

Guideline on preterm growth charts

Introduction

In the National Maternal & Child Health Programme in Sri Lanka the WHO new growth standards for term babies have been incorporated into the Child Health & Development Record (CHDR) and used in the assessment of growth of children from birth to 19 years since year 2006. With the improvement of quality of services, the need of preterm growth charts to be used for the 5-7% preterm births occurring in Sri Lanka has been felt. Therefore on the recommendation of the Technical Advisory Committee on Newborn and Child Health (TACNCH), the Family Health Bureau jointly with the Sri Lanka College of Paediatricians decided to incorporate preterm growth charts developed by INTERGROWTH-21st study in to the growth monitoring component of the National Maternal & Child Health Programme.

INTERGROWTH-21st study was conducted by the University of Oxford, UK with the main aim of studying growth, health, nutrition, and neuro development of babies from less than 14 weeks of gestation up to 2 years of age. It was a multicentre, multi-ethnic, population-based project with the same conceptual framework as the WHO Multicentre Growth Reference Study (MGRS). It was conducted in eight study sites: the cities of Pelotas (Brazil), Turin (Italy), Muscat (Oman), Oxford (UK), Seattle (USA), Shunyi County in Beijing (China), the central area of Nagpur (India) and the Parklands suburb of Nairobi (Kenya).

Foetal Growth Longitudinal Study (FGLS) was one of the main components of the INTERGROWTH 21st project for which a cohort of pregnant “healthy” women according to the INTERGROWTH-21st criteria were enrolled before 14 weeks of gestation and followed up to 2 years after delivery. Pre-term infants (<37 weeks’ gestation) born to these FGLS women were enrolled in the Postnatal Preterm Follow-up Study [PPFS] and their growth was closely followed up to 2 years of age. The present pre-term growth charts were derived from this PPFS component of the INTERGROWTH-21st Project.

Preterm growth charts

Four charts are available for currently monitored growth indicators;

- i. Weight for age chart
- ii. Length for age chart
- iii. Weight for length chart
- iv. Head circumference for age chart

These are sex specific charts; the charts for male infants are printed in a blue back ground and for female infants in a pink back ground keeping in line with the existing term growth charts used in the CHDR.

The preterm charts are to be used till the infant is 6 months of age, from which point onwards the WHO new growth charts in the CHDR are to be used.

These four growth charts come as a set of two sheets printed on both sides (one chart per page) and an adhesive tape on the gutter side of one sheet. Once the CHDR is issued to the

infant, the preterm charts should be attached to it using this double sided adhesive tape immediately before the existing two sheets of growth charts for children under 5 years of age.

Logistics

Family Health Bureau of the Ministry of Health is responsible for printing of these growth charts. These charts are issued free of charge to the curative institutions (in both government and private sector) where deliveries take place. At no occasion should money be charged for issuing of these charts.

Family Health Bureau will directly issue these charts to the Line Ministry institutions island wide and private hospitals within Colombo district. The institutions under the provincial government and private hospitals in the other districts will be issued their requirement through Medical Officer (Maternal and Child health) attached to the RDHS of the District.

Note: Preterm growth charts will not be issued to Medical Officer of Health areas.

The number of growth charts to be issued to each and every hospital should be determined by the number of pre term births delivered in the hospital annually. When estimating the requirement for each hospital the number of preterm births (male and female separately) occurred in the hospital in the previous year should be calculated and 10% added as a buffer. If the male and female preterm births do not differ significantly the ratio of male : female preterm births can be considered as 50:50. Sex specific charts will be issued as per the required number (male – blue charts, female – pink charts).

The officer responsible to obtain CHDRs for the hospital (e.g. officer in charge of the general stores of the hospital) is responsible to obtain the required amount of preterm growth charts and to distribute them to the relevant units (PBU, NICU, SCBU, postnatal wards). The relevant hospital staff is responsible to renew the stocks to avoid a stock out.

The Consultant Neonatologist/ Consultant Paediatrician / Medical Officers of the relevant units as instructed by the consultant are to decide which infants need preterm growth charts. The preterm infants (aged 27 weeks and above) admitted to the newborn care facility for observation/management of complications should receive a set of these charts at the time they are admitted to PBU/NICU/SCBU etc. For preterm infants who do not require admission for such specialised management and are discharged should receive it along with the CHDR, at the time of issuing of CHDR from the postnatal ward.

At the time of discharge of the preterm infant, the unit staff should check and confirm that each preterm infant has received a set of preterm growth charts, with all the relevant entries made accurately and the charts attached to the CHDR correctly (immediately before the existing term charts for children under 5years).

In the event of losing the preterm growth chart a new set of charts should be issued by the hospital.

Maintaining records in the preterm growth charts

Identification details

The nursing officer who issues the charts should enter the basic identification details in the relevant cages; in the first page (weight for age chart) - name of the mother (and infant if available), name of the hospital, ward/unit number and also the date of birth, time of birth, gestational age at birth (USS corrected). The anthropometric measurements - birth weight, length and the head circumference of the newborn should also be entered in the relevant cages of the respective charts at the same time by the issuing officer.

Recording the measurements

The medical officer of the relevant units should plot the birth weight, length at birth, weight for length and the head circumference at birth against the period of gestation at birth (in weeks and days) when starting the charts. The birth date should be written vertically in the X axis against the plotted point of measurement at birth (birth weight, length at birth, head circumference at birth). Thereafter during follow up, each and every measurement of the baby should be plotted in the charts accurately against the age calculated in weeks and days.

In the field the PHM, after registering the baby should continue to monitor the growth of the baby according to the recommended schedule even when the baby is being followed up by the neonatologist/paediatrician. When the baby is weighed/ measured for length in the field setting the PHM should continue the chart and plot the measurements of weight and length against the exact age calculated in weeks and days. The relevant measurements should be entered in the B portion of the CHDR. The codes for each colour zone should be as for the 'term' charts in the CHDR. Routine measurement and recording of head circumference by PHM is not expected unless requested by a medical professional.

The preterm growth charts are to be used till the infant completes 6 months of age. From 6th month onwards the term charts of the CHDR should be used for the preterm babies.

References:

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