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HANDBOOK OF DESCRIPTIONS OF VARIOUS INTELLECTUAL AND DEVELOPMENTAL DISABILITIES

PEDAGOGICAL MATERIAL





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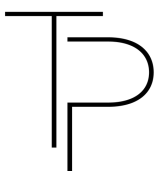
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Introduction



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The World Health Organization (WHO) reports that there are approximately 650 million people with disabilities in the world, and 700,000-1,500,000 of these people are individuals with mental disabilities. Although approximately 200 million children worldwide are diagnosed with disabilities, the prevalence of intellectual disability varies from country to country. The World Health Organization accepts that 10% of the total population in developed countries and 12% in developing countries are disabled people. The International Association for the Scientific Study of Intellectual Disabilities (IASSID) states that there are not enough social institutions that deal with the problems of individuals with intellectual disabilities and their families, that their limited budgets prevent them from working effectively or that they do not have the necessary resources to fulfill their functions.

Many problems await families of children with cognitive disability from the first moment they learn about their child's disability. The parents are surprised by this unexpected and unfamiliar situation, and they find themselves in a brand new life. The child with a disability and his/her family may encounter many difficulties both in the family environment, in the community, at school, in short, during the continuation of daily life. Therefore, parenting a child with a disability can cause special problems. This increases the problems that parents often experience with the child's life-long daily care needs and frequent behavioral problems.

Disability is a lifelong condition and the care needs of these children may differ from those of other children. Families of disabled children may have to spend more financially than other families for various reasons such as medical care, education, special physical arrangements and equipment. Families have to rearrange their lifestyles and daily routines to suit their children with disabilities. With increasing stress, they may have difficulty in fulfilling the requirements of daily life and may be tense in interpersonal relationships. As a result, they may develop unhealthy defense mechanisms such as avoidance, withdrawal, and vulnerability from social relations.

Teachers face social, behavioral and different professional skills challenges during teaching students with intellectual disability. Inclusive education is getting more common and this means educating the children with intellectual and developmental disabilities with normal ones within the same classroom. This supports the inclusion of disabled students into society. However, children with disabilities need more attention in terms of education content, teaching methods, teaching materials, assistive technology, and funds for more assistance in adapting to the school environment. It was revealed in many researches that the teachers who didn't study in the special education area think that the education about special needs students was insufficient, that the education they received was insufficient to solve the problems they faced with different disability groups, and that they needed a lot of information about inclusion.

A special education teacher may start their career with the intention of helping students with disabilities become productive members of society, they face several challenges that make the task extremely difficult. Burnout or attrition syndrome is the most common problem of the teachers who work in special education areas. The reason is they usually feel stressed during the work time. Especially the special education teachers who recently started the job or other teachers who have lack of information about the needs and behaviours of special needs students are under more stress. These are some of the reasons why special education teachers have a higher rate of burnout than is found in most other professions.

It is very important to know the different challenges faced by the parents and the teachers in handling the children with intellectual or developmental disability. There have been many problems in the education of parents who have kids with disabilities as well as lack of training in special needs education for children with intellectual and developmental disability. Although much research has been done in this area, they are mostly local or national based. This module will focus on general problems and needs of parents and teachers who are dealing with children with intellectual and developmental disabilities. So that the problems and needs will be realized and more useful suggestions will be defined.

Problems of Families with Children with Intellectual Disabilities

1. It has been observed that the parents of children with disabilities live with constant feelings of sadness, anxiety and guilt. For this reason, it is important to help parents cope with many conflicting emotions.
2. It is not an easy situation for families of children with disabilities to accept their disability and live with it. After the birth of a child with a disability, families do not know what to do, where to go, what to say to whom, what to ask, and they start to falter.
3. Having a child with disability can cause the usual situations in family life and marital relations between spouses to deteriorate. It is stated that this situation causes some problems and changes in the family.



4. Problems experienced by mothers in families with children cognitive disability; The day-long care and nurturing task causes mothers to run out of energy and have no free time to spare for themselves. They feel that they are living in an isolated environment and spend most of the time at home. Social isolation and inadequate social support are other negative social consequences experienced by mothers.
5. It is seen that mothers also lose their own health during the care process. In this process, mothers show symptoms such as chronic fatigue and various psychological and physical disorders.
6. According to the research about Personal Costs of Caring for a Child with a Disability, most of the families of a child with disability are not in good economic condition, the family may face many problems in meeting the additional expenses of the child.
7. Most parents face problems emotionally and physiologically when the diagnosis of their child's disability. Many parents have to make changes in their social lives, which are made up of dissatisfaction and frustration. Some parents experience significant stress and depression, and experience feelings and experiences such as anger, rejection shocks, self-blame, guilt, or surprise.

The Needs of Parents

Parents who have a child with an intellectual or developmental disability experience negative family problems such as stress and parental depression. However the level of stress, depression and other problems vary according to the disability type of child. For instance, the parents who have children with Down syndrome experience less problems than parents who have children with autism or other diagnoses. On the other hand mothers and fathers may experience different levels of problems about their child's disability and coping with the disability varies. Mothers feel more depression, stress and burden when compared with fathers. So that the needs of parents also vary according to the disability of their child. In addition, families with a child with disability are more frequently of a lower socioeconomic status or lower education background. When all these combined, the problems and needs of parents with kids with disabilities differ to handle daily situations such as daily routines, social activities, and coping skills, as well as contact with support services. General needs of many families with kids with disabilities are educational needs, knowledge, and social skills regarding collaborating with professionals, and realizing their children's rights.

1. **Educational/informational Needs:** Professionals and counselors train the families and provide necessary information about their child's disability. The right and well-timed information empowers and helps families to understand their child's characteristics of special needs and abilities so that they can interact more with their child to maximize his/her development and learning.



However, many parents have difficulty reaching these professionals and education. The reason might be that they have little or no information about education opportunities, being shy or withdrawn to talk with a professional, have no time because of work or caring for their child, etc. Additionally, researches show that parents don't have any information about the disability types before they experience it with their child. On the other hand, the content of the education may not meet the needs of parents. So that the education content should be improved, detailed for each disability type and be more interactive and digital. In this way parents will be more informed about the problem and by transforming the education to digital platforms parents can access everywhere and anytime. By fulfilling parents' educational needs, they can decrease stressful and problematic parent-child interactions during family routines and increase their child's independence. Research focusing on parents who have children with disability has demonstrated the effectiveness of family education to improve different child competences, parent-child relation and well-being.

2. Guidance and Emotional Needs: Becoming a mother or father is one of the happiest feelings a person can experience in life but after learning that their child with disability this happiness gives way to sadness, worry, uncertainty, denial, anger and guilt. The early intervention of guidance of family, friends and professional support may help the parents to cope with having a child with a disability. Support and guidance services for families with children with intellectual disability requires multidisciplinary work. In this work there can be doctors, nurses, special needs teachers, speech therapists, physical therapists, psychologists, social workers, dieticians, family therapists, and other specialists according to the disability type and level of child. With this early support and education for families, they may realize their child's toilet training, dressing/undressing, eating, sleeping, and personal hygiene, and guidance on social skills. A child with intellectual disability in the family brings many emotional problems for the parents, too. When the families learn the disability of the child, they experience difficulty in explaining the child's disability to other relatives and friends because of feeling disappointment, guilt, embarrassment and anxiety about other people's acceptance of the child. These situations put a lot of emotional burden on the parents and they usually try to isolate themselves from society and they exhibit a need for psycho-social support. In many researches showed that the majority of parents looked for support of professionals when they were faced with emotional problems. So that an effective support service for guidance and emotional needs of parents should be settled. In this way, professional support services for families reduce stress of parents and increase their well-being.

3. Financial Needs: According to several studies, most of the parents of disabled children live in poor economic conditions. These families have a lower employment rate with lower monthly incomes compared with the average incomes. Additionally, the direct and indirect cost of health care of a disabled child makes the parents' economic condition worse. The economic condition of parents is directly affected by the education level of these people.



The research shows that the education level of these parents is lower than the general population. So the living standard of parents is lower than the general public. According to research (1) the percentage of people who have children with disabilities have economic problems highest in Bulgaria and lowest in Belgium. Other countries which have a higher percentage of economic struggle are Romania, Poland, and France. This usually causes the exclusion of these people from social life. It is important to increase the education level of these parents and improve qualifications. Associations and funds can be used to overcome these problems.

4. Social and Recreational Needs: When the child is diagnosed with intellectual disability, the daily life of family members completely changes. The parents modify their daily routines, leisure time activities and social life according to their child. Many parents lack appropriate social or recreational activities or relationship-building programs due to the child's level of disability. Studies show that about 35% of families with a child with Down syndrome have no leisure time in their daily lives, which impacts the quality of life in the family. Additionally they feel stress due to the need for the child's participation in leisure activities outside of the school as the child's health, psychological well-being, social competence, and motor skills improved. Children become more motivated when they participate in activities they prefer and enjoy. However there is a big gap between the participation of children with disabilities and those without disabilities in social and recreational activities as disabled children participate less. Sport activities have a key role to encourage the parents and their children with disabilities to be more social and join outdoor activities. In this regard, knowing which sport suits the type of disability.

(1) Giulio, Philipov, and Jaschinski (2014). Families with disabled children in different European countries



2 DISABILITY TYPES



Photo: Antoni Shkraba

DESCRIPTION

Person with Disability: According to Merriam-Webster Dictionary, person with disability means impaired or limited by a physical, mental, cognitive, or developmental condition. The ADA (American Disability Act) defines a person with a disability as a person who has a physical or mental impairment that substantially limits one or more major life activities

What is an Intellectual Disability?

Intellectual disability (or ID) is defined as ‘a person who has limitations on intellectual functions such as problem solving, learning and judgment and adaptive functions for instance daily life tasks, communication and living independently. Intellectual disability may cause a child to develop and learn slower than other children at that age. Usually the children who have intellectual disability learn to speak, walk, dress, or eat more difficulty, late or even never, and they could have trouble learning at school. People with intellectual disabilities may process information more slowly than others and may also have difficulties with abstract concepts such as money and time.

Intellectual disability may happen any time before a child turns adulthood, even before birth, during the birth or after the birth. The reasons for intellectual disability vary such as injury, disease, brain problem and complications during birth, etc. For many children the main reason for their ID is not known.

While some of them happen before birth such as genetic conditions or Down syndrome, the others can happen during or after the birth. Some of them may happen at a later age because of head injury, illness or stroke.

Intellectual disability is the most common developmental disability and according to the American Association of Intellectual and Developmental Disabilities, an individual has intellectual disability if he or she meets three criteria:

1. IQ is below 70-75
2. There are significant limitations in two or more adaptive areas (skills that are needed to live, work, and play in the community, such as communication or self-care)
3. The condition manifests itself before the age of 18

Levels of Intellectual Disabilities

Intellectual disability is divided into 4 levels: mild, moderate, severe and profound. These levels are classified according to the child's IQ and degree of social adjustment.

a) Mild Intellectual Disability (MID): The child who has MID, having an IQ range of 50 to 69. About 85 percent of people with intellectual disabilities fall into the mild category and many even achieve academic success. Some of the symptoms are;

- takes longer time to learn to talk, but communicating well once they know how
- show some problems in their personal, social characteristics and behavior.
- indifferent to social activities.
- avoid taking responsibility.
- having problems with reading and writing
- have difficulty understanding abstract concepts, they learn the concept of time and numerical expressions very late and difficult.
- increased difficulty with the responsibilities of marriage or parenting

b) Moderate Intellectual Disability: The child who has moderate intellectual disability having an IQ range of 35 to 49. It is identified as an individual who intensely needs special education and supportive education services for the acquisition of basic academic, daily life and business skills due to limitations in mental functions and conceptual, social and practical adaptation skills. About 10 percent of those with intellectual disabilities fall into the moderate category. Some of the symptoms are;

- slow in understanding and using language
- difficulty in complying with social rules may cause problems in their home and school life.
- can learn basic reading, writing, and counting skills
- understand abstract concepts, terms and definitions too late and difficult.

- generally unable to live alone
- can often get around on their own to familiar places
- can take part in various types of social activities

c) Severe Intellectual Disability: The child who has severe intellectual disability having an IQ range of 20 to 35. These people can only communicate on the most basic levels. They cannot perform all self-care activities independently and need daily supervision and support. Only about 3 or 4 percent of those diagnosed with intellectual disability fall into the severe category. Some of the symptoms are;

- noticeable motor impairment
- the attention span is very short and distracted.
- express their request in body language or in simple one or two words.
- inability to care for their own needs independently
- cannot keep a job or game going for a long time.
- cannot understand abstract concepts but they can learn concrete concepts.
- the need of constant help and supervision

d) Profound Intellectual Disability: The child who has severe intellectual disability having an IQ range of 20 or less. People with profound intellectual disability require continuous support and care. They depend on others for all aspects of daily life and have extremely limited communication ability. About 1 to 2 percent of people with intellectual disabilities fall into this category. Some of the symptoms are;

- significant developmental delays in all areas
- obvious physical and congenital abnormalities
- the need of constant help and supervision
- requires attendant to help in self-care activities
- may respond to physical and social activities
- inability to care for their own needs independently

Developmental/Neurodevelopmental Disorders

Developmental disorders are a diverse group of chronic conditions and impairments in a child's physical, cognitive, language, or behavioral development. Developmental disabilities cause individuals living with them many difficulties in certain areas of life, especially in "language, mobility, language, mobility, learning, self-help, and independent living".

Neurodevelopmental disorders are characterized by developmental deficits that usually show up early in a child's development and related with brain function deficits that can affect a person's emotions, memory, ability to learn, socialize and maintain self-control. They can be limited in nature, for instance to learning, or the deficits can be global and affect intelligence or social skills overall.

Children with these disorders require significant additional support from families and educational systems; the disorders frequently persist into adulthood. While there are no known cures for neurodevelopmental disorders, medication and therapy treatments do exist that can help a child or adult.

Most developmental and neurodevelopmental disorders begin before a baby is born, but some can happen after birth because of injury, infection or other factors.

Many developmental disorders are believed to be caused by different factors. Some factors include:

- Injury
- Infection
- Genetics
- Exposure to high levels of environmental toxins (such as lead)
- Use of alcohol or other substances during pregnancy

These disorders can happen to anyone.

Types of Developmental/Neurodevelopmental Disorders

1. Attention Deficit Hyperactivity Disorder (ADHD) & Attention Deficit Disorder (ADD)



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Attention deficit hyperactivity disorder or ADHD is a common disorder in children and teens. Boys are more likely to have it than girls. It's usually spotted during the early school years, when a child begins to have problems paying attention.

An estimated 8.4% of children and 2.5% of adults have ADHD. It is a behavioral and neurodevelopmental disorder characterized by inattention, hyperactivity, and impulsivity. People with ADHD may also have trouble focusing their attention on a single task or sitting still for long periods of time. A wide range of behaviors are associated with ADHD, too. Some of the more common ones include:

- having trouble focusing or concentrating on tasks
- being forgetful about completing tasks
- being easily distracted
- having difficulty sitting still

2. Autism Spectrum Disorder (ASD)



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Autism Spectrum Disorder (ASD), or autism, is a complex neurological and developmental disorder that affects how a person acts, communicates, learns, and interacts with others. Problems with social communication and interaction characterize autism. Some people with autism spectrum disorder often demonstrate restricted and stereotyped interests or patterns of behavior. People with autism often have co-occurring conditions, including epilepsy, depression, anxiety and attention deficit hyperactivity disorder as well as challenging behaviors such as difficulty sleeping and self-injury. The level of intellectual functioning among people with autism varies widely, extending from profound impairment to superior levels. Although autism can be diagnosed at any age, it is said to be a “developmental disorder” because symptoms generally appear in the first two years of life.

While scientists don't know the exact causes of ASD, research suggests that genes can act together with influences from the environment to affect development in ways that lead to ASD. Although scientists are still trying to understand why some people develop ASD and others don't, some risk factors include:

- Having a sibling with ASD
- Having older parents
- Having certain genetic conditions—people with conditions such as Down syndrome, fragile X syndrome, and Rett syndrome are more likely than others to have ASD
- Very low birth weight

The symptoms of one person with autism can be very different from another's. One person with autism may have mild symptoms, while another may have more serious symptoms, but they both have ASD.

The symptoms can be categorized as;

1. Communication: Not responding when his/her name is called until 1 year old, language skills slowly develop, does not follow directions, sometimes he/she seems to hear, but not other times, etc.
2. Social Behavior: Does not smile when someone smiles at, less eye contact, more independent for his/her age and seems to prefer to play alone, etc.
3. Stereotyped Behavior: Shows deep attachment to routines or objects, repeats the words or phrases, does the same thing again and again and does not move other things, etc.
4. Other Behaviors: more active, uncooperative, or resistant, sensitive to noise, does some of the things earlier than other children and has unusual movement patterns, etc.

Globally, autism is estimated to affect 24.8 million people as of 2015. In the 2000s, the number of autistic people worldwide was estimated at 1–2 per 1,000 people. In the developed countries, about 1.5% of children are diagnosed with ASD as of 2017.

3. Down Syndrome



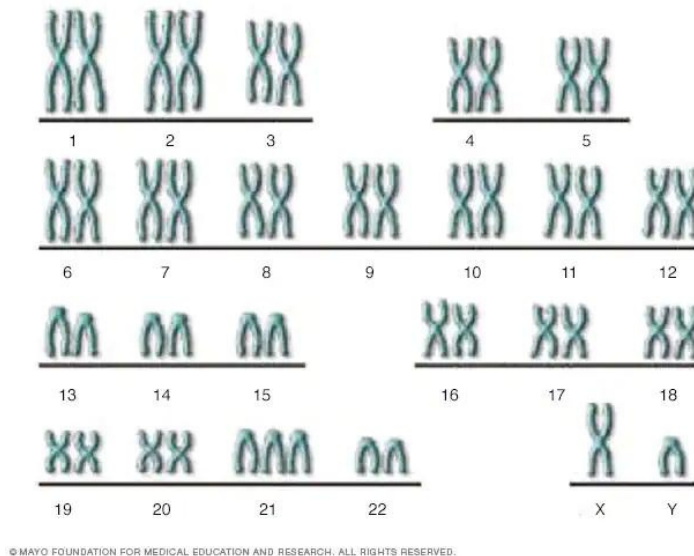
Photo:freepik.com

Down syndrome is a genetic disorder caused when abnormal cell division results in an extra full or partial copy of chromosome 21. This extra genetic material causes the developmental changes and physical features of Down syndrome.

It is usually associated with physical growth delays, mild to moderate intellectual disability, and characteristic facial features. The average IQ of a young adult with Down syndrome is 50, equivalent to the mental ability of an eight- or nine-year-old child, but this can vary widely.

Down syndrome is one of the most common chromosome abnormalities in humans. About 1 in 1,000 babies are born each year with Down syndrome.

Each person with Down syndrome is different. Intellectual and developmental problems may be mild, moderate or severe. Some of them are healthy while others have significant health problems such as serious heart defects. Although not all people with Down syndrome have the same features, some of the more common features include; flattened face, short neck, small head, unusually shaped or small ears, relatively short hands or fingers and short height, etc.



Education and proper care have been shown to improve the life quality of Down syndrome individuals. Some children with Down syndrome are educated in typical school classes, while others require more specialized education. Some individuals with Down syndrome graduate from high school, and a few attend post-secondary education.

4. Fragile X syndrome (FXS)

Fragile X syndrome (FXS) also called Martin-Bell syndrome is a genetic condition that causes intellectual disability, behavioral and learning challenges, and various physical characteristics passed down from parents to children that causes intellectual and developmental disabilities. FXS is the most common hereditary cause of mental disability in boys. The exact number of people who have FXS is unknown but it affects 1 in 4,000-7000 boys. It's less common in girls, affecting about 1 in every 8,000-11,000. Boys usually have more severe symptoms than girls.

FXS can cause learning disabilities, developmental delays, and social or behavioral problems. Disabilities vary in severity. Boys with FXS usually have some level of intellectual disability. Girls may have some intellectual disability or learning disability, or both. The average IQ in males with FXS is under 55, but many with fragile X syndrome will have normal intelligence.

Most young children do not show any physical signs of FXS. It is not until puberty that physical features of FXS begin to develop. People with FXS may show one or more of the following symptoms as children and throughout life:

- developmental delays, such as sit, walk, or talk later than other children of the same age
- intellectual and learning disabilities, like having trouble learning new skills

- general or social anxiety
- autism
- attention difficulties
- social issues, like not making eye contact with other people and trouble understanding body language

5. Fetal Alcohol Spectrum Disorders (FASDs)

Alcohol can harm the baby at any stage during a pregnancy. That includes the earliest stages, before the mother even knows she is pregnant. Drinking during pregnancy can cause a group of conditions called fetal alcohol spectrum disorders (FASDs). Children who are born with FASD can have a mix of problems, such as medical, behavioral, educational, and social problems. Some of the symptoms of FASDs are abnormal facial features, small head size, low body weight, difficulty with attention and memory, intellectual disability or low IQ, and problems with the heart, kidneys, or bones.

FASDs can happen only when a pregnant woman consumes alcohol. The alcohol crosses the placenta and enters the baby's blood where it can damage the developing brain and other organs leading to an FASD. FASDs are 100% preventable if a woman does not drink alcohol during pregnancy.

6. Cerebral Palsy (CP)

Cerebral palsy (CP) is a group of movement and coordination disorders caused by abnormal brain development or brain damage. It can cause some degree of disability in movement, balance, and posture and it's the most common neurological disorder in children and affects about 1 in 345 kids. CP is caused by abnormal development or damage to the developing brain. It could happen when:

- The cerebral motor cortex doesn't develop normally during fetal growth
- There is an injury to the brain before, during, or after birth.
- Risk factors include preterm birth, being a twin, certain infections during pregnancy and head trauma during the first few years of life.
- About 2% of cases are believed to be due to an inherited genetic cause
- There are many different types and levels of disability with CP. So the signs can be different in each child. Some of the symptoms of CP are; abnormal reflexes, stiff muscles, walking problems, eye muscle imbalances, troubles with fine motor skills, etc.

7. Rett Syndrome

Rett syndrome is a rare genetic disorder that affects brain development, resulting in severe mental and physical disability. It is estimated to affect about 1 in 12,000 girls born each year and is only rarely seen in boys.



After birth, girls with classic Rett syndrome have 6 to 18 months of apparently normal development before developing severe problems with language and communication, learning, coordination, and other brain functions affecting nearly every aspect of the child's life: their ability to speak, walk, eat, and even breathe easily.

Rett syndrome can present with a wide range of disabilities ranging from mild to severe. Some of the symptoms that can be seen are;

- Loss of speech
- Loss of purposeful use of hands
- Involuntary hand movements such as handwashing
- Loss of muscle tone
- Breathing issues
- Sleep disturbances
- Slowed rate of growth for head, feet and hands
- Almost all cases of Rett syndrome are caused by a mutation (a change in the DNA) in the MECP2 gene, which is found on the X chromosome (one of the sex chromosomes). There's usually no family history of Rett syndrome, which means it is not passed on from one generation to the next. Almost all cases (over 99%) are spontaneous, with the mutation occurring randomly.

8. Childhood Disintegrative Disorder (CDD)

Childhood disintegrative disorder (CDD), also known as Heller's syndrome and disintegrative psychosis, is a rare condition that can be seen usually 3-4 years of developmental delays in language, social function, and motor skills. Over a few months, they lose language, motor, social, and other skills that they already learned. It is a complex disorder that affects many different areas of the child's development. It is grouped with the pervasive developmental disorders (PDDs) and is related to the better known and more common disorder of autism.

The cause of childhood disintegrative disorder is unknown. Research findings suggest, however, that it may arise in the neurobiology of the brain. Some of the symptoms of CDD are;

- Problems with expressive language skills
- Problems with receptive language skills
- Social skills and self care skills
- Control over bowel and bladder
- Play skills
- Motor skills
- Social interaction and communication



9. Pervasive developmental disorder not otherwise specified (PDD-NOS)

Pervasive Developmental Disorder – Not Otherwise Specified (PDD-NOS) refers to a group of disorders characterized by impairment in the development of social interaction, verbal and non-verbal communication, imaginative activity and a limited number of interests and activities that tend to be repetitive. A PDD-NOS diagnosis is given when a child does not fully meet the criteria for Autism Spectrum Disorder (ASD), Asperger’s Syndrome, Rett Syndrome or Childhood Disintegrative Disorder, but has several of the characteristics.

In 2013, the American Psychiatric Association updated the DSM to its fifth edition. With this change, the entire category of “pervasive developmental disorders” was eliminated, and the diagnosis of PDD-NOS was no longer used. Instead, these disorders were placed under the autism spectrum disorder diagnosis in the “neurodevelopmental disorders” category.

Children are generally 3 to 4 years old before they exhibit enough symptoms for a diagnosis. There is no set pattern of symptoms or signs in children with PDD-NOS. Children with PDD-NOS may exhibit some of the following features:

- Communication difficulties
- Difficulty with social behavior
- Reluctant to give eye contact.
- Appears to lack desire to share activities with others.
- Lacks an understanding of issues from another person’s point of view – social empathy.
- Difficulty understanding that other people have their own beliefs, desires and intentions, which guide their behavior.
- Has poor imaginative play skills.
- Has low self-esteem

3 INCLUSIVE SPORTS

If you want to go fast then go alone, but if you want to go far then go together.
African Proverb



Photo:facebook.com/SpecialOlympics

Children with intellectual disabilities face many problems in the social structure according to their disability levels. Social adaptation problems come first among the problems faced by children with intellectual disability. The main reason behind this is the low social skill levels of these children when compared to their peers without disability. Through sports activities, the individual with disability accepts herself, adapts to her environment and can be more productive in her work.

Sport activities have a big influence on children with intellectual disability to improve social skills. It has been reported that after a regular sports training program, a positive development occurred in most of the social skills of children with intellectual disabilities (feeling valuable, tolerance, sense of competition, teamwork, group membership, self-confidence). In another research it has been found that regular participation in sports activities contributes to the reduction of anger, which is a negative social behavior, in individuals with cognitive disability aged 10-19.

Studies conducted in France and Italy have shown how effective sports are in social development studies, which are focused on sports in severe and mild mental retardation, through modern tools that appeal to the eye and ear. Particularly, in studies conducted with children with below-normal intelligence, definite judgments have been reached that the effect of physical and psychomotor development on mental development is positive. Raising children as a whole with their physical, mental, emotional and social aspects is one of the basic principles of education.

In order to obtain the expected benefits in sports practices for the youngsters with cognitive disability:

- 1- Sport activities should be done in open and fresh air as much as possible.
- 2- At the beginning of sport activities, a sequence should be made in which the large muscle groups will come into play first and then the small muscle groups (stepping from simple to difficult).
- 3- Emphasis should be placed on the game and the sport through the game, the playground should be smaller and the tools used should be larger.
- 4- Playing teams should be crowded, slow tempo and short.
- 5- The trainer should avoid using words, attitudes and behaviors that will discourage the child.
- 6- It should be an educational model.
- 7- Allow children to teach each other,
- 8- Movements that may be dangerous for students should be avoided
- 9- Sports activities should be in accordance with the physical and mental needs and interests of the disabled.
- 10- Games and movements with complex rules that require constant attention should be avoided.
- 11- The achievements of youth and children with disability in sports activities should be used as a means of integrating with other children, and the teacher or trainer should be careful in this regard.
- 12- Care should be taken to ensure that the people with disability benefit equally from sports equipment and materials.
- 13- The trainer should be consistent.
- 14- Stimuli that are not related to the subject should be limited.
- 15- Giving feedback; by observing students, teachers can obtain valuable information about their learning and performance, and should base this information on their work.

CHALLENGES IN CHOOSING SPORTS FOR THE YOUNG PEOPLE WITH DISABILITY

It is necessary to ensure equality among the youngsters and to make the groups as homogeneous as possible in order to carry out sports activities for the disabled. Age, gender, ability, type of disability, etc. features must be taken into account in planning.

As a youngster with disability enters the competition in a group with more physical abilities or is forced to a level exceeding his own abilities, it will always lead to failure, and this will affect the athlete. Therefore, functional classification is of great importance.

It is beneficial to include rehabilitation physicians, physiotherapists, orthopedists, psychologists, special education specialists and trainers in the evaluation of the person with disability before starting sports. The purpose and function of this team is to evaluate and prepare the person with disability in four main sections:

- Sport
- Special Physical Education
- Rehabilitation
- Recreation

Blood tests, sensory tests, physical fitness tests, EMG and isokinetic tests can be applied to determine the physical ability of the disabled. In cases where these evaluations cannot be made, sports activities that the person with disability can do can be determined with a good physical examination.

* Before preparing a sports program for the disabled and choosing a sports branch, it is necessary to learn the limits of mental and physical abilities, to identify their emotional and social deficiencies, to know them very well.

It is beneficial to include one of the team sports together with the individual sports types for each person with disability. In this way, the physical, moral and social contribution of sports to the athlete with disability will increase. Thus, the rehabilitation program that should last a lifetime will turn into a colorful, enjoyable and exciting team work and the purpose of rehabilitation will be easier.

HOW TO TEACH SPORTS TO THE INDIVIDUALS WITH DISABILITY?

Many methods used in the teaching of children without disability are also used in the teaching of students with disabilities.



However, certain methods are used more heavily in the teaching of students with disabilities. Suggested techniques to increase teacher effectiveness are given below.

- To provide successful experiences: A teacher/trainer should start by aiming to teach in the best possible way, in proportion to the student's ability and capacity.
- Providing concrete experiences: The teacher/trainer should provide the children with concrete learning experiences as much as possible.
- Planning learning: Planning involves deciding how soon a new action can be accomplished, what individual goals will be chosen to accomplish an action within the appropriate margin of error, and what techniques will be used to achieve those goals.
- Systematic rewarding: Principles of behavior should be used and coordinated regularly and systematically.
- Allow children to make choices: Giving children the right to choose motivates them to be successful.
- Children teach each other: The common trait of young children is that they trust and model their older friends.
- Moving from the known to the unknown: It is desired that the students perform the unknown movement by laying the groundwork for more complex movements that are not known by cascading known simple applications.
- Being a model: Children tend to imitate other children and adults they like.
- Limiting the stimuli that are not related to the subject: The teacher can facilitate the learning of the child by teaching them to focus on appropriate information by reducing the stimuli that are not related to the subject and distract the child's attention.
- Consistency: The consistent behaviors of the teacher cause the relationship established between the teacher and the student to be perfect and continuous.
- Analyzing the skill: Breaking down skills within an activity is an important educational approach in working with children with disabilities.



PHYSICAL EDUCATION AND SPORTS FOR CHILDREN WITH INTELLECTUAL DISABILITY

Recognition of the surface and body is the basis of the physical education program of children with cognitive disability. Various tools are used in the implementation of physical education programs. These are: cushions, balls in different sizes (rubber ones should be preferred), colored and different shaped plates, gymnastics bench-stick, funnels, clubs, balance board, crates, rope, and hoop, etc.

A) Recognizing the Surface: The surface on which children move allows them to feel the rigidity, hardness and weight of their bodies. A clean, non-hazardous ground or grass field will enable children to gain appropriate experiences in confidence. Walking, running, jumping, jumping, adding, turning exercises on such a ground. It is necessary to make movements such as falling, turning and somersaulting on the mat in order to gain confidence.

B) Recognition of the Body: Movements such as rolling, reaching and crawling on the ground are the main activities that enable awareness of the trunk. Rolling movements on the mat are appropriate activities that remind the child of his head, back, hips and shoulders. They also learn to carry their body weight from one place to another and to fall slightly. In order to realize the middle part of the body, crawling in the prone position on the floor, turning, going from long sitting to gymnast sitting, standing up from here, upside-down bench etc. movements must be made.

THE EFFECTS OF PHYSICAL EDUCATION AND SPORTS ON DEVELOPMENT IN CHILDREN WITH INTELLECTUAL DISABILITY

- **Facilitates Learning of Concepts:** When the concepts of number, color and shape are used during exercise, children naturally learn these concepts.
- **Develop Vocabulary:** They learn sports terms, the names of the games, the names of the movements.
- **They Understand Body Parts:** They learn and feel body parts such as head, shoulder, elbow, hand, leg, knee, foot, hip, back and face.
- **Develop Motoric Features:** Features such as balance and coordination, basic strength, dexterity, flexibility develop.
- **They Can Make Locomotor Movements More Controlled:** Locomotor skills such as walking, running, riding a tricycle, and hopping develop.
- **Develop the ability to perform many movements in a certain order:** By keeping the movements in memory, they can perform different exercises accompanied by music, as well as become able to perform many different movements in order in floor gymnastics. They can easily participate in stafet (relay baton) competitions.
- **They socialize:** They can learn to act with the group (warm-up, running, playing games, etc.), helping each other (e.g. transporting materials), behaving appropriately in the sports field-hall, and acting in a certain order.
- **Develop their Personality:** They can learn to express themselves, to be disciplined, to love their friends, their courage develops, they learn to struggle, their fears decrease, they learn to take responsibility, their self-concept develops.
- **Develops Self-Care Skills:** Dressing, undressing, combing hair, meeting toilet needs, etc. skills will improve.
- **Improve their General Health Conditions:** They get sick less, their immune systems get stronger, their postural disorders improve, their weight problems (more or less) can be solved, their eating habits develop positively, breathing, and digestion. Circulatory systems are regulated.

INTERNATIONAL SPORT OPPORTUNITIES FOR ATHLETES WITH INTELLECTUAL DISABILITY

Sport for people with disability generally known as Parasport or Disability Sport. They may play non-competitively which is known as recreational sport, or competitively, involving tournaments, leagues or rankings against other competitive athletes. For youngsters with intellectual disability, there are a few organizations which offer sporting opportunities.

- 1. Special Olympics:** It is a worldwide organization supporting over 5 million athletes, 1 million coaches and volunteers, in more than 100,000 competitions each year, in 32 different sports, in more than 170 countries. The emphasis is on inclusion, health, enjoyment and community. The Special Olympics has been organized since 1968.
- 2. Paralympics:** The International Paralympic Committee (IPC) has run the summer Paralympics games since 1960 in Italy and winter Paralympics games since 1976 in Sweden. It acts as the International Federation for 10 sports and manages classification and anti-doping. Paralympics is the pinnacle of sporting performance for people with disability and currently athletes with intellectual disability compete in table tennis, athletics and swimming.
- 3. Virtus - World Intellectual Impairment Sport:** It is formerly called INAS International Federation for Athletes with Intellectual Impairments. Virtus is the global organization that governs – advocates – organizes – promotes elite sport for athletes with an intellectual impairment. The aim of Virtus is to provide athletes with an Intellectual Impairment across the world to have the opportunities to achieve excellence in sport and high-level competition. It includes people with intellectual disability and those with autism. Virtus Eligibility is also the first step for athletes looking to pursue Paralympic opportunities for athletes with an intellectual disability. The emphasis is on building opportunities and increasing the level of competition at regional and international levels in both winter and summer sports.
- 4. Sports Union for Down Syndrome:** There are several smaller organizations initially focused on individuals with Down Syndrome. Sports Union for Down Syndrome is one of them which offers international sporting opportunities just for athletes with Down Syndrome. It covers nine sports including one winter sport of downhill skiing.

4

SPORT RECOMMENDATIONS FOR
TEACHERS AND PARENTS

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SPORT RECOMMENDATIONS FOR TEACHERS AND PARENTS REGARDING SPECIFIC NEEDS FOR CHILDREN WITH SPECIFIC DISABILITY

Physical activities have positive effects on individuals with intellectual disability which reduced risk of diabetes, overweight and obesity, anxiety, and depression. Joining physical activities helps these youngsters to improve everyday life skills and autonomy. According to different research, the risk of obesity and related health problems are more common among young people with disabilities. On the other hand, sports enable the people with disability to improve physically, psychologically and socially and facilitate their integration in society.

The choice of type of sports should be decided according to the type and status of disability.

If the disability status of the child is severe, it can be evaluated more on individual sports, if it is mild, it can be evaluated on team sports. The child who is successful in individual sports can be adapted to team sports later. The intensity or lightness of the training program to be carried out with the disabled individual should be adjusted according to the disability level of the child. (For example, if the person has severe disability, it is sufficient to stand on a flat ground. But if the disability is mild, throw-hold work should be done on the balance board.

The teacher/trainer should pay attention to the level of the training program prepared according to the level of disability of the person, and most importantly, the communication should be established with the person with disability.

Sports activities recommended for people with Down Syndrome depend on their heart and respiratory conditions. If there is no chronic and important problem, swimming at young ages and team sports after school (approximately 8 years old) are recommended.

For athletes with high mental functioning Down's syndrome can play basketball and then play football or futsal; on the other hand individual sports can be continued in lower functioning individuals. Performance athletes with Down syndrome generally encounter effort and conditioning problems. However, it is important to regulate eating habits. In addition to the standard sports and training knowledge, the trainers should consider the skill teaching steps in the field of special education. At the same time, people with Down Syndrome should have a good command of their physical characteristics. Parents should be sensitive in applying the programs determined by the trainers of the athletes in terms of nutrition, physical activity and technique outside of the camp and training periods.

1. Sport Recommendation for the individuals with ADHD: Children with ADHD may find they enjoy playing some sports more than others, of course this can be changed according to severity of their symptoms. While choosing the most appropriate sport some factors can influence the decision. These are focusing on teamwork or more active on individual sports, overall pace of sport and interest. According to some experts, individually focused sports such as swimming, wrestling, martial arts, etc are more appropriate for the youngsters with ADHD. In these sports while they are competing individually, they still experience being a part of a team as they are contributing to the team's final score. In these sports youngsters with ADHD can directly interact with the trainer or coach and this is the most important benefit for these individuals. In such kinds of individual sports there are fewer distractions during the competition, coach/trainer directly contact the individual and instruction is one-to-one. So that it is easier for youngsters with ADHD to focus on sport. Team sports are more difficult than individual sports as the individuals with ADHD have difficulty in paying attention as a team. Michael Phelps who is the most successful and most decorated Olympian of all time says that swimming helped manage his ADHD symptoms by keeping him focused and disciplined from a young age. Some of the fast moving team sports can be suitable for the youngsters with ADHD as there is shorter idle times. The continuous moving during the activity less distract the players.

The best individual sports for the youngsters with ADHD can be;

- Swimming
- Archery
- Wrestling
- Martial arts
- Track or Cross Country
- Tennis -Table tennis
- Gymnastics
- Horseback Riding



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The best team sports for the youngsters with ADHD can be;

- Football
- Basketball
- Baseball
- Hockey

When choosing a sport, coaches/teachers have a huge impact on the youngsters. So, it is very important for parents to inform the teachers about ADHD because they may have little knowledge about the characteristics of ADHD. Sports should allow the child to build relationships and work on self-confidence outside of the classroom, not further increase his anxiety and stress.

2. Sport Recommendations for Individuals with Autism Spectrum Disorder (ASD) and Asperger Syndrome (AS)

Individuals with autism spectrum disorder should participate in sport and other physical activities to lower their hyperactivity, aggression, and other stereotypical behaviors. ASD is a developmental disorder that affects communication as well as behavior so that cooperative team sports such as football, basketball, etc. which require communication and team dynamics are not suggested for them. However it doesn't mean that these sports are impossible for the individuals with ASD. Several researches show that these sports can be used with those people. As each individual is unique in diagnosis and he or she may be trained well can be also successful in large scale team sports.

Parents and teachers usually know what the child with ASD's interests, abilities, strengths and struggles with. So it is better to choose the most suitable sport activity according to the interest and ability of the kids. While choosing the best sport activity for children with ASD, the following things can help to decide

- **Communication:** A good communication with the child is important to decide what he or she likes and to decide which sport can be more suitable for the child. Parent - teacher cooperation will be more helpful to know the child's interests.
- **Compassion:** Progress and success can not be achieved in one day. If the child makes little progress at the beginning, it is important to give positive feedback and encouragement. Giving compassion has an important key role in this step and spending some more time with children at school or/and at home will be beneficial.
- **Cooperation:** Cooperation is very important to choose the best sports that a child will be successful. Instead of deciding alone, parents can cooperate with teachers, coaches and other professionals. Consulting professionals may help to organize sport activities according to a child's ability and interest. Difficult tasks can be separated into small pieces that the child does easier.
- **Consideration:** It is important to consider the possible sport environments and the child's sensitivities. For example, if the child is not happy with the whistle, volleyball may not be a good choice. There can be extra challenges for the kids because of the natural environment of the sports. Parents, teachers and trainers should carefully assess these challenges while choosing the sports. Sports should not be a source of stress for the kids.
- **Connection:** Knowing the child's feelings, asking his or her experience while doing a sport, giving parents or teachers important feedback to understand the child's interests. The close connection among the child with ASD - parents - teachers is important for success.



The best individual sports for the youngsters with ASD and Asperger Syndrome (AS) can be:

- Swimming
- Horseback Riding
- Biking
- Martial Arts (karate, judo, etc)
- Gymnastics
- Hiking
- Table tennis

The best team sports for the youngsters with ASD and Asperger Syndrome (AS) can be;

- Bowling
- Athletics
- Bocce

Autism and Asperger's are a spectrum of disorders, and not every child with autism is the same. Knowing the child's specific disability can help parents and teachers to find the ideal sport that'll help them develop their cognitive, social, communication and physical skills.

3. Sport Recommendations for Individuals with Down Syndrome

Scientific researches show that individuals with Down syndrome are less active in physical activities than other people. One of the reasons is that the motor skills of children with Down syndrome are below their peers and even in some cases below other individuals with intellectual disability. This inactivity contributes to the higher numbers of overweight and obese children and adults with Down syndrome. The health situation of the individual with down syndrome should be monitored by physicians who have qualification to work with these individuals. The sport activity programme may include following components to better and risk free activity.

Strengthening the muscles: Strengthening all parts of the body helps to reduce the possible injuries whereas the weak muscles will be stronger. An individual programme can be prepared by a physician and physical education teacher according to the health condition, weight of the person with down syndrome.

Activities to improve balance: Balance tasks are important exercise plans and can contribute better mobility in the group as well as help to improve the sport skills. Activities such as balancing on one leg with hands on the hip, skipping, hopscotch or walking across a balance beam help to build balance.

Cardiovascular exercises: Simple cardiovascular exercise can contribute to performance of the individuals with down syndrome. These activities are walking longer distances without breaks, climbing a hill, playing games without giving breaks, etc. Other activities can be using elliptical bikes or treadmills, swimming and jogging.

Other activities can be using elliptical bikes or treadmills, swimming and jogging.

The best individual sports for the youngsters with Down syndrome can be;

- Swimming
- Biking
- Gymnastics
- Hiking
- Judo
- Table tennis



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The best team sports for the youngsters with Down syndrome can be;

- Athletics
- Futsal
- Basketball
- Bocce

Down syndrome is not a barrier to doing sports. Many athletes with Down syndrome have participated in sport organizations on provincial and national level, as well as the Special Olympic Games. However it is important to decide for each person which sports are most suitable according to the detailed health control.

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HANDBOOK OF DESCRIPTIONS OF VARIOUS INTELLECTUAL AND DEVELOPMENTAL DISABILITIES

PEDAGOGICAL MATERIAL

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Project - Sport for Every Child: Fit Kids!
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