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Child India

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Editor's Note

Dear colleagues,

In 1970, the Autism Society in USA launched an ongoing effort to promote autism awareness and assure that all affected by autism are able to achieve the highest quality of life possible. In 1972, the Autism Society launched the first annual National Autistic Children's week, which evolved into Autism Acceptance Month (AAM). This April - Autism Awareness Month - we continue our efforts to spread awareness, promote acceptance, and ignite change. The prevalence of autism in the United States has risen from 1 in 125 children in 2010 to 1 in 54 in 2020 and it is the same all over the world, including India – recognizing this continued increase, IAP is conducting many awareness webinars and other programs this month. Every year April 2nd is observed as World Autism Awareness Day and the theme for 2021 is 'Inclusion in the Workplace: Challenges and Opportunities in a Post-Pandemic World'.

The puzzle ribbon was adopted in 1999 as the universal sign of autism awareness — The puzzle pattern reflects the complexity of the autism spectrum. The different colors and shapes represent the diversity of the people and families living with the condition. The brightness of the ribbon signals hope — hope that through increased awareness of autism, and through early intervention and access to appropriate services/supports, people with autism will lead full lives and be able to interact with the world on their own terms.

The condition itself is a puzzle which needs to be addressed on many fronts to completion; and that persons with this condition are puzzled by our "normal" ; and we as parents, siblings, family, friends, teachers/therapists, and the general public are presented with the puzzle of how to understand and work with each autistic individual to empower them to be as independently functioning as possible.

The color blue's association to autism originated with the autism advocacy association known as Autism Speaks - The reason for the colour chosen for our April issue. Their "Light it Up Blue" campaign calls for people to wear blue to promote autism awareness. Blue is also the organization's primary color, and is associated with a calm feeling and acceptance in an otherwise loud and busy world for people on the spectrum.

The April issue of Child India is dedicated to Autism Spectrum Disorder with articles from many experts, specially trained in specific interventions such as communication, social skills, behavior, daily living, motor skills, and learning, who are part of the multidisciplinary team (MDT).that sets to work on the child and family depending on the requirements for the given child and family. We hope that browsing through the snippets all readers would become aware of the complexity of the condition and will be able to guide these parents appropriately.

Happy reading

Dr Jeeson C Unni
Editor-in-Chief

President's Address

Dear friends,

April is Autism Awareness Month and so the April issue of Child India attempts to demystify Autism Spectrum Disorder (ASD) for general pediatricians. Please do read what experts have to say and become experts in recognising the condition early.

We do not have sufficient data from India to provide an India-specific estimate of the prevalence of ASD. While the disorder is not rare, a multitude of children with autism in India have not been diagnosed and -- more critically -- do not receive the services they need. This problem occurs in many countries, but is especially true in India where there is a tremendous lack of awareness and misunderstanding about autism among the medical professionals, who may either misdiagnose or under diagnose the condition.

Fortunately, the process of obtaining a diagnosis of autism in India is improving in the major cities, as more paediatricians become aware of the condition. Some doctors may feel that nothing can be gained by a diagnosis of autism if the services are not available; yet, as more children are diagnosed as autistic and more awareness of the disorder spreads, there will be a demand for services. Let all of us in IAP be the impetus to create more services, and ensure that the special needs of autistic children are not ignored.

The World Immunization Week is celebrated every year in the last week of April, Using the theme 'Vaccines bring us closer', World Immunization Week 2021 will urge greater engagement around immunization globally to promote the importance of vaccination in bringing people together, and improving the health and wellbeing of everyone, everywhere throughout life.

As part of the 2021 campaign, WHO, partners and individuals around the world will unite to:

Increase trust and confidence in vaccines to maintain or increase vaccine acceptance

Increase investment in vaccines, including routine immunization, to remove barriers to access

I urge all IAPians to chanelise all efforts this month to these two activities.

Jai Hind, Jai IAP,

Piyush Gupta
National President, IAP 2021

Secretary's Message

Dear Friends & Colleagues,

Greetings from your Secretary-General!

I would like to start by thanking each of the members of our esteemed Association for contributing to the present situation of the country. We are all aware that now we are at the 2nd Wave of the COVID-19 pandemic and swift actions must be taken. Hope you are all taking the proper measures needed.

March has been an extremely busy yet very productive month.

I would like to start by mentioning dream project of National President & Academic Guru Dr (Prof) Piyush Gupta jee the "Early Childhood Development Program" consultative meeting held in New Delhi. The meeting was very effective and a much-needed one well-coordinated by Steering Committee chairperson Dr Digant D Shastri.

Next, various National ToT'S like CADE module, Neglected Tropical disease, Acquired Heart disease, Dysbiosis module have been launched in the month of March and I am extremely thankful for the enthusiasm shown towards each of the programs office bearers & Executive Board members.

Thirdly, other action plans like NTEP, NEPU, WAR, DERMA, etc have been contacted accross India.The National Tuberculosis Elimination program has been relaunched physically which was very much needed. Kudos to the entire team for this great success.

Yet another feather on the cap is the IPA elections successfully conducted by the executive board.

My heartiest congratulations to the vibrant leader, our honorable Past President Dr. Bakul Jayant Parekh for being elected as President IPA Congress 2023, India. Our support is always ensured.

Yet another greatest pleasure is to share that Dr Santosh Soans has been elected as Chairman Scientific Committee for IAP Congress 2023 unanimously.

Secretary's Message

This is the proudest moment for IAP and my heartiest congratulations to the very deserved.

Wishing them a great journey ahead and extending our support as always.

My heartfelt thank you & gratitude to Dr Piyush Gupta jee for always staying the guiding light and for taking the IAP academics to great heights.

I congratulate each one of EB/OB/ COVID 19 committee members for their enthusiastic participation. The inputs and suggestions have helped significantly. I personally thank them for their proposition. The Mantra is to edify -enlighten, improve, nurture, instruct, educate, teach, learn by sharing with each other.

Also, I express my sincere thanks & congratulate Dr Jeeson Unni for his extraordinary role and valuable contribution in terms of updating the information through "Child India" issues on regular basis in this COVID pandemic.

Last, but not least, I appreciate all my colleagues for your support and participation in every activity that we conduct.

IAPians, let's work together and come forward to help our country to restore normalcy.

Be safe and keep everybody safe around you.

Together Let's Build IAP.

Jai IAP!! Jai Hind!!

Sincere Regards,

Dr G V Basavaraja
Hon. Secretary General 2020 & 21

Presidential Engagement

Early Childhood Development meeting at New Delhi on March 20-22nd

Presidential Engagement

Early Childhood Development meeting at New Delhi on March 20-22nd

The Dynamics of Language In Autism

Dr Shabina Ahmed, MD., FIAP
Developmental Pediatrician
Assam Autism Foundation
Chairperson, Neurodevelopmental Chapter IAP

Autism is a complex neurodevelopmental disorder, that usually becomes evident during the first three years of life. It has tremendous impact on the normal functioning of the brain, challenging child development, particularly of social, emotional and communication competences.

Till date, autism is behaviorally defined. These children present with deficits and excesses in behavior inappropriate to the developmental level of the child, and sometimes we there is absence of chronological order of the normal social communication development. Some children are able to read before being able to name the basic colors; they appear to vacillate between abilities and disabilities. The uniqueness of this disorder is its heterogenicity in presentation and unfolds over time, because of their individual variations in social cognitive performances. This is called the "Odyssey of Autism". The presentation is variable and may appear in the first year of life, or after a period of normal development. It may present as a stand-alone classic case of autism or may be associated with a syndrome.

Recent studies point out that the occurrence of Autism Spectrum Disorder (ASD) is up to 1% worldwide. Such high incidence places the demand for early identification, efficient intervention models and identification of factors that may facilitate improvement.

The age of definitive diagnosis of ASD is around 4.4 years worldwide, though some of the parents observe the developmental deviations around 18 months to 2 years of age. Studies have shown that there is an average of 14 months between concern and diagnosis, and this constitutes the autism diagnosis crisis wherein we are losing the most important part of brain development. Thus has arisen the need for markers like gaze preference, spatial referencing along with screening tools.

Language acquisition is considered a fundamental element of child development and a prognostic factor in autism. The exact nature of language impairment is unclear but individual differences in development lead to certain rhythm and language characteristics. Individual abilities and environmental inputs, ranging from early screen use to various vocabulary and other interactions, influence the development.

There are varieties of presentations of speech abnormalities in ASD. 50% are non-verbal, while the rest have pedantic speech, while some talk but have pragmatic inabilities. There are three differences noted between autistic verbal children and normal children: articulation abilities are better than other areas of development, verbal expressions are advanced than comprehension and lexical comprehension is superior than grammatical comprehension (Belkadi, 2006).

Reciprocity between mother and child forms the base from which communication develops. Studies have shown that the linguistic development path follows a predictable pattern from 2 to 9 years and the social and cognitive elements evolve together. Any disturbance leads to mutual interference in the process. But all children have some sort of communication intent whether verbal, vocal or gestural. These should be observed keenly along with social communication adaptation skills. They should be identified in the process of language assessment which may give important information to support clinical decisions about intervention models and focus.

Gutstein and Sheely (2002) have described four levels of social communication adaptation.

Level 1, Beginner- social adjustment stage and social referencing.

Level 2, Apprentice level -adaptation and synchronization.

Level 3, Challenger- shared perception.

Level 4, Explorer- shared imagination.

Attention to the child's functional communication profile will contribute to effective and personal exchanges given in a symmetric communication and naturalistic setting. Therapeutic setting must be flexible and problem-solving to exercise initiatives. Family inclusion at all levels of management is essential. The therapeutic process is lengthy and must be periodically and systematically reevaluated by the pediatrician as the condition has a constant evolving pattern. These constant adjustments need to be made by everyone involved.

Good prognostic signs are communicative intent, such as joint attention, which leads to later syntactic development. The concept of verbs is complex and the level of understanding gives us the child's role of self and others, while symbolic play speaks of interpersonal relationship.

Recommended reading:

Belkadi, A. 2006. Language impairments in autism: evidence against mind-blindness. SOAS Working Papers in Linguistic, Vol 14. No 1, 2006. Pp 3-13

Gutstein, S. & Sheely, R 2002. Relationship Development Intervention for Children, Adolescents and Adults with Autism/ Asperger. Future Horizons, ISBN-13 978 1 843107170

Autism: In Search of a New Paradigm

Dr Samir Hasan Dalwai

Autism enjoys the unflattering distinction of being perhaps the most misunderstood condition (un)known to mankind. From being described as everything from a divine curse to a genetically modifiable disease, it has withstood the notoriety of hyperbole to retain an ambiguous hold in the minds of most. Much like the poem about the visually impaired men and the elephant, wherein each person felt a distinct part of the elephant to be congruous with what they knew best, currently autism is at best described as an amalgamation of the discrete viewpoints that people have identified, endorsed and assimilated. No wonder then, the range of options of intervention is akin to a Pandora's box- bewildering, and often ridiculous. What is yet lacking is a distinct homogenous pathophysiology that is wide enough to explain the myriad manifestations, yet simple enough to pinpoint that one deviation that sets it in motion. Research in molecular neurology may explain the genetics; it is the epigenetics that could be the key to mass intervention in a condition that touches one and half percentage of human population and has devastating consequences on as many families, and on a society that yet measures human value in terms of economics.

Autism is far more common than imagined. With an estimated prevalence of approximately 1.7%, only a small minority is identified before 3 years and almost half are diagnosed beyond 6 years of age - especially those with minor symptoms and better cognitive and language development. Males are as often as four times more commonly affected.

Autism runs across the social communication sequence – an important concept to understand. Early signs are those related to the absence or paucity of social engagement between the child and the caregivers. Everything ahead perhaps is a consequence of this deficiency rather than independently occurring symptoms. Lack of engaging eye contact and meaningful social smiles should alert the discerning parent. Absence of reciprocating nonverbal gestures, like running into the mother's outstretched arms or stretching out one's arms in response to the mother's outstretched arms for a hug, or even simply not showing any cognizance of the parent entering or leaving the room are to be picked up in infancy and toddlerhood.

Poor response to the caregiver pointing out to something that the child otherwise may enjoy, or absence of pointing out to the parent something that he wants may be noticed. The child may prefer to reach out to the biscuits he wants or may bring the box to the parent or drag the parent to the box - thus indicating his wants, way past the age when he should have been pointing or even speaking.

Delay in speech, I believe, is a consequence of this early failure rather than an independent anomaly. The child may "hear" the sound on the TV or the doorbell, but may fail to respond to her own name being called out. Parents attribute it, perhaps optimistically, to the child being in her own "mood"; persistence of the same across weeks should ring an alarm and necessitate an immediate hearing assessment by a trained professional. If the hearing assessment is normal, it indicates that the child can hear but

does not understand human speech as well as she should at that age. Delay in understanding other's speech leads to a consequent delay in the child speaking himself.

Interestingly, the child starts manifesting an interesting phenomenon. He is able to surprisingly recall words, phrases, sometimes entire rhymes or the alphabet. This may lull the parent for a long time into assuming that the child is speaking well. However, one soon realises that the child utters these words or phrases at unexpected times, places or situations. It is almost as this is a tape playing. This is not speech as we know it; this is meaningless repetition of sounds called "echolalia". The child also starts displaying repetitive behaviours like flapping of hands or spinning especially when excited. The wheels of a toy car are more engrossing to this little child than the car as a whole. The child may show preference towards or may abhor certain sensations like movement, the touch and feel of certain textures, loud sounds like firecrackers, particular visual designs or patterns of music.

Over a period of time, difficulties emerge in self-soothing. Eating may be a problem- the child prefers only a particular type of consistency or taste. Similarly, while peers are getting toilet trained, this child may resist all such attempts at training and may have constipation. Sleep disturbances emerge as a troublesome symptom. Pica is a common feature. Some parents may notice that the child actually regresses from what he was able to do earlier.

Every child may not manifest each of the symptoms nor display equal severity across symptoms. Most often, the child is completely normal in terms of the facial features and motor development as well as physical growth parameters.

We need to understand that autism is the absence of normal development in the social communication domain of development, rather than the presence or emergence of a disease. A most unfortunate colloquial misinterpretation is that the word autism means "self-involved. It never did. Dr Kanner, in 1943, used the word autism to mean "coming from within"; he wanted to establish the fact that the affected child displays the condition from birth and it is not acquired later.

This and several other misadventures have resulted in the complex social taboo and stigma that all of us create around autism. "Autism can never be treated", "accept the child as he is", "do not expect a cure", "he will always be special and need special attention and schooling" are bandied about with sacrosanct impunity by experts who are, at best, learning. All of this, of course, is far from the ultimate truth.

Early suspicion should lead to early diagnosis. Unfortunately, the stigma often holds a parent back from a professionally conducted assessment. Reckless opinions, labels and classifications of severity are unfortunately handed out as readily and randomly as predictions by co-traveller amateur palmists on train journeys. Parents are well advised to check the antecedents and qualifications of the medical professionals they consult; digital impressions are often not what they seem. It is best to consult other parents about their experience, even in the waiting room if possible. A good way to judge a professional is one who hears you out well, extricates the developmental history well and explains her/his opinion about the diagnosis. It is not enough to be told that the child has 'speech and language delay' - that is the symptom you consulted her/him for! You need to be given a good explanation of the cause. A sure way to assess is to check if you receive a written report or opinion signed by the professional. I would be vary of the banker who does not sign my pay slip.

Early intervention and correct intervention should be, but most unfortunately are not synonymous. A combination of early and correct intervention shows tremendous improvement in the child! Again, it is pertinent to know that your child needs a team of professionals working together with accountability - use the 'signed document test' every time, to check if the person you are consulting for your precious child is accountable. Time is precious. I have seen families coming to me at 3-4 years of age with months of "intervention" and not a scrap of paper detailing anything that was being done. Beware of those who assure you they are maintaining notes with themselves- that is both absurd and unethical. Every child undergoing a diagnosis or intervention deserves a written documentation. It is superfluous to explain why.

For those not physically close to these services, the pandemic has helped by launching a slew of online services that could be availed from a distance. However, one needs to be even more diligent about the services offered. Diagnoses and goals need to be discussed with parents. Documentation is the key.

Finally, the results will tell. Do not expect the same overnight. Also, do not forget the sequence. Our work at our institute makes us believe autism disrupts the onset of the social communication sequence. It is our belief and experience over the years with thousands of families that working along the sequence leads to sequential attainment of goals. Do not focus directly on attaining speech; worse, do not chase reading and writing for getting admission into schools. A child with autism with poor social interaction, behaviour and speech can flummox you by writing 'A-Z' and 'numbers' and 'recognising shapes and colours'. That could perhaps merely be echolalia or repetitive patterned behaviours. Children have a better chance of doing academics once the earlier milestones are in place. Work on the basics first! The rest will follow if the team you are working with has their basics in place. Give them time! They are trying their best. But do not hesitate to ask them the goals they work with. Every team needs to have (preferably) a written plan for the child that could be discussed with the parent.

It is a myth that autism does not get better. We have had the immense fortune of having journeyed with hundreds who have got better and are leading a fulfilling life. Parents are the cornerstone of this recovery! They need understanding and support – from everyone in society – cantankerous uncles, loving aunts, vibrant cousins, disciplining grandparents, involved neighbours, patient teachers, smiling shopkeepers, caring security guards and supportive doctors. It takes a village to raise a child - it takes a participatory village to help a child with features of autism to be able to develop better and almost like any other child. A village which allows the child to enter every household and learn how to behave and speak with the people in that house- and learn how to adapt to myriad human behaviour.

Though things may seem impossible, they are not as difficult as one has assumed them to be. Things shrouded in secrecy may build an obscure cloud of darkness. The history of the world is witness to the fact that that which seemed enigmatic and fearful turned out to be simple and far less complicated.

Shall we wait for the apple to fall?

(Dr Samir Hasan Dalwai is a Developmental Behavioural Pediatrician who has founded New Horizons Child Development Centre and Research Foundation. He serves as the National Joint Secretary of the Indian Academy of Pediatrics and is the past Chair of the IAP Chapter of Neurodevelopmental Pediatrics. His team has proposed the Indian hypothesis of The Social Interaction of Autism and the concept of the Social Communication Sequence.)

Co-morbidities in Autism Spectrum Disorders

Dr Leena Srivastava
Dr KS Multani

"Comorbidity is to be expected in autism spectrum disorders — directly or indirectly.." Isaksen et al., 2012.

'Children with autism spectrum disorders: The importance of medical investigations.'

Autism spectrum disorder (ASD) is a heterogenous group of disorders of varying severity and presentations resulting from a wide variety of genetic abnormalities which result in abnormal neu-ral migration, altered synaptogenesis thereby affecting the normal development of the child.

Along with the core features of impaired social communication and interaction with restricted and repetitive interests, most children have significant medical/ developmental / behavioral co-morbid conditions that influence the clinical presentation and also add to the functional impair-ment resulting in significant morbidity & mortality among these children. Timely diagnosis and holistic management will not only aid in realising the optimised goals of intervention reduce mor-tality but also result in improved quality of life of these children and the families.

Developmental conditions seen in association with ASD

Motor-Mild delays in gross motor skills with mild hypotonia, idiopathic toe walking , problems with motor planning and execution or developmental coordination disorder may be seen in chil-dren with ASD.

Sensory impairments like hearing and visual impairments may co-occur with features of ASD.

Language impairments- Along with the basic deficits in non verbal and verbal communication there may be impairments in the receptive and expressive language skills along with pragmatic usage.

Cognitive delay /Intellectual disability (ID)- Intellectual functioning can vary from intellectual impairment in many children with ASD to few having superior functioning in specific areas (sa-vant skills). When making a diagnosis of ASD with ID it is important to differentiate between attributes of the clinical presentation that can be contributed by the cognitive impairment itself.

In view of these developmental conditions co-occuring with ASD, it is important to consider evaluation of these areas along with adaptive functioning to make a holistic management plan.

Co-morbid condition	Prevalence
Neurobehavioral / Psychiatric conditions	
Behaviour problems like hyperactivity, aggression , self injurious behaviour	8-68%
Sleep disturbances	40-80%
ADHD	28-44%
Anxiety	42-56%
ODD	16-28%
Depression	12-70%
Tics	14-38%
Psychotic disorders	12-17%
Bipolar disorder	6-21%
Medical conditions	
Seizures	6-22% .(more in children with ASD with ID)
Feeding disturbances including selective food preferences	~46%
Gastrointestinal problems like diarrhoea/constipation	Varying estimates of 9-50%

Neurobehavioral/Psychiatric conditions

Commonly co-occuring behavioural problems that cause considerable stress to families and inter-fere with daily functioning are hyperactivity, aggression, self-injurious behaviours. Co morbidi-ties like ADHD commonly occur with ASD and DSM 5 now allows the diagnosis of these dis-orders in addition to the primary ASD thus facilitating better management. Behavioral interven-tions along with medication where considerable interference of the behaviour occurs on the functioning and learning of the child are used for the management. Other psychiatric diagnoses like anxiety, Depression, OCD, bipolar disease etc may coexist with ASD and may be seen mostly in adolescents and adults on the spectrum.

Medical conditions coexistent with autism

Selective food preferences and gastro-intestinal problems : Fussy eating and selective food prefer-ences have been reported. They have problems related to eating, chewing, selectivity based on textures, temperature, colour, presentation. Many have feeding rituals or compulsive habits. Other related problems are excessive mouthing with pica and rumination in few cases. These may be related to the core feature of restrictive and repetitive patterns or their sensory percep-tions. Feeding history as a part of the initial evaluation may help to include these problems in the management plan with behavioural managemement or oro-motor intervention. Though often the major presenting concerns of parents few studies have shown that

most children intakes did meet their dietary reference values though rare cases of deficiencies have been reported in these children.

Gastrointestinal symptoms-like diarrhoea, constipation, abdominal pain are common reported in these children. In view of their communication challenges these symptoms may commonly pre-sent as agitation or other behavioural symptoms or sleep disturbances. The management of the GI symptoms would remain the same as for typically developing children with some behavioural intervention for constipation and related feeding problems. Presently there is no evidence of an association with celiac disease, GER or specific immune disorders.

Obesity- Children and adolescents with ASD are at greater risk for being overweight or obese than the general population. Lack of opportunities to participate in outdoor sport activities, rigid food routines may be contributing reasons. History of medication like atypical anti psychotics or anti epileptics that could contribute should also be taken into perspective.

Dental health- Little evidence is available on the prevalence of caries in children with ASD but the fact that brushing teeth, oral hygiene and visits to a dentist all pose a lot of challenge in these children and thus guidance regarding this should be included in their follow up plan.

Sleep disturbances-common in children with ASD. They may be in the form of problems with initiation or maintaining sleep.Disruption of melatonin metabolism , lack of social expectations and other behavioural patterns are implicated as reasons for the same. Behavioral interventions have been shown to be effective and melatonin may be used to aid sleep onset. Poor nighttime sleep may adversely affect daytime behaviour and working on the sleep may prove beneficial for the latter.

Probable associations-Few studies report that allergies and autoimmune diseases were more common in children with autism that their typically developing peers.More evidence should be awaited.

Genetic conditions associated with Autism

Fragile X, Tuberous sclerosis, Downs syndroms, Prader-Willi, Angelmans syndrome, Velocardi-ofacial syndrome, 15 q syndrome, Mitochondrial disorders are few disorders that are commonly associated with ASD. Many of the genetic disorders associated with ASD have their character-istic clinical features while other single gene disorders may not have any characteristic features. Most of the affected children have macrocephaly but few may have microcephaly.

To summarize, ASD is a complex spectrum in itself and the co morbid conditions impact the clin-ical picture with sudden changes in the course also that can be attributed to the comorbidities. Awareness about these conditions can enhance the evaluation and intervention plan thus con-tributing towards better care and improved quality of life for the child and family.

REFERENCES

1. Dalwai S et al. Consensus Statement of the Indian Academy of Pediatrics on Evaluation and Management of Autism Spectrum Disorder. Indian Pediatrics Vol 54, May 2017;385-393.

2. Hyman SE et al.Identification, Evaluation, and Management of Children With Autism Spectrum Disorder; Council on children with disabilities , Section on Developmental and behavioural Pediatrics; Pediatrics, Volume 145, number 1, January 2020 (Downloaded from www.aappublications.org/news)

3. Deborah G. Hirtz, Ann Wagner, and Pauline A. Filipek, Autism spectrum disorders;In Neurodevelopment disorders; Swaiman, Pediatric Neurology 5th ed;638-663.Elsevier; 2012.

Complementary and alternative medicine in Autism Spectrum Disorders

Dr. Shambhavi Seth

Dr. ZafarMahmood Meenai

Introduction:

As per DSM-5. I% of world population is affected with Autism spectrum disorder. On clicking AUTISM on Google 16,80,00,000 sites open in 1.09 seconds. With this vast source of information, misinformation, promotion, guarantees, the information is overwhelming. Apart from the variable effect on functioning of child, Autism spectrum disorder has a significant psychosocial impact on families dealing with it. They may resort to treatment modalities which lack evidence but seem to offer quicker results. Some of these options are more affordable and avoid use of psychotropic medications which in itself has limited acceptance with families of children with special needs.

A large number of familiesmay resort to complementary and alternative medicine (CAM) for the treatment of childhood developmental disorders.

As high as one third of patients with Autism Spectrum Disorder are treated with CAM. It is reported that 10 % of these children would have received a potentially harmful intervention.

According to the Cochrane Collaboration, complementary and alternative medicine is a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period.

CAM may be broadly divided into: Biological and Non Biological.

Biological CAM includes various dietary interventions like gluten-free-casein-free diets, dietary supplementation, hyperbaric oxygen therapy and chelation.

Non Biological CAM includes mind-body medicine (yoga, meditation, music, dance, and different forms of art), manipulative and body-based practices (massage, auditory integration therapy, chiropractic care, and acupuncture), energy medicine (reiki or homeopathy) and alternative medical systems (homeopathy, traditional Chinese medicine, Ayurvedic medicine).

Research in CAM

Randomized double blind controlled trials provide the best level of evidence. Most of the trials of CAM are uncontrolled and fall short of evidence for clinical usage. The last decade has seen a few randomized trials but with small study samples. Association of co morbidities and multi-component interventions have rendered their interpretation difficult.

Biological CAM in form of elimination diet particularly GFCF (Gluten free casein free) diet is one of the most popular dietary interventions. The rationale for its use is the theory of specific allergen in form of casein or gluten which triggers enhanced immune response in children with ASD. Children with ASD have been shown to have increased gut permeability and overgrowth of gut micro flora. The randomized control trials have not reported significant statistical differences in core symptoms and adherence to diet has been a challenge for most of the families.

Among nutrient supplementation, omega 3 fatty acids are available over the counter and more commonly prescribed. Controlled studies have compared supplementation with placebo and no significant difference is reported between the two groups. Moreover, dosage of omega supplements has not been standardized across different studies. Other nutrient supplementation includes Vitamin B12, B6, multivitamins, L- Carnosine, probiotics, herbal remedies. Further research is needed to advocate their clinical usage. Use of hyperbaric oxygen in cerebral palsy and more recently ASD has been based on presumption of revival of damaged brain tissue.Few studies have shown promising results but they are not consistent. Hyperbaric oxygen and chelation therapies may have potential to cause harmful effects.

Among non biological CAM, music therapy has been more widely studied. Few studies have documented improvement with respect to communication, social reciprocity, and emotion.

Evidence collected under National Standards project launched by National Autism Center has broadly classified available therapies as Established, Emerging and Unestablished. Interventions such as massage or touch therapy and music therapy are categorised into emerging evidence while interventions like auditory integration therapy, GFCF diet, animal assisted therapies, movement based intervention and SENSE theatre interventions are categorised as unestablished.

As regards Stem cell Therapies, limited clinical trials have been performed.Several differences (study design, subjects enrolled, cellular types, route of administration, outcome measures) make comparative reviews difficult. Larger, standardised trials are needed to establish definitive results.

As clinicians, while explaining CAM based interventions latest research evidence has to be corroborated and explained to family. Families should be clearly discouraged for CAM therapies which not only lack good clinical evidence but may be potentially harmful by explaining the risks and benefits of the same.

Further reading:

1. Brondino, Natascia et al. "Complementary and Alternative Therapies for Autism Spectrum Disorder." Evidence-based complementary and alternative medicine: eCAM vol. 2015 (2015): 258589. doi:10.1155/2015/258589

2. Bent S., Bertoglio K., Ashwood P., Bostrom A., Hendren R. L. A pilot randomized controlled trial of omega-3 fatty acids for autism spectrum disorder. Journal of Autism and Developmental Disorders. 2011;41(5):545–554. doi: 10.1007/s10803-010-1078-8.

3. Challman, Thomas. (2009). Alternative Therapies. Developmental-BehavioralPediatrics. 950-956. 10.1016/B978-1-4160

4. Meredith N et al. "Evidence Based interventions for Children with Autism Spectrum disorder." Current problems in Pediatric and Adolescent heathcare. 2018; 48(10):234-49.

5. Atins RS et al. "Utilization patterns of conventional and complementary/alternative treatments in children with autism spectrum disorders and developmental disabilities in a population-based study". Journal of development and BehaviorPediatrics:2014 Jan;35(1):1-10.

6. Eugenia Chan"The role of complementary and alternative medicine in attention-deficit hyperactivity disorder "Journal of development and BehaviorPediatrics: 2002 Feb;23(1 Suppl):S37-45.

7. American Academy of Pediatrics: Counseling families who choose complementary and alternative medicine for their child with chronic illness or disability. Committee on Children with Disabilities. Pediatrics2001 Mar;107(3):598-601

Author's footnote: The following article has been adapted from IAP handbook of Developmental Pediatrics (in press) contributed by Dr Shambhavi Seth.

How ABA helps in achieving social interaction in ASD

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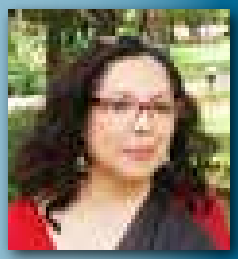

Children with autism often remain on the perimeter of events. The characteristics of Autism include deficits in initiating, responding to others, pretend play, understanding social rules, perspective taking and many other social impairments. The difficulties in initiating and engaging with family members, peers and adults often lead to isolation not just for the child but also families and remains a cause of mental health issues. Hence one of the core skills to work on when guiding families with autism is to integrate them into society. This is only possible when the focus of intervention is the development of social skills.

ABA & Social Skills Training

The science of behavior analysis has more than two decades of published research on teaching social skills using a variety of techniques such as video modelling (Charlop□Christy, Le, & Freeman, 2000), teaching interaction procedure (Leaf et al., 2009), social stories (Gray & Garand, 1993), parent mediated behavioral skills training (Dogan et al., 2017), using scripts, (Pollard et al., 2012) amongst many others.

Early Goals in ABA

The development of pre-linguistic skills such as looking at others, following their eye gaze, tracking the pointing finger, responding to non-verbal cues have been one of the most important targets in the field of applied behavior analysis. This also leads to the development of Joint Attention (Buinsma, Koegel & Koegel, 2004) which is described as two persons actively sharing attention, between an object and event while monitoring each other behaviors (Adamson & Bakeman, 1984) and the use of protodeclaratives (the social motive of sharing attention towards something; Tomasello, 1985) and protoimperatives (motivation based requests which are intended to make another person do something (Sarria et al., 1995).

Calling a child by name, saying "look at me' or turning a child's face are outdated procedures. Working on the child's motivation, using time-delay techniques, using pauses during play, or shaping using PORTL training (Rosales-Ruiz & Hunter) have been some of the most current techniques in developing eye contact in ABA.

Social Skills Assessments

The Social Skills training always begins with a detailed assessment of Joint Attention, Initiating or responding to Greetings, Social Play, Self Awareness, Conversations, Perspective Taking, Critical Thinking Skills and Developing Friendships. These skills are assessed in a variety of setting such as 1:1, group and naturalistic settings. Teaching Joint attention (JA) skills, Taylor and Hoch (2008) taught children to gaze

shift between a novel object and the adults eyes using social reinforcers. The children learnt to respond to vocal responses from the adults (RJA) but showed varied responses in initiating joint attention bids (IJA). In another procedure Pollard et al., (2012) used script fading procedure to promote unscripted bids for joint attention using multiple exemplar training. Training included orienting towards the object, emitting an appropriate statement in context and then orienting towards the adult or peer immediately afterwards.

Initiating greetings with others is often hampered when children learn to respond only when prompted to greet. ABA strategies such as video modelling have been effective in teaching children to greet without verbal prompting. Teaching to respond to greetings from others needs to be mastered prior to teaching initiation of greetings.

Play and socialization are two sides of the same coin. Very often socialization occurs around play. Hence parents often need to pay importance to the need to teach play. This is significant as kids with autism have limited interests and stereotypic play. Play and socialization often begins in an unstructured fashion with kids simply chasing each other without a plan, however this gradually becomes more and more complex with language and rules incorporated within it. Even non-vocal kids with developed joint attention and play skills can socialize taking turns to play a game. Hence play may not be limited to vocal kids or those on the higher end of the spectrum.

Socialization often occurs around conversations. ABA based procedures lay a lot of emphasis on Speaker-Listener behavior (Skinner, 1957) and how speakers and listeners take turns to talk around a topic of interest. Conversations always begins with teaching the child or adult to approach another person to ask for something, for example a question or use ice-breaker comments such as How is your day? Would you like some coffee etc? Teaching procedures can vary using any type of prompt which can be faded so independent responses can be taught.

The final stage in the development of social skills is understanding another person's emotions, developing compassion and adapting ones behavior to the situation as it helps in making friends. We have often observed some people with autism engage in conversation which is highly meaningful to them such as talking about cars, trains, monuments etc., however while talking they often miss out on others interests which can not only make a conversation boring but also becomes a road block in making future friends. The existing literature on perspective taking comes out of Theory of Mind (ToM) research. Baron-Cohen and Hadwin (1999) suggested, understanding others perspective begins with identifying what others can see, knowing that different people observe things differently based on their position in space, such as a person facing a window will see the sky or the street while a person with his back towards the window will see what is in the room. And finally learning that "seeing leads to knowing" which means if you have not seen something you might not know about it. This knowledge forms the pre-requisite for the development of true and false belief.

Our team at BMI teaches perspective teaching by including various component skills such as responding to non-verbal gestures such as smiles or frowns, labelling others emotions in real time and responding to emotion based situations. Teaching a child to follow eye-gaze and label what they are seeing (Gould et al., 2011) and what they are thinking. For example when we fix our gaze for a few seconds at a glass of water, we might possibly be thirsty. This helps in teaching prediction too. Further advanced perspective training included teaching social rules, keeping secrets and comprehending hidden rules.

ABA based studies have successfully worked across all the above aspects of social skills and it's development in children with autism using data based behavior monitoring systems which are easy to replicate during interventions.

Picture Exchange Communication System (PECS)

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Autism has been increasingly prevalent in this neoteric digital and pandemic era. There is increasing awareness in the society that children with autism exhibit significant difficulty in social communication although they hear well and recognize the kindess of people around them. On providing early intervention, social exposure and intensive home training, many of these children acquire spoken language, although some remain minimally verbal. In 2008 and in 2014, The National Professional Development Center (NPDC) on Autism Spectrum Disorder (ASD) adopted Picture Exchange Communication System (PECS) as one of 27 Evidence-Based Practices.

PECS was developed by Andy Bondy and Lori Frost in 1985 and was initially implemented for children with autism. Later, it has been used to build independent and functional communication in various developmental disabilities. The teaching protocol of this unique augmentative communication system is based on the verbal behavior approach and applied behavior analysis. Discrete trial training with appropriate stimulus, response and reinforcement over multiple trials, with different people and across distances are implemented. Modelling and imitation is used to teach requesting, labelling, and commenting skills. Verbal prompts are avoided to promote spontaneous initiation of communication.

PECS consists of six phases and begins by facilitating initiation of request for a desirable item and exchanging its picture as a means of requesting. The third and fourth phases teach picture discrimination, sentence formulation and usage of modifiers. Answering questions and commenting is taught in the fifth and sixth phases, respectively. Research shows that many children develop speech during or after PECS training. Many PECS users transition to speech generating device (SGD) like 'Avaz' commonly used in India. It could be used along with methods like Floortime and PROMPT, for an individualized program. Thus, PECS serves as a promising tool for communication intervention.

For further information: https://pecsusa.com/pecs/

Bondy A, Frost L. The Picture Exchange Communication System. Behav Modif. 2001 Oct;25(5):725-44. doi: 10.1177/0145445501255004. PMID: 11573337

Oral Placement Therapy – What is it? How does it help?

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Oral Placement Therapy (OPT) was developed by Sara Rosenfeld Johnson (Founder of TalkTools®) in the late 1980's and is "a speech therapy which utilizes a combination of: (1) auditory stimulation, (2) visual stimulation and (3) tactile stimulation to the mouth to improve speech clarity. It is an important addition to traditional speech treatment methods for clients with placement and movement deficits." It works on the rationale that when you "feel" adequately, you will create movements automatically to perform different functions. Hence it is a tactile-proprioceptive teaching technique which accompanies traditional therapy, since speech is a tactile-proprioceptive act.

Generally, when we work on speech stimulation/ production, we teach by asking the child to look at us and imitate us ("Say ah") or we tell them exactly what to do (close your lips and say mmm"). But there is a group of children who are not able to follow these instructions. In 20101, Diane Bahr and Sara Rosenfeld Johnson defined this as Oral Placement Disorder (OPD). Traditional methods of speech therapy might not work very well with this group and adding a tactile component to the intervention has been shown to bring about a lot more positive change in them.

OPT is useful in the following scenarios - when the child has weak oral musculature, when the child has food sensitivities or is picky about food or is refusing feeds, when the child poor oral motor skills like inability to chew food/blow/suck from a straw/ inability to clear a spoon, etc., when the child is not able to produce sounds or when the child has poor motor planning in their speech (E.g. when a child can make a sound but not able to combine sounds to make a word or when a child says a word once and the parents don't hear it after that for a long time or never).

OPT is not limited to a child with any particular diagnosis. The focus of the OPT program is and should always be to normalise oral tactile sensitivity and teach motor movements with efficiency and adequacy in order to facilitate good feeding skills and intelligible speech production. Hence it can work across different diagnoses like Autism, Apraxia, Dysarthria, Traumatic Brain Injury, Cerebral Palsy, Downs Syndrome, Developmental Delays and other related Childhood Language Disorders.

It is important to also remember that as a specialised course, OPT should only be done by certified Oral Placement Therapists. Doing massages alone or using one tool alone will never develop the dynamic movements that are needed for speech and feeding. A combination of tools/activities should be used to really see the benefits of the program and see the same benefits in speech production or good feeding. OPT is only a small part of a comprehensive speech and language program and should not be done in isolation. The activities are carefully selected to stimulate the same movements used in the targeted speech production. You can get more information on www.talktools.com.

1 - Treatment of Children with Speech Oral Placement Disorders (OPDs): A Paradigm Emerges

Bahr, D., Rosenfeld-Johnson, S. (2010) Communication Disorders Quarterly. http://cdq.sagepub.com

Music & Movement in Autism – How Does it help with Speech?

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Movement based interventions are of different types - music therapy, dance therapy, yoga therapy and aquatic therapy. Music and Movement is one such movement-based intervention for individuals with Autism that is based on the concept of "neuroplasticity". Change brought about through a movement and music program, often has profound effects on the speech and language processing areas of the brain.

Dr. Arnold Miller, co-developer of the Miller Method with his wife, described difficulties individuals with Autism have in differentiating between where their body ends, and the environment begins. Movement helps them understand this differentiation. Research shows that multiple movement therapies can be used successfully for individuals with Autism but not every individual will experience the same benefits. Individuals with ASD are all different, creating a variety of positive and negative reactions to the different types of movement therapies.

In a study done in 2005 by Oberman et. al(1), it was found that the motor cortex controls the "Mirror Neurons" which is involved in imitation, language, theory of mind and empathy; and deficits in these can cause social and communicative deficits in ASD. Individuals with Autism have difficulty accessing and retrieving information in both long &/or short-term memory banks. Either the pathway does not exist, or the transmitters are impaired. And this makes learning especially difficult.

BUT WHY DO WE NEED TO KNOW ALL THIS? AND WHAT IS ITS CONNECTION TO SPEECH?

Because speech is purely a motor act! And is controlled by the motor cortex in the brain like all motor movements. To create controlled, coordinated and sequenced act such as speech, we need to work not directly on speech alone but connect and strengthen the neuronal connections that enable gross motor skills... all the way to the fine motor skills. We need to develop interhemispheric connections to strengthen and build a 'whole brain' in order to significantly increase skills and behaviours through the body and brain connections.

Adding music to this mix makes it not only FUN (as children love music!), but also activates the whole

brain, enables neural symphony connecting the various parts of the brain together and regulates and calms the child.

A study done by Hartshorn et al. 2001(2) showed improvement in the behaviours of the children with autism (less time wandering, more on-task behaviour, less negative responses, less time resisting the teacher) with just two months of bi-weekly sessions. Another study done by Woo and Leon 2013(3) showed a 5-point increase on the Childhood Autism Rating Scale™ (CARS™) as well as an IQ increase of 10 points in a six-month period.

Hence, in addition to being simple and fun exercises for children with Autism, music and movement helps develop essential core skills including:

- Speech, language and communication
- Gross and fine motor skills/planning
- Proprioception, balance and spatial orientation
- Sensory processing and integration
- Social and life skills
- Physical health and wellness
- Self-esteem, self-awareness and self-determination
- Anxiety and depression

(1) EEG evidence for mirror neuron dysfunction in autism spectrum disorders. Lindsay M. Oberman, T, Edward M. Hubbard, Joseph P. McCleery, Eric L. Altschuler, Vilayanur S. Ramachandran, Jaime A. Pineda. Cognitive Brain Research 24 (2005) 190 – 198.

(2) Hartshorn, K., Olds, L., Field, T., Delage, J., Cullen, C. and Escalona, A. (2001) "Creative movement therapy benefits children with autism." Early Child Development and Care 166, 1, 1-5.

(3) Woo, C. C. and Leon, M. (2013) "environmental enrichment as an effective treatment for autism: a randomized controlled trial." Behavioural Neuroscience 127, 4, 487-497.

A Revolution in Autism Intervention

Kamini Lakhani
Behavioral Specialist and RDI Consultant
RDI Professional Trainer and Supervisor

In every field of medicine, treatments have evolved over the years.

What if cancer treatment was the same as it was 30 years ago?

Why should autism treatment options stay the same as 30 years ago?

My son Mohit was diagnosed in 1992. The recommended treatment was speech therapy, Occupational Therapy and Special Education.

The same model is recommended even today.

It's not that any of these are not valuable or needed.

However, the root cause of ASD needs to be addressed.

I found this revolutionary intervention 15 years ago. Today, I'd like to share it with you.

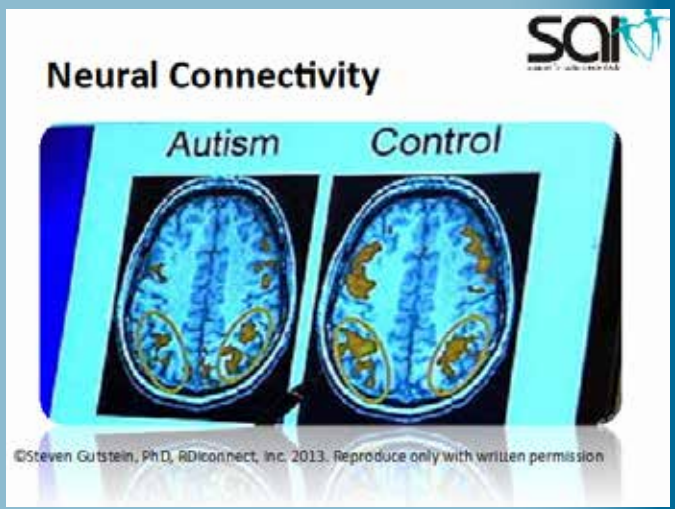
RDI (Relationship Development Intervention was founded by Dr. Steven Gutstein and his wife, Dr. Rachelle Sheely, in the late 1990s. (Houston, Texas)

RDI offers cognitive- developmental treatment programs for individuals and families that face developmental difficulties. It is often described as the 'missing piece of the puzzle,' in the treatment of Autism Spectrum Disorders, ADHD, ADD and other developmental disorders.

Here are 4 important information points about RDI.

1. Based on the latest research on brain development

RDI is based on the latest research related to brain development and neural connectivity.



This fMRI slide shows a lack of neural connectivity amongst different brain centers as compared to the control image.

RDI addresses this issue by working on building neural connectivity via creating a feedback loop between parents and child.

2. It is a parent led intervention

In RDI, parents work directly with their child.

Parents work to build the feedback loop between

themselves and their children under the supervision of an RDI Consultant.

An RDI Consultant customizes a program for the needs of the family. Each family gets a program based on their specific requirements, after a detailed assessment.

3. It works on the core deficits of autism

Regardless of language abilities and IQ, individuals on the autism spectrum have difficulties in some core areas.

These are:

1. Declarative (Experience Sharing) Communication
2. Social Referencing
3. Regulating themselves
4. Episodic Memory
5. Flexible thinking and adaptability

These deficits reflect an inability to develop dynamic intelligence.

4. RDI focuses on dynamic intelligence

Dynamic intelligence is the ability to solve problems in everyday life. It is the ability to make good decisions when we don't have the answers and need to find them.

The world is constantly in a state of flux. Dynamic intelligence provides children with tools to deal with these changes.

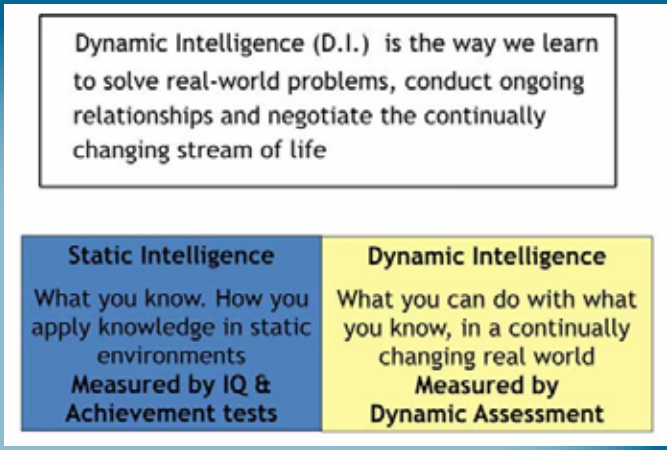


Image Credit: Dr Steven Gutstein, RDIConnect

Expected Outcomes of the RDI Program

Parents who participate in the RDI program are reporting dramatic changes:

- Children are significantly more motivated to accept guidance
- Children value time interacting with parents over other activities and objects.
- Children are more interested in how parents and other family members feel.
- Couples report a significant reduction in conflicts and stresses related to the child
- They feel more hopeful and less fearful about what the future holds
- They feel a decreased need to act as a buffer and advocate for the child
- They perceive their children as engaging more in planned, thoughtful action and see a significant increase in their ability to generate productive creative ideas and responses
- Their children show a strong desire to take greater responsibility in their daily lives

I have seen these outcomes in my own life and in the lives of several families I work with.

I invite you to explore this revolutionary treatment option and favorably impact the lives of several families affected by ASD.

DIR Floortime : An effective intervention practice for Autism Spectrum Disorders

Many studies have shown that children with Autism Spectrum Disorders (ASD) benefit from early intervention. ASD affects approximately one in every 270 people (1). Parents play a critical role in supporting a child with ASD. They can help ensure access to health care and education, as well as provide nurturing and stimulating environments for their child as he or she grows. It has recently been demonstrated that parents can also assist in the delivery of psychosocial and behavioural treatments to their own children.

Developmental Individual differences Relationship based (DIR) Floortime Therapy is a social pragmatic approach used to scaffold the development of social communication skills in children with ASD. This approach is made possible with the support of parents. Floortime focuses on providing opportunities for learning through emotionally engaging and meaningful interactions, as well as encouraging mastery of six foundational stages of social, emotional, and intellectual development (Greenspan & Wieder, 2006). All children must master six milestones for healthy emotional and intellectual development: "Shared attention and regulation. 2. Engagement. 3. Affective reciprocity and gestural communication. 4. Complex presymbolic, shared social communication and problem solving, including imitation, social referencing, and joint attention. 5. Symbolic and creative use of ideas, including pretend play and pragmatic language. 6. Logical and abstract use of ideas and thinking, including the capacity for expressing and reflecting on feelings and having insights into self and others. DIR Floortime teaches adults how to care for a growing child. Because floortime is based on beginning at the child's level and building on his or her strengths, the adult must physically work with the child at his or her level, which is referred to as "the floor."The mentor enters the child's play rather than initiating the interaction. As a result, the framework of the therapy is determined by the child, and the adult uses these activities to strengthen communication and develop social communication. It is usually implemented during the toddler years. The initial goal is to identify the child's interests, sensory modulation and processing, motor planning, and symbol formulation in order to discover the individual differences in the child's view of the world. By imitating or following the child's lead, the practitioner enters the child's world.

Given below are the Functional Developmental Levels used in DIR and Floortime:

1. Mutual Attention—(All Ages) The ability of a child to regulate his or her attention and behaviour while being interested in a wide range of sensations (sounds, sights, smells, movement).

2. Mutual Engagement—(Observable between 3-6 months): Child's ability to engage in relationships, including the depth and range of pleasure and warmth, as well as related feelings such as assertiveness, sadness, anger,

and so on, which can be incorporated into the quality and stability of engagement

3. Interactive Intentionality and Reciprocity—Observable between 6-8 months: Communication that is two-way and purposeful, with both initiating and responding. This can be thought of as opening and closing communication circles, such as when a child looks at or points to a toy, the parent follows his lead and gives it to him, and the child closes the circle by reaching and smiling. Gestures become more complex as the child connects many circles of communication (e.g., gets a coat or keys and takes father by the hand to the door, pointing to the car).

4. Representational/Affective communication-18 Months: Child's ability to create mental representations as seen in a child's ability to play pretend or use words, phrases, or sentences to convey some emotional intention (e.g., "Want that" "Mad" "Happy" "More").

5. Representational Elaboration-30 Months :Ability to elaborate in both make-believe and word connections between two or more emotional ideas, such as "I'm angry because you stole my toy." The ideas do not have to be related or logically connected, but they must deal with complex intentions or feelings such as closeness, separation, exploration, anger, aggression, self-pride, showing off, and so on.

6. Representational Differentiation- 36 months: Capacity to deal with complex intentions, wishes, and feelings in pretend play and symbolic communication (conversations), which includes logic and reality testing, impulse and mood modulation, and learning how to concentrate and plan.

DIR Floortime therapy is popular among parents and therapists because it can be done in the child's natural environment and integrated into the daily routine. In a study conducted by Michigan University, (2)determined the efficacy of the PLAY Model (Play and Language for Autistic Youngsters). The DIR Floortime model served as the foundation for the framework of this project, which sought to determine whether a social-pragmatic approach could improve the functioning skills of children with ASD. The study demonstrated significant improvement in social emotional and language development. To conclude parents can facilitate their children, which not only lowers the cost of therapy but also strengthens the parent-child relationship.

REFERENCE

GBD 2019 Diseases and Injuries Collaborators. Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet. 2020 Oct; 396 (10258): 1204-1222 (https://doi.org/10.1016/S0140-6736(20)30925-9)

Solomon, R., Necheles, J., Ferch, C., & Bruckman, D. (2007). Pilot study of a parent training program for young children with autism: The PLAY project home consultation program. Autism, 11(3), 205-224. doi: 10.1177/1362361307076842

Dr. Suja. K. Kunnath is a Professor, Principal Incharge, and Head of Neurodevelopmental Sciences, NISH. She is passionate about autism early intervention and is a Certified level 1-Floor time approach from The Interdisciplinary Council on Development and Learning, Inc. (ICDL) Bethesda, USA completed in 2019.

TEACCH : An Approach that Respects Neurodiversity

Dr Bindiya Shajith

The Neurodiversity movement strives to move away from the medical model of neurodevelopmental disabilities and attempts to embrace these conditions as neurological differences. Increasing awareness about neurodiversity and a growing momentum towards acceptance of neurodivergent individuals along with their strengths and challenges makes TEACCH a relevant approach for supporting individuals on the Autism spectrum in the current times.

Autism as a Culture. TEACCH under--stands Autism as a culture that is characterized by differences in thinking, learning and neurobehavioral patterns. Most characteristics of Autism are viewed as "deficits" in the medical model of Autism. However, the TEACCH approach views these characteristics as differences and has been designed specifically to cater to these differences. Moreover, TEACCH uses the strengths of these individuals, including their restricted interests, to teach them academic, vocational, and living skills.

Emphasis on Important Life Skills. TEACCH uses a framework called Structured TEACCHing which helps to structure and present the environment in a way that visually communicates to and enables the autistic individual to understand the expectations of the environment. This approach helps to reduce the reliance on spoken language for compliance by supplementing it with visual cues. For example, spaces are visually arranged for specific activities such as work, play, sensory, etc. and help to communicate the behavioural expectations for each area. Similarly, the tasks assigned to the student are also designed in a way that the expectations of the task are visually presented to the student within the task.

A task is considered to be "structured" when it can answer four questions without the use of spoken language: i) How much work? ii) What work? iii) When will I know I am finished and iv) What do I do when I am finished? Clear answers to these questions help make ambiguous situations more predictable for the students and thus increases compliant behaviour in them. Structuring also helps them to communicate better and to be more independent in their academic activities and living skills.

Parent Collaboration. TEACCH interventions are customized to the needs of each individual. The child's strengths and needs, the readiness of the child, the

expectations for the child within the family and educational/training settings, etc. are considered when designing interventions. Since TEACCH is a framework which may be used to teach any given goal it is important to incorporate this framework into different facets of the individuals' lives, especially at home where they spend most of their time. Therefore, parents are viewed as co-therapists in the TEACCH approach. They are trained in the TEACCH framework; involved in prioritizing goals and designing interventions; and are empowered to implement these interventions at home with ongoing support from a TEACCH therapist.

TEACCH is neither a treatment approach nor does it change or stop behaviours that are typically associated with Autism. If autistic individuals were travelers lost in a foreign country without a map or a translation tool to help them, then a TEACCH therapist is a tour guide who can interpret the mainstream culture to them in a language that the autistic individuals comprehend and thus support them to lead a meaningful life in the mainstream society.

For more information on TEACCH: Mesibov, G.B., Shea, V. and Schopler, E. (2005) The TEACCH Approach to Autism Spectrum Disorders. Springer, New York.

(Dr Bindiya Shajith is a child psychologist and an advocate for child rights and inclusion. She is a TEACCH Certified Professional Practitioner and one of the founders of All-inclusive Foundation.)

Pharmacotherapy in Autism

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In the United States, more than half the children with autism spectrum disorder (ASD) receive medication and its use increases with age. Since no drug has proven effect on the core symptoms of autism, drugs are used to treat associated symptoms (1).

ASD is commonly associated with challenging behavior such as irritability, aggression, self-injury, hyperactivity and inattention, seizures and sleep disorders that may benefit from pharmacotherapy.

The atypical antipsychotics aripiprazole (>6 yrs age) and risperidone (> 5 yrs age), clinically indicated for autism in children, are Food and Drug Administration (FDA) approved for the treatment of irritability only (2,3).

Other pharmacologic treatments commonly used for challenging behavior include other atypical antipsychotics, alpha-2 agonists, mood stabilizers, stimulants like methylphenidate, atomoxetine and naltrexone. Within the core symptoms, repetitive behaviors have been most frequently targeted by pharmacologic treatments.

Repetitive behavior, along with irritability and aggression, considered the positive symptoms have been studied more extensively than the largely negative core symptoms of impairments in social communication. The American Academy of Pediatrics (AAP) suggests targeting the main one or two behavioral problems in a given child when considering medicines in ASD (4).

Limitations encountered with studies on pharmacotherapy in ASD

Autism is an extraordinarily heterogeneous disorder and manifestation is influenced by any number of variables such as language level, age and cognitive ability. A drug with a specific mechanism may not produce the same result in two individuals with the same diagnosis but divergent presentation or etiology. A study can be designed on effect of a drug on a prominent symptom, e.g. irritability but its effectiveness in reducing other core symptoms of autism due to the positive effect on irritability are difficult to assess. There is the possibility of worsening some symptoms while improvement occurs in the symptom for which a particular drug is being studied. Further, there is no gold-standard for the measurement of effect on autism symptoms in clinical trials. The gold standard diagnostic instruments, the Autism Diagnostic Interview-Revised (ADI-R) and the Autism Diagnostic Observation Schedule (ADOS) were not created to measure severity or improvement of the disorder.

Medications that may be effective in ASD

Atypical antipsychotics: Atypical antipsychotics have not been studied for its effect on the core symptoms of autism. However,

their use in improving symptoms such as social withdrawal and stereotypic behaviors have been analysed.

Risperidone: Found effective on the irritability subscale of the Aberrant Behavior Checklist [ABC], stereotypy and aggression in autistic children (5-7). Somnolence and daytime drowsiness are the common side effects. Metabolic adverse events including weight gain and dyslipidemia are common. Excessive drooling and extrapyramidal symptoms like tremor, dyskinesia and rigidity are not uncommon. Paliperidone, an active metabolite of risperidone, approved for use in the US for schizophrenia and schizoaffective disorder, may ameliorate symptoms of irritability associated with autism (8).

Antidepressants: Most studies of anti-depressants have focused upon primarily repetitive behavior.

Fluoxetine: When compared to placebo, fluoxetine resulted in significantly greater improvement in repetitive behavior in adults.13 In a small study of 45 children with ASD, by the same group, treatment with fluoxetine resulted in significantly greater improvement in repetitive behavior than placebo (9)

Fluvoxamine: Found to be effective in reducing repetitive thoughts and actions in a small group of adults with autism (10)

Systematic reviews however report evidence that selective serotonin reuptake inhibitors (SSRIs) have no effect in children and limited positive effect in adults (11,12). Further, the SSRI-induced activation and agitation in this population needs to be factored.

Pharmacotherapy for co-morbid Attention- deficit/hyperactivity disorder (ADHD)

Methylphenidate (MPH): Early studies of MPH in children with ADHD and ASD reported significant negative side effects (e.g. irritability, self-injury, stereotypy) and limited therapeutic benefit when compared to expected outcomes based on MPH in treating ADHD without ASD (13,14). RCT by pediatric psychopharmacology autism network however demonstrated that MPH was effective at reducing hyperactivity and impulsivity in approximately 50% of autistic children studied in comparison to 70% to 80% response to MPH for isolated ADHD (15-17). More adverse effects were reported in children with ASD and the highest tolerated dose was lower than that tolerated in children without ASD (15). The positive effect was only in the area of hyperactivity and impulsivity and none of the other symptoms of ASD. Secondary analysis examined the effects of MPH on social communication skills and self-regulation skills. The improvements noted in ability to initiate and respond to bids for joint attention, in self-regulation and in attaining a better regulated affective state need to be studied in future (18).

Atomoxetine: There are very few controlled clinical trials studying the efficacy of atomoxetine for ADHD in autism. Since evidence for its use in this scenario is not conclusive, it may be tried in mild ADHD associated with ASD and in high functioning autism (19).

Conclusion

Till date there is no pharmacological intervention that effectively ameliorates the core symptoms of autism. Drugs may be used judiciously by experts to treat the irritability, repetitive behaviour, and to some extent aggression and social relatedness. Various

Symptom-wise pharmacotherapy in ASD

Symptoms	Drugs	Remarks
Irritability and aggression	Risperidone, aripiprazole	Both are FDA approved. Clozapine and haloperidol have been tried but not recommended due to significant side effects (20,21)
Aberrant social behaviour	Risperidone, oxytocin nasal spray	Secretin, an endogenous hormone which acts as aneuropeptide in CNS was investigated extensively but showed no significant clinical benefit (22)
Hyperactivity and inattention	Methylphenidate, atomoxetine, venlafaxine	Methylphenidate is superior. Low dose venlafaxine is found to improve inattention and self-injurious behaviours (23)
Repetitive behaviours	Fluoxetine, fluvoxamine	Fluoxetine has shown to have at least 50% improvement in repetitive behaviours
Cognition	Memantine, rivastigmine	Rivastigmine has shown promising results for cognitive improvement compared to memantine (24,25)
Insomnia	Melatonin, mirtazapine	Controlled-release formulation of melatonin, in addition to cognitive-behavioral therapy, improved sleep latency as early as one week in a 14-week study (26)

methodology issues in studies targeting pharmacotherapy in ASD is cited for lack of evidence based conclusions. Biomarkers of Fragile X and tuberous sclerosis have been useful in providing strong evidence for effect of pharmacotherapy in these conditions and research in the field is awaiting the detection of biomarkers of autism for achieving similar results.

References

1. Siegel M, Beaulieu AA. Psychotropic medications in children with autism spectrum disorders: a systematic review and synthesis for evidence-based practice. J Autism Dev Disord 2012; 42(8):1592-1605.
2. Farmer CA, Aman MG. Aripiprazole for the treatment of irritability associated with autism. Expert Opin Pharmacother 2011; 12(4):635-640.
3. Scott LJ, Dhillon S. Risperidone: a review of its use in the treatment of irritability associated with autistic disorder in children and adolescents. Paediatric Drugs 2007; 9(5):343- 354.
4. Myers SM, Johnson CP. American Academy of Pediatrics Council on Children With Disabilities. American Academy of Pediatrics clinical report: Management of children with autism spectrum disorders. Pediatrics 2007; 120(5):1162-1182.
5. Fung LK, Mahajan R, Nozzolillo A, Bernal P, Krasner A, Jo B, et al. Pharmacologic Treatment of Severe Irritability and Problem Behaviors in Autism: A Systematic Review and Meta-analysis. Pediatrics 2016; 137 Suppl 2:S124-135.

6. Sharma A, Shaw SR. Efficacy of risperidone in managing maladaptive behaviors for children with autistic spectrum disorder: a meta-analysis. Efficacy of risperidone in managing maladaptive behaviors for children with autistic spectrum disorder: a meta-analysis. J Pediatr Health Care 2012; 26(4): 291-299.
7. Chavez B, Chavez-Brown M, Rey JA. Role of risperidone in children with autism spectrum disorder. Ann Pharmacother 2006; 40(5): 909-916.
8. Stigler KA, Mullett JE, Erickson CA, Posey DJ, Mc Dougle CJ. Paliperidone for irritability in adolescents and young adults with autistic disorder. Psychopharmacology (Berl) 2012; 223(2): 237-245.
9. Hollander E, Phillips A, Chaplin W, Zagursky K, Novotny S, Wasserman S, et al. A placebo controlled crossover trial of liquid fluoxetine on repetitive behaviors in childhood and adolescent autism. Neuropsychopharmacology 2005; 30(3):582-589.
10. McDougle CJ, Naylor ST, Cohen DJ, Volkmar FR, Heninger GR, Price LH. A double-blind, placebo-controlled study of fluvoxamine in adults with autistic disorder. Arch Gen Psychiatry 1996; 53(11): 1001-1008.
11. Williams K, Brignell A, Randall M, Silove N, Hazell P. Selective serotonin reuptake inhibitors (SSRIs) for autism spectrum disorders (ASD). Cochrane Database Syst Rev 2013 Aug 20; (8):CD004677. doi: 10.1002/14651858.CD004677.pub3.
12. Kolevzon A, Mathewson KA, Hollander E. Selective serotonin reuptake inhibitors in autism: a review of efficacy and tolerability. J Clin Psychiatry 2006; 67(3): 407-414.
13. Scahill L, Pachler M. Treatment of hyperactivity in children with pervasive developmental disorders. J Child Adolesc Psychiatr Nurs 2007; 20:59-62.
14. Aman MG, Farmer CA, Hollway J, Arnold LE. Treatment of inattention, overactivity, and impulsiveness in autism spectrum disorders. Child Adolesc Psychiatr Clin N Am. 2008; 17: 713-738. 15. Research Units on Pediatric Psychopharmacology Autism Network. Randomized, controlled, crossover trial of methylphenidate in pervasive developmental disorders with hyperactivity. Arch Gen Psychiatry 2005; 62:1266-1274.
16. Greenhill L, Kollins S, Abikoff H, McCracken J, Riddle M, Swanson J, et al. Efficacy and safety of immediate-release methylphenidate treatment for preschoolers with ADHD. J Am Acad Child Adolesc Psychiatry 2006; 45:1284-1293.
17. Greenhill LL, Abikoff HB, Arnold LE, Cantwell DP, Conners CK, Elliott G, et al. Medication treatment strategies in the MTA Study: relevance to clinicians and researchers. J Am Acad Child Adolesc Psychiatry 1996; 35:1304-1313.
18. Jahromi LB, Kasari CL, McCracken JT, Lee LS, Aman MG, McDougle CJ, et al. Positive effects of methylphenidate on social communication and selfregulation in children with pervasive developmental disorders and hyperactivity. J Autism Dev Disord 2009; 39:395-404.
19. Ghanizadeh A. Atomoxetine for treating ADHD symptoms in autism: a systematic review. J Atten Disord 2013; 17(8):635-640.
20. Posey DJ, McDougle CJ. Use of atypical antipsychotics in autism. In: Hollander E, (ed). Autism Spectrum Disorders. New York, New York: Marcel Dekker, Inc; 2003; 247-264.
21. Faretra G, Dooher L, Dowling J. Comparison of haloperidol and fluphenazine in disturbed children. Am J Psychiatry 1970; 126(11):1670-1673.
22. Williams K, Wray JA, Wheeler DM. Intravenous secretin for autism spectrum disorders (ASD). Cochrane Database Syst Rev. 2012;(4):CD003495. [PubMed] [Ref list]
23. Carminati GG, Deriaz N, Bertschy G. Low-dose venlafaxine in three adolescents and young adults with autistic disorder improves self-injurious behavior and attention deficit/hyperactivity disorders (ADHD)-like symptoms. Prog Neuropsychopharmacol Biol Psychiatry. 2006; 30(2):312-315.
24. Owley T, Salt J, Guter S, Grieve A, Walton L, Ayuyao N, et al. A prospective, open-label trial of memantine in the treatment of cognitive, behavioral, and memory dysfunction in pervasive developmental disorders. J Child Adolesc Psychopharmacol. 2006; 16(5):517-524.
25. Chez MG, Aimonovitch M, Buchanan T, Mrazek S, Tremb RJ. Treating autistic spectrum disorders in children: utility of the cholinesterase inhibitor rivastigmine tartrate. J Child Neurol 2004; 19(3): 165-169.
26. Cortesi F, Giannotti F, Sebastiani T, Panunzi S, Valente D. Controlled-release melatonin, singly and combined with cognitive behavioural therapy, for persistent insomnia in children with autism spectrum disorders: a randomized placebo-controlled trial. J Sleep Res 2012; 21(6):700-709.

Autism Awareness Day Celebration Report

Jalandhar Academy of Pediatrics along with Care for Autism Foundation Society celebrated Autism Awareness Day on 02-04-2021. This day is celebrated worldwide on 2nd April. Theme for this year is Recognise the genius in me (Pehchano Mujhe).

Jalandhar Academy of Pediatrics President ,Dr Neeraj Mahajan praised the efforts of the society in helping the kids in Speech therapy, Behavioural therapy, occupational therapy so that they can stand on their own foot in the society. Dr. Neeraj told that Autism can be treated with Love only. These kids are not disabled but they are differently abled. Each Autistic child has some special talent hidden inside them, which we have to find and train them to shine. Autistic children are very active in various sports and they are required to be trained in various sports activities.

Dr. Rohit Chopra, Secretary , Jalandhar Academy of Pediatrics announced about all kind of medical aid to the special kids of the society and also announce financial aid to the society. CEO of Care for Autism Foundation MR. Raghu Behal told about the facilities offered in their school and also detailed about the future projects coming up in the school. This school is situated on old Hoshiarpur road, Mubarakpur Sekhe, Jalandhar.He told that this school is Dream project of his late wife Nidhi Behal . JAP distributed gifts to these special kids . Other Doctors present were Dr Pankaj Paul, Dr Munish Singhal, Dr Jaswinder Singh, Dr Gurdeep Singh, Dr Saloni Bansal, Dr Amanpreet Singh.

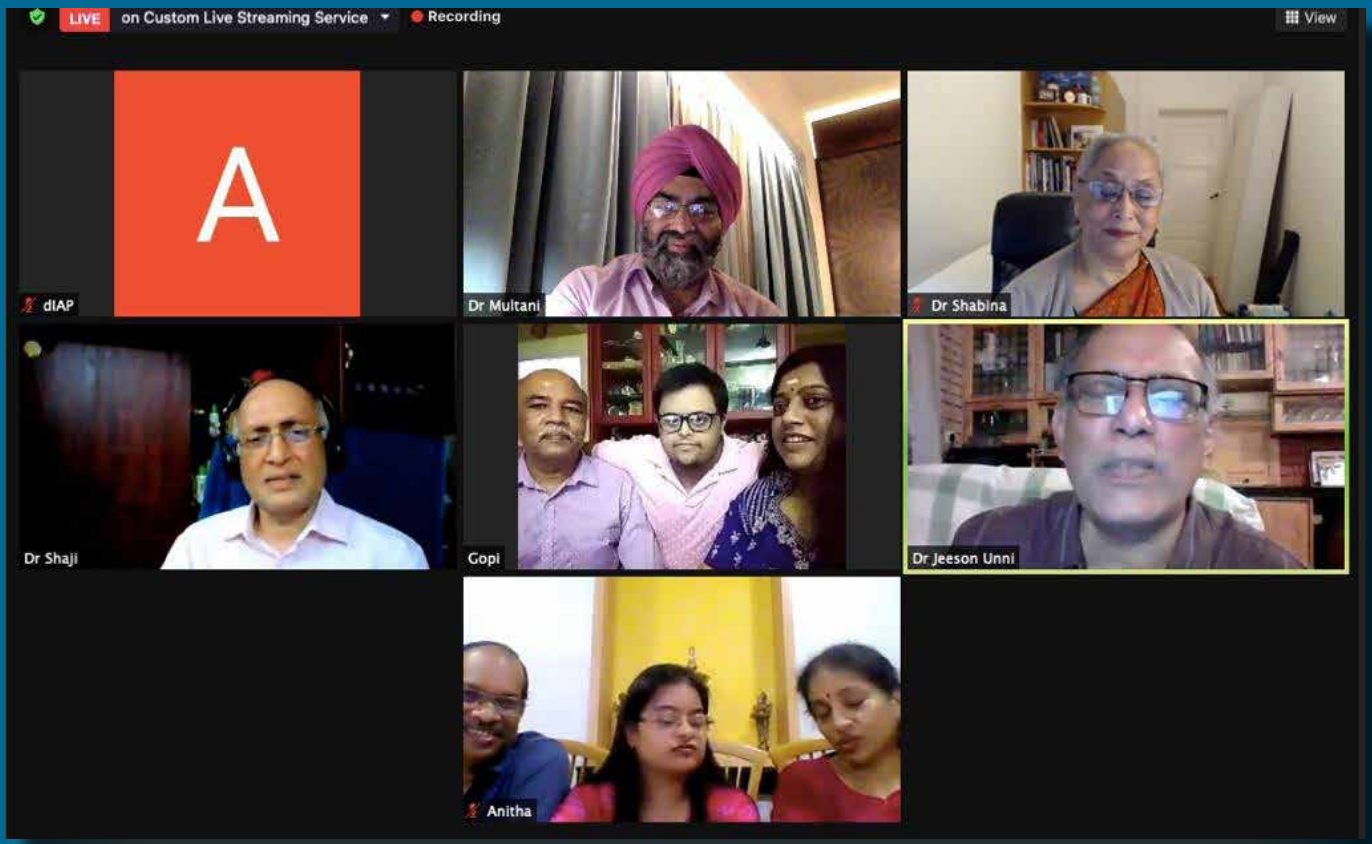
Dr. Neeraj Mahajan
President, Jalandhar Academy of Pediatrics

जालंधर एकैडमी ऑफ पेडियाट्रिक्स तथा केयर फॉर ऑटिज्म फाऊंडेशन सोसायटी ने मनाया ऑटिज्म जागरूकता दिवस

ऑटिज्म जागरूकता दिवस मनाते हुए जालंधर एकैडमी ऑफ पेडियाट्रिक्स तथा केयर फॉर ऑटिज्म फाऊंडेशन सोसायटी के सदस्य। (संवाद)

IAP Jalandhar

Jalandhar Academy of Pediatrics celebrated Down Syndrome Day Activity on 21-03-21 in association with Chaanan Society , an NGO working for the Special Children for last 26 years. A function was held in their vocational and skill training centre where 8-10 Special (Down Syndrome) Children were invited along with their parents. Cake cutting was done. Dr. Neeraj Mahajan President Jalandhar Academy of Pediatrics advised the parents about the importance of regular health check ups to be done and about the various therapies useful for their children. In the end they were distributed gifts by JAP.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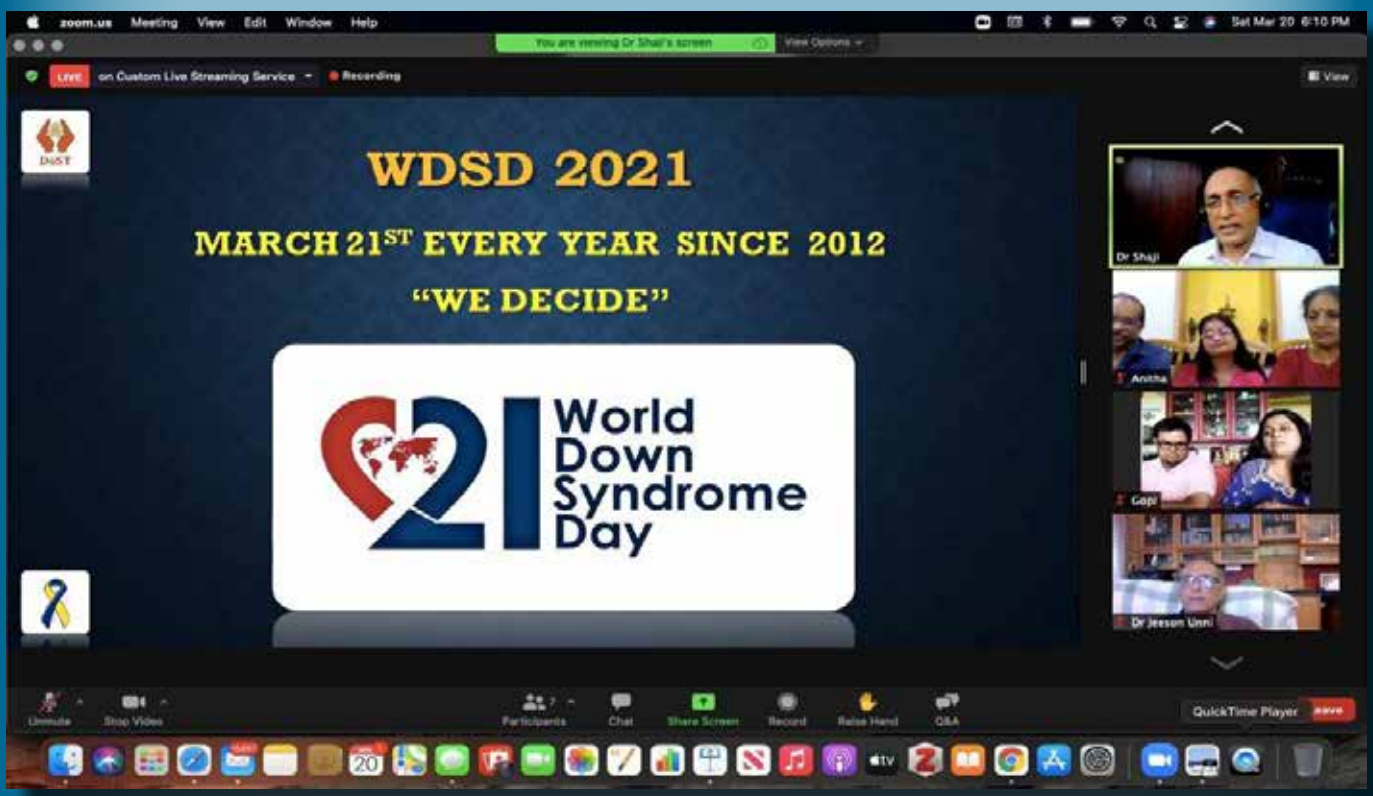
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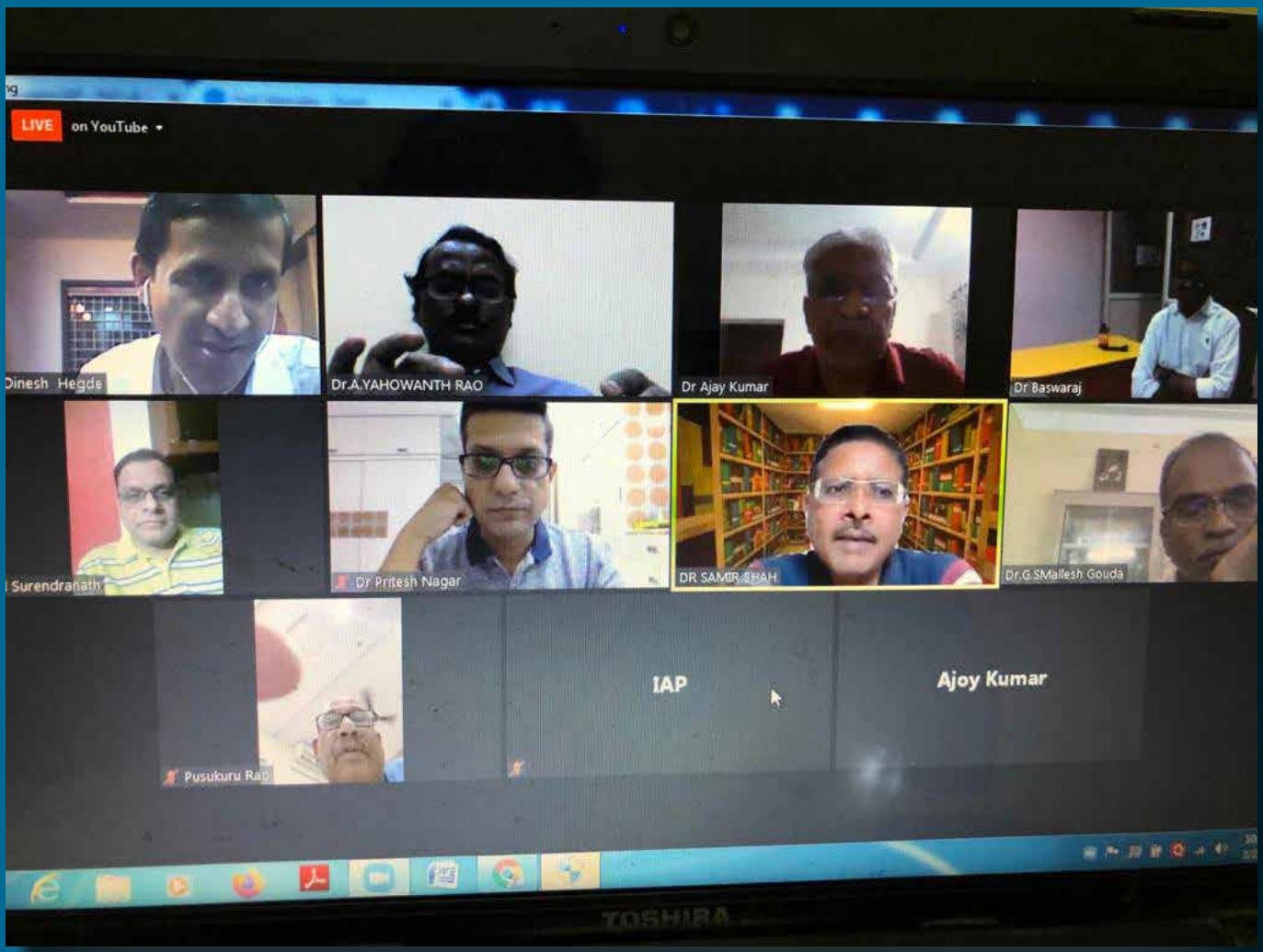
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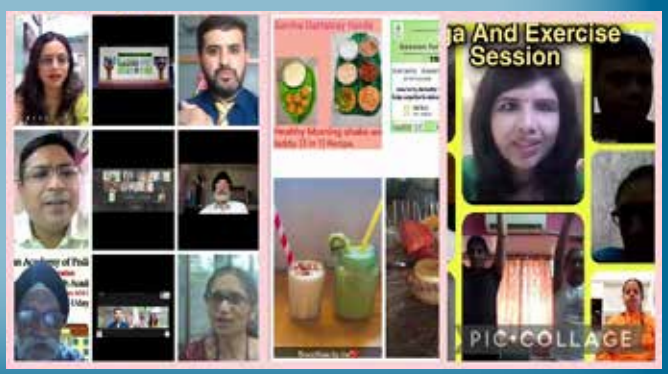
IAP Navi Mumbai

National Deworming Day Celebration

IAP Navi Mumbai



IAP Navi Mumbai

IAP Kerala

Honouring state president Dr T P Jayaraman by IAP Kasargode

Presidential action plan - Immunisation strengthening & CME on AEFI

Presidential action plan CME for general practitioners co ordination meeting