NUTRITIONAL AND HEALTH ISSSUES OF DIFFERENTLY CHALLENGED CHILDREN IN THE SELECTED HOMES OF COIMBATORE

By

A.AARTHI PRIYANGA

(11PD01)

A THESIS SUBMITTED TO

AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN, COIMBATORE - 641043

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR

THE

MASTER'S DEGREE IN

FOOD SERVICE MANAGEMENT

AND DIETETICS

MAY, 2013

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Certified as bonafide research work

Anuby Jagannathan 10.05.2013

Signature of the
Head of the Department

Vanaja Ramadas 10.05.2013

Signature of the Supervisor

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INTRODUCTION

NUTRITIONAL STATUS AND HEALTH ISSUES OF DIFFERENTILY CHALLENGED CHILDREN IN THE SELECTED HOMES AT COIMBATORE

In 2011 the world's population of children 0-14 years old was 241 million stronger than it was in 1980. On the surface of things this has to be a good sign for the toys and games industry. The child population grew by one percent per year between 1980 and 1990 and 0.6 percent per year between 1990 and 2000

Globally, the birth rate was 19.5 percent per 1,000 people in 2011 compared to 21.8 in 2000, while the fertility rate (the average number of children per woman) was 3.0 percent in 2011 compared to 3.4 in 2000

As of 2011, 0-14 year old made up around 26 percent of the total global population compared to 35 percent in 1980

At a global level the 0-14 year old population continues to increase such that there will be 52 million more children around by 2020

India has the World's largest child population at 400 million. Indian Census 2011reveals that child (0-6 years) population in India has decreased whereas overall population has increased to17.64 percent. The population below 15 years age currently 35 percent is projected to decline to 28 percent by 2016.

Children are the ones who are very vital for deciding how the world is going to be after some years. It is imperative that there is a need for reformation in the life of a child then there can be change, at least a slightest change, in the world to come. Today's parents face a world of challenges with everything from keeping themselves healthy and happy in providing their

children a safe environment that fosters the physical, emotional and social growth of their children in today's society.

As the parent of a child who suffers from complications associated with a disability, there may be a reduced quality of life of their child without proper medical attention.

Disability is an umbrella term, covering impairment, limitations and participation restrictions. Impairment is a problem in body function or structure. An activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is between features of a person's body and features of society in which he or she lives.

An individual may also qualify as disabled if he/she has had impairments in the past (or) is seen as disabled based on a personal (or) group physical, sensory and cognitive (or) developmental disabilities. Mental disorders and various types of chronic disease may also qualify as disabilities.

In India 1.67 percent of the 0-19 population has a disability in which 35.3 percent of children are living with disabilities. Only one percent of children with disabilities have access to school and one third of most disabilities are preventable. Under nutrition is a severe problem with children who suffer from cerebral palsy. In India 80 percent of children with disabilities will not survive past age forty.

The hallmark feature of Autism spectrum disorder is impaired social interaction. As early as infancy, a baby with ASD may be unresponsive to people. A child with ASD may appear to be normal and then withdraw and become indifferent to social engagement.

Children with an ASD may fail to respond to their names and often avoid eye contact with other people. They have difficulty interpreting what others are thinking or feeling because they cannot understand social cues, such as tone of voice or facial expressions, and do not watch other people's faces for clues about appropriate behaviour and lack empathy.

Many children with an ASD engage in repetitive movements such as rocking and twirling, or in self-abusive behaviour such as biting or head-banging. They also tend to start speaking later than other children and may refer to themselves by name instead of "I" or "me." Children with an ASD do not know how to play interactively with other children. Some speak in a sing-song voice about a narrow range of favorite topics, with little regard for the interests of the person to whom they are speaking.

Children with characteristics of an ASD may have co-occurring conditions, including Fragile X syndrome which causes mental retardation, tuberous sclerosis, epileptic seizures, Tourette syndrome, learning disabilities, and attention deficit disorder. About 20 to 30 percent of children with an ASD develop epilepsy by the time they reach adulthood.

Many of the causes of disability are preventable by providing expecting mother with better prenatal and postnatal care as well as proper nutrition to infants and mothers. The main causes of disability in children are communicable disease, infection in early childhood, nutritional deficiencies, insufficient (or) inaccessible health care services, inadequate sanitation, and inter-family marriages.

Scientists are not certain about what causes ASD, but it is likely that both genetics and environment play a role. Researchers have identified a number of genes associated with the disorder. Studies of people with ASD have found irregularities in several regions of the brain. Other studies suggest that people with ASD have abnormal levels of serotonin or other

neurotransmitters in the brain. These abnormalities suggest that ASD could result from the disruption of normal brain development early in fetal development caused by defects in genes that control brain growth and that regulate how brain cells communicate with each other, possibly due to the influence of environmental factors on gene function. While these findings are intriguing, they are preliminary and require further study. The theory that parental practices are responsible for ASD has long been disproving. (http://www.nimh.nih.gov/health /topics/autism-spectrum-disorders-pervasive-developmental- disorders/nih-initiatives/nih-autism-coordinating-committee.shtml)

Twin and family studies strongly suggest that some people have a genetic predisposition to autism. Identical twin studies show that if one twin is affected, there is up to a 90 percent chance the other twin will be affected. There are a number of studies in progress to determine the specific genetic factors associated with the development of ASD. In families with one child with ASD, the risk of having a second child with the disorder is approximately 5 percent, or one in 20. This is greater than the risk for the general population. Researchers are looking for clues about which genes contribute to this increased susceptibility. In some cases, parents and other relatives of a child with ASD show mild impairments in social and communicative skills or engage in repetitive behaviors. Evidence also suggests that some emotional disorders, such as bipolar disorder, occur more frequently than average in the families of people with ASD (Smith-Roley and Spitzer, 2001)

For many children, symptoms improve with treatment and with age. Children whose language skills regress early in life—before the age of 3—appear to have a higher than normal risk of developing epilepsy or seizure-like brain activity. During adolescence, some children with an ASD may become depressed or experience behavioural problems, and their treatment may need some modification as they transition to adulthood. People with an ASD usually

continue to need services and supports as they get older, but many are able to work successfully and live independently or within a supportive environment.

The Ridicule is a series problem that all physically and mentally disabled children face is mockery and derision by others .The adolescent and teenage years can be a difficult time for anyone, but disabled children often face a higher degree of teasing and taunting due to their mental and physical differences.

Another difficulty they face is increased isolation. Children with these problems can be ignored by their peers and adult figures. As the severity of the disabilities increases, the child may become increasingly isolated. Extreme disabilities may cause a child to confine to their home or an institution.

Abuse and neglect is another problem to them, children with certain disabilities are unable to stand up for themselves or may be unaware that they are being abused .According to the abuse victim hotline people with developmental disabilities are 4 to 10 times more likely to be victims of crime than other people, sadly the vast majority of abuse toward those with disabilities is perpetrated by family members ,peers with disabilities or professional care givers.

They do face several feeding and gastro issues. A child with special needs may have Dysphasia swallowing disorders and is a symptom found in a number of neurological disorders. Difficulties can range from a total inability to swallow to coughing or chocking.

Food may get “stuck” in the throat or they may droid because they cannot swallow their saliva. Some children dislike certain flavour, texture or temperature of food .They may avoid putting any objects in their mouth or bite things anything constantly. They may gag, overstuff and choke or may avoid certain food textures especially mixed textures.

The centre for special education provides school service to children with cerebral palsy, mental retardation, hearing impairment and autism. The curricula provided for the students take into account their specific strengths and needs. Individualized educational programme [IEPS] are developed and personalized for each student. Physiotherapy, speech therapy, sensory integration therapy and functional therapy are an integral part of the educational programme and are provided in the school. All students from the departments of expand Master of social work and child development from home science college provide counseling and guidelines to students and their families whenever required. Teachers are also well trained counselors who are always ready to counsel anyone who requires.

Objectives:

- Identify the different health problems of the specially challenged children
- Asses the nutritional status.
- Find out the dietary practices and their feeding problems
- Counsel the parents of disabled children and
- Impart the nutritional education to the parents of the disabled children.

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II. REVIEW OF LITERATURE

The literature pertaining to the present study entitled "Nutritional status and health issues of differently challenged children in the selected home at Coimbatore" is reviewed under the following headings

A. Prevalence and Contributing Factors For The Incidence Of Disabled Children

B. Feeding Habits And Problems

C. Motor Sensory Difficulties And Behavioural Problems

D. Guiding Principles To Their Parents And

E. Measures To Improve The Mental Stability Of Disabled Children

A. PREVALENCE AND CONTRIBUTING FACTORS FOR THE INCIDENCE OF DISABLED CHILDREN

For decades since first described by Leo Kenner in 1943, autism was believed to occur at a rate of 4-5 per 10,000 children (Kenner 1983)

The center for disease control and prevention states that the prevalence of autism is increasing at epidemic rates (Rice, 2009)

In a parent survey conducted in 2007 by U.S National Survey of Children's Health, the prevalence was 1/91 (Kogan et al, 2009). The most recent official prevalence for the United States is an average of 1/110 (Center for Disease Control and Prevention, 2010)

It is difficult to compare the figures concerning incidence and prevalence because autism is defined by subjective measures (Ecker et al., 2010)

In general, the autism increase is not considered a result of reclassification (Sullivan 2005)

The human DNA from the vaccine can be randomly inserted into the recipient's genes by homologous recombination, a process that occur

spontaneously only within a species. Hot spots of DNA insertion are found on the X chromosome in eight autism associated genes involved in nerve cell synapse formation, central nervous system development and mitochondrial function. The data support the hypothesis that residual human DNA in some vaccines might cause autism (Deisher, 2010)

According to Joav Merrick 2003, the prevalence of children and adolescents with a disability in recent studies from Scandinavia, Israel and United states demonstrated the lowest rates in the United States (5.8%) and the highest in Finland (9.8%)

As is true of most disabilities, the specific causes of emotional or behavioural disorders remain elusive; however, relationships between some causal factors and this disability are becoming clearer. For example, children who experience physical abuse have a higher probability of being identified with emotional or behavioural disorders (Cause et al., 2000).

A link between the factors of poverty and this disability is apparent as well and it is likely that for some children, a biological explanation will emerge (Forness & Kavale, 2001).(Hope &Reschly, 2002). Children's Defense Fund [CDF], 2004;

Disability is a dynamic concept that varies in each individual depending on the context and the resources available. The World Health Organization (2000)has tried to classify the consequences of illness at three levels -International Classification of Impairments, Disabilities and Handicaps or CIDH: impairment - defined as any loss or abnormality of psychological, physiological or anatomical structure or function; disability -defined as any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being and handicap, a disadvantage for a given individual resulting from an

impairment or a disability, that limits or prevents the fulfillment of a role that is normal (depending on age, sex, social and cultural factors) for that individual.

. A uniform definition or classification has yet to be used by service providers (medical, educational, social welfare or rehabilitation services), researchers or policymakers. This creates difficulties in studying the scope of disability in childhood (Kohler and Jakobsson (1999)

Cohort study showed disability rate of 5.15 per cent at age 7 years (739/14,627), 9.6 percent at age 16 years (1,249/13,041) and the prevalence of longstanding limiting illness at age 23 years was 5.1 percent for men and 4.1percent for women, which increased to 6 percent at age 23 years for both sexes (Power et al ,2000).

There is unanimous agreement among educationist today, that the quality of primary education in almost all parts of our country is poor. Even though children progress in primary grades due to the non-detention policy, in practice, little learning is taking place. Children are pushed from one grade to the next, irrespective of how much they are learning. Findings from a number of studies reveal that class III to IV children are not able to read and write even simple sentences. Thus something is surely wrong with the learning outcomes of children (Batra, 2002; Dewan, 2002 and Ramachandran, 2003

According to the NSSO 58th round survey in 2002 there are 18.49 million people in India who are disabled. This number has increased from 13.67 million in 1981 to 16.36 million in 1991. Out of the 18.49 million disabled people, 10.89 million males and 7.56 million are females, which constitutes of around 59 per cent males and 49 per cent males and females respectively. These are the people who are suffering from some form of disability. The World Health Organization defines disability as any restriction or lack (resulting from an impairment) of ability to Perform in a manner or within the range considered normal for a human being Disabled children

represent approximately three percent of the total children's population (Department of Health, 2000).

B. FEEDIND HABITS AND PROBLEMS

The incidences of feeding disorders in typically developing children has been reported as 6-40 percent while the incidence of feeding disorders in children with disabilities has been reported to be much higher at 18-80 percent(Chung and Khang,2006)

Prolonged, untreated feeding disorders can also result in the disruption of positive mealtime routines, which can lead to a disruption in parent- child interaction where less cuddling and positive interactions occur (Budd,et al 1992)

According to Kodak and Pizza (2008), feeding problems occur in approximately 25 percent to 35percent of neurotypically developing children.

Burns and Thompson(2011) found that feeding problems occur in 60percent to 90 percent of young children with autism .Feeding disorders include accepting only very specific foods exhibiting aversions to certain textures, and using the same set of mealtime utensils at every meal.

Pizza et.al (2003) defined as feeding disorders as a condition in which a child is incapable or refuses to consume adequate quantities of food or drink to maintain nutritional status regardless of the causes of the disorders. Through behavioural interventions, children are taught not only to accept and eat certain foods, but also sometimes to feed themselves granting an important piece of independence Keen (2008) drew a connection between feeding difficulties in children with autism early onset failure- to- thrive. Though feeding problems are relatively common in childhood across both normally developing children and those with some sorts of developmental delay failure to thrive (FIT) occurs in only about 3 percent of infants.

Benefits associated with gastrostomy or jejunostomy feeding is difficult to assess from the available evidence. Risks of gastrostomy, particularly in relation to surgical complications, have been described but the size of the risk could not be quantified. The finding of a higher death rate for children fed by gastrostomy may merely reflect the greater disability of these compared with orally fed children. Lack of available evidence and the substantial risk of bias in observational studies suggest that a well conducted randomized controlled trial of sufficient size will be needed to answer these problems (Gupta, et al., 2004)

In children with developmental disabilities, diagnosis-specific treatment of feeding disorders results in significantly improved energy consumption and nutritional status. These data also indicate that decreased morbidity (reflected by a lower acute care hospitalization rate) may be related, at least in part, to successful management of feeding problems. The results emphasize the importance of a structured approach to these problems, and proposed a diagnostic and treatment algorithm for children with developmental disabilities and suspected feeding disorders.

Among children with disabilities, feeding difficulties were identified as a risk factor for vulnerability to inadequate nutritional status in six of the eight measured areas. Parental responses about feeding difficulties were useful in identifying feeding problems. From a programme perspective, community health workers in poorly resourced communities could be trained in using a simple screen to identify children who need additional support in developing feeding skills, therefore contributing to reducing further disabling consequences. (Helander, 1998),

C.MOTOR SENSORY DIFFICULTIES AND BEHAVIOURAL PROBLEMS

Although new findings and knowledge demonstrate that the nervous system is even more complex and integrated than Ayres and others believed at the time, many of the principles that Ayres built the theory of sensory integration upon are still held in high regard. This knowledge has been strengthened by research demonstrating that structural, molecular, and cellular changes in neural functions are possible and that meaningful sensory motor activities can be mediators of plasticity [Merzenich et al., 1984; Greenoughet al., 1987; Kandel and Jessell, 1995; Kempermann and Gage, 1999; McKenzie, etal., 2003]

The therapeutic environment is designed to tap into the child's inner drive to play. The therapist uses keen observation skills to observe and interpret the child's behaviors and interests and then creates a playful environment in which the child actively pursues achievable challenges [Smith-Roley and Spitzer, 2001; Bundy et al., 2002; Schaaf and Smith-Roley, in press].

Although the original theory was developed for children with learning disabilities, Ayres recognized the utility of the theory for other clinical populations. For example, Ayres and Tickle [1980] applied the theory to children with autism and noted that it helped decrease tactile and other sensitivities to stimuli that interfere with their ability to play, learn, and interact. Since that time, sensory integrative principles have also been applied to various populations, including Infants born at risk and/or with regulatory disorders, children with autistic Spectrum disorders, fragile X syndrome, attention deficit disorder (ADHD), and children from environmentally deprived situations [Cermack, 2001 and Ognibene, 2002]

A high frequency (80 –90 percent) of sensory processing problems are reported In children with autism spectrum disorders [Ornitz; 1974; O'Neill and Jones, 1997; Kientz and Dunn, 1997; Huebner, 2001].

Poor sensory processing may contribute to the maladaptive behavioral profile of these children and impact on their ability to participate in social, school, and home activities [Anzalone and Williamson, 2000; DeGangi, 2000; Schaaf et al., 2002

Children with autism often demonstrate extreme aversion to or excessive seeking of sensory stimuli, avoidance of noisy situations, unusual preoccupation with smells or visual stimuli, or fearfulness of typical activities that involve touch, sounds, and movement [Kientz and Dunn, 1997; Huebner, 2001; Mailloux, 2001; Mailloux and Smith Roley, 2001].

Studies by Miller, et al,(1999,2005) revealed that children with severe hyperresponsivity and Fragile X syndrome have markers of sympathetic dysfunction evidenced by electro dermal activity with significantly increased amplitudes, more frequent responses, and less habituation than matched controls

Schaaf et al,(2003) suggesting that the functioning of the sympathetic and parasympathetic systems should be considered together when trying to understand the contribution of the autonomic nervous system to poor sensory modulation.

The most recent contribution to practice and to advance research is the efforts of the Sensory Processing Disorders Scientific Workgroup [SPD, 2004], a multidisciplinary group of established leaders in developmental psychobiology research.

Approximately 40per cent of the sample of children with poor sensory modulation also had symptoms of attentional deficits. This population had different sympathetic markers of sensory reactivity and decreased response inhibition in the presence of normal sensory habituation [Ognibene, 2002]. [Ahn et al., 2004]. [Roley, et al., 2005]

Disabled children, and particularly those with learning disabilities and/or autistic spectrum conditions (ASC), are much more likely to have problems with their sleep or behaviour than nondisabled children. Previous research reports prevalence rates of sleep problems ranging from 34 percent-80percent (Bartlett et al., 1985; Richdale and Prior, 1995; Quine, 2001), whilst the rates of behaviour problems are estimated to be three to four times higher in disabled children compared to their non-disabled peers (Baker et al., 2002; Volmar and Dykens, 2002; Baker et al., 2003; Emerson, 2003).

These problems are typically persistent and do not resolve themselves without intervention (Wiggs and Stores, 1996 and Lancioni et al., 1999). Indeed, they can become more severe, or difficult to manage, with increasing age. Daytime behaviour problems can threaten children's safety and can interfere with, participation in school, community and social activities and/or accessing other support services (Abbott et al., 2000; Kahng and DeLeon, 2008).

Behaviour problems are associated with increased levels of stress among mothers and parental mental health difficulties (Frombonne et al, 2001; Hastings, 2002; Emerson, 2003b; Glidden and Schoolcraft, 2003; Hastings, 2003; Bitsika and Sharpley, 2004; Herrings et al., 2006; Whitaker and Read, 2006).

Child sleep problems are associated with high levels of parental stress and irritability (Quine, 1991) and, importantly, increase the risk for, and the severity of, daytime behaviour problems (Wiggs and Stores, 1996a). Over the years a number of studies found parents reporting high levels of unmet need for skills to manage their child's sleep or day-time behaviour (Quine and Pahl, 1989; Beresford, 1995; Wiggs and Stores, 1996b; Chamba et al., 1999; Baker et al., 2003; Bromley et al., 2004).

Until the 1960s, the management of problem behaviours in children was seen as the preserve of professionals and there was no or very little parental

involvement in the delivery of an intervention. Two significant changes in thinking occurred in the late 1960s and early 1970s and resulted in a different approach being adopted (Wyatt Kaminski et al., 2008).

First, Bandura's work (for example, Bandura, 1969) revealed the significant role parents' play in shaping their child's behaviours. Second, clinicians realised that parents could be trained to deliver behavioural interventions. "Parent-training interventions", which seek to change, or introduce new, parental behaviours and responses, have been shown to be highly effective among non-disabled children (Campbell, 1995; Taylor, 1998; Barlow, 2000; Lindsay et al., 2011).

Parent-training programmes (for example, Triple P, Incredible Years) are a key plank of parenting support policies in many developed countries including England (Lindsay et al., 2008). All these programmes have been developed for typically developing children and practitioners report finding the need to modify and adapt their content to respond to the particular needs of parents of disabled children (McIntyre et al., 2008 and Lindsay et al, 2011). In response to this the authors of some of these generic interventions have developed disability-specific modifications to their programmes (Sanders, 2004)).

D.GUIDING PRINCIPLES TO THEIR PARENTS:

With the move in recent years from a medical model to a social model of disability (World Health Organization, 2001), there has been a growing recognition of the need for families who have a child with a disability or developmental delay to be considered as families first, and for services to reflect the strengths, needs and desires of the whole family. The role of families in determining the shape and extent of the services, support and resources they receive is now seen as an essential element of service planning and provision in early childhood intervention.

Family-centered service is made up of a set of values, attitudes, and approaches to services for children with special needs and their families. Family-centered service recognizes that each family is unique: that the family is the constant in the child's life; and that they are the experts on the child's abilities and needs. The family works with service providers to make informed decisions about the services and supports the child and family receives. In family-centered service, the strengths and needs of all family members are considered (Beckman, Robinson, Rosenberg & Filer, 1994; Powell, 1996; Baird & Peterson, 1997; McBride, 1999; Epps & Jackson, 2000; Beckman, 2002; Viscardis, and Teplicky 2003)

Peterander (2000) noted that the process of early intervention, both for children with delayed development and for those with disabilities, depends to a great extent on 'parent-expert' cooperation. He identified the following aims and tasks of cooperative partnerships between parents and practitioners: family-centered practice is not defined by a particular set of forms and procedures. Instead, it requires a willingness to embrace values that are respectful of, and collaborative with, families (McBride, 1999)

The Turn bulls, as parents of a (now) young man with disabilities, have been much more interested in the nature of the relationship between parents and practitioners. They suggested that this relationship is continuing to evolve, and that this process can be described as an evolution along a power continuum from 'power-over' relationships to 'power-through' relationships (Turnbull et al., 2000).

Hendricks and Wellington, (2012) studied the issues regarding parents who lose custody of children through a care and protection intervention who then have additional children who may be at risk. The review focuses on how to assist families overcome their complex issues so that subsequent children are not at risk, and what can be done to prevent subsequent children coming into families. It shows the characteristics of families where subsequent children

may be at risk, referral pathways and assessment, family-focused interventions, family planning education and coerced contraception, and legislation and policy.

The findings from a research study of 20 families from around Canterbury in New Zealand, based on interviews by Raffensperger et al (2012) revealed that disabilities among the parents include mental disorders, chronic illness, mobility impairments, sensory disabilities, and disabilities related to learning, processing, communicating, and remembering

Caring can affect many aspects of the lives of carers and their families. The complex effects of caring can present difficulties for practitioners who assist carers and their families to care for the person with a disability and for themselves. With the aim of broadening practitioners' understanding of these issues, the Families Caring for a Person with a Disability Study investigated the impact of caring for a person with a disability on carers who received government payments to care, and on their families. This finding highlights the emotional, physical, relational and economic costs of caring, caring and social isolation, and supporting carers. The final section of the article presents a range of resources that practitioners can draw on in supporting carers and their families (Edwards 2009)

Some of the parents participating in the NSW Department of Community Services' (DoCS') Brighter Futures program have an intellectual disability. This guide provides information for social workers about intellectually disabled parents and the child protection system, relevant legislation, characteristics of vulnerable families, assisting intellectually disabled parents to improve their parenting capacity, the impact of parental intellectual disability on the child, evidence-based practice principles for working with vulnerable families, and a list of endorsed research and resources.(Ash field, 2007)

A significant number of parents with learning difficulties require the help of various human services. The children of these parents often experience poor health outcomes and development delays. This article discusses the gap between support needs and service capacity. It describes the national Healthy Start strategy, which aims to help practitioners support parents with learning difficulties and their children.(McConnell et al 2006)

Parents with an intellectual disability are over represented in child protection services and care proceedings. Mildon etal(2006) stated the three factors that may contribute to this trend are assumptions people have about disability; high levels of disadvantage faced by these families; and gaps in effective services, support and resources for these families. The study considers the benefits of providing parent skills education in conjunction with other family focused support.

The Early Intervention Parenting Project (EIPP) (Jenkin 1988, 1993) emphasizes the importance on improving parent/child relationships and gaining a better understanding of child development and building hope and optimism in the family. The project also focuses on increasing confidence in parenting through teaching better communication practices and approaches. The project places emphasis on the benefits of shared experiences and caring for others in order to build community capacity and overcome the sense of isolation that many parents may experience.

Cann (2003) stated that improving support for parents with a learning disability should not be a side issue in parenting education and support; rather, it should be considered a testing ground for parenting education services because what works well for parents with learning difficulties will also work well for parents in less demanding circumstances.

E.MEASURES TO IMPROVE THE MENTAL STABILITY OF DISABLED CHILDREN:

The NDA Act defines disability as "a substantial restriction in the capacity of a person to participate in economic, social or cultural life on account of an enduring physical, sensory, learning, mental health or emotional impairment." (NDA Act 1999). NDA A Matter of Rights (2000- 2002) outlined the mission to secure and promote the rights of people with disabilities in Irish society. The rights based approach to disability essentially means "viewing persons with disabilities as subjects of law." It focuses on the human being, and aims to "empower disabled persons so as to ensure their active participation in political, economic, social and cultural life in a way that is respectful and accommodating of their difference. Finally, the human rights approach to disability puts an increased emphasis on the participation of person with disabilities and their representative in the formulation and implementation of plans and policy affecting them" (Sensi, 2003)..

In April 2002, the issue of access and denial to appropriate mental health services for people with intellectual disability was raised as a matter of concern by members of the NDA Board. Anxiety was expressed that people who require a service may be being denied this service, specifically owing to their intellectual disability.

The Board of the NDA is determined that the absence of service for this client group is discriminatory and in contravention of the Equal Status Act (2000) the International Covenant on Economic, Social and Cultural Rights and the U.N. Standard Rules for the Equalization of Opportunities for People with Disabilities The NDA strongly endorses the calls made by the Disability Legislation Consultation Group (DLCG) for ongoing, person centered, needs assessment and service co-ordination for people with disabilities to cover the full range of service needs, including independent assessment, treatment, rehabilitation and advocacy services (Equal Citizens, 2003).

METHODOLOGY

NUTRITIONAL STATUS AND HEALTH ISSUES OF DIFFERENTLY CHALLENGED CHILDREN IN THE SELECTED HOMES AT COIMBATORE

The methodology adopted for the present study entitled "NUTRITIONAL STATUS AND HEALTH ISSUES OF DIFFERENTLY CHILDREN IN THE SELECTED HOMES AT COIMBATORE" is explained under the following headings

A] Selection of Locale

B] Selection of Target Group

C] Formulation of Questionnaire and Conduct of The Study

D] Imparting Nutrition Education to the Selected Subjects and Counseling to Their Parents

A] SELECTION OF LOCALE:

The area chosen for the conduct of the present study was Coimbatore city for its easy access and familiarity of the are three urban and one semi-urban areas in Coimbatore city namely Sanjeevani health care in G.N Mills (pvt organization) cotlenga convent in Souriyapalaiyam- (charity organization) Amrit centre for special needs in Mettupalayam road (charity organization) and Shivesh autism centre in Avarmpalayam road (govt organization) were selected by purposive random sampling technique.

B] SELECTION OF A TARGET GROUP:

A sampling is the process of selecting units such as people and organization from a population of interest to fairly generalize the results to the population from which the units were chosen [Willam,2008].A total of 100 subjects from the age group of 4-16 both male and female from the above mentioned locale were selected by using Random Sampling method . The

selected 100 children were with epilepsy identified from the various selected homes and they had additional impairments such as cerebral palsy, spina bifida, muscular dystrophy, sensory deficits [or] severe mental retardation with autism.

FORMULATION OF QUESTINNAIRE AND CONDUCT OF THE STUDY:

According to Dipak (2004)the survey method is the technique of gathering data by asking questions from people who are thought to have the desired information. A survey was conducted to the selected 100 subjects using a well framed questionnaire as shown in Appendix I The motive of this study is to identify their feeding problems and their mental ability. The questionnaire embraces the details of the birth, type of delivery to the mother, their family heredity details, problems faced by the mother during pregnancy, feeding problems during lactation period, hormonal problems of the mother, any physical problem faced by mother during pregnancy, their type of marriage whether married to relation or not, diet pattern, un food frequency.

The questionnaire was supplemented by informal conversation to set the parent at ease. A questionnaire is a form containing a set of questions.

1. Assessment Nutritional Status:

Assessment of nutritional status of the community is one of the first step in the formation of any public health strategy. the principle aim of such assessment is to determine the type, magnitude and distribution of health status in different areas to identify “at risk” groups and to determine the contributing factor

A. Anthropometric measurement:

Nutritional anthropometry is concerned with the measures of the variation of dimensions and some aspects of gross composition of human body at different ages and at different level of nutrition. Anthropometric

measurements such as weight, height were recorded for all the selected 100 subjects.

B. Measurement of Height:

The height of an individual is influenced both by genetic and environmental factors. The maximum growth potential of an individual is decided by hereditary factors.

The samples were made to stand erect facing the investigator using the ruler and the height was marked on the wall from the point marked ,using a measuring tape , from mark to the heal at bottom .

C. Measurement of weight:

Body weight is the most important anthropometric measurement for the evaluation of height of the selected subjects. The selected subjects were asked to stand on the platform of the weighing balance without footwear and with minimal clothing (NIN 2005). The entire selected hundred subjects were measured for their weight using bathroom scale balance.

D. Body mass index:

Body mass index is a key tool for relating a person's body weight to their height. From the recorded weight and height of the subjects the Body mass index was calculated ,the most effective diagnostic examination , for all the 100 to look at the person and to decide whether the subjects were underweight, normal or overweight and obese.

According to Krause(2005) body mass index is defined as weight kg/m^2 as definition of degree of adiposity. It is mathematical formula that correlates with the body fat which is recommended by the world health organization.

BMI Classification NHANES 1 2004
<5th Centile (Underweight)
5th to15th (Risk of Underweight)
15th to 85th Centile (Normal)
85th to 95th Centile (Overweight)

2. DIETARY SURVEY OF THE SELECTED SUBJECTS:

Depending on the assessment needs, information about food habits was obtained by a comprehensive interview or a tested questionnaire filled out by the individual parents.

The questions included in the questionnaire are what type of the diet they consume, their meal consumption pattern , their food habits, and food frequency.

3. IMPARTING NUTRITION EDUCATION:

Diet is a vital determinant of health and nutrition status of people. Diet counseling plays an important role in motivating individual in development of healthy habits and positive attitude towards food.

Disabilities can range from visual and / or hearing impairment to musculo skeletal impairments. Disabled kids have the same basic nourishment and activity needs that other non –disabled kids do, that of maintaining efficient body functioning. A diet for disabled kids can help implement lifelong habits that encourage a fulfilling, healthy lifestyle. Depending upon the disability, some kids need less calories due exerting fewer calories. Being a healthy role model encourages a diet and activity compliances.

Nutrition education was imparted to the parents of disabled children, they were taught to feed their children with well –balanced diet which involves eating different foods from each of the food groups. Protein is also required for

proper absorption and utilization of calcium, minerals that helps to make the bones of the disabled children stronger and more compact.

The parents of the disabled children were made to understand that "Nutritional requirements that promote an healthy eating habits may hinder healthy condition or medical treatments of each individual.

A special nutrition care was focused on the children with Autism Spectrum Disorder(ASD), their parents were taught about the food the sensitivities (i.e.) gluten, casein and soya, other common physical symptoms are frequent infection, trouble sleeping, non –localized pain/inflammation and brain fog.

Gluten free foods were listed down and made known to the parents of the disabled children who include milk, whole grains, beans, meat, brown rice, rice mixes, vegetable, honey, amaranth, etc. foods to be avoided by the ASD children include sugar naturally occurring sugars in fruits. Bread, plums, grapes, vinegar, aged meats and cheese. Refined Cho, potatoes gluten free grains are known to feed yeast.

Foods containing natural phenols can create a behavioral, emotional and physical symptoms' should be limited. These include grapes, apples, berries and almonds others.

Nutrition education plays a key role in the prevention and management of nutritional status by promoting healthful eating.

LIMITATIONS OF THE STUDY:

Parents of the disabled children were unable to meet because there was limited time allotted to meet the parents, most of the parents don't co-operate in answering questionnaire as they feel emotionally affected and felt that study could not help their children.

RESULTS AND DISCUSSION

The results of the study entitled **"NUTRITIONAL AND HEALTH STATUS OF THE DIFFERENTLY CHALLENGED CHILDREN IN THE SELECTED HOMES AT COIMBATORE**" are discussed under the following headings.

A. Background information of the selected subjects.
B. Body mass index of the selected children.
C. Clinical symptoms of the selected children.
D. Physiological problems faced by mothers
E. Dietary pattern among the selected children

A. Back Ground Information Of The Selected Children:

Back ground information of the selected subjects embracing the gender, age, type of the family, religion, income and money expenditure pattern of the selected Children were elicited and discussed below.

1. Gender Wise Distribution of the Selected Children

Table I and figure 1 depicts the percent of male and female of the selected children

TABLE I
Gender Wise Distribution of the Selected Children

Gender	Number of children	Percent
Male	54	54
Female	46	46
Total	100	100

It is obvious that 54 percent of children were male the rest 46 percent were female indicating that they were in the ratio of 1.2:1 This shows that both male and female children are found to be with specially able children

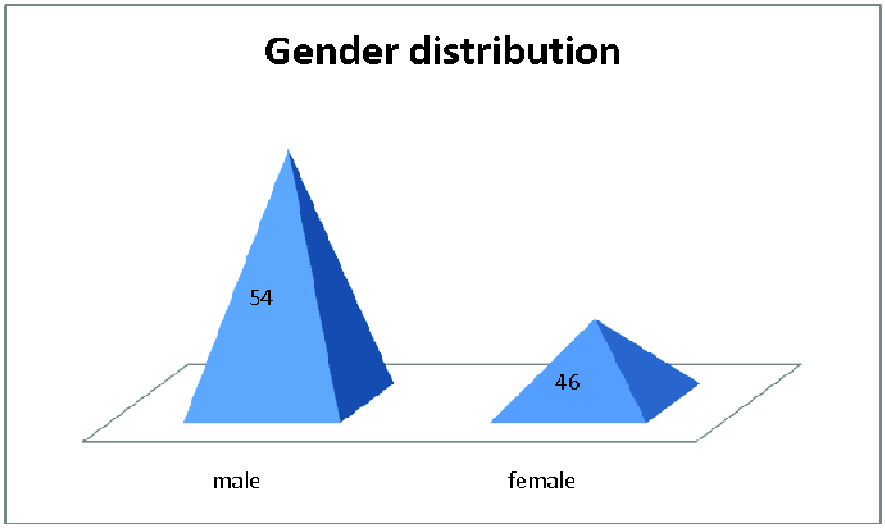

Figure 1

2. Age Wise Distribution:

The selected children were in the age range of 4-15 years. They were classified based on the gender and the details are shown in Table II

TABLE II
Age Wise Distribution of the Selected Children

Years	Male		Female		Total
	Number	Percent	Number	Percent	Percent
4-6	3	6	nil	Nil	3
7-9	13	24	3	6	16
10-12	17	31	26	57	43
13-15	21	39	17	37	38
Total	54	100	46	100	100

Children who belong to the age group of 4-6 were only male and found to be three and there were no girls in this age group, whereas 13 male and three percent of female belonged to 7-9 of age. It is clear that predominance of female children were in the age group of 10-12 years with 26 as against 17 male children but in the age group of 13-15 years higher percent of male with 21 male whereas only 17 were female children.

3.Type Of Family:

It is used that they belonged to either joint family or nuclear family and these details are given in Table III and figure 2

TABLE III
Type of the Family

Type of the family	Total
	Percent
Nuclear	94
Joint	6
Total	100

From the above table it can be interpreted that out of 100 selected children 49 percent of them were in nuclear family and six percent of them living in joint family. This shows that joint family system is evading.

4. Religion

In India the major three religion are Hindu, Christian, Muslim identified as secular ceremony. The details of religion followed by the selected children are depicted in Table IV

Table IV
Religion of the Selected Children

Religion	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Hindu	43	80	38	83	81
Muslim	8	15	1	2	9
Christian	3	5	7	15	10
Total	54	100	46	100	100

It is noted that majority of the children belonged to Hindu religion [81 percent] in which 43 were boys and 38 were girls, 10 percent belong to Christianity, out of which seven were girls and three were boys, and also a small minority of 9 percent belonged to Muslim, in which eight were boys and only one were girls.

5.Income Of The Family

Total income of the family is shown in Table V and in figure 2

Table V

Total Income of the Family among the Selected Subjects

Income in Rupees	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Below1500	36	67	17	37	53
15000-2500	16	20	17	37	33
2500-4500	2	3	6	14	8
>45000	-	-	6	14	6
Total	54	100	46	100	100

From the table, it is seen that the majority of 36 percent were boys and 17 were girls in the income group of below Rs.15,000 followed by 33 percent of them under Rs. 15000 - 25,000 out of which 16 were boys and 17 were girls. Only group with 8 percent of them coming under Rs. 25000 - 45,000 which constitute 2 boys and 6 girls, it clear that only six percent girls belonged under the income category more than Rs. 45,000.

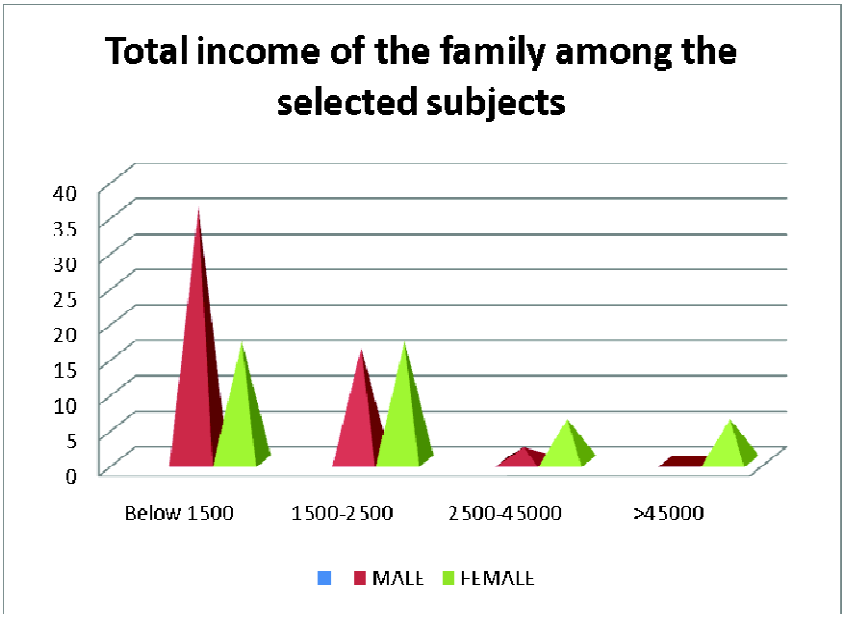

Figure 2

6. Expenditure Pattern on Food

The money spent on food is shown in Table VI and in figure 3.

Table VI
Expenditure pattern on the food

Money spent on food in 1000	Male		Female		Total
	Number	Percent	Number	Percent	Percent
1.5 – 3000	30	55	13	28	43
3000-5000	22	41	9	20	31
5000-15000	2	4	24	52	26
Total	54	100	46	100	100

It is clear from the table that 55 percent of families in male and 48 percent of families in female spent 1500- 3000 and 6000- 15000 respectively. It is also observed that 41 percent of male family level and 20 percent of female families among male and female children respectively had a monthly expense of 3000-5000 on food.

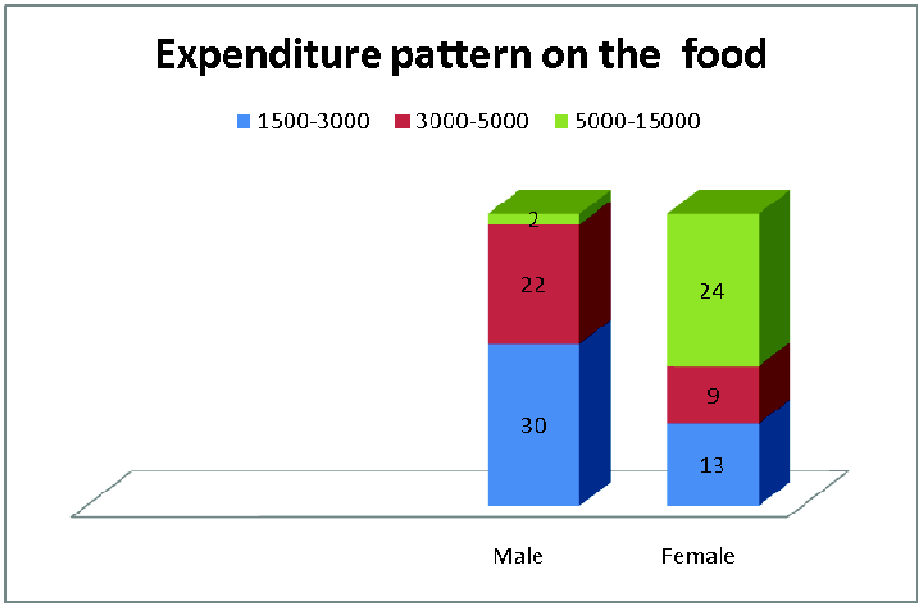

Figure 3

B. Body Mass Index Of The Selected Children

Distribution of the selected children based on Body Mass Index is given in the table VII

BMI stands for "Body Mass Index," a ratio between weight and height.

BMI is a standard "tool" for helping to judge the body weight and the amount of body fat of an individual have. [East California family practice center 2011]

Table VII

BMI Wise Distribution of the Selected Children Based On Percentile of BMI

BMI Classification NHANES 1 2004	Male								Female							
	AGE (YEARS)								AGE(YEARS)							
	4-6		7-9		10-12		13-15		4-6		7-9		10-12		13-15	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<5th Centile (Underweight)	2	2	2	2	5	5	2	2	-	-	-	-	14	14	2	2
5th to15th (Risk of Underweight)	-	-	4	4	3	3	9	9	-	-	2	2	1	1	2	2
15th to 85th Centile (Normal)	1	1	6	6	5	5	7	7	-	-	-	-	5	5	6	6
85th to 95th Centile (Overweight)	-	-	1	1	4	4	3	3	-	-	1	1	6	6	7	7

It can be inferred that out of the 100 children, two percent of boys who belonged to the age group of 4-6 were under weight. Boys who belonged to the age group 10-12 who were at the risk of underweight were three percent. Girls who were at the risk of underweight belonged to the age group of 7-15 were five percent. Normal BMI level was identified among 19 percent and 11 percent of boys and girls respectively in the age group 4-15 years.

C.Clinical Symptoms:

In order to identify the Nutritional deficiencies preliminary clinical survey was conducted and the clinical symptoms observed were shown in Table VIII and in Figure 4

Table VIII

Clinical Symptoms Observed Among the Selected Children

Clinical Symptoms	Male		Female	
	Number	Percent	Number	Percent
Hair				
Lack of luster	10	10	4	4
Dry hair	8	8	2	2
Sparseness	2	2	9	9
Discoloration	2	2	2	2
Easy Pluck ability	8	8	4	4
Tongue				
Magenta tongue	2	2	-	-
Atrophic papillae	-	-	2	2
Teeth				
Dental caries	10	10	-	-
Mottled enamel	-	-	4	4
Internal System				
Headache	4	4	7	7
Sleeplessness	4	4	6	6
Fatigue	4	4	6	6

Among the total children ten percent boys and four percent girls lacked luster in hair. Dry hair was seen among eight boys and two girls, sparseness seen among two boys and nine girls, discolouration was seen in two boys and two girls and easy pluckability was seen among eight percent of boys four percent of girls, respectively. Magenta tongue and Atrophic papillae were seen in two percent of boys and two percent of girls respectively. Dental caries were seen in 10 percent of boys and 4 percent of girls had mottled enamel. Four percent boys and 6 percent girls had sleeplessness experienced fatigue.

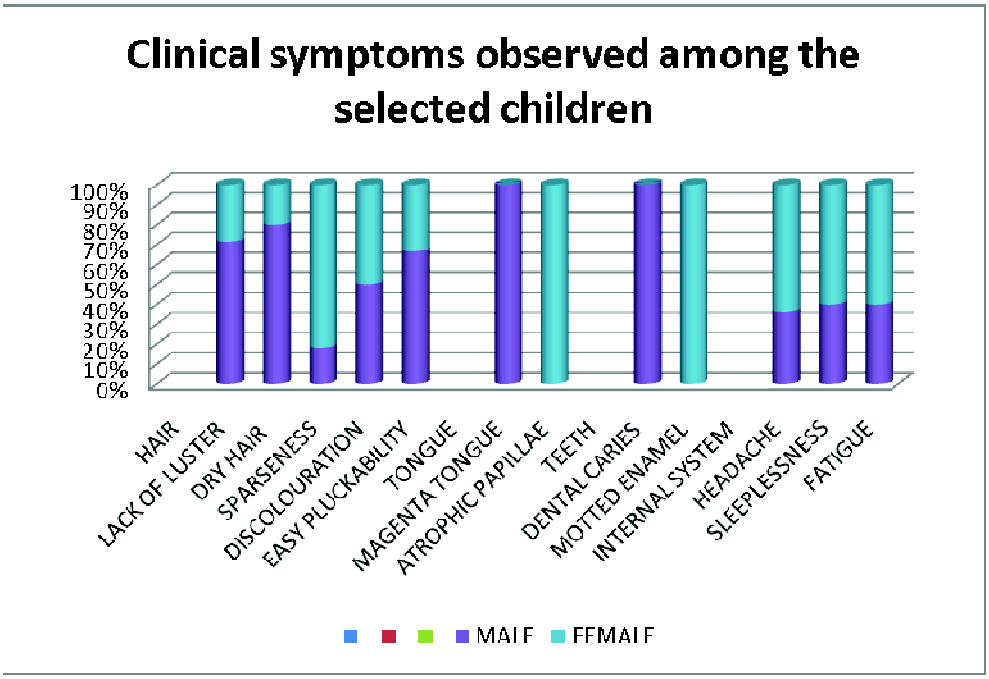

Figure 4

D. Physiological problems faced by mothers and the children

In the Physiological problems of the selected subjects disability, details of the birth, type of delivery and baby, weight of the baby, health problems during pregnancy and breast feeding practice, are discussed below

1. Disabilities of the Selected Children

The selected subjects had a problem of cerebral palsy, mental retardation and these details are shown in Table IX and in Figure 5

TABLE IX

To Identify the Disabilities Observed Among the Selected Children

Disability	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Cerebral palsy(CP)	19	35	19	41	38
Mental retardation(MR)	13	24	15	33	28
Autism	12	22	7	15	19
Muscular dystrophy +MR	3	6	3	7	6
MR+CP	7	13	2	4	9
Total	54	100	46	100	4

Out of 100 selected children majority of 19 of each male and female children were affected by the disorder cerebral palsy. Mental retardation was vivid among 28 percent in which 13 were male and 15 were female. Among the 19 percent Autism children 12 and 7 were male and female respectively. Both muscular dystrophy and mental retardation and cerebral palsy were common among 6-9 percent of the selected children

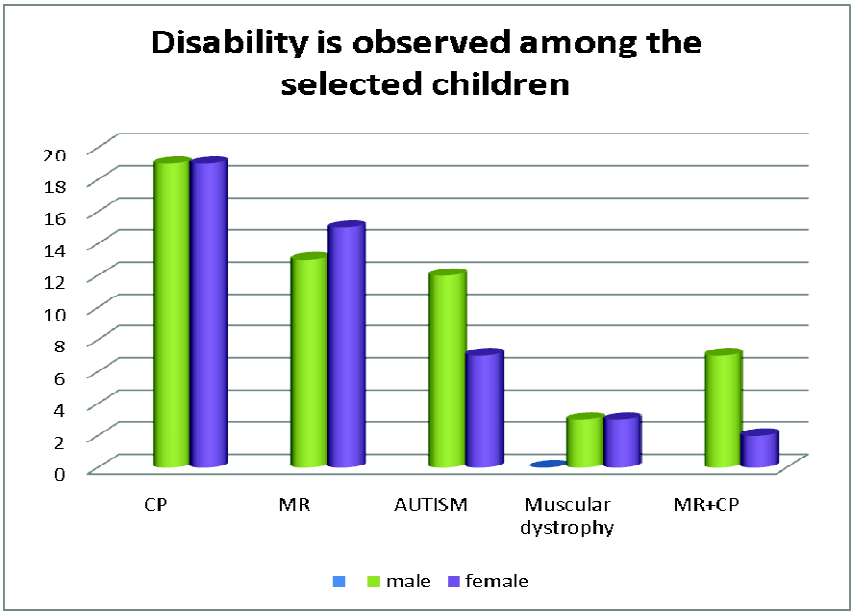

Figure 5

2.Number Of Birth

The number of children in a family ranged between one and more than two. These details are depicted in Table X

Table X
Number of children

No.of.children	Male		Female		Total
	Number	Percent	Number	Percent	Percent
1	28	52	11	24	39
2	15	28	25	54	40
>2	11	20	10	22	21
Total	54	100	46	100	100

It has been observed that 40 percent of the families had two children out of which 15were boys and 25 were girls. Whereas 39 percent of them having only one child in which 28 were boys and 11 were girls. It is also noted that 21 percent of them gave birth to more than two children in which 11 were boys and 10 were girls.

3.Delivery Pattern

There may be normal, caesarean or instrumental (forceps) delivery. Table XI and Figure 6 shows the type of delivery among the mother of the selected children.

Table XI
Type f Delivery

Type of delivery	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Normal	32	59	25	54	57
Caesarean	20	37	20	43	40
Instrumental	2	4	1	3	3
Total	54	100	46	100	100

Table XI shows that majority of the mothers had normal delivery in which 32 were boys and 25 were girls and 40 percent of them undergone caesarean delivery in which 20 boys and 20 girls. And a minimum of these percent had Instrumental delivery out of which 2 percent were boys and one girl.

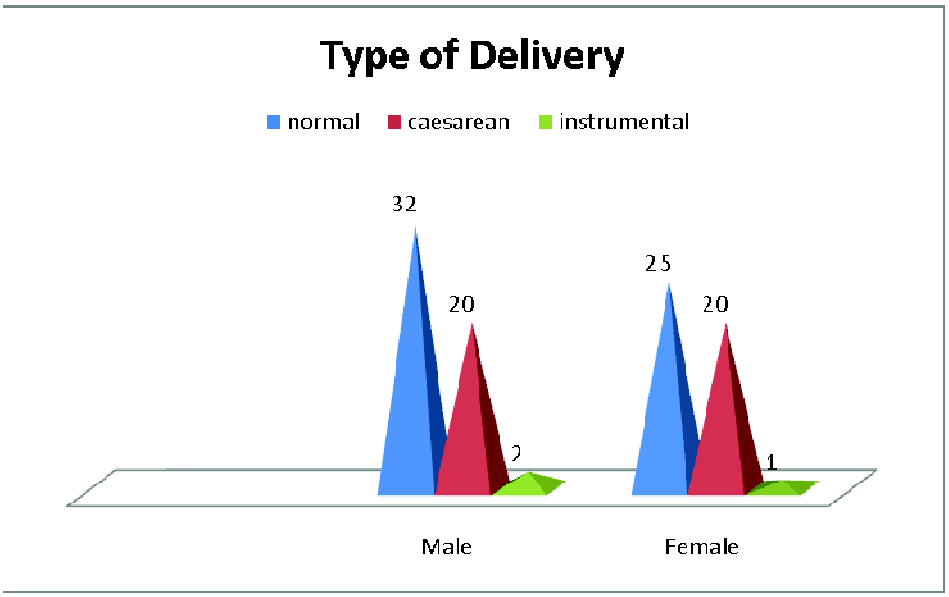

Figure 6

4.Pre Term/ Full Term

Infant may be born preterm or full term and it is shown in Table XII.

Table XII
Type of Baby

Particulars	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Pre –term	15	28	9	28	24
Full-term	39	72	37	72	76
Total	54	100	46	100	100

From the above table it can be interpreted that majority of 76 percent were full-term baby. Out of 76 percent 36 were male and 37 were females, On

the other hand 24 percent of them were pre-term baby in which 15 of were male and 9 were female child.

5.Birth Weight:

The birth weight of the selected subjects are projected in Table XIII.

Table XIII
Weight of the Baby

Weight of the baby(Kg)	Male		Female		Total
	Number	Percent	Number	Percent	Percent
<2.5	32	59	11	24	43
>2.5	22	41	35	76	57
Total	54	100	46	100	100

The above table depicts that 22 male and 35 female newborn birth weight is more than 2.5 kg in which 22 percent. Birth weight less than 2.5 kg was noted among 43 percent of infants in which 32 were boys and 11 were girls. The study revealed that all the 100 children were single one none of them were twins among the selected children. It is also noted that heredity factor was not identified both among male and female children.

6.Health Problem Of Mother During Pregnancy

During pregnancy mother may face several health problems and these aspects are shown in Table XIV and in Figure 7

Table XIV
Health Problem During Pregnancy

Health problem during pregnancy	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Abortion	15	28	17	37	32
Accidents	-	-	2	4	2
Health problem[fever]	26	48	15	33	41
Nil	13	24	12	26	25
Total	54	100	46	100	100

From the table it is seen that 41 percent of them had health problems like fever, cold during pregnancy 32 percent of them faced abortion and25 percent of them free from all health problem. All the mother of the selected subjects followed allopathy during pregnancy

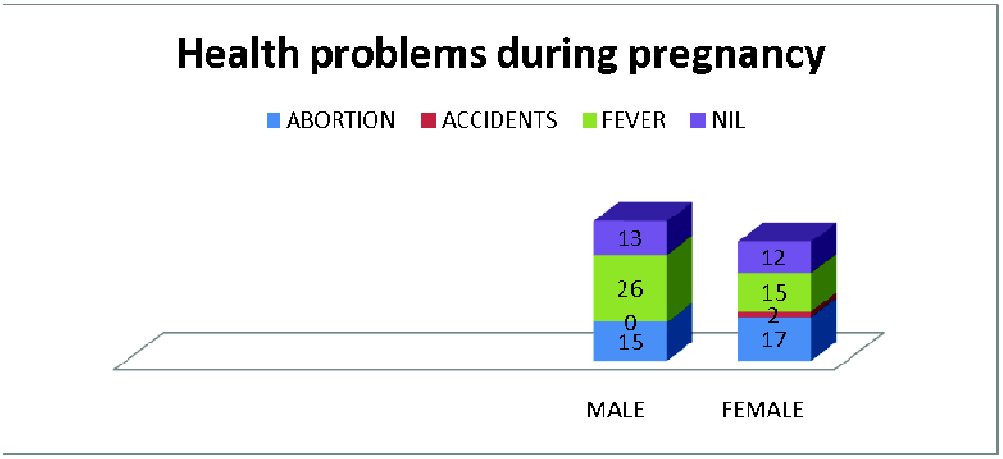

Figure 7

7.Physical Abnormality

The details of physical abnormality observed after birth are depicted in Table XV

TABLE XVIII
Physical Abnormalities among infants.

Physical abnormality	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Physical abnormality	39	72	27	59	66
Normal	15	28	19	41	34
Total	54	100	46	100	100

From the above table it is seen that 66 percent of them born with physical deformity in which 39 were boys and 27 were girls. Whereas the rest 34 percent of them were free from any physical problem out of which 15 percent boys and 19 were girls.

8.Immunization

Disease prevention is the key to public health. It is always better to prevent a disease than to treat it. Vaccines prevent disease in the people who receive them and protect those who come into contact with unvaccinated individuals [Centers for disease control and prevention 2006].Table XVI shows whether they are fully or partially immunized.

Table XVI
Immunization

Immunization	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Fully	54	100	38	88	92
Partially	-	-	8	17	8
Total	54	100	46	100	100

It is obvious that majority of 92 percent of the children had complete immunization out of which 54 were boys and 38 were girls. However 8 percent had partial immunization who were identified as female children.

9.Breast Feeding Practise

Breast feeding a baby exclusively for the first 6 months, and then continued breastfeeding in addition to appropriate solid foods until 12 months and beyond has health benefits for both the mother and child. He duration of breast feeding children is presented in table XVII and in Figure 8

Table XVII
Breast Feeding Practice

Age	Male		Female		Total
	Number	Percent	Number	Percent	Percent
<6 months	11	30	4	9	15
6m-1 year	26	20	16	35	42
1year-3year	16	48	24	52	40
No breast feed	1	2	2	4	3
Total	54	100	46	100	100

It is interesting to note that 40 percent of them breast fed up to 3 years out of which 16 were boys and 24 were girls. However a minimum 15 percent of them breast fed less than 6 months which constitute 11 boys and 4 girls. During lactation except two percent all the mothers gave supplementation like cerlac, cow's milk, rice porridge.

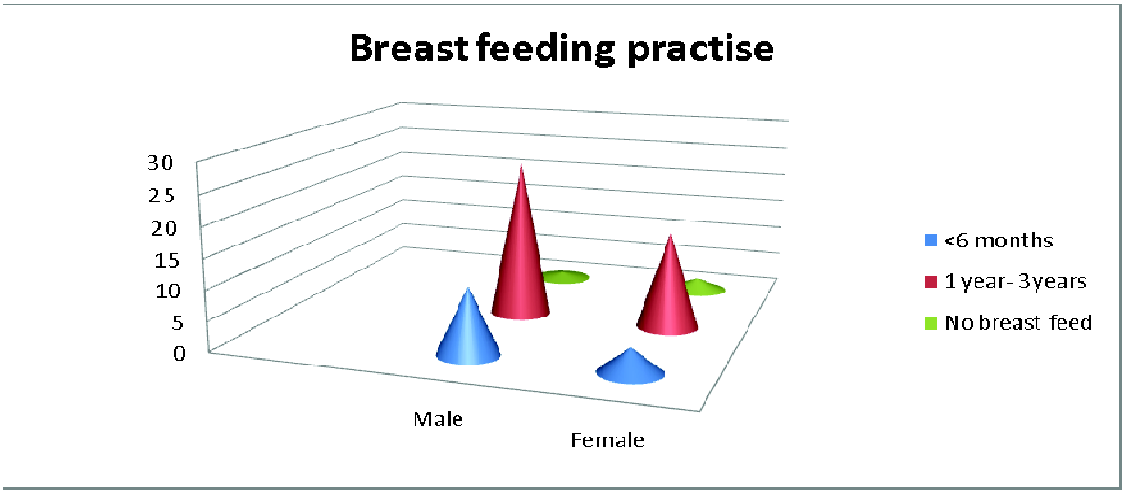

Figure 8

10.Birth Frequency Order

The details of birth spacing order in shown in Table XVIII

Table XVIII
Birth Spacing

Birth spacing	Male		Female		Total
	Number	Percent	Number	Percent	Percent
>36	14	26	20	43	34
<36	12	22	15	33	27
Nil	28	52	11	24	39
Total	54	100	46	100	100

It can be intended that 34 percent comprise of 14 boys and 20 girls born with a birth space of more than 36 months. Less than 36 months birth spacing was noted among 12 boys and 15 girls.

11. Age at Which First Birth

The details of Age at which first birth were shown in Table XIX

Table XIX
Age at which first birth

Age at which first birth	Male		Female		Total
	Number	Percent	Number	Percent	Percent
>18	41	76	38	83	79
<18	13	24	8	17	21
Total	54	100	46	100	100

From the above table it is seen that 79 percent of them gave birth at above 18 years while 21 percent of them gave birth at below 18 years. This indicates that 21 percent of mothers got married at less than 18 years of age. The study revealed that 33 percent of the spouse had blood relation and vivid that they had maternal relation.

12.Health Problems Of The Mother

The health problem observed among the mothers of selected children are shown in Table XXI and in Figure 9

Table XXI

Health problems

Health problem	Total	
	Number	Percent
Obesity	16	16
Under weight	12	12
Menstrual problem	10	10
Blood pressure	18	18
Diabetes	12	12
Ulcer	9	9
Nil	23	23
Total	100	100

It is obvious that all the mothers except 23 percent had health problems. Blood pressure, obesity and diabetes mellitus were the health problems among 18, 16, and 12 percent of the mother were found to be underweight and 9 percent had a problem of ulcer.

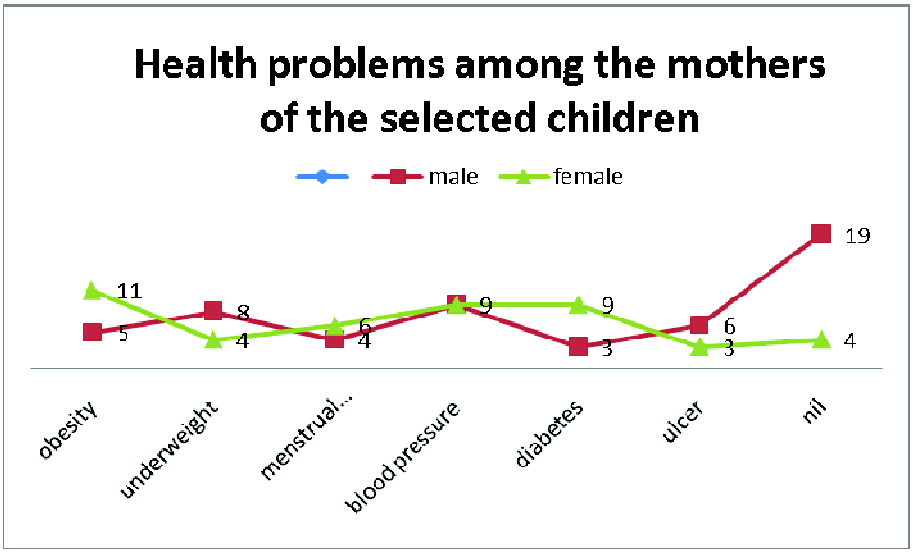

Figure 9

E. Dietary Pattern of The Selected Children

Diet pattern information of the selected children and the type of diet they consume, frequency of skipping meals are and discussed below

1.Type Of Diet Consumed By The Selected Children

The details of type of diet consumed by the selected children shown in Table XXIII

Table XXIII
Type of Diet Consumed by the Selected Children

DIET	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Vegetarian	-	-	2	4	2
Non – vegetarian	54	100	44	96	98
Total	54	100	46	100	100

study reveals that a maximum of 98 percent were non vegetarian and a minimum two percent were vegetarians. This shows that priority was given to consume non vegetarian foods .None of the children skipped any meals since special attention by the parents are needed in feeding their specially challenged children.

Meal consumption pattern

The number of meals consumed per day by the selected children are shown in Table XXIV

Table XXIV
Number of meals per day consumed by the selected children

No. of . meals	Male		Female		Total
	Number	Percent	Number	Percent	Percent
3	50	92	41	90	91
<3	2	4	3	6	5
>3	2	4	2	4	4
Total	54	100	46	100	100

From the above table it can be interpreted that the majority of 91 percent of children consumed three meals per day whereas remaining five and four percent of them consumed less than three and more than three meals per day respectively.

Type of problems faced by the selected children while eating

The type of problems faced by the selected children while eating is given in Table XXV

Table XXV

Type of problems faced by the selected children while eating

Eating problems	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Chewing	7	13	4	10	11
Swallowing	9	17	5	11	14
Choking	7	13	3	6	10
Nil	31	57	34	63	65
Total	54	100	46	100	100

The above table reveals that 63 percent of children free from problems while eating , whereas 14 percent of children having swallowing problem, rest of 11percent of children having chewing problem and 10 percent of children had choking problem.

Feeding problems faced by the selected children

The details of the feeding problems faced by the selected children is given in the Table XXVI

Table XXVI

Feeding problem faced by the selected children

Feeding problems	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Tube feeding	2	4	4	9	6
Infant reflux	9	17	5	11	14
Sensory integration	7	13	3	6	10
Bite reflux	11	20	15	33	26
Feeding dysphagia	10	18	7	15	17
Nil	15	28	12	26	27
Total	54	100	46	100	100

From the above table it is noted that 26 percent of the children were suffering from bite reflux,whereas 14 percent of them were suffering from infant reflux, while 17 percent of them suffering from feeding dysphagia.

Habit of consuming junk foods

The details of consuming junk foods among the selected children given in Table XXVII

TABLE XXVII
Habit of consuming junk foods

Habit of eating junk foods	Male		Female		Total
	Number	Percent	Number	Percent	Percent
Yes	34	63	34	74	64
No	20	37	12	26	36
Total	54	100	46	100	100

The study revealed that a maximum of 64 percent where having the habit of eating junk foods and rest 36 percent did not have the habit of eating junk foods. The type of junk foods consumed by the children such as chips, cakes, puffs

Food frequency table

The details of the food consumption pattern is given in table XXVIII

Table XXVIII
Food Frequency Table

Food Items	Male N=54								Fmale N=46							
	Dly	%	Wly	%	mly	%	Occ	%	Dly	%	Wly	%	Mly	%	Occ	%
Cereals	54	100							46	100						
Pulses	54	100							46	100						
leafy vegetable	7	13	47	87					5	11	37	80	4	9		
Roots and tubers	10	18	22	41	22	41			7	15	34	74	5	11		
Other vegetable	47	87	5	9	2	4			40	87	6	13				
Nuts and oil seeds			17	32	23	42	14	26			24	52	20	43	2	5
Fruits	41	76	8	15	5	9			37	80	6	13	3	7		
Milk and milk products	51	94	3	6					42	91	4	9				
Non vegetarian	6	11	45	83	3	6			4	4	44	96				
Fats and oils	54	100							46	100						

The food consumption pattern of the selected samples were assessed using a questionnaire. It is observed that all the samples selected consumed cereals either as rice or wheat or any other millets. Same way it was true for pulses also. The different type of pulses consumed were red gram dhal, Bengal gram dhal, green gram dhal, whole horse gram and lentil.Leafy vegetables consumption was comparatively low while looking at the daily consumption pattern. At the same time it is encouraging to note that weekly consumption of green leafy vegetable was good on an average 84 percent of children both male and female included leafy vegetable in their diet. It is also observed that more than 80 percent from both groups consumed other vegetable daily. Though fruits are expensive it is encouraging to note that was an average 78 percent of samples consumed fruits every day. Milk was consumed by 93 percent of the children every day either as milk or curd or in the form of coffee and tea.

The study revealed that that non vegetarian consumption either mutton, chicken, fish or eggs was consumed by 89 percent on weekly basics .Since fat and oils is used in the preparation for seasoning and frying all the children consumed in some form of cooking

SUMMARY AND CONCLUSION

Disability is an umbrella term, covering impairment, limitations and participation restrictions. Impairment is a problem in body function or structure. An activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is between features of a person's body and features of society in which he or she lives.

Globally, the birth rate was 19.5 percent per 1,000 people in 2011 compared to 21.8 in 2000, while the fertility rate (the average number of children per woman) was 3.0 percent in 2011 compared to 3.4 in 2000. In India 1.67 percent of the 0-19 population has a disability in which 35.3 percent of children are living with disabilities. Only one percent of children with disabilities have access to school and one third of most disabilities are preventable. Under nutrition is a severe problem with children who suffer from cerebral palsy. In India 80 percent of children with disabilities will not survive past age forty.

Nutritional and micronutrient deficiencies play an important additive role in immune degradation and impaired development in children. Proper nutrition among is an essential component of an effective response to the Autistic spectrum children pandemic in the world

Children with characteristics of an ASD may have co-occurring conditions, including Fragile X syndrome which causes mental retardation, tuberous sclerosis, epileptic seizures, Tourette syndrome, learning disabilities, and attention deficit disorder. About 20 to 30 percent of children with an ASD

develop epilepsy by the time they reach adulthood. Prevalence of growth failure is significantly greater than that expected in the general population. The hallmark feature of ASD is impaired social interaction. As early as infancy, a baby with ASD may be unresponsive to people or focus intently on one item to the exclusion of others for long periods of time. A child with ASD may appear to develop normally and then withdraw and become indifferent to social engagement.

Keeping this in mind, the present study " Nutritional and health issues of differently children in the selected homes of Coimbatore was carried out by the investigator to identify the nutritional status of disabled children, food consumption pattern and physiological problem faced by mothers and other health problems . The venue chosen for the conduct of the present study was Coimbatore city in which three urban and one semi-urban areas in Coimbatore city namely Sanjeevani Health Care In G.N Mills (pvt organization) Cotlenga Convent In Souriyapalaiyam- (Charity Organization) Amrit Centre For Special needs in Mettupalayam road (charity organization) And Shivesh Autism Centre in Avarampalayam road (govt organization) were selected by purposive random sampling technique

A total of 100 children in the age group of the children is about 4-15 years, totally 100 children were selected. Out of 100 children, 54 were male and 46 were female. Questionnaire method was chosen for collecting information in age, gender, socio economic status, family background, anthropometric measurements, clinical examination, physiological problems faced by mothers such as details of the birth, type of delivery to the mother, their family heredity details, problems faced by the mother during pregnancy, feeding problem during lactation period, hormonal problems of the mother, dietary pattern and their feeding problems of children

Anthropometry is the universally applicable inexpensive and non-invasive method available to assess the composition and fat distribution of the human body. It reflects both health and nutritional status of the selected population. Among the various anthropometric measurements, height, weight and BMI were adopted to obtain reliable data and recorded for all the 100 children.

Prestructured questionnaire was framed and face to face interview method was conducted to the mother of the disabled children to obtain details. Clinical symptoms were obtained from the medical reports of the children. The results of the study are summarized below

Conclusion

There are a number of controversial therapies or interventions available, but few, if any, are supported by scientific studies. Parents should use caution before adopting any unproven treatments. Although dietary interventions have been helpful in some children, parents should be careful that their child's nutritional status is carefully followed.

The disabled are deprived of all opportunities for social and economic development. Basic facilities like health, education and employment are denied to them. In spite of several international and national pronouncements the rights of the disabled has remained on paper. Given the magnitude of the problem it is important that disabled persons receive political attention

Recommendations

- Analysis of the health burden associated with atypical dietary patterns, as well as determining the social implications and family stress associated with chronic feeding problems in this population.
- Impart counselling to the parents of the disabled children and asses its effects

- Effectiveness of supplementation among micronutrients deficiencies og the disabled children.

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APPENDIX I

NUTRITIONAL AND HEALTH ISSSUES OF DIFFERENTLY HALLENGED CHILDREN IN THE SELECTED HOMES AT COIMBATORE

Guidelines to stress-feeding problem and Mental stability

Name of the Interviewer :

Date of the Interview :

Sex :

Age :

Date of Birth :

Address :

I. Socio – Economic Information

Type of Family : Nuclear ☐ Joint ☐

Back Ground Information of the Family :

S.No.	Name of family Members	Age	Education of the family Members	Occupation	Relation	Income

Religion: Hindu ☐ Christian ☐ Muslim ☐

Total Monthly Income of the family : Rs.

Money spent by the family per Month on Food : Rs.

II. Disability

Disability	Age of the Child	I	II	II
Spina bifida				
Cerebral palsy				
Muscular dystrophy				
Amputee (or)congenital limp				
Arthritis				
Other				
Non-response				

III. Anthropometric Measurements:

1) Height (cms) :
2) Weight (Kg) :
3) BMI (Body Mass Index) :
4) Waist Circumferences (cms) :
5) Hip circumference (cms) :
6) Waist hip ratio (cms) :

IV. Details of Birth

a) Children : ☐

b) What is the prevalence of Diseases after birth? : ☐

Type of Delivery	I	II	III
Normal			
Caesarean			
Instrumental			

c) Full term baby or pre term baby : .....

d) Weight of the baby : .....

e) Twin babies. Yes ☐ No ☐

If yes any defect among them?

f) Was the baby deformed during birth? : ☐

V. Heredity factor:

a) Any cases of Heredity factor?

b) Any physical deformation due to the prevalence yearly aged disease?

c) Was there any disability faced by the family members. Yes ☐ No ☐

First Degree

Both Parents ☐

Single parents ☐

Second Degree

Both grandparents ☐

Single grandparent ☐

Third Degree

Both great grand parents ☐

Single great grand parent ☐

Maternal

Uncle and Aunty ☐

Uncle / Aunty ☐

Paternal

Uncle and Aunty ☐

Uncle/Aunty ☐

VI. Problems faced during pregnancy

a) Any cases of miscarriage (or) Abortion .....

b) Any cases of mishaps /accidents .....

c) Did you face any health problems during pregnancy?

d) If Instrumental birth?

e) If yes mention the type and Reason

VII. Have you suffered from any health problems during pregnancy if yes Did you take any medication?

Allopathy ☐ Homeopathy ☐

Ayurveda ☐ Naturopathy ☐

Siddha ☐ other ☐

a) Was there any physical abnormality seen in the baby after birth?

Yes ☐ No ☐

If yes, mention the problems?

b) Did you complete immunization schedule for the baby?

Vaccine	Age
HEP-B-Hepafits-B Rotavirus (RV) (Dtap)-Diphtheria, Tetanus, Pertensis MMR – Measles mumps Rulella IPV – Inactivated polio virus PCV – Phemocolla conjugate	

VIII. Feeding Problems :

a) Till what age child was breast fed. ☐

b) Intake of supplement during lactation. Yes ☐ No. ☐

c) At what age weaning food introduced?

d) Was there any problem faced during feed?

e) What was other sources of feeding?

f) Did you see any allergy while introducing normal food?

IX. Taboos / Traditional practices.

I. **Mother**

a) Did you consume any special food during pregnancy?

Yes ☐ No ☐

If yes mention the food with the reason.

X. Did you follow any traditional myth?

II. **New Born baby**

a) Have you fed your child with any traditionally followed weaning foods?

Yes ☐ No ☐

If yes mention the food with the reason.

XI. Hormonal Problem:

Anxiety	☐	Cramps (or) painful periods	☐
Arthritis	☐	Depression	☐
Bladder Symptoms	☐	Dry skin / hair	☐
Breast tenderness	☐	Early – onset premenopause	☐
Cold hands and feet	☐	Fibrocystic breast	☐
Constipation	☐	Night sweats	☐

XII. Use of family planning device :

1. Contraceptive prevalence rate :

2. Birth spacing (36 months (or) more) :

3. Birth to young mother (under age 18) :

XIII. Maternal Health

Skilled delivery assistance :

Antinatal care from skilled health personal :

Institutional deliveries :

XIV. Stages of Growth

Crawling	
Standing	
I Step process	
Teeth formation	

XV. Disease History

Mother:

Obesity	Menstrual Problems	Blood pressure
Underweight	Ortho	Skin-Allergies
Diabetes	Eating disorders	Asthma
CVD	Peptic Ulcer	Others

Children

Any food Allergy : ☐

Asthma : ☐

Eating disorder : ☐

Underweight : ☐

Albino : ☐

XVI. Physical Problem:

a) Was there any physical disability during

I Trimester	
II Trimester	
III Trimester	

XVII. Diet Pattern :

Vegetarian ☐

Ova-Vegetarian ☐

Non-Vegetarian ☐

Chicken ☐ Fish ☐ Mutton ☐ Others specify ☐

Meal Patteran:

Regular ☐

Often Fasting ☐

Often Skip meals ☐

Food Frequency

Food Groups	Daily	Weekly	Monthly	Occasionally	Amount
Cereal and Grains Rice Wheat Ragi Jowar Bajra Others					
Pulses and legumes Bengal Gram Black Gram Green Gram Red Gram Others					
Lefy Veg Gathi Rai Keerai Mulai Keerai Murungai keerai Ponnanganni Keerai Siru Keerai Thandukeerai Vendayakeerai Others					

Roots and Tubers Coconut Colo Cassia Onion Potato Raddish Yam Others					
Others Vegetables Brinjal, Beans Broad stick Ladies finger Sundaikai Others					
Fruits Apple Banana Grapes Lemon Mango Sapota					
Milk of Milk Products Milk Curd Butter Milk					
Sea Foods Fish Crab Prawn					
Meat and Poultry Beef Chicken Egg Mutton Pork Others					
Fats & Oil Gingelly Oil Groundnut Oil Palm Oil Refined Oil Vanaspathy Ghee Others					

XVIII. 24 Hour Recall diet :

Timing	Menu	Ingredients	Amount
Early Morning			
Breakfast			
Mid Morning			
Lunch			
Tea-Break			
Dinner			

APPENDIX II

O. CLINICAL EXAMINATION

Organs	Signs	Presence
1. Hair	Lack of Lustre Thinness & Sparseness Straight Ness Dyspigmentation Flag Skin Easy Pluckability	
2. Face	Diffuse depigmentation Naso-labial dyssebacea Moon – Face	
3. Eyes	Pale Conjuctiva Bitot's Spots Conjunctival Xerosis Corneal Xerosis Keratomalacia Angular Palpebritis	
4. Lips	Angular Stomatitis Angular Scars Cheilosis	
5. Tongue	Oedema Scarlet & Raw Tongue Magenta Tongue Atrophic Papillae Signs	
6. Teeth	Mottled enamel	
7. Gums	Spongy, Bleeding gums	
8. Glands	Thyroid Enlargement Parotid enlargement	
9. Skin	Xerosis Follicular hyperkerotosis Petechiae Pellagrous dermatosis Flaky paint dermatosis Scrotal & Vulval dermatosis	
10. Nails	Koilonychia	

11. Subcutaneous Tissue	Oedema Amount of Subcutaneous fat	
12. Muscular & Skeletal System	Muscle Wasting Craniotabes Frontal & Parietal bossing Epiphyseal enlargement Beading of ribs Fontanelle Knock-Knees or bow legs Diffuse or local skeletal Deformities Deformities of thorax	
13. Internal System		
a) Gastro-Intestinal	Hepatomegaly	
	Psychomotor Change	
b) Nervous	Mental Confusion	
	Sensory Loss	
	Motor Weakness	
	Loss of Position Sense	
	Loss of Angle & Knee Jerks	
	Calf Tenderness	
c) Cardio-vascular	Cardiac Enlargement	
	Tachycardia	

APPENDIX III

ஆடிஸ்டிக் ஸபெக்ட்ரம் டிஸார்டர்

ஆடிஸ்டிக் ஸபெக்ட்ரம் டிஸார்டர் என்பதை தமிழில் "மதியிறுக்கம்" என்றும் "மனவிறுக்கம்" என்றும் "தன்முனைப்புக்குறைபாடு" என்றும் சொல்கிறார்கள்.

இது பல்வேறு குறைபாடுகளை உள்ளடக்கிய ஒரு குடைப்பெயர். இந்த குடைப்பெயரின் கீழ் குழந்தைகளின் முளை வளர்ச்சியில் ஏற்படும் பல்வேறு சிக்கல்கள் தொடர்பான குறைபாடுகள் வகைபடுத்தபடுகின்றன.

எல்லாவற்றுக்கும் எப்போதும் தனித்தனி பெயர் சொல்லிக் கொண்டிருக்க முடியாது என்பதாலும், இவை ஏறத்தாழ ஒரே வகைப்பட்ட குறைபாடுகள் என்பதாலும் இவற்றை ஆட்டிசம் என்ற பொதுப்பெயரால் அழைகிறார்கள்.

ஆட்டிசம் எளிமையாக உணரவழிகள்

- ஒதுங்கி இருப்பது
- பொருட்களைப் பொருத்தமில்லாமல் பற்றிக்கொள்வது
- கண்களைப் பார்த்துப் பேசுவதைத் தவிர்ப்பது
- மற்ற குழந்தைகளுடன் கலந்து பழகுவதிலும் விளையாடுவதிலும் ஆர்வம் காட்டாமை
- அச்சம், ஆபத்து போன்றவற்றை உணராது இருப்பது
- பாவனை விளையாட்டுகளில் ஈடுபடாமல் இருப்பது அல்லது அதீதமான மந்தத்தன்மை
- தினப்படி செயல்பாடுகளில் மாற்றமில்லாமல் இருக்க வேண்டும் என்று எதிர்பார்ப்பது. மாற்றங்களை அசௌரியமாக உணருவது
- சில வேளைகளில் தொடபடுவதையோ, அணைக்கபடுவதையோ விரும்பாமல் இருத்தல்
- வெளிப்படையான எந்தக் காரணமுமில்லாமல் அழுவது, வருத்தப்படுவது
- வழக்கமான கற்பித்தல் முறைகளில் ஈடுபாடு காட்டாமல் இருத்தல்
- வலியை உணராது இருப்பது
- வித்தியாசமான நடவடிக்கைகள் - கைகளை தட்டுவது, குதிப்பதுபோல
- கழலும் பொருட்களை இரசிப்பது; அதற்குள்ளேயே மூழ்கிப் போவது
- சொற்களை திருப்பிச் சொல்வது (அர்த்தம்புரிந்துகொள்ளாமல்)
- சில செயல்களைச் சரியாக செய்ய முடிந்தாலும் சமூகப்புரிதல்கள் இல்லாமலிருப்பது
- கூட்டு விரல் கொண்டு தனக்கு விருப்பமானதை சுட்டிக்காட்ட தெரியாதது
- பெயர் சொல்லி அழைத்தாலும் திரும்பிப் பார்க்காமலிருத்தல், சில வேளைகளில் காது கேட்காதது போல் இருத்தல்
- காரணமற்ற சிரிப்பு

ஆட்டிசக் குழந்தைகளின் பெற்றோர் பின்பற்ற வேண்டிய சிறப்படை விதிகள்:

- குழந்தையைப் பற்றிப் புரிந்துகொள்ளுதல்
- உங்கள் குழந்தையின் ஆட்டிசப் பாதிப்பின் அளவு, அக்குழந்தையின் தனித்திறமை, என்னென்ன வகையான சென்சரி பிரச்சனைகள், விருப்பு வெறுப்புகள் போன்றவற்றை புரிந்துக்கொள்ளுதல்.
- மனம் தளராமல் தொடர்ந்து அவர்கள் கற்க ஊக்குவியுங்கள்.
- பல் துலக்குவதிலிருந்து, பள்ளிசெல்வது, சிகிச்சைகளுக்குப் போவது, உணவு நேரம், தூங்கும் நேரம் என்ற எல்லாவற்றையும் ஒழுங்கு படுத்தி, ஒரு காலஅட்டவணையை கடைபிடித்தல்.
- ஊக்கப் பரிசுகள் மூலம் கற்பித்தல்
- சென்சரி டயட்டை எப்போதும் சரி பாருங்கள்
- பிரித்துச் சொல்லிக் கொடுங்கள்
- தன்னிச்சையாக இயங்கப் பழக்குங்கள்
- சக பெற்றோருடன் தொடர்பில் இருங்கள்