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**DEVELOPMENTAL AND BEHAVIOURAL PEDIATRICS****EVALUATION IN DEVELOPMENTAL AND BEHAVIOURAL PROBLEMS****\*Shambhavi Seth**

**Abstract:** *Developmental and behavioral disorders in children, require early identification and intervention to improve long-term outcomes. This article highlights the importance of comprehensive evaluation, involving medical and developmental history, physical examinations, behavioral observations and standardized assessments. Pediatricians play a crucial role in early detection, diagnosis, and management by collaborating with specialists, counseling families and providing ongoing monitoring and support. Increased awareness and utilization of developmental screening tools are essential for timely intervention and better developmental outcomes for children.*

**Keywords:** *Development evaluation, Screening, Role of Pediatrician.*

**Points to Remember**

- *Development Surveillance and screening should be part of regular pediatric practice.*
- *Use of simple, culture specific yet standardised tools for screening at 9, 18, 24/30 months or when concerns are reported can help pick up impairments early.*
- *Any child who fails the initial screening test should be promptly referred for a more comprehensive evaluation to determine the nature and extent of the developmental delay or disability.*
- *Pediatrician's role is not limited to referral but also periodically reviewing management plan, development monitoring, counselling parents.*
- *Meticulous documentation of all findings, interventions, and outcomes is an essential practice for maintaining accurate records, tracking the child's progress and ensuring continuity of care.*

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## DEVELOPMENTAL AND BEHAVIOURAL PEDIATRICS

### AUTISM SPECTRUM DISORDER

\***Samir H Dalwai**  
\***Hilla Sookhadwala**  
\***Misbah Khan**  
\*\***Sandhya Kulkarni**

**Abstract:** *Autism spectrum disorder is a complex neurodevelopmental condition influenced by genetic, environmental and neurobiological factors. This review evaluates the evolving understanding of autism spectrum disorder's etiology, prevalence and management, highlighting the role of screening and diagnostic criteria and emerging technologies in improving outcomes. Increasing prevalence rates underscore the need for early intervention and personalized treatment strategies. Future research should focus on integrating global insights to develop highly effective, accessible, culturally sensitive management approaches. Involvement of the autism community in setting research priorities is of critical importance. This will ensure that scientific efforts align with the practical needs of those affected by autism spectrum disorder.*

**Keywords:** *Autism spectrum disorder, Child developmental disorders, Early interventions, Research priorities.*

### Points to Remember

- *ASD presents with variable combinations and severity of manifestations related to impairment of social interaction and verbal and non-verbal communication, repeated and restrictive behaviors and features of commonly associated co-morbid conditions.*
- *The exact etiology remains to be elucidated. Interaction among multiple genetic, familial, neuro-biological, neuro-pathological and environmental factors play a role in its causation.*
- *Pediatricians have a vital role in the evaluation of social and communication milestones during well-child visits for the early screening and diagnosis of ASD. Modified checklist for autism in toddlers (M-CHAT-RF) is the most commonly used screening tool, while DSM-V is the standard diagnostic test used.*
- *Various interventions are commonly used in the management of children with ASD. Early and appropriate interventions can lead to significant developmental progress. However, many children with autism face difficulties in social engagement, communication and interaction through adulthood.*
- *The current approach may be criticized for attempting to ameliorate the symptoms of ASD, rather than attempting to correct the underlying defect. Setting the correct research priorities and rethinking about the goals of and methodologies used for therapy may help in improving the prognosis of children with ASD.*

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**DEVELOPMENTAL AND BEHAVIOURAL PEDIATRICS****HEARING IN CHILDREN -  
ASSESSMENT AND MANAGEMENT****\*Abraham K Paul**

**Abstract:** Significant hearing impairment has devastating consequences for communication, education, psychological wellbeing of children and for employment prospects later during adulthood. Early identification of hearing loss followed by effective medical measures is of utmost importance especially in cases of congenital hearing loss. Age-appropriate evaluation and timely interventions are the key to a favourable outcome in hearing impaired children. Even in acquired hearing loss, early identification and prompt initiation of intervention result in better social emotional and developmental outcome.

**Keywords:** Assessment, Auditory brainstem response audiometry, Deafness, Hearing loss, Remediation.

**Points to Remember**

- *Congenital hearing loss should be identified before discharge of the neonate from the post-partum unit, by OAE screening and remediated before 6 months (preferably by 3 months) of age.*
- *It is mandatory to do ABR testing for all NICU graduates.*
- *For hearing loss beyond infancy, a thorough history and physical examination with age-appropriate diagnostic assessment should be the rule.*
- *Extensive parent counselling and rehabilitation process should follow hearing aid fitting and cochlear implantation.*

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**DEVELOPMENTAL AND BEHAVIOURAL PEDIATRICS****ATTENTION DEFICIT HYPERACTIVITY DISORDER - FOR PRIMARY CARE PEDIATRICIANS**

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**\*\*Manju George**

**Abstract:** Attention deficit hyperactivity disorder is a common behavioral disorder in children, persisting into adulthood. The core symptoms are inattention, hyperactivity impulsivity with educational, social and emotional impairments. They have a higher frequency of coexisting learning, language, motor, sensory, cognitive and conduct disorders. The definitive diagnosis is a challenge and is determined through careful history, assessments, looking for co-existing disorders and regular follow up for prognosis. Management involves behavioral therapies in early childhood and medications in adolescence and both in mid childhood. The goals of intervention should focus on enabling an individual for appropriate community, social and civic life. This comprehensive review aims to provide primary care pediatricians a detailed resume for understanding the pathogenesis, diagnosis and management of attention deficit hyperactivity disorder

**Keywords:** Hyperactivity, Inattention, Diagnosis, Management.

**Points to Remember**

- *ADHD is a common neurobehavioral disorder which can be easily identified and managed by primary care pediatricians, if there are no coexisting psycho behavioral concerns.*
- *The two core components of this disorder are developmentally inappropriate levels of inattention and hyperactivity/impulsivity, which result in functional impairment in one or more areas of academic, social, and emotional function.*
- *Onset of symptoms must be prior to 12 years of age and must have persisted for 6 months or more in 2 or more settings (e.g., school, home, church)*
- *All hyperactivity and inattention are not ADHD. Diagnosis is based on DSM-V Edition.*
- *If a child is exhibiting symptoms only at school, that may be due to a primary language, learning or intellectual disability. Alternatively, if child is having ADHD symptoms only at home, a parent child interaction problem might be the issue.*
- *Genetic, epigenetic and environmental factors contribute to the ADHD phenotypes.*
- *Management constitutes behavioral interventions and pharmacological modalities.*
- *Stimulant (Methylphenidate) and nonstimulant (Atomoxetine) medications are used and are preferred after 6 years of age.*

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**DEVELOPMENTAL AND BEHAVIOURAL PEDIATRICS****INTELLECTUAL DISABILITY IN CHILDREN**

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**Abstract:** Intellectual disability is a neurodevelopmental disorder presenting with impairment / deficits in cognitive and adaptive functioning and has its onset in childhood and has a high prevalence. IQ tests were once used to determine the severity of the condition, whereas adaptive functioning is now the primary criterion. A comprehensive history, meticulous general and systemic physical examination and a focused neurological examination can help identify the etiology in 17-34% of cases. A genetic etiology is identified in half of the children with intellectual disability. Early diagnosis, targeted investigations and assessments should be followed by fixing developmentally appropriate goals and individualized plans to enhance their developmental gains. Developmental support, early intervention, regular surveillance screening and advocacy are essential to improve cognitive functioning and reduce the deficit burden.

**Keywords:** Intellectual disability, Global developmental delay, Cognition, Adaptive functioning.

**Points to Remember**

- *Intellectual disability or Intellectual Developmental Disorder is a neurodevelopmental disorder characterized by impairment or deficits in cognitive and adaptive functioning. It has an onset in childhood and is prevalent in 1-3% of the population.*
- *Children with severe ID are diagnosed early; however, those with mild ID present later when academic or social expectations exceed as age advances.*
- *A meticulous history and examination can point to an etiology in one-third of children, and a genetic etiology has been identified in around 47% of children with ID.*
- *A stepwise targeted evaluation process is necessary to determine an etiology in the remaining 53%.*
- *Assessments should include IQ and adaptive functioning and screening for co-morbidities is mandatory.*
- *Regular surveillance, screening, developmental support, early intervention and advocacy are essential to improve cognitive and adaptive functioning and improve quality of life.*

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**DEVELOPMENTAL AND BEHAVIOURAL PEDIATRICS**
**POOR SCHOLASTIC PERFORMANCE  
AND SCHOOL REFUSAL**

**\*Srinivasa Raghavan R**

**\*\*Shinika R**

**Abstract:** *Poor scholastic performance in children may result from a multitude of causes like intellectual disability, neurodevelopmental disorders and socio-cultural factors. It is important to identify the underlying reason(s) for a child's poor scholastic performance through a multidisciplinary evaluation. The treatment approach should address the specific cause(s) and may involve remedial education, counselling, medication, or socio cultural accommodations. Early intervention and a comprehensive treatment plan are crucial to help the child perform to their full potential.*

*School refusal is a complex issue that requires an individualised approach for each child. It is a heterogeneous, dimensional construct. Each child with school refusal is unique and presents with their own set of challenges. To effectively address school refusal, it is crucial to identify the precipitating factors, perpetuating factors, as well as underlying causes which can span across various domains. Identifying the best fit between the child and the school is an important aspect to be considered. The school re-entry process requires a collaborative team approach involving the psychiatrist/ paediatrician, the child, the family and the school. "Whole school interventions" are the need of the hour to improve the overall school retention rates.*

**Keywords:** *Poor scholastic performance, School refusal, Child, Learning disabilities.*

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**Points to Remember**

- *When approaching children with poor scholastic performance, a comprehensive assessment is needed to identify the exact causes, which can include psychosocial factors like family issues, as well as biological factors like learning disorders.*
- *Specific learning disabilities are disorders in the neural processes that affect a person's ability to speak, listen, read, write, spell or do mathematical calculations.*
- *The goal is to provide individualised, multisensory support that plays to the student's strengths while addressing their specific learning needs, in order to improve academic performance.*
- *School refusal is characterized by a child's extreme distress and difficulty attending school and is distinct from truancy. Such children are usually aware of their absence and try to persuade parents to let them stay home, rather than concealing their absence.*
- *Early intervention is key to prevent long-term negative impacts on the child's social, emotional, and educational development.*

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**DEVELOPMENTAL AND BEHAVIOURAL PEDIATRICS****SLEEP DISORDERS****\*Kawaljit Singh Multani**

**Abstract :** Sleep is a crucial behavioral phenomenon in animals and is essential for sustaining life and for normal functioning. Sleep architecture involves understanding rapid eye movement and non-rapid eye movement sleep and the circadian rhythm. Sleep development from newborn to adulthood is influenced by melatonin hormone and sleep patterns develop over the years as age advances. By 6 months, rapid eye movement sleep constitutes about 50% of total sleep and by 6 months, the sleep electroencephalogram reaches an adult pattern. Sleep disturbances can have various consequences in both children and adults.

**Keywords :** Pediatric sleep, Circadian rhythm, Rapid eye movement, Non rapid eye movement, Sudden infant death syndrome, BEARS, Actigraphy, Polysomnography, Melatonin.

**Points to Remember**

- *Sleep is an active biological process with significant role in child development and good health.*
- *Sleep patterns evolve with age in the early years.*
- *Sleep disorders are common and often missed/ overlooked and there is a felt need to increase awareness among the community about the importance of sleep and good sleep practices.*
- *Sleep disorders can be identified using sleep screening tools and managed with non-pharmacological measures.*
- *Medication used for sleep disorders should only be ordered under medical supervision.*

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**DEVELOPMENTAL AND BEHAVIOURAL PEDIATRICS****SUICIDE IN CHILDREN AND ADOLESCENTS****\*Venkateswaran R**

**Abstract:** *Suicide is a significant public health issue in India, particularly among children and young adults. Several factors contribute to this major social / health issue which invariably culminates in a crisis. The factors are academic distress, social and cultural pressures, economic uncertainties, mental health issues and family / social issues. To address this crisis, experts recommend a multifaceted approach that includes providing accessible mental health services, improving family environments, implementing educational reforms, and reducing stigma and discrimination through community engagement. Educating care givers and primary physicians on this major devastating issue is also essential.*

**Keywords:** *Suicide, Ideation, Depression, Psychotherapy.*

**Points to Remember**

- *Suicidal thoughts and behaviors increase with age, with the highest rates among adolescents.*
- *Risk factors for suicide include pre-existing psychiatric illnesses, previous suicidal attempts, family factors and substance abuse in both sexes.*
- *Pediatricians should be aware of warning signs such as changes in behavior, mood or appetite and conduct a thorough risk assessment to identify potential risk factors.*
- *Early intervention, therapy and medications can help manage suicidal thoughts and behaviors in children and family support is essential in the treatment process.*
- *SSRIs are the preferred psycho pharmacological treatment for childhood and adolescent depression.*

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**GENERAL ARTICLE****APPROACH TO CHRONIC DIARRHEA IN CHILDREN****\*Viswanathan M Sivaramakrishnan**

**Abstract:** *Chronic diarrhea remains a significant challenge for pediatricians, particularly in developing countries where diverse causes need to be considered and managed effectively. The causes of chronic diarrhea include food allergies, congenital diarrheas, enteropathies and inflammatory bowel disease, including very early onset inflammatory bowel disease. Advanced diagnostic modalities including detailed stool analysis, endoscopy and genetic testing are available in many centers across the country and worldwide. A thorough approach is the need of the hour to ensure timely evaluation and management of chronic diarrhea.*

**Keywords:** *Chronic, Diarrhea, Children, Enteropathies.*

**Points to Remember**

- *Exclusive breast feeding and adherence to vaccine schedule as per National Immunisation Program are recommended to prevent infections which can contribute to chronic diarrhea.*
- *Obtaining a detailed dietary history is crucial, as fruit juices high in sorbitol and other indigestible carbohydrates can cause osmotic diarrhea.*
- *It is important to distinguish true diarrhea from fecal incontinence due to constipation, as the management for the two differs significantly.*
- *Evaluation for underlying immune deficiencies in relevant cases and management of undernutrition in chronic diarrheas are very important.*
- *Some children would need Upper GI Endoscopy and / or Ileo-colonoscopy and hence early referral to pediatric gastroenterologist is advisable.*
- *CMPA is diagnosed only when there is resolution of symptoms after elimination of dairy products and recurrence of symptoms on re-challenge with dairy products.*

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**DRUG PROFILE****MEDICATIONS FOR 'DIFFERENTLY ABLED CHILDREN'****\*Jeerson C Unni**

**Abstract:** Pharmacotherapy should be very judiciously used in children with special needs. In most conditions, medications are used to control a co-morbid condition that impacts (in some way) the quality of life of the child. Occasionally, differently abled children are medicated to aid therapy. Very rarely is medication a 'cure' for the disorder the child is suffering from. Understanding the role of evidence-based pharmacotherapy is essential for developmental pediatricians, pediatricians, general practitioners, nurses and therapists caring for children with developmental disorders.

**Keywords:** Special needs, Medication, Developmental disorders, Pharmacotherapy.

**Points to Remember**

- *A doctor caring for differently abled children must have a thorough understanding of the medications and their potential effects and prescribe only what is absolutely essential.*
- *Medications cannot replace comprehensive multimodal therapy, which is essential for addressing the complex needs of such children.*
- *It is important to counsel the parents and entire household along with the child as regards to the goals of therapy, what to expect and the need for regular follow up.*
- *Medications should be started only if the family, including the child (if an adolescent), are willing for a trial of medication.*
- *Starting at a low dose and gradually increasing the dose, according to response, would reduce the side effects of the medication.*

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## CASE REPORT

### DECIPHERING RING ENHANCING LESIONS

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**Abstract:** Ring enhancing lesion in the brain is a radiological feature caused by large gamut of diseases and is not pathognomonic of a specific condition. Albeit, commonest cause of ring enhancing lesion is neurocysticercosis, central nervous system tuberculosis predominates in developing countries like India. It is vital for a clinician to be mindful of subtle differences in size of the lesion, type of spread, and magnetic resonance imaging findings for timely diagnosis. Here, we report one such case of a young adolescent girl who presented with suspected central nervous system infection and magnetic resonance imaging showing ring enhancing lesions which later turned out to be central nervous system tubercular lesions.

**Keywords:** *Neurocysticercosis, Tuberculosis, Ring enhancing lesions.*

### Points to Remember

- *Lesions in CNS miliary tuberculosis are tiny and appear hypointense on T2 weighted sequences, as opposed to tuberculomas which are larger in size with diffusion restriction on diffusion weighted imaging.*
- *In NCC, MRI reveals single or multiple lesions in different stages of evolution.*
- *Stopping steroids earlier in CNS miliary tuberculosis may lead to worsening of neurological symptoms and it should never be attempted.*
- *It's imperative to reconsider the diagnosis if not responding to appropriate treatment.*
- *Acute onset of symptoms suggestive of CNS infections / inflammations are to be thoroughly worked up before embarking on starting empirical therapy.*

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