A Quick Glance at Paediatrics

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Edited by

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FOREWORD

Fundamental to the practice of paediatrics is the impact of growth and development on the epidemiology and clinical presentations of diseases, the choice of drugs to administer, the doses of drugs, and indeed the type of rehabilitation needed for the child with social, mental or physical challenges. The changing size and maturity of a child from newborn to adolescence underscore the need for the individualization of interventions. A quick reference book is a common need in child healthcare.

A Quick Glance at Paediatrics is a reference book written and compiled by teachers of paediatrics and clinicians who know the needs to support appropriate clinical paediatric practice. It is a useful tool for medical students, resident doctors, paediatricians and nurses. The contents cover a wide scope of child healthcare and are presented in a reader-friendly succinct manner to save the reader's time and yet maintain interest in further reading. The changing trends in the practice of this field are also captured to stimulate interest in updates in the subjects and stimulate research and innovations.

The lead author, Beckie Tagbo, is an experienced paediatric clinician, researcher and teacher who, with the other authors, knows first-hand the common needs for quick references in child healthcare. The authors are all specialists in the various fields of paediatrics and practise in settings with resource challenges where there may not be access to paediatricians and to a reference library.

The book focuses on child healthcare in the developing world, addressing the persisting challenges of infectious diseases, the emerging infections and the growing problems of non-communicable diseases in children. Social paediatrics, arguably less addressed in the developing world by governments and other stakeholders, is also included in a stimulating manner. The book should be an accessible handbook for all stakeholders in paediatric practice as it will help to further narrow the knowledge gap in child healthcare.

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PREFACE

Medical students, resident doctors, general practitioners, family physicians and paediatricians frequently require quick reference textbooks to give them concise information on specific topics in paediatrics and child health. This could be for the purpose of examination preparation, teaching, or practical, on-the-spot management of patients. This is the purpose of this book. It essentially covers major systems and disease conditions. Each chapter is presented in a few pages for ease of reference. The authors hope that the book will fill the observed gap and so contribute to the improved care of children.

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We acknowledge our teachers, our students and our patients. They all contributed to our wealth of knowledge and experience. Our acknowledgement also goes to Colleges of Medicine and Postgraduate Medical Colleges in the West African sub-region. My husband, Dr Moses Tagbo, deserves special mention for his immense and invaluable suggestions. Above all, we acknowledge God without whom we can do nothing.

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SECTION 1:

INTRODUCTORY PAEDIATRICS

1.1 History Taking (Okeke, I. B.)

History taking in paediatrics must be adapted to the child's age (as regards relevant areas of emphasis) and level of ability (ability to complain).

- Talk to the child and get him/her on your side.
- Document the following;
  - Child's age and sex;
  - Child's domicile;
  - Source of history/informant–e.g. father, mother, child (if > 8 yrs), others.
- Presenting complaint;
  - This is the symptom that brought the child to the hospital. If more than one symptom, document them and their duration sequentially, e.g. fever 1/52, vomiting–4/7, etc.
- History of presenting complaint;
  - This is the sequential documentation of the character of the symptoms and its evolvement since the onset of illness.
  - Treatment interventions should be documented because subsequent symptoms, after the intervention, may result from such interventions.
  - Pay attention to duration of symptoms, frequency of occurrence, severity, relieving/aggravating factors, and diurnal/seasonal variation.
- Past medical history;
  - Document illnesses or symptoms in the past, hospital admissions, surgery, etc.
  - Allergies–any known allergy to drugs, food, etc.
- Prenatal/natal/postnatal history;
  - This is especially important in neonates and infants. Also, children with congenital abnormalities or developmental

problems. Note–antenatal problems, birth history, problems in early neonatal period (first 2 weeks of life).

- Nutritional history;
  - Lay emphasis on this in neonates, infants, malnourished patients, failure to thrive.
  - Know the limitations of dietary recalls (usually the diet of the child during illness does not reflect the normal diet of the child or the family menu).
  - In children old enough to be on the family menu, estimate the adequacy of family meals by asking how much the family spends daily on feeding.
- Developmental history;
  - Document important developmental milestones e.g., gross motor milestones–holds head steady 2-3 months, sits without support 4-6 months, stands without support 9-11 months, walks at 12-14 months.
  - Fine motor milestones–thumb-finger grasp 8 months.
  - Communication/language–inhibits to "no" 7 months, Mama, dada 10 months, first real word 12 months.
  - Social– smiles to face at 6 weeks.
  - Mental–reaches for objects at 4 months, hand transfer at 6 months.
- Immunization history;
  - Know current immunization schedule in the country.
  - If any immunization has been omitted–ask why
  - Ask for documented evidence of immunization.
- Family/Social history;
  - Enter the family through your patient e.g. birth order of the patient in the family.
  - Physical/mental health of siblings.
  - Relevant genetic/inheritable disorder.
  - Physical environment–housing, waste disposal, source of water.
  - Social environment–family structure e.g. polygamous/ monogamous, single parent, etc.
  - Care giver to under-5 children.
  - Socioeconomic status of parents–educational qualification and occupation.
- Systems review;
  - This is an inventory of body systems obtained by verbal history, with the signs and/or symptoms which the patient is experiencing or had.

- General screen e.g. weight loss, level of activity.
- Digestive–vomiting, abdominal pain, appetite, bowel habit, diarrhoea/constipation, blood in stool, swallowing difficulties.
- Cardiovascular–breathless on exertion, slow to feed, sweaty on feeding, cyanotic episodes, chest pain, palpitation, squatting, dizzy spells or faints.
- Respiratory–sore throat, earache, cough (nocturnal), breathlessness compared with peers during games, haemoptysis, aspiration, wheezing.
- Genitourinary–urine stream, enuresis (primary/secondary), dysuria, incontinence, haematuria, flank pain, suprapubic pain, frequency of urination, menstrual history.
- Neurological–headache, faints, visual disturbances, anosmia, deafness, paraesthesia, weakness, frequent falls.
- Musculoskeletal–joint pain or swelling, limp, skin rash, alopecia, muscular pains.

Bibliography

Obidike, E. K., *History taking. Essentials of clinical methods in paediatrics and research and basic statistics* (2nd ed.). Enugu-Nigeria: Ezu Books Ltd., 2014, 3-85.

Stephenson, T., Wallace, H., Thomson, A., *Long Case. Paediatrics for postgraduate examinations* (3rd ed.). Churchill Livingstone, 2002, 17-24.

1.2 Physical Examination

1.2.1 General Examination (Chinawa, J.)

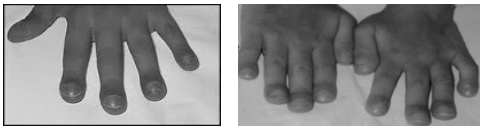
- The order of the examination should conform to the age and temperament of the child. For example, many infants under 6 months are easily managed on the examining table, but from 8 months to 3 years you will usually have more success examining on the mother's lap.
- Certain parts of the exam can sometimes be done more easily with the child in the prone position or held against the mother. After 4 years, they are often cooperative enough for you to perform the examination on the table again.
- Wash your hands with water before the examination begins. You will impress your patient's mother.
- Exam checklist: WIPE:
  - Wash your hands [thus warming them];
  - Introduce yourself to the patient; explain what you are going to do;
  - Position the patient on the couch or the parent's lap;
  - Expose the area as needed [parent to undress the patient].

Striking features

- State of health (acutely ill looking such as evidence of respiratory distress, painful distress, toxaemia OR chronically ill looking such as presence of bony prominences, generalized body swelling, muscle wasting);
- Head (size, shape, circumference, asymmetry, cephalhaematoma, bosses, craniotabes, control, molding, bruit) fontanel (size, tension, number, abnormally late or early closure), sutures, dilated veins, scalp, hair (texture, distribution);
- Facie (coarse as in congenital hypothyroidism, elfin as in William’s syndrome, wizened old man’s, moon facie, downs, etc.);
- Posture (limpy, decorticate: flexing upper and extension of lower limbs depicting cortical lesion, and decerebrate which involve extension of both limbs with opisthotonus showing pontine lesion, other posture could be cardiac position and antalgic posture)
- Crying (high-pitched vs. normal).

Inspection

- *Pallor*: Palpebral conjunctiva (remember that crying and conjunctivitis can affect results), buccal mucosa, tongue, nail bed, palms (remember shock, fever, low temperatures could affect the results at palm and nail beds). The bulbar conjunctiva can also be hyperaemic as in heart disease or any condition that may cause polycythaemia.
- *Cyanosis*: nail beds, tongue, buccal mucosa.
  - Tongue and buccal mucosa (peripheral cyanosis) others are central. Remember to warm your hands.
- *Jaundice*: Bulbar conjunctiva. Should be done in good lighting.
  - Lemon yellow: Haemolysis;
  - Greenish yellow: hepatobiliary obstruction.
- *Finger clubbing*:
  - Three possible pathogenesis: escape of unfiltered platelets from the lungs and their eventual deposition at end arteries. Oestrogen theory and theory of prostaglandins.
  - 5 grades (some merge grades 4 and 5 into one), see figures 1a and 1b.
  - Grade 1: Fluctuation (increased ballotability) and softening of the nail bed (no visible clubbing).
  - Grade 2: Loss of (obliteration) normal angle (Lovibond angle) between the nailbed and the proximal nail fold (cuticula).
  - Grade 3: Increased convexity of the nail.
  - Grade 4: Clubbed appearance of the fingertip (drumstick appearance).
  - Grade 5: Shiny or glossy nail and adjacent skin with longitudinal striations.



Figures 1a and 1b: Finger clubbing
https://clinicalgate.com/history-and-examination-5/
Sheikh et al. Bronchiectasis in paediatric AIDS. Chest 1997; 112:1202-07

- *Skin*: Look out for skin lesions such as erythema, macule, papules, patch, plaques, nodules, vesicle, bulla, pustule, cyst, erosion, and wheal.

Palpation

- *Lymph Nodes:* Location, size, sensitivity, mobility, consistency. One should routinely attempt to palpate sub occipital, pre-auricular, anterior cervical, posterior cervical, sub maxillary, sublingual, axillary, epi-trochlear, and inguinal lymph nodes.
- Occipital, cervical, submandibular and sub mental lymph nodes are palpated from behind the child.
- Axillary lymph node: left hand of clinician to left hand of the child.
- If lymph nodes are present; check for the site, shape, size, consistency, discreteness, fluctuancy (measured in 2 planes), warmth and tenderness.
- Remember: generalized palpable lymph nodes: involvement of 2 or more non-contiguous sites.
- Significant palpable lymph nodes: lymph nodes more than 1 cm at all sites except inguinal which is more than 2 cm.
- *Oedema*: check if pitting (most common systemic diseases associated with oedema involve the heart, liver, and kidneys) or non-pitting (disorders of the lymphatic system such as lymphoedema, which is a disturbance of the lymphatic circulation, lymph node surgery, or congenitally, pretibial myxoedema, which is a swelling over the shin that occurs in some patients with hyperthyroidism. Non-pitting oedema of the legs is difficult to treat).
- Pitting oedema could be graded as:
  1. Up to the ankle joint;
  2. Midpoint of the leg;
  3. Knee involvement;
  4. Beyond the knee.

Bibliography

Pediatric History and Physical Examination–University of Arizona. http://www.peds.arizona.edu/medstudents/Physicalexamination.asp.

Pediatrics Examination–ClinicalExam.com http://www.clinicalexam.com/pda/peds_exam.htm.