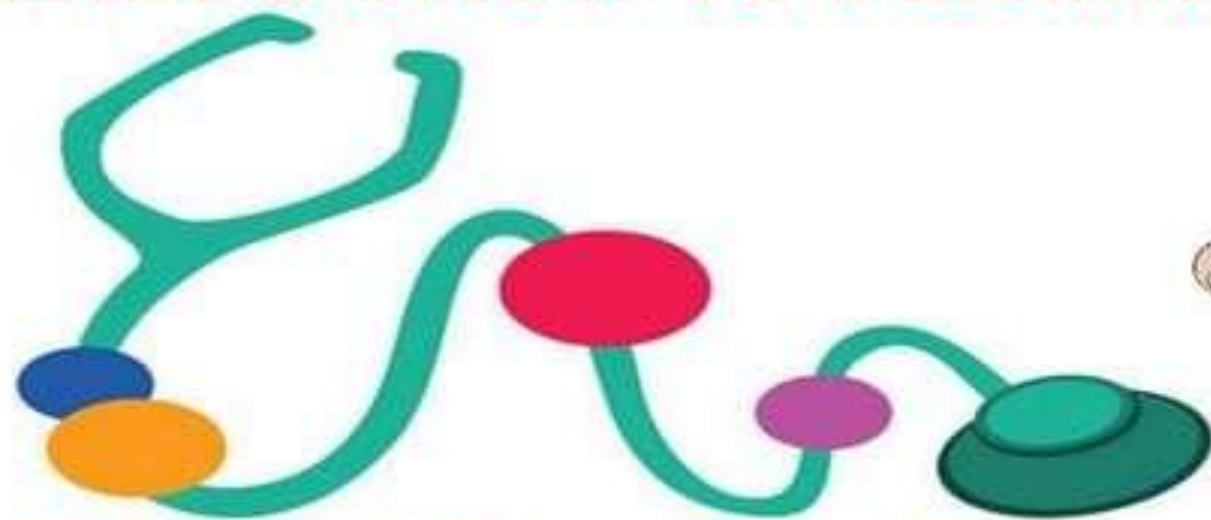


# INTRODUCTION TO PEDIATRICS



**Pediatrics**



Dr. Tauhid Iqbali  
M.D. Pediatrics

# INTRODUCTION



## Pediatrics:



Branch of medicine that deals with the care of children and adolescents.

Derived from the two Greek words

*Pedo pais* meaning a child

*latros* meaning healer

**Pediatrics covers the age group less than 18 year of age**

# PEDIATRICIANS

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- **Pediatricians** are medical doctors who have specialized training not only in evaluating, diagnosing and treating children but also in dealing with their nutrition, growth, development and providing opportunity to achieve full potential as adults.
- **Responsibility:** To improve children's physical, mental, behavioral, psychological and social health; reduce their morbidity & mortality.

# AREAS OF IMPORTANCE



- Diagnosing and treating disease
- Growth and development
- Nutrition
- Immunization
- Opportunity to achieve full potential as adults

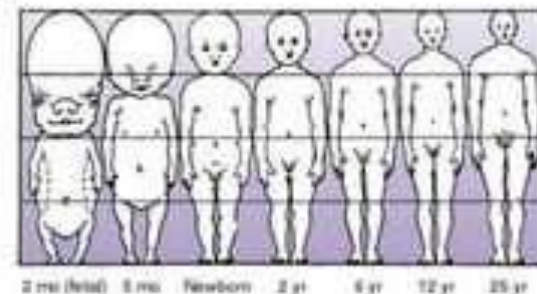
# WHAT'S DIFFERENT?



*“child is not a miniature adult*

The principle of adult medicine cannot be directly adapted to children because, children have

- Unique biology
- Distinct risk factors of pediatric disease
- Clinical manifestation of disease may be different
- Many disorders are unique to children
- Changes in body proportions from fetus to adult
- Child's metabolism is different (faster)
  - Drug doses are higher
  - Fluid/ calorie intake higher
  - Parameters (HR, RR higher, BP lower in younger)
  - Higher proportion of body water
- Child's response to disease and treatment is different:
  - Deteriorate very quickly – need careful watching
  - Improves also very quickly – gratifying



# HISTORY



- The first generally accepted pediatric hospital is the Hôpital des Enfants Malades (Means Hospital for Sick Children in French)
- Opened in Paris in June 1802
- Presently called as Necker-Enfants Malades Hospital, after merger with Necker hospital in 1920.





- The founder of modern Pediatrics is Nils Rosén von Rosenstein (1706–1773), was a Swedish physician.



Nils Rosén von Rosenstein

# HISTORY OF PEDIATRICS IN INDIA



- Pediatrics made its beginning in Bombay in 1928.
- When BJ Hospital for children was established.
- Dr George Coelho is considered as "Father of Pediatrics in India" who was the superintendent of the first independent children hospital, BJ Hospital for children.
- Postgraduate diploma in pediatrics was started in 1944.
- Postgraduate degree programs began in fifties.
- Pediatrics became an independent subject in MBBS course in mid-nineties.
- The first DM program in neonatology started in 1989 at PGIMER, Chandigarh and in pediatric neurology at AIIMS in 2004.



# PEDIATRICS AS SPECIALTY



- Fascinating specialty.
- Deals with care of premature to adolescents.
- Also covers intensive care management of sick neonates and children on one hand and providing home care to newborns on the other.

Now the pediatrics has branched well into developed super specialties (*Neonatology, nephrology, pulmonology, infectious disease, pediatric critical care, neurology, hematology, endocrinology and cardiology*).

# PERIODS OF GROWTH



- Neonate
- Infancy
- Toddler
- Preschool
- School age children
- Early Adolescents
- Middle Adolescents
- Late Adolescents

# NEONATE



## First 4 weeks of life

### Features:

- Beginning independent living
- The physiological regulation ability and adaptation to circumstances are very poor.
- The morbidity and mortality are very high

### Healthcare:

Enough nutrition

Proper nursing care

Prevention of diseases



# INFANCY



Up to 1 year of age

## Features:

- Rapid growth period
- Fastest brain growth
- Nutrition and energy requirement are more
- Digestion and absorption functions are poor
- Passive immunity gradually drops

## Health care:

Enough nutrition

Prevention of diseases

Basic immunity



# TODDLER



1-3 years of age

## Features:

- Growth becomes slower
- more vigorous
- Contact more objects
- Intelligence develops faster
- Poor ability of identifying damage

## Health care:

enough nutrition

Prevention of diseases

Prevention of accident



# PRESCHOOL



3-6 years of age

## Features:

- Growth becomes slower
- More mature intelligence
- Strong desire for knowledge
- Imitating adult's behavior
- Poor ability to identify damage
- Character forming

## Health care:

Enough nutrition

Prevention of diseases

Prevention of accident

Good habit training



# SCHOOL AGE CHILDREN



6-12 years of age

## Features:

- Growth becomes relatively steady
- More mature intelligence developed
- Increasing desire for knowledge
- Decreasing incidence of diseases

## Health care:

Enough nutrition

Prevention of myopia and dental caries

Prevention of problems in psychology

Emotion and behavior



# ADOLESCENTS



12-18 years of age

## Features:

- The second fastest period of growth and development
- Neuroendocrine regulation unsteady
- Having problems in psychology, emotion and behavior

## Health care:

Enough nutrition

Health care of adolescence

Education







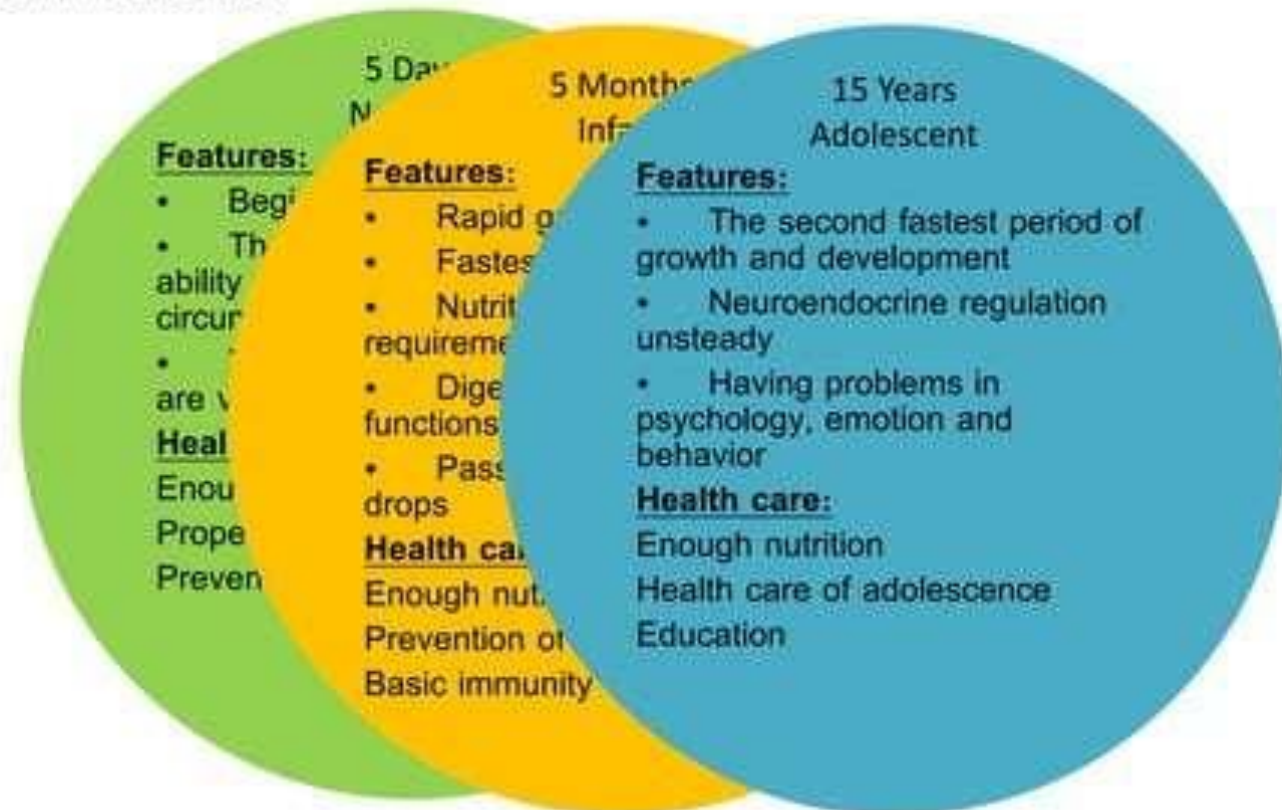
# ATTENTION ALERT



Which age stages do the children of 5 days, 5 months and 15 year-old belong to respectively?

What are their features?

What should their health care be?



# CHILD MORTALITY



- India has the highest number of child births as well as deaths.
- 27 million babies are born every year
- This accounts for a 20% of the global birth cohort
- Global under 5 child death per year is 7.8 million of which India constitute 1.7 million(23%).

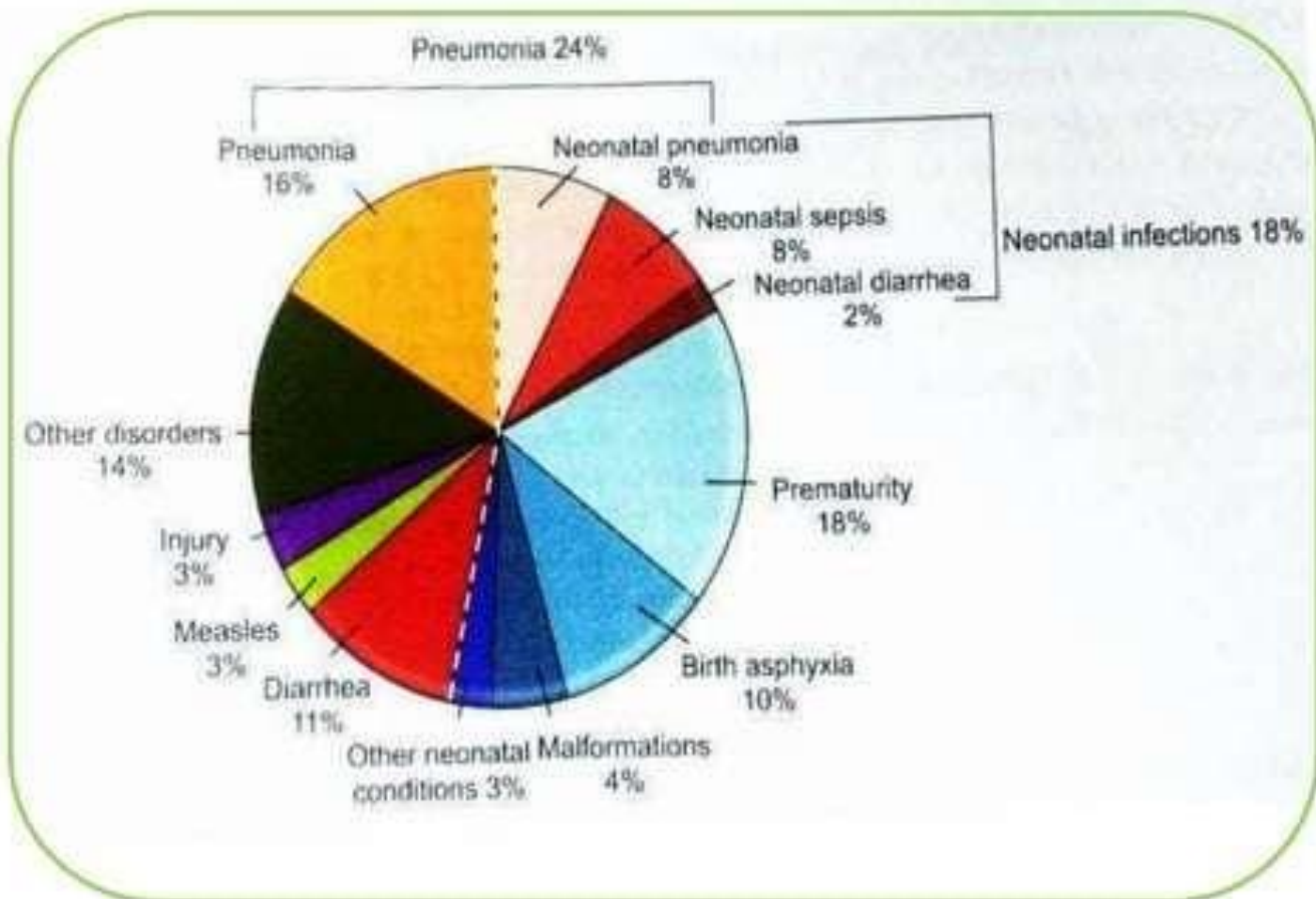
# UNDER 5 MORTALITY RATE



## Definition:

- ❑ Number of deaths under the age of 5 years per 1000 live births.
  
- ❑ 52 per 1000 live births in 2012

# CAUSES FOR UNDER 5 MORTALITY



# INFANT MORTALITY RATE



## Definition:

Number of deaths under the age of 1 year per 1000 live births.

- 42 per 1000 live births in 2012

# NEONATAL MORTALITY RATE



## Definition:

Number of deaths under the age of 28 days per 1000 live births.

- 29 per 1000 live births in 2012



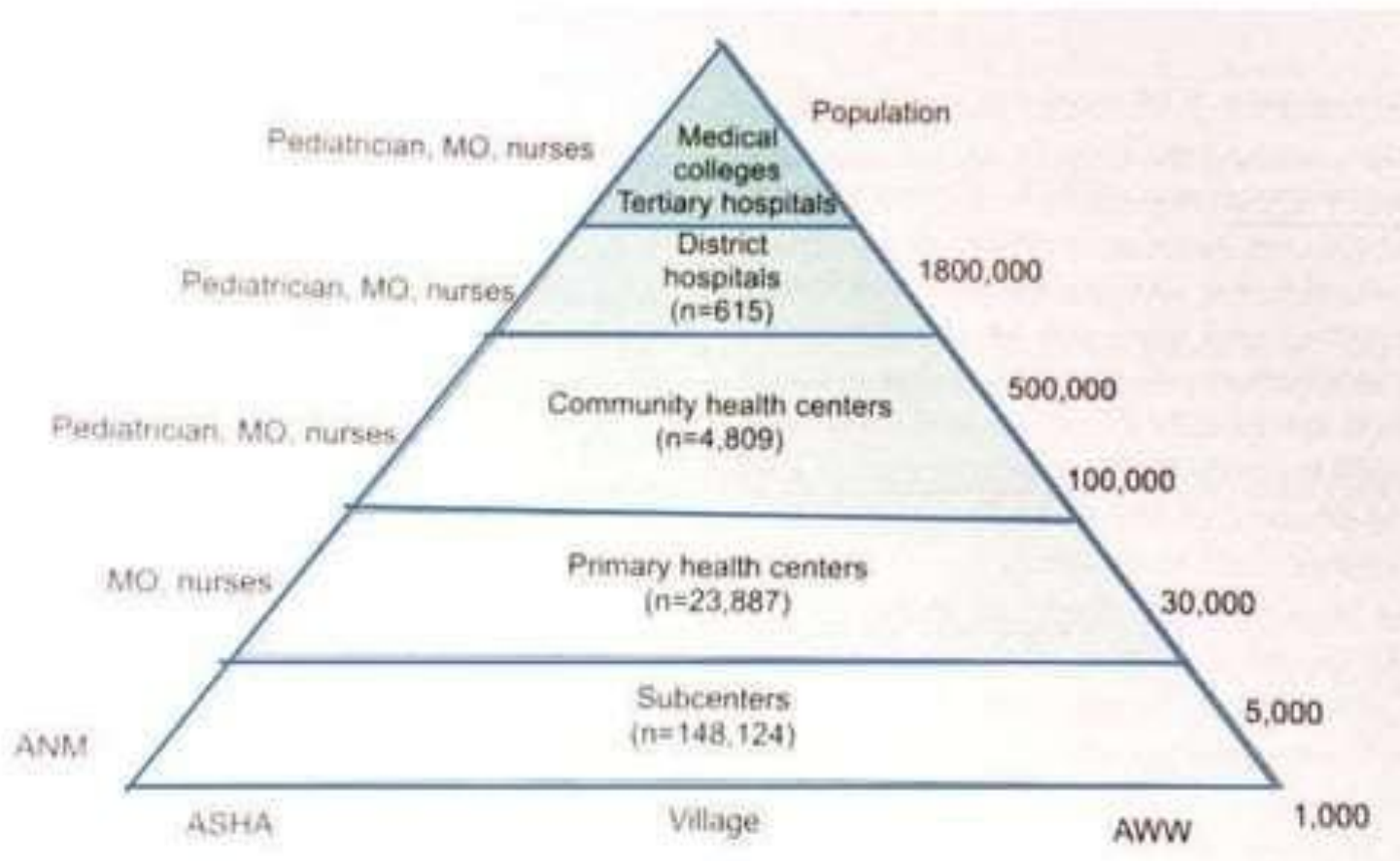
## EARLY NEONATAL MORTALITY RATE

### Definition:

Number of deaths under the age of 7 days per 1000 live births.

- 23 per 1000 live births in 2012

# HEALTH SYSTEM IN INDIA





# CHILD SURVIVAL STRATEGIES



- Early breast feeds
- Exclusive breast feeds
- Appropriate weaning
- Vaccination
- Antenatal, intrapartum and neonatal care
- Case management of pneumonia and diarrhea

## NATIONAL PROGRAMS ON CHILD HEALTH



- Core of the health policy
- Multiple child health programs have been rolled out.
- The Diarrheal Disease Control Program was launched in 1981.
- Universal immunization program against 6 diseases was launched in 1985.

## NATIONAL PROGRAMS ON CHILD HEALTH CONT..



- ARI control program launched in 1990.
- Child survival and safe motherhood (CSSM) program launched in 1992 which combined interventions for child survival and maternal health.
- CSSM and program for family planning was combined to form reproductive and child health program in 1997.

## NATIONAL PROGRAMS ON CHILD HEALTH CONT



- National Rural Health Program (NRHM) launched in 2005.
- The RCH program was combined with NRHM.
- RMNCH+A was launched in 2013 which is an ongoing child health program

# FUTURE OF CHILD HEALTH



- India is addressing child health challenges with greater dynamism than ever before.
- Investments are being made for health programs and health system strengthening.
- ICDS is being strengthened, particularly in high burden districts to address childhood undernutrition.
- India is poised to attain low child mortality rate and to improve the health and nutrition status of children in near future.

THANK YOU

