 2, Figs 1 and 2). Death takes place around 3 to 4 month of infant age. Mostly occur in women between 35 – 45 yrs who give birth. Some caregivers reported the conditions for their wards in the study area.

5.1.9 Trisomy – 13 or Patau syndrome

This was earlier documented by Klaus Patau in 1960 and reported to occur in 0.2% per 1000 births. It is the addition or duplication of an extra chromosome in loci 13 of the autosomal chromosomes in humans (Table 1 and 2, Figs 1 and 2). The defect in children is a dissociative behavior from normal and is markedly characterized by mental retardation, sloping forehead, harelip, and cleft palate. Polydactyl in nature (both hands and feet), maladjusted and deformed hands and feet. Defective cardiac muscles, kidneys, colons, and small intestine. Death usually occurs within hours or days, after birth, if fetus don't abort spontaneously. No caregiver reported this syndrome in the study area.

6. DISCUSSION

6.1 Genetic Counseling for Children with Sub-normality

Counselling Children with sub-normality is often misunderstood and frequently less served by the counselling profession, these children need services just as much as other children. In addition, all counselors have a professional and ethical responsibility to facilitate conditions that promote full potential for all individuals, including exceptional groups. As knowledge and experience are obtained for this population, counselor can serve children and their families more fully as intend by legal and professional guidelines. Most counselor, however, do have many of the skill needed to work with these children and their families, such as communication strategies, a background in human, and experience with an array of therapeutic analysis. Moreover, a proactive approach to the role of techniques, a focus on relationship-building, a desire to operationalize equal opportunities policies, an inclusive approach to initial assessment, flexibility and creative approach to counseling, continuing professional training and awareness raising can be important facts in counselling processes [20]. From a counseling perspective, these children regardless of their specific handicap, present similar characteristics that preclude using traditional counselling methods. Most importantly all of these children are believed to experience developmental delays that may impair one or more of their learning channels and may range from mild to severe. Affected children may exhibit inappropriate behavior relative to their

chronological age and often remain socially isolated. A poor self-concept is another quality found in this target population. Affected children may also lack adequate language expression, and are most often disorganized in their thought processes, and usually have considerable difficulty with time management skills.

Genetic counseling can do great benefit to human society. The role of the genetic counselor is to inform concern individuals of the nature of the nature of the mutant condition that concerns them. If it is inherited in a Mendelian pattern, then the probability of producing affected offspring can be determined. The final decision for taking a risk is entirely the responsibility of the individual involved and cannot be the sole responsibility of the counselor.

Keeping these factors in mind, genetic counselors should be encouraged to do more in-depth research and preparation on specific disabilities, with strategies an interventions to assist the scope and direction of intervention that are effective when developing program and providing services to children with these genetic disabilities. A number of empirical studies have verified the positive effect of group counselling intervention. Children with these genetic defects have shown significant decrease in academic persistence and achievement, school attendance, classroom behaviors, self-esteem, self-concept, and their attitudes towards school and others. The high degree of mental retardation is high for this special disable population groups, including low-achievement children, disruptive children's, learning ability. As school genetic counselors prepare to provide counselling service, it is imperative not to generalize issues across sub-normality that would put children and adolescent with disabilities at risk. This children and adolescents with varying degree of genetic disorders vary just as individual in any other group. Intervention may need to be more hands-on in the genetic testing approach to the problem resolution as well as culturally sensitive and acceptable. External issues, which are problems outside the child or parent, may need to be addressed because of the direct or indirect implication. In addition, it is critical that school genetic counselors have knowledge of the laws and understand the right of children with sub- normality [21]. All of this issue challenges, the counseling professionals need to be creative. Genetic counselor should attend to instructional practices, caregivers, parents interactions, and other environmental interventions which have a substantial impact on maladjusted children educational and personal development. The initial stage of genetic counselling requires the manipulating of several components in the counselling environment.

According to Holmes, [22] the widespread consensus concerning the desired nature and scope of school genetic counselling for children with disabilities which includes interventions to increase awareness, acceptance, and appreciation of cultural diversities. In addition, genetic counselors attend to children right and policies and procedures, instructional practices, caregiver parent/ children interactions, and other environmental factors that may impede development of the children because, school genetic counselling interventions have a substantial impact on educational and personal development of the disable child.. Moreover, individual and small-group counselling, classroom guidance, and consultation activities seem to contribute directly to children success in the classroom and beyond, and the school genetic counselor such that majority of their time, are performing intervention. This will foster in the spirit of empowering the school genetic counselor to grain credibility, assert their significance, and make their own unique place in the counselling profession as postulated by Hugo, [23].

To become proactive, it is high time that genetic counselors use a balanced approach to counselling and heed baker's [24] admonition: genetic counselor in the twenty-first century must be able to provide prevention services as described in the present study that meet and enhance developmental needs and treatment service when interventions are needed. Genetic counselors will need to be flexible in reacting to differing children with genetic defect demands and be proactive in providing services that enhance children development and coping skills. This approach requires the school genetic counselor to shift from a primarily responsive service orientation to school counseling partnerships that are proactive and developmental. Proactive approach is an advocacy approach to promote and support the maladjusted children interest. When a society is not responsible to the needs of citizens or there are some traditional practices that are detrimental to the interests of newborn, a genetic counselor might have to make a difficult choice either to meet the need children or the demands of the society [25].

"Proactive counselors serve as strong advocates of children when they have to face such issues as "confidentiality, injustice, inappropriate, incompetent caregivers, and unresponsive parents [26]. In their advocacy role, genetic counselors can collaborate with health personel to maximize potential of their children/caregivers through information about different learning styles, motivational strategies, and new pedagogical approaches. Children problems require enormous amount of time and networking with others as a matter of necessity". According to Vogel *et al* 2013, "a genetic counselor can build a large support group by developing a systematic, long-term liaison with a number of diverse groups within and outside the health facility and within the school. Similarly caregivers/parents trained by genetic counselors could provide some group guidance activities in interpersonal skills, developing friendships, lifestyle decisions, developing self- discipline, and leadership skills that can help forestall future occurrence".

7. CONCLUSION

Genetic counselor should prepare themselves to serve group in several ways. As a first step, they must clarify their feelings and attitudes about working with children who are sub normal. Some of the dissociative behavior included pity, low expectations, repulsion to physical abnormalities, misinformation and other biases can preclude effective genetic counselling. Correct information, direct experiences and genetic screening can facilitate accurate awareness and acceptance of the affected groups. In addition, genetic counselors must obtain knowledge and training for working with specific group with exceptional needs. They can obtain this knowledge through, counselling workshops, consultation, supervision, current therapeutic literature, and community resources etc. This will help to clear the society of genetically inherited abnormality thus reducing blind, deaf and dumb in the society.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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