

PhD EQB Curriculum Kaumarbhritya

1. Kaumarabhritya in Ancient Classics and recent Advances

1. Significant contributions of Kashyapasamhita, ArogyarakshaKalpadrum and other texts /treatises of Ayurveda such as HaritaSamhitain the field of Kaumarbhritya including relevant parts from Brihatrai
2. Panchakarma: Principles of Panchakarma [Swedan–Hasta–Pataswedaetc], and their application in pediatric practice in detail.
3. Update knowledge of clinical pediatrics including recent researches in Kaumarbhritya.
4. Fundamentals of Hospital management with special emphases on Pediatric Ward.

2. Bija evam Garbha Vigyaniya

1. Ayurvedic genetics with modern interpretations: Shukra, Shonita, ShukraShonita Doshas, Bija-Bijabhaga-BijabhagavayavaVikriti, Matrija and PitrajaBhavas, YajjahPurushiya and Atulyagotriya; Measures for obtaining good progeny
2. Modern genetics

Basic concepts:

1. Cell, cell division, nucleus, DNA, chromosomes, classification, karyotype, molecular and cytogenetics, structure of gene, and molecular Screening.
2. Human Chromosomes - Structure, number and classification, methods of chromosome preparation, banding patterns.
3. Single gene pattern inheritance: Autosomal & Sex chromosomal pattern of inheritance, Intermediate pattern and multiple alleles, Mutations, Non Mendelian inheritance, mitochondrial inheritance, Genomic imprinting, parental disomy.
4. Criteria for multi-factorial inheritance.

Pathogenesis:

1. Pathogenesis of chromosomal aberrations and their effects, recombinant DNA, genetic inheritance, inborn errors of metabolism
2. Chromosomal abnormalities: Autosomal & Sex chromosomal abnormalities, syndromes
3. Multifactorial pattern of inheritance: Teratology, Cancer Genetics – Haematological malignancies, Pharmacogenetics.

4. Chromosomal disorders

5. Chromosomal aberration (Klinefelter, Turner and Down's syndrome)

6. Genetic Counseling, Ethics and Genetics.

3. **Garbha** (embryo), Garbhawastha (gestation period), sperm, ovum; spermatogenesis; oogenesis; structure of ovum

1. Sperm in the male genital tract; sperm in the female genital tract, activation and capacitation of sperm.

2. GarbhaMasanumasikaVridhievamVikasa (Ayurvedic and modern concepts of Embryo and Fetal development)

- First week of development
- Second week of development
- Third week of development
- Fourth to eighth week of development (Embryonic period)
- Development from third month till birth (Fetal period)

3. Formation of Prakriti, their assessment in children viz. Bala, Kumara, Yauvana; Pathya-Apathya according to Prakriti.

4. Apra (Placenta) ApraNirman (Formation of placenta), ApraKarya (Functions of placenta); ApraVikara (Placental abnormalities)

5. Nabhinadi (Umbilical Cord) Formation and features of umbilical cord

6. GarbhaPoshana (Nutrition- from conception to birth)

7. YamalaGarbha(twins)

8. GarbhaVridhikaraBhavas, GarbhopaghatkaraBhavas.

9. Effect of maternal medication, diet and illness over fetus.

10. Teratology including defects of bija, atma karma, kal, ashaya etc.: causative factors for teratogenicity, mode of actions of teratogenes, critical periods

11. Perinatal Care and Perinatal complications

12. Scientific study of Jataharini specific to children.

13. Prenatal diagnosis

14. Samanya Janmajata Vikara (Common congenital anomalies of different systems): Sahaja Hridaya Vikara (Congenital Cardiac Disorders) Jalashirshaka (Hydrocephalus), Khandaoushtha (cleft lip), Khanda-Talu (cleft palate), Sanniruddha Guda (Anal stricture / imperforated anus), Pada-Vikriti (Talipes equinovarus and valgus), Tracheoesophageal Fistula (TOF), Spina bifida, Meningocele, Meningomyelocele, Pyloric Stenosis.

3. Navajata Shishu Vigyan

1. Navajata Shishu Paribhasha, Vargikarana (Important definitions and classification related to neonates.)

2. Navajata Shishu Paricharya evam Prana-Pratyagamana (Care of the newborn including recent methodology for the resuscitation)

3. Samanya Navajata Shishu Paricharya (General Neonatal Care –Labour room onwards)

4. Samayapurva evam Samayapashchatjata Shishu Paricharya (Management of preterm, post term and IUGR newborn)

5. Prasava Kalina Abhighataja Vyadhi (Birth injuries): Upashirshaka (Caput, cephalohematoma), Bhagna (Fractures), Mastishkantargata Raktasrava (ICH, IVH, Subdural hemorrhage)

6. Navajata Shishu Parikshana (Examination of new born): Ayu Parikshana (including Lakshanadhyaya) Modern approach of Neonatal Examination including gestational age assessment

7. Kumaragara: Navajata Shishu Kaksha Prabandhana (Nursery management), NICU, Nursery plan, staff pattern, medical records, Visankramnikarana (sterilization), Knowledge of equipments used in nursery.

8. Navajata Shishu Vyadhi (Early neonatal disorders): Hypothermia, Shvasavarodha (Asphyxia Neonatorum/Respiratory distress), Ulvaka (Aspiration pneumonia), Rakta Vishamayata (Neonatal septicemia), Kamala (Neonatal Jaundice), Akshepaka (Neonatal convulsion), Pandu (Anemia), Atisara (Diarrhea), Asamyaka Nabhinalkartanjanyavyadhi.

9. Navajata Kshudra Vikara (Minor neonatal ailments): Chhardi (Vomiting), Vibandha (constipation), Udarashul (Infantile colic), Puya Sphota (Pyoderma), Shishu Netrabhishyanda (Ophthalmic neonatorum).

10. Sadyojatasya Atyayayika Chikitsa (Management of neonatal emergencies): Shock, Fluid and electrolyte imbalance, Convulsion, Hemorrhagic diseases of Newborn etc.

11. Procedures: Shiro-Pichu, Abhyanga, Parisheka, Pralepa, Garbhodaka Vamana (Stomach wash), Ashchytana Neonatal resuscitation techniques, Blood sampling, Intravenous canulation, Umbilical vein catheterization, Bone marrow aspiration, Phototherapy, Naso-Gastric tube insertion, Urethral catheterization, Exchange blood transfusion, Thoracocentesis, Bone marrow infusion, Lumbar puncture

12. Nutrition:

A. NavjatShishu Ahara (Neonatal feeding):

1. Specific Feeding methodology as per Ayurveda and recent advances; Day to day fluid, milk, caloric requirement for the newborn, feeding technique for the preterm baby.
2. Stanyotpatti and Prasruti (Lactation physiology), StanyaSamghatana (Composition of breast milk), StanaSampat (Characteristics of normal breast), StanyaSampataevamMahatva (Properties & importance of pure milk), Stanya-Piyusha (Colostrum); Stanya-Pana-Vidhi (Method for breast milk feeding), Stanyakshaya / Stanyanasha (Inadequate production and absence of breast milk), Stanyaparikshana (Examination of breast milk), StanyabhavaPathyaVyavastha (Alternative feeding methods in absence of breast milk), Various feeding methods, TPN(Total Parenteral Nutrition)
3. Stanyadosha (Vitiation of Breast milk), StanyaShodhana (Purification of breast milk), StanyaJanana and Vardhanopakrama (Methods to enhance breast milk formation)
4. Dhatri (Wet nurse): DhatriGuna and Dosha (Characteristics of Wet nurse), Concept of Breast Milk Banking.
5. Lehana (Elucturies)

B Bala-Poshana (Child Nutrition):

6. Daily requirements of nutrients for infant and children
7. Common food sources
8. Satmya and Asatmya Ahara (Compatible and incompatible diet)
9. PathyaevamApathya Ahara (Congenial and non-congenial diet)
10. Stanyapanayana (Weaning)

4. Srotovikar

1. PranvahaSrotasjanya Vyadhi (Respiratory disorders)- Kasa (Cough), Shvasa (Respiratory distress Syndrome), TamakaShwasa (Childhood Asthma), Bronchiolitis, Shvasanaka Jwara (Pneumonia- bacterial, viral etc) Rajyakshma (tuberculosis), Vaksha-Puyata (Pyothorax), VakshaVata-Purnata (Pneumothorax)
2. AnnavahaSrotasjanya Vyadhi (Gastrointestinal disorders): Jwar (Fever), Chhardi (Vomiting) Ajirna (Indigestion), Kshiralsaka, Atisara (Diarrhea), Pravahika, Vibandha (Constipation, Udarshula (Pain in abdomen), Gudabhramsh (Rectal prolapse)

3. Rasa evam Raktavaha Srotasjanya Vyadhi (Hematological and circulatory disorders): Pandu (Anemia and its various types like Nutritional, haemolytic etc.) and , Raktapitta (Bleeding disorders), Vishishta Hridrog (Specific cardiac diseases- RHD etc), Hypertension, Leukemia.

4. Mamsavaha Srotasjanya Vyadhi: Myopathies

5. Mutravahasrotasjanya Vyadhi (Urinary System disorders): Vrikkashotha (Glomerulonephritis and nephrotic syndrome), Mutrakriccha (Dysuria), Mutraghata (Anuria)

6. Vata vaha Sansthanjanya Vyadhi (Nervous system disorders): Apasmara (Epilepsy), Mastulunga-Kshaya, Mastishka-Shotha (Encephalitis), Mastishkavrana-Shotha (Meningitis)

7. Pediatric disabilities and Rehabilitation: Cerebral palsy, Ardita (Facial paralysis), Pakshavadha (Hemiplegia), Ekangaghata (Monoplegia), Adharanga Vayu (diplegia), Amavata (Juvenile Rheumatoid arthritis)

8. Manovaha Srotasa Vyadhi: Breath holding spell, Shayyamutra (Bed wetting), Autism, ADHD (Attention Deficit and hyperactive disorders), Learning Disability, Mental retardation, Temper tantrum, Pica.

5. Anya balrog

1. Antahsravievam Chayapachayajanya Rog (Endocrine and Metabolic disorders)

2. Kuposhanjanya Vyadhi (Nutritional disorders): Karshya-Phakka-Balshosha- Parigarbhika (PEM and allied disorders), Vitamin-mineral and trace elements deficiency disorders, Hypervitaminosis

3. Krimi evam Aupsargika Rog (Infestations and Infections): Krimi (Giardiasis and intestinal helminthiasis, Amoebiasis) Common bacterial, viral infections with special reference to vaccine-preventable diseases: Rohini (Diphtheria), Whooping cough, Aptanaka (Tetanus including neonatal tetanus), Romantika (Measles), Karnamula Shotha (Mumps), Rubella and Masurika (Chickenpox), Antrika Jwar (Typhoid and Paratyphoid), Viral Hepatitis,; Vishama Jwar (Malaria) and Kala-azar, Dengu fever, HIV (AIDS), Poliomyelitis, Mastishkavaran Shotha (Meningitis), Mastishka Shotha (Encephalitis), Chickengunia

4. Tvaka Vikara (Skin disorders): Ahiputana (Napkin Rashes), Shakuni (Impetigo), Sidhma, Pama, Vicharchika, Charmadal (Infantile atopic dermatitis), Gudakutta.

5. Anya Vyadhyi (Miscellaneous disorders): Jalodar (Ascites), Gandamala, Apachi

(Cervical lymphadenitis), Kukunakadi Akshi Rog, Hodgkin & non-Hodgkin Lymphoma,

Abnormal growth patterns, Short stature, Niruddhaprakash (Phimosis), Paridagdha Chhavi, Utpullika

6. Samghata- Bala PravritaRog (damstra): Dog bite, Snake bite, Scorpion bite etc
7. Atyayika BalarogPrabandhana (Pediatric emergency management): Shock and Anaphylaxis, Fluid and electrolyte management, Drowning, Foreign body aspiration, Status epilepticus, Acute hemorrhage, Acute renal failure, Febrile convulsion, Status asthmaticus, Burn, Acute Poisoning
8. Balagraha: Scientific study of GrahaRogas
9. Life Style disorders