DPT

DEVELOPMENTAL PEDIATRICS TODAY

October 2020

Monthly e-Newsletter of IAP Chapter of Neurodevelopmental Pediatrics

Inside

Editorial

Respected Seniors and dear friends,

Hope you all are keeping safe and continuing to follow the safety precautions for prevention of Covid 19 infection. With the onset of festive season, there is a rise in the number of cases in some states especially our National Capital.

October is the Awareness month for Downs syndrome and Awareness days in this month include "World Cerebral Palsy day on 2nd October" and "World day of Bullying prevention on 5th October ". So, we have a very informative writeup including cases on Bullying by Dr. Anjan. This month, the quiz focuses on Cerebral Palsy.

Our chapter members are continuing their efforts at spreading awareness of Neurodevelopmental disorders through various CMEs.

Once again, I request you all to participate in answering the quiz.

Long live IAP!

Dr. Lata Bhat

Chief Editor

Chairperson's Message

Dear Readers,

Wishing all of you a Happy Diwali !

The festivities of the month of October has certainly rejuvenated each one of us. This issue of the DPT Newsletter has come with a variety of interesting articles to ignite our minds and to look beyond the disability while focussing on the person`s potentiality. This month we celebrate both Down`s Syndrome Day and World Cerebral Palsy Day. Let us all try to look beyond the label.

The latest trend of Classification of Function of persons with neurodevelopmental problems, particularly in cerebral palsy, is bringing a standardisation to the therapies and support systems as well as helping professionals to monitor progress. On the other hand, there has been a lot of focus on early markers of NDD and emergence of developmental care in the NICU. This will certainly go a long way in prevention of neurodevelopmental problems and this indeed is the focal point of our care. We need to increase our fund of knowledge to support the best development in all the children that pass through our hands and heart.

Happy reading!

Dr. Shabina Ahmed MD, FIAP
National Chairperson
Neurodevelopmental Pediatrics Chapter of IAP

Snippets from the Secretary

Aerodynamically, the bumble bee shouldn't be able to fly,
but the bumble bee doesn't know it so it goes on flying anyway."
– Mary Kay Ash

Respected Seniors and dear friends,

Seasons greetings from the IAP Chapter of Neurodevelopmental Pediatrics.

October month finally saw some reduction in the number of COVID 19 cases in India towards the end of the month and one sincerely hopes that this trend continues in the coming days. As the government came out with guidelines for opening of schools and colleges in Unlock 5, IAP too came out with guidelines for opening of schools that was published in the recent issue of Indian Pediatrics. The importance of social distancing, mask and hand hygiene needs to be highlighted and practiced without any complacency as the risk of a second wave looms large as is seen in few countries in Europe if we want to contain the pandemic scene in the country as we head into the festival season.

The chapter held its fellowship examination for this year online for the first time from 27-30 Oct which was a big learning experience for all those involved with the process.

The month of October is Down syndrome awareness month and has World Cerebral Palsy awareness day (02 Oct) and Bullying prevention awareness day (05 Oct). We have some interesting articles and journal scan related to these topics. Happy reading…….

"People with Down syndrome can do anything—really, really, really anything!"

- Brittany Schiavone

Jai Hind!

Wg Cdr (Dr) KS Multani
National Secretary
IAP Chapter of Neurodevelopmental Paediatrics

Journal Scan

Neurological Aspects of Covid-19 in Children

Dr Priyanka Patil

Only 2% of large cohort of COVID-19 cases from China were less than 19 years old.1 There are no published cohorts describing neurological complications of COVID-19 in children with exception of a few case reports/ series.2

Neurological Manifestations:

The neurological manifestations reported in few COVID-19 pediatric case reports include spectrum of manifestation. Most of the manifestations (except taste and smell impairment) were associated with severe COVID-19 in adults which are rare in children.

The striking absence of literature on cerebrovascular events in young children may probably be due to the presence of proactive anti-thrombotic factors and absence of comorbidities like atherosclerosis and hypertension.

Considerations in children with neurodevelopmental disorders (NDD)

Children with chronic neurodevelopmental disorders (NDD) are a vulnerable population due to limited understanding of the mode of spread of COVID-19, inevitable dependency on caregivers for personal hygiene and care and limited access to healthcare facilities.

Children with specific neurological disorders may require immunosuppressive therapy such as steroids which may act as a double-edged sword. There is a rising concern about immunosuppressive therapies like adrenocorticotrophic hormone (ACTH) or steroids used in children with infantile spasms, Duchenne muscular dystrophy (DMD), etc. Guidelines suggest continuing standard therapies with these drugs as per the concerned entity. Children with DMD, in case of acute illness the steroids can be converted to stress dose as per the clinical judgement.9

Journal Scan

Intravenous IVIg and azathioprine can be given under careful monitoring of lymphocyte counts in the case of azathioprine while rituximab can be initiated after careful risk-benefit ratio consideration.10

Children with disabilities and their families frequently require medical support as compared with typically developing children. Closure of special schools and early intervention centers, lockdown, restriction in mobility may further heighten their rehabilitation needs.

Telemedicine is a need of an hour for continual provision of medical services (including rehabilitation). Therefore, policy-making and resource allocation should aim at providing optimal care to children with NDDs.

Conclusion

A high index of suspicion and characterization of clinical features by the the frontline teams are key to diagnosis. For outpatient care and rehabilitation of children with NDD, teleconsultation may be a beneficial approach.

Points to Remember

• Neurological manifestations are reported in pediatric COVID-19 albeit in lower frequency than that in adults.

Reference article: Gulati, S. (2020). NEUROLOGICAL ASPECTS OF COVID-19 IN CHILDREN. Indian Journal of Practical Pediatrics, Vol.22 No.2(Apr. - Jun. 2020), issn 0972-9607, 144-146.;

Journal Scan

Individuals with Down syndrome hospitalized with COVID-19 have more severe disease

Louise M, Cynthia Gao, Chin Hur, et al.
Genetics in Medicine (2020) https://doi.org/10.1038/s41436-020- 01004-w

Purpose : Rare genetic conditions like Down syndrome (DS) are historically understudied. Infection is a leading cause of mortality in DS, along with cardiac anomalies. Currently, it is unknown how the COVID-19 pandemic affects individuals with DS. Herein, we report an analysis of individuals with DS who were hospitalized with COVID-19 in New York, New York, USA.

Methods : In this retrospective, dual-center study of 7246 patients hospitalized with COVID-19, we analyzed all patients with DS admitted in the Mount Sinai Health System and Columbia University Irving Medical Center. We assessed hospitalization rates, clinical characteristics, and outcomes.

Results : We identified 12 patients with DS. Hospitalized individuals with DS are on average ten years younger than patients without DS. Patients with DS have more severe disease than

controls, particularly an increased incidence of sepsis and mechanical ventilation.

Conclusion: We demonstrate that individuals with DS who are hospitalized with COVID-19 are younger than their non-DS counterparts, and that they have more severe disease than age- matched controls. We conclude that particular care should be considered for both the prevention and treatment of COVID-19 in these patients.

Dysarthria syndromes in children with cerebral palsy

Theresa S, Elisabet H, Wolfram Ziegler
Developmental Medicine & Child Neurology 2020
Published online DOI: 10.1111/dmcn.14679

AIM To investigate whether dysarthria syndromes acquired in adulthood can also be observed in children with cerebral palsy (CP) and, if so, whether they align with children's CP subtypes.

METHOD Twenty-six children with CP participated (mean age 7y 8mo [SD 1y 2mo], 5y 1mo–9y 10mo; 16 males and 10 females). Speech samples were elicited in a computer-based game and were analysed using the auditory perceptual criteria of the Bogenhausen Dysarthria Scales (BoDyS). For statistical classification, three comparison groups of adults with standard dysarthria syndromes (i.e. spastic, hyperkinetic, and ataxic) were used. Their BoDyS data were entered into a mixture discriminant analysis, with data from the comparison groups as the training sample and those from the children with CP as the test sample. Results were related to findings in a group of adults with CP.

RESULTS Among the children with CP, most had spastic (n=14), while fewer had ataxic (n=9) or hyperkinetic

(n=3), dysarthria. However, syndrome allocations were significantly more ambiguous than in adults with CP. For 11 children, their dysarthria syndromes did not align with their CP subtype.

INTERPRETATION Dysarthria syndromes are less clear cut in children than in adults with CP because of a number of developmental factors.

Visual function subtyping in children with early-onset cerebral visual impairment

Hanna S, R Bowman, Jennifer S, et al.
Developmental Medicine & Child Neurology 2020
Published online DOI: 10.1111/dmcn.14710.

AIM To develop a data-driven subgrouping method to identify and profile subtypes of early- onset childhood cerebral visual impairment (CVI).

METHOD Sixty-three children with suspected or diagnosed congenital CVI were recruited (28 males, 35 females, median age=8y, range=5–16y). Cognitive, basic, and higher-order vision functions were assessed and quality of life, functional vision questionnaire, neurodevelopmental, and ophthalmological data were collected. Cluster analysis and other statistical analyses were undertaken to determine and validate the subgrouping.

RESULTS Forty-three participants completing the full test battery were included in cluster analysis, revealing two subgroups. Group A1 (n=15) showed selective visual perception and visuomotor deficits. Group A2 (n=28) showed more severe and broader visual perception and visuomotor deficits, and variable visual acuity. A third, lower-functioning group, Group B (n=20), was differentiated and showed significant visual acuity reduction compared with Group A ($p<0.001$, $V=0.69$). External validation showed significant cooccurring ophthalmological (e.g. strabismus $p<0.001$, $V=0.59$) and motor impairment differences ($v2=16.26$, $p<0.001$, $V=0.51$) between the three groups. All groups had lowered parent- reported quality of life and everyday functional vision.

INTERPRETATION Statistical analyses revealed three subgroups with differentiated vision function characteristics on a gradient of severity. The subgrouping method provides the first steps in developing a novel classification system to underpin future clinical diagnostics and profiling of early-onset CVI.

Quiz

Dr. Lata Bhat
Developmental and Behavioural Pediatrician
Director Palak CDC, Delhi
Lata2207@gmail.com

1. Incidence of CP is : -

a. 3.6/1000 children
b. 10/1000 children
c. 10% of children
d. 0. 2% of children

2. Drugs used in treating spasticity in Cerebral palsy does not include :-

a. Smooth muscle relaxants
b. Alpha 2 adrenergic agonists
c. Botulinum Toxin
d. Piracetam

3. Which of the following is true about Cerebral Palsy? :-

a. It is a consequence of progressive brain disease
b. It is a consequence of degenerative brain disease
c. It is static encephalopathy
d. There is history of regression of milestones

4. Risk factors for cerebral palsy include :-

a. Chorioamnionitis
b. Maternal genitourinary infection
c. Neonatal sepsis
d. All the above

5. Core components of developmental supportive care include :-

a. Protected sleep, family centered care, management of pain and stress, healing environment, Activities of daily living
b. Spacing, Visual stimulation, Auditory stimulation, Olfactory stimulation
c. Vestibular sensation, Tactile, Positioning. Nesting, Containment care, Swaddling
d. Rocking, swaddling, passive excercises

6. Predictors for risk of Cerebral palsy below 5 months corrected age includes :-

a. MRI (86-89 % sensitivity))
b. Prechtl General Movement (98 % sensitivity)
c. Hammersmith Infant Neurological Examination (90%)
d. All the above

7. Predictors for risk of Cerebral palsy after 5 months corrected age includes :-

a. MRI (86-89 % sensitivity))
b. Hammersmith Infant Neurological Examination (90%)
c. Development Assessment of young children (83%)
d. All the above

Quiz

8. Soft neurological signs of CP not to be missed during examination in infants includes :-

a. Abnormal tone patterns and early asymmetry of hand function (hand preference) before 1year.

b. Persistence of primitive reflexes and Lack of development of protective reflexes

c. Not sitting by 8months (corrected GA) and not walking by 18months (corrected GA)

d. All the above

9.Prognosis for walking in a child with Cerebral Palsy according to NICE guidelines 2017 include :

a) More severe the child's physical, functional or cognitive impairment, the greater the possibility of difficulties with walking

b) if a child can sit at 2 years of age it is likely, but not certain, that they will be able to walk unaided by age 6

c) if a child cannot sit but can roll at 2 years of age, there is a possibility that they may be able to walk unaided by age 6

d) if a child cannot sit or roll at 2 years of age, they are unlikely to be able to walk unaided

10.Kendall scale of manual muscle testing includes :

a) Full ROM against gravity and maximum resistance is normal

b) Full ROM against gravity and moderate resistance is good

c) Full ROM against gravity but not against resistance is fair

d) Full ROM with gravity eliminated is poor

Please send answers to lata2207@gmail.com / Kawaljit000@gmail.com before 30 November 2020. Correct answer will be published in next issue

Answers - SEPTEMBER

1. D
2. D
3. D
4. D
5. D
6. A
7. ABCD
8. D
9. ABCD
10. D

TELE-ASD-PEDS

A telemedicine tool for assessing children at risk of Autism Spectrum Disorder

Dr. Chandni Choraria, Dr. Nandita DeSouza
Sethu Centre for Child Development and Family Guidance, Goa

ABSTRACT

During the COVID-19 pandemic and subsequent lockdown, the common problem Developmental Pediatricians have faced is in conducting developmental assessments, which are often critical in early diagnosis and institution of timely intervention. In an effort to overcome this challenge, since the past six months, the developmental pediatricians at the Sethu Centre for Child Development and Family Guidance, Goa, have been administering a teletherapy tool – Telemedicine-based ASD Assessment Tool in Toddlers (TELE-ASD-PEDS) for diagnosing children at risk for Autism Spectrum Disorder (ASD). The TELEASD- PEDS is a tool designed by the Vanderbilt Kennedy Centre, Treatment and Research Institute for Autism Spectrum Disorder (TRIAD) team at Vanderbilt University Medical Center, U.S.A, for use by providers and families during a telehealth assessment for autism for children under 36 months of age 1.This report is an account of the TELE-ASD-PEDS assessment conducted on a 27-month old girl child with history of deficits in social communication, repetitive motor behavior, restricted interests and sensory difficulties. The child fulfilled the criteria for the diagnosis of ASD on TELE-ASD-PEDS online assessment.

INTRODUCTION

COVID-19 pandemic has affected the entire world in different ways especially the population of children with special needs. The common struggle which health professionals are undergoing is the challenge in providing best services to the populations they serve. For the pediatricians at the Sethu Centre, the roadblock was inability to conduct face-to-face appointments and developmental assessment sessions. Though the team adjusted to online history-taking sessions with ease, the bottleneck was the administration of developmental assessments, which were vital in confirming diagnoses. With a high referral of children with language delays, the need for further assessment to rule out or confirm ASD was urgent. Delay in diagnosis would only lead to delay in starting necessary timely interventions.

In this situation, we did an Internet search for various online assessments and came across the TELE-ASDPEDS.

Since a lot of information was available on the website, and the procedure was easy to understand, we thought that it was a good tool to administer. We contacted the TRIAD team who were most receptive to our plan of administering the TELE-ASD-PEDS online tool for diagnosing ASD in toddlers at risk. They clarified our doubts and encouraged us to go ahead.

TELE-ASD-PEDS 1

This tool allows a trained provider to make core behavioral observations of children at significant risk for ASD. It is administered in the child's home, with the parent's assistance. The parent is walked through a set of play tasks which can be altered, modified, repeated as needed by the clinician to make meaningful observations. The play tasks include following components:

- Toy play (Child directed)
- Responding to Social bids (name/looking at picture/ objects)

- Toy play (Parent Directed)
- Physical play
- Ready- Steady- Go Play
- Independent play/Ignoring

Following administration, child behavior is rated on following seven items:

- Socially directed speech and sounds
- Frequent and flexible eye contact
- Unusual vocalizations
- Unusual or repetitive play
- Unusual or repetitive body movements
- Combines gestures, eye contact, and speech/ vocalization
- Unusual sensory exploration or reaction

Scoring is based on both dichotomous (yes/ no) as well as Likert scoring (3 = behaviors characteristic of ASD clearly present; 2 = possible atypical behavior; 1 = behaviors characteristic of ASD not present) regarding presence and severity of predictive symptoms respectively. Risk classification is built on Likert rating (1,2,3) with a score of ≥13 optimal for risk classification 1 .

To administer TELE-ASD-PEDS, physical space for assessment and camera placement is very critical.

We hereby discuss a case report of one of the TELE-ASD-PEDS assessment.

CASE REPORT

History:

P.R is a 27 months old child, 1st born through a non-consanguineous marriage, residing at Goa, with complaints of speech delay. She has a vocabulary of around 10 meaningful words. She can say bisyllabic words but does not join two words. She hand-leads for her needs. She reaches using her parent's hand and sometimes points by her own hand also. Protoimperative and protodeclarative pointing is present. She makes sounds of some animals on seeing the animal pictures. She can recite poems with cues from her parents. She has jargoning. Echolalia is present. She has repetitive vocalizations. She uses gestures to indicate certain things, for instance, movement of hands to indicate birds, to ask for water. She does not point to body parts. She can point to familiar pictures but only on her own terms. She has good imitation skills. Her response to name call is inconsistent. She has fleeting eye contact. Joint attention is impaired.

She loves to watch cartoons on mobile (around 4 hours/day) especially during meal times. She loves to play with cars and moves them to and fro. She plays with cars in a particular fashion with her father i.e. dashing two cars together. She has one favorite doll whom she refers to as "baby" and feeds the doll during her meal times. She has functional play and domestic mimicry. She has a preferred friend of her age. She has parallel play with her but not cooperative play. She does not understand concept of turn taking. She does not engage in social games like peek-a-boo or hide and seek. She likes to interact with children younger than her age.

She is very excited when she sees babies and responds to their cry by going to them. She doesn't usually participate in group activities with children. She takes some time to warm up to unfamiliar people but is not scared of them. She spins herself when excited. As an infant she used to continuously watch the movement of fans. However, at present she does not show any such interest. She likes to stack up things. She tenses her whole body when she is angry. She loves to carry her toys to sleep sometimes. No fixity towards routines noticed by parents. She is comfortable during nail cutting. She does not allow haircuts or combing except when she is going out of house. She is comfortable with brushing. She is scared of the sound of the pressure cooker whistle, mixer grinder and runs in a different room or clings to her mother. She is comfortable with hugs. She is comfortable on swings. She neither looks out of the corner of her eyes nor has unusual squinting eye movements. She loves to play in sand and sea water. High tolerance to pain not noticed by parents.

Personal history:

Feeding: She is comfortable with semi solids / solid food but does not like to eat rice.

Sleep: She had good sleep hygiene but recently her sleep time has decreased as her father plays with her before sleep and shows her mobile phone before sleep. There are no night awakenings.

Dressing: She cannot pull her socks/shoes, can pull off her own pants.

Toilet training: She does not indicate for urination. After passing stools she makes an awkward face and approaches her mother. No history of constipation.

Birth history:

P.R. is a full-term baby born by spontaneous vaginal delivery with birth weight of 3.2 kg. There were no antenatal, natal or postnatal complications.

Developmental history:

She has no delay in motor milestones. She has impairment in language and social milestones.

Past history:

There is no significant past history. Hearing assessment has not been done. No interventions received.

Family history:

She is the only child. History of language delay present in two maternal first cousins. No other significant family history.

Developmental testing:

She fulfills DSM-V criteria for ASD on history. In clinic developmental assessment could not be conducted due to lockdown.

Observations of TELE-ASD-PEDS:

Child directed play:

P.R was very upset and cried at the start of the assessment. She could not be engaged in any activity. She wanted to go out of the room. She once gestured to be carried by stretching out her hands to father. Father interpreted this as wanting to go out since she was dressed in new clothes. After a while, she settled down.

Parents lay blocks on floor. P.R scattered all the blocks on the floor. She kept pushing the blocks. She gave the blocks to her mother but with fleeting eye contact. When mother did not respond to her, she pointed in father's direction said "da" and looked at him once asking for help.

Calling name/Directing child's attention:

P.R. did not respond to her name call both the times during the assessment. While directing her attention towards another object, during the first occasion, she looked at her mother's finger but not in the direction of the object. Then she turned towards the mother, looked at her briefly and said 'no'. During the second time, she did not look at the object, mother or her finger but kept playing with the book.

Joint play:

In joint play session, P.R. was on her own terms. She kept giving blocks to mother along with vocalizing some humming sound but did not look at her mother during this act. Mother joined the blocks and kept in front of her. She counted the blocks "1,2,3,4,5, go" but did not show any eyecontact or joint attention with mother.

Familiar play routine:

She participated in familiar play routine of "peek-a-boo" by imitating father's action of covering face and saying numbers aloud in the repetitive fashion i.e. '1-2-3-boo'. She did not engage in the game with her father consistently but kept hiding her face with her own hands/book followed by repetitive vocalizations.

She did show some excitement by squealing sometimes when father showed up from behind the curtain and said boo. She wanted mother also to join the play and pushed her against the wall without looking at her. She had a repetitive

pattern to this play.

Ready- Steady- Go Play:

Initially father tried to play with a car but P.R. got engaged into familiar play pattern of dashing her car with father's car after which she looked at father briefly and showed some facial excitement. Later, her father tried to play this game with a ball. P.R. kept throwing the balls randomly but did not engage into a to-and-fro play. She did not show any social anticipation or excitement neither on utterance of the words 'Ready, Steady, Go" nor when the ball was thrown towards her.

Requesting/Snack:

She hand-borrowed mother's hand while requesting for snack. She cried a lot as she wanted to eat the chocolate with the wrapper (the way she usually eats it) but during the session mother gave her the chocolate after removing the wrapper.

Independent Play + Ignoring:

During independent play session, she played with car. She did an unusual hand movement in circular motion in the air above the cars. She took out a rake toy and combed her mother's hair with it. She did not look at her mother during this activity.

Closing remarks:

The session lasted around 45 minutes and parents felt that it was a good snapshot of their child's behaviors during the session.

During our entire session, we observed that it was very difficult to draw/divert P. R's attention. She kept crying when things were not on her terms. She repetitively made a humming sound and ran around the room. There were minimal directed vocalizations. She had a repetitive pattern to her play. She liked to throw things and threw blocks/ ball in a similar fashion. She had inconsistent eye contact and impaired joint attention. Sharing of interest was noticed but this was very brief. She has basic pretend play skills.

Score:

On scoring the TELE-ASD-Assessment Rating form, P.R had a score of 19 (she fulfilled the criteria of ASD as per the TELE-ASD-PEDS rating form).

Recommendations given to family:

- Autism Intervention by Autism Therapist.
- Hearing assessment.
- Registration for 'Aarambh' - Parent training program for Autism.
- Reading material on Autism and Visual supports.
- Registration in WhatsApp parent support group for Autism.

DISCUSSION:

Based on our experience of past 6 months we have found TELE-ASD-PEDS to be a comprehensive and efficient tool in diagnosis of children with ASD via telemedicine. Similar results have been noted in the study conducted by Vanderbilt University Medical Center, USA to determine whether TELE-ASD-PEDS could be used by parents in a comfortable, efficient way, while allowing clinicians to remotely observe child behavior and make decisions on possible symptoms of ASD. Based on the feedback from the parents, most parents found tele-assessment to be convenient and comfortable. Many reported that they liked the parent-led approach of the assessment and its location within the home, noting that their children feel more relaxed playing with a parent than an unfamiliar clinician. It was also noted from the study that majority of parents found the clinician's instructions to be easy to follow, understood what they were asked to do, and felt confident in playing with their child. Qualitatively, parents provided positive feedback on many aspects of the tele-assessment process 2.

Some of the limitations which we encountered during our assessments were familiarity with use of technology and a good internet connection, free less cluttered physical space, child being distracted by laptop/phone, which sometimes

hindered our session. This was also noted in the feedback of parents in study by Corona et al. where parents had concerns related to audio quality, the small size of the screen, and their children's interest in accessing or touching the screen and camera 2.

CONCLUSION

In times of current pandemic and also in the future there is great potential to maximize our reach in diagnosis of ASD, via the TELE-ASD-PEDS. This is a promising tool for telemedicine assessments for ASD. This tool along with the advantage of providing remote services facilitates early intervention for children with ASD. Also, parents feel more comfortable with the child being in his natural environment with familiar routines/objects around him. The practice of this tool holds great potential as an area of research which would help us to strengthen our services for Autism intervention.

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The Emerging Phenomena of "Twice Exceptional- 2e"

Dr. Chandni Choraria, Dr. Nandita DeSouza
Sethu Centre for Child Development and Family Guidance, Goa

Introduction

There is an increasing attention to the phenomenon referred to as "twice exceptional" ("2e") children, namely, children who demonstrate both exceptional abilities and disabilities. There is growing awareness that there is a substantial group of children that meet the qualifications for being "twice exceptional" (2e) (Grigorenko, 2000).

Giftedness and disability represent exceptionalities (Robinson, Zigler, & Gallagher, 2000).

Twice exceptionality highlights that this population of children (2e) have both features. For instance, children who have learning disabilities may also have talent in drawing.

One of the emerging fields of research is the exploration of twice exceptionality. The cooccurrence of gifts and disabilities has been observed across various developmental disabilities in general (e.g. Autism spectrum disorder, Specific learning disability, etc.) (Fitzgerald, 2003, Eide & Eide, 2012, Kaufman, 2018). However, the published reports of these co-occurrences are not voluminous (Grigorenko, 2000). In 2004, the Individuals with Disabilities Education Improvement Act, IDEA (Individuals with Disabilities Education Improvement Act, 2004),

formally recognized 2e students (Assouline & Whiteman, 2011) and it has become a major topic of discussion among educators.

What is 2e?

There is a lot of discussion in the literature about how 2e should be defined (Gilman, et al., 2013).

The 2e CoP (National Twice-Exceptional Community of Practice) Summit took place at the NAGC National Convention in Indianapolis in November of 2013 and arrived at a working definition by consensus, as follows: (Baldwin, Baum, Pereles, & Hughes, 2015)

"Twice exceptional individuals evidence exceptional ability and disability, which results in a unique set of circumstances. Their exceptional ability may dominate, hiding their disability; their disability may dominate, hiding their exceptional ability; each may mask the other so that neither is recognized or addressed".

What are the resources across the globe available for 2e kids?

An increasing number of publications and websites focusing on the special needs of 2e children are emerging. Newsletters such as Smart Kids With Learning Differences and the Twice Exceptional (2e) Newsletter provide information for parents and teachers. Some states in USA (Colorado, Idaho, Maryland, Montana, Ohio, and Virginia) have published policies and guidelines for identifying 2e youngsters. Research centers focusing on 2e students, such as the Belin–Blank Center for Gifted Education and Talent Development (University of Iowa) and the 2E Center for Research and Professional Development at Bridges Academy (Studio City,

California), are playing a role in moving the field forward with publications, professional development and research. During this current era of educational reform, many school systems across the world are embracing a comprehensive approach to accommodate the needs of 2e students (Baldwin, Baum, Pereles, & Hughes, 2015).

Recommendations for practice from previous research:

Research in the area of twice-exceptionality underlines the need for recognizing and offering professional services to this population.

According to the 2e CoP Summit, it was stated that 2e students, who may perform below, at, or above grade level, require the following: (Baldwin, Baum, Pereles, & Hughes, 2015)

- Specialized methods of identification that consider the possible interaction of the exceptionalities,
- Enriched/advanced educational opportunities that develop the child's interests, gifts, and talents while also meeting the child's learning needs,
- Simultaneous supports that ensure the child's academic success and social–emotional well-being, such as accommodations, therapeutic interventions, and specialized instruction, and The summit also stated that, 'Working successfully with this unique population requires specialized academic training and ongoing professional development'.

Based on their research and clinical workl with 2e students, Assouline and Whiteman make the following recommendations for best practices: (Assouline & Whiteman, 2011)

- A comprehensive evaluation is essential to fully understand the intellectual, academic and psychosocial characteristics of the 2e students in order to generate recommendations that focus on students' area of strength and limitation.
- Classroom behaviors and academic performance must be considered within the broader context of the individual's overall ability.
- Grade-level assessments will not provide a complete picture of a 2e students' aptitude and accompanying challenges and need further tests.
- Students who are ready for advanced academic work should not be denied access to those opportunities because of behavioral or socialization issues; rather, these issues should be addressed within the plan for advanced work.
- Psychoeducational reports from clinical settings are often used by parents to advocate for their child; therefore, when there is evidence of outstanding cognitive ability or talent the report must also include information about limitations of the child.
- Careful attention to differential diagnosis between the characteristics of a disability and those characteristics and behaviors that are unique to gifted individuals is a critical component of the evaluation process. A comprehensive evaluation is essential in elucidating the student's profile of abilities and challenge areas.

Conclusion

To conclude, little is known about the prevalence of 2e in general and its specific manifestations in particular. The field of 2e is grabbing much attention from the professional community across the globe and we still have much to learn about the complexities of this phenomena. A comprehensive, team-based, problem solving approach is needed in identifying and catering services to 2e children.

In our country, there is a tremendous need to increase awareness on the concept of 2e. We need to focus on identification of the 2e phenomenon, estimate its prevalence, varying etiologies, developmental course and support therapies, and thereby build better ecosystem for these unique 2e kids in our society!

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A Case of Syntelencephaly with Cardiac Defect – A Clinical Velocardiofacial Syndrome Mimic

A 12month old female child was brought to the hospital with complaints of no neck holding yet, hasn't started talking yet and has cleft lip.

Child was born to a 3rd degree consanguineous parents antenatal period was uneventful, Natal-Term/AGA/NVD was admitted in the NICU at birth for evaluation and feeding issues.

Developmental history- child has not attained neck holding yet, doesn't follow objects, startles to sound but doesn't turn towards the source, no social smile, doesn't reach out to objects, persistent cortical thumb, only cries doesn't vocalise any monosyllables or interactive babbling.

H/o jitteriness + in both the legs, h/o seizure like activity seen and 2 episodes per day lasting for 2 min and subsides on own; not associated with any bowel or bladder incontinence.

On Examination- undernourished ; roving eye movements+, no eye contact, light reflex+, bilateral complete cleft lip and palate+, malar hypoplasia+, ears- small, low-set; head lag+, athetoid movements of hands+, increased work of breathing, hypertelorism+, flat nasal bridge+

CNS- Hypotonia+ in all 4 limbs, power 2/5 in all 4 limbs, DTR- exaggerated, Bilateral ankle clonus +

CVS- Pansystolic murmur+ at left sternal border

Other systems- within normal limits

Spine- normal on palpation

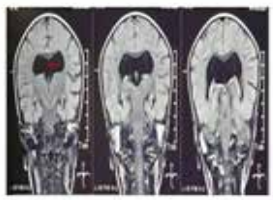
In view of cleft lip, palate & cardiac anomalies- Velocardiofacial syndrome was suspected and investigated further.

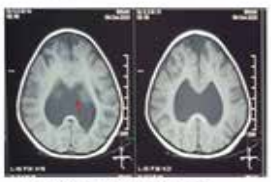
Investigations revealed- MRI brain showed- absent septum pellucidum, bilateral thalami not fused, right anterior cerebral arteries displaced anteriorly to lie directly underneath the frontal bones(snake under skull sign), most likely syntelencephaly (or middle interhemispheric variant)/ lobar type of holoprosencephaly; deficiency of corpuscallosumin frontal region. 2-D ECHO- perimembraneous non-restrictive VSD. CXR- no thymic shadows; Calcium & electrolytes- normal.

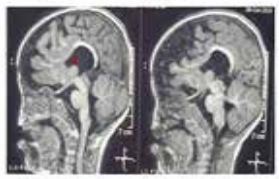
The most commonly associated syndromes with Cleft lip, cleft palate, cardiac defects, thymic hypoplasia is velocardiofacial syndrome (22q11.2 deletion), DiGeorge syndrome, but these disorders are usually not associated with major brain malformations as seen in this case –syntelencephaly.

Syntelencephaly, also known as "middle interhemispheric variant" is a rare anomaly considered a type of lobar holoprosencephaly. About 2% to 15% of holoprosencephaly cases present with this variant. It is characterised by fusion of the hemispheres in the posterior frontal and parietal regions. Syntelencephaly is the least severe and the least reported form of holoprosencephaly. This variant (syntelencephaly with cardiac defects) is most commonly associated with ZIC-2 mutations with whole gene deletion.

Hence, c DNA sequencing has been planned in this case for determining the type of mutation associated.







Fragile X Syndrome: A Case Report

Student Name: Dr. Priyanka Patil

Abstract

Fragile X syndrome (FXS) is the most common cause of inherited intellectual disability. It is also the most commonly known single gene cause of autism spectrum disorder (ASD) [1]. FXS is estimated to affect 1 in 5,000 men and 1 in 4,000 to 6,000 women worldwide [2]. The exact prevalence in India is not known, it is probably a significant cause of intellectual disability of unknown etiology in our country [3,4].

Introduction

Fragile X syndrome (FXS) also known as Martin-Bell syndrome. It is associated with a fragile site at Xq27.3 and an abnormality of the FMR1 gene.[5] This alteration originates from an increase in the number CGG repeats. Mutation being X-linked, males are more severely affected than females. FXS is characterized by mental retardation, physical features and behavioral alteration.[6] The predominant clinical manifestations include an elongated and narrow face with a large forehead with frontal bossing and prominent chin, large and anteverted ears, hypotelorism, strabismus, hypoplasia of the middle third of the face, mandibular protrusion, and the possible coexistence of Pierre-Robin syndrome, joint hyperlaxity (with increased mobility), and unilateral or bilaterally large testes (macro-orchidism).

Case Report

5 years 4 months old male child, second born of non-consanguineous parents was brought by parents with chief complaints of delay in speech, inconsistent response to name calling, restricted communication. Child had a history of one seizure episode of GTC type at 4 yrs 11months age for which he wasn't started on any AED.

Child had delay in speech & social milestones, poor comprehension along with features of autism spectrum disorder. His play was majorly solitary whereas at school he was noted to have parallel play. Needed help in carrying out his activities of daily living.

There was no history of ear pain, repeated falls or accidental injuries, major medical illness, prolong drug intake, sleep issues. He had apparently normal hearing & vision.

There were no significant pointers towards contributory factors in antenatal, postnatal & past history. However, there was a history of intellectual disability in maternal uncle & poor scholastic performance in mother.

On examination child was noted to be slow to arouse with inadequate comprehension & poor eye contact. He had remarkable facial dysmorphism which included large - prominent ears, long face, high arched palate, refractive error, had pes planus (flat feet), hyperextensibility of thumb.

On clinical developmental interview child was noticed to be having ASD as per DSM 5 criteria. Child was evaluated further & was found to have delay in all domains on assessment scales such as TDSC, DDST, LEST. His social age on VSMS was corresponding to 2 years. On TABC the score was 38, indicating mild to moderate ASD, these findings were further confirmed on INDT for ASD. Child's psychoeducational evaluation indicated an IQ of 58 (mild intellectual disability).

As per the diagnosis of ASD with intellectual disability, facial dysmorphism, family history of intellectual disability, child was strongly suspected to have fragile X syndrome. Hence genetic evaluation was undertaken with the help

of karyotype / PCR study. Test results concluded the presence of normal karyotype & CGG repeats of more than 200 indicating presence of full mutation alleles of fragile X gene. Thus, the diagnosis of FXR was concluded.

Child was suggested to undergo speech therapy, autism intervention along with training for activities of daily living. Psychoeducational counselling & guidance was done. Importance of regular follow up along with guidance for associated clinical conditions such as repeated ear infections, ataxia, neuropsychiatric co-morbidities was emphasized. Genetic evaluation was suggested for mother, maternal uncle & grandfather of early identification & management of FXTAS, FXAND, FXPOI.

Discussion

Clinicians should have a high index of suspicion in any male with intellectual disability (ID) or autistic spectrum disorder (ASD) for FXS. Predominant phenotypic characteristics that can be observed in FXS patients are detailed in Table I [7]

TABLE I: Predominant phenotypic features of Fragile x syndrome patients

Facial Features Large and prominent ears (75%)
Long face (more common in adulthood)
Large ears
Macrocephaly
Mandibular prognathism (80% of adult men)
manifestations Refractive errors (20%)
Recurrent otitis media (45-60%)
Seizures (16%)
Manifestations Hypotonia (common in infancy)
ADHD (80%)
Poor eye contact (90%)
Anxiety (70-90%)
Repetitive motor behaviour (handflapping)
ASD in 50-60%
Developmental delay (90% of boys and 30% of girls).
Language delay.
Cognitive impairment
Genitourinary Macro-orchidism

The index case had several predominant features indicative of fragile X syndrome as mentioned above where characteristic presentation of ASD, Language delay & intellectual disability was noted together.

The cognitive profile in a child with FXS varies from mild to severe intellectual disability depending upon CGG (cytosine-guanine-guanine) expansion located in the 5'UTR (Untranslated Region) of the fragile X mental retardation 1 (FMR1) gene and the methylation status [7]. Average IQ being 40 in males with a completely methylated full mutation. While most females with FXS have a borderline IQ, about 25% of them have an IQ less than 70 and rest 25% have a normal IQ but more learning and emotional problems [7]. Thus, clinicians should have a high index of suspicion for FXS in a boy with developmental delay, language delay and hypotonia in early childhood, and in a female child with low IQ and positive family history.

The pattern of FXS inheritance is not a classic Mendelian inheritance pattern due to the dynamic repeat expansion. The gold standard DNA testing for the diagnosis of FXS is a combination of Polymerase chain reaction (PCR) and Southern blot analysis and are the recommended methods for FXS laboratory confirmation. PCR uses specific primers for the FMR1 gene and can identify patients with an expanded FMR1 allele in both the full-mutation and premutation range [7]. Southern blot analysis identifies alleles throughout the mutation ranges and allows the determination of the methylation status. The IAP consensus committee recommends that all children presenting with intellectual disability and/ or developmental delay and/or ASD with no known diagnosis should have FMR1 DNA testing [7]. In view of current guideline practices PCR study was undertaken in our index case.

If the genetic test supports the diagnosis of FXS in the proband, family screening should be offered with special attention to family members with tremor, ataxia (FXTAS), neurological symptoms or early ovarian insufficiency (FXPOI)[7]. In this case there was a positive family history of maternal uncle having intellectual disability. It pointed towards high index of suspicion of mother being carrier along with her father since anticipation phenomenon is postulated as per each subsequent generation.

Conclusion

Fragile X syndrome is an important cause of intellectual disability and ASD, with a broad spectrum of clinical phenotypes. Early diagnosis and timely intervention, genetic counseling, supportive strategies including speech therapy, occupational therapy, special educational services and behavioral interventions are key measures to manage children with FXS. Genetic counseling for all family members who are affected or at risk of having a pre-mutation or an offspring with a full mutation is recommended.

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Bullying in Children

Shreyashrr Dutta[a] BSc
Anjan Bhattacharya[b], FRCPCH

There are common complains of parents about their children underperforming in school, decreased interest in attending school and increased feelings of sadness and loneliness. Many of us might understand that these occurrences are centred around a particular place where the child spends most of the time in a day with other children. Parents do get worried about such children who suddenly become quiet and avoid school.

CASE 1

SG was15 year old boy had an argument with a boy from school during recess. The bully threatened him, telling him that he would wait for him after school. Since the bully was well known for his abusive behaviour the boy was afraid. The bully together with some other boys physically attacked SG immediately after school, SG was avoiding the punches but later on he started defending himself. The other student stood around, just watching. Although he was only defending himself, he still felt guilty and embarrassed to go to school. SG went through a physical as well as psychological trauma as he felt helpless as he could not share his feelings at home, the anger towards the bully but he was under a tremendous stress about how the school would punish him regardless of the fact that the he was only defending himself.

CASE 2

A was a 13-year-old boy when referred to a mental health professional, his problems included suicidal ideas, low self-esteem, bullying at school, dyslexia and special educational needs. He was brought up by his single mother. A's religion was seen by the school as a factor in segregating. A had been bullied verbally since junior school. A kept on getting bullied for years and gradually from age of 9 he started internalizing the fact of getting bullied. Since A was suffering from special needs A was the target of verbal and physical bullying both at school and his neighbourhood. A felt responsible for all his mother's unhappiness and for his parents' divorce and saw himself as worthless and suffered from suicidal thoughts even.

CASE 3

GS is a thirteen-year-old male and a Grade 9 student at an urban middle school. He presents at the children's emergency room of a tertiary care hospital with his mother, having been referred by his family doctor. The emergency psychiatry service is consulted because the family doctor is concerned about suicidal ideation expressed by the boy earlier in the week. On one day while GS was alone working on computer in school, he was called by names by the 'class bully' and two others. The bullying took various forms, including insults, enlisting other boys to taunt GS, physical humiliations such as being kicked or spat on and painful attacks such as being stabbed with a pencil or geometry compass. GS described feeling sad, ugly and useless as a result of bullying. He stated: "I just wither away in my own little world". He started suffering from suicidal thoughts. He was raised by his single mother but his father who was an alcoholic who visited him on weekends.

a. Psychology Intern at Child Development Centre, Apollo Gleneagles Hospital, from Calcutta University, Kolkata, India
b. Developmental Paediatrician, Child Development Centre, Apollo Gleneagles Hospital, Kolkata, India

INTRODUCTION

Bullying is derived from a Scandinavian word which refer to bullying as mobbing. The word mobbing was described as a gang of children attacking a victim, verbally and physically tormenting and harassing him or her repeatedly. Bullying is an act that involves repeated negative behaviour by one or more people toward another person of same age or other who is not able to defend himself in the actual situation. It is a form of aggression that is expressed in various ways like physical violence (hitting, taking items by force or kicking,) and verbal violence (teasing, taunting, threatening) (Hawker & Boulton, 2000), manipulative acts (such as ostracizing, extorting, or intimidating another person) (van der Wal, de Wit, & Hirasing, 2003). It is also referred to as a systematic abuse of power (Smith and Sharp, 1994) that hurts someone. Bullying is commonly regarded as an aspect of aggression. Olweus [1991], for example, suggests: "A person is being bullied when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other persons". Bullying can affect everyone – the one who is bullied, the one who bullies and the one who witnesses the bullying.

CAUSE OF BULLYING

According to Erikson's Psychosocial theory of personality – the stage of industry vs inferiority occurring at the age of 6-11 years children begin to develop a sense of pride in their accomplishments and abilities when they engage in social interactions. Erikson's 'industry versus inferiority' is the psychological conflict of middle childhood. Therefore, it is said that children who are encouraged and positively reinforced by their parents and teachers develop a sense of competence and belief in their skills. However, children who receive little or no encouragement from their parents or teachers suffer from a self-doubt- a doubt about their ability to be successful (Charlesworth, Wood, & Viggiani, 2011). These children may be a target of bullying behaviour as a result of their less confidence. At this stage of middle childhood, by addressing bullying and encouraging them to solve social problems that they confronted with as a result of bullying, children will learn resilience and self-efficacy.

CHILDHOOD BULLYING VICTIMIZATION

Being bullied in childhood was related to associated with being a male (Kumpulainen et al., 1998; Wolke et al., 2001), having low parental involvement with parents working in manual occupations, and likely to have been exposed to two or more childhood adversities. In addition, children who had been bullied had lower IQ scores with higher rates of both externalizing problems and internalizing problems in childhood than the non-victimized children. Majority of population-based studies have found that peer victimization affects about 30% of children and youth worldwide (Nansen et al., 2001; National Academies of Sciences, Engineering, and Medicine [NASEM], 2016; UNICEF, 2013), making it the most common expression of aggression that young people are exposed to (Vaillancourt, 2018).

BULLYING IN SPECIAL NEEDS

Children with disabilities have difficulties in social interaction, therefore severity of a child's disability is directly proportional to lower peer acceptance in mainstream school settings. (Cook & Semmel, 1999). Children with cognitive and physical disabilities are more vulnerable to getting bullied and suffering from social exclusion than other normal functioning children same age (Thompson, Whitney, & Smith, 1994; Van Cleave & Davis, 2006).

Around 40% of children with autism spectrum disorder are likely to be at a greater risk of experiencing bullying and peer victimization because of their inadequate ability of forming social

relationships (Batten, Corbett, Rosenblatt, Withers, & Yuille, 2006). Higher incidence rates of bullying among ASD patients ranging from 73%-75% were found (Little, 2001; Wainscot, Naylor, Sutcliffe, Tantam, & Williams, 2008). Due to the prominent difficulties in functioning in ASD patients, they experience higher rate of bullying than children with other special educational needs like dyslexia or others without identified special needs(Humphrey & Symes, 2010).

MENTAL HEALTH CONSEQUENCES OF BULLYING

Bullying and peer victimization are linked with both short-term and long-term negative psychological outcomes in children (Juvonen, Nishina, & Graham, 2000; Nansel et al., 2001). The psychological outcomes of bullying on the victim includes increased anxiety, loneliness and self-esteem issues, (Boivin, Hymel, & Bukowski, 1995); peer rejection, (Hodges, Malone & Perry, 1997), poor academic achievement, (Olweus, 1991) reduced numbers of friends and school avoidance; (Kochenderfer & Ladd, 1996). There has been links found between peer victimization, adolescent brain development and psychopathology (Quinlan et al., 2018).

Due to lack of encouragement by parents for any purposeful task done by children at the elementary classes the feeling of low self-confidence develops. Such children are likely to be the bully victims. They tend to suffer from internalizing behaviour, anhedonia, psychosomatic symptoms, and negative mood (in females) and negative self-esteem (in males) (Kumpulainen et al, 1998). On the other hand, the bullies tend to score high on externalizing behaviour and hyperactivity. Bullying behaviour, psychosomatic symptoms ((headache, backache, stomach ache, anxiety, irritability, and insomnia) and smoking have a significant correlation between them, in which bully/victims report the highest symptoms. (Forero et al, 1999). Bullied youth also report more, stomach aches, headaches, and other somatic complaints, which may reflect stress-related illness (Beeson & Vaillancourt, 2016; McDougall & Vaillancourt, 2015).

Bullied children report more anxiety, and bullies report equal or less anxiety than non- bullied peers (Salmon et al, 1998). Also, older boys with low scores on anxiety and lie scales and high sores on depression scales are most probable to be bullies. Boys are more susceptible to bullying and being bullied whereas girls are most likely to be subjected to indirect attacks like social exclusion and isolation rather than physical attacks (Olweus, l994). It is believed that the there are four contributory elements that give rise to bullying behaviour. The first is the lack of involvement and warmth by the caregiver during infancy which makes the child developing aggressiveness and hostility toward others. The second element is permissiveness towards negative or aggressive behaviour in a child – if the parents don't set clear limits on aggressive behaviours towards peers, siblings or adults, the aggression in the child is likely to increase. Violent or power- assistive child-rearing methods such as physical abuse and violent emotional outburst can lead to more aggressiveness in children. Finally, the temperament or nature of the child is considered, if he/she is an active and "hot-headed" child, he/she is more likely to grow into an aggressive personality.

DEPRESSION, SUICIDE and BULLYING

Numbers of bullying behaviour in school compared to away from school was found to be higher (Williams et al., 1996; Wolke et al., 2001). Depression, suicidal ideations and suicide attempts were significantly linked with victimization as well as with bullying others in school and away from school (Forero et al., 1999; Roland, 2002; Seals and Young, 2003). Moreover, it is found that the bully-victims are the most disturbed group (Austin and Joseph, 1996; Juvonen et al., 2003; Kaltiala-Heino et al., 1999; Kimet al., 2005). A gender difference that can be observed as girls who bullied others were vulnerable to suffer from depression, suicidal ideation/attempts, and self-harming activities even when the bullying was infrequent whereas among boys only frequent bullying were at risk for

depression, suicidal ideation, and suicidal attempts. This can be concluded due to the level of aggression being higher in boys than in girls. (Achenbach and Edelbrock, 1981). Comparing effect of traditional bullying and cyberbullying showed association with an increase in suicidal ideation and that the victims and offenders were almost twice as common to have reported suicidal attempts than youth who were neither victims nor bullies. Another factors that is significantly linked to suicidal ideation is race. It is found largely that White middle-schoolers had notably lower levels of suicidal ideations as compared to non-Whites. (CDC, 2006).

BULLYING IN TEACHERS

Research evidences show that teachers also engage in this negative behaviour. It is well-established that a number of children who are victimized by other children also show bullying behaviour towards others (Solberg, Olweus, & Endresen, 2007). Those who experienced bullying themselves during young age, have tendency to both bully students and experience bullying by students both in classrooms and outside the classroom. Factor analysis revealed two types of bullying teacher: a sadistic bully type – one who has a stable self-esteem and little anxiety but gets pleasure due to bullying and a bully-victim type- one who provokes bullying and then acts in a victimized way after she/he is attacked. (Twemlow, S. W., Fonagy, P. et al., 2006). Teachers tend to bully students more frequently in higher schools than the elementary schools. Over 50% of bullying teachers are found in higher schools and around 18% is found in the elementary schools. (Terry, 1998)

WORKPLACE BULLYING

The decrease in the prevalence of bullying behaviour from childhood to adolescence (Olweus, 1991) seems to indicate that bullying behaviours are less normative in high schools. Those adolescents who still engage in bullying behaviour in high school are found to be more disturbed. The bullies at school grow up to be bullies at their workplace if their problem is not addressed in the childhood. Workplace bullying is as commonly observed by 77% of people and approximately half of the population having experienced bullying at workplace (Rayner, C.,1997). Bullying is most likely to be found in the managerial posts and staff members who are older than the other.

NEUROBIOLOGY OF BULLYING

The neurobiology of peer victimization focuses on the individual and contextual factors that interact with biological makeup to acquire risk, protection, or resiliency (Vaillancourt, 2018; Vaillancourt, Hymel, & McDougall, 2013; Vaillancourt, Sanderson, Arnold, & McDougall, 2017).

The relation between exposure to negative environmental influences such as maltreatment in childhood and future health outcomes such as depression (Caspi et al., 2003) and anxiety (Stein, Schork, & Gelernter, 2008) can be traced by variants within the 5-HTTLPR. Children carrying the SS genotype when bullied are at a greater risk to develop emotional problems than those children with SL or LL genotype (Sugden et al., 2010). Also, children with low MAOA activity when exposed to negative environmental influence are more likely to suffer from externalizing problem like conduct disorder (Caspi et al., 2002; Foley et al., 2004) and attention deficit hyperactivity disorder (Kim-Cohen et al., 2006) than children having high MAOA activity. FKBP is a gene which is responsible for stress response, and the rs1360780 single nucleotide polymorphism is believed to be a functional variant of this gene (Zanner & Binder, 2014; VanZomeren-Dohm et al., 2015). Girls who have the

minor allele (TT or CT) are most likely to be more depressed at higher levels of peer victimization but lower levels of peer victimization result in lesser levels of depression. On the other hand, boys with CC genotype was related with more symptoms of depression than for girls with the same genotype when bullied. Among girls who exhibited reciprocal PNS activation (i.e., low SNS reactivity and PNS activation) who experiences relational peer victimization suffered from anxiety/depression symptoms (Lafko Breslend et al.,2018). The complex associations between the social environment and bio-behavioural systems are shown by the findings of (Vaillancourt et al., 2018). at higher levels of peer victimization, lower levels of basal cortisol were associated with higher use of physical aggression, which was not the case at lower levels of peer victimization. At lower levels of peer victimization, lower levels of basal cortisol were associated with lower use of physical aggression. Moreover, at higher levels of peer victimization, higher levels of basal cortisol were associated with lower levels of physical aggression, but, at lower levels of peer victimization, higher levels of basal cortisol were associated with higher levels of physical aggression. Adolescents who have a history of peer victimization show an increased neural response in the left amygdala, left inferior frontal operculum, left para hippocampal gyrus and right fusiform gyrus. These brain regions have been reliably linked with the neural response to social pain (Eisenberger, 2012; Rotge et al., 2015). The study found that those children who were frequently bullied had thicker cortex in the fusiform gyrus, a region suggested to be responsible for functions, including facial, language, emotion processing, and theory of mind (Muetzel et al., 2019).

The interaction between the different factors like as individual, family, and school-level features (NASEM, 2016), and biological risk result in different outcomes faced by different victims after peer abuse (McDougall & Vaillancourt, 2015).

Cyberbullying, is a types of bullying, different from traditional bullying which is carried out via electronic forms (Smith et al., 2008). Due to the advantage of creating fake profiles on the online social media, these bullies grab the opportunity of mentally harassing teens and even adults. Cyber bullying may lead to serious adverse mental health outcomes (Campbell et al., 2012;Fahy et al., 2016; Kim et al., 2016; Le et al., 2017; McLoughlin et al., 2018, 2019). Lowest cortisol secretion was reported in serious cyberbullies (González-Cabrera et al., 2017).

ONLINE SURVEY "BULLYING AMONG STUDENTS" - RESULTS DISCUSSION

An online survey was conducted by using two questionnaires to study the different aspects of 'Bullying among students' on 80 participants from Class 1 to college students in United States as well as India. The first set of questionnaire studied about the participants' own experience of getting bullied. Around 79% out of total sample reported that they were never bullied in the previous academic year. The rest 21% of the participants majority experienced bullying in the form of name-calling and very less reported physical assault. Around 91% of the ones who experienced bullying reported being bullied by 1-2 people. Around 20% reported they had bullied their teacher while only 8% reported they were bullied by a teacher. As most of the responses were appearing to be unrevealing, a second set of questionnaire was prepared by not involving the person himself/herself as a victim but whether he/she has observed someone being bullied. Here, the results were such that, 74.5% reported that they had witnessed someone getting bullied, and 85% reported that the victim was a male. Around 50% reported that the bullies were a group of 2-3 people. Thereafter when they were asked about their reaction towards the bullying incident they had witnessed, 39% said they 'did nothing' and 30% reported they 'reported to the authorities'. Majority of 66% reported that the person was bullied in the form of name-calling. Approximately 10% reported the victim was physically assaulted and 23% reported cyberbullying. At the end of the questionnaire, opinions were taken in and majority expressed negative attitude towards bullying while some said that bullying is a 'power game', some say it affects the victim's mental state, some said it should be stopped, other says

ignorance to such acts by the viewers boost such activities and that authorities should take strict actions rather than giving warnings to the culprits, one said that India should be having anti-bullying laws like USA.

Another conclusion that may be drawn from the above conducted survey is that when the first set of questionnaire was provided to the participants asking about their personal experience of bullying they provided unwillingness to reveal such information, unlike the second set of questionnaire where the participants were asked about whether they have witnessed any bullying incident. This shows that people are still hesitant to speak against or share such incidents or even seek necessary help.

CONCLUSION

Bullying is an issue of concern that is taking place in schools, workplace, over internet etc. It is ingrained in the public consciousness that as a society the poor treatment of others will not be tolerated anymore. Since the long-term impact of peer abuse which significantly impair the opportunities to develop relationship capacity and the ability to adequate adaptive functioning is a matter of great deal, it is important for schools to educate children about bullying. In accordance with the survey conducted, majority of the participants reported that even after witnessing a person getting bullied their reaction to the incident was that they did nothing about it, therefore the lack of awareness is still prevalent in people to raise their voice to such a hideous crime. As we all know that there is a complex interplay between different factors perpetuate bullying, approaches to interventions and prevention need to be a priority of the authorities of the society.

HOPE in the HORIZON

Timely intervention has proven to be extremely successful in India. There are pockets of excellences, where, when presented with the cases described at the outset, were completely turned around at a very short space of time. There is an urgent need to learn, adopt and disseminate the excellent care models throughout the country to spouge of the highly preventable menace of bullying.

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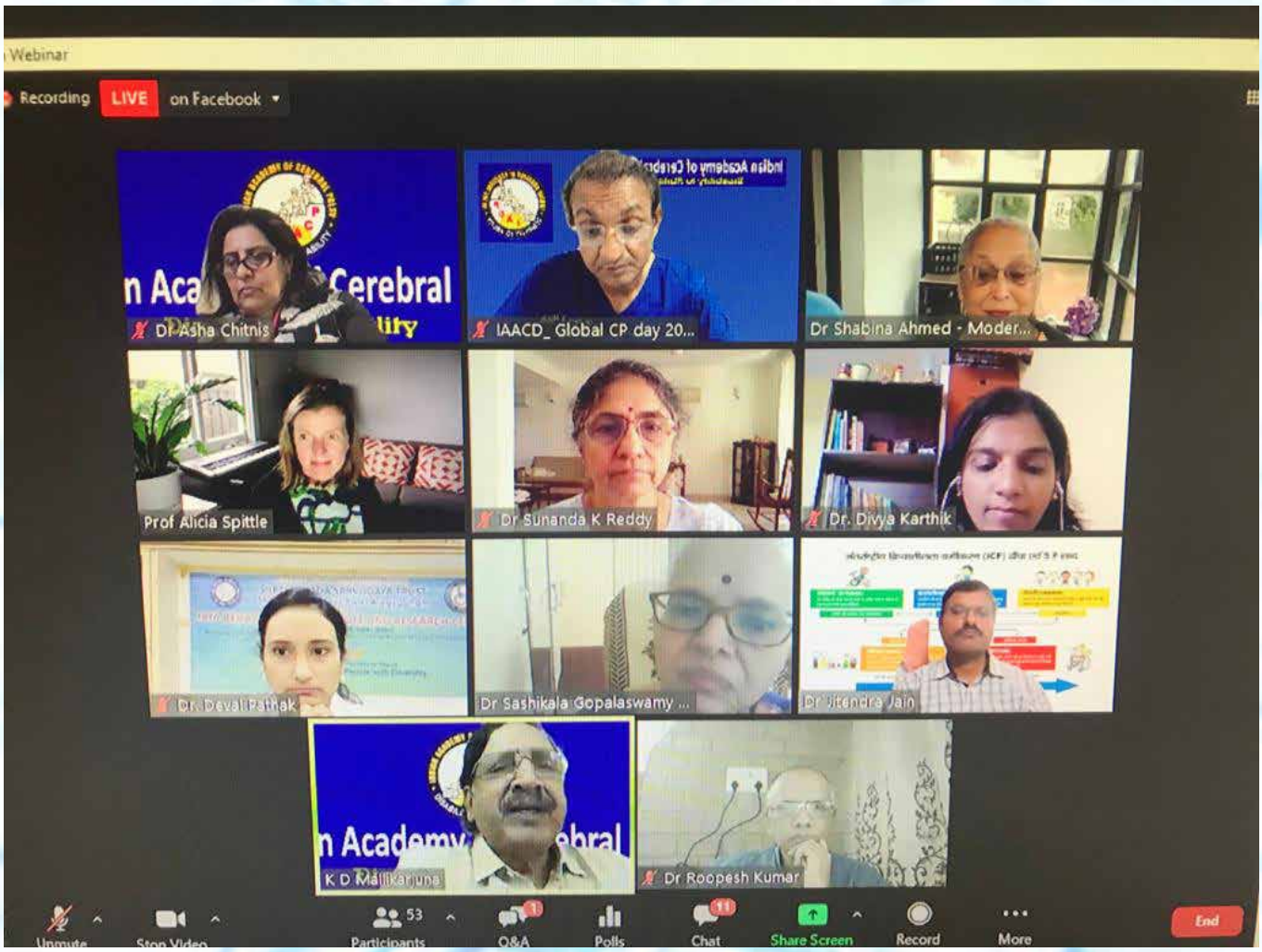
Month in pics

Annual fellowship examination being held online 28 Oct 2020

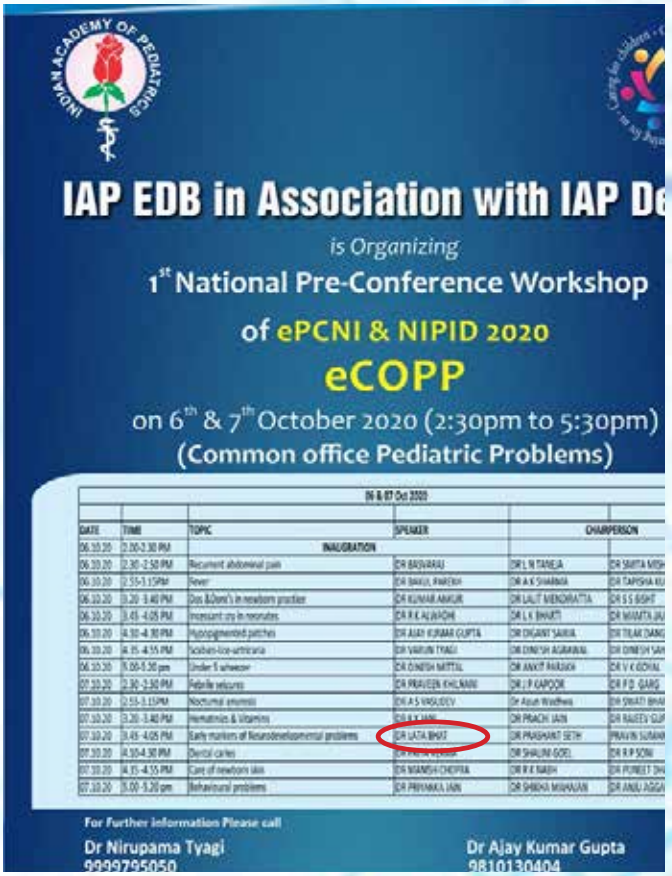
Month in pics

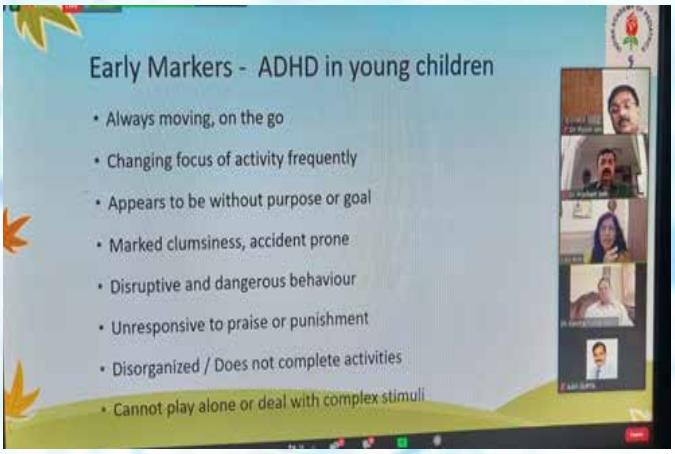


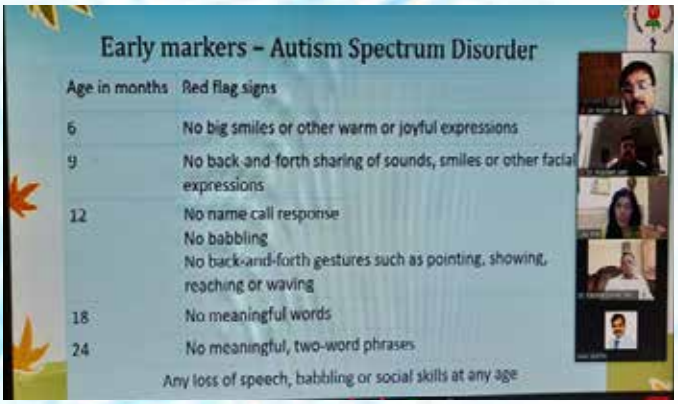
Dr Shabina Ahmed,National Chairperson of Neurodevelopmental Paediatric chapter was the moderator of the Global listening and Sharing virtual conference on the occasion of World Cerebral Palsy Day ,organised by Indian Academy of Cerebral Palsy in association with International Alliance of Childhood Disability held on 6th October 2020.

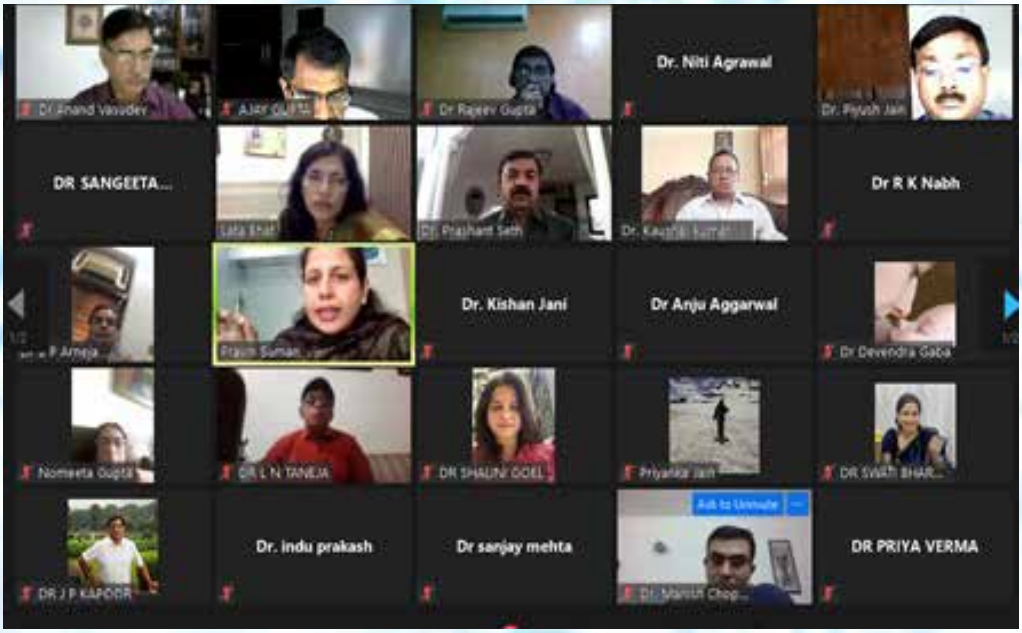
The Presentations were across disciplines working on rehabilitation and it covered Urban and Rural,outpatient centres to child development centres. Outreach programmes and Community initiated programme.Presenters were from the 5 zones of the country.The conference registration had 2204 participants over 45 countries.

Month in pics









Dr. Lata Bhat gave talk on Early Markers of Neurodevelopmental Delay as a part of Preconference Workshop on Common Office Pediatric Problems (ePCNI and NIPID 2020)