

Intellectual Disability in India: An overview

Ritu Kalgotra^{1*}, Jaspal Singh Warwal²

1. Research scholar, Department of Education, University of Jammu, Jammu, India.

2. Sr. Assistant professor, Department of Education, University of Jammu, Jammu, India.

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ABSTRACT

Intellectual disability is a disorder with onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social, and practical domains (DSM-American Psychiatric Association (2013)). The present research discusses the change in the terminology of intellectual disability at different times, medical aspects of intellectual disabilities including signs and symptoms, methods of diagnosis, tools for assessment, degrees, causes, associated health problems and prevalence of intellectual disabilities are highlighted. Educational aspects of intellectual disabilities including different methods of provision of education, special schools, integrated education, vocational education and employment of persons with intellectual disabilities in Indian setting are discussed. Further, it is suggested that the future researchers should emphasize in designing interventions in social skill training, language skill training, reading and writing training, music activities, yoga program, dance activities, art and craft activities and physical fitness program for the children with intellectual disabilities.

Keywords: Intellectual disability, Adapting behavior, Intelligence Quotient, Social skills.

INTRODUCTION

Individuals with intellectual disabilities have delayed intellectual growth, below average academic performance and limitations in skills such as communicating, social skills and self-help skill. Intellectual disability is a condition in which there is a significantly sub-average mental development from birth or early childhood. It is substantial limitations in age-appropriate intellectual and adaptive behavior and it is a lifelong condition and seldom a time-limited condition. These children are slow in reaching developmental milestones later than the normal children. In most individuals with intellectual disabilities, the parts of the brain continue to develop that is not damaged. Therefore, they continue to acquire skills and abilities as they grow older. It is often noted that brain damage causes a delay in development causing skill deficits in some form. When training support is extended in early years and links are strengthened between home and school adequately, then training effects sustain for a longer duration. Intellectual disability is not a mental illness. Mental illness can occur at any

age, whereas intellectual disability is present from childhood. However, some people with intellectual disability may also develop mental illness which could be result of some behavioral, psychological, or biological dysfunction in the individual and can be cured through systematic treatment.

Terminology of Intellectual Disabilities

The term Intellectual disability has been adopted by the International Society for the Scientific Study of Intellectual Disabilities and the World Health Organization (WHO). In 2009, through voting by the members of American Association on Mental Retardation, it was renamed as American Association on Intellectual and Developmental Disabilities, due to negative connotations and stigmatization attached to the term mental retardation.¹ Present definitions describe intellectual disability as the condition in terms of functional and educational terms rather than clinical terms hence changing from medical model to rehabilitative model. The change in describing a condition of intellectual disabilities has been given chronologically. The World Health Organization Expert Committee (1968)² reported different grades of mental retardation in conjunction with social factors and has provided a classification scheme of mental retardation in terms of IQ ranges – mild, moderate, severe and profound categories of retardation. Corbett (1977)³ defined mental handicap as that condition where the intellectual deficit is associated with a social, physical or psychiatric handicap, and requires special care or treatment. American Association of Mental Retardation (1992)⁴ refers mental retardation to a significantly sub-average intellectual functioning, existing

Corresponding Author: R. Kalgotra
Email: ritusatya7@rediffmail.com

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concurrently with 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, Work. Persons with Disabilities Act (1995), defines mental retardation as a condition of arrested or incomplete development of a person, which is specially characterized by sub-normality of intelligence manifesting before age of 18 years. According to Diagnostic and Statistical Manual of Mental Disorders (DSM-IV),⁵ three criteria must be met for a diagnosis of mental retardation: an IQ below 70, significant limitations in two or more areas of adaptive behavior (as measured by an adaptive behavior rating scale, i.e. communication, self-help skills, interpersonal skills, and more), and evidence that the limitations became apparent before the age of 18.

American Association on Mental Retardation, (2002)⁶ defines mental retardation as a disability characterized by significant limitations both in intellectual functioning and in adapting behavior as expressed in conceptual, social and practical adaptive skills. An accurate diagnosis of mental retardation requires three components as an IQ score of approximately 70 or below, a determination of deficits in adaptive behavior and Origins of the disability prior to age 18. The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, (DSM-IV-TR, 2008),⁷ defines mental retardation as a central nervous system dysfunction producing an IQ below 70; which results in significant deficiencies in two or more life skills, such as self-direction, academic skills, social skills, communication, health and work.

According to American Association on Intellectual and Developmental Disabilities (2009),⁸ intellectual disabilities is a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior, which covers many everyday social and practical skills. This disability originates before the age of 18. Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5),⁹ defines intellectual disabilities as neurodevelopment disorders that begin in childhood and are characterized by intellectual difficulties as well as difficulties in conceptual, social, and practical areas of living. The two different organizations classifying intellectual disability are American Association on Intellectual and Developmental Disabilities (AAIDD) and the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5),⁹ which is published by the American Psychiatric Association. The classification of severity of the intellectual disability is according to the levels of support they need (Table 1).

Characteristics of Intellectual Disabilities

1. Medical Characteristics included blunt features, small stature, protruding tongue, inability to walk with good coordination and small or large head.

2. Behavioural Characteristics included difficulty in making decisions, slow response, difficulty in completing a task uninterrupted even for a short duration, aggressive reaction when demands are not met immediately, difficulty in remembering, difficulty in attending to their self-care needs and difficulty in complying with group game rules or social norms.

3. Educational characteristics included slow in understanding and learning, poor attention, lack of concentration, short tempered, poor memory, lack of coordination, poor motor development and slow speech development.

Signs and symptoms of Intellectual Disabilities

Except for syndromic intellectual disabilities, most of the people with intellectual disabilities don't show any physical characteristics especially if it is due to environmental factors.

- i. Delays in oral language development
- ii. Deficits in memory skills
- iii. Difficulty learning social rules
- iv. Difficulty with problem-solving skills
- v. Delays in the development of adaptive behaviours such as self-help skills
- vi. Lack of social inhibitors

Diagnosis of Intellectual Disabilities

According to Diagnostic and Statistical Manual of Mental Disorders (DSM-IV),⁵ three criteria must be met for a diagnosis of mental retardation: an IQ below 70, significant limitations in two or more areas of adaptive behaviour (as measured by an adaptive behaviour rating scale, i.e. communication, self-help skills, interpersonal skills, and more), and evidence that the limitations became apparent before the age of 18. It is formally diagnosed by a professional assessment of intelligence and adaptive behaviour. The DSM-V⁹ diagnosis is expected to require adaptive measurements of less than two standard deviations as compared to the population mean, with standard scores of 70 or less, in at least 2 of the following domains: Conceptual skills (communication, language, time, money, academic), Social skills (interpersonal skills, social responsibility, recreation, friendships) and Practical skills (daily living skills, work, travel). Depression, anxiety, etc. can also contribute to low IQ scores, which evaluator should rule them out before concluding that measured IQ. The second component of diagnosis, adaptive skills, is usually measured with a self-reported or a parent/caregiver-reported inventory, such as the Vineland Adaptive Behaviour Scales. Other methods of diagnosis are as:

1. A physical examination should be done to discover any symptom. Physical examination can begin with a review of growth curves since birth; the head circumference should to be plotted regularly.
2. Compilation of complete medical, family, social, and educational history from interviews with parents and existing medical and school records.
3. Some clues to diagnose intellectual disability include delayed speech, general inability to do things for self.
4. Assessment of maternal health during pregnancy (signs of infection, use of tobacco, alcohol and drugs, serious illness or injury).
5. A developmental screening should be done regularly to study child's developmental rate and pattern.
6. Information should be obtained about the family and educational achievements, parents' occupations educational and developmental status of siblings, the role of the patient in the family, discipline of the children and family history of intellectual disabilities.

Severity Category	DSM-IV Criteria (On the basis of IQ categories)	DSM-5 Criteria (on the basis of daily skills)	AAIDD Criteria (on the basis of intensity of support needed)	Distribution of cases by Severity
Mild intellectual disability	IQ range 50–69	Can live independently with minimum levels of support.	Intermittent support needed during transitions or periods of uncertainty.	85%
Moderate intellectual disability	IQ range 36–49	Independent living may be achieved with moderate levels of support.(in group homes)	Limited support needed in daily situations.	10%
Severe intellectual disability	IQ range 20–35	Requires daily assistance with self-care activities and safety supervision.	Extensive support needed for daily activities.	3.5%
Profound intellectual disability	IQ less than 20	Requires 24-hour care.	Pervasive support needed for every aspect of daily routines.	1.5%

Table 1. Classification of severity of intellectual disabilities

Tools for assessment of Intellectual Disabilities

1. Developmental screening tests:
 - i. Revised Denver Pre-screening Developmental Questionnaire ¹¹
 - ii. Kansas Infant Development Screen ¹²
 - iii. Bayley Scales of Infant Development ¹³
 - iv. Developmental Screening Test (DST) by Bharat Raj ¹⁴
 - vi. Functional Assessment Check List for Programming (FACP) ¹⁵
2. Behavior assessment scales in Indian setting
 - i. Behavioral Assessment Scale for Indian Children with Mental Retardation (BASIC-MR) by NIMH ¹⁶
 - ii. Vineland social maturity scale by Bharatraj ¹⁷
 - iii. Madras Developmental Programming System (MDPS) ¹⁸
 - iv. Problem Behaviour Checklist by Peshawaria ¹⁹
 - v. Adaptive Behaviour Scale (Indian Revision) by Gunthey and Upadhyaya ²⁰
3. Developmental schedules
 - i. Gesell Developmental Schedules ²¹
 - ii. Baroda - Bayley Scales of Infant Development ²²
 - iii. Motor and Mental Development of Indian Babies (Pramila Phatak) ²³
4. Intelligence tests
 - i. Stanford-Binet Intelligence Scale ²⁴
 - ii. Wechsler Intelligence Scale for Children (WISC-IV) ²⁵
 - iii. Kulshrestha Infant Intelligence Scale ²⁶
 - iv. Kaufmann Assessment Battery for Children ²⁷
 - vi. Leiter International Performance Scale (Leiter-R) ²⁸
 - vi. Ravens Coloured Progressive Matrics ²⁹
 - vii. Seguin Form a Board test ³⁰

Degrees of Intellectual Disabilities

The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) ⁵ has classified four different degrees of intellectual disabilities as:

1. Mild intellectual disability (IQ 50–69): Approximately 85% of the population with intellectual disabilities is mildly disabled. These individuals could learn, read and develops mathematical skills up to the level of 9 to 12 years of a typical child. They can learn daily living skills and practical skills, such as cooking. As an adult, they may learn to live independently and also get employment.
2. Moderate intellectual disability (IQ 35–49): About 10% of the intellectual disability population is considered moderately disabled. They can carry out work and self-care tasks with moderate supervision and need supports everywhere in the society. As adults, they may live in a supportive group home, or even semi-independently with significant supportive services. They may work in the sheltered workshop.
3. Severe intellectual disability (20–35): About 3–4% of the population with intellectual disabilities is severely disabled. They may master very basic self-care skills and some communications skills. Many individuals with severe disabilities are able to live in a group home. They need more supervision and intensive support throughout their life. Severe intellectual disabilities manifest as major delays in development, and individuals often have the ability to understand speech but otherwise have limited communication skills (Sattler, 2002). ¹⁰
4. Profound intellectual disability (20–35): Only 1–2% of the population with intellectual disabilities is classified as profoundly disabled. They cannot live independently and

needs help with self-care activities. Their ability to communicate is very limited. They may be able to develop basic self-care skills and some communication skills with appropriate support and training. Their disability is often caused by an accompanying neurological disorder. Persons with a profound intellectual disability often have congenital syndromes (Sattler, 2002).¹⁰ These persons have more likely to have associated medical conditions such as neurological disorder.

CAUSES OF INTELLECTUAL DISABILITIES

Some common causes of intellectual disabilities are as:

1. Prenatal (before birth)

i. Chromosomal disorders

a. Down's syndrome or Mongolism is caused by chromosomal aberrations. It was Langdon Down who first discovered this syndrome in 1886. Due to biological error around the time of conceptions, the cells come to have one extra chromosome i.e. 47 instead of 46 chromosomes. This extra chromosome is the cell interferes with the normal development of the brain, leading to intellectual disability. It occurs one in 800 new born babies. They are often recognized by their facial appearance, up slanting eyes and flat bridge of the nose. Although they are intellectually disabled, they possess good social and interactional skills.

b. Klinefelter's Syndrome is a chromosomal abnormality in which an extra chromosome is found to be defective.

c. Other syndromes are Fragile X Syndrome, Willian's Syndrome, Prader-Willi Syndrome, Phelan-Mc Dermid Syndrome and Siderious type X-linked intellectual disability.

ii. Single gene disorders

a. Brain malformations

b. Tumors in the brain may cause hydrocephalus (accumulation of an abnormal amount of cerebrospinal fluid in the cranium), microcephaly (growth of abnormal cells that form supporting structure of the brain), Epiloia (numerous nodules or tumors are found throughout the brain).

c. Metabolic Disorder

d. Chromosomes in human cells contain genes which control growth and maturation of the brain. Some of these are responsible for chemical or metabolic reactions which are essential for growth of the brain. If such a gene is abnormal it can lead to derangement of metabolic reactions and causes intellectual disability. Phenylketonuria is such a condition. In addition to intellectual disability, these children have light coloured hair and skin, a small head and are prone to convulsion.

iii. Adverse maternal environmental influences

iv. Iodine deficiency disorder (Cretinism): Lack of availability of iodine from the mother restricts the growth of the brain of the foetus and causes hypothyroidism. Babies with this problem have intellectual disability, hearing impairment, lethargy, coarseness of facial feature, rough and dry skin, neck swelling because of enlargement of thyroid gland, feeding problem.

v. Trauma: The incidence of intellectual disability is reported to be significantly high if the uterus of pregnant women is irradiated during the first three months of pregnancy.

iv. Intoxication: Permanent brain damage and intellectual disability are found due to the postnatal accidental poisoning of infants and children due to carbon monoxide, lead, arsenic, quinine and other substances.

vii. Lack of adequate diet for pregnant women can have a direct and indirect effect on brain development and thereby increase the risk of sub-normal development.

viii. Maternal Infection: Rubella or German measles is generally a harmless viral infection in adults, producing symptoms of mild fever, rash, and enlargement of lymph nodes. Mothers who contract German measles or Rubella first time during the first three months of pregnancy may produce children who show symptoms of disorder, intellectual disability, visual impairment, or deafness. Variety of prenatal infectious conditions may also lead to an intellectual disability of the child. These conditions include cytomegalia, a body disease in which virus infects the foetus and toxoplasmosis, which is an infection due to protozoan. In both the cases, the infection may be latent in the mother but transmitted to the foetus. Toxoplasmosis is a disease that can cause severe neurological damage to the developing foetus.

ix. Parental illness: Foetal alcohol syndrome is caused by alcohol intake in the first twelve weeks of pregnancy. Cigarette smoking during pregnancy has also been linked to intellectual disability. If the mother has high blood pressure, the flow of oxygen to the foetus may be reduced, causing brain damage and intellectual disability.

2. Perinatal (around the time of birth)

i. Difficult / Complicated Delivery: When due to a complicated delivery, oxygen supply to the baby is reduced which can result in brain damage as the brain is very sensitive to oxygen deprivation (brain asphyxia). Such babies may develop an intellectual disability or cerebral palsy.

ii. Birth trauma: Respiratory difficulties after birth, convulsions, and inability to make normal sucking movements can also cause intellectual disability. Premature birth, very low birth weight, birth asphyxia, and severe jaundice, haemorrhage of the brain at the time of birth are also causes of intellectual disability.

3. Postnatal (in infancy and childhood)

i. Head injury, chronic lead exposure, Severe and prolonged malnutrition.

ii. Psychological causes: Emotionally disturbed children are considered to be oversensitive to psychological stress. Emotional deprivation and disturbed parent child reactions are some of the factors associated with intellectual disabilities.

iii. Brain Infections: Brain infections such as tuberculosis, Japanese encephalitis, and bacterial meningitis Children who are otherwise normal suddenly develop fever, headache, vomiting, convulsions, and loss of consciousness due to infection caused by bacteria or virus. If the infection is severe, there may be irreversible brain damage leading to intellectual disability. After recovery from acute illness, they may lose many skills which they have learned earlier.

HEALTH PROBLEMS ASSOCIATED WITH INTELLECTUAL DISABILITIES

The common health problems associated with intellectual disability are as follows

1. **Behaviour Problems:** Symptoms like restlessness (continuously moving around; unable to sit in one place), poor concentration, temper tantrums, irritability, crying, disturbing behaviour like aggression and self-injurious behaviour are exhibited by these children.
2. **Convulsions:** About 25 percent of people with intellectual disabilities get convulsions which can occur involving the whole body, or only one-half of the body, or sudden single jerks leading to a fall. Convulsions can be easily controlled with proper medication.
3. **Sensory impairments:** Difficulties in seeing and hearing are present in about 5-10 percent of persons with intellectual disability. These problems can be resolved by using hearing aids or glasses or undergoing surgery.
4. **Cerebral Palsy:** There is a gross delay in the development of gross and fine motor functions in children. These children have great difficulty in initiating and controlling their muscles and body movements. They have normal speech, learning ability, and social skills but their limbs are too stiff. They are treated through physiotherapy and stimulation through which motor development could be enhanced.
5. **Language Developmental Disability:** Some children develop well in all other aspects except speech but their hearing is normal. Many of these children are able to understand what is spoken to them, but they are slow in learning to speak. These children can be benefited from speech therapy. Many of the children with this condition grow up to be normal.
6. **Autism:** These children spend most of their time repeating the same activities again and again, fail to develop the ability to relate and interact with people and tend to be lost in their own world. They have poor eye contact, develop some limited speech, but fail to use it for communication with others and hence remain indifferent towards the people. Treatment for autism involves behavioural training to improve social, communicative, and self-help skills.

TREATMENT OF INTELLECTUAL DISABILITIES

1. Federal legislation entitles children with intellectual disabilities to get free testing, individualized education, and skills training within the school system from ages 3-21.
2. For children under the age of three, many states have established early intervention programs for the assessment and start treatment programs.
3. Many special schools are available to train retarded children in daily living skills such as bathing and feeding themselves. They are taught different extracurricular activities and social skills that help adolescents to gain self-esteem.

4. Training in independent living and job skills often begun in early adulthood. Mildly retarded individuals are able to acquire the skills needed to live independently and hold a gainful employment.
5. Intervention programmes are well designed to help relatives of the children with intellectual disabilities to develop coping skills which help parents deal with feeling of guilt.

PREVENTION OF INTELLECTUAL DISABILITIES

According to WHO, Primary prevention refers to a set of approaches that reduce or eliminate the risk of intellectual disability in the community. Knowledge of the causes of intellectual disability can help to reduce cases by at least 25% by practicing primary prevention. There are many methods of primary prevention which are classified as simple, and complicated.

1. Interventions at the community level (simple methods)
 - i. Improving the nutritional status of the community as a whole, especially a girl child in order to reduce the risk factors for intellectual disabilities such as low birth weight, and prematurity in the offspring
 - ii. Universal iodization of salt to prevent iodine deficiency disorders and administration of folic acid tablets to reduce the occurrence of neural tube defects.
 - iii. Nutritional supplementation during pregnancy, focusing on intake of calories and iron;
 - iv. Universal immunization of children with BCG, polio, DPT, and MMR to prevent many disorders having the propensity to damage the brain and thereby causing intellectual disabilities. Rubella immunization can eradicate the occurrence of maternal rubella syndrome.
 - v. Avoiding exposure to harmful chemicals and substances including alcohol, nicotine, and cocaine during pregnancy.
 - vi. For proper intellectual development, an enriching and stimulating environment for children should be provided from early childhood.
 - vii. Different sources of environmental pollutants (such as using unleaded petrol) should be reduced.
 - viii. At different levels, health education during the formative years can lead to healthy practices during pregnancy and child-rearing. Early Intervention Program (EIP) through early stimulation can minimise the influence of disorder. The cases which could not be prevented through primary prevention are certainly identified early through community outreach programs and Anganwadi Workers (AWW) under Integrated Child Development Scheme (ICDS).
2. Advanced methods

These are technology-intensive and generally more expensive than simple measures.

 - i. Prenatal diagnosis/screening such as amniocentesis and ultrasonography can detect the abnormalities of a foetus in the womb.
 - ii. Neonatal screening and immediate treatment for PKU and hyperthyroidism can usually catch these disorders early and can prevent retardation.

iii. Developmental screening as a routine for undernourished children.

iv. Genetic counselling: molecular genetics for the detection of genetic and other disorders is a new technique. The detection of the presence of Down's syndrome through a blood test on the mother during early pregnancy is possible.

PREVALENCE OF INTELLECTUAL DISABILITY

Intellectual disability affects about 2–3% of people. 75–90% of the affected people have an intellectual disability. Non-syndromic accounts for 30–50% of cases. In accordance to report (NSSO Report No.393, 1991)³¹ enrolment of children with disabilities in ordinary schools was only 0.01% both in urban and rural areas. Therefore, enrolment, as well as retention in school, is a major problem for children with disabilities. According to Rehabilitation Council of India's report on Manpower development (1996)³², estimated on the basis of the NSSO report, the population of children with disabilities in the age group 5-14 was 9 million for intellectual disabilities and 3 million for cerebral palsy. It can be estimated that there are nearly 24 million individuals in India with intellectual disabilities, out of which approximately six million are moderately, severely or profoundly handicapped. Out of the 24 million, 0.8 million are adults over 20 years of age whereas 15 million are children below 10 years of age. (CBR Manual: Concept and Extent of disability in India). The National Sample Survey³³ enumeration for general population made an attempt in 2002 to report data gathered during 2001 national census study. According to World Health Organization, in surveys in the general population in India among people of all ages, it has been found that around 2% have an intellectual disability. In other words, in a village of 1,000 people, one can expect to find around 20 people with intellectual disability. But if one estimates the problem only in children, (under 18 years of age) there will be about 3% of cases with intellectual disability among all children under 18 years of age in the same village.

EDUCATION OF THE CHILDREN WITH INTELLECTUAL DISABILITIES

The education for children with intellectual disabilities has changed from no education to special education, and integrated education to present day inclusive education. Initial resistance from normal schools, which was based primarily due to misconceptions on intellectual disability, has been replaced by acceptance to have a "child with special needs" (CWSN) in a normal class. According to inclusive education, each child irrespective of the disability and social class should be given education and this model is based on the social model of disability which is reflected in PWD Act, 1995 and UNCRPD, 2007.

Special education

Special education programs should be individualized to the each child's unique needs. Accommodations and modifications to the regular program may include changes in curriculum, supplementary equipment, and the provision of specialized physical adaptations that are necessary for the children to participate in the educational environment to their fuller extent.

A small number of special education teachers work with students with intellectual disability or autism, primarily teaching them life skills and basic literacy. However, the majority of special education teachers work with children with mild to moderate disabilities, using the education curriculum of normal children, or modifying it according to special child's individual needs. An informal functional assessment guide for all disabilities has been developed (NCERT, 1990) for use by teachers.

METHODS OF PROVISION IN SPECIAL EDUCATION

i. Inclusive education: Lot of stress has been on the research on the inclusive education of children with special educational needs where they spend all, or at least more than half, of the school day with students who do not have special educational needs. Children with mild to moderate intellectual disabilities could definitely be benefited from inclusive education. However, the children with more severe forms of intellectual disabilities should be taught in special schools or through home-based programs. Integration helps in reduction of social stigmas and improvement of academic achievement of these children. Students may occasionally leave the regular classroom to attend other related services that might require specialized equipment class, such as speech and language therapy, occupational therapy, or physical therapy.

ii. Exclusion: Most students with intellectual disabilities have been excluded from school and such exclusion may still occur where there is no legal mandate for special education services, such as in developing countries. It happens in the cases when a student is housebound, in a hospital or detained by the criminal justice system. They are taught through one-on-one instruction or sometimes group instruction.

iii. Segregation: The child may attend the same school where regular classes are provided, but spend all instructional time exclusively in a separate classroom for students with disability which provides them opportunity for social integration outside the classroom, through eating meals with nondisabled students

Special schools

Special schools may be specifically designed, staffed and resourced to provide the appropriate special education for children with additional needs. Any type of classes in mainstream schools is not attended by the children attending special schools. These schools provide education in behavior modification through the services of physiotherapy, speech therapy, music therapy, yoga therapy and special education techniques by a team of interdisciplinary teachers, whom we approached by paying visits, who are employed in other noted institutions. The schools train children in daily living skills, which are unable to do their daily chores, like eating, dressing, grooming, and also toileting etc. The main aim of this training program is to infuse confidence in them, to make them feel that, they are quite efficient and can attend to their daily needs with more confidence than ever as the ordinary children of their age group and move in the society with some satisfaction facing challenges. Children are also trained in vocational training like chalk-making, candle making doll-making, preparation of vaseline, paper cup making, gardening, easily marketable items

like notebooks preparation and dairy-farming are taken up. Engagement of children in these activities develops self-confidence which paves the way for the development of human resources.

Integrated education

The term integration is based on the principle of normalization. The functional approaches of Integrated Education adopted by many NGO and private schools are an assimilation of children with intellectual disabilities with normal children that removes the feeling of insecurity and inadequacy among the children with intellectual disability, hence creating new skills, and attitudes among the teachers. The Kothari Commission, 1964-66, and UNESCO in the 1970s recommended that those children who are capable of being educated in the mainstream schools should be given equal opportunity through integrated education. The National Policy on Education (NPE) in 1986 stated that the objective should be to integrate the children with physical and intellectual disabilities with the general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence. Some of the government institutions involved in the improvement of the special education are Institutions for Developing Activities in Planning and Management, State Council of Educational Research & Training (SCERT), District Institution of Education and Training (DIET), The State Institute of Education (SIE), The National University of Educational Planning & Administration (NUEPA). UNESCO and Government of India have proposed to establish an International Centre for Special Needs Education in New Delhi which caters to the Asia-Pacific Region.

VOCATIONAL TRAINING AND EMPLOYMENT OF PERSONS WITH INTELLECTUAL DISABILITIES

There is no quota yet for persons with intellectual disabilities in government sector but for physically disabled there is 3% reservation. Children with mild to moderate intellectual disabilities could be benefited through courses under Modular Employable Scheme (MES) of the Ministry of Labour, Government of India. Special schools in India provide education up to 18 years, including pre-vocational and vocational training. Earlier, vocational training was an extension of the school program where traditional routine skills such as weaving, caning chairs, tailoring, carpentry, and crafts were taught. Now with the establishment of activity centers, training involves matching the levels, from mild to severe levels of intellectual disabilities, with open employment, sheltered employment, and family supported employment. Vocational training is important to the rehabilitation of persons with intellectual disabilities and is given at the pre-vocational level where the objectives are to impart training and create opportunities for development of functional academics, social skills, safety and survival skills and work readiness skills. Vocational Training is meant for adults with intellectual disabilities who complete their special schooling with intermittent, limited, extensive and pervasive support. This support continues into their vocational training, placement and thereafter. A trained person with intellectual disabilities may go

for of the possible employment. Individuals with severe levels of intellectual disability, usually work in sheltered workshops or in adult day activity centers where they may be underemployed or isolated from the mainstream. Persons with mild and moderate intellectual disabilities may be trained in a sheltered workshop in areas like assembling and packing units in workshops, carpentry units and in spray painting and after training, they are employed there. The routine, repetitive jobs are taught with initial support from the trainer. Individuals with mild intellectual disabilities are more suitable for open employment such as office boys, helpers in canteens, in shops (stationery and grocery). For the persons with mild intellectual disabilities dairy/poultry farms and agriculture, envelope making, candle making and running a small pan shop are most suitable.

INITIATIVES OF THE MINISTRY OF LABOUR, GOVT. OF INDIA

There are 47 Special Employment Exchanges and 914 regular employment exchanges that cater to the employment needs of job-seekers with disabilities. Disabled persons can get seventy-five percent concessions in the basic train fare, preferential allotment of telephone booths, preferential allotment of plots and housing sites by housing boards and urban development authorities. In the case of cerebral palsy and intellectual disability, parents can have choice posting in government service and 100% assistance for voluntary organizations for developing organizational infrastructure and training professionals. But, there is no unemployment allowance/social security or any other security benefits available to persons with disabilities.

SUGGESTIONS FOR THE RESEARCH

There is a need to provide intervention program for the children with intellectual disabilities depending upon their degrees of disabilities on social grounds. These children if well educated and trained can become self-sufficient citizens of our society. As we are citizens of the largest democracy, justice demands that a government has to look to the needs of every section of the population. It is the right of people with intellectual disabilities to lead their lives with respect and dignity which is possible through positive changes in societal awareness, attitudes and beliefs about intellectual disabilities. On humanitarian grounds, education must be given to these unfortunate children in order to make their lives worth living. It is necessary to make the separate arrangement for the education of children with intellectual disabilities as and if we do not make provision for their education, their potentialities will remain undeveloped resulting in great wastage of human resource and they will become a liability to the society. They may develop adjustment problems which may ultimately lead them to neurotic behavior. Through systematic efforts and using proper techniques, it is possible to teach and train them in adaptive behaviour skills. The aim of training for individuals with intellectual disabilities is to prepare them for social life and to help them to acquire the skills necessary to lead independent or least dependent lives. In recent years, particular emphasis has

been put on the necessity to help these individuals to acquire certain social skills in order to prepare them for social life. The special schools provide training in basic skills such as dressing and bathing etc to help children to improve self-esteem and extra-curricular activities to develop occupational skills. Children with intellectual disabilities are unable to perform various functions such as communicating and socializing with others, and, in many situations, even looking after themselves. They experience problems with basic activities, including eating, dressing, talking and walking. They are extremely vulnerable to depression, poor self-image and a lack of self-confidence. The pace at which they learn and grasp things is much slower than that of children without intellectual disabilities. These individuals find it difficult to learn and the time taken to teach them is substantially longer than that taken to teach those without intellectual disabilities. The future researchers should emphasize in designing interventions in social skill training, language skill training, reading and writing training, music activities, yoga program, dance activities, art and craft activities and physical fitness program for the children with intellectual disabilities.

REFERENCES

1. S.R. Se Schroeder, M. Gerry, G. Gertz, Velazquez. Usage of the term Mental Retardation: Language, Image, and Public Education, **2002**. Kansas University Center on Developmental Disabilities: Center for the Study of Family Neighborhood and Community Policy.
2. World Health Organization and World Bank. World Report on Disability. Geneva: WHO Press, **1968**.
3. J. Corbett, Mental Handicap-Psychiatric aspects. In M. Rutter (Ed.), *Child Psychiatry, Modern approaches*. Oxford, Blackwell scientific: Philadelphia, Lippincott, **1977**. (Cited in: Sen., 1992)
4. American Association on Mental Retardation. Mental Retardation: Definition, classification and systems of supports. Washington, DC: American Association on Mental Retardation, **1992**. <http://www.aamr.org/mentalretardation>.
5. American Psychiatric Association. Mental retardation, *In Diagnostic and Statistical Manual of Mental Disorders*, 4th ed., text revision, Washington, DC: American Psychiatric Press, Inc, **2000**.
6. American Association on Mental Retardation, Mental Retardation: Definition, classification and systems of supports, 10th Edition. Washington, DC: American Association on Mental Retardation. **2002**. <http://www.aamr.org/mentalretardation>.
7. American Psychiatric Association Diagnostic and Diagnostic and Statistical manual of mental disorders, 4th Edn, Text Revision. Washington DC: American Psychiatric Association-MR, **2008**. [www.googlesearch.co.in/Psychiatric Association/ DSM-IV TR](http://www.googlesearch.co.in/PsychiatricAssociation/DSM-IVTR).
8. American Association on Intellectual Developmental Disabilities. Intellectual disability: Definition, classification, and systems of supports. Washington, DC: AAIDD, **2009**.
9. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th Edn, Washington, DC: APA, **2013**.
10. J.M. Sattler, Assessment of children: Behavioral and clinical applications. San Diego: J.M. Sattler, **2002**.
11. W.K. Frankenburg, A.W Fandal, S.M Thornton. Revision of Denver Pre screening Developmental Questionnaire. *Journal of Pediatrics*. **1987**, 110(4), 653-7.
12. G.E. Holmes, R.S. Hassanein. The KIDS chart. A simple, reliable infant development screening tool. *American Journal of Diseases of Children*, **1982**, 136(11), 997-1001.
13. Bayley, Nancy. Bayley scales of infant and toddler development: administration manual, Harcourt Assessment. San Antonio, TX, **2006**.
14. J. Bharath Raj. DST Manual +Know your child's in intelligence and how to improve it. Sri Meera Printers: Mysore, **1983**.
15. Narayan, Myredi, Rao & Rajgopal. Functional Assessment Checklist for Programming-NIMH. National Institute for the Mentally Handicapped, Secunderabad: Vikas Publishing house, New Delhi, **1994**.
16. R. Peshawaria, S. Venkatesan. Behavioural Assessment Scale For Indian Children-MR. National Institute for the Mentally Handicapped, Secunderabad: Vikas Publishing house, New Delhi, **1992**.
17. J. Bharatraj. Vineland Social Maturity Scale and manual. Indian adaption by A.J. Malin, Enlarged edition. Yamsidtha Prakasan: Mysore, **1992**.
18. Jeyachandran, Vimala. Madras Developmental Programming System, Vijay Human Services:Chennai, India, **1972**.
19. S. Arya, I.L. Peshawaria, S. Naidu, S. Venkatesan. Problem Behaviour Checklist. In Peshawaria, R. "Managing Behaviour Problems in Children: A Guide for Parents". Vikas Publishing house Private Limited: New Delhi, **1990**.
20. R.K.Gunthey, S. Upadhyaya. Adaptive Behaviour in Retarded and Non-Retarded Children. *Indian Journal of Clinical Psychology*, **1982**, 9 (2), 163-166.
21. M. Guddemi, A. Sambrook, B. Randel, G. Selva. Gesell Developmental Observation-Revised and Gesell Early Screener Technical Report, Ages 3-6. New Haven, CT: Gesell Institute of Child Development, **2012**.
22. A.T. Phatak, B. Khurana. Baroda development screening test for infants. *Indian pediatrics*, **1991**, 28 (1), 31-7. PMID 1711514.
23. Phatak, Pramila. Mental and Motor Growth of Indian Babies (1 Month-30 Months), (Longitudinal Growth of Indian Children),ERIC Clearinghouse: Washington, D.C, **1970**, p-612.
24. G. Roid, R. Barram. Essentials of Stanford-Binet Intelligence Scales (SB5) Assessment, John Wiley & Sons, Inc: Hoboken, New Jersey, **2004**.
25. D. Wechsler. Wechsler Preschool and Primary Scale of Intelligence (3rd Ed.). The Psychological Corporation: San Antonio, TX, **2002**.
26. S.K. Kulshrestha. Stanford-Binet Intelligence Scale (3rd edition) (1960) Hindi Adaption, Manas Sewa Sansthan: Allahabad, **1971**.

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