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Wellbeing begins in Our MINDS

Monthly Newsletter on Psychiatry for Doctors and Medical Students

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From the Desk of Editor

Neuroimaging in autism: dawn of the era of biological diagnosis

Autism spectrum disorders continue to puzzle clinicians as well as researchers. Exact etiopathogenesis still remains unknown and diagnosis is based on behavioral observation. As yet there is no definitive treatment for autism. Socio-communicative abnormalities appear earlier than repetitive stereotypic behavior; it is only around three years of age that the clinical picture becomes stable. Often there is delay in diagnosis due to absence of typical symptoms or non-availability of trained clinicians and hence delay in interventions. There are no biomarkers available in routine clinical practice for the diagnosis of autism. This continues to hinder progress in clinical care and research. It also provides a fertile ground for myths and misconceptions. Parents continue to seek cure of this seemingly mysterious disorder and clinicians remain clueless! Neuroimaging studies have documented abnormalities in neural structure, function and connectivity in the brain with autism present even before birth. Initially, the affected brain is larger than typically developing brain with maximum differences apparent in the frontal and temporal regions. The cause of enlarged brain is understood to be due to increased cortical area thickness and cortical area hyperexpansion. Recent neuroimaging findings reported in 'Nature' has discussed cortical area hyperexpansion to be evident as early as six to twelve months of life. These MRI scan findings were reported from brains of high risk infants (those diagnosed with autism at 24 months of age). These neuroimaging findings have ushered a new era of a biological diagnosis of autism much more accurate and earlier than conventional behavioral diagnosis which would mean earlier introduction of intervention measures.

- Dr. Suravi Patra

Guest Column: Down The Memory Lane...

Autism: Down the memory lane

During my post-graduation I had seen only 1 case of autism. As a faculty I saw the second case, an adult who was severely autistic. I knew nothing about autism. Seeing a friend struggle with her autistic son made me determined to learn more. I started attending training courses, workshops, conferences in autism and learnt more. I started running monthly sessions for parents in a group setting which are continue till date. The knowledge and skills which I have acquired have started helping children with autism. Five years ago, VG a 6 years old boy was brought to Child Guidance Clinic. He could recite 'Gayatri Mantra' and other verses but was unable to ask for food! He seemed aloof, no eye contact, no play and had echolalia. He went to a regular school where he had performance difficulties and had difficulty making friends. Parents had never heard of autism and no therapies were available. They would travel about 100 km to our centre to learn therapy. His mother continued to learn and provide therapy diligently to him. VG being a quick learner started talking in the next 2 years but had difficulty in regulating conversation. He would tell every small detail to the neighbors! About one year ago he came for follow up and initiated conversation with me. It was such a moment of joy! Now he is performing well, understands emotions, empathizes with his mother. He still has some social difficulties; tone of his speech is high. A lot needs to be done in the field of autism, but fortunately many centers are opening up providing services.

Dr. Priti Arun, Professor, Department of Psychiatry, Government Medical College and Hospital, Chandigarh

Autism Spectrum Disorders – A Primer

In the last 10-15 years, Autism is increasingly recognised in urban India. The term Autism Spectrum Disorder (ASD) is becoming popular (“...this child is on the spectrum”, is not an uncommon statement amongst professionals) and encompasses conditions such as classic Autism, Asperger’s syndrome and even the milder form termed the PDD-NOS in ICD 10. Many children who may be considered as meeting criteria for PDD-NOS under the ICD 10 may be considered under the new category of Social Communication Disorder (SCD) by the DSM 5. The term ASD is best used to reflect the fact that there is wide range of severity in children presenting with features of autism. The core features are best summarised as reduced social responsiveness and restricted routines / repetitive behaviours, besides varying levels of language deviance / delay. Broadly, SCD does not have stereotyped behaviours and rituals, while Asperger’s syndrome does not have language/cognitive delay. Apart from severity too, there is a marked heterogeneity in intelligence and comorbidities such as over activity, aggression, self-injurious behavior, besides epilepsy, tic disorders and sleep disorders.

Published reports of large systematic prevalence studies from across India are not available. The National Consultative Meeting called by the Union Government of India and the WHO, in 2011, estimated that there are 1.7-2 million children with ASD in India and decided on a consensus prevalence of 1 in 250 children (0-18 years) for planning purposes. In countries with more advanced health care systems and better recording of data, the markedly increased ambient levels of awareness perhaps helps identify the milder forms better and this may explain the prevalence figures of 1 in 58 or 1 in 66 children from such countries. It remains to be explored if such milder forms are distributed within the formal schooling systems in our country. If the children are faring reasonably well with academic work, they may not be easily identified in India as needing help with social skills etc.

For assessment of autism, parent training, interventions and monitoring, various tools have been adapted and indigenously developed. Following tables give an overview of the same.

Measures of clinical relevance developed in India

- **The Indian Scale for Assessment of Autism (ISAA)** - determine severity for disability certification purposes
- **The INCLIN Diagnostic Tool** for ASD
- **The ComDEALL Development Check List** - helps tracking development on 8 different dimensions of growth in children till school age

Parent assisted training programmes developed around India

- In- patient based intensive education and training programme at NIMHANS
- **Badthe – Kadam** by AIIMS, a structured parent training programme
- The Parent
- Assisted Communication Therapy (PACT) from UK has been adapted into a 12-week parent training program by Sangath, Goa
- comprehensive manualised early intervention programme for children with ASD developed by comDEALL Trust, Bangalore - This programme runs for over 2-3 years, 3 hours a day, five days a week and aims to mainstream children by 6 years of age

Intensive multi-disciplinary training programmes remain the most accepted way for helping these children. Efforts to help children with ASD through early identification and early intervention have been increasing in urban areas of the country. Paucity of Rehabilitation Council of India certified professionals is a major challenge in organising services. In Karnataka, Spastics Society of Karnataka, Karnataka Parents Association for Mentally Retarded Citizens and the ComDEALL Trust conduct RCI approved courses in early intervention for graduates to address this lacunae.

Multi –Disciplinary Team in Autism Intervention

- Child Psychiatrist
- Child Neurologists
- Pediatricians
- Occupational Therapists
- Speech – Therapists
- Special Educators

The December 2016 inclusion of Autism under the Rights of Persons with Disability is a major step forward in the care of children with ASD in India. This mandates Union and State Governments to provide services, especially the early developmental interventions for these children. The unfurling focus on District Early Intervention Centers under the Rashtriya Bal Swasthya Karyakram (RBSK) is being watched with hope by families and professionals alike. Even 4-5 years of delay in delivering on this plan will mean that a million children across the country would not receive the promised help and the society will face more challenges in their school ages over the coming years. There is an urgent need to rapidly develop these services using innovative ways to upscale available methods of interventions.

Currently, evidence-informed psychopharmacology remains focused on difficult behaviours and comorbid conditions rather than correcting the primary symptoms. However, treating associated difficulties significantly helps conduct of ongoing therapies. There is a need to effectively address epilepsy and neurological conditions as these improve outcomes overall. Exciting avenues that can modify primary ASD symptoms are being explored.

Autism remains a fascinating condition for all health professionals. Understanding autism, understanding human social cognition and child development may be all referring to the same set of challenges

Dr. Ashok. M. V., Professor & Head, Dept. of Psychiatry, Consultant in Child & Adolescent Psychiatry, St. John’s Medical College, Bengaluru. Email: mysoreashok@gmail.com

Autism in Children

Introduction: Autism is a pervasive developmental disorder characterized by defects in social interaction, verbal and nonverbal communication and repetitive behaviors and interests. In addition they have unusual responses to certain sensory experiences. Many children with autism have mental retardation. This disorder is seen in 3-4 per thousand children and is 4 times more common in males. Autism is commonly diagnosed before 30 months of age. In fact, absence of abnormalities before the first 30 months rules out autistic disorder. The exact cause of this disorder is not known.

Presentation: The commonest presenting complaint in autism is delayed language and social milestones. These include children who do not coo or babble by 1 yr, speak single words by 16m or utter two word phrases by 2 yrs. of age. These children are recognized by parents as being “different” since birth. They have poor eye contact, poor interaction with parents (despite good hearing) and an abnormal preoccupation with certain objects or activities. The child does not use gestures like pointing with their index finger to indicate the thing they need, or involve in pretend play (ex: feeding doll, cooking food using utensils etc.) Some children are apparently normal till 2 years and then become silent, withdrawn, self-abusive and indifferent to social overtures.

Poor social interaction

Autistic children, even in the first few months of life, show poor interaction and lack eye-contact. They prefer to be alone. They remain indifferent to the presence or absence of parents. When they grow up these children have difficulty interpreting gestures and facial expressions and hence are poor at making friends. They have difficulty controlling their emotions. When in strange environments they tend to lose control, get angry and at-times may break things, attack others or hurt themselves. When frustrated some may bang their head, pull their hair or bite their arms

Repetitive behaviours

Autistic children may exhibit odd repetitive behaviors and self-injurious behaviors e.g., flapping their arms, jumping rhythmically, spinning, head banging, rocking the body or walking on their toes. Some freeze suddenly in position. They may spend hours lining up their toys in a certain way instead of using them for pretend play, skin pinching, self-biting, head banging, poking their eyes, plucking hairs etc.

Sensory problems

These problems arise from abnormal sensory integration in the brain

Autistic children are painfully sensitive to some sensations like: e.g., a soft touch, soft food items, sound of the mixer, television or radio. They may find the smell of ink or crayons very annoying. Some find the feel of clothes touching their skin unbearable. At the same time they are oblivious to extreme cold or pain. A child may sustain a fracture following a fall and yet never cry

Communication difficulties

Some children with autism remain mute throughout their lives. Some initially develop cooing and babbling but soon lose it. Some develop speech as late as 5-9 years. Those who can speak may tend to repeat words again and again (words are spoken not for communication but just to see how it sounds) and some may have echolalia (repeating what they hear). Their speech is not accompanied by facial expressions, movements or gestures and the tone of their voice fails to reflect their feelings. A high pitched sing-song voice or a flat, robotic voice is common.

Other problems

All autistic children have some degree of mental impairment. One out of four children with autism has a seizure disorder. Unlike other children with mental retardation autistic children are usually attractive and are more prone for sexual abuse

Managing a child with autism

Early identification is the key to treat children with autism effectively. Special education is begun as soon as autism is identified and the therapist works along with parents to identify the behaviors to be changed and skills to be taught. During the initial few years emphasis is on speech therapy and occupational therapy. This helps in improving communication and overcome sensory disturbances respectively. Motor coordination and body awareness is improved with special activities (string beads, piece puzzles, paint etc.). Behavior modification is attempted using positive reinforcement. Children are encouraged to learn social skills like communication with others, making friends, how to behave in social situations, use of public transportation etc. vocational training is also begun from high school onwards. Attempts should be made to incorporate the child into regular classes at least for 1-2 hours a day.

Autism cannot be cured by medications. Drugs are prescribed by a psychiatrist to treat such behavior problems as aggression, self-injurious behaviors and severe temper tantrums. Children with autism may have depression, anxiety, seizures or attention deficit hyperactivity disorder which may warrant medications. One has to remember that autistic children may be very sensitive to medications and may develop serious adverse effects to some. Wholesome diet and regular exercise benefits autistic children.

Dr. Raghavendra, Developmental Paediatrician & Professor, Dept. of Paediatrics, Basaveshwara Medical College & Research Center, Chitrdurga

REFRAME -Let Awareness Reframe Assumptions: Myths & Facts about 'Autism Spectrum Disorders'

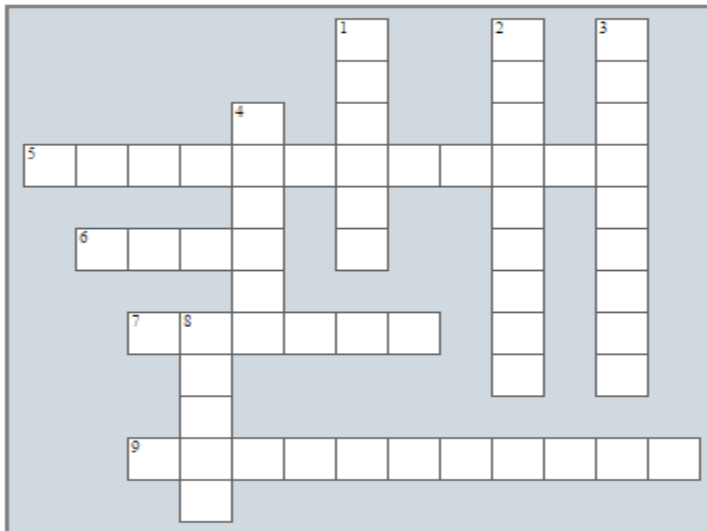
- Autism is a behavioural/emotional/mental health disorder.
- ✓ Autism related disorders are developmental disabilities and neuro-biological disorders.
- Autism spectrum disorders are caused by poor parenting or parental behaviour.
- ✓ Although multiple not-yet-known factors are responsible for autism, parental behaviour before, during or after pregnancy is not known to cause autism spectrum disorders.
- MMR vaccination increases risk of autism in children.
- ✓ There is absolutely no evidence of association of MMR vaccination with an increased risk of autism as reported by large scale studies.
- It is better to “wait and watch” if a child does better rather than refer the child for a proper diagnostic assessment.
- ✓ Early diagnosis and prompt treatment significantly improves outcomes in case of autism spectrum disorders.
- People with autism spectrum disorders cannot have successful lives.
- ✓ Many people with autism spectrum disorders are living successfully, working and contributing to the society.

MINDS QUIZ

1. **All of these are listed as Autism Spectrum Disorders in DSM – 5 except**
 - a. Childhood Autism disintegrative disorder
 - b. Rett's Syndrome
 - c. Asperger's Disorder
 - d. childhood
2. **All of these are core symptoms of autism spectrum disorders (according to DSM – 5) except?**
 - a. Persistent deficits in social communication and social interaction behavior, interests, or activities
 - b. Restricted, repetitive patterns of behavior, interests, or activities
 - c. Intellectual impairment
 - d. Symptoms present in the early developmental period
3. **Which of these is the most common neurological co-morbidity in Autistic disorders**
 - a. Parkinsonism
 - b. Seizure Disorder
 - c. Spasticity
 - d. Cerebellar Ataxia
4. **Which of these vaccines was once implicated as a causative factor for autism and later disproved**
 - a. Rabies Vaccine
 - b. Oral Polio Vaccine
 - c. MMR
 - d. BCG
5. **World Autism awareness day is observed on**
 - a. April 2nd
 - b. March 21st
 - c. April 7th
 - d. May 24th

Note: You can now request for any explanations to MINDS QUIZ answers by just an email to editormind@gmail.com

Can You Cross the Crosswords!!!



Across

5. Italian sculptor of the Renaissance credited for works like 'David' said to be suffering from autism spectrum disorder
6. Syndrome characterized by acquired microcephaly no longer considered under autism spectrum disorder as per DSM-V
7. Infantile autism was described for the first time in 1943 by
9. Atypical anti-psychotic licensed for treatment in autism

Down

1. Famous Austrian composer of the 18th century who happened to be autistic
2. Syndrome characterized by autism without significant delay in language or cognitive development
3. Meaningless repetition of another person's spoken words seen in autism
4. English physicist and mathematician knighted in 1705; also had autism spectrum disorder
8. Autism Awareness Month

Contributed by Dr. Swayamjeet Satpathy, Intern, AIIMS Bhubaneswar



QR Code for MINDS website

8. April

4. Newton

3. Echolalia

2. Aspergers

1. Mozart

DOWN

9. Risperidone

7. Kanner

6. Rett

5. Michelangelo

ACROSS

CROSSWORDS

5. a

4. c

3. b

2. c

1. b

MINDS QUIZ

ANSWERS

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