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## “AUTISM: ISSUES AND MANAGEMENT”

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**ABSTRACT:** - Autism is characterized by difficulty in reciprocal social interaction, communication impairment and behavioural abnormalities. May 2013 publication of the Diagnostic Statistical Manual (DSM-V), all autism disorders were merged into one umbrella diagnosis of Autism Spectrum Disorders (ASD). Previously, they were recognized as distinct subtypes, including Autistic Disorder, Childhood Disintegrative Disorder, Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS) and Asperger syndrome. ASD can be associated with intellectual disability, difficulties in motor coordination and attention and physical health issues such as sleep and gastrointestinal disturbances. Some persons with ASD excel in visual skills, music, math and art. Most cases of autism, however, appear to be caused by a combination of autism risk genes and environmental factors influencing early brain development. There is evidence to suggest that diagnostic features of ASD are evident in very young children with observing symptoms within the first 2 years of life. The assessment of Autism focuses on the skills most essential for social and communication development is conducted to determine an individual's current profile of social communication skills, identify priority learning objectives within natural communication contexts and examine the influence of the communication partner and the environment. Core challenges of ASD take different forms as an individual responds to intervention and progresses through developmental stages from pre-linguistic to emerging language and advanced language stages. Actual goals will vary based on those aspects of development that are consistent with family priorities and with the individual's functional needs within his or her current social contexts. Treatment for individuals with ASD typically includes, setting goals based on assessment data that target the core deficits in ASD and focus on initiating spontaneous communication in functional activities and using a range of approaches for enhancing communication skills along a continuum from behavioral to developmental.

**KEY WORDS: ISSUES AND MANAGEMENT, AUTISM, AUTISM SPECTRUM DISORDER (ASD), ASPERGER SYNDROME, CHILDHOOD DISINTEGRATIVE DISORDER, PERVASIVE DEVELOPMENTAL DISORDER-NOT OTHERWISE SPECIFIED (PDD-NOS)**

### **Autism: Issues and Management:**

Autism is a disorder that is characterized, in varying degrees, by difficulties in social interaction, verbal and nonverbal communication and repetitive behaviors. With the May 2013 publication of the DSM-V diagnostic manual, all autism disorders were merged into one umbrella diagnosis of Autism spectrum disorder ASD. Previously, they were recognized as distinct subtypes, including autistic disorder, childhood disintegrative disorder, Pervasive Developmental Disorder-not otherwise specified (PDD-NOS) and Asperger syndrome. ASD can be associated with intellectual disability, difficulties in motor coordination and attention and physical health issues such as sleep and gastrointestinal disturbances. Some persons with ASD excel in visual skills, music, math and art. Autism appears to have its roots in very early brain development. However, the most obvious signs of autism and symptoms of autism tend to emerge between 2 and 3 years of age. There is continuous research on effective methods for earlier diagnosis, as early intervention with proven behavioral therapies can improve outcomes. Increasing autism awareness is a key aspect in this work and families and volunteers play an invaluable role and each individual with autism is unique. Many of those on the autism spectrum have exceptional abilities in visual skills, music and academic skills. About 40 percent have average to above average intellectual abilities. Indeed, many persons on the spectrum take deserved pride in their distinctive abilities and “atypical” ways of viewing the world. Others with autism have significant disability and are unable to live independently. About one third of people with ASD are nonverbal but can learn to communicate using other means.

## HISTORICAL PAST:

Origins of the term “Autism” was given in 1910 by Paul Eugen Bleuler, a Swiss psychiatrist. He coined the German word “autismus” to describe symptoms of schizophrenia. Which was derived from the Greek word autos meaning "self" used to describe the self-absorption as seen in schizophrenia, the "autistic withdrawal of the patient to his fantasies, against which any influence from outside becomes an intolerable disturbance". In 1944, Leo Kanner, an Austrian-born psychiatrist at Johns Hopkins published “Early infantile autism”, in which he described autism as an absence of fantasy and failure to develop relationships, not withdrawal from them. Confusion between autism and childhood schizophrenia lasted for decades. Kanner described characteristics of Autism:

- “extreme autistic aloneness”
- “innate inability to form the usual, biologically provided affective contact with people”
- “obsessive desire for the maintenance of sameness”
- “limitation in the variety of spontaneous activity”
- “excellent rote memory, coupled with the inability to use language in any other way”

In 1944 – Hans Asperger, an Austrian pediatrician, published a case series of 4 children titled “Autistic psychopathy” (i.e., personality disorder). He described a lack of empathy, little ability to form friendships, one-sided conversations, intense absorption in a special interest, and clumsy movements (“little professors”). His publication was in German, and largely unknown until Lorna Wing, a London psychiatrist, re-discovered his work in 1981 and introduced “Asperger Syndrome” as part of the autism spectrum. He emphasized genetic causality and noted similar behavioral traits between parents and children. He described autism as an “inherited disposition”. He also emphasized the “social value” of autism and observed that many of his patients had successful careers in adulthood using their special talents, “Able autistic individuals can rise to eminent positions and perform with such outstanding success that one may even conclude that only such people are capable of certain achievements”. Bernard Rimland promotes the concept of Autism as a biological, brain-based disorder (1964 -Infantile Autism: The Syndrome and its Implications for a Neural Theory of Behavior). In 1980 - Kanner’s term “Infantile Autism” is included as a diagnostic category in DSM-III and increased awareness that children with autism grow up. In 1987 -DSM-III-R diagnostic category was changed to “Autistic Disorder”.

## HISTORICAL MYTHS ABOUT AUTISM:

- Autism is a rare disorder
- Autism is an emotional disorder
- Autism is caused by poor parenting
- Children with autism are incapable of forming social relationships
- Inside a child with autism is a normal child (or genius) waiting to emerge
- Autism in the 1950s&1960s was considered a form of childhood schizophrenia

## PREVALENCE

Autism statistics from the U.S. Centers for Disease Control and Prevention identify around 1 in 68 American children as on the autism spectrum—a ten-fold increase in prevalence in 40 years. Careful research shows that this increase is only partly explained by improved diagnosis and awareness. Studies also show that autism is four to five times more common among boys than girls. An estimated 1 out of 42 boys and 1 in 189 girls are diagnosed with autism in the United States. ASD affects over 3 million individuals in the U.S. and tens of millions worldwide. Moreover, government autism statistics suggest that prevalence rates have increased 10 to 17 percent annually in recent years. There is no established explanation for this continuing increase, although improved diagnosis and environmental influences are two reasons often considered. Prevalence of Autism/ASD in India is between 1 in 500 to 1 in 166 children (Center for Disease Control). Prevalence rate is approx.1 in 500 or 0.20% or more than 2,160,000 people in India.

## ETIOLOGY

There is no single cause of autism just as there is no one type of autism. Over the last five years, scientists have identified a number of rare gene changes, or mutations which are associated with autism. A small number of these are sufficient to cause autism. Most cases of autism, however, appear to be caused by a combination of autism risk genes and environmental factors influencing early brain development.

In the presence of a genetic predisposition to autism, a number of non genetic, or “environmental,” stresses appear to further increase a child’s risk. The clearest evidence of these autism risk factors involves events before and during birth. They include advanced parental age at time of conception (both mom and dad), maternal illness during pregnancy and certain difficulties during birth, particularly those involving periods of oxygen deprivation to the baby’s brain. It is important to keep in mind that these factors, by themselves, do not cause autism. Rather, in combination with genetic risk factors, they appear to modestly increase risk.

A growing body of research suggests that a woman can reduce her risk of having a child with autism by taking prenatal vitamins containing folic acid and/or eating a diet rich in folic acid (at least 600 mcg a day) during the months before and after conception.

## SCREENING

Screening for ASD includes broadband screeners designed to detect developmental delays in the general pediatric population and autism-specific screening tools designed for either the general population or high-risk populations, such as children referred to the early intervention system. Screening typically includes

- Norm-referenced parent and teacher report measures,
- Competency-based tools, such as interviews and observations,
- Hearing screening to rule out hearing loss as a contributing factor to communication and behavior difficulties.
- Screening procedures evaluate the main characteristics that differentiate ASD from other developmental disorders, including difficulties in eye gaze,
- orienting to one's name,
- Pointing to or showing objects of interest,
- Pretend play,
- Imitation,
- Nonverbal communication,
- Language development.

Social communication norms vary across cultures. When screening is conducted for non-linguistic aspects of communication, it is important to recognize when differences are related to cultural variances rather than secondary to a communication disorder. Loss of language or social skills at any age should be considered grounds for screening. In cases where children are being raised in a bilingual environment, consider whether language loss is attributable to language attrition. Because children with ASD are often initially suspected of having a hearing problem, audiologists play a critical role in recognizing possible signs of ASD in children whose hearing they test and making appropriate referrals for screening and diagnosis of ASD.

## ASSESSMENT OF AUTISM

In most cases, a stable diagnosis of ASD is possible before or around a child's second birthday (Chawarska, Klin, Paul, Macari, & Volkmar, 2009). An early, accurate diagnosis can help families access appropriate services, provide a common language across interdisciplinary teams, and establish a framework for families and caregivers within which to understand the child's difficulties. Interdisciplinary collaboration and family involvement are essential in assessing and diagnosing ASD. Assessment, intervention, and support for individuals receiving speech and language services must be consistent with the World Health Organization's International Classification of Functioning, Disability, and Health (2001) framework.

## COMPREHENSIVE ASSESSMENT

Individuals suspected of having ASD based on screening results can be referred to Specialists, and other professionals as needed, for a comprehensive assessment. Assessment of social communication skills should be culturally sensitive, functional, and sensitive to the wide range of acceptable social norms that exist within and across communities; and involve the collaborative efforts of families, caregivers, classroom teachers, special educators, and psychologists as needed.

The Therapist's role includes incorporating a family perspective into the assessment, effectively eliciting information from families about their concerns, beliefs, skills, and knowledge in relation to the individual being assessed. It is important to convey information to families clearly and empathetically, with an understanding that the assessment and diagnosis process is likely to be stressful and emotion-laden for family members (Marcus, Kuncze, & Schopler, 2005).

The diagnostic evaluation for individuals at risk for ASD typically includes

- Relevant case history, including information related to the child's health, developmental and behavioral history, and current medical status;
- A medical evaluation, including general physical and neuro-developmental examination, as well as hearing and vision testing;
- Medical and mental health history of the family;
- Speech and language assessment.

## SPEECH AND LANGUAGE ASSESSMENT

Depending on the individual's age and abilities, we can assess

- Receptive language;
- Expressive language, including sound and word production and the frequency and function of verbal (vocalizations/verbalizations) and nonverbal (e.g., gestures) communication;
- Literacy skills;
- Social communication, including
  - Use of gaze,
  - Joint attention,
  - Initiation of communication,
  - Social reciprocity and the range of communicative functions,
  - Sharing affect,
  - Play behaviors,

- Use of gestures;
- Conversational skills, including
  - Topic management (initiating, maintaining, and terminating relevant, shared topics);
  - Turn-taking;
  - Providing appropriate amounts of information in conversational contexts;
- Speech prosody.

## NATURALISTIC OBSERVATION

Observation of the individual in everyday social settings with others. Criterion-referenced assessments may be used during naturalistic observations to document an individual's functional use of language across social situations.

## DYNAMIC ASSESSMENT

A method that seeks to identify an individual's skills as well as his or her learning potential. Dynamic assessment is highly interactive and emphasizes the learning process over time. It can be used in conjunction with standardized assessments and for ongoing assessment following the diagnosis of ASD.

It may result in:

- Data that contribute to the diagnosis of ASD;
- Description of the characteristics and severity of communication-related symptoms;
- Recommendations for intervention, priorities and goals, and supports;
- Referral to other professionals for further testing if other disorders/conditions are suspected or for additional data to confirm the diagnosis of ASD.

## TREATMENT STRATEGIES

Individuals with ASD have unique needs with respect to learning independence and self-advocacy due to their core challenges in social interaction and verbal and nonverbal communication. Each individual has a functional communication system including Augmentative and Alternative Communication (AAC) and by supporting communication in different social settings with a variety of partners to promote generalization of skills.

Treatment for individuals with ASD typically includes:

- Setting goals based on assessment data that target the core deficits in ASD
- Using a multimodal communication system (e.g., spoken language, gestures, sign language, picture communication, speech-generating devices [SGDs], and/or written language) that is individualized according to the individual's abilities.
- Considering family priorities when selecting intervention goals.
- Incorporating cultural, linguistic, and personal values and attributes unique to each individual into therapeutic activities;
- Using a range of approaches for enhancing communication skills along a continuum from behavioral to developmental;
- Using developmental sequences and processes of language development to provide a framework for determining baselines and implications for intervention goals;
- Measuring progress using systematic methods

Core challenges of ASD take different forms as an individual responds to intervention and progresses through developmental stages from pre-linguistic to emerging language and advanced language stages. Actual goals will vary based on those aspects of development that are consistent with family priorities and with the individual's functional needs within his or her current social contexts.

## TREATMENT MODES/MODALITIES

Treatment modes and modalities are technologies or other support systems that can be used in conjunction with or in the implementation of various treatment options. For example, video-based instruction can be used in peer-mediated interventions to address social skills and other target behaviors.

## AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (AAC)

AAC involves supplementing or replacing natural speech and/or writing with aided (e.g., Picture Exchange Communication System [PECS], line drawings, Blissymbols, speech generating devices) and/or unaided (e.g., manual signs, gestures, and finger spelling) symbols. Whereas aided symbols require some type of transmission device, production of unaided symbols only requires body movements.

## **ACTIVITY SCHEDULES/VISUAL SUPPORTS**

Activity schedules/visual supports include objects, photographs, drawings, or written words that act as cues or prompts to help individuals complete a sequence of tasks/activities, attend to tasks, transition from one task to another, or behave appropriately in various settings. Written and/or visual prompts that initiate or sustain interaction are called scripts. Scripts are often used to promote social interaction, but can also be used in a classroom setting to facilitate academic interactions and promote academic engagement (Hart & Whalon, 2008).

## **COMPUTER-BASED INSTRUCTION**

Computer-based instruction involves the use of computer technology (e.g., iPADS) and/or computerized programs for teaching language skills, including vocabulary, social skills, social understanding, and social problem solving.

## **FACILITATED COMMUNICATION**

Facilitated communication is a technique by which a "facilitator" provides physical and other supports in an attempt to assist a person with a significant communication disability to point to pictures, objects, printed letters, and words or to a keyboard and thereby communicate. Supporters of this technique believe that its use can reveal previously undetected literacy and communication skills in persons with autism and other disabilities.

## **VIDEO-BASED INSTRUCTION**

Video-based instruction (also called video modeling) is an observational mode of teaching that uses video recordings to provide a model of the target behavior or skill. Video recordings of desired behaviors are observed and then imitated by the individual. The learner's self-modeling can be videotaped for later review.

## **AUDITORY/SENSORY INTEGRATION TRAINING**

Broadly speaking, sensory integration therapies are used to treat integration dysfunction in one or more sensory systems. Treatments can include physical exercise, sensory/tactile stimulation, and auditory integration training. Auditory integration therapy (e.g., the Berard method) involves exercising the middle ear muscles and auditory nervous system to treat distortions/dysfunctions of the auditory system (Berard, 1993).

## **BEHAVIORAL INTERVENTIONS/TECHNIQUES**

Behavioral interventions and techniques are designed to reduce problem behaviors and teach functional alternative behaviors using the basic principles of behavior change. These methods are based on behavioral/operant principles of learning; they involve examining the antecedents that elicit a certain behavior, along with the consequences that follow that behavior, and then making adjustments in this chain to increase desired behaviors and/or decrease inappropriate ones.

Behavioral interventions range from one-to-one discrete trial instruction to naturalistic approaches that focus only on communication, on communication as well as other aspects of educational programming, or on replacing maladaptive behaviors that are being used for communication.

## **BEHAVIORAL INTERVENTIONS INCLUDE THE FOLLOWING:**

### **APPLIED BEHAVIOR ANALYSIS (ABA)**

A treatment approach that utilizes principles of learning theory to bring about meaningful and positive change in behavior. ABA techniques have been developed for individuals with autism to help build a variety of skills (e.g., communication, social skills, self-control, and self-monitoring) and help generalize these skills to other situations. The techniques can be used in both structured (e.g., classroom) and everyday (e.g., family dinnertime) settings and in one-on-one or group instruction.

### **DISCRETE TRIAL TRAINING**

A one-to-one instructional approach is utilizing the behavioral methods to teach skills in small incremental steps in a systematic controlled fashion. The teaching opportunity is a discrete trial with a clearly identified antecedent and consequence (e.g., reinforcement in the form of praise or tangible rewards) for desired behaviors. Discrete Trial Training ( DTT ) is most often used for skills that learners are not initiating on their own, have a clear, correct procedure, and can be taught in a one-to-one setting.

## **FUNCTIONAL COMMUNICATION TRAINING**

Behavioral intervention program is a program that combines the assessment of the communicative functions of maladaptive behavior with ABA procedures to teach alternative responses. Problem behaviors can be eliminated through extinction and replaced with alternate, more appropriate forms of communicating needs or wants. Functional Communication Training (FCT) can be used with children with ASD across a range of ages and regardless of cognitive level or expressive communication abilities (Carr & Durand, 1985).

## **INCIDENTAL TEACHING**

A teaching technique that utilizes behavioral procedures; naturally occurring teaching opportunities are provided, based on the child's interests. Following the child's lead, attempts to communicate are reinforced as these attempts get closer to the desired communication behavior (McGee, Morrier, & Daly, 1999)

## **POSITIVE BEHAVIOR SUPPORT (PBS)**

Uses functional assessment of problem behaviors to target the relationship between challenging behavior and communication. It integrates principles of applied behavior analysis with person-centered values to foster skills that replace challenging behaviors (Carr et al., 2002).

## **SELF-MANAGEMENT**

An approach that involves interventions aimed at helping individuals learn to independently regulate their behaviors and behave appropriately in a variety of contexts. Individuals learn to tell the difference between appropriate and inappropriate behaviors, monitor and record their behaviors, and reward themselves for using appropriate behaviors. Self-management interventions can be used across a wide range of ages from early childhood through adulthood.

## **COGNITIVE BEHAVIORAL THERAPY (CBT)**

Cognitive Behavioral Therapy (CBT) is an intervention approach that combines cognitive and behavioral learning principles to shape and encourage desired behaviors. The underlying assumptions of CBT are that an individual's behavior is mediated by maladaptive patterns of thought or understanding and that change in thinking or cognitive patterns can lead to changes in behavior. CBT is used primarily to help individuals with ASD improve behavior by learning to regulate emotions and control impulses.

## **DENVER MODEL**

The Denver Model is a child-led, play-based treatment approach that focuses on the development of social communication skills through intensive one-on-one therapy, peer interactions in the school setting, and home-based teaching (Rogers & Dawson, 2009). The Early Start Denver Model for toddlers is an extension of the Denver Model; it combines developmental approaches with behavioral teaching strategies and can be delivered in a variety of settings (e.g., by the therapist and/or parents in group or individual sessions in the clinic or at home).

## **GENTLE TEACHING**

Gentle Teaching is a framework for serving individuals with special needs that focuses on providing companionship and open, loving support and guidance. Gentle teaching uses the relationship between the individual and his/her caregiver as the foundation for teaching. The aim is to develop a safe and loving environment in which the individual can develop talents and reach his/her full potential. This approach eliminates punishment as a way to control behavior; it includes errorless learning, choice making, and fading prompts (Jones & McCaughey, 1992; McGee, 1990).

## **LITERACY INTERVENTION**

Literacy intervention approaches incorporate a variety of instructional strategies to improve word decoding, word identification, reading fluency, reading vocabulary, and reading comprehension across a variety of materials and in a number of contexts, depending on the student's skill level.

## **PARENT-MEDIATED/IMPLEMENTED INTERVENTION**

Parent-mediated or implemented intervention consists of parents' using direct, individualized intervention practices with their child to increase positive learning opportunities and acquisition of skills.

## **PEER-MEDIATED/IMPLEMENTED TREATMENT**

Peer-mediated or implemented treatment approaches incorporate peers as communication partners for children with ASD in an effort to minimize isolation, provide effective role models, and boost communication competence. Typically developing peers are taught strategies to facilitate play and social interactions; interventions are commonly carried out in inclusive settings where play with typically developing peers naturally occurs (e.g., preschool setting).

## **INTEGRATED PLAY GROUPS**

A therapy model designed to support children of different ages and abilities with ASD in mutually enjoyed play experiences with typical peers and siblings. Small groups of children play together under the guidance of an adult facilitator. The focus is on maximizing the child's potential and his/her intrinsic desire to socialize with peers (Wolfberg & Schuler, 1993).

## SOCIAL COMMUNICATION INTERVENTIONS

Social communication treatment approaches and frameworks are designed to increase social skills, using social group settings and other platforms to teach peer interaction skills and promote socially appropriate behaviors and communication. There continues to be research in the development of social communication treatment approaches (Adams et al., 2012).

## CONCLUSION

Current understanding indicates that teachings based on behavioral models are the most effective treatment options. However, such interventions are effort intensive and take a great deal of planning, monitoring and hard work and can seem less inviting than other interventions. However, behavior based education must be the focus for the future, since it is the only demonstrated intervention that will enable individuals with autism lead an inclusive life. Further research may have the potential to improve the lives of those who struggle with Autism.

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