Mental retardation

Definition

- Group of disorders that have in common **deficits of adaptive & intellectual function** and an age of onset before maturity is reached

Epidemiology

- The survey of Mental Retardation in Nepal (1989) estimated 4.9 % of the total population had learning difficulties

Diagnostic criteria

- Significantly sub-average intellectual functioning: **an IQ score of approximately 70 or below**
- Concurrent **deficits or impairments** in present adaptive functioning
- The **onset** is before age **18 years**

Based on degree of severity of intellectual impairment

- **Mild MR:** IQ level 51 to 70
- **Moderate MR:** IQ level 36 to 50
- **Severe MR:** IQ level 21 to 35
- **Profound MR:** IQ level below 20

Causes of mental retardation

- Chromosomal disorder:
  - Down syndrome
  - Fragile X syndrome
  - Klinefelters syndrome
  - Prader Willi syndrome
- Hypothyroidism
- Developmental brain abnormality
- Inborn errors of metabolism/neurodegenerative disorder
  - PKU, Galactosemia, Tuberous Sclerosis
- Familial retardation
- Prenatal causes
  - Maternal substance abuse (Fetal Alcohol syndrome), iron/folic acid deficiency, Congenital infections
  - Maternal chronic CVS/renal disease, placental dysfunction
- Postnatal causes
  - Preterm, birth asphyxia, neonatal sepsis, jaundice, hypoglycemia
- Postnatal (during infancy)
  - Meningitis/encephalitis, head injury, severe & prolonged malnutrition, gross understimulation
- Unknown

- Interaction between genetic and environmental factors (poverty, undernutrition, low socioeconomic status, maternal education)

Clinical features

- Newborn
  - Dysmorphisms
  - Major organ system dysfunction (e.g., feeding and breathing)
- Early infancy (2-4 mo)
  - Failure to interact with the environment
  - Concerns about vision and hearing impairments
- Later infancy (6-18 mo)
  - Gross motor delay
- Toddlers (2-3 yr)
  - Language delays or difficulties
- Preschool (3-5 yr)
  - Language difficulties or delays
  - Behavior difficulties, including play
  - Delays in fine motor skills: cutting, coloring, drawing
- School age (over 5 yr)
  - Academic underachievement
  - Behavior difficulties (attention, anxiety, mood, conduct, and so on)

Clinical features

- Behavior problems: Symptoms like restlessness (continuously moving around; unable to sit in one place), poor concentration, impulsiveness, temper tantrums, irritability and crying are common
- Convulsions: About 25% of people with mental retardation get convulsions
- Sensory impairments: Difficulties in seeing and hearing are present in about 5-10% of persons with mental retardation

Investigations

- Neuroimaging
- Chromosomal study
- Metabolic screening
- EEG

Investigations depend on

- Degree of MR
- Family history/ specific other medical illness
- Planning for other children
- Parent wish

Management

- Early diagnosis is Important
- Importance of developmental surveillance
- Do not ignore parental concerns and observations
- Monitoring of high risk newborns for first 2 years
- Developmental screening tests

Management

- Intelligence tests
- Tests for adaptive functioning

Management

- Medications
  - Associated behavioral and psychiatric disorders only
- Multidisciplinary care

Prevention

- Some are preventable
- Some of impairments are treatable and benefitted by early intervention: limit the disability

Some Do's and Don'ts for parents…

- Look at abilities rather than disabilities in the child.
- Notice successes and praise them, however small these may be.
- Try to learn the techniques of training and practice them.
- Remember that those with mental retardation are slow in learning but they can still be taught with patience, persistence, and the correct approach.
- Find out about services that are available and utilize them.
- There is no need to feel ashamed about having a retarded child.
- There is no need to blame oneself or other family members for the child's condition.
- Do not overprotect the child; as far as possible encourage them to stand on their own feet.
- Do not waste money unnecessarily on dubious treatments, which have not been proven.
- Contact other parents for mutual support

- Mental disorders in children

1. Behavioral disorders(ADHD,temper tantrums,breath holding spells)
2. eating disorders
3. mental retardation
4. tics disorders
5. Enuresis
6. autism

ADHD

Temper Tantrums

Precipitating factors

- Hunger
- Fatigue
- Lack of sleep
- Innate personality of child
- Ineffective parental skills
- Over pampering
- Dysfunctional family / Family violence
- School aversion

Temper Tantrums – Management

- In general, parents advised to:
  - Set a good example to child
  - Pay attention to child
  - Spend quality time
  - Have open communication with child
  - Have consistency in behavior

Temper Tantrums – Management

- During temper tantrum:
  - Parents to ignore child and once child is calm, tell child that such behavior is not acceptable
  - Verbal reprimand should not be abusive
  - Never beat or threaten child
  - Impose "Time Out" - if temper tantrum is disruptive, out of control and occurring in public place.

Pica

Repeated or chronic ingestion of non-nutritive substances.

- Examples: mud, paint, clay, plaster, char coal, soil.

- Normal in infants and toddlers.

- Passing phase.

Even Lord Krishna Did it !!!

Pica

Geophagia	Eating of mud, soil, clay, chalk, etc.
Pagophagia	Consumption of ice
Hyalophagia	Consumption of glass
Amylophagia	Consumption of starch
Xylophagia	Consumption of wood
Trichophagia	Consumption of hair
Urophagia	Consumption of urine
Coprophagia	Consumption of feces

Pica

Pica after 2nd yr of life needs investigation

- Predisposing factors :
  - Parental neglect
  - Poor supervision
  - Mental retardation
  - Lack of affection Psychological neglect, (orphans)
  - Family disorganization
  - Lower socioeconomic class
  - Autism

Pica

- Screening indicated for:
  - Iron deficiency anemia
  - Worm infestations
  - Lead poisoning
  - Family dysfunction
- Treat cause accordingly.
- Usually remits in childhood but can continue into adolescence

Breath Holding Spasms

1. *Simple breath-holding spell*
2. *Cyanotic breath-holding spells*
3. *Pallid breath-holding spells*
4. *Complicated breath-holding spells*

Precipitating Factors:

- *Frustration*
- *Injury*
- *Anger*
- *Anemia*

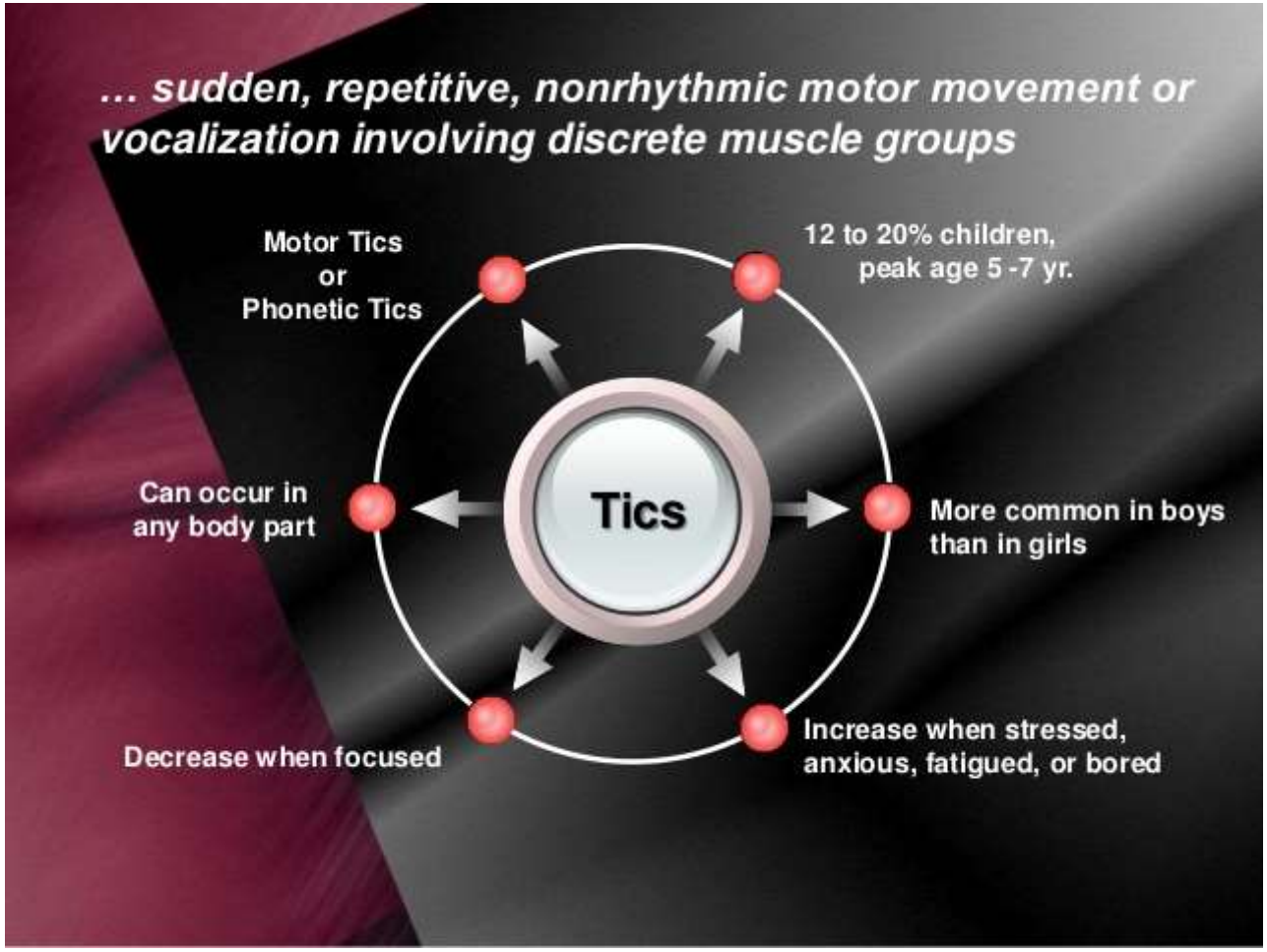
Breath Holding Spasms

Management – General:

- No treatment is usually needed
- Iron supplements to children with iron deficiency

During a spell :

- Make sure your child is in a safe place where he or she will not fall or be hurt.
- Place a cold cloth on your child's forehead during a spell to help shorten the episode.
- After the spell, try to be calm.
- Avoid giving too much attention to the child, as this can reinforce the behaviors that led to the event.
- Avoid situations that cause a child's temper tantrums.


… sudden, repetitive, nonrhythmic motor movement or vocalization involving discrete muscle groups
Tics
Motor Tics or Phonetic Tics
12 to 20% children, peak age 5 -7 yr.
More common in boys than in girls
Increase when stressed, anxious, fatigued, or bored
Decrease when focused
Can occur in any body part

Tics : Common types

Simple Tics:

- Grimacing
- Yawning
- Grunting
- Sighing
- Blinking
- Wrinkling
- Scratching nose
- Head jerking
- Throat clearing

Complex Tics:

- Jumping
- Spinning
- Touching objects or people
- Echopraxia: Repeating other's actions
- Copropraxia: Obscene gestures
- Palilalia: Repeating one's own words
- Echolalia: Repeating what someone else said
- Coprolalia: Obscene, inappropriate words

Tics : Management.

- Medication to help control the symptoms and
- Habit reversal training (HRT): a behavioral therapy
- The child and adolescent psychiatrist can also advise the family about how to provide emotional support and the appropriate educational environment for the youngster.

Tics :

Formulations in the Management contd..

- *haloperidol*,
- *pimozide*,
- *clonidine*,
- *nifedipine* are use in low doses.
- risperidone,
- olazapine
- mecamylamine,
- tetrabenazine,
- Benzodiazepines
- baclofen,
- botulinum toxin

Symptoms of
Attention Deficit Hyperactivity Disorder (ADHD)

Attention **Hyperactivity** **Acting Impulsively**

These symptoms generally begin by age six to twelve and be present for more than six months for a diagnosis to be made

Diagnosing ADHD: DSM-V

- **Inattention: (A1)**

Persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities

- Lacks attention to detail; makes careless mistakes.
- has difficulty sustaining attention
- doesn't seem to listen.
- fails to follow through/fails to finish instructions or schoolwork.
- has difficulty organizing tasks.
- avoids tasks requiring mental effort.
- often loses items necessary for completing a task.
- easily distracted.
- is forgetful in daily activities.

Diagnosing ADHD: DSM-V

- **Hyperactivity/ Impulsivity:(A2)**

Persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities

- Fidgets or squirms excessively
- leaves seat when inappropriate
- runs about/climbs extensively when inappropriate
- has difficulty playing quietly
- often "on the go" or "driven by a motor"
- talks excessively
- blurts out answers before question is finished
- cannot await turn
- interrupts or intrudes on others

TREATMENT :

No treatments have been found to cure this disorder, but many treatments exist results in the greatest degree of improvement in the symptoms of the disorder.

Psychosocial Treatments

- The parents and child should be educated with regard to the ways ADHD can affect learning, behavior, self-esteem, social skills, and family function.
- The clinician should set goals for the family to improve the child's interpersonal relationships, develop study skills, and decrease disruptive behaviors.

Enuresis

- **Definition :**

Involuntary voiding of urine at least two nights per month beyond the age of 5 years by which bladder control is normally obtained and without any congenital or acquired defects of the urinary tract.

Types of Enuresis

- **Primary**
  - Child who never gained nocturnal urinary control
  - Accounts of 85% of cases
- **Secondary**
  - At least a 6 – month period of dryness has preceeded the onset of wetting

Evaluation

1. **Complete history**
   - Primary or sec.
   - Nocturnal or diurnal
   - Does encopresis associated
   - Associated urinary tract symptoms like dysuria, polyuria, pollakiuria, hematuria, pyuria, etc.
2. **Developmental history**
   - Birth history
   - Achievement of milestones
   - Neurological deficits
   - CNS disorders
3. **Family history**
   - H/o. enuresis in parents
   - Traumatic incidents
   - Parental harmony

Physical Examination

1. Visualization of urinary system
2. Abdomen exam – for renal / bladder mass
3. Genitals – hypospadiasis
4. Neurological
    1. Peripherl reflexes
    2. Perianal sensations
    3. Tone
    4. Gait
5. Lower back
    1. Tuft of hair
    2. Vertebral anomaly

General Tratement

1. Avoid excessive fluids
2. Empty bladder at bed time
3. Told to wake up at night and use toilet to remain dry
4. Improve access to toilet
5. Include the child in morning cleaning up of urine-soiled cloths

Behavioural Intervention

Active participation & commitment of

- parents
- the child &
- the pediatrician

- Medications:
- Vasopressin
- Anti depressant

- Thank you


Merry
Christmas