



## Research Paper

# A Case Study on the Causes of Intellectual Disability

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### ABSTRACT

The term Intellectual Disability will be used in this study to avoid confusion between the words mental retardation and mental illness. Intellectual disability is a complex and multi-dimensional problem. Many people have a wrong conception that intellectual disability is a disease. But the fact is that it is a condition rather than a disease. Developmental milestones of children with intellectual disabilities are characterized by delayed development. Disabling conditions are challenging for their survival and personality development. They are differently able and their needs are special which requires special care, education, rehabilitation and protection. Inclusive policy and mainstreaming services requires proper strategy from management and stake holders to create opportunities and boost up children's morals. Research study on intellectual disability may help developing plans and programmes by surfacing more relevant data to the researchers and service providers. The objectives of this study are to know the causes of intellectual disability and family's economic background and to suggest measures for its intervention.

**KEY WORDS:** Intellectual disability, adaptive behavior, developmental milestone, rehabilitation, mainstreaming, causes.

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### I. Introduction

A total of 588,700 people were intellectually retarded in Australia which constitutes approximately 3% of populations. In India out of 21.9 million persons with disabilities, the number of intellectually disable is 2263821 (10.33%), according to Census (survey) of India (2001). World Bank report revealed that about 800 million people Worldwide are under condition of absolute poverty, dominated by hunger and ill health. Disability often aggravated by War, malnutrition; poor health care, lack of education and other associated conditions. Reporting to United Nation's estimation, the former Director of NIMH, Shiva kumar ( 2008), stated that in majority countries of the globe approximately one person in ten lives with a disability of one kind or another , be it vision, hearing, intellectual, physical impairment or mental disorder. Unexpectedly the huge number of such a kind of population is marginalized and their human rights are openly violated in many places.

The conceptual approach and diagnosis of children with intellectual disability is criterion based. The definition and classification is taken from sociological and psychological point of view. Sociologist emphasizes on social Criteria i.e. social competence and psychologist emphasizes on the I.Q. criterion for diagnosing and leveling intellectual disability. But it is important to analyze intellectual disability in terms of developmental disability. The definition is representative, AAMR, 1992, "Mental Retardation refers to 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 skill areas: communication, self-care, home living, social skills, community use, self- direction, health and safety, functional academics, leisure and work. Mental retardation manifests before age 18. Intellectual disability is a developmental disability, characterized by significant impairment in cognitive and adaptive behavior.

The first professional Organization known as American Association of Mental Deficiency was started by Medical Officers of Institutions in 1876. The developmental period was considered from birth to 16 years till 1959 (Haber). Since 1973 conceptual change observed about intellectual retardation when developmental period was described as birth to 18 years and I.Q. was considered about 70 and below instead of I.Q. range 70-85 in a given standardized test. Thereafter, a landmark development took place since 1983, with the new definition by Grossman (AAMR), when developmental period was considered **from Conception to 18** years instead of birth

to 16 or 18 years. This allowed the medical professionals to make decisions on treatment when the baby is in mother's womb and suspected to be abnormal.

The **Delhi declaration (1994)** made by International League of Societies for Persons with Mental Handicap, emphasized on the rights for intellectually disabled person and their families. It also called all the Govt. to disseminate and implement the guidelines of **The Standard Rules**.

The Asian and Pacific Decade of Disabled Persons (1993-2002) was launched by the Economic and Social Commission for Asia and Pacific and adopted the Proclamation at Beijing (Convention) on 1<sup>st</sup> to 5<sup>th</sup> December, 1992 on the Full Participation and Equality of people with Disabilities in Asian and Pacific Region. India was a signatory to the said proclamation and to implement it India enacted "**The persons with disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995**". Article 46 of Indian constitution also ensures "the educational and economic interest of the weaker section people (intellectual disability) to give special care and protection from social injustice and all forms of exploitation". Similarly, the Government of Australia took major policy initiatives before the **Salamanca statement (Spain)** and enacted "**The Disability Discrimination Act, 1992**". Following **Salamanca Statement of UNESCO (1994)**, the USA, Australia, Canada, India and few other countries formulated inclusion policy for children with special needs to bring them into mainstream of socio-economic development. Realizing the need to protect the rights of persons with disabilities including intellectually retarded, **Australia** has enacted "**The Disability Standards for Education, 2005**", in compliance with Salamanca Statement that intended to give students with disability the same rights as **other** students including the right to education and training 'on the same basis,' as students without disability. As per the provisions of **Standards** the education providers are entitled to consider 'reasonable adjustments' to ensure that students with disability should have access to the same opportunities and choices in their education and training that are available to a student without disability.

#### **Statement of the problem:**

In the classification of Exceptional children, the intellectually retarded children belong to the lower end of the scale of intelligence and scholastic aptitude quite opposite and contrary to the gifted who lie on the high end of this scale. The Persons with Disability Act, India, 1995, (Act. 1 of 1996) referred "Mental retardation as a condition of arrested or incomplete development of mind of a person which is specially characterized by sub-normality of intelligence." It has multi-dimensional causes, some of them are preventable. Policy formulations and its implementation facilitate significantly this intervention process.

**Objectives of the study:** The study has the following objectives:

1. Study the causative factors of intellectual disability.
2. To study the family background of persons with intellectual disability.
3. To study how to prevent the incidence of intellectual disability.

#### **Research questions:**

1. If intellectual disability in your child was due to inheritance?  
If Yes/ No: what were the causative factors?
2. Was the intellectual disability in your child due to pre-natal causes?  
If Yes/No: what were the causes?
3. If the intellectual disability in your child was due to post-natal causes?  
If Yes/No: what were the causes?
4. If the intellectual disability in your child is due to socio-economic backwardness?  
If Yes/No: which economic class your child belongs?  
A) upper class  
B) lower class  
C) middle class

## **II. Review of literature**

Hellman & Pritchard.(1971), Reported that about 5 percent of pregnant women have some viral infection which invite dangerous effects during the first three months. The infection gets in causing measles, pox and rubella. Rubella is said to be one of the most acute infection leading to intellectual disability. British psychiatrist Rees, L ( 1970 ) viewed that the risk of women below 25 years of age giving birth to a down syndrome child is 1 in 2300 and is 1 in 100 for women between 40 and 45 years and one in 46 for women older than 45. Khaparde, S. (1987)An analysis of 470 cases of mental retardation in the clinic of AIIMS (New Delhi), reported that 40.1 percent of cases of intellectual disability were found due to genetic and chromosomal abnormalities. The study conducted by Spitz (1945) and Goldfarb (1943& 1945) revealed that there was a positive relationship between maternal deprivation and intellectual disability. In a study White and Watt (1973)

revealed that deprived parent child relation affect intellectual and emotional growth of the child. The study report (Graham; et.al.1963) mentioned that Children with a history of breathing difficulty show more neurological abnormalities and intellectual disorder among children.

Mysore study (Kupuswamy,1961 & 1968); Lucknow, study (Istiaq,1973) on family status of persons with intellectual disability which indicated that a relatively higher incidence of intellectual disability occurred among the lower socio-economic status group. Biswas (1975) the result of a comparative study on family background of children with intellectual disability and the normal children. The result indicated that more children with intellectual disability come from poor family background. Elliot (1979), reported that there are more males than females identified as intellectually disable and more intellectually disable is identified among ethnic, racial minority, and low socio-economic groups. Grossman and Tarjan (1987) pointed out that socioeconomically disadvantaged individuals are over represented among the mild intellectually disable. Those with Mild level of intellectual disability constitute approximately 75 percent of the intellectually disable population in US. Rehabilitation Council of India (RCI) reported, (2007) about 85 percent of all children with intellectual disability score in the range of mild intellectual disability, about 10 percent in the range of moderate intellectual disability, about 5 percent in the range of severe intellectual disability and less than 1 percent of all children with intellectual disability are considered to have profound intellectual retardation. The expert in a WHO sponsored National Seminar (1994) Reported that chromosomal disorders (Down Syndromes) which accounts for 30% of severe intellectual disability, fragile-X syndrome with an estimated incidence of 1:2000. In addition there are other known disorders with abnormalities of the number or structure of chromosome 1% -4% and the inborn errors of metabolism summation of these causes lead to the conclusion that more than 50% of severe intellectually disable is genetically determined. Tests are available to detect any of these problems.

Kraft (1961) was of view that Seguire's optimism to the curability of children with intellectual disability assumed a great driving force behind the establishment of special schools in the first half of nineteen century. Philips (1965) remarked that the methods of Seguire were introduced in special schools of children with intellectual disability in Italy by Maria Montessori and later on by her in the education of normal children. Macmillan et al. (1996) many expert believe that mild intellectual disability is not a lifelong condition and that given appropriate assistance, individuals with mild intellectual retardation will improve. Smith and Luckasson (1995) wrote that mild intellectual disability is a description of present functioning rather than a permanent state of being. Uday Shankar (1976) stated that a scientific diagnosis of mental handicap follow four approaches -(a) Medical examination by the pediatrician (b)psychological or socio-metric examination (c)Achievement or diagnostic tests in school subjects or school report if the child has some schooling (d)developmental history of the child from birth onwards.

Proper education and suitable training from early stage of development may prove as effective reinforcement for the behavior modification of intellectually disable children. Mohanty, G & Kar, C. (1984; 1992) with an example reported that "Individual Centered Educational Programmes" for children with intellectual disability were arranged at the Institute of Defectology, in Moscow city. A child was first diagnosed as intellectually retarded by the age of 6 month. From that age, till the onset of puberty, the Individual Programmes from multidisciplinary points of view were prepared and implemented for the child. It gave a healing touch and on the onset of puberty, the intellectual disability is overcome. Such a Programme is costly but attempts can be made to work out programmes on 'Small Group' if not in Individual Units. Regarding policy analysis and review the following discussions are worthwhile:

### **III. Methodology**

What type of research and what method followed here? It was a diagnostic type of research. The case study method was used to investigate the causes, family background or status and to suggest how to deal with the problems specified. The diagnostic interpretation will help in management approach to intellectually disable. It was focused to the intervention process of intellectual disability. This study employed questionnaire and interview schedule. Considering the nature of its scattered population of children with intellectual disability purposive sampling procedure was followed for the study. The data was collected from the primary source. The investigator visited the locations of 9 special schools (Enrolment: total 575) of the capital cities of 6 North-east states of India –Guwahati, Imphal, Shillong, Aizwal, Agartala, and Kohima.

#### **Data collection**

As a tool questionnaire was used in the Case study for data collection. The study covered a total of 56 intellectually retarded cases in the north east out of which 46 cases were taken from 9 special schools and 10 cases from the department of psychiatry (Guwahati Medical College and Hospital), Psychiatric Clinic (Guwahati) and Mental Hospital at Kohima. The source of information was parents of intellectually disable. Children's birth history, family, school record, and medical history were looked into in the study. The case study report was also collected from 5 psychiatrists following the case diaries in their respective clinic and

departments. The Interview technique was also used for collection of data. A total of 36 persons, (27 parents of intellectually disable and 9 principals of special schools) were interviewed. The Interview Schedule was used for interviewing parents and the principals. Simple Statistical technique was used to analyze data after examining its relevance and suitability as per the objectives and scope of the study.

#### **IV. The Results And Discussions:**

The study findings revealed that 52 percent of incidence of intellectual disability (29 cases) took place at pre-natal stage due to genetic / chromosomal disorders or anomalies including presence of one extra chromosome, consanguinity, over aged pregnancy above 40 years of age. It was also found that due to dehydration, excessive tension and depression of mother during first three months of pregnancy caused intellectual disability in the new born. The findings revealed that 21 percent of the cases were found to be intellectual disability due to neo-natal cause of breathing difficulty from shortage of oxygen supply in brain cell, absence of birth cry resulted in asphyxia and was characterized blue skin. The study also stated that cutting of umbilical cord with rusted knife just after birth of baby, gradual development of a symptom of brain disorder reflected in delayed development in the toddler resulting intellectual disability. The Pre-matured and underweight baby was found developing symptoms of intellectual disability. The study also confirmed of 27 percent of the intellectual disability due to post natal factors including infectious disease like jaundice attack just after 15 days of birth and characterized by a symptom of yellow colored skin. The child at the age of 6 years had also an attack of paratyphoid with frequent convulsion resulting weak limbs with difficulty in walking and finally diagnosed as intellectual disability. Water entered into his brain as the parents were not aware of the effect, the baby was not treated and his head began to enlarge. A two years old child was found with Hydrocephalic symptoms of intellectual disability due to an accidental fall in a bowl of hot water. Hot water poured into brain resulting from the accumulation of abnormal amount of cerebrospinal fluid due globular enlargement of the cranium. The infants of working mothers who were deprived of breast milk started bottle feeding resulted in nutritional problem that caused intellectual disability. Table-I: Data analysis of case study

Sl.no.	Causes of intellectual disability	Total cases	Percentage
1	Genetic: Chromosomal abnormalities 09 cases (16.07%), Consanguinity 5 cases (8.93%), Over-aged pregnancy 11cases (19.64%), Dehydration and deprivation 04 cases (7.14%)	29	51.78%
2	Neo-natal: Asphyxia cases 08 (14.29%) pre-matured birth 03 cases (3.36%), rusting substance while cutting umbilical cord 01 cases.(1.75%)	12	21.43%
3	Post natal: Jaundice attack 03 cases (5.37%) hot water in brain 01 case (1.79%) deprivation of breast milk 05 (8.93%), typhoid and frequent attack with epileptic fit 06 cases	15	26.79%
		Total= 56	100%

The findings indicated that Intellectual disability occurs among the children irrespective of their economic class. The incidence of 42 percent occurred among middle class family, 39 percent cases among lower class family and 19 percent of incidence was found among upper class family. Table- II: Case study on socio-economic status

Sl.no.	Class	Total cases	Percent
1.	Upper class	07	19%
2.	Middle class	15	42%
3.	Lower class	14	39%
Total= 36			100%

#### **V. Conclusion:**

The intellectual disability may be caused by pre-natal, neo-natal and post natal causes. Genetic or hereditary factors remain as dominant factors of intellectual disability. Intellectual disability may take place irrespective of socio-economic status of families. The psychological factors like anxiety, nervous tension, depression, malnutrition and dehydration during pregnancy of expectant mother may cause intellectual disability in newborn babies.

The complex problem of Intellectual disabilities has to be addressed by joint efforts of the stakeholders- the Ministry, Planning commission, education agencies, health organizations, social workers and non-governmental organizations with greater understanding and cooperation. The Government machinery has to plan how to intervene the problems of intellectual disability. The life and rights of children with intellectual disability be protected, their safety and security must be ensured, equal, special and inclusive educational opportunity be provided to them. Governments Legislations, acts and policies should be implemented in letter and spirit. Disable friendly welfare schemes and programmes on awareness may launch centrally and locally involving Parent's Association of the persons with disability. The present study results will have implications at individual as well as societal level and may help the service providers, administrators in planning or developing programme of action for preventing its incidence, and giving education or rehabilitation services as their requirement.

### **Relevance and implications:**

Parents and family member of intellectually disable are under stress due to challenges of their education, rehabilitation and self-dependent life. Children with intellectual disability couldn't meet the demands of the society like normal peer group members. The extent of problem varies depending upon their degree of disability from mild to profound. Adequate opportunities of education and training to mild and moderately impaired children can give positive result. Whom we call severely and profoundly retarded as helpless, totally dependent have also a chance to improve provided that there are better health care of mother and child, provision of legal custody and protecting their rights. What their parents expect is to develop children's adaptive behavior and functional skills for effective existence which can be ensured with equal opportunity and access of education and rehabilitation services. Intellectual disability is a field where few researches has been conducted than the other areas of disability and most of the studies were carried out in metropolitan cities and in urban centers. North east India is educationally and economically backward and hardly any research study has been conducted with the coverage of entire region. This study has been under taken to give a holistic approach to understand the challenges of children with intellectual disability and to provide concrete conceptual ideas of the causes and intervention, disseminating research findings and reviews of the studies, land mark legislations and policy initiatives for empowering the person with intellectual disability. This study will motivate researchers and reinforce them to carry further research on other areas of intellectual or physical disability with a purpose to develop their living conditions. If research data and findings are not available with the administrators and the policy makers they face difficulty in policy formulations and would be facing problems for planning of mainstreaming services. This paper will facilitate sensitizing the stakeholders about the issues of such children to carry forward the plan and programmes in the days ahead. The causative factors of mental disability is quite relevant and may facilitate any of the following stakeholders- social workers, NGOs, parents, principals, teachers and other service providers involved in school management, vocational rehabilitations and therapeutic services. This is the significance of the study the intellectually disable person deserve from society.

### **Suggestions for further study:**

1. Study may be conducted on other types of disability.
2. Co-relational studies on intellectual disability and other associated disability.
3. Studies on the evaluation of different welfare schemes for children with intellectual disability.
4. Studies for the practices of yoga for persons with intellectual disability.

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