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SEPCIALTY: MENTAL HANDICAP

KNOWLEDGE, PRACTICES OF CAREGIVERS IN THE MANAGEMENT AND REHABILITATION OF MENTAL RETARDED CHILDREN WITH DOWN SYNDROME; CASE STUDY OF THE JAMOT HOSPITAL YAOUNDÉ CAMEROON

Thesis written and defense to 22th Jully 2025 for the Master's degree in Educational Science

Option**: Professional Psychologist in Mental Disability**

By

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DEDICATION

I dedicate this work to my Parents Pa NKEMTAZAH MOSES and Ma AMINKENG ROSE NKEMTAZAH Progress for their endless love towards me.

APPRECIATION

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LIST OF ABBREVIATIONS, INITIALS AND ACRONYMS

AAMR - America Association of Mental Retardation

CBRS - Community Based Rehabilitation Service

EDID - Empowerment and Disability Inclusive development

CSO - Central Statistical Office

IQ - Intelligence Quotient

DSM-5 - Diagnostic and Statical manual of Mental disorder

MR - Mental Retardation

DS - Down Syndrome

APA - American Psychiatric Association

ID - Intellectual Disabilities

IDD - Intellectual Developmental Disabilities

CBC - Cameroon Baptist Convention

UNICEF - United Nation Children Fund

SRQ - Specific Research Question

SRH - Specific Research Hypotheses

SRO - Specific Research Objective

CP - Celebral Palsy

STEP - Support Tool Enabling parents

NGO - Non-Government Organisation

WHO - World Health Organization

UTH - University Teaching Hospital

ABSTRACT

Knowledge, practices of caregivers in the management and rehabilitation of mental retarded children with down syndrome; case study of the Jamot hospital Yaoundé Cameroon in the field of special education and more especially in mental disabilities and counselling, and brings out the efficacy of the caregivers management and rehabilitation of mental retarded children with down syndrome and how it can be used to develop rehabilitation of mental retarded children with down syndrome.

The general objective of our work is to bring out the understanding of knowledge, practices of caregivers in the management of mental retarded children with down syndrome in the Jamot Hospital Yaounde and how it contribute to the rehabilitation of those children and their overall wellbeing. In the theoretical framework we had to show what has been done so far. With these we brought our research question which was to guide our work which took the following format: Does the knowledge, practices of caregivers in their management in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome? So, with this our research hypotheses which we worked with was: the knowledge, practices of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome.

To prove this our hypotheses we had to use a qualitative method as our method of research. In this, we had to choose a sample of studies which brought us to have 3 subjects which we tested our hypotheses on them. This observation took place in Jamot Hospital Yaounde. The subjects were subjected to do an observation in a period of over two months in their psychiatric department which we had to put them in condition and so also the strategies which the care givers used on their knowledge, practices on children with Down syndrome. During this research we discovered the knowledge, practices of the child changed positively depending on the relation between the Down syndrome child and the caregiver who has to use the strategies on the mental retarded children with Down syndrome. This is so because these Down syndrome children being different from other children needs to be treated cordially as such by the caregivers.

Key words: Knowledge, practices of caregivers in the management and rehabilitation of mental retarded children with Down syndrome; case study of the Jamot Hospital Yaoundé Cameroon.

RESUMÉ

Connaissances et pratiques des soignants dans la prise en charge et la réadaptation des enfants atteints de retard mental et du syndrome de Down ; étude de cas de l'hôpital Jamot de Yaoundé au Cameroun dans le domaine de l'éducation spécialisée, et plus particulièrement dans celui des handicaps mentaux et du conseil, mettant en évidence l'efficacité de la prise en charge et de la réadaptation des enfants atteints de retard mental et du syndrome de Down par les soignants, et la manière dont celle-ci peut être utilisée pour développer la réadaptation des enfants atteints de retard mental et du syndrome de Down.

L'objectif général de notre travail est de mettre en évidence la compréhension des connaissances et des pratiques des soignants dans la prise en charge des enfants atteints de retard mental et du syndrome de Down à l'hôpital Jamot de Yaoundé, et la manière dont cela contribue à la réadaptation de ces enfants et à leur bien-être général. Dans le cadre théorique, nous avons dû montrer ce qui a été fait jusqu'à présent. À partir de là, nous avons formulé notre question de recherche, qui a guidé notre travail et qui se présentait comme suit : les connaissances et les pratiques des soignants dans leur prise en charge à l'hôpital Jamot de Yaoundé contribuent-elles à la réadaptation des enfants atteints de retard mental et du syndrome de Down ? Ainsi, l'hypothèse de recherche sur laquelle nous avons travaillé était la suivante : les connaissances et les pratiques des soignants à l'hôpital Jamot de Yaoundé contribuent à la réadaptation des enfants atteints de retard mental et du syndrome de Down.

Pour prouver cette hypothèse, nous avons dû utiliser une méthode qualitative comme méthode de recherche. Pour cela, nous avons dû choisir un échantillon d'études qui nous a amenés à sélectionner trois sujets sur lesquels nous avons testé notre hypothèse. Cette observation a eu lieu à l'hôpital Jamot de Yaoundé. Les sujets ont été soumis à une observation pendant plus de deux mois dans le service psychiatrique, où nous avons dû les mettre en condition et également observer les stratégies utilisées par les soignants en fonction de leurs connaissances et de leurs pratiques auprès des enfants atteints du syndrome de Down. Au cours de cette recherche, nous avons découvert que les connaissances et les pratiques de l'enfant évoluaient positivement en fonction de la relation entre l'enfant atteint du syndrome de Down et le soignant qui doit utiliser les stratégies auprès des enfants atteints de retard mental et du syndrome de Down. En effet, ces enfants atteints du syndrome de Down, étant différents des autres enfants, doivent être traités avec cordialité par les soignants.

Mots clés : Connaissances et pratiques des soignants dans la prise en charge et la réadaptation des enfants atteints de retard mental et du syndrome de Down ; étude de cas à l'hôpital Jamot de Yaoundé au Cameroun.

KNOWLEDGE, PRACTICES OF CAREGIVERS IN THE MANAGEMENT AND REHABILITATION IN MENTAL RETARDED CHILDREN WITH DOWN SYNDROME: CASE STUDY OF THE JAMOT HOSPITAL YAOUNDÉ CAMEROON

FIRST PART: CONCEPTUAL AND THEORETICAL FRAMEWORK OF THE STUDY

GENERAL INTRODUCTION

Mental retardation is a state of developmental deficit, beginning in childhood that results in significant limitation of intellect or recognition and poor adaptation to the demands of everyday life, intellectual disability is not a disease in and of itself, but is the developmental consequence of some pathogenic process (world health organization, 2011)in respect, (Makimoto 2011) added that the serious mental retardation in childhood, as an intelligence quotient bellow 50 with deficits in adaptive behavior, by contrast, defining mild mental retardation as an intelligence quotient in the range of 50 to with deficits in adaptive behavior.

The mental retardation is one of the most frequently encountered and distressing disabilities among children in developing countries and it constitutes a major problem in Egypt because it affects the quality of the life' of persons and the welfare of their families (Abdel Malek, 2005) in a similar mental retardation was 3.9% among an Egyptian population. Acheanpong (2013) noted, that in Ghana, most caregivers are not well informed about the risk factors and prevention of intellectual childhood disabilities or illnesses, its home management, medical attention. Acheampong noted that most cases that are resented for treatment at the hospitals are poorly managed at home. Hence, she concluded that generally, there was a perception that most of the caregivers who lack knowledge in the causes and the associated danger signs of childhood disability (mental retardation) as well as their management, practices have low level of education.

However, as a result of the above, statistics, are also showing that there are millions of intellectually challenged children in the world who have been considered dangerous, incurably, insane and incapable of learning even the simplest task. For example, according to world health organization, it is estimated that intellectual disability (mental retardation) affects 390 of the population or 156 million people have a mild intellectual disability 7%, and those with moderate disability are only 5%. Irritated with a case in Cameroon where by the same considerations were observed among the "Bafiass" in the central Cameroon, children with multiple disabilities (severely disabled cerebral palsy) were considered as bringing bad luck and representing a threat to the family and the community (Ezembe, 2009). Also is a case where a child with medical record of confirmed Down Syndrome, parents are depressed and mother left alone with frustration and dissatisfaction. Shock that will remain difficult to overcome (Marion et al, 2010). So having looking upon all these, we came up with our thesis title "knowledge, and practices of caregivers in the management and rehabilitation on mental retarded children" in Jamot hospital Yaoundé Cameroon.

CHAPTER 1: PROBLEMATIC OF STUDIES

Every child is special to a parent. Some children have special needs and others do not, and determine the parental care and treatment services in the developmental stages of live. (Ravin dranadan and Raju 2007). No parent would like his or her child to have any deficits in intellectual, development, physical, or psychological domains. But, very often some children have a temporary or permanent disability or a disorder which many have a profound impact on the family (Kumar and, Singh 2012)

Mental retardation (MR) is considered to be a bio-psycho-social problem. Genetic, biochemical, and various forces like attitude and family dynamism, peers and society in which the child lives, play an important role in the adaptive and normal functioning of a child. There are millions of intellectually challenged children in the world who have been considered to be dangerous, incurably insane, pleat task.

According to the fifth edition of the mental disorder (DSM-5), intellectual disorder with onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social, and practical domain.

Mental retardation (MR) is a source of pain to many families. The idea of MR is considered one of the serious problems that gravelly concern the government in Egypt as well as all over the world, it can be found as back in history as around and fifty-four mentally retarded children in Egypt (World Health Statistics, 2015). The etiologies of mental retardation are multiple; this can be influenced by social, economic, cultural, racial, ethnic and other environmental factors including the demographics of age and gender. Various studies have consistently found the prevalence of mental retardation to be associated with a low socioeconomic status (Chouhan, Singh, & Kumar, 2016). On the basis of the nature of the factors, causes may be classified as environmental and genetic. Environmental causes can affect a child viapre- and postnatal exposures. There are numerous environmental factors that often contribute to mental retardation. Toxins such as lead and mercury affect mental health. Iodine deficiency affecting about 2 billion people all over the world is the leading preventable cause of mental disability in areas of the developing world where iodine deficiency is endemic. Lack of adequate availability of iodine from the mother restricts the growth of the brain of the fetus and leads to a condition called neonatal hypothyroidism, infections over x-ray, chromosomal factor and Down syndrome disorder often associated in children with mental retardation that is intellectual disability (Sharma et al, 2016). All family caregivers wish for a healthy child, but

some caregivers do not by their choice. So, our thesis would be specify on mental retarded children with Down syndrome, how caregivers manage and rehabilitates these children.

However, Down syndrome (DS) is the leading cause of genetically defined intellectual disability and congenital birth defects worldwide. A large population of people diagnosed with DS globally is posing an enormous socioeconomic burden. However, the global burden and trends of DS have not been reported. Annually, an estimated 7.9 million children are born with a severe birth defect due to genetic or partially genetic origin (Christianson et al., 2006). Every year, an estimated number of a minimum of 3.3 million children under 5 years of age die from birth defects and 3.2 million survivors may be disabled for life (Christianson et al., 2006). The most common severe aneuploidy condition at the time of birth is Down syndrome (DS) (Arbuzova et al., 2002), which was first described by the British.

Annually, an estimated 7.9 million children are born with a severe birth defect due to genetic or partially genetic origin (Christianson et al., 2006). Every year, an estimated number of a minimum of 3.3 million children under 5 years of age die from birth defects and 3.2 million survivors may be disabled for life (Christianson et al., 2006). The most common severe aneuploidy condition at the time of birth is Down syndrome (DS) (Arbuzova et al., 2002), which was first described by the British physician Dr John Langdon H. Down in 1866 (Mercer et al., 2004). The presence of extra chromosome 21 has been recognized as the cause of DS, manifested with mental and motor developmental impairment, facial dysmorphia, and congenital malformations, which is often accompanied by congenital heart disease (Verstegen and Kusters, 2020). The onset of DS usually occurs during prenatal development (Dierssen, 2012), with approximately one case in 1,000 births (Grimm et al., 2021). DS is generally diagnosed prenatally or at the time of birth by means of cell-free prenatal screening with parallel sequencing of maternal plasma cell-free DNA or genetic karyotype testing (Grieco et al., 2015; Bull, 2020). DS patients have an increased susceptibility to develop infections, autoimmune disorders, and hematologic and oncologic abnormalities (Lal et al., 2015; Verstegen and Kusters, 2020). Respiratory infection is the most common reason of death in childhood with DS (McDowell and Craven, 2011; Bull, 2020), while dementia is the direct reason of death in 70% older people with DS (Bull, 2020; McGlinchey et al., 2020).

Moreover, Mental retardation (MR) is considered to be a bio-psycho-social problem. Genetic, biochemical, biological, social, psychological, and various interacting forces like attitude and family dynamics, peers and society in which the child lives, play an important role in the adaptive and normal functioning of a child. There are millions of intellectually challenged

children in the world who have been considered to be dangerous, incurably insane, and incapable of learning even the simplest task.

Also, according to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), intellectual developmental disorder (IDD) "is a disorder with onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social, and practical domains" (American Psychiatric Association, 2013). The intellectual functioning of persons with IDD is below average and their intelligence quotient (IQ) is 70 or less (Sarason, 2005). The origin of the disability is before one reaches the age of 18 years (Luckasson, 2002).

However, children and adults with IDD never gain respect from the society at large as they are not given full benefits, rights, and privileges, like other individuals with no deficits. Review suggests that prior to the development of institutional care for the retarded, they were treated with the most rudimentary manner focusing only on their physical needs and disregarding psychological, emotional, or social needs. Very often the parents and society have had a negative attitude towards the children with disabilities. Social marginalization and community rejection are common and they are often demeaned and ridiculed.

That not-withstanding, the attitudes held by parents are important component of the "handicapping" environment (Nevid, Rathus, 2000). As stress among parents rise due to the increased demands for energy, time, and financial resources, it may affect their treatment towards the child. Additionally, the social stigma and ridicule attached to any form of disability leads to social isolation. If negative emotions among parents and caregivers are high, it may lead to family disharmony which may have a negative impact in the development and rehabilitation of these children. Bowlby (1988), the father of attachment theory, had rightly mentioned that the greatest loss and negative consequences of an intellectually challenged child is lack of adequate nurturing relationship with adult caregivers.

So, the way parents' react to a child with special needs partly depends on how they perceive it and the practical implications the disability or illness has on them (Chaturvedi, 1984). This in turn determines their attitude towards the same and if disability is present, stress and negative emotions increase (McConachie, 1986).

Also, Kagan, (1980) defined attitude as an organized and enduring set of beliefs and feelings which predisposes one to behave in a certain way. Hence, the emotional component within the attitude distinguishes it from beliefs. The attitude of the people towards these individuals are often accompanied by negative feelings of hostility, shame (Rangaswamy, 1989), denial, guilt, grief, projection of blame, withdrawal, rejection (Drew, Logan, &

Hardman, 1984), as well as feelings of helplessness, inadequacy, anger, and shock while some others have disbelief, depression, and self-blame (Chandramuki, 2012).

Again, findings from studies focusing on care-givers dynamics have reported high levels of stress and negative emotions. Family crisis may result from the presence of special needs' child. The health of the parents determines the family wellbeing; but "guilt, ambivalence, disappointment, frustration, anger, shame, and sorrow" are often exhibited by parents (Schild, 1971). Thus, the attitude of parents may cause hindrance in the process as well as outcome of adaptive functioning in the children with IDD because the environment in which a child is born and brought up has a huge impact on a child's psychological and physical wellbeing.

Better still, the individuals with disabilities are often viewed as incapable of doing anything in life and take care of their basic needs, but a study by Hazarika et.al (2014) to assess the outcome of services of the day-care centers on learning skills of the children found that they can learn a great deal after training in various self-help and social skills. Hence, the individuals with intellectual disability are trainable and educable though severe to profound levels of disability need regular custodial services due to their very limited learning capacity. But, in India, disability is viewed in terms of a "tragedy" with a "better dead than disabled" approach and the disabled people are an isolated lot who are shunned from entertainment and from enjoying a healthy life (Girimaji & Srinath, 2010).

In India for instance, prevalence of ID varies from 1/1000 to 32/1000 (Thengal, 2013).In India the majority of persons with IDD have traditionally been cared for by their families though there are institutionalized care centers run by non-governmental organizations (NGOs). The Acharya Ramamurthy Committee have reiterated the role of special schools to serve as resource centers for the assimilation and integration of these children into the normal schools, and thereby improve their level of education. In Assam, although integrated education facilities are present in few schools, they are not adequate. Hence, majority send the children with IDD to special schools and rehabilitation centers. Such two day-care centers were selected from greater Guwahati for this study population. Parents who were involved in the care and management of the child were the focus of the study. It was to explore the attitude of these parents who had accepted the status of their child as deficient and may have realized the need of special care and rehabilitation for the growth and adaptation of their child in the society

It has been reported that approximately 80 % of African countries are not materially equipped and privileged to provide accessible mental health services to its people talk less of providing mental health care to the disables. A study by Agbor 2020 in Cameroon shows that the developmental disorders and their associated disabilities are on the rise worldwide. These

disabilities are associated with some mental health challenges, as people with disabilities do not have the independence of taking care of their mental health. Individuals presenting with disability associated with loss of dexterity can lead to some complications that directly or indirectly affect their quality of life. The study demonstrated the participants of the study presented with poor oral hygiene, which in long term affected the quality of life. The study showed a greater proportion of females than males with disabilities. This discrepancy globally is proportionately acceptable taking into consideration that our general population is predominantly females though it demonstrates a slight deviation of the Cameroonian population where 52% is made up of female and 47% males.

The results of the study contradict a report in the USA where it was reported that data from the National Health Interview Surveys in the USA over 12 years (1997– 2008), revealed a higher prevalence of disabilities in boys compared to girls. In our study, the majority of the participants were between 5 to 16 years old which in Cameroon represent the dependent group that are under control of their parents and guidance. The 16-20 age groups were moderately represented because this group represents the transitional group that are initiated into adulthood. In these centers, which is also a rehabilitation center, the people with disabilities are supposed to acquired skills and education that will allow them to be integrated into the society. That is why there is a persistent decrease of other age groups with the least found in the age group that is greater than 35years old. Oral hygiene practices. In this study, more than half of the participant presented with poor oral hygiene. However, more than half of the students in the current study had significantly poorer oral hygiene. The study also revealed that more than half of the participants brushed their teeth once a day. Lack of dexterity was the reason given by half of the participants. Though their oral health education knowledge was poor, most of the participants in the current study were motivated to brush their teeth to avoid mouth odor.

The need to include the children with IDD in general schools though is highly felt, but the education scenario in this perspective is very grim and so, these children are not receiving adequate responses from their parents, family members, as well as from their teachers. In essence, research on IDD is almost negligible in Assam. Therefore, the purpose of this study was to explore the attitude of parents towards their children with IDD.

1.1. Context and justification of research

The management and rehabilitation of children with mental retardation (now more commonly referred to as intellectual disabilities) is a critical area of public health and social services. Caregivers play a pivotal role in the lives of these children, influencing their

development, quality of life, and integration into society. This research focuses on the practices of caregivers in managing and rehabilitating children with intellectual disabilities at the Jamot Hospital in Yaoundé, Cameroon.

The context can be seen in the following ways; Prevalence of Intellectual Disabilities: Intellectual disabilities are a significant public health concern in Cameroon, affecting not only the individual but also families and communities. Understanding how caregivers manage these conditions is essential for improving outcomes. Healthcare System in Cameroon: The healthcare system in Cameroon faces numerous challenges, including limited resources, inadequate training for caregivers, and a lack of comprehensive policies for the care of individuals with intellectual disabilities. This study aims to explore how these factors influence caregiver practices at Jamot Hospital. Cultural Perspectives: Cultural attitudes towards disability can significantly affect the approach to caregiving. In Cameroon, traditional beliefs may influence how intellectual disabilities are perceived and managed, impacting the support caregivers receive.

Justification on his own part can be explained as follows; Improving Caregiver Practices: By examining the practices of caregivers, this research aims to identify effective strategies and areas for improvement. This can lead to enhanced training programs and support systems that empower caregivers. Policy Development: Findings can inform policymakers about the needs and challenges faced by caregivers. This can contribute to the development of more effective policies and programs that support the rehabilitation of children with intellectual disabilities. Enhancing Child Outcomes: Understanding caregiver practices can lead to better rehabilitation strategies, ultimately improving the developmental and social outcomes for children with intellectual disabilities. Contribution to Existing Literature: There is limited research on caregiver practices in the context of Cameroon, particularly concerning children with intellectual disabilities. This study will fill a critical gap in the literature, providing insights that can be applicable in similar contexts. Community Awareness and Support: The research can also serve to raise awareness about the challenges faced by caregivers and the children they support, fostering a more inclusive community environment.

The research on the practices of caregivers in managing and rehabilitating children with intellectual disabilities at Jamot Hospital is not only timely but necessary. It holds the potential to influence caregiver training, policy development, and community awareness, ultimately contributing to better outcomes for children and families affected by intellectual disabilities in Cameroon.

1.2. Problem statement

Mental Retardation (intellectual disability) is thought to affect about 1% of the population. Of those affected, 85% have mild intellectual disability. Walters AS.et al (1995). Suicidal behavior in children and adolescents with mental retardation. This means they are just a little slower. Mental retardation which is most common in boys than girls, begins at birth or in childhood. There are four levels of mental retardation: mild, moderate, severe and profound. These levels are determined by performance on standardized IQ tests and by the potential to learn adaptive skills such as communication and social interaction. Symptoms include failure to meet intellectual standards, siting, or crawling or walking later than other children, problems of talking or speaking clearly, memory problems, unconscious actions, inability to think logically, abnormal behavior, lack of curiosity, learning and communication problem resulting to poor interaction. Moreover, mental retardation can be caused by the following: genetics factors, chromosomal abnormalities, complication during birth and after birth and problems during pregnancy. Which calls for prompt diagnoses, immediate treatment, management and rehabilitation by caregivers in order to prevent further complications. Szymanski LS and KaplanLC, (1997). Mental retardation. In: Textbook of Child and Adolescent I's; chiatry.

All over the world, mental retardation has been regarded as an unmodifiable and incurable condition which has constantly defied therapeutic endeavors and scientific understanding for a long time hence mentally retarded children in Cameroon culture and many other developing countries have been of parents, aunties, uncles and grandparents. In this way they are protected and sheltered from mixing publicly. For a long period, society did not see the need to educate these children. EK Kontu, RA Pirttimaa - Journal of Education and Learning, 2016 ERIC. Teaching of children with mental disabilities (mental retardation).

The degree of impairment from mental retardation varies widely, from profoundly impaired to mild or borderline retardation. Less emphasis is now placed on the degree of retardation and more on the amount of intervention and care needed for daily life. Not all caregivers have adequate knowledge regarding intellectual disability on areas such as the meaning, etiology, condition of disability, management, medications, basic care, menstrual hygiene, handling behavior problems, facilities and benefits available for mentally challenged. Thus, the family caregivers require comprehensive information on mental retardation, behavioral intervention, basic childcare sexual issues, prevention of a base and the services available in Cameroon. In most rural area in Cameroon, individual and family dreams are usually shattered when a family member develops mental illness. This lost hope and dreams are being rekindled with the availability of an awareness rising according to the Cameroon Baptist

convention health services of mental health department since 2015, by the SEEPD program in partnership with Australian Aid. One of the beneficiaries of the CBC health services mental health services is KUM CLETUS 23 years old second year student of the faculty of health sciences in the University of Buea. Cletus grew up as an orphan and was forced out of high school by mental illness. After several wrong diagnoses and failed treatment attempts in different hospitals, the family decided to chain him at home to stop him from moving aimlessly. These action by the family aimed at preventing him from being shot to death, a typical characteristic of the Anglophone crises rocking the two English speaking regions. On the advice of neighbors, Cletus family resorted to traditional treatment. After going to several tradi-practitioners, all Cletus recalls is chains and merciless beatings. "These scars you see all over my body resulted from the beatings". Frustrated without outcomes of treatments and probably management, the family brought him back home. It was at this time that one of his teachers referred them to the Mbingo Baptist Hospital mental health department. This was to be the turning point in Cletus life.

According to the service mental health supervisor, Ngwen Frankline, Cletus who was brought in chains was diagnosed of bipolar affective disordered. After intervention from the MBH Cletus responded positively to treatment within the first three months. In the fourth month he went back to school after being out for two years. The mental health nurse added that Cletus recovery has been steady due to proper management, treatment and rehabilitation intervention from the medical team. Touch by the story Cletus were by, he confirms himself that he is now stable and can't wait to stop taking drug which he has taken for the past four years. "I am now very happy and ambitious young man, I imagine how my dreams could have been shattered because of my health he laughed as he explained, reported "Mental Health Services Rekindling Hopes and Dreams- Cameroon Baptist Convention Health Services". Thus, we the researcher sees this as a challenge to carry out the research on "knowledge, and practice in the management and rehabilitation on mental retarded children and adolescent" case of Jamot Hospital, in Yaounde.

1.3. Research justification

A research justification is what pushes the researchers to carry out their studies on the particular theme, which are both scientific and personal justification, as would be seen below.

1.4. Scientific justification

According to the disability concept, the UNICEF in 2007 estimated that, overall, between 500 and 650 million people worldwide live with a significant impairment. They further quoted that with respect to the world's children and young people, some 200 million, have sensory intellectual or mental health impairment. Around 80 percent of them live in developing countries (UNICEF, 2007). Statistics like these demonstrate that to be born with or acquire impairment is far from unusual or abnormal. The reported incidence and prevalence of impairment in the population vary significantly from one country to another.

Moreover specialist, however, agree on a working approximation giving a minimum benchmark of 2,5% of children aged0-14 years with self-evident moderate to severe levels of sensory, physical and intellectual impairment an additional 8 can be expected to have learning or behavioral difficulties, or both. These estimates were found to be useful in the deleted analysis of statistics on incidence on prevalence of children and disability in the UNICEF study on children and disability in transition in CEELIS and Baltic states (UNICEF, 2009).

There for, the presence of a child with mental retardation in a family created addition needs, whether the family is able to meet the needs, or not is dependent on number of factors like nature of the event, the family resources and its perceptions of the event. Unmet needs, tangible or intangible however create psychological stress (Sartorius, 2005). Caregivers are identified as those who constantly need professional assistance and advice to raise their children, even "curing" the problem so, need adequate education on knowledge, attitude and practices, which would help them, enhance proper care in the management of their children. This study aimed at exploring their knowledge on mental retarded children.

1.5. Personal justification

Indeed, the concept of disability is inseparable from the country, its level of deployment and the social context in which it is lived. In African societies, it is accepted that unborn Children represent a return to earthly life of spiritual principle from ancestors, or other humans, or even geniuses or other non-human spirits: they are therefore considered strangers parents must welcome, get to know, humanize and adopt. These children do not belong to the parent couple; they are singular individuals who, at the beginning have more ties to the invisible world than the world of humans, as emphasized by (moro 2010). In front of such an approach, which considered that the children come from the world of the ancestors, one can consider that the arrival of an intellectually deficient child (mental retarded) is due to the reincarnation of evil

spirits or to other supernatural causes thus, some mental retarded children may be doomed to abandonment.

Furthermore, motivated by (Ezembe F, 2009) the representation of disease differs between cultures. Another example, linked to be dead about the disease and which comes up often in the body and their role in nosology. Thus, “the Beti of Cameroon considered the heart as the seat of intelligence, mental alienation is therefore considered as a heart disease”. This, it is clear that the cultural system is a whole with its own logic according to each society. It thus conditions all behavior on medical matters. In the current context, in Cameroon, these currents dominate the people are considered to be epilepsy throwers or throwers” the cause of mental retardation or intellectual disability. Again, the announcement of the child disability intellectual, generated recently a shock that will remain difficult to overcome to the mother whose husband abandon her and the child and ran. We had this news like a bomb in our neighborhood. She had some difficulties during her childbirth but the doctor said all is well and later on after 3 years, on the contrary it was the beginning of her suffering the mother add my husband said, this child problem has come to destabilize us. For her she did ‘not understand anything and receive it as punishment while the husband who could not support the situation abandoned her and the son. On my part, I felt this woman would be asking herself how it happened, only to her child. Thus, touch with this; we hold that adequate education on mental retardation in children is necessary and that caregivers should be educated more by professional on attitudes, and practices in their management and rehabilitation in order to prevent and promote health among parents with mental retarded children and their family. By so doing, there was the need for us to assess their knowledge, attitude and practice if it was adequate or not to enhance interventions, management, treatment, prevention, and rehabilitation of the disable or disorder children (Guyard A 2012), the impact of the child’s handicap on family life.

1.6. Research questions

1.6.1. General Research question

Does the knowledge and practices of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome?

1.6.2. Specific research question

SRQ1: Does the educational level of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome?

SRQ2: Does the socio-economic factor of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome?
SRQ3: Does the relationship of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome?

1.7. Research Hypothesis

1.7.1. General Research Hypothesis

The knowledge and practices of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome.

1.7.2. Specific Research Hypothesis

SH1: The educational level of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome.
SH2: The socio-economic factor of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome.
SH3: The relationship of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome.

1.8. Research objectives

1.8.1. General Research objective

To understand the knowledge and practice of caregivers in the Jamot Hospital Yaounde and how it contribute to the rehabilitation of mental retarded children with Down syndrome.

1.8.2. Specific research objectives

SO1: To understand the level of education of caregivers in the Jamot Hospital Yaounde and how it contribute to the rehabilitation of mental retarded children with Down syndrome.
SO2: To understand socio-economic factor of caregivers in the Jamot Hospital Yaounde and how it contribute to the rehabilitation of mental retarded children with Down syndrome.
SO3: To understand relationship of caregivers in the Jamot Hospital Yaounde and how it contribute to the rehabilitation of mental retarded children with Down syndrome.

1.9. Significance of the study

To the researcher

The study is going to serve as a base line data to future researchers on mental retarded children.

To the Hospital

This study will help to improve and modify the teaching programs by professionals on the knowledge, attitude and practice on mental retarded children with Down syndrome by caregivers.

To the caregivers

It will help to increase their management and rehabilitation skills on mental retarded children with Down syndrome in order to promote health and to prevent opportunistic infections.

To the community

The study will help to increase parents and family members awareness on the causes, risk factors, signs and symptoms, diagnosis, management or interventions, treatments, preventions and complications of mental retarded children with Down syndrome (mental disabilities) in the society.

To the government

The study will help the government to create opportunities for students to go in for specialized education in order to create more strategies for management programs, rehabilitation centers and more counselling departments on mental retarded children and adolescences with Down syndrome.

1.10. Scope of study

This study will be carried out only with caregivers of mental retarded with Down syndrome attending the psychiatrist Unit of the Jamot Hospital, Yaounde, Cameroon.

INDEPENDENT VARIABLE: It is the variable that stands alone and is not dependent on any other. For example in this study, the dependent variables are level of education, socio-economic status etc.

DEPENDENT VARIABLE: It is effect of the action of the dependent variable and cannot exist by itself. In this study, the independent variables are level of knowledge and practice.

VARIABLES	INDICATOR CATEGORY	CUT OFF POINTS
Knowledge	High	Responses to questions 8with score.
	Moderate	Responses to questions with scores 5-8.
	Low	Responses to questions with scores 4 and below.
Practice	Positive	Acceptance of relative of Mental retarded children with down syndrome and able to send them to special school.
	Negative	Non-acceptance of Relative of Mental retarded children with down syndrome and inability to send them to special school
Socio-economic status	Good	Able to provide the basic needs for the family i.e. food shelter and clothing
	Poor	Inability to provide the above
Community support	Yes	willing to assist the mentally retarded children
	No	Not willing to assist the mentally retarded children

CHAPTER TWO: LITERATURE REVIEW

Mental handicap is defined as a degree of arrested intellectual development that disqualifies a child from ordinary education or an adult from employment (Batshaw1997).A child with a diagnosis of mental retardation or other development delays affects the entire family system and creates enormous problems for public health, educational welfare and vocational services. Though the extent of mental retardation is obvious a challenge to all societies throughout the world. All over the world mental retardation has been recognized as a problem in children, although it is the least considered by health planners. Many countries both developed and developing have adopted different strategies of educating their nationals about mental retardation. The world health organization (WHO) special committee meeting on psychiatry, of 1978, ALMAATA conference resolved that the implementation of community mental health services be adopted as the most appropriate model for promoting mental health. The mention of mentally retarded child is one that evokes in most people pity or disgust, hostility or even criticism of the child. Thus the rejection and stigmatization have characterized the behavior or the families of mentally retarded persons such that acceptance of these children into their homes is a problem. These parents/guardians do even see the need to educate these mentally retarded children.

However, today, there is a steady trend towards process of normalization that is promoting conditions which allows the mentally retarded child to lead as ordinary life as possible. It implies a realization of skills given the appropriate. Conditions in the formal education system. The issue of parents fostering their children's early development through education has obviously been seen as of central importance. (Hornby 1995). In order for the families to participate in the care and education for their mentally retarded children, mental health workers and teachers should work closely with these families and help them understand more about mental retardation, so as to change their attitudes. Many more studies need to be done in this area if people have to acquire the needed knowledge so as to change their attitudes. Very few studies have been conducted in this area and therefore the researcher found a lot of difficulties to find literature.

In order to discuss literature review systematically, the researcher discussed it from three (3) perspectives:

2.1. GLOBAL PERSPECTIVE (World)

About 5-15%of all 3-15 year old children in the world are mentally impaired. That is, 0.4 -1.5% (10-30 million) are severely mentally retarded and an additional 60-80 million children are mildly or moderately retarded. (WHO 1991). It has been found that Asphyxia and birth trauma account for most cases of mental retardation in developing countries than other causes. Thus provision of good maternal-child health prevention is important in the prevention of the disabilities. It is reported that many people in developing countries still believe that mental illness is caused by supernatural forces such as witchcraft, evil spirits and Failure to fulfil traditional rites (WHO 1972). Because of the above reasons. Many families with mental retarded children prefer going to see traditional Healers. The above scenario is similar in Cameroon. According to Talbot (1967), in a study conducted in Washington, on the care of the mentally ill, concluded that the body of knowledge concerning the care of these children has changed dramatically since the de-institutionalization period but this knowledge has not been translated uniformly into systems of mental health care because of difficulties resided in the priority set by National Policy makers.

Moreover, the problem of labelling the mentally handicap is a world-wide concern which may be due to inadequate knowledge on the illness. Reddy 1997 researched on the neglect the mentally handicapped children suffer in India. He found out that a female child suffers discrimination for both being born female and being handicapped. The author recommended that education and public awareness on this issue would encourage self-awareness, informed decision-making and appropriate actions by the public, parents and guardians and would improve their care of these children.

The same sentiments were echoed by Joseph (1992) in the article, the status of the disabled in Pakistan. He found that there was social stigma attached to persons with disabilities such that mentally retarded children are concealed. Since these children are concealed within families, they may not be given the opportunity to go to school and learn the skills which would empower them to lead an independent life. Clarke 1984 emphasized that a basic principle of special education has been the meeting of individual needs of disabled children. This entails fitting the process of instruction into the uniqueness of a particular child. The child's pattern of difficulties and strengths would be assessed after which a special education program is developed to suit the child's individual needs. In recent years, therefore there has been a move towards separate individualized programs of education for special school. These have essentially been home based program, an example of this is the Portage Project, originally

designed for children in remote rural areas of the United States of America and now adopted in a number of third world countries.

However, for the education program to succeed, parents/guardians of the mentally retarded should participate in education of their children. There is constant references to the influential position of the parents as reinforces of social change in the child and secondly, that the parents of the mentally retarded children are actually the pillar of all necessary formal education for their children. The Warnock report 1978 points out that special education needs for children with disabilities or significant difficulties need to be elaborately taught, things that other children learn spontaneously and recommends that in the earliest years, parents rather than teachers should be regarded whenever possible, as the main educators of their children". Mehta (1991) in an Article-Behavioral training for mothers of mentally handicapped children:

Teaching of self-help skills in India described how a psychiatrist enrolled 37 mothers of 3. 5-8 year old children with an IQ<70 came to child guidance clinic at all India institute of medical science of New Delhi in a behavior training study designed to give the mothers the skill to care and continue the home-school program at home. When parents are involved in the education of their children, they firstly, come to terms with their child's difficulties and seek guidance in coping with the child's behavior at home. Second, they assist the teachers to provide the most effective education for their children with special needs. (Hornby, 1995)

The Government and NGO's around the world have worked in collaboration in order to give the mentally retarded children some skills. A case study which was done in Rajanukul hospital in Bangkok a good example of NGO-Government collaboration in providing education in for over 700 mentally retarded children from birth to age 18 which early intervention program for the youngest children, a pre-school, a primary school and vocational training activities and community based rehabilitation (Kunmahern,1992). However a trial community-based rehabilitation services (CBRS) which was conducted in Bacolod city in Philippines because 70% of the disabled people in Philippine live in rural areas by WHO (1993) failed. The major obstacles were lack of referral services, the low priority given to the project by the Government and difficult in gaining co-operation from some families and misunderstanding of the role of the local supervisors. This resulted in the inability to deliver rehabilitation to disabled children. CBR in countries where it has succeeded is very beneficial to the disabled children. It emphasizes the mobilization of human and material resources available within the community to provide effective rehabilitation services. Mentally retarded children are discriminated worldwide since time immemorial by the public and even their

own parents/relatives. This is signified in a report by Bach (1993) of German in an article; compulsory sterilization and euthanasia where on July 14, 1933, the law on the prevention of the birth of off-spring with hereditary disorders was promulgated, which came into force in November 1934 in Nazi Germany were 30,000-40,000 people were sterilized included were the mentally retarded, schizophrenics, epileptics, etc. This discrimination has continued. Recently, in New South Wales, Australia, an officer from the council of intellectual disability sought a restraining order to prevent the mother of a15 year old girl severely intellectually disabled girl with epilepsy from having hysterectomy performed on her. The court granted permission for the surgical procedure to be done though the council argued that surgical procedure to be performed on a person incapable of consent is non-therapeutic and involves interference with the basic human rights such as procreation. (Elizabeth, 1989).

2.2. REGIONAL PERSPECTIVE, (Africa)

Physical and mental disabilities in Africa like any other place in the world poses as a health problem. Though the causes of mental disabilities are the same world-wide, in Africa, they have identified iodine deficiency as the commonest cause of physical and mental retardation. Hence in 1990, world summit of children was held in Gaborone, Botswana, acknowledging the magnitude and seriousness of this problem and called for efforts to eliminate the root cause of mental disabilities by the year 2000.The countries in attendance were Botswana, Lesotho, Malawi, Mozambique, Namibia, Zaire, Zambia and Zimbabwe where participants agreed to iodize salt for human and animal consumption

In Africa, studies have reviewed that the disabled are not readily accepted in the community. Some uncaring people even ridicule them because of their disabilities for instance a nickname high-lighting the disability. Some these disabled become isolated and thereby do not receive any skill to make them independent. (Matome, 1987). It is worth noting that mental retardation of the family member is often shocking and source of great stress to the family. Mental health workers should assist the families and community to cope with the stress and provide enough knowledge on mental retardation to change their attitude towards these children.

Despite having limitations on financial and manpower resources, in Africa, different countries have adopted various methods that focus on the need of the disabled. The Botswana Government and non-government agencies have organized institutions that meet the needs of the disabled. They adopted the WHO community based rehabilitation Manual (1993) where family welfare educators based in clinic and health centers supervise the disabled and their

families. The community based rehabilitation was found to be beneficial to the children because they learnt the skills within their environment and the families participated and taught them to perform household tasks to become independent .This is reflected in the report: community based services for young children with mental handicap and Development disabilities in Botswana by Matome. A case study which was undertaken by the researcher on a four year old child in Serowe village under C.B.R found that family participation and familiar environment made the child to grasp the skills fast.

However, a survey was conducted in Zombe mental Hospital in Malawi to compare community based rehabilitation to institution care and found that CBR better that institution care (Kamwendo, 1987). The limitations in institution care found where that-since these children had inmates to interact with and children being what they are draw lessons from the principle of social learning theory, imitated the behavior of other patients .C.B.R is best preferred in the training of the mentally handicapped because it offers the opportunity of training and preparation for real life in one's own community in as normal a manner and setting as possible. As learning is occurring in the parent's and child's natural environment, there is greater likelihood of the learned behavior being generalized and maintained. In Africa home-based education and rehabilitation is emphasized because a great percentage of the mentally handicapped are found in the rural areas.

The importance of parents collaboration in their children's education has been recognized as essential (Warnock report 1978). The rationale of parent involvement is that parents are the primary influence on their children and are already teachers. Parents in turn understand the information and help on practical activities done by their children. In a natural survey carried out in 1982 in Zimbabwe, it was discovered that the greater percentage of the mentally retarded children are in areas. The country developed an outreach program to deliver home-based learning program t children in which parents /guardians were part of the program. The findings were that parent's involvement enhanced designing teaching activities to suit the identified children and worked on public awareness by educating their communities and at the same time identify their attitudes and expectation (Mariga 1987).

2.3. NATIONAL PERSPECTIVE (Cameroon)

Globally over a billion people live with mental disability. Years of healthy life lost due to disability is 80% higher in Africa than in high-income countries. Cameroon is an African country with a population of over 25milllion people (3). It is bordered by six others country: Nigeria, Chad, the Central African Republic, Equatorial Guinea, Gabon, and the Republic of

Congo. Political and social strife in surrounding nation in recent years has put a strain on Cameroon. As of December 2014 over 200000 people had fled their home nations crossing Cameroon borders to find refuge. Cameroon has a rich cultural tradition but a poor economy. The difficulties that Cameroonian faces include high unemployment rate, political challenges, insufficient infrastructures, a resource-lacking Educational system, and a poor care system which is struggling to meet the needs of it growing population. Cameroon ranks 152 on the UN human right development index. Indicating that the rate of desirable life outcomes of the people of Cameroon is below the world average. In2010, there were 1.1 physician per 10000 people. Although life expectancy at birth is rising, it is currently only 55.7 years compare to the average global life expectancy of 71 years. Such factors negatively affect the health and well-being of the people of Cameroon.

In Cameroon, parents and care givers of children living with Celebral Palsy (CP) in Cameroon have expressed their joys, expectations and hope for their children who have been beneficiaries of the Support Tools, Enabling Parents – STEP Approach. The STEP Approach, which seeks to ensure the better rehabilitation and care of children with CP also works at improving the process of care giving, thereby making life more comfortable for both the children and their families.

Cerebral Palsy is one of the most common causes of disability in children in Cameroon. Unfortunately, it is given the least attention. The Cameroon Baptist Convention, thanks to support of its strategic partner the Liliane Foundation, has through the Empowerment and Disability Inclusive Development (EDID) program strategies to better attend to the needs of this vulnerable neglected group of children with disabilities caused by neurological disorders. The EDID program offers interventions to children with different forms of disability with CP topping the chart of interventions. This increase has been attributed to the STEP approach, which has enhanced not only numerical progress but also rendered visible improvements and recorded quality of care.

In July and August 2020, a team compromising of the CBC Health Services' Physiotherapy (PT) Supervisor, a Journalist/Head of the Community Unit, PT Staff and Community Based Rehabilitation (CBR) Field Workers have involved in a tour to families of children living with CP. The purpose of the visits have been to have a proper assessment of the progress registered by the CP cases who were enrolled at the start of the project in 2018, record testimonies from caregivers, and measure the usefulness of the program to beneficiaries and field workers. This will help inform the management of the program as they work towards

scaling up the program to reach out to other children with CP in Cameroon, and empower caregivers /parents with effective care giving strategies.

The visits took the team to all the regions implementing the STEP Approach in Cameroon-Centre, Littoral, Adamawa, West, Southwest and Northwest Regions. Field stories have been testimony of the success recorded by this approach and a scale up will go a long way to continue improving the quality of care as they reach out to many more Celebral Palsy children in need. The parents of these children and the communities where the children live have been very appreciative of the work done by the STEP Approach. They have unanimously sent their thank you messages to the CBC Health Services, the EDID program, and above all, the Liliane Foundation to give hope to these children who, otherwise, would have been a burden to themselves, their families and communities.

2.4. HISTORY OF MENTAL RETARDATION

DEFINITIONS

The definitions of mental retardation currently used by SSA differs from that used by other professional and health-related organizations. The concept of mental retardation, particularly a recognition that some portion of the population has cognitive deficits that significantly interfere with functioning, is an old one, although the ways in which this has been defined and measured have changed over time. Scheerenberger (1983) reports descriptions of the condition dating from 1500 B. C in Egypt, in which the mind and body due to brain damage were described. Early definitions of the condition recognized differences in cognition that were associated with impaired functioning. In 1845, Esquirol (quoted in September, 1983) divided mental retardation into two primary categories based on performance on speech and language tasks. Segum (1866) identified a server defect in normal development as the primary characteristics of mental retardation.

According to Sheerenberger (1983), the major concepts common to current definitions of mental retardation were being used in the United States by 1900. These include onset during the developmental period (i.e., before age 22), intellectual deficits, and problems coping with the demands of everyday life. In its 1910 classification scheme, the progenitor of today's American Association on Mental Retardation (AAMR) (previously called the Association of Medical Officers of American Institutions for Idiotic and Feeble-minded persons and the American Association on Mental Deficiency issue its first formal definition of mental retardation. AAMR defined persons with mental retardation as being feeble-minded, with development arrested at an early age or as evidenced by an inability to manage the demands of

daily life or to keep up with peers (Committee on Classification of Feeble-Minded, 1910). Mental retardation was further divided into three levels of impairment: ‘‘idiots’’ had their development arrested at the level of a 2-year-old; ‘‘imbeciles’’ were at the development level of a 2-to-7-year-old; and ‘‘morons’’ were at the development of a 7-to-12-year-old.

Subsequent to the adaptation of this definition the field disagreed over whether mental retardation was a constitutional condition or one based on deficits in social competence (Biasini et al., 1999). Edgar Doll, for instance, proposed that mental retardation was a condition of genetic origin that resulted in social incompetence and arrested development (Doll, 1936a). He believed the condition was incurable. In contrast, Kuhlman (1920) proposed that the condition resulted from a subnormal rate woof development, suggesting that it was as a result of social functioning deficits rather than genetic conditions. Despite these differences in definition, however, they all focused on the inability to perform common behavior s, delays in social development, and low intelligence (Yepsen, 1941).

The 1959 AAMR definition was the first to integrate formally the measurement of intellectual capabilities and adaptive behavior functioning. This definition defined mental retardation as ‘‘sub average general intellectual functioning which originates in the developmental period and is associated with impairment in adaptive behavior’’ (Jacobson, 1999). Sub average intellectual functioning was defined as an IQ of 85 or less, with the developmental period extending only up to age 16. Deficits in adaptive behavior were as required part of the definition of the condition, even though were no formal measures of the construct. AAMR recommended use of the Vineland Social Maturity Scale (Doll, 1953), with a subjective interpretation to be made by the evaluating clinician. A five-level classification scheme was also included for borderline (IQ 67-85), mild (IQ 50-66), moderate (IQ 33-49), severe (IQ 16-32), and profound (IQ<16) levels of retardation.

AAMR change its definition in 1973, partly in response to concern about the inappropriate over identification of minority students as mentally retarded. The new definition eliminated the classification of borderline retardation, and changed the upper criterion of scores on intelligence measures from 85 to 70 or below (Grossman, 1973). The result was a significant reduction in the numbers of children eligible for special school services and government supports. Levels of retardation were also redefined slightly.

AAMR’s definition was revised again in 1977. This change suggested that IQs in the range of 70 to 75 might also be indicative of mental retardation if there also significant deficits in adaptive behavior (Grossman, 19770. This change took into consideration the standard error of measurement on most tests of intelligence. In its most recent definition, adopted in 1992,

AAMR has done away with the levels of retardation (American Association on Mental Retardation, 1992). The organization has also provided a list of 10 adaptive skills areas, with deficits in at least 2 of them for a diagnosis of mental retardation. This current definition is discussed in more detail below.

The American Psychiatric Association, in its Diagnostic and Statically Manual of Mental Disorders, Fourth Edition (DSM-IV), melded the 1977 and 1992 AAMR definitions, retaining the severity levels from 1972 and adopting a list of adaptive behavior areas similar to those chosen by AAMR in 1992. The DSM-IV also kept the upper limit of intelligence at equal to or less than 70.

It is important to note that the differences between the SSA definition of mental retardation and those of the major professional and health-related organizations derived from the purpose for which it is used. The SSA definition is used not for diagnostic purposes, but rather for purposes of program eligibility. The SSA definition fulfills its purpose of identifying individuals with cognitive limitations who experience significant problems in their ability to perform work and may therefore be in need of governmental support.

2.5. PREVALENCE OF MENTAL RETARDATION

2.5.1. In the General Population

There are widely disparate prevalence estimates of mental retardation in the U.S population. Different studies report different rates depending on the definitions used, methods of diagnosis, and the particular population studied. For instance, the DSM-IV estimates the prevalence of mental retardation at 1 percent, although the basis estimate is similar to that provided by other researchers (Hodapp and Dykens, 1991), using empirical camping, and estimates that 0.9 percent of the U.S population can be presumed to have mental retardation.

In a review of epidemiological studies, Mc Clearant by Bryson (1987) prevalent of mental retardation at 1.25%, based on the total population screening. Among school age children, the US department of education (1994) report that prevalent estimate provided by different states in determine eligibility for special educational service range from 0.3 to 2.5%. In contras surgeo general has estimated that some 7.5 million persons living in the United States have a diagnosis of mental retardation, representing almost 3% of the population.

The centers of disease control and prevention is conducting a longitudinal studies called the Metropolitan Atlanta Developmental Disabilities Surveillance Program (MADDSP), which monitors the prevalence of developmental disabilities, including mental retardation among children 3 to 10 years of age in the metropolitan Atlanta region (Boyle et al., 1996). The study

used I definition of mental retardation listed in the international classification of diseases, 9th Revision, clinical modification (ICD-9) (World Health Organization, 1988) which includes severity ratings for mild, moderate, severe, and profound levels of retardations. Findings from the MADDSP indicates the overall prevalence 8.7per 1,000 children 3 to 10 years of age in Atlanta. Approximately two-thirds of all cases of retardation were of mild to 4years of age to 12.3/1000 for children 9 to 10 years of age. Increases in prevalence were more likely to occur for children in the mild and moderate ranges of retardation, rather than in severe and profound ranges.

These rates for children are similar to those reported in analyses of the national health interview survey. Again, using the ICD-9 definition of mental retardation, Halfon and Newackeck (1999) reported unadjusted prevalence rates from mental retardation at 10.5/1000 for children younger than 18. Analysis further indicates that the prevalence of mental retardation increased with age, ranging from 2.0/1000 cases for children younger than 6 to14.7/1000 case for children ages, 6 to 12 and 15.7/1000 cases for youth age 12to 17. The prevalence of mental retardation was also higher for males (13.0/1000) than females (7.9/1000)

Among different racial/ethnic groups, the prevalence of mental retardations was higher among black youths (16.2/1000) than whites (9.8/1000), Hispanic (9.0/1000) and other (6.4/1000) youths. Prevalence rates are higher in some racial and ethnic groups partly because the responses to the national health interview survey are provided by parents, who may have cultural reasons for concealing their child cognitive disability. The correlation of low socioeconomic status and mental retardation is very high. And poverty rates are very high among black and Hispanic youths.

These prevalence estimates are vastly different, ranging from a low of 1% to a high of almost 3%. It is likely that the actual number of individuals with mental retardation ranges between 1and 3%. This suggest that between 2.8million and 7.5million individuals could be diagnosed as having mental retardation.

2.5.2. Criteria for Mental Retardation

SSA disability determination for mental retardation requires that the individual have "significantly sub-average general intellectual functioning with deficits in adaptive functioning initially manifested during the developmental period; i.e. the evidence demonstrate or support onset on the impairment before age of 22" (social security administration, 2002, p. 76). Children most always have significantly sub-average general intellectual functioning with deficits in adaptive behavior. Since the children and under age 22, such finding would have

manifested during the developmental period. The listen of payment, which specifies medical criteria and associated diagnoses, includes separate criteria for adult and for children and adolescence with mental retardation.

Listing 12.05 of part a lays out criteria for mental retardation; it sis closely par phrased here. In order to be found eligible for benefit due to mental retardation, adult most be mentally retarded as defined above, and most meet one of four equipment's:

Mental incapacity as evidenced by dependence upon others for personal needs (e.g., toileting, eating, dressing, etc.) an and ability to follow simple directions that is so severe that scandalized measure of intellectual functioning cannot be administered

Valid verbal IQ (VIQ), performance IQ (PIQ), or full-scale IQ (FSIQ) equal to 59 or less;

Valid VIQ, PIQ, or FSIQ between 60 and 70, and a separate physical or mental impairment that impose an additional and significant limitation on work-related functioning; or

Valid VIQ, PIQ, or FSIQ between 60 and 70, along with at least two of the following; (a) market restriction activities of daily living, (b) market difficulties maintaining social functioning, (c) deficiencies of concentrations, persistence of pace that result in problems completing task in a timely manner, or (d) repeated episode of decompensation.

Satisfaction of any one of this four criteria in an individual who has mental retardation means the step 3 criterion of SSA's determination process; i.e., that the individual has a prima facieses of disability that result in an inability to work. Separate determination criteria have been developed for children and adolescents, which recognized the different process and effects that mental disorder have on their functioning. Determination criteria for children are further subdivided by age and associated developmental expectation. Criteria are provided for infant and toddlers (e.g, ages between ages 1 and 3) and three age groups of children and adolescents (e.g, ages 3-6, 6-12, and 12-18). This age criteria are design to assess the severity of the disability's impact on the child's or adolescent's functioning, with benefit provided for condition that cause "market" restriction, defined as "more than moderate but less than extreme" on standardized tests, a score that is "two standard deviation below the mean for the tests" is evident of a market restriction. A score that is three standard deviation below the meaning of a standardized tests is evidence of an extreme limitation.

Medical criteria for evaluating children with mental retardation are described in listing 112.05. Like the definition for adults, mental retardation in children for SSA disability purpose is characterized by significantly sub average general intellectual functioning, with deficit in

adaptive functioning. The listing, again in paraphrase, include six criteria for assessing severity of the condition:

Deficiencies in motto development, cognitive/communicative functioning, or social functioning for infants and toddlers; and for children and adolescent, deficiencies in at least two areas that include cognitive/communicative functioning, social functioning, personal functioning, or deficiencies in concentration, persistence, or peace that result in failure to complete task in a timely manner;

A dependence on other for personal need that is grossly in excess of age expectation, and an inability to follow direction that is so severe that standardize tests cannot be administered;

Valid VIQ, PIQ, or FSIQ or 59 or below

Valid VIQ, PIQ, FSIQ between 60 and 70 and co-existing physical or other mental disorder that significantly in pairs functioning.Valid VIQ,PIQ, or FSIQ between 60 and 70 and infant toddlers, the failure to attain development expectation for motto, cognitive/communication, and social functioning that is consistent with other children not more than 2/3 of their chronological age; for older children and adolescent, problems with concentration, persistence or pace; Failure of older infant and toddlers to attain motto, cognitive/communicative, and social milestones of children no more than 2/3 of their chronological age and another physical or other mental impairments that significantly impairs functioning; for older children and adolescents, problems with cognitive/communicative, social, personal functioning or deficiency in concentration, persistence or pace that result in the failure to complete task in a timely manner and addition physical or other mental impairment that significantly impair functioning.

2.5.3. Intellectual functioning and it's Assessment

SSA is similar to other organization in the level of intellectual impairment required to be present before a diagnosis of mental retardation can be assigned (i.e., IQ no higher than two standard deviation below the mean). For the other groups, however that score has to be on the summary score attained on the intellectual functioning measure (e.g., equivalent to Wechsler FSIQ).SSA will also accept part score from individually administered IQ tests, and specifically mention Wechsler part score as examples (e.g., VIQ, PIQ,) in the regulation. While SSA encourages the use of any standardized test to determine intellectual and adaptive behavior functioning, it those not required these test. It unintentionally gives preference to the Wechsler's test in it regulation by mentioning that the lowest of overall summary score (FSIQ) and the two

part score (VIQ and PIQ) may be used in determine intellectual functioning. This not only cements a disparity among measure, without a solid empirical or policy basis, but also beg the question of whether one of these three scores provide the best relevant information. For instant, FSIQ has higher reliability and validity coefficients than the two part score. SSA need to know if current practice and science support a policy of adjudicating on the basis of the lowest multiple IQs; i.e., FSIQ, VIQ, PIQ.

SSA father seeks to determine if its cutoff scores of 59 or less and 60 through 70 are also consistent with the current scientific literature on diagnosing mental retardation. The stringent upper limit fails to take into consideration the standard of error of measurement characteristics of all IQ tests. These basic assessment issues are furthered compounded when test are administered to culturally and linguistically population. In some cases, instrument may not be available in a person native language, or norming procedures may make the instrument inappropriate for use with some culturally and linguistically defined subpopulations.

It is important to know whether the major instruments in the field, such as the Wechsler's scales and Stanford-Bitnet test of Intelligence, adequately assess intelligent in a given case. If they do not, clinically acceptable and programmatically workable alternative instrument should be exploit. This may entail identifying other instrument (including nonverbal intelligent assessment instrument as well as instrument available in languages other than English) that has sufficient reliability and validity to adequately diagnosed mental retardation. Of course, any additional instrument identified should have the potential for wide use in clinical practice settings

A number of research areas has produced reliable finding that are relevant and ready for implementation in practice. Advances in the assessment of developmental functioning have expanded the examination of intelligence from a dependent nonverbal and performance intelligent scores to a broader view that in cooperate measures of process as well as product. Multiple components that comprise intellectual functioning can now be more easily separated, for example, attentional process, problem-solving skills, and performance processes.

In the areas of developmental assessment, standardize preschool measure of competence (BAYLEY, 1993) are required to assess multiple domains of functioning. These include fine motor, gross motor, cognitive/communication, and social skills, impairment judgments based only on verbal and performance IQs may not reflect current intelligent testing practice for preschool children. The committee was charged with determining if other instrument better assess young children intellectual functioning.

2.6. DOWN SYNDROME

Down syndrome is also known as trisomy 21. It is named after the doctor, John Langdon Down, who in 1866 noticed similar features in a number of his patients. Down syndrome is well understood and although many different symptoms and features have been described, not everyone with Down syndrome will have all of them. The number of symptoms and the severity can vary between each person with Down syndrome. At birth, many babies with Down syndrome will have one or more of the following features:

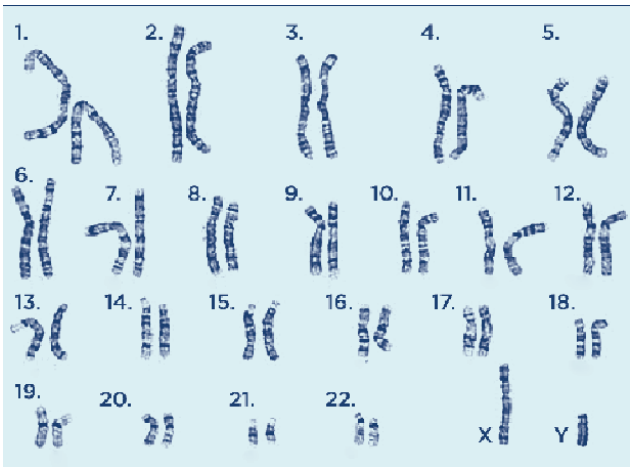
- Low muscle tone (a floppy baby)
- A face that appears flatter with eyes slanting upward
- Small ears and a wider neck than usual
- A single crease across the palm of the hand and a gap between the first and second toes ('sandal-gap' sign)
- Health concerns including those which affect the heart, digestive system and general development. While learning disability is a feature of Down syndrome, most children are able to learn and develop at their own pace. Early intervention programs can help children with Down syndrome reach their learning potential.

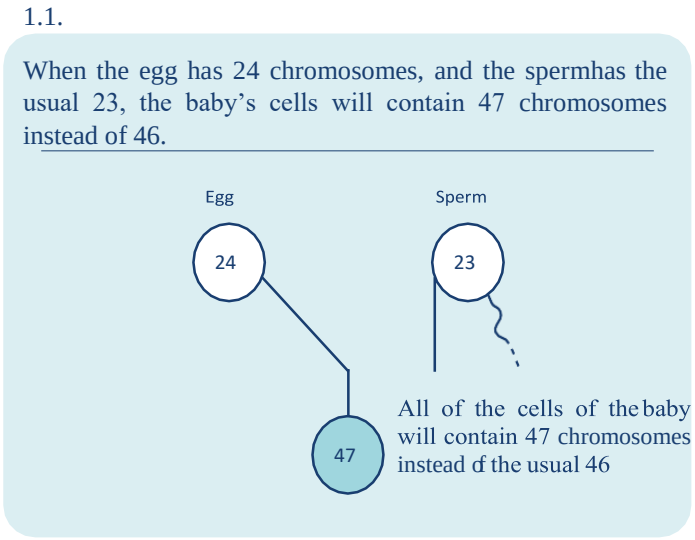
This fact sheet talks about the chromosome condition trisomy 21 and includes the symptoms, cause, treatment and available testing. In each cell of the body, except the egg and sperm cells, there are 46 chromosomes. Chromosomes come in pairs and each pair varies in size. There are therefore 23 pairs of chromosomes, one of each pair being inherited from each parent.

- There are 22 numbered chromosomes from roughly the largest to the smallest: i.e. 1-22. These are called autosomes
- There are also two sex chromosomes, called X and Y. In females, cells in the body typically have

46 chromosomes (44 autosomes plus two copies of the X chromosome). They are said to have a 46, XX karyotype. Eggs (female reproductive cells) are different as they only contain half of the chromosomes (23 made up of 22 numbered chromosomes and an X chromosome).In males, cells in the body typically have 46 chromosomes (44 autosomes plus an X and a Y chromosome). They are said to have a 46, XY karyotype. Sperm (male reproductive cells) are different as they only contain half of the chromosomes (23 made up of 22 numbered chromosomes and an X chromosome or a Y chromosome). Figure 1.1 shows a chromosome

picture (karyotype) from a typical male (46, XY). The usual way a sperm and egg combine at conception is





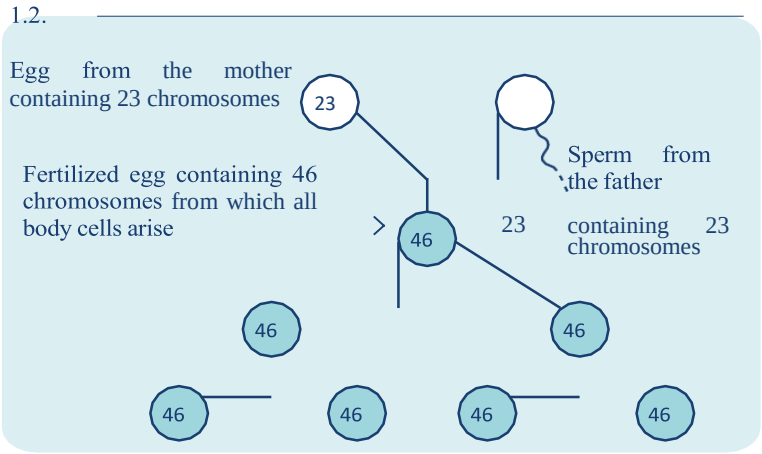


Figure 1: The karyotype of chromosomal formation (male)

2.7. CAUSES OF DOWN SYNDROME

About 1 in every 1000 babies in Australia is born with Down syndrome and it affects people of all ethnic and cultural backgrounds.

Sometimes, when the egg and sperm are forming, the chromosome pairs do not separate in the usual way. The result is an egg or sperm cell that has only 22 chromosomes while others have 24 chromosomes.

If an egg or sperm carrying 24 chromosomes combines with an egg or sperm carrying the usual 23 chromosomes, the result would be a person with 47 chromosomes in body cells instead of the usual 46.

There would be three copies of a particular chromosome in the cells rather than two. This is called trisomy.

The chromosome pattern in people with Down syndrome includes an extra copy of chromosome number 21.

The presence of the extra copy of chromosome 21 causes the learning disability and physical features of Down syndrome. People with this condition usually have three whole copies of chromosome number 21, i.e. 47 chromosomes in their cells instead of 46. Trisomy means three bodies.

Figure 1.3 is a picture (karyotype) of the chromosomes from a female with trisomy 21 (47, XX+21). Some people have Down syndrome as a result of a chromosome rearrangement.
Down syndrome due to an imbalance caused by a Robertsonian translocation happens when chromosome 21 material is stuck onto or translocated onto another chromosome. Please see Figure 1.4 for a balanced version of a Robertsonian translocation involving chromosomes 21 and 14. Rarely, a chromosome translocation may happen when sections of chromosome 21 are rearranged with sections of another chromosome, so there is too much of only a part of chromosome 21 (partial trisomy). Signs and symptoms may be different from those found in full trisomy 21.

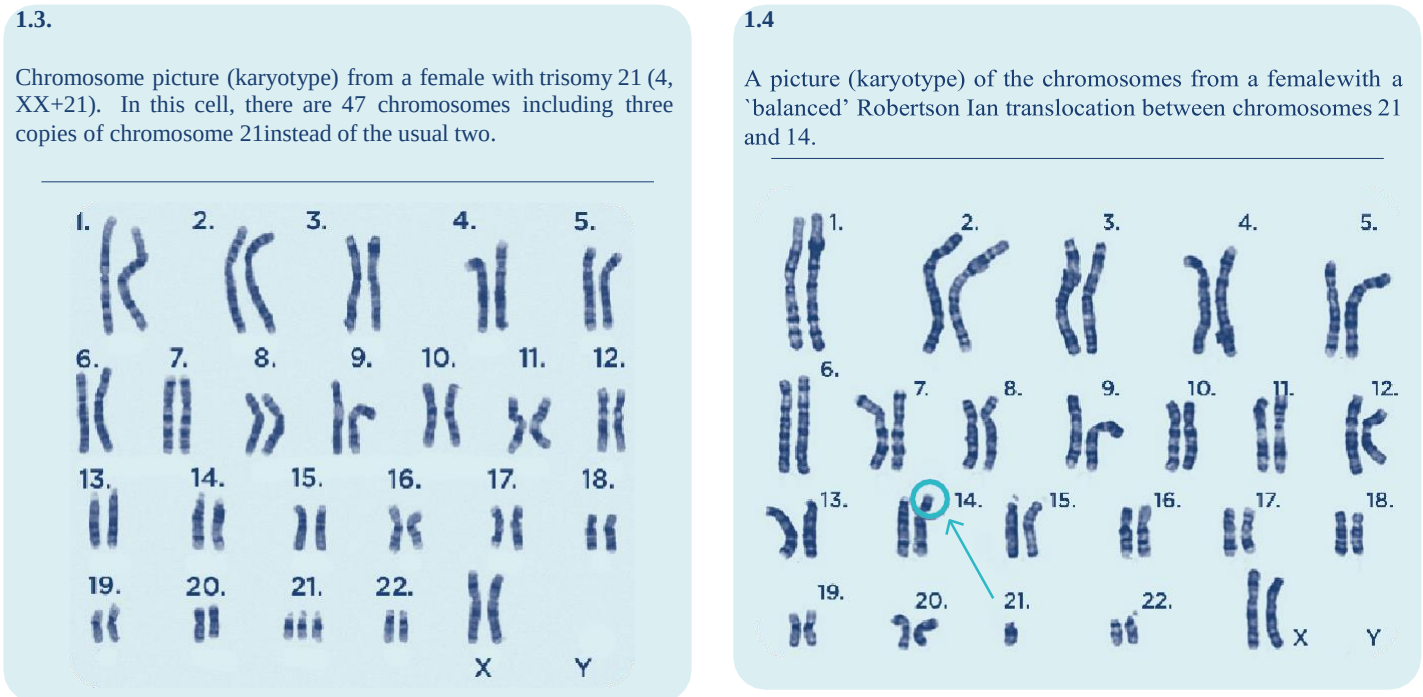


Figure 2: The karyotype of chromosomal formation (female)

2.7.1. Some people have Down syndrome as a result of a mosaicism

Most individuals have the same chromosome makeup in all the cells in their body. People with Down syndrome as a result of mosaicism have some cells in the body with the usual two copies of chromosome 21, and other cells with three copies of chromosome 21. Someone who is mosaic for a chromosome change therefore has a mixture of cells in their body. Although, signs and symptoms

It tend to be milder in people with a lower proportion of cells with trisomy, it may be difficult to predict how signs and symptoms will show up just from a blood test.

2.8. HOW DOWN SYNDROME IS INHERITED

In most cases where Down syndrome is caused by a complete extra copy of chromosome 21, that person will be the first and only person affected by the

It is usually assumed that if the parents of a person with Down syndrome have the usual two copies of chromosome 21, then the extra 21 in their child was a result of an egg or sperm with 24 instead of 23 chromosomes.

As mothers get older, errors in chromosome number are more likely to happen in their eggs. Figure 1.5 shows the chance of having a baby with Down syndrome depending on a mother's age.

For parents who have a child with a translocation form of Down syndrome, there may be more tests needed to check if the chromosome rearrangement in the child has happened as a new rearrangement or not. Depending on results of tests in the child and parents, the chance of another child having Down syndrome can vary.

2.9. TESTING AVAILABLE FOR DOWN SYNDROME

Condition in that family. This is also the case where

Down syndrome is the result of mosaicism.

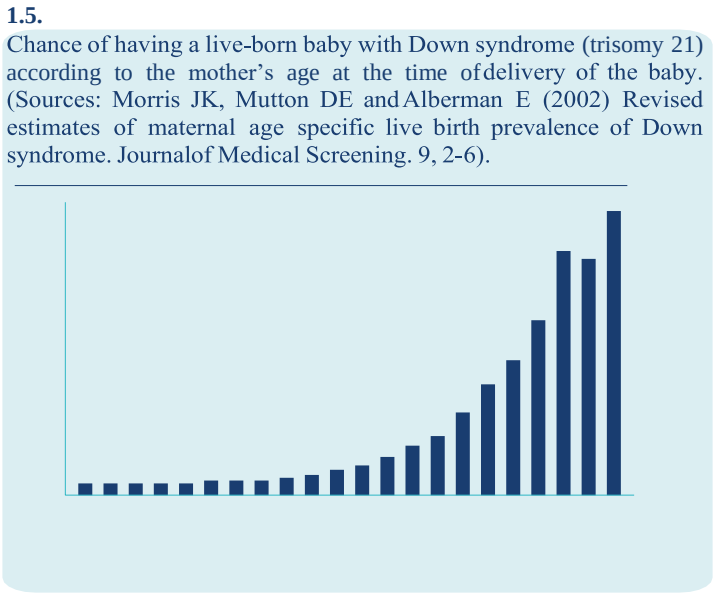


Figure 3: Testing available

Chromosome testing in a baby who is suspected of having Down syndrome can be done using a blood sample. A doctor may suspect a baby has the condition if there are facial features or other symptoms such as a concern with the heart or low muscle tone.

Age of mother at delivery	Chance of having a live-born baby with Down Syndrome	Age of mother at delivery	Chance of having a live-born baby with Down Syndrome
20-24 years	1 in 1,411	35 years	1 in 338
25 years	1 in 1,383	36 years	1 in 259
26 years	1 in 1,187	37 years	1 in 201
27 years	1 in 1,235	38 years	1 in 162
28 years	1 in 1,147	39 years	1 in 113
29 years	1 in 1,002	40 years	1 in 84
30 years	1 in 959	41 years	1 in 69
31 years	1 in 837	42 years	1 in 52
32 years	1 in 695	43 years	1 in 37
33 years	1 in 589	44 years	1 in 38
34 years	1 in 430	45 years	1 in 32

Testing for pregnancy

Testing for Down syndrome may be offered during pregnancy.

Prenatal tests can happen in a number of different ways and at certain stages of the pregnancy. In general, there are two main types of prenatal test – a screening test and a diagnostic

Screening tests give a risk or estimate of the chance that a baby has a health condition. These tests do not generally look directly at a sample from the developing baby and are therefore very safe. Included in the group of screening tests are ultrasounds, non-invasive prenatal testing, first trimester screening and second trimester screening.

Diagnostic tests provide a more accurate result since they are generally directly testing the baby. Because of this, in a very small number of cases, a test may also cause a miscarriage. Included in the group of diagnostic tests are ultrasounds, chorionicvillus sampling (CVS) and amniocentesis.

Testing during pregnancy is optional and should be talked about in full with your doctor, midwife or genetic counsellor. Making a decision to have a testor not is always up to you.

It may also be possible to have pre-implantation genetic diagnosis (PGD) to look for Down syndrome in an embryo made using in vitro fertilisation (IVF). When planning a family, optionsfor testing are best talked about and considered before pregnancy.

More support and information is available for individuals and families through support organisations including Genetic Alliance Australia.

2.10. INTELLECTUAL DISABILITY (MENTAL RETARDATION)

Mental retardation (MR) /low IQ / subnormal cognition / cognitive impairment

Intellectual Disability / mental retardation refers substantial limitations in present functioning. It is characterized by significantly sub average intellectual functioning, existing concurrently with related limitations in two or more of the following applicable adaptive skills areas: communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure and work. Intellectual disability manifest before the age of 18.

Characteristics/ common feature of ID/MR

There are many signs of intellectual disability/ mental retardation.

- Delayed in achieving sitting, crawling, and walking
- Learn to talk later, or can have trouble in speaking

- Poor memory –find it hard to remember things
- Does not understand how to pay attention for things
- Have trouble in understanding social rules
- Have troubles in solving problems
- Have trouble thinking logically, etc
- Struggle to develop social skills
- Delay motor skills
- Difficulties in problem solving and expressing emotion

Causes of Intellectual Disability/ Mental Retardation

- Seizure disorder
- Drooling
- Hypothyroidism
- Microcephaly
- Vision problems
- Anxiety
- Mood disorders

All of the above requires separate treatment. Most of the disorder are managed successfully with proper treatment

2.10.1. Causes severe mental retardation

- Identifying causes may be difficult but here are some common causes:
- Genetic condition
- Problems during pregnancy
- Problems at birth (premature birth)
- Health problems (pathological conditions)
- Environmental factors
- Emotional or physical abuses
- Malnutrition
- Down syndrome- head injury

Diagnosis making

ID/MR is diagnosed by looking at two main things. These are:

- The ability of a person's brain to learn, think, solve problems, and make sense of the world (called IQ or intellectual functioning)
- Whether the person has the skills he or she need to live independently (called adaptive behavior or adaptive functioning)

People scoring below 70 IQ are thought to have ID/MR. To measure adaptive behavior, professionals look at what a child can do in comparison to other children of his age. Certain skills are important to adaptive behavior. These are:

- Daily living skills, such as getting dressed, going to the bathroom, and feeding one's self
- Communication skills, such as understanding what is said and being able to answer
- Social skills with peers, family members, adults, and others.

2.10.2. Intelligent quotient (IQ) and its impact

Mild mental retardation, IQ scores of 50-55 to approximately 70

Eighty-five percent of intellectually disabled people are at this level, and they can often live on their own with minimum support from other.

Moderate mental retardation with IQ scores of 35- 40 to 50-55

Those with a moderate intellectual disability make up roughly 10% of cases on this spectrum.

These individuals may need more support in day-to-day life and may live in a group home.

Severe mental retardation, with IQ scores of 20-25 to 35-40

They typically need daily supervision to keep them healthy and safe may need help with basic self-care tasks.

Profound mental retardation, with IQ 1 scores below 20 or 25

They may need constant care and supervision to meet their basic needs.

2.10.3. Management and treatment

Intellectual Disability/ Mental retardation is not a disease. It is also not type of mental illness, like depression. There is no cure for ID/MR. However most children with ID/MR can learn to do many things. It just takes them more time and effort than other children. There is no standard medication available for "Intellectual Disability/ Mental retardation". Children with

ID are managed with multimodal/combination therapy is considered best for majority of the children with ID/MR.

2.10.4. Treatments include

- Early interventions
- Developmental therapy
- Occupation therapy
- Special education
- Speech therapy
- Behavior modification therapy

Behavioral interventions have been applied to building a wide variety of adaptive skills. Behavior modification is a useful tool for parents in helping their children to change an undesired behavior or to start a desired behavior. It is helpful for common behavioral problems, teaching discipline and creating amicable environment

Medication

Antipsychotics, anti-depressants, mood stabilizers including anti-epileptic medications and lithium, anti-anxiety medications are used widely among people with intellectual disabilities (ID) for managing the co morbid conditions.

Complementary and Alternative medicines

ICD has been providing need based parents oriented alternative medicines to selected individual with MR/ID.

2.10.5. Prognosis and employment opportunities for person with ID-MR

Person with ID/MR can live and enjoy according to their potentials/mental level and opportunity provided. Person with Mild problems (Between 55-70 IQ) can lead normal and productive life and can work in open market. Person with Moderate problems (Between 40-55 IQ) can lead near normal and can work in the community market where supervision is available. Person with severe problems (Between 25-40 IQ) can lead partially dependent life and can be trained to work in shelter workshops. Person with profound problems (less than 25 IQ) are mostly dependent for most their needs and sometimes they are kept in under restricted environment. If you want to know which treatment or therapies is best suited for your child/ ward, please contact us and get free technical support

2.11. THE THEORETICAL BACKGROUND OF THE WORK

2.11.1. Social Learning Theory by Albert Bandura

Albert Bandura was born on December 4, 1925, in Mundare, Alberta, Canada. His early experiences, including growing up in a small town, shaped his interest in human behavior and social interaction. Bandura earned a bachelor's degree in psychology from the University of Alberta and later a master's and Ph.D. from Columbia University. His academic background laid the groundwork for his future work in social psychology.

2.11.2. Development of Social Learning Theory

Bandura began his career focusing on behaviorism, which emphasized learning through direct reinforcement. However, he observed that not all behaviors could be explained solely by reinforcement and punishment. Bandura's interest in observational learning grew as he studied how individuals could learn by watching others. This led him to propose that people could acquire new behaviors without direct experience.

2.11.3. Key Experiments

Bobo Doll Experiment (1961): This landmark study demonstrated the principles of social learning. In the experiment, children observed an adult behaving aggressively towards a Bobo doll (a large inflatable toy). After viewing this behavior, the children were given the opportunity to play with the doll themselves.

Findings: The children who observed the aggressive adult were more likely to imitate that behavior than those who had not witnessed it. This experiment illustrated that learning could occur through observation, not just through direct reinforcement.

Impact of Media: Bandura also explored how media influences behavior, recognizing that children could learn behaviors from television and other media sources.

211.4. Core Concepts of Social Learning Theory

- **Observational Learning**: Learning occurs by watching others and modeling their behavior.
- **Attention, Retention, Reproduction, and Motivation**: For learning to occur, individuals must pay attention to the model, retain the observed behavior, reproduce it, and be motivated to do so.
- **Reciprocal Determinism**: Bandura introduced the concept that behavior, personal factors, and environmental influences all interact and influence each other.

2.11.5. Legacy and Impact

- Bandura’s work reshaped psychology by bridging behaviorism and cognitive psychology, emphasizing the importance of cognitive processes in learning.
- His theories have influenced various fields, including education, psychology, and social work, providing a framework for understanding how behaviors are acquired and modified. Social Learning Theory, as developed by Albert Bandura, revolutionized the understanding of human behavior by highlighting the role of observation and modeling in the learning process. Through his pioneering research, particularly the Bobo Doll experiment, Bandura provided critical insights into how individuals learn not only from direct experiences but also from observing others in their environment.

2.11.6. Utilizing Social Learning Theory in the Rehabilitation of Children with Intellectual Disabilities

Social Learning Theory, developed by Albert Bandura, posits that individuals learn behaviors through observation, imitation, and modeling. This theory can be effectively applied in the rehabilitation of children with intellectual disabilities in several ways:

1. Modeling Positive Behaviors

- **Explanation**: Caregivers and educators can demonstrate desired behaviors and skills, such as communication, social interactions, and daily living activities.
- **Application**: By observing adults or peers successfully engaging in these behaviors, children are more likely to imitate them. For example, a therapist might model how to greet someone or express feelings appropriately.

2. Peer Learning

- **Explanation**: Group settings provide opportunities for children to learn from one another. When children with intellectual disabilities see their peers successfully performing a task, they are encouraged to try it themselves.
- **Application**: Structured group activities, such as games or collaborative projects, can facilitate social interactions and allow children to learn from each other's successes and challenges.

3. Reinforcement of Observed Behaviors

- **Explanation**: Positive reinforcement can be applied to both the observer and the model. When children imitate positive behaviors, they should receive praise or rewards, reinforcing the behavior.
- **Application**: For instance, if a child successfully uses a social skill they observed from a peer, providing immediate positive feedback can strengthen their motivation to repeat that behavior.

4. Creating a Safe Learning Environment

- **Explanation**: A supportive environment encourages children to take risks and try new behaviors without fear of negative consequences.
- **Application**: Establishing safe spaces where children can practice new skills with peers and receive constructive feedback fosters confidence and encourages learning.

5. Role-Playing and Simulation

- **Explanation**: Role-playing exercises allow children to practice new skills in a structured environment.
- **Application**: Children can act out social scenarios, such as starting a conversation or resolving a conflict, while observing peers and receiving guidance from caregivers. This practice helps reinforce learning through active engagement.

6. Use of Visual Aids and Media

- **Explanation**: Visual aids, videos, and stories can illustrate desired behaviors and outcomes, making them more relatable and easier to understand.
- **Application**: Educational videos featuring children or characters demonstrating social skills can serve as effective models for children with intellectual disabilities, providing clear examples of how to navigate social situations.

7. Feedback and Reflection

- **Explanation**: Providing feedback on observed behaviors helps children understand what they did well and what they can improve.
- **Application**: After group activities, caregivers can facilitate discussions where children reflect on their experiences, learning from both successes and mistakes, which reinforces the learning process.

Incorporating Social Learning Theory into the rehabilitation of children with intellectual disabilities can enhance their learning experiences and promote the development of crucial social and life skills. By leveraging modeling, peer interactions, reinforcement, and structured practice, caregivers and professionals can create effective rehabilitation programs that foster growth and independence in these children.

- **Overview**: Proposed by Albert Bandura, this theory posits that learning occurs through observation, imitation, and modeling.
- **Application**: Rehabilitation programs can incorporate social learning by encouraging peer interactions and modeling appropriate behaviors. Group therapies where children observe and learn from each other can enhance social skills and adaptive behaviors.

Social Learning Theory, proposed by psychologist Albert Bandura, suggests that learning occurs through observation, imitation, and modeling. In the context of the rehabilitation of children with mental retardation (now referred to as intellectual disabilities), this theory can play a vital role in developing social skills, adaptive behaviors, and improving functioning.

2.11.7. Observation and Imitation

Children with intellectual disabilities can learn by observing others, especially caregivers, peers, or therapists. They are more likely to adopt behaviors they see others perform, particularly those that result in positive outcomes (reinforcements). For example, if a child with intellectual disability sees a peer using a proper way to communicate, like asking for help or sharing toys, they may imitate these behaviors, reinforcing social interaction and communication skills.

2.11.8. Modeling

The theory emphasizes the importance of role models in a child's life. In the rehabilitation process, therapists, teachers, or parents act as role models, demonstrating appropriate behaviors that children can mimic.

For instance, a therapist can model how to handle frustration by remaining calm in difficult situations. The child might then learn to handle their emotions by observing this response and practicing it themselves.

2.11.9. Reinforcement and Motivation

Reinforcement (either positive or negative) is central to Social Learning Theory. Positive reinforcement encourages the child to repeat behaviors that are rewarding. In rehabilitation, when children with intellectual disabilities successfully engage in a desired behavior (e.g., using words to express needs), they are reinforced with praise, rewards, or encouragement.

Over time, this reinforcement helps the child internalize the behavior and associate it with positive outcomes, increasing the likelihood of the behavior being repeated.

2.11.10. Vicarious Learning

Vicarious learning happens when children observe the consequences of others' actions and learn from them without directly experiencing them. For children with intellectual disabilities, seeing other children rewarded for cooperating in group activities or sharing toys can motivate them to engage in similar behaviors.

This indirect learning can sometimes be more effective than direct instructions, as it allows the child to witness the outcomes of different behaviors.

2.11.11. Cognitive Processes

Social Learning Theory also highlights cognitive processes like attention, retention, reproduction, and motivation, which are necessary for successful learning. Children with intellectual disabilities may face challenges with these cognitive skills, so rehabilitation programs often include tailored strategies to enhance their attention span or memory. For example:

Attention: Simplifying instructions and breaking tasks down into manageable steps can help children focus. **Retention:** Visual aids, repetition, and storytelling can aid in memory retention. **Reproduction:** Practicing a new skill in a supportive environment encourages mastery. **Motivation:** Providing encouragement and celebrating small successes fosters motivation.

2.11.12. Group Learning

Group settings, children with intellectual disabilities benefit from observing their peers and practicing social behaviors with others. Social learning within a group context can be particularly helpful in developing essential social skills such as turn-taking, cooperation, and

empathy. Social scenarios and role-playing can help children internalize norms and expectations in a way that they may not understand through individual instruction alone.

2.11.13. Supportive Environment

A supportive environment with consistent and structured reinforcement is key to fostering learning. Parents, teachers, and therapists should create a safe and positive atmosphere that encourages children to try new things without fear of failure.

Children with intellectual disabilities often need a structured, predictable environment to help them learn effectively. Social learning theory can guide these environments to ensure that children are provided with appropriate models and reinforcements.

In summary, Social Learning Theory offers valuable insights for the rehabilitation of children with intellectual disabilities. By focusing on modeling, observation, reinforcement, and vicarious learning, children can develop the necessary skills to interact more successfully in society. Tailored interventions using these principles help enhance cognitive, emotional, and social growth, making it an essential approach in rehabilitation programs.

PART TWO: METHODOLOGICAL AND EMPIRICAL FRAMEWORK OF THE STUDY

CHAPTER 3: RESEARCH METHODOLOGY

3.1. Recall of the research question

3.1.1. Recall of general research questions

Does the knowledge and practices of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded with Down syndrome?

3.1.2. Recall of specific research question

SRQ1: Does the educational level of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded children with Down syndrome?

SRQ2: Does the socio-economic factor of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded with Down syndrome?

SRQ3: Does the relationship of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded with Down syndrome?

3.2. Recall of research Hypothesis

3.2.1. Recall of general research Hypothesis

The knowledge and practices of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded with Down syndrome.

3.2.2. Recall of specific Hypothesis

SH1: The educational level of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded with Down syndrome.

SH2: The socio-economic factor of caregivers in the Jamot Hospital Yaounde contribute to the rehabilitation of mental retarded with Down syndrome.

SH3: The relationship of caregivers in the Jamot Hospital Yaounde contribute to the the rehabilitation of mental retarded children with Down syndrome.

3.3. Recall of research objectives

3.3.1. Recall of general research objectives

To understand the knowledge and practice of caregivers in the Jamot Hospital Yaounde and how it contribute to the rehabilitation of mental retarded with Down syndrome.

3.3.2. Recall of specific research objectives

SO1: To understand the level of education of caregivers in the Jamot Hospital Yaounde and how it contribute to the rehabilitation of mental retarded with Down syndrome.

SO2: To understand socio-economic factor of caregivers in the Jamot Hospital Yaounde and how it contribute to the rehabilitation of mental retarded children with Down syndrome.

SO3: To understand relationship of caregivers in the Jamot Hospital Yaounde and how it contribute to the rehabilitation of mental retarded children with Down syndrome.

It is constituted of two variables which are the independent variables (IV) and the dependent variable (DV)

According to De Landshere (1969) the independent variable is the variable which relates the cause and the effect. Also called the experimentary variable, the stimulus variable or the active variable, it can be easily manipulated by the researcher so as to explain the observed phenomenon which has been observed. Practices of caregivers in the management and rehabilitation in mental retarded children: case study of the Jamot hospital Yaoundé Cameroon. In our research we have an independent variable which will act as a stimulus to our research. This variable will be easily used by the researcher to bring out the modalities which are the following: level of education, socio-economic factors and relationship. In this modalities are going to be brought from it indicators as seen below.

Given that our independent variable is practices of caregivers. It has all together three modalities which are

- Modality 1: Level of education

Indicator

Formal education

Center of interest

- Specialized training
- Continuing education
- Experience in the field
- Knowledge of disability services
- Communication skills

- Modality 2: Socio-economic factor

Indicator

Income level

Center of interest

- Employment status
- Education level
- Access to healthcare
- Social support network
- Housing stability

The dependent variable which the study variable is self-confidence development in children with Down syndrome act as the phenomenon we are observing while manipulating the independent variable.

- Modality 3: Relationship

Indicators

Quality of communication

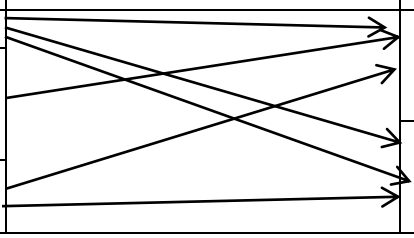
Center of interest

- Emotional bonding
- Conflict resolution
- Support from family and friends
- Shared responsibilities
- Social activities

The logical structure of the General hypothesis

This structure of the logical general hypothesis brings us the research hypothesis:

Table 1: The operationalization of the general hypotheses

The independent variable		**The dependent variable**
Level of education		Rehabilitation of mental retarded children with down syndrome
Socio-economic factor		Rehabilitation of mental retarded children with Down Syndrome
Relationship		

3.4. Presentation of the center

Jamot Hospital in Yaounde is a second category health facility, in accordance with Decree N°2013/090 of 03 April 2013 on the 48pecializes48 of the Ministry of Public Health. It 48pecializes in the treatment of respiratory and mental illnesses. Care for PLWHA is provided locally by the Approved Treatment Centre (ATC).

Jamot Hospital in Yaounde is located in the first district of Yaoundé, between the CRTV headquarters building, SNH and DRAGAGES. It covers an area of 5.21 hectares.

3.5. Historical background

The Jamot Hospital in Yaounde owes its name to Doctor Eugène Jamot, a French military doctor who lived from 1879 to 1937. In 1909, he enrolled at the Ecole de Médecine Tropicale in Marseille and a year later, in 1910, he arrived in Cameroon with a French colonial hygiene group. Jamot's mobile team was based in the suburbs of Yaoundé (at the time), on the site where the Jamot Centre now stands opposite the Health Promotion Department of the Ministry of Public Health. The development of the centre's activities, particularly with the emergence of new pandemics, led to the division of the Jamot Centre into two entities:

- The leprosarium and its related services, which continue to carry out vaccination activities, monitor people living with leprosy and their families, monitor the supply of orthopaedic prostheses, etc.
- Jamot Hospital, annex no. 1 to Yaounde Central Hospital, which will be responsible for treating respiratory and mental illnesses.

Jamot Hospital, annex no. 1 of the Yaounde Central Hospital, became a second category hospital according to the classification of public health establishments in force in Cameroon, following Decree no. 89-011 of 05 January 1989.

Since its creation, it has been administered in turn by:

1. Dr KESSENG MABEN G. from January 1989 to August 1993
2. Dr NDONGO EBANA Théophile Richard from September 1993 to April 2003
3. Dr AYISSI Christophe from May 2003 to September 2009
4. Dr ZOA NANGA Yves Mathieu from December 2009 to December 2015
5. Dr ZE Jean Jacques from December 2015 to July 2016
6. Dr MEMDIMI NKODO Joseph Marie from August 2016 to 2024
7. Dr. Daniel EKOUA from 2024 to present

3.6. Organisation of the Jamot Hospital in Yaounde

Jamot Hospital is placed under the authority of a Director, assisted by: the Medical Advisor (Department of Medicine and Specialities); a General Supervisor. It has 02 major clinical departments, 01 emergency and outpatient departments, 02 diagnostic support services, 01 service and 03 technical support units. The administrative services are made up of the Management, the Administrative and Financial Unit, the Medical Council and the General Surveillance, Medical Council and General Oversight.

3.7. Medical and Health Services

These consist of the outpatient and emergency departments and the medical-health and diagnostic support departments.

3.7.1. The Outpatients and Emergency Department

This is patients' first contact with the hospital. After registration, patients are referred to Psychiatry, Pneumology or General Medicine. It comprises 04 medical consultation cubicles, 01 Department Head Doctor's Office, 01 Major's Office, 02 treatment rooms, 01 doctors‘ on-call room and 01 nurses’ on-call room. There are also 02 observation rooms with 10 beds.

3.7.2. Pneumology

The hospital's most important speciality is subdivided into Pneumology A and B, each headed by two experienced pneumologists: Professors KUABAN Christopher and AFANE ZE. These departments provide specialist consultations, hospitalisation and follow-up care. In addition to the laboratory and medical imaging facilities, Ill is supported by the Bronchoscopy, Fibroscopy and Physiotherapy units. Pneumology departments are responsible for research, initial training and the specialisation of doctors, in conjunction with MINESUP.

3.7.3. Psychiatry

It provides specialised consultations, hospitalisation and support in the treatment of drug addicts. It also provides care, research and training for future specialists.

3.7.4. Departments

- The Medical Imaging Department

This is subdivided into two units, Radiology and Ultrasound. X-rays are digitised and of excellent quality to aid diagnosis, thanks to interpretation by radiologists. Radiography is the most important activity in this department and It has 02 bone-lung X-ray rooms.

- The Laboratory Department

Housed in the same block as imaging, this department plays a central role in confirming the diagnosis. The various units are Bacteriology-Virology, Parasitology, Mycology and Biochemistry. This department has improved its activities with the opening of the blood bank.

- Technical support is provided by a number of units, including

- Pharmacy

It has a shop and 01 sales outlet. Stock management is computerised, as is patient sales. There is a connection with the administrative and financial departments.

- The Mortuary

The mortuary is responsible for preserving mortuary remains and is open to high demand from outside the hospital. It has a capacity of 40. Management is assisted by IT tools linked to the administrative and financial departments.

- Broncho-fibroscopy

The Broncho-Fibroscopy department provides support and diagnosis and helps to carry out curative procedures.

- Stomatology

It offers dental care, but remains highly unprofitable, despite the availability of acceptable equipment.

- Physiotherapy

It provides respiratory rehabilitation care at the request of the Pneumology Department. Post-trauma rehabilitation is also possible, but not widely used.

- The Hospitality Unit

This unit provides meals for on-call staff and patients from Haut Standing under a service contract. Other in-patients and staff have access to the unit.

- The Car Park

3.7.5. Mental health service team

As far as human resources are concerned, the Jamot Hospital in Yaoundé has a large number of staff divided into 04 groups:

- Civil servants and contract staff from the Ministry of Health;
- Staff under contract with the COGE
- Social affairs staff
- MINFI executives;

Medical staffs who are civil servants and under contract to the Ministry of Health: There are 33 permanent doctors, including:

- 07 Pneumologists,
- 03 Psychiatrists
- 03 radiologists
- 02 dental surgeons
- 01 Public health doctor
- 01 Pathologist
- 02 Biologists
- 02 Pharmacists,
- 09 general practitioners.

In terms of responsibilities, 09 specialist doctors and 01 pharmacist carry out the following administrative functions:

- Medical Advisor, Head of Pneumology A, CTA Coordinator
- Head of Pneumology B
- Head of Medical Imaging
- Head of Laboratory Department
- Head of Psychiatry A
- Head of Psychiatry B
- Head of Emergency and Outpatient Services
- Head of Special Technical Services
- Head of Stomatology
- Head of Pharmacy

A Senior Nurse performs the administrative duties of General Supervisor.

The management team consists of :

- Director,
- Medical Advisor
- General Supervisor.

3.8. List of Jamot Hospital services

Emergency and Outpatient Department

Clinical departments

- Pneumology Department A
- Pneumology B
- Psychiatry Department A
- Psychiatry B

Diagnostic support services

- Laboratory and blood bank
- Medical Imaging Department
- Pharmacy department

Technical support units

- Physiotherapy unit
- Odontostomatology Unit
- Bronchoscopy Unit
- Post-mortem care unit

Special services

- Approved Treatment Centre
- National Tuberculosis Control Programme
- Social Services
- Material accounting
- Revenue management
- Bursar's department

3.9. Definition of the study population

The population of studies refers to the set of elements having one or more characteristics such as which distinguish them from other elements and on which the litigation arises (Anger, 1992-238), it means the set of individuals having in them the same characteristics on which us as researchers we can conduct our studies. From this population of studies researchers will bring out their result from what they got from the research that was conducted. Generally it is seen as a group of individuals who have the same characteristics as concerning our research. Taking into account all the explanation above we are interested on children with mental retardness at the Jamot Hospital in Yaounde located in the first district of Yaoundé, between the CRTV headquarters building, SNH and DRAGAGES.

3.9.1. The target population

The target population according to (Louise Barnbee & Son Ngiem, 2018) the target is a group of individuals which researchers conduct on this individuals and draw conclusions from. The characteristic of choosing this targeted population is based on the literature and the practices, the objectives of the study and the contextual information of the studies.

This target population is the one which the researcher is going to or will generalize his result our result from. In the part of our studies we are going to study mental retarded children with down syndrome in the Jamot Hospital Yaounde located in the first district of Yaoundé, between the CRTV headquarters building, SNH and DRAGAGES. This is so because given the vast nature of this population which we will have to concentrate in a particular sector which will help us in the generalization of the result.

3.9.2. Definition of sample

The sample here always represents a method which is the one of the characteristically representation of the population of research or the target population. So, in the context of our research, the representative is not really important since our research is qualitative and does not necessarily need a representative nature. This is so because the qualitative method gives us the emotional feelings and most especially knowing the innermost behavior of the participants and makes things more of empirical and pragmatic than ideological (rahman.MS, 2016)

The time this type of research takes it is on the part of the researcher to determine his participants given that everyone cannot be chosen to participate, this is so because the participation depends on the purpose of the research which is made and most importantly on the researchers discretion (musarrat shaneen, 2021). This is so because many researchers turn

to face difficulties because the choice of sampling was wrongly made. That is the answers given by the participant must be reliable in order to make interpretation very simple. This will be done by the researcher providing every detail that was given to him by his participants. This is so because the result will also be affected by the way the sampling is being made and so, the selection of a right type of sampling technique will be very important.

Our research we are going to use a non-probability sampling given that we have some knowledge about our population. That is we knowing the characteristics of the population, we are studying the peculiar thing about this method of research is the fact that all the sample have equal chance of being selected to carry out studies on them. Given that we are in a qualitative and using a non-probability type of research, That is why in our research we are going to be using the reasoning sampling method which in this method here the sampling will be restrain we shall be carrying our research on (03) subject or cases.

3.10. Choice of method of data analyses

3.10.1. Observation as a research tool

We choosed observation as our first tool because the caregivers being the center of our work we were Observation considered to be one of the most used and important methods in social sciences and at the same time one of the most diverse . Observation here permits us not to enter directly into illusion but it give us the facts about our research by linking the researcher directly. So when talking about observation we distinguish two types of observation.

- The participant type of observation

In this type of observation the observer tries to be one with his environment and also to appropriate the population life style. This is when the participant merges in the group and tries to bring out some characteristics of the population. The idea here is to reach the objectives of research without being a burden to the group whom the researcher is carrying out research on.

- Non participant observation

Here the observer observes without the human interaction into the field. Here is not really connected to the realities of the field. Here the researcher adjust their roles depending on the requirement or the objectives that where set at the beginning of the research. So no matter the type of research the observer has to be objective in his research no matter the type of research he is using subjective because the observer in his research has to set objectives which will guide him and not.

As concerning our research we are going to do a participative observation, that is before even giving a statues of participant observation to our research we have to give the methodology

which is will guide our work, which here we are seeing it as the one of giving a social experience to our work. in other words it consist of merging with the observed still in the respect of the liberties of the participants in order not to be an agent of distraction of the participant which at the end can participate to the abnormal behavioral change of the participant of our research. Their free expression. The purpose of these interviews is to detect in the verbal discourse of the participants the modalities of the strategies used by them to deal with burn gut. Thus, the elements that reflect the resilience of the worker will be identified in their speech topics to be covered. The order is not imposed. The interviewee is invited to develop a theme which It includes an interview plan with a starting instruction and a grid is proposed to him. He must speak freely.

The interviewer's mission is to let the person speak and to follow up gradually. A case study the semi-directive interview is one of the methods that allows to collect the data in a qualitative research. It is a technique for collecting information that can center the discourse of the people interviewed on defined themes that are clearly recorded in an interview guide. One of its characteristics is the fact of enclosing the discourse of the interviewee in predefined questions, or in one of the interview allows "direct contact between the researcher and the interlocutors, emphasizes Quivy and Campenhoudt (2006, p .174).

In general, the semi-dif interview makes it possible to collect information such as facts and verifications of facts, opinions and points of view, analyses, proposals, reactions to the evaluators' hypotheses and conclusions. It therefore seemed more appropriate to us to choose this tool for the following reasons: it is a tool which allows the researcher to create subjective data in complete freedom, the interlocutor to qualify his remarks and allows us to have a maximum of objectivity. Our interview guide, found in years, contains questions developed and grouped by research hypotheses. We have listed the theoretical elements in connection with the questions in order to facilitate the work of analysis and to always have the theoretical elements in mind. This tool was a real support for us during our interviews and contributed to their smooth running. For the interviews, we followed this guide our interviews took place at the institute psychopedagogique Einstine. They were conducted by ourselves. We have agreed with these employers on the time and the day in order to allow them to be focused on the theme without being preoccupied with another obligation.

They were made for two days in quiet places so as not to be interrupted. Some interviews were carried out in different offices, others in meeting rooms and still others in the company's infirmary. During the interview we evoked the theme then the sub-theme on which the subject had to express himself. And as his speech evolved, we made use of reminders to

orient his remarks, according to our research objectives, and to lead him to provide us with more exhaustive explanations or information. We listened to the helper without interrupting her, being attentive to her story by taking notes from time to time. During the listening, we avoided replacing ourselves with the caregiver by keeping our empathetic neutrality and our calm, in order to have a better appreciation of the situation.

The duration of our interviews varied between fifteen and twenty-five minutes. Overall we had a relaxed atmosphere and the interviewees seemed at ease in the interview. Once the content of the interview guide was covered in its entirety, we proceeded to the closing procedures. To close the interview, we thank the caregiver for her availability and her collaborative effort. Then we asked her if she has anything else to add; this detail was taken into account in writing or by recording.

3.10.2. Analyses and technique of result

After the different articulation which constituted an instrument of data collection which as a consequence of using this type of data collection instrument we had to choose the qualitative analyses of our result. Which made us not focus on the calculation but to orientate ourselves towards psychological analyses of our result through the observation we made which through our point of focus observed some phenomenon which made our research more tangible.

3.10.3. The techniques of analyses of results

To analyze our data collected which is a qualitative one we used the content analyses. What we mean by content analyses technic consist of the method which looks on what was said during the interview what they said, trying to make it as objective as possible and very reliable this is so for Berenson (1952) it is defined it is defined as "as a technique of research for objective description, systematic, and qualitative of the content manifested from communication" this means our analyses we are going to base ourselves on the an objective analyses of our qualitative results. The survey material collected during observations, group interviews or individual interviews: behaviors, words, gestures, what is not said and what is implied.

Bardin (1977, p.43), argues that "content analysis is a set of communication analysis techniques". For this author, the procedure generally includes the transformation of an oral discourse into text, then the construction of an analytical instrument to study the meaning of the remarks. In these analyses we made to take the analyses from a communicational

perspective which brings us to bring out the elements which are necessary for the uses of the research. These techniques generally have a problem the incomplete analyses.

CHAPTER 4: PRESENTATION OF RESULTS AND ANALYSIS

In this chapter we are going to present the result of our studies and also the analyses of content which will depend on every case which will drive us to the syntheses of categorical analyses obtained. The origin of this chapter is from the participative observation we made with participants of mental retard children with Down syndrome confirmed from medical record, attending the outpatient department of the Jamot hospital. We used interview guide with the help of the educators of the hospital. The interview lasted for 45 -55 minutes participants.

4.1. The presentation of the studied cases

In this part we are going to present the cases of our studies, this presentation will be based on the various reactions to the various practice in management and rehabilitation strategies with regard to each case.

Table 2: The observation grid to test how the practices implemented by caregivers in the Jamot Hospital Yaounde contribute to the management and rehabilitation of children on mental retarded with Down syndrome's

Level of education	Fair	Poor	Good	Excellent
Their level of formal education			8	
Their level of specialized training	6			
Their level of experience in the field			7	

Socio-economic factor	Fair1	Poor2	Good3	Excellent4
Their level of income			6	
Their employment status			7	
The access to healthcare			8	

Relationship	Fair1	Poor2	Good3	Excellent4
Their level of quality communication			7	
Their level of emotional bonding				10
The level of support from family and friend			8	

- **case 1:**

Case Example: Examination of educational level in caregivers.

Caregiver Background:

Our first case is a seven year-old boy that was diagnosed with Down syndrome at the age of three. He displayed certain characteristics associated with low self-confidence, such as

social anxiety, reluctance to engage in new activities, and difficulty expressing himself verbally. His parents decided to seek professional help to address his challenges how boost his self-confidence or self-estimate.

Intervention Plan:

His parents collaborated with a team of professionals, including a psychologist, speech therapist, and behavioral therapist, to develop an intervention plan tailored to the child needs. One of the primary goals was to enhance his self-confidence through artistic skills based strategies.

Identifying Strengths:

The first step was to identify his strengths and interests. We observed that he had a keen interest in drawing and painting. He showed great attention to detail and exhibited exceptional artistic abilities. His team decided to leverage these strengths to build his self-confidence.

Setting Achievable Goals:

The team helped the child set achievable goals related to his artistic pursuits. Initially, the goals were small and easily attainable to ensure success and reinforce his confidence. For example, his first goal was to complete a simple coloring page or draw a basic shape.

Positive Reinforcement:

The team implemented a system of positive reinforcement to motivate and reward his efforts. Whenever he achieved a goal or made progress, he received praise, encouragement, and tangible rewards, such as stickers or small art supplies. This positive reinforcement helped Jake associate his achievements with feelings of accomplishment and boosted his self-confidence.

Gradual Exposure to Challenges:

As the confidence grew, the team gradually introduced more challenging tasks related to his artwork. They encouraged him to experiment with different techniques, use more complex colors, and eventually create his own original pieces. With each successful step, Jake received reinforcement and recognition, further enhancing his self-esteem.

Social Skills Training:

Alongside his artistic pursuits, the team also worked on improving his social skills. They facilitated small group activities with other children who shared similar interests in art. These

structured sessions provided opportunities for the child to interact, share ideas, and collaborate with his peers, promoting social confidence in a supportive environment.

Family Involvement:

His parents played a crucial role in reinforcing his self-confidence. They consistently praised his efforts, displayed his artwork around the house, and encouraged him to talk about his creations. Their unconditional support and belief in his abilities helped Jake realize his potential and feel proud of his accomplishments.

Outcome:

Over time, the child's at a certain point of time self-confidence visibly improved. He started expressing himself more freely, both verbally and through his artwork. His social anxiety reduced, and he actively participated in group activities. The enhanced self-confidence not only positively impacted his artistic abilities but also extended to other areas of his life, fostering a more positive self-image and overall well-being.

This case example highlights how a combination of identifying strengths, setting achievable goals, positive reinforcement, gradual exposure to challenges, social skills training, and family involvement can contribute to building self-confidence in an autistic child. Each child is unique, and interventions should be tailored to their specific needs and interests to achieve optimal results.

The environmental conditions of the subject

The subject here is sitting position is very strategic given the fact that he seats at the second to the last bench of the class we observed that this position depended on his company he had in class given that he is seating with his friend which for one reason really appreciates his company. So seated with his friend, made the teacher to maintain his seat because, he loved playing with this his particular friend who is also autistic. His friendly attraction makes our subject to develop a good social interaction with his peers.

This friendship he developed with this friend makes us to realize another thing in this attachment to the acts very much in the his behavioral changes of our subject this is So because, the child is very quiet and sometimes develops the attitude of interacting with his peers. So, the comorbidities which he has developed which is the one of the development of phobic attitude which has made the child to inhibit it when he is playing with his friends. Because he really feels included in the activities when he sees his friend doing that same activities.

Our subject always need emotional touch in order to carry an activity which is given to him and this is mostly shown through the touches which for him emotional exchange which is done between him and any of the persons needs him to perform an activity for him and through this to bring him to learn some new skills. Like other autistic children he attracted to images with strong colors and images which are familiar to him which will bring him a strong emotional attachment. This is seen when he sees the proprietress of the center coming, he jumps in joy to go embrace her. In this way, it can be understood that the image of the proprietress is not still new in his mind so between him and any other person the reaction will be different as he needs to perform an activity for him and through this to bring him to learn some new skills. Like other autistic children he is attracted to images with strong colors and images which are familiar to him which will bring him a strong emotional attachment.

Table 3: Observation grid to test the practices of caregivers in the rehabilitation of mental retarded children

		Scores
Level of education	Their practices to formal education	**9/15**
	Their practices specialized training	
	Their practices with regards to their experience in the field	
Socio-education factor	Educational initiatives, by participating in programs that teach their child basic skills like cooking, personal hygiene.	**12/15**
	Teach children communication skills which are crucial for independent living.	
	Familiarize themselves with resources and research networks and also children with down syndrome	
Relationship	Learn how to teach and support children in developing self-care skills, such as dressing, eating, and hygiene.	**9/15**
	Participate in activities that promotes social interactions and develop social skills.	
	Encourage children participation in age-appropriate activities and reutines	

- **case 2 :**

Case Example 1: Building Self-Confidence through artistic skills

Child's Background:

Our second is a five-years-old girl, was diagnosed with autism spectrum disorder (ASD) at the age of three. She exhibited characteristics associated with low self-confidence, such as

difficulty initiating conversations, limited eye contact, and a tendency to withdraw from social interactions. Sophie's parents sought intervention to help her develop her self-confidence through social interactions.

Intervention Plan:

Her parents, in collaboration with a team of professionals, including a psychologist and occupational therapist, devised an intervention plan focused on improving her self-confidence through social interactions.

Small Group Social Skills Sessions:

She participated in small group social skills sessions, where she interacted with peers who also had ASD. These sessions provided a structured and supportive environment to practice social skills, including initiating conversations, maintaining eye contact, and taking turns during interactions. The sessions were guided by a therapist who facilitated social games, role-playing exercises, and group discussions.

Gradual Exposure to Social Settings:

To gradually expose her to different social settings, her therapy team organized outings to places such as parks, libraries, and community events. These outings provided opportunities for the kid to practice social skills in real-life situations while being supported by her therapist and her peers. As she experienced successful interactions, her self-confidence began to grow.

Peer Modeling and Support:

The therapy team incorporated peer modeling and support into Sophie's intervention plan. They paired her with a peer who exhibited strong social skills and acted as a positive role model. Sophie observed and imitated her peer's behaviors during social interactions, gradually building her own skills and self-confidence. The peer also provided support and encouragement, fostering a sense of belonging and acceptance.

Family Involvement:

Her parents actively participated in her intervention plan. They learned strategies to support her social interactions at home, such as initiating conversations, practicing turn-taking, and providing positive feedback. Through consistent family involvement, she received reinforcement and encouragement, which further bolstered her self-confidence.

Outcome:

As she is engaged in social interaction interventions, her self-confidence improved noticeably. She developed stronger conversational skills, maintained better eye contact, and displayed increased initiative in social settings. Sophie's growing confidence in her social abilities positively impacted her overall well-being, fostering a sense of belonging, and opening doors to new friendships and opportunities for personal growth.

- **The environmental conditions of the subject**

The subject sitting position in class gives us the idea of the close monitoring which the teachers want to keep on her given the fact that he is seated on the first bench of the class given, we realize she concentrate more better and also free from provocation by her pairs

She is not so playful this so because she gives much importance to the details around her but for her pairs does not show any interest on the play activity but gives more joy when she comes in contact with the teacher which she so much appreciates the social connection which is established between the teacher and her.

As to what concern the physical adaptation of the child she has formed a type of repeated activities with her and at times are precized. This is so because the teachers in charge understanding the subject have made some playing activities which the child has to adapt to. They have formed in order for the child to get used to them and feel free in her activities so as to discover her skills. Her particularity with her classmates is being taken differently from her reactions. Activities are structured in depending on time and the atmosphere in her part, there is a lot of patience that is given to her by the teacher in charge of initiation. This so because she is being though with the visual aids which permit her to adapt to the didactic material presented to her by the various educators. Colors which by observation makes some importance in her process of adaptation still this colors gives more importance in this educative process, it is given as the faster way for her to understand, more attention to the details around her that is why the educators use the colors to have his attention which will really bring her to learn and even know how to use the didactic materials which are provided for her. But her reserved attitude is bolstered so as to open her to play activities which develop a wide range of his understanding and develop self-esteem in her.

		Scores
Artistic skills	Their reactions to songs and music	**6/15**
	How they react towards drawing and painting activities	
	How the children relate to sport activities	
Reinforcement	Their reactions after accomplishing a certain task and been praised	**7/15**
	The impact of encouragement and its contribution to the educational growth of the child	
	Children's reactions after accomplishing a certain task and been reworded	
Social interaction	Child's reaction to role play	**9/15**
	Evaluate the child's development emotional skills	
	The children's reaction when faced with problem solving	

- **Case 3 :**

Case Example: Building Self-Confidence through Social interaction

Child's Background:

Our third case is a eight-years-old boy, was diagnosed with autism spectrum disorder (ASD) at the age of four. He struggled with low self-confidence, particularly in group settings. His parents sought intervention to help him develop his self-confidence through inclusive activities.

Intervention Plan:

His parents collaborated with a team of professionals, including a psychologist and a special education teacher, to design an intervention plan centered on inclusive activities that would build his self-confidence.

Inclusive Sports and Recreation:

His therapy team introduced him to inclusive sports and recreational activities. They identified activities that aligned with his interests and abilities, such as swimming, martial arts, or team-based board games. These activities were modified and adapted to accommodate his needs, ensuring he could actively participate alongside typically developing peers.

Supportive Peers and Mentors:

To bolster his self-confidence, the therapy team facilitated connections with supportive peers and mentors.

- **The environmental conditions of the subject**

		Scores
Artistic skills	Their reactions to songs and music	**4/15**
	How they react towards drawing and painting activities	
	How the children relate to sport activities	
Reinforcement	Their reactions after accomplishing a certain task and been praised	**10/15**
	The impact of encouragement and its contribution to the educational growth of the child	
	Children's reactions after accomplishing a certain task and been reworded	
Social interaction	Child's reaction to role play	**12/15**
	Evaluate the child's development emotional skills	
	The children's reaction when faced with problem solving	

The center was very welcoming and the children also but other thing w fascinated me was the welcome was not only from the teachers but the children given their disability were able to greet us in a welcoming manner not looking as us like strangers. This is so because the teachers had made and inculcated a habit on the children which was the one of greeting.

To continue the way of even developing even if it is considered minor a social skill on the child the subject tries to be social through the repetitive action done by the teacher in order to put in him the habit of greeting. Given the communicative barriers experienced by this children he always try to greet his teacher this is so because every morning they had the habit of greeting their teachers " bonjour" this was done in a loud and slow manner for the children to be able to pronounce audibly an well. Even some autistic children were capable of greeting in the morning even though it was not perfect but they tried their best in a way they could

What really marveled me was the way the behavioral art is being treated as regard to the his keep up in the center method was applied to this children given that they were instruments which were present for work with the children so it was easy to apply all expertise that are being thought in school and as for the expertise to be learned the center is really a well-structured for this with children with difficulties.

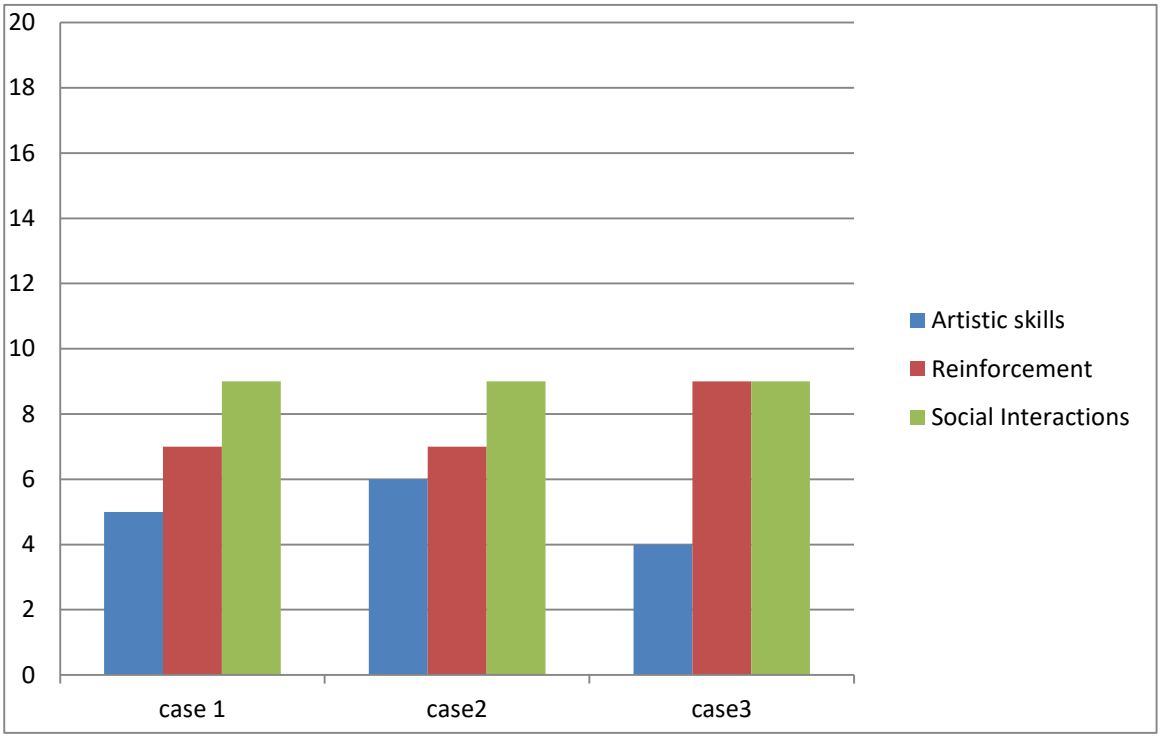


Figure 4: The chart of Adaptability

4.2. The interview guide of the caregivers from the jamot psychiatric department of the hospital

The interview guide which we passed was for the caregivers with children of mental retarded with Down syndrome of the psychiatric outpatient department of the jamot hospital taken for our second tool considering that the parents caregivers have links to the educators who share the same educative environment with them. We were permitted to carry out interview on the parent caregivers by the director of the hospital.

Theme 1: Artistic skills

- **On the part of the activity schedule**

It was said that the activities in this center are organized in respect each child's disability. Meaning that these activities are adapted to how each and every child reacts in the center "*as can see children with down syndrome of the age limit you who are aggressive towards the other, some very silent in their own corner and you know that, each child has his or her own particularities. We try to adapt the strategies to suit everyone no matter their level of disability or behavioral manifestations which bring us to the fact that they do not have the same profile"* we can therefore see the activities schedules and taken into consideration by the

educators based on the behavioral exhibition of the down syndrome's children which for them is very different to the one of their peers.

- **Contingency map**

Contingency map has to do with decision making of the children guided by caregivers which is more of the way the educators give it to them. This is so because the children in this center are taught in of taking care of each other and so the children from there take as example from the observation they see around them during certain general activities. This bring them to an understanding of the decision making or rather contingency map. To better summarize, the educators put this attitude in them by using a type of positive technique which is the one of making the children to understand the fact of each of them is to be one another's keeper guided by their caregivers. "*we put more emphases in training the children about decision making and this autonomy in their various activities which are somehow seems difficult to them because to do it we first of all have to put in the children mind that they are each other's keeper which from there the process starts. We bring a type of positive way of decision making which will always pass though love first before even going to the part of autonomy they first work on first of all taking the decisions towards others"* we see that the children here are more of concerned on concentrating their decision making on the children which will really bring them to a better understanding of themselves by themselves.

- **On the symbol exchange**

In the case of symbols and how they are being used to make the children in the center feel type of secured environment given that each symbol in this environment symbolize something to the child. By the symbol we mean the emotions that are being brought from the child. From what the educator told us that each color symbolized something in the center and it is the message which is being passed by the educators to both caregivers and children. The educators in this sense put much value in the materialization of the environment given that it must symbolize something to the children that is why one of the interviewed participants say " *every material and object in this our center has a meaning or symbolize something that is why when you enter our referal schools environment you are welcomed by the beautiful colors which are used as symbols of attraction and make their homes different from the school setting this is why some parents are shocked at home that their child id able to recognize some colors at home. More importantly we always try to make these colors to be the strong ones because this is our task of even communicating some object to them and in turn they can bring it to us"*

- **On the dancing activities**

Through dancing activities which is essential for children to develop their immune system and behavior in regards to their pairs. Note that this activity contribute more on the social, physical and behavioral part on the child. "*like I said on sport the children here will at the same time during the dancing activities work on their psychomotor skills and lack from what sport gives them. "The dance we use here as one of our inclusion and self-esteem strategy is a continuation of what we do during sport but the difference is we have more of the emotions which contribute also to the additional abilities we are developing in this children."* Dancing is done with the close follow up of the educators which is very much loved by the children and is of very much important for the physical environmental adaptation of this children with Down syndrome.

- **Theme 2: On reinforcement**

On this point of the reinforcement, what we mean are praises, rewords and encouragement on the ways this can help bolster ASD children self-confidence and development of the social life of the child. In this process, most of the times, the autistic children do not communicate but rather can accomplish some common tasks and been praised to encourage them do more. The tasks may be social stories like drawings which will better help the child to recognition of the stories which is being transmitted by the educator. *"As to what concern reinforcement with these children, we use both positive and negative. Most autistic children with hyperactive, we use negative reinforcement to calm them down and help them follow up with lessons and as they active a certain task, we accompany them praises and rewords to encourage them feel free and do more. By so doing we also discover that they bit by bit gain confidence in themselves and even accomplish tasks only through observations"*. The orderly manner with which things are done in this center permit the learners to pick up fast as their parents are always call upon to help and accompany their kids with much patience and love.

Sensory breaks

- **On the Caregivers practice in encouraging down syndrome children reaction during sport activities**

It is important to recall that some of these Down syndrome children have psychomotor problems which really gives them some issues in adapting to the supposed environment. The children are organized sport activities which really increase their psychomotor skills. Sport

activities bring them to adapt to their environment both social and physical *" as the tutor in charge of sport activities in this center, I would let you know that sport is life and that is why it is organize every Friday with focus on the psychomotor development of the children. The Down syndrome as you can see we have some children here who cannot grab things firmly but we believe they have a problem with their muscles that is why during sports we try to really develop this aspect. Also, during this activity we try as much as to accompany it with some sounds which you will realize that they develop their communicative abilities of the subject".* Therefore during this sport activities the teachers accompany them with sounds (music) which really make the Down syndrome children to develop some communicative activities.

Theme 3: Social interaction

Caregivers practice with the reaction of the children during the playing in regards to their personal abilities

In the center there is always a time for them to play which makes them to know each other. During this playing moment, the children develop some habits which will really bring them to understand their peers and at the same time it permit them to know each other given that they are in the same playground which at the same time will foster some development in them of their on social interactions " *it is something normal and gives us the opportunity in the social interaction and integrating this children with autism because given that this children have special needs but they do observe other children in the play environment and consequently they develop the playing spirit also in them which does not bring them so much in a different view point as compared to the child who is considered to be normal".* The fact that these children have special needs, they are also considered to be in lacks so their play environment is adapted in such a way which will permit the children to learn how to know each other in the cause of their social interaction through playing with each other.

- **Caregivers ability in the development of the emotional skills**

Given the time these children have spent with the educators is enough for them to develop some emotional skills through the part that these children are really subjected to the habit of taking care of one another which in this process the children learn here to understand one another through the way they show their emotional skills. The children here are made to learn that taking care of each other is the best way of making their emotional skills to be revealed. "*We are a family that is why in this center we teach the children to be their own brother's keeper because it is very important for every child to know how to transmit his*

emotions towards his brother or sister before thinking of how to satisfy himself it. This is so because this is emotional transmission must pass through a person to another. that is why here you will see the children on the point of view of transferring emotions they do it by helping each other that is why you will see a down syndrome child even help another child when he is facing some difficulties" the children here are very much concerned when comes to transferring emotions through the development of their emotional skills.

- **Caregivers advocacy and awareness in the reaction of the children to role playing activities**

As concerning the role play which consist of the child trying to the part of the person. In this exercise which is mostly practiced in the center which the main reason is passing the societal messages which must also be made known to the children given that it is an educational setting. In this center you will see this exercise during their classes when the educator trying to transmit a message or an information the educator has to show it through the acting by the children which will make them to better understand lessons "the *children here are in special needs but they are also citizens of Cameroon given that they also have the right to know what is happening around them. You were here when we were doing some acting on the theme on Cholera with the message of trying to instigate in them the fact the something exist like cholera which is caused by poor sanitary conditions which will bring them to also learn also during this role play they learn how to know the sufferings of others and also to take the place of this persons. But I must say when we do this activity their communicational skills are developed by this means."* The role play here is a type of activity which puts the child in condition which makes the child to learn some certain environmental ills and so this is done in a type of repetitive way which makes the children to take the rhythm.

- **Caregivers practice in helping the child react to problem solving**

In the center the educators depend on the part of the children developing abilities of solving problems by themselves here the children. Children here are trained which goes with the other trainings the children have been receiving in the center this is so because given that the school which use the Motesoriane pedagogy which is an alternative pedagogy. The children are left to create knowledge on them and letter it is just checked and corrected by the teacher this is so because the pedagogy believes that children can be able to create knowledge by themselves. "*When you talk about decision making I see all what is done by our institute given that this school is under Montessori Cameroon. And so the pedagogy here is alternative which*

is the children are meant to create knowledge and so we come in the part of decision making it is linked to all what I am telling you now." With this we realize that in this center they do use a type of classical pedagogy because they believe on the autonomy of the children which will guide them towards making good decisions

CHAPTER 5: RESULT, DISCUSSION, SUGGESTION AND CONCLUSION

In the interpretation of the result the researcher makes the work comprehensive and to make sense out of the research work in this definition it is important to understand that in this chapter we shall be presenting the verification of our hypotheses which is discussed in our work. After doing this we are going to move to the interpretation of our result and there after we are going to give some suggestion which is going to make the research not to be locked but to affect the development of science. All these will be centered on the problem we have at hand.

5.1. Interpretation based on the observation of the Down syndrome's children and the interview on the Caregivers

In this research we used the of theme of " PECS " which we were to manipulate in order to observe a particular phenomenon which was to be used by us to bring our research to have certain degree of significance in the work of special education assistants. This particular phenomenon was to show how the use of the caregivers approach contribute to grow Down syndrome in child with Down syndrome. We discovered that the children's needs more of the stimulants which will permit them to adapt in the educational environment. The child in particular here with the help of the assistants educator, parents caregiver must have some connection to permit him to access adaptability and this is so because the theory of social motivation state that the child is born with an innate motivation in him but due to the stereotypes which are present in the child he is not able to adapt well in an environment which ask more from him, like neurotypical children.

5.2. Down syndrome

Down syndrome here is being considered as a situation when individuals have a sense of belonging to a group and the same time sometimes perceive themselves to be distingue and unique individuals (Webren S .Jansen and Al). In the literature we see inclusion which turns more to be the education for all which children with intellectual disability are also involved so. In the process of exploring this term which we had to bring them into strategies in order to check which of the strategies in our field of special education brings us to the adaptability of Down syndrome children. In the process of exploring we had some notions which were closely related to the adaptation of the children which brought us to the notions of visual aids, sensory breaks and social interaction.

5.3. Visual aids and Adaptability

In the cause of the visual aids the way activities are being scheduled will always depend of the disability of the child given that the child is an individual and have his specific needs. So, with all these with regards to the way they are organized for the children should always think of the level of the disability which the child is suffering from. The social motivation theory which state the inborn ability of this children as concerning motivation and in this motivation also draw us to the capacity to adapt but now given that . In this case given the stereotypes of the child in relation to the activities which hiders the Down syndrome child and the caregivers to build a bond whose objective is to guide the child to a better understanding of the situations. Therefore there's a type of bond which has to be created between the child and the caregiver that will act as being the objective which will lead to the self-confidence development of the children.

Moving through this concept we also realize that this concept, has some limitations in point where the caregiver has to know the child but has to be able to predict the wants of the child. In the child, the TOM is not developed as compared to the caregiver who has the ability to connect with the Down syndrome child and even know the wants of the child.

This is so because down syndrome children often display no interest about some social stimuli's so, this situation is a type of conditioning which must always be given to the child which they fail because during this work we realize that our case 1 which we realized he is always loved to be given some emotional lacks which is experienced by the child it's more advisable for caregivers to use this motivation as point of focus which will help to bring the child back to the educational environment. This so because when looking at the chart we realized that for all cases the bar which concerns their visual aids are down which is due to the lack of adaptation do not cross (7.5) which is half of the objective which is wanted from them as concerning Adaptability when using inclusion strategies.

5.4. Socio-economic

The result we got from socio-economic in regard to how it helps develop self-confidence in Down syndrome children is very pertinent. Reinforcement is not only positive but also negative. To begin with the positive side, it is important so that every kid has his or her own personality and to how they react. From the tender age some of these children were considered as normal like any others and this retard their self-esteem. After their diagnosis has been brought to the center, some changes were observed. Their reactions toward others changed, they start developing confidence in themselves that after been praised for the success accomplishment for

a task. The praises and rewords stimulate them to gain more confidence in themselves. Also, it is important to note that every child is supposed to have some breaks after doing some activities we realized that this children are very much pleased and really take into consideration the activity for this is a stimulant type of strategy which is used by the assistants educator and caregivers. Giving this type of activities of which must be given an accent given that children are much interested in it and so it is used as an object towards the child's Adaptability and confidence development.

During this activity the child will obviously bring out the motivation which he has in him considering that the child has an innate motivation which permit him to develop some educational adaptive behaviors given that the environment is a type of conditional one which is made for children with mental disability so, it is without escape that they adhere to the conditions. This is so because the down syndrome children who just need preferable stimuli's to bring out the motivation in them and as a result will make them to adapt more in the environment. Given that when the caregiver sets the child and in a more conditioning environment which will bring comfort, and the child liberates himself.

Given the result we collected the bar of the sensory breaks brings us to understand the fact that sensory breaks here permit the child to open himself of in other to bring this children to really understand in their own way what is done in inside school or a mainstream school. Given that in the chart for sensory breaks case 1 and case 2 are more in a more adaptable solution. So, given the fact that this down syndrome children, have problems which the TOM and also given the score of the children on sensory breaks this point must be used to really alert the children so this sensory breaks by caregivers are mostly used as a relaxation break of the children but on a more important and practical note it is to be used to bring up the children in their search for adaptation.

5.5. Social interaction measures implemented by caregivers in their management of the DS child

This is one of the main points when we talk of self-confidence development that we cannot do without talking about because there are some caregivers with down syndrome children who experience difficulties in the domain of their children social interaction, so it is important given this difficulties. So in the social interaction we still find out they have some interest in the activities which are under our clause of social interaction. As for the observation during the social interaction we realized that these children self-esteem has been built here very

highly as most times they do some activities which matches with what they like doing. And a child does things and accomplish tasks that one would think it was impossible for the child.

They also learn how to adapt to some social realities and so through activities like role playing, development of emotional skills and playing activities gave us more opportunity to discover their favorites.

- **Role playing amongst the DS child and others encourage by caregivers**

This consisted of the child taking the part of another person in the exercise which was made through acting and we realized that the children had most of the highest scores which will make the child to understand the other person and also make the child to develop some adaptive behaviors with his peers this is seen in case one and the second case as they developed more on the point of the social adaptation and because their imitation of this activities to Foster their social interaction was well received by them any time the educator had to do a role exchange activity.

5.6. On the social motivation

In the case 1 was such in a position where he had to be pushed by some emotional stimuli before he did the task we gave to him in this process. That is during activities he always wanted to be touched and also cajoled before he had to do what was require of him by the caregiver . In this we understood that it is important to leave the children to show their motivational desires which from there now we understand what is to be done by the caregivers.

During this activity the subject really took them serious, this so because when the child has understood, he leaves his motivational desires to adapt and gain self confidence in what he is asked to do. From this we felt that even our presence put the child in a situation where he could better work or do what is required for him even when there is no action, because the schedule in the activities makes it in such a way that the child is being repeated one and the same activity for him to take an adaptive behavior towards that same activity.

On the part of the social motivation we realized that during activities which were taking place, when it is taken in a playful way it stimulated the children to develop more compared to just giving them an activity to do without really concentrating on the stimulation part of the work. In this process we discovered the child really needs some stimulant which can be social to bring out their adaptive capacities and to develop their self-confidence.

Generally on the point of using the social motivation which helped us to know the way to handle our subjects we realized in the start that they were in a state which the time of learning and a transition between the programs but with the strategic intervention the subjects were able adapt to the situation and boost their self-esteem which makes the subjects to be aware of the activities and their impacts.

5.7. The development of self-determination

From the research we conducted on the field we realized from the beginning that these down syndrome children to developed self-determination through this activities which were meant as an object of the self-confidence to the children. We realize in our research that on the part of visuals aids which have to do with the activity organization of the center, the children did not develop much adaptive behaviors during this activity. This was so because we discovered the activities that are conducted here mostly did not give the children some interest that is why most of them during the learning session which is part of their activity schedule did not make them to show any sign of interest and even the one of self-determination.

5.8. The development of self-assessment

On this part caregivers played their role, the children did not really concentrate in as much as the work done on them is on the part of self-assessment. Decision making which we got from our result we realized that the children are emotionally covered by the caregivers and educators to take decisions which is equal as being self-determined. Therefore, looking at the result we realize they had a low mark on this part because all the three subjects scored mostly a fair mark which was the lowest on our observation scale. However, their self-confidence is not affected.

5.9. Development of Self-support

On the part of self-support, the children sometimes cannot control their anti-social behaviors due to their stereotypes behaviors which they have and so this makes them in some cases not to control their stereotypes behaviors in some activities but we came to understand that with help of the caregivers, during activities which had to do with playing the children were very much relaxed and also developed signs of self-control which at that point eliminate their anti-social behaviors in the educational environment. On the observation scale, we can see that on the part of sensory breaks the children are much more relaxed and they do not really have much worries on this part.

5.10. Discussion of result

The general objective here is to shows that the PECS approach for mentally disabled persons use by the caregivers contribute to the development of self-confidence in children with Down syndrome. We have the principal hypothesis as: PECS approach contribute to the development of self-confidence in children with Down syndrome. So inspiring ourselves from other works that have been done by other authors who conducted works on self-confidence development in Down syndrome children, it is important to note that, a child who is adapted on the educational environment easily gain confidence on him or herself. We can therefore say the following:

- organize programs in the child's mind (because when this strategies are well organized by the caregivers to the children it makes the Down syndrome children have a type of organized mind)
- The full esteem of self (develops competence, global esteem of self and knowledge of capacities)
- The external perception of wellbeing (quality of life and social perception)

  In this three points which are being presented for mentally disabled.

5.11. The suggestions

In this part we are going to talk on some setbacks and limitations of the PECS approach with regards to self-confidence development in Down syndrome children. All these with the objective of changing the conditions which are given to the children in the school setting. It is a way of really bringing this strategies to the inclusion and specialized school which has to make them to insist more on the psycho-educative which was made by special educators for caregivers to enhance during management process in children with Down syndrome. Our research is supposed to bring and give more light to the public authorities and the authorities in charge.

- **To the public educator's in charge of special education and education in Cameroon**

We are suggesting to the public authorities from the ministry of basic education to create some programs which are responsible of making the curriculum of special education schools to concentrate on the children's interest and caregivers too. This is because the children being very different from the others and concentrate more on the programs which will put the children on play environments depending on the level of their disability also need educated and well trained

caregivers to guide and manage them . This is so because the children here are very interested in playful activities.

So the suggestion is a close collaboration between the special educators and the ministry of basic education to build a better programs which are closely related and know the children better than the ministry who draw the program of learning. So the Ministry has to do an evaluation of the yearly performance of the children and caregivers, this will help in the evaluation of the teaching techniques which are given to the children. The teaching programs should be made with an originality to the mentally disabled children and caregivers which is using their teaching techniques so as to help them to adapt to the educational environment and not using a typed of mixed techniques.

- **To the UNICEF and to the NGO**

We call on the NGO's and the UNICEF in the use of inclusion which are original to the mentally disabled persons.

We ask the NGO's to better use the special educators which are better placed in making techniques depending on the level of disability on the children and make use of caregivers too. This is so because when normal teaching techniques are used, it is easier for caregivers to implement them during management of the child, for they have no effects but when adapted techniques are used on them, they are effective and the stimulation that is needed by the children in order to better be motivated.

- **To the school administration**

The school administration have to be aware of the needs and also know how to use the techniques which are used by the educators and caregivers knowing that they are very much included in the process of education, but they still sometimes use the normal teaching techniques forgetting that these children have specific needs and do not see or even interpret things the way neurotypical children do. So, all these reasons have to be centered on the interest of these children as a focus of making them to adapt better to the educational strategies by caregivers and educators.

CONCLUSION

From our above analysis, it is important to note that Down syndrome children are not like others and therefore this make it a call for special attention in their lives by trained and better experienced educators and caregivers too. The question of self-confidence development with the use of the PECS approach is very necessary pertinent in Down syndrome kids because they are call to live in a society where many activities are carried out. Throughout this research therefore, we discovered that each Down syndrome child has his or her level of disability and has to be handle with care. In order to solve therefore a particular problem in the life of this children, one is advice to be patient also show a lot of interest in the life of these children. And so, we can say that the correct use and implementation of the PECS approach in the management of these children by caregivers helps to increase and develop self confidence in children living with Down syndrome. Picture Exchange Communication System (PECS) has shown promise in promoting self-confidence and communication skills in children with Down syndrome. Research suggests that using PECS can help children with Down syndrome to communicate their needs, make choices, and interact with others, leading to increased self-confidence and independence. However, it is important to consider individual differences and the need for a comprehensive approach that includes various interventions and supports from caregivers tailored to the specific needs of each child. It is important to note that (PECS) can significantly contribute to the development of self-confidence in children with DS. PECS provides a structured and visual method for communication, which can help children with DS to express themselves and interact with others more effectively. This improved communication can lead to increased self-confidence as children are better able to understand and navigate their environment. Additionally, the use of PECS can also help children with Down syndrome to develop their social skills, further contributing to their overall confidence and well-being also reducing economic and social burden on caregivers and community at large. In all, the research suggests that incorporating PECS into interventions for children with Down syndrome by caregivers in their practice, management and rehabilitation of these children would create a positive impact on their self-confidence development. There by resulting to evidence base practice, prevention of opportunistic disorders leading to health promotion.

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Mental Retardation is a State of developmental deficit, beginning in childhood that results in significant limitation of intellect or recognition and poor adaptation to the demands of everyday Life (World Health Organization, 2011)

(Makimoto 2011) added that the serious mental retardation in childhood, as on intelligence quotient below 50 with deficits in adaptive behaviour.

(Abdel Matek, 2005) in a Similar mental retardation was 3.9% among an Egyptian population.

Acheampong (2013) noted, that in Ghana, most caregivers are not well informed about the risks factors and prevention of intellectual childhood disabilities or illness.

Children with multiple disabilities were considered as bringing bad luck and representing a threat to the family community (Ezembe, 2009).

Shock that will become remain difficult to overcome (Marion et al, 2010)

Some children have special needs and others do not, and determine the parental care and treatment services in the developmental stages of live (Pravin dranadan and Raju 2007).

The intellectual functioning of persons with IDD is below average and the intelligence quotient (IQ) 2) is 7s 70 or less (Sarason, 2005)

The origin of the disability is before one reaches the age of 18 years (huckatsson, 2002)

That not-withstanding, the attitudes held of the by parents are Important Component handicapping environment (Nevid, Rathus, 2000).

So, the way parents react to a child with Special needs partly depends on how they perceive it and the practical implications the disability or illness has on them (Chaturvedi, 1984).

Also, Kagan (1980) defined attitude as an organized and enduring set of beliefs and feelings which predisposes one to behave in a certain way.

The attitude of people towards these individuals are often accompanied by negative feelings of hostility, hostility, shame (Rangaswamy, 1989)

As well as feelings of helplessness, inadequacy, anger, and shock white have some other disbelief, depression, and self-blame (Chandramukhi, 2012).

The health of the parents determines the family wellbeing; but "guilt, ambivalence, disappointment, frustration, anger, shame and sorrow" after exhibited by parents (schild, 1971)

Annually, an estimated 7.9 million Children born with a severe birth defect due to genetic or partially generic origin. (Christianson et al, 2006).

The most Common Severe aneuploidy Condition at the time o of birth i's Syndrome (DS) (Arbuzova is Down Irbuzova et al, 2004),

Which was first described by the British physician Dr. John Langdon H. Down in 1866 (Mercer et al, 2004).

The onset of DS usually occurs during prenatal Development (Bierssen, 2012), with approximately one case in 1,000 births (Grimm et al, 2021)

DS is generally diagnosed per prenatally or ate the time of birth by means of Cell-free prenatal screening of with parallel DNA Cell-free DNA or genetic Karyotype testing (Grieco et al, 2015; Bull 2020)

DS patients have an increased susceptibility to develop infections, autoimmune disorders, and hematologic and oncologic abnormalities (Lat et al, 2015; Versteyen and Kusters 2020

Intellectual Developmental Disorder (IDD) is a disorder with onset during the developmental Period that includes both intellectual and adaptive functioning deficits in conceptual, social and practical domains (American Psychiatric Association, 2013).

But in India, Disability tragedy" with is seen in terms of in terms of “better dead disabled” approach and the disabled people are an isolated Lot who are Shunned from entertainment and from enjoying a healthy life (Girimaji and Srinath, 2010).

In India for instance, prevalence of ID varied from 1/1000 to 32/1000 (Thengal, 2013)

Mental handicap is defined as a degree of arrested intellectual development that disqualifies a child from ordinary education or an adult from employment (Batshaw an haw 1997).

The issue of parents fostering their children's early development through education has obviously been seen as of central importance (Henby Hornby 1995).

APPENDICES

General presentation of results

Artistic skills	Fair3	Poor2	Good4	Excellent6
Their reactions to songs and music	✓			
How they react towards drawing and painting activities		✓		
How the children relate to sport activities				

Presentation in regards to each case

Case 1

Reinforcement	Fair3	Poor2	Good4	Excellent6
Their reactions after accomplishing a certain task and been praised	✓			
The impact of encouragement and its contribution to the educational growth of the child			✓	
Children's reactions after accomplishing a certain task and been reworded		✓		

Social interaction	Fair3	Poor 2	Good 4	Excellent6
Child's reaction to role play				✓
Evaluate the child's development emotional skills	✓			
The children's reaction when faced with problem solving				

Case 2

Artistic skills	Fair2	Poor3	Good4	Excellent6
Their reactions to songs and music	✓			
How they react towards drawing and painting activities			✓	
How the children relate to sport activities			✓	

Reinforcement	Fair2	Poor3	Good4	Excellent6
Their reactions after accomplishing a certain task and been praised		✓		
The impact of encouragement and its contribution to the educational growth of the child			✓	
Children's reactions after accomplishing a certain task and been reworded			✓	

Social interaction	Fair3	Poor 2	Good 4	Excellent6
Child's reaction to role play				✓
Evaluate the child's development emotional skills		✓		
The children's reaction when faced with problem solving	✓			

Case 3

Artistic skills	Fair3	Poor2	Good4	Excellent6
Their reactions to songs and music				✓
How they react towards drawing and painting activities			✓	
How the children relate to sport activities			✓	

Reinforcement	Fair3	Poor2	Good4	Excellent6
Their reactions after accomplishing a certain task and been praised		✓		
The impact of encouragement and its contribution to the educational growth of the child			✓	
Children's reactions after accomplishing a certain task and been reworded				✓

Social interaction	Fair3	Poor 2	Good 4	Excellent6
Child's reaction to role play	✓			
Evaluate the child's development emotional skills				✓
The children's reaction when faced with problem solving			✓	

INTERVIEW GUIDE

Dear Sir/Madam, we are conducting a study as a part of our university research on; "knowledge, practice of caregivers in the management and rehabilitation on mental retarded children with Down syndrome". We will kindly ask you to answer this interview guide in all sincerity and we assure you of the confidentiality of the information we will obtain from you, according to the code of the profession in educational psychologist.

1. **Socio-demographic information of the participant**

- Date and place of interview ……
- Time and start ……..
- Age of respondent ……
- Educational level …….
- Profession ……

During this interview I would like to discuss with you certain events related to the way Down syndrome is being handled by you. So, I will be as fast as possible, go through a set of themes that I will propose to you. But in the meantime, tell me a little about the children and their Down syndrome problems.

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2. **Theme 0: Brief History of the participant**

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I would now like us to discuss the following themes that I will propose to you.

Theme 1: Artistic kills

Sub-theme1: How do you make their activity schedule?

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Sub-theme 2: How do you handle issues with decision making when it comes to artistic activities?

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Sub-theme 3: How do the children respond to symbol exchange?

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Sub-Theme 4: How do the children react to social activities?

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Theme 2: Positive and negative reinforcement

Sub-theme 1: what do you observe on the child during certain reinforcement activities?

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Sub-theme 2: Does encouragement really contribute to the self-confidence growth of the child?

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Sub-theme 3: How do you use rewards as a way of improving or boosting their level of self-confidence in the children?

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Theme 3: social interaction

Sub-theme 1: How does the child react to role play?

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Sub-theme 2: How do the children develop emotional skills?

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Sub-theme 3: what is the children reaction when faced with problem solving?

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