

Guideline on Establishing Nutrition Clinics in Medical Officer of Health areas

1. Introduction

Maternal and Child Nutrition is an integrated component of the national maternal and child health programme. Nutritional interventions for these target groups are mainly carried out in the field and maternal and child health (MCH) clinics of the MOH by the public health staff. However it has been noted that the health workers find it difficult to spend an adequate time for nutrition counseling (especially in combined and poly clinics) due to constraints such as lack of human resources etc.

Therefore the need of a special nutrition clinic has been felt especially to carry out targeted interventions at individual level (identifying problems unique to each individual correctly, giving specific instructions and plan and implement appropriate interventions) for selected clients by a Medical Officer of Health/ Additional Medical Officer of Health (MOH/AMOH). Thus by establishing nutrition clinics it is intended to attend to the nutritional problems faced by individual clients in a more targeted and effective manner.

This document is intended as a guideline to establish and conduct a nutrition clinic in Medical Officer of Health areas.

2. Location of the nutrition clinic and the number of sessions

- The number of clinic sessions conducted per month and the location of the nutrition clinic in the MOH area should be decided by the Medical Officer of Health together with other supervising officers, based on factors such as the total land area, terrain, population of the MOH area and the expected number of clients etc.

Each MOH area should have at least one nutrition clinic session per month and this should be conducted as a special clinic. But a more effective service would be provided if two clinic sessions per month are conducted, one day for pregnant mothers and children under the age of 5 years and another day for school age children and newly married couples.

- Supervising officers should decide on the time that should be allocated for a clinic session based on the number of clients.
- An afternoon session is preferable but depending on the factors specific to a given MOH area, the clinic can be held in a morning with the approval of the district supervising officers.
- Time of appointments should be given to the client at the time of giving the appointment according to a pre decided plan (e.g. infants and children 1.00 pm, antenatal mothers 2.00 pm, school age children 3.00 pm etc.). Supervising officers should plan this in such a way so as not to make the clinic overcrowded by giving too many appointments for a single day.

3. Referral to nutrition clinic

3.1 Referral to nutrition clinic from the local maternal & child health / preconception care clinic

Annex 1 shows the nutritional problems that should be referred from local MCH / preconception care clinics **to the nutrition clinic**. Only those clients whose nutritional problems are difficult to be managed and/or fail to improve at **the local MCH / preconception care clinic** should be referred to the nutrition clinic (see Table 1).

Table 1

Referral to nutrition clinic from the local MCH/preconception care clinic

Target group	Whom to refer	Relevant annex
Infants and children aged 1-5 years	Children with nutritional problems for whom interventions at MCH clinic failed/ were difficult to carry out*.	See annex 1 for further information.
School children	Children with nutritional problems identified at School Medical Inspection for whom interventions by healthcare staff failed/ were difficult to carry out**.	
Non school going children aged 5-19 years	Children with nutritional problems identified in the field for whom interventions by healthcare staff failed/ were difficult to carry out**.	
Newly married couples	Newly married women/men with nutritional problems identified at the local preconception care clinic for whom interventions failed/ were difficult to carry out.	
Pregnant mothers and lactating mothers	Mothers with nutritional problems identified at the local antenatal/postnatal clinics for whom interventions failed/ were difficult to carry out.	

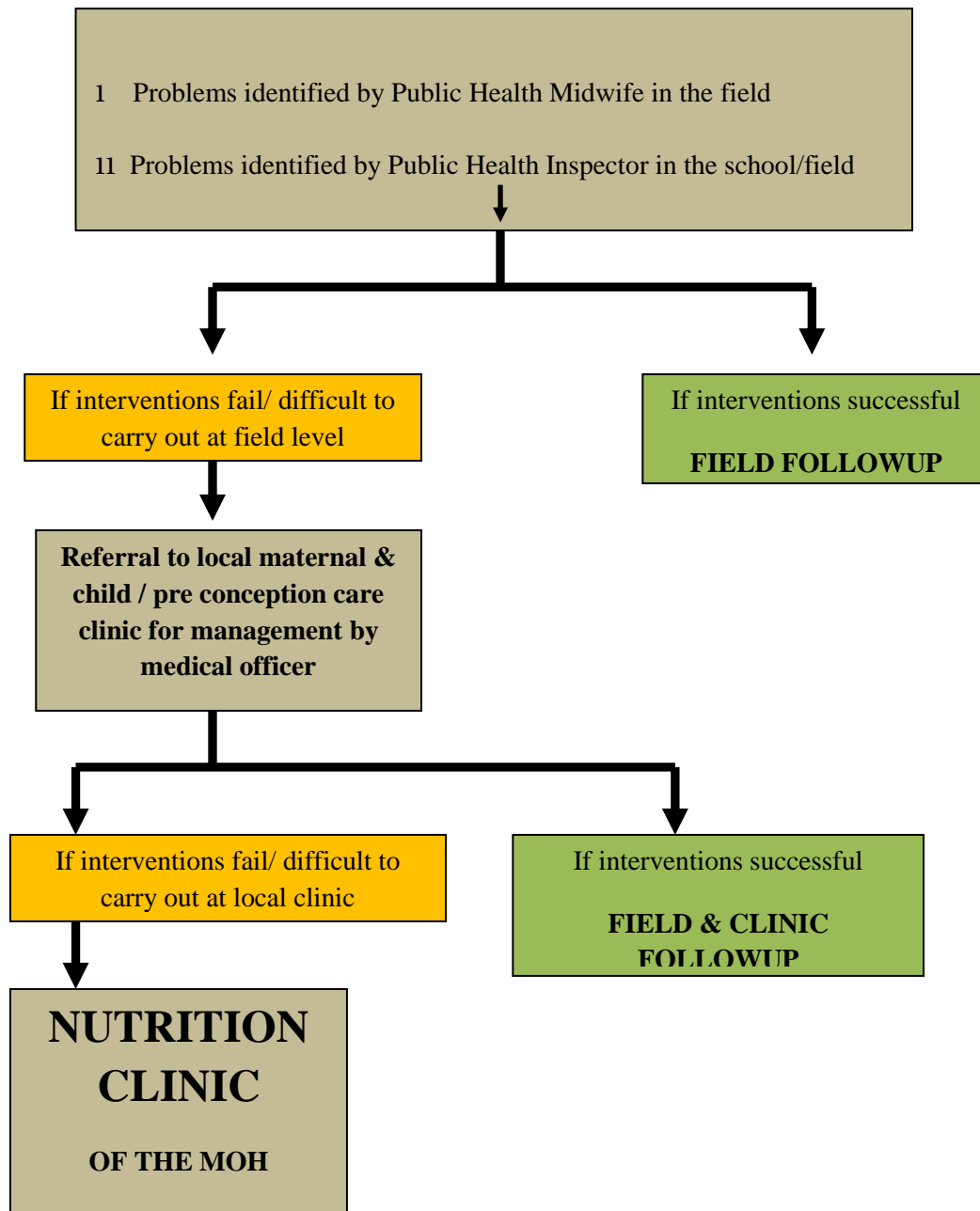
* Problems related to breastfeeding – any problem the PHM cannot solve has to be referred immediately to the nearest Lactation Management Centre or the MOH/AMOH as necessitated by the particular problem.

** Under 5 children with severe acute malnutrition (SAM) or obesity (weight for length/height > +3SD), children over 5 years with BMI <17 or >30 and those suspected as having severe anaemia should be referred to any clinic that falls on the closest date (could be a MCH, preconception care or nutrition clinic) to be examined by the medical officer and referred for specialized care.

3.2 Referral to nutrition clinic

Process of referral is as shown in Diagram 1 below;

Diagram 1 – Process of referral to nutrition clinic



- For all problems identified by her in the field the Public Health Midwife (PHM) and for those identified by him during the preparation for SMI/ in the field the Public Health Inspector (PHI) will carry out interventions at the point of identification, according to departmental circulars, guidelines and protocols. The school children with nutritional problems should be referred to the medical officer at the School Medical Inspection.
- During follow up if it is seen that these nutritional problems are not improving satisfactorily these clients should be referred to the local maternal and child/ pre conception care clinics for medical advice/interventions. In case of school children residing in a different MOH area such children should be referred to a clinic in the MOH area of residence of the child considering the convenience of child/ parents.
- At the local MCH clinic the medical officer will carry out necessary interventions for these service recipients (and/or make necessary referrals to specialized medical services, other counseling services, social welfare organizations etc.) and inform the field staff about how the follow up should be arranged. Accordingly the field officers will do relevant follow up and assess the success of interventions and refer back to the local MCH clinic again for further interventions if needed.
- If the medical officer conducting the local MCH clinic decides that it is difficult to carry out interventions at the local clinic or the interventions so far carried out have failed to improve the nutritional problem, only those clients should be referred to the nutrition clinic. See Annex 1 for those requiring referral to the nutrition clinic from local maternal and child/ preconception care clinic.
- When referring a client to the nutrition clinic, a brief summary highlighting the facts of importance including the problems identified, interventions carried out so far, the relevant details of the background of the client (including 6 key care practices*) should accompany the letter of referral; e.g. page for referrals or notes pages of the CHDR of a child can be used for this purpose.

(* 6 key care practices – feeding practices, practices related to cooking and storage of food, sanitation and hygienic practices, practices related to psycho social development, care for the female child and women – See Annex 2 for further details).

4. Services provided by the nutrition clinic

A summary of services provided by the nutrition clinic is given in Table 3. For further details refer to sections 4.1 to 4.11.

Table 3

Services provided by the nutrition clinic

	Activity	Responsibility
4.1	Issuing numbers Registration	PHM/PHI
4.2	Record maintenance (Clinic attendance register – H 517, Nutrition Clinic Register, clinic note book of the client etc.)	PHM/PHI
4.3	Taking relevant measurements needed for nutritional assessment and recording them – weighing, measuring length/height, calculating BMI, plotting measurements in growth charts and making relevant notes (e.g. in the CHDR, pregnancy record, preconception care card of the client, school health record, clinic note book of the client etc.)	PHM/PHI
4.4	Medical examination to identify morbidities during the first clinic visit (and on subsequent visits as necessary)	MOH/AMOH
	During the first clinic visit <ul style="list-style-type: none"> - Identifying the problem correctly <ul style="list-style-type: none"> - Detailed history (including 24 hour dietary recall, physical activity recall, food security, 6 key care practices) - Interpretation of nutritional indicators - Examine investigation reports such as FBC, Hb and other relevant reports - Deciding on the type of intervention needed, 	

	<p>implementation of the interventions (including counseling), deciding the type of follow up needed and making relevant notes</p> <ul style="list-style-type: none"> - Referring for specialized care as necessary - Prescribing treatment as and when required - Deciding on the date of next clinic visit and the future plan of management, making relevant notes on how the field follow up should be carried out. - Directing the client to the Public Health Nursing Sister- PHNS (or to Supervising Public Health midwife- SPHM in case of absence of PHNS) for arranging field follow up by informing relevant PHM/PHI. <p>During the subsequent clinic visits also these activities should be carried out as above when necessary.</p>	
<p>4.5</p>	<p>Follow up at subsequent clinic visits</p> <ul style="list-style-type: none"> - Assessing the results of the interventions carried out during the first visit - If no improvement is seen MOH/AMOH should assess the problems again and make necessary changes to the management plan and act accordingly. - If an improvement is seen direct the client to PHNS with specific instructions to carry out the next step in the management plan - Make relevant notes on the client's clinic note book on how the follow up at field level should be carried out. - Arranging for field follow up by informing relevant PHM/PHI - Discharging from the nutrition clinic the clients who have improved/ showing a good progress to be followed up at the local MCH/ preconception care clinic and instructing the clients on discharge. 	<p>MOH/AMOH</p> <p>PHNS as instructed by MOH/AMOH (when PHNS is not available SPHM)</p>

4.6	Issuing nutrition supplements (such as Thripasha, MMN) as prescribed	PHM/PHI
	Issuing drugs as prescribed and maintaining drug balance records	PHNS/PHI
4.7	Giving appointments for next clinic visit, informing relevant PHM/PHI on necessary field interventions	PHM/PHI
4.8	Updating all the clinic records including the Nutrition Clinic Register and the clinic summary at the end of the clinic session	PHM/PHI
	Entering nutrition clinic data into the Health Management Information System (HMIS)	

4.1 Registering the clients

All clients who attend the clinic should be entered in the Clinic Attendance Register (H 517) first. In addition to this a Nutrition Clinic Register should be maintained in the clinic for field/clinic follow up purposes.

The Nutrition Clinic Register should be maintained in a CR book with the following details (See Annex 3);

- 1- Serial number
- 2- Identification number
- 3- PHM area (School/ PHI area for non school going school age children)
- 4- Name
- 5- Age
- 6- Male/female
- 7- Address (with the name of the parent/caregiver in case of a child)
- 8- Telephone number
- 9- Nutritional problems identified
- 10- Action taken
- 11- Follow up visits (space required for several visits)
 - Date of next appointment, date of visit, progress, action taken
- 12- Date of discharge

On the date of first visiting the clinic, details from 1 to 8 should be completed for all clients. (The rest of the details from 9 to 12, should be completed before the client leaves the clinic on all clinic visits including the first day).

4.2 Making notes and record keeping (in clinic note books of the clients)

The identification number of each client should be recorded in the client's records; i.e. Child Health Development Record (CHDR) of a child, pregnancy record of a pregnant mother etc.

As space provided in the CHDR, pregnancy record etc. is inadequate to make all the clinical notes a separate record book (e.g. an exercise book) should be maintained. This note book has to be produced by the client at each visit to the nutrition clinic along with the CHDR, pregnancy record etc. and also when the client presents for other healthcare services.

On the first day of nutrition clinic at registration itself, the following information should be entered in the first page of the client's record book.

1. Serial number
2. Identification number
3. PHM area (School/ PHI area for non-school going school age children)
4. Name
5. Age
6. Male/female
7. Address (with the name of the parent/caregiver in case of a child)
8. Reasons for referral to nutrition clinic (as mentioned in referral letter/notes)
9. Nutritional problems identified

4.3 Obtaining and recording relevant measurements to assess nutritional status accurately

(Weighing, measuring length/height, assessing weight for height or BMI, checking for Hb%)

After registration, the next step is to obtain relevant measurements to assess the nutritional status of all the clients; i.e. weighing, measuring length/height, assessing weight for height or BMI (using the BMI chart), checking for Hb% .

- Measuring weight and length/height of children accurately – see annex 4
- Recording measurements of children accurately– see annex 5
- Identifying growth curves of children accurately - see annex 6
- Assessing nutritional status of school age children - see annex 7
- Assessing nutritional status of pregnant mothers
 - Weighing, measuring height, assessing BMI (using BMI chart) – see annex 8.1
 - Weight gain chart – see annex 8.2
- Maintaining instruments and calibrating – see annex 9

4.4 Medical examination

4.4.1 Medical examination to identify the presence of illnesses (compulsorily on the first visit and as required on repeat visits)

To assess whether the reason for the nutritional problem is secondary to a medical reason, a thorough medical examination should be carried out for all clients on the first visit which should include a detailed history, relevant physical and clinical examination, relevant laboratory tests etc.

4.4.2 Identifying the nutritional problem correctly on the first visit

This should be carried out by the MOH/AMOH as follows;

- Taking a detailed history (including 24 hour dietary recall, physical activity recall, food security at home, social history including 6 key care practices etc.)
- Interpretation of growth/nutrition related indicators (weight and length/height for age, weight for length/height) and the growth curve, interpreting BMI
- Interpreting Hb%, Full blood count and other relevant investigation reports
- Checking previous clinical records
- Perusing other records the client might be having

Determining the interventions and implementation (including counseling), and deciding on the type of follow up needed also should be carried out by the examining MOH/AMOH.

Maintaining proper records of these decisions and informing the PHNS to arrange necessary follow up by field officers is also the responsibility of the examining MOH/AMOH.

When the client is having a nutritional problem with a coexisting medical condition, the MOH/AMOH should attend to both problems and plan nutritional interventions along with management of the medical condition. If specialized advice/care is required they should be referred appropriately. For referrals use;

- The page for referrals in the CHDR of a child
- H 512 for pregnant mothers
- For a newly married female or male the referral section of the ‘Examination checklist for newly married couples’.

If any socio economic/psychosocial problems that can affect the nutritional status and not corrected/identified during previous interventions are identified the client should be referred for help from family counseling services, social services etc. as appropriate.

Prescribing drugs as and when required is a responsibility of the MOH/AMOH.

A record of growth/nutritional status, actions taken to correct it should be maintained in the client’s record book by the examining officers each time when they examine a client.

- Assessing the 24 hour dietary recall – see annex 10
- Interventions for growth problems of children under 5 years of age– see annex 11
- Physical activity recall for school age children – see annex 12
- Food security at household level– see annex 13
- Interventions for nutritional problems of a pregnant woman – see annex 14

On the first clinic day, after relevant examinations the diagnosis/nutritional problem identified should be written down in the first page of the client’s record book by the examining medical officer. This diagnosis should be entered in the Nutrition Clinic Register under the column for ‘nutritional problems identified’.

MOH/AMOH should decide on the follow up clinic visits (how frequently) future plan of management of the client according to the identified problem at the time of the first visit and even afterwards as required.

MOH/AMOH should determine the date of next clinic visit, and make notes in the client's record book on the follow up action required from the PHM/PHI(PHM/PHI) till the next clinic visit and then should refer the client to the PHNS (in case of her absence to the SPHM) to take necessary steps to arrange follow up by communicating with the area PHM/PHI.

4.5 Follow up of nutritional status during subsequent clinic visits

After preliminary measurements the client should be seen by the MOH/AMOH who should then assess the progress made by the client and then make necessary changes to the management plan.

If at least some progress is seen in the nutritional status or in a recommended behavior of the client, it should be recorded as progress '+'. A recommended behavior of the client can be a positive change in the feeding practices of a child or the type of food given etc. if no such positive change is seen in the feeding behavior/ growth/nutritional status, it should be recorded as progress '-'.

- If progress is satisfactory, the client should be praised for the progress made and then action should be taken to further correct the growth/nutritional status by correct and appropriate interventions implemented methodically.
 - As the next step identify the behaviours that should be changed further and advice accordingly.
 - Give a date for next clinic visit.
 - Can refer the client to the PHNS to be instructed in detail about the next step according to the plan of management. In case of absence of PHNS this can be delegated by MOH/AMOH to SPHM or SPHI as deemed suitable.
- If no progress at all, the MOH/AMOH should reassess and examine the client,
 - If there is no progress to be seen in the growth/nutritional status, see whether there is at least a small behavioural change made towards the recommended

practice and re plan the management accordingly. If all behavioural changes had taken place as recommended but no improvement at all is seen in the growth/nutritional status of the client after one month (or a reasonable time interval according to the specific problem) such a client should be referred for specialized care as appropriate (paediatric/ medical/surgical etc.).

- On follow up visits progress made so far and daily notes should be entered in the client's record books by the relevant officers.

The PHNS (or in her absence SPHM/SPHI) is responsible for arrangements to inform the respective field officers (PHM/PHI) about what she/he should do during field follow up of a client.

4.6

4.6.1 Issuing nutrition supplements (such as Thripasha, MMN) as prescribed

PHM/PHI is responsible for issuing nutrition supplements such as thripasha and micronutrients.

4.6.2 Issuing drugs as prescribed and maintaining drug balance records

When drugs prescribed by MOH/AMOH are issued to the client it should be entered in the Drug Balance Register along with the Identification number of the recipient (the client) by the PHNS. If the clinic for school age children is conducted on another date the PHI is responsible for this duty on that day.

4.7 Giving appointments for next clinic visit as recommended

Before the client leaves the clinic the date for next clinic visit (as recommended earlier) should be entered in the client's record book as well as the Nutrition Clinic Register. If the client is after a follow up visit, the progress the client had made (according to the clinical assessment carried out earlier) also should be recorded in the Nutrition Clinic Register by the PHM/PHI attending the clinic.

4.8

4.8.1 Updating all the clinic records including the Nutrition Clinic Register and the clinic summary at the end of the clinic session

See section 4.1 and annex 3 on how to update the Nutrition Clinic Register.

4.8.2 Entering nutrition clinic data into the Health Management Information System (HMIS)

At the end of each clinic, the Clinic Attendance Register (H 517) and the Clinic Summary (H 518) should be completed by the attending PHM/PHI, using data from the Nutrition Clinic Register on number attended the clinic (first visits and follow up visits separately) and the number discharged (each target group should be entered under the specific code letter). At the end of each quarter this information should be entered into the Quarterly Clinic Return (H 527) by the PHM/PHI who prepares it.

In addition to these data an assessment of the nutrition clinic should be carried out annually and these data should be entered in the Annual Data Sheet sent to the Family Health Bureau.

4.9 Arranging activities to stimulate a child's development for children who are waiting till their turn at the clinic

(Responsibility – PHM/PHI/Volunteer)

4.10 Discharge from the nutrition clinic

If the client's growth/nutritional status shows a steady improvement (two clinic visits showing progress) a client can be discharged from the nutrition clinic while informing the relevant PHM/PHI to follow up the client very vigilantly and having arranged to be followed up by a medical officer at the local MCH/pre conception care clinic. This should be strictly on the recommendation of the MOH/AMOH.

At the time of discharge, the plan of future management to maintain optimal growth/nutritional status has to be decided upon and informed to the client with necessary instructions (and recorded clearly in the client's record book).

Also this plan and the type of follow up needed should be communicated to the relevant PHM/PHI by the PHNS (or in her absence SPHM/SPHI).

When a client is discharged from the nutrition clinic it should be recorded with a clearly written 'D' in the client's record book. In the Nutrition Clinic Register the date of discharge of a client should be clearly recorded.

Note: If a client thus discharged presents again to the nutrition clinic referred by the local MCH/preconception care clinic due to a growth/nutritional problem he/she should be registered as a new client under a new Identification Number.

4.11 Follow up at field

The examining officer at the nutrition clinic should record in the client's record book what the client should do after a particular clinic visit and what the relevant PHM/PHI should do after seeing the client back in the field and also inform the client to show the record book to the relevant PHM/PHI without delay.

The relevant PHM/PHI should follow up his/her client and check if she/he attended the nutrition clinic and if so what instructions were given at the nutrition clinic and what is expected of the PHM/PHI to do in the field as follow up activities. For this the client's nutrition clinic record book and other clinic records should be checked including the Nutrition Clinic Register and obtain further information from the officers who attended that particular clinic (and from MOH/AMOH when necessary).

The PHMM and PHII should consider this follow up as a responsibility of their own. When they meet the client in the field, a note should be entered in the client's record book to confirm they have seen it and signed. The data from the nutrition clinic record books should be entered in the relevant office records maintained by the PHM/PHI (e.g. B portion of a CHDR of a child, B portion of the pregnancy record etc.).

Afterwards the PHM/PHI should carry out the necessary follow up and see whether the client is carrying out all the recommendations as instructed. The routine assessment of the nutritional status should also be carried out (e.g. in case of a child home visits, taking a 24 hour dietary recall to see whether it has been changed as recommended, weighing, measuring length/height if required etc.). Notes on this follow up should be entered in the regular records and returns of the PHM/PHI (e.g. diary or the pocket note book, B portion of the CHDR, pregnancy record B maintained by the PHM etc.). Also a summary of follow up activities and interventions carried out by the PHM/PHI should be recorded in the client's clinic record book.

5. Resources and facilities for a nutrition clinic

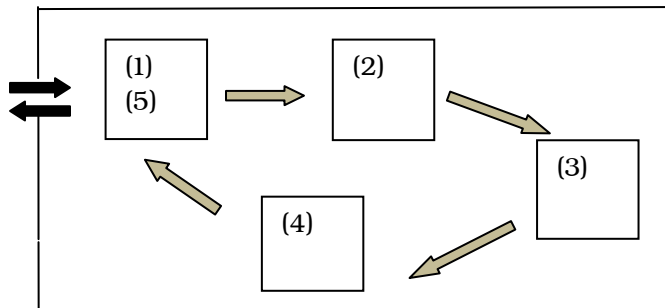
- Human resources

- MOH/AMOH – 01
- PHNS – 01 (If not available SPHM)
- PHM 02 (all PHMM should be assigned in roster for the nutrition clinic)
- PHI 01 (all PHII should be assigned in roster for the nutrition clinic)
- Volunteer

(The number of human resources can be increased according to the number of clients per day or other service requirements).

- Clinic organization

(1) Registration desk → (2) Waiting area → (3) Place of weighing/ measuring length/height, calculating BMI & checking Hb% → (4) Place of clinical examination and nutrition counseling → (5) Place of issuing drugs and giving appointment dates



- Equipment and drugs
 - Recommended instruments to measure weight, length, height etc.
 - Beam balance scale for infants
 - Spring balance scale for older children
 - Adult beam balance scale
 - (These equipment should be calibrated and checked regularly for accuracy of measurements using the standard weight sets)
 - Length board and height rod/board
 - BMI chart for pregnant mothers and adults
 - Booklet with growth curves for children above 5 years of age - Assessment of Nutritional Status of School Children: Reference growth Charts
 - Haemoglobinometer
 - Nutritional supplements and micronutrients
 - Thriposha
 - Vitamin A megadose
 - Iron tablets/ iron folate tablets
 - Folic acid tablets
 - Vitamin C tablets
 - Calcium tablets
 - Multiple micronutrient sachets (in districts where the MMN supplementation programme is conducted)
 - Worm treatment (mebendazole)
 - Zinc syrup/tablets (as needed)
 - Iron syrup (as needed)
 - Drugs (see annex 15)
 - Records and registers
 - Clinic Attendance Register (H 517)
 - Clinic Summary (H 518)
 - Nutrition Clinic Register
 - Drug Balance Register

- IEC material (for individual counseling)
 - Flash card set on breastfeeding
 - Set of 5 booklets on breastfeeding
 - Flash card set on complementary feeding
 - Flash card set for PHMM on growth monitoring and promotion of children
 - Set of wall charts on complementary feeding
 - Leaflet on complementary feeding
 - Flash card set on nutrition for youth
 - Flip charts on nutrition in pregnancy
 - Other latest available IEC material on nutrition

- Books and documents for reference

E.g.

- Food based dietary guidelines for Sri Lanka
- Maternal care – handbook on maternal care for PHMs
- Severe Acute Undernutrition - Manual for Health Workers in Sri Lanka
- Sri Lanka Code for Promotion, Protection and Support of breastfeeding and Marketing of Designated products
- Handbook for healthcare staff on provision of preconception care services
- “Sonduru Kedellakata Suvahasak Subha Pethum”
- Nutrition related circulars and guidelines on maternal and child health

Child Nutrition

- Protocol on Managing Nutritional Problems among Under Five Children In the Community: General Circular No – 02 – 18/2008
- Guidelines on Infant and Young Child Feeding (2007)
- Vitamin A Mega dose Supplementation – Revised Schedule: General Circular No – 01- 05/2009
- Guidelines on De-Worming Children and Pregnant Women in community Setting: 2013- 2016: General Circular No – 02- 172/2012
- Zn Supplementation in Managing Diarrhoea among Children under Five Years of Age: General Circular No – 02-161 /2013
- Implementation of the Sri Lanka Code for the Promotion, Protection and Support of Breast Feeding and Marketing of designated products: General Circular No – 01-15/2012

- Guideline for feeding infants and preschool children (1-5 years) including orphans and those not living with mothers during an emergency situation
- Support and Ensure Appropriate and Adequate Infant Feeding during Emergencies: General Circular No – 01 – 11/2009
- General Circular No – 01 – 48/2012: Facilitation on Practice of National Infant and Young Child Feeding (IYCF) Recommendations on Breastfeeding within Health Institution: Establishment of Breastfeeding Rooms

Maternal nutrition

- General circular 02-85/2014 on Antenatal care
- General circular 02-84/2014 on Postnatal care

Nutrition of the school age child

- General circular 02-08/2007(01) on Weekly Iron Folate Supplementation (WIFS) of School Children implemented from year 2013

Other

- List of essential drugs for MOH Offices: General circular no. 02-27/2011

6. Roles and responsibilities of officers attending the nutrition clinic

6.1 Public Health Midwife

- Welcoming the clients (along with the PHI) and issuing numbers (can get the support of a volunteer for this activity)
- Registration of clients
- Maintaining relevant records and registers (especially on registration and when the client is leaving the clinic)
 - Clinic Attendance Register (H 517)
 - Clinic Summary (H 518)
 - Clinic record book of the client and other records
 - Nutrition Clinic Register

- Assessing nutritional status
 - Weighing and measuring length/height
 - Assessing weight for length/height or BMI
 - Plotting the measurements in relevant charts and making relevant notes
 - Checking Hb% when required (as recommended for maternal and child health clinics in the field)
 - Referring the clients to the MOH/AMOH after the assessment of growth/nutritional status
- Issuing nutritional supplements to the relevant target groups according to the circulars/guidelines/instruction of MOH/AMOH.
- Issuing micronutrients as prescribed by MOH/AMOH.
- Giving dates for next clinic visit as recommended by the MOH/AMOH.
- Informing the relevant area PHM (with the assistance of PHNS through a telephone call, at the local clinic or during a monthly or local conference) when MOH/AMOH decides that a field follow up is needed for a client.
- Arranging activities to stimulate a child's development for the children who are waiting till their turn at the clinic (can obtain the support of volunteers for this activity).
- Giving relevant information to queries of clients
- Any other responsibility assigned by MOH/AMOH

Follow up at field by area PHM

- The area PHM should inquire after the clients who were referred to the nutrition clinic from her field and see whether they attended the nutrition clinic. She should see whether the client is carrying out the recommendations received at the nutrition clinic and maintain appropriate records of those in her diary and other relevant registers.
- When the growth/nutritional status is progressing well/ has become normal and the client is discharged from the nutrition clinic, the area PHM should carry out field follow up as instructed in the nutrition clinic. E.g. continuous follow up is a must for children at the maternal and child health clinic, field weighing centers and by field visits to assess the success of the interventions.

6.2 Public Health Inspector

- Welcoming the clients (along with the PHM) and issuing numbers (can get the support of a volunteer for this activity)
- Registration of clients
- Maintaining the relevant records and registers (especially on registration and when the client is leaving the clinic)
 - Clinic Attendance Register (H 517)
 - Clinic Summary (H 518)
 - Clinic record book of the client and other records
 - Nutrition Clinic Register
 - Drug Balance Register
- Assessing nutritional status
 - Weighing and measuring height of the school age children
 - Assessing BMI
 - Plotting the measurements in relevant charts and making relevant notes

This should be done according to the instructions given in relevant guidelines etc.
 - Checking Hb% when required (as recommended for maternal and child health clinics in the field)
 - Taking the 24 hour dietary recall, physical activity recall and information on food security at household level from school age children after discussing with parents and children
 - Referring the clients to the MOH/AMOH after the assessment of growth/nutritional status etc.
- Issuing nutritional supplements to the relevant target groups according to the circulars/guidelines/instruction of MOH/AMOH.
- Issuing drugs and micronutrients as prescribed by MOH/AMOH.
- Educating school age children and their parents on 24 week iron folate supplementation.
- Giving dates for next clinic visit as recommended by the MOH/AMOH.

- Informing the relevant area PHI (with the assistance of PHNS through a telephone call, during a monthly or local conference) when MOH/AMOH decides that a field follow up is needed for a client.
- Any other responsibility assigned by MOH/AMOH

Follow up at field by area PHI

- The area PHI should inquire after the clients who were referred to the nutrition clinic from his field and see whether they attended the nutrition clinic. He should see whether the client is carrying out the recommendations received at the nutrition clinic and maintain appropriate records of those in his pocket note book and other relevant records/ registers. If field follow up of a girl child is required he can request support from the area PHM.
- When the growth/nutritional status is progressing well/ has become normal and the client is discharged from the nutrition clinic, the area PHI should carry out field follow up as instructed in the nutrition clinic. E.g. continuous follow up is a must for them to assess the success of the interventions.

6.3 Supervising Public Health Inspector

- Supervising the Public Health Inspectors
- Assessing and updating the knowledge and skills of PHIs on weighing, measuring height and calculating BMI etc.

6.4 Supervising Public Health Midwife

- Covering up for the Public Health Nursing Officer when she is not available in the nutrition clinic.
- Supervising PHMs.
- Assessing and updating the knowledge and skills of PHMs on growth/ nutritional status assessment, monitoring and promotion and nutrition.

6.5 Public Health Nursing Sister

- Ensuring proper management of the nutrition clinic and supervision.
- Assessing and updating the knowledge and skills of PHMs on growth/ nutritional status assessment, monitoring and promotion and nutrition.
- For clients on follow up clinic visits, giving advice on nutrition as instructed by MOH/AMOH.
- Arranging to inform relevant PHM/PHI on the field follow up of those clients for whom field follow up is planned and ensuring that the follow up is carried out as instructed.
- Issuing drugs as prescribed and maintaining Drug Balance Registers.
- Informing relevant field officers (PHM/PHI) of the follow up needed by clients who are discharged from the nutrition clinic.

In addition to the nutrition clinic activities;

- Ensure that the nutrition clinic referral is carried out as planned and the field follow up of clients who attend the nutrition clinic is being carried out as instructed.
- Assisting MOH/AMOH to monitor the nutritional/growth status of infants, children aged 1-5 years, school age children, pregnant/lactating mothers under care and newly married couples of all the PHMs in her area.
- Improving the knowledge and communication skills of PHMs in nutrition education is very important (especially in communicating with adolescents) and therefore need to supervise this aspect more and improve their skills. Can also obtain the support of Health Education Officers for this activity.

6.6 Medical Officer of Health/ Additional Medical Officer of Health

- Medical examination and problem identification of all the clients at the first visit and follow up visits to the nutrition clinic.
- Determining the interventions and the management plan, implementation (including counseling) and deciding on the type of follow up at field if required – for first and repeat visits to nutrition clinics

- When a client is having a nutritional problem with a coexisting medical condition, carrying out nutritional interventions suiting both conditions and referral to medical specialists when necessary.
- Prescribing drugs as required.
- Informing the PHNS of the clients who need special advice and giving necessary information to the PHNS on what advice to give the client. Informing PHNS of the clients for whom field follow up should be arranged.
- Deciding on when a client is to be discharged from the nutrition clinic.

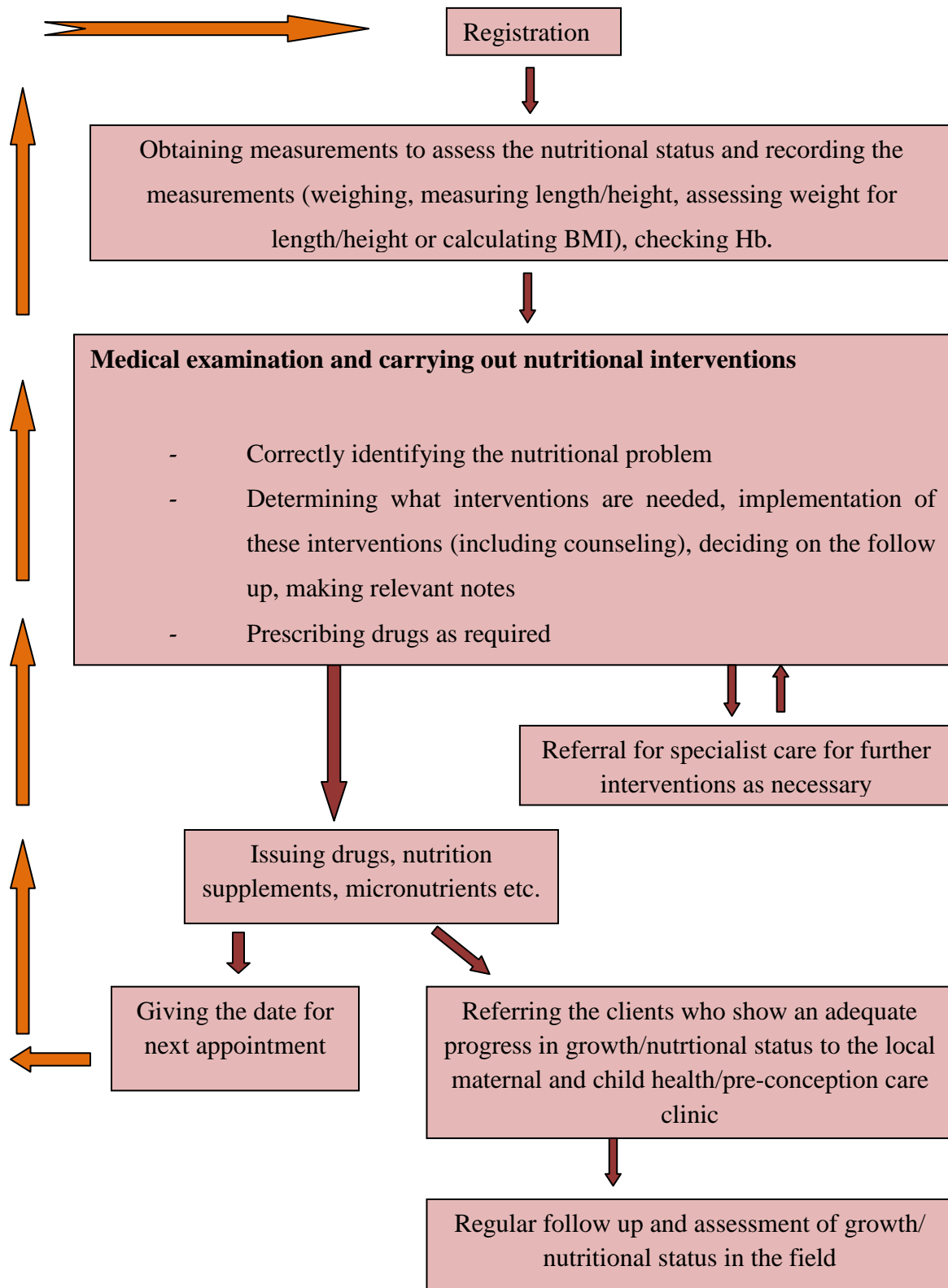
In addition to the nutrition clinic activities;

- Supervising the whole programme, analysis of data ensuring the quality of data and utilizing these data for programme planning; i.e. reviewing the nutritional problems of the MOH area, identify reasons for these problems at PHM area level, determining on interventions, implementing the interventions, identify the training needs of the staff and training the staff of MOH area, obtaining necessary equipment, assigning officers etc.
- Strengthening knowledge and skills of the staff on nutrition (e.g. communication skills) by continuous vigilance/supervision and arranging training programmes for them. Can obtain the support of Health Education Officers for this.

7. Evaluation of nutrition clinic performance

All supervising officers (AMOH, PHNS, SPHI, SPHM) with the guidance of MOH should review the nutrition clinic activities every three months. The public health team should be made aware of their performance and nutrition clinic activities improved according to the findings of this assessment.

Summary – Care provided at the nutrition clinic for a client referred with a nutritional problem



Annex 1

Nutritional problems that should be referred from local MCH / preconception care clinics to the nutrition clinic

1.1 Infants and children aged 1-5 years

Nutritional problems that should be referred from field health care staff to local MCH / preconception care clinics are shown in the following table. **Only those clients whose nutritional problems are difficult to be managed and/or fail to improve at this level should be referred to the nutrition clinic.**

	Zone of growth according to the CHDR	Problem
1	Children whose growth is in the +2SD to -1 SD zone (green zone) of the weight for age chart of the CHDR	<ul style="list-style-type: none"> • The first instance a drop in weight is detected* • Weight for age curve shifting from the green zone to the light green zone/orange zone • A child whose weight for age curve was in the upper part of the green zone and faltered later and now in a lower level than earlier even though the growth curve is now running parallel to the standard growth curves • Longstanding growth faltering (during 3 consecutive weighings) (e.g. children who came from other areas)* • The reason for growth faltering being/suspected to be due to an underlying illness/health problem • PHM cannot identify the cause for growth faltering • PHM feels she is unable to manage the identified problem • No improvement in weight one month after implementing interventions • Weight for age rising steeply within a short period and crossing standard growth curves (for children who had been growing normally)**
2	Children whose growth is in the -1SD to -2 SD zone (light green zone) of the weight for age chart of the CHDR	<ul style="list-style-type: none"> • The first instance a drop in weight is detected* • Weight for age curve shifting from the light green zone to the orange zone • Growth faltering with inadequate weight gain or no weight gain, of a child whose weight for age curve is in the light green zone

		<ul style="list-style-type: none"> • A child whose weight for age curve was in the upper part of the light green zone and faltered later and now in a lower level than earlier even though the growth curve is now running parallel to the standard growth curves • Longstanding growth faltering (during 3 consecutive weighings) (e.g. children who came from other areas)* • The reason for growth faltering being/suspected to be due to an underlying illness/health problem • PHM cannot identify the cause for growth faltering • PHM feels she is unable to manage the identified problem • No improvement in weight one month after implementing interventions • Weight for age rising steeply within a short period and crossing standard growth curves (for children who had been growing normally)**
3	Children whose growth is below the -2 SD growth curve (orange/red zone) of the weight for age chart of the CHDR	<ul style="list-style-type: none"> • On identification, these children (e.g. low birth weight babies, underweight children who have come to the area from other areas) should be referred to the MOH for an assessment of growth. • Growth faltering in a child growing in the orange/red zone should be considered as an emergency and referred at once. • Weight for age rising steeply within a short period and crossing standard growth curves (for children who had been growing normally)**
4	Children whose growth is above the +2 SD growth curve (purple zone) of the weight for age chart of the CHDR	<ul style="list-style-type: none"> • On identification all children growing in the purple zone should be referred immediately**
5	In the length/height for age chart	<ul style="list-style-type: none"> • Children whose length/height is in orange/red zones • If the length/height for age curve of a child is not growing parallel to the standard curves (inadequately rising/ not rising at all / steeply rising curve)
6	Children who fall below -2SD curve in the weight for length/height chart	<ul style="list-style-type: none"> • Moderate wasting/ moderate acute malnutrition (orange zone; between -2SD and -3SD) • Severe wasting/ severe acute malnutrition (red zone; below -3SD) – these children should be immediately referred by the medical officer at the local MCH clinic to the paediatrician for therapeutic feeding.

7	Children who fall above +1 SD curve in the weight for length/height chart	<ul style="list-style-type: none"> • Risk of overweight (between +1 SD and +2 SD) • Overweight (> +2 SD) • Obesity (> + 3 SD) - these children should be immediately referred by the medical officer at the local MCH clinic to the paediatrician.
8		<ul style="list-style-type: none"> • When micronutrient deficiencies are suspected (e.g. Vitamin A deficiency, anemia)

* For these children, the weight for length/height should be checked and acted as mentioned under No. 06 of this table.

** For these children, the weight for length/height should be checked and acted as mentioned under No. 07 of this table. Children showing catch up growth seen after an illness are not included in this category and do not need referral.

The instances when weight for length/height should be assessed –

1. the first instance when a drop in weight for age is identified
2. Inadequate weight gain or no weight gain in 3 consecutive weighings
3. Moderate and severe underweight (all children whose weight for age falls below -2 SD)
4. 'Overweight' –children whose weight for age is more than +2SD

1.2 School children

School children whose BMI is more than 30 or less than 17 and those who are suspected of having severe anaemia should be sent to any clinic which falls on the nearest day to be examined by a medical officer and referred for specialist care.

	Zone of growth	Problem
1	Children whose growth is below – 2 SD curve (orange /red zones) of the BMI for age chart of the 5-19 year old children of the CHDR	Wasting –If no improvement is seen 3 months after interventions
2	Children whose growth is between + 1 SD and + 2 SD curves (light purple zone) of the BMI for age chart of the 5-19 year old children of the CHDR	Overweight - If no improvement is seen 3 months after interventions
3	Children whose growth is above + 2 SD curves (dark purple zone) of the BMI for age chart of the 5-19 year old children of the CHDR	Obesity - If no improvement is seen 3 months after interventions
4		Clinically identified anaemia – immediately on identification should be referred to the clinic with a Full Blood Count Report.
5		When any other micronutrient deficiencies are suspected (e.g. Vitamin A deficiency, Thyroid enlargement).

1.3 Children between non-school going children aged 5-19

Children whose BMI is more than 30 or less than 17 and those who are suspected of having severe anaemia should be sent to any clinic which falls on the nearest day to be examined by a medical officer and referred for specialist care.

	Zone of growth	Problem
1	Children whose growth is below -2 SD curve (orange/red zones) of the BMI for age chart of the 5-19 year old children of the CHDR	Wasting – Immediately on identification, these children should be referred to the MOH for an assessment of growth
2	Children whose growth is between $+1$ SD and $+2$ SD curves (light purple zone) of the BMI for age chart of the 5-19 year old children of the CHDR	Overweight - Immediately on identification, these children should be referred to the MOH for an assessment of growth
3	Children whose growth is above $+2$ SD curves (dark purple zone) of the BMI for age chart of the 5-19 year old children of the CHDR	Obesity - Immediately on identification, these children should be referred to the MOH for an assessment of growth
4		Clinically identified anaemia – immediately on identification should be referred to the clinic with a Full Blood Count Report.
5		When any other micronutrient deficiencies are suspected (e.g. Vitamin A or B deficiency, Thyroid enlargement).

1.4 Pre pregnant women

	BMI	Problem
1	Women with pre pregnancy BMI of less than 18.5 or 30 or more	Women who do not show a satisfactory improvement after interventions carried out at the pre-conception care clinic.
2		Uncorrected anaemia
3		When any other micronutrient deficiencies are suspected (e.g. Vitamin deficiencies like A or B deficiency, Thyroid enlargement).

1.5 Pregnant women and lactating mothers

	BMI/ weight gain	Problem
1	Pregnant women with pre pregnancy BMI of less than 18.5 or 30 or more	Women who do not show a satisfactory improvement after interventions carried out at the local MCH clinic and the field.
2	Pregnant women whose weight gain during pregnancy is not satisfactory	<ul style="list-style-type: none"> • Pregnant women who do not achieve the desired weight gain according to the BMI • Pregnant women whose weight gain curve is shifting from the zone recommended for her to another zone (a zone above or below) • Lactating mothers with BMI less than 18.5
3		Uncorrected anaemia
4		When any other micronutrient deficiencies are suspected (e.g. Vitamin deficiencies like A or B deficiency, Thyroid enlargement).

Annex 2

6 Key Care Practices for Health and Nutrition

- Feeding practices
- Care for food preparation and storage
- Care for hygiene and sanitation
- Home health practices
- Psychosocial care
- Care for girls and women

The following aspects should be looked into and appropriate health practices encouraged;

Feeding practices	
Age from 0-6 completed months	<ul style="list-style-type: none">• Receiving exclusive breastfeeding• Problems or difficulties experienced in breastfeeding• Using bottle to feed liquid foods
After starting complementary foods	<ul style="list-style-type: none">• Problems experienced in giving complementary food• Adequacy of the quality and quantity of complementary food• Problems encountered in continuing breastfeeding• Responsive feeding practices• How mother reacts to the baby (whether positive or negative)• Feeding the baby during illness• If the child is attending a day care center or a preschool feeding practices of that establishment

Care for food preparation and storage	
	<ul style="list-style-type: none">• Hygienic preparation and storage of food• Cleanliness, hygiene and safety of the kitchen compartment

Care for hygiene and sanitation	
	<ul style="list-style-type: none">• Access to clean drinking water and proper storage• Cleaning after baby passes stools or urine• Methods of discarding stools, soiled items and other garbage• Cleanliness inside the house and its environment (including bathing place and the toilet)• Safety inside and out of the house (ensuring it is free of accidents)• Tidiness of the child's appearance and clothing

Home health practices	
	<ul style="list-style-type: none"> • Hygienic practices during an illness (cold, cough, diarrhea, fever etc.) • Feeding during illness

Psychosocial care	
	<ul style="list-style-type: none"> • Mother, father or caregiver showing the baby feel that they love him/her • Providing the child with play things and whether the child is allowed to play with them • Giving the child opportunities for psychosocial development during day to day activities • Praising child's abilities and accepting what the child manages to do well • Providing the child with adequate learning opportunities from within the home • Avoiding from scolding the child or giving corporal punishment • Having a safe environment for play • Mother knowing of the importance of growth monitoring and follow up and encouraging the child for good psycho social development • Being free of domestic violence • Safety from child abuse

Care for girls and women	
	<ul style="list-style-type: none"> • Ensuring nutrition during pregnancy • Ensuring nutrition during lactation • Support for pregnant mother / lactating mother in domestic work (e.g. help from father etc. in carrying water from the well, cutting firewood, lifting heavy weights) • Ensuring that the mother is happy and free from mental stress
	<ul style="list-style-type: none"> • Parents treating boys and girls equally in <ul style="list-style-type: none"> ○ Feeding and nutrition ○ Playing at home ○ Playing with neighbours ○ Interacting with visitors ○ Attending pre school ○ Attending school ○ Buying things (clothes, shoes, books etc.) ○ Punishment given ○ Age of marriage/ being allowed to get married without parental consent/ dowry/ virginity
	<ul style="list-style-type: none"> • Allowing for female contribution in taking important decisions such as <ul style="list-style-type: none"> ○ Buying or selling property ○ Building a new house ○ Deciding on suitable schools for children ○ Seeking medical treatment <p style="text-align: center;">etc.</p>

Annex 3

Nutrition Clinic Register

This register should be maintained in a CR book which should be divided into sections according to the number of target groups. The number of pages required for each target group should be decided by the estimated number of clients from each category in the MOH area. The pages should be ruled according to the following format.

Page 1

Serial No.	Id. No.	PHM area/ School*	Name of the client	Address**	Age	Male/ Female	T. phone number	Problems identified	Action taken
1									
2									
3									
4									
5									

Page 2

Follow up clinic visit 1			Follow up clinic visit 2			Follow up clinic visit 3			Date of discharge from clinic
Date of appointment	Progress +/-	Action taken	Date of appointment	Progress +/-	Action taken	Date of appointment	Progress +/-	Action taken	
Date of visit			Date of visit			Date of visit			

*PHI area children who do not attend school

**Name of the caregiver in case of a child

Instructions to fill the register

- 1- Serial Number
- 2- Identification number –Code/Serial Number
(e.g. C 8)

The Codes should be as follows;

Target group	Code
Pregnant women	P
Lactating mothers	L
Child under 5 years of age	C
School child	S
School age child not attending school	A
Eligible couples	E

- 3- PHM area/School (For school age children not attending school, enter the PHI area)
- 4- Name
- 5- Address (with the name of the parent/caregiver in case of a child)
- 6- Age
- 7- Male/Female
- 8- Telephone number
- 9- Problems identified – Nutritional problems identified
(E.g. XO, XX etc. in a child).

- 10- Action taken
- 11- Follow up clinic visits (need to provide space for several visits)

- The date of appointment
(the date given for the next appointment should be entered before the client leaves the nutrition clinic)
- The date of visit
(the actual date of the client's follow up visit to the clinic should be filled on the day of the visit on registration)
- Progress +/-
Progress + →if there is at least some progress in the growth/nutritional status or in a recommended behavior change
Progress - →if there is no progress at all in growth/nutritional status or in a recommended behavior change

- Action taken

- 12- The date of discharge from clinic – The date of discharge from the nutrition clinic should be written very clearly.

Annex 4

Measuring weight and length/height of children under the age of 5 years

All children who attend the nutrition clinic should be weighed and measured for length/height. Then their weight for age, length/height for age and weight for length/height should be assessed.

1. Weighing

The beam balance scale should be used for infants under 6 months of age and for infants older than 6 months either the beam balance scale (till about 1 ½ years of age) or the spring balance scale can be used.

1.1 Steps in measuring weight using the beam balance scale

- Before starting to take the measurement make sure that the instrument is working properly.
- Assemble all the parts of the scale as recommended.
- Place the assembled scale on a table in a well lighted place. The scale placed on the table, should be at the measurer's eye level when seated in front of it.
- Spread a thin sheet on the tray of the scale and bring the reading to 0.
 - Bring parts D and E to 0.
 - Then move part A (the part with a screw) till parts B and C are at the same level. Then turn the screw to tighten it.



- Remove the clothing of the baby with the mother's support and place the baby on the tray.
- First, move part D towards the right side according to the likely weight (in kilo grams).
- Then move part E towards the right side till parts B and C are at the same level.
- When parts B and C are at the same level pull the L lock down and stop the balance from moving.

- Read the measurement accurately (at eye level) while sitting in front of the scale.
- Immediately on taking the reading, record this measurement in the growth record of the B portion of the child's CHDR. Then plot this measurement in the weight for age graph in the CHDR A portion and interpret the measurement according to the zone and the direction of the growth curve. Then record the relevant code again in the column provided for recording of the code in growth record of the B portion (the particular code for the zone in which the measurement falls and whether there is growth faltering according to the direction of the curve).

1.2 Steps in measuring weight using the spring balance scale



- Before starting to take the measurement make sure that the instrument working properly.
- Hang the scale securely with the face of the scale at the measurer's eye level.
- Then hang the trouser (used to measure the child) and balance the scale to 0.
- Dress the child with minimal clothing and then the trouser (already balanced) and then hang the child on the scale with the support of the mother.
Infants should be weighed with no clothing at all and children over 1 year of age with light underclothing only).
- If in a cold climate can wrap the baby with a blanket but this blanket has to be balanced first (as done with the trouser).
- Make sure that the child's feet are not touching the floor once the child is hung onto the scale.
- As soon as the pointer stops moving, read the measurement accurately.
- Immediately on taking the reading, record this measurement in the growth record of the B portion of the child's CHDR. Then plot this measurement in the weight for age graph in the CHDR A portion and interpret the measurement according to the zone and the direction of the growth curve. Then record the relevant code again in the column provided for recording of the code in growth record of the B portion (the particular code for the zone in which the measurement falls and whether there is growth faltering according to the direction of the curve).
- Please note that if the reading is not recorded at once after getting the measurement, inaccuracies in recording are liable to occur.

2. Measuring length/height

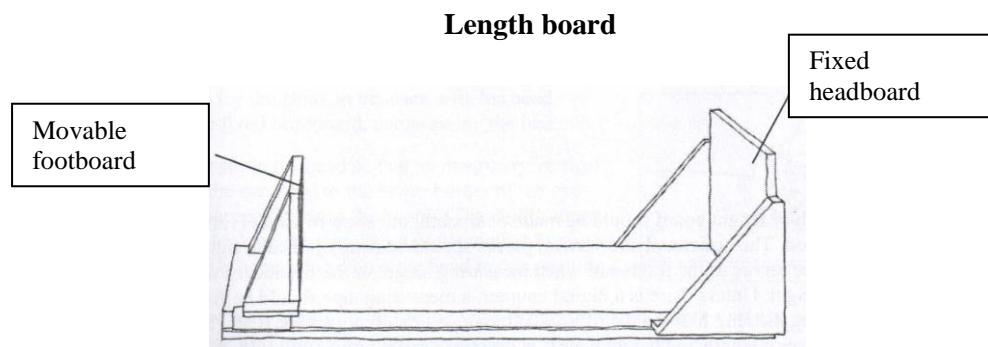
Depending on the child's age and ability to stand, measure the child's length or height. A child's length is measured with the child lying down (recumbent). Height is measured standing upright.

- If a child is less than 2 years old, measure recumbent length.
- If the child is aged 2 years or older and able to stand, measure standing height.

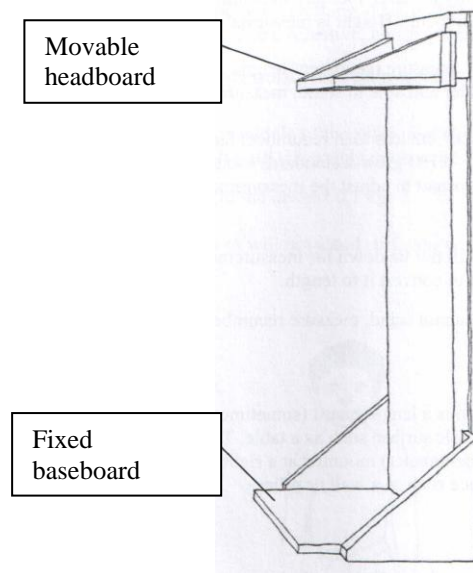
In general, standing height is about 0.7 cm less than recumbent length. This difference was taken into account in developing the WHO growth standards used to make charts in the CHDR. Therefore, it is important to adjust the measurements if length is measured instead of height and vice versa.

- If a child less than 2 years old will not lie down for measurement of length, measure standing height and **add 0.7 cm** to convert it to length.
- If a child aged 2 years or older cannot stand, measure recumbent length and **subtract 0.7 cm** to convert it to height.

Equipment needed to measure length is a length board (sometimes called an infantometer) which should be placed on a flat, stable surface such as a table. To measure height, use a height board (sometimes called a stadiometer) mounted at a right angle between a level floor and against a straight, vertical surface such as a wall or a pillar.



Height board



Different types of equipment may be used for measuring length or height from time to time, but the basic steps in length or height measurements are the same for all these equipment. The manual provided with the instrument should be used as a guide to assemble the parts in the correct manner and take measurements accurately.

2.1 Preparing a child to measure length/height

It is advisable to measure a child for length/height as soon as you finish weighing and the child still remains undressed. Therefore it is important to prepare the child both for weighing and measuring length/height before weighing, to avoid delay between the measurements.

Before measuring length/height, check again to see whether the child's socks and shoes, hair braids, ribbons and ornaments that would interfere with length/height measurements are removed.

If a child was weighed without any clothing, dress the child with the nappy to avoid the child from wetting himself. If there is a cold climate and it would take sometime to measure length/height after weighing, wrap the child in a blanket. However, especially with young children whose length is measured, it is important to move quickly and surely from the scale to the length board to avoid upsetting a child.

Mother/caregiver's help and support is needed in measuring length/height and in soothing and comforting the child during the procedure. Explain to mother why the measurement is taken and the steps in the procedure. If she has any queries, answer them. Show and tell her how she can help in taking the measurement. Explain that it is important to keep the child still and calm.

2.2 Measuring the length

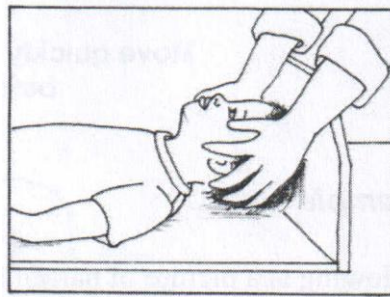
Cover the length board with a thin cloth or soft paper for hygiene and the baby's comfort.

Explain to mother that she will need to place the baby on the length board herself and then help to hold the baby's head in place while you take the measurement. Show her where to stand

when placing the baby down, i.e. opposite you on the side of the length board away from the tape. Also show her where to place the baby's head (against the fixed headboard) so that she can move quickly and surely without distressing the baby.

When the mother understands your instructions and is ready to assist;

- Ask her to lay the child on his back with his head against the fixed headboard, compressing the hair.
- Quickly position the head so that an imaginary vertical line from the ear canal to the lower border of the eye socket is perpendicular to the board; i.e. the child's eyes should be looking straight up. Ask the mother to move behind the headboard and hold the head in this position.

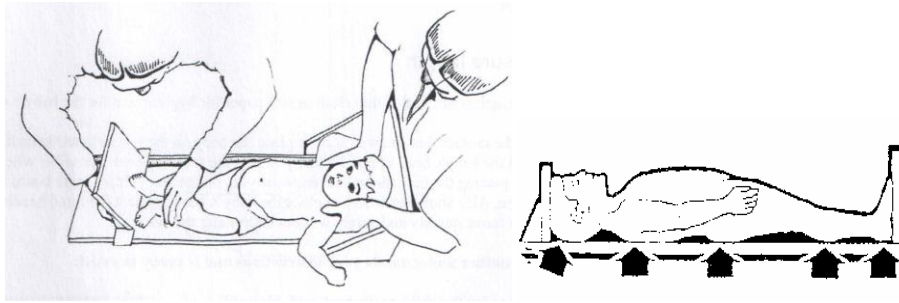


Speed is important. Standing on the side of the length board where you can see the measuring tape and move the footboard;

- Check that the child lies straight along the board and does not change position. Shoulders should touch the board, and the spine should not be arched. Ask the mother to inform you if the child arches the back or moves out of position.
- Hold down the child's legs with one hand and move the footboard with the other. Apply gentle pressure to the knees to straighten the legs as far as they can go without causing injury. *Note: it is not possible to straighten the knees of the newborn to the same degree as older children. Their knees are fragile and could be injured easily, so apply minimum pressure.*

If a child is extremely agitated and both legs cannot be held in position, measure with one leg in position.

- While holding the knees, pull the footboard against the child's feet. The soles of the feet should be flat against the footboard, toes pointing upwards. If the child bends the toes and prevents the footboard from touching the soles, scratch the soles slightly and slide in the footboard quickly when the child straightens the toes.
- Read the measurement and record the child's length in centimetres to the last completed 0.1 cm in the B portion of the CHDR. This is the last line that you can actually see (0.1 cm + 1 mm).
- Remember: If the child whose length you measured is 2 years old or more, subtract 0.7 cm from the length and record the result as height.



Move quickly and surely to measure length accurately before the baby becomes agitated.



2.2 Measuring the height

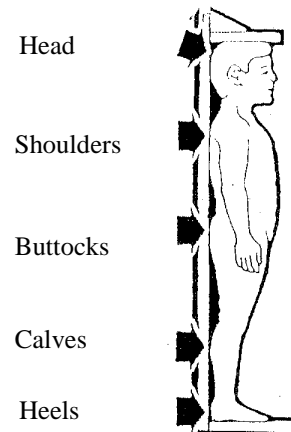
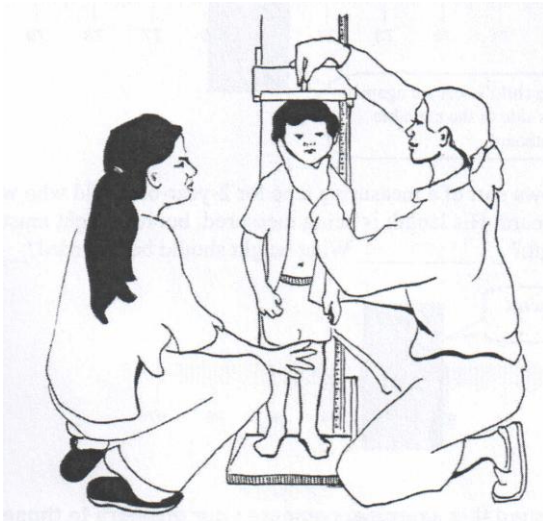
Ensure that the height board is on level ground. Check that shoes, socks and hair ornaments have been removed.

Working with the mother, and kneeling in order to get down to the level of the child;

- Help the child to stand on the baseboard with feet slightly apart. The back of the head, shoulder blades, buttocks, calves and heels should all touch the vertical board. In case of an obese child this may be difficult. If that is the case, try to get at least some parts touch the vertical board and ensure that the child keeps the back straight without bending forward or backwards.
- Ask the mother to hold the child's knees and ankles to help keep the legs straight and feet flat, with heels and calves touching the vertical board. Ask her to focus the child's attention, soothe the child as needed, and inform you if the child moves out of position.
- Position the child's head so that a horizontal line from the ear canal to the lower border of the eye socket runs parallel to the baseboard. To keep the head in this position, hold the bridge between your thumb and forefinger over the child's chin.
- If necessary, push gently on the tummy to help the child stand to full height.

- Still keeping the head in position, use your other hand to pull down the headboard to rest firmly on top of the head and compress the hair.
- Read the measurement and record the child's height in centimetres to the last **completed** 0.1 cm in the B portion of the CHDR. This is the last line that you can actually see (0.1 cm + 1 mm).

Remember: If the child whose height you measured is less than 2 years old, add 0.7 cm to the height and record the result as length.



If height is measured using the sumatometer, it should be fixed before use according to following instructions;

- Choose a wall high enough and in a well lighted place to fix the instrument. A wall near a door or window is not suitable. The ground near the wall must be flat.
- **Fixing the instrument correctly:** Keep the instrument pressed to the ground with foot and then drag the tape vertically up and parallel to the wall till the maximum height is reached. Then fix a nail to the wall on that point and fix the instrument there (will need another person's support for this).
- **Checking the accuracy of the instrument before use:** drag the calibrated tape vertically down till the end of the tape is reached. When this is done it will be seen that the red line of the instrument has come to the starting point of calibrated markings on the tape.
- Steps for measuring height should be followed. After positioning the child correctly, drag the head piece of the sumatometr vertically down and gently onto the top of the head so that the head is well touched by the head piece. Then read the measurement correctly to the nearest millimetre(the mark immediately below the red line of the instrument)

Annex 5

Recording Measurements of Children Accurately

Step 1 – Recording the reading in the B portion of the CHDR

Take the measurement correctly. Record the reading of weight to the nearest gram in the relevant column. Length/height should be recorded to the nearest millimeter in the column provided.

Step 2 – Plotting the measurement in the graph in the A portion of the CHDR

In the A portion of the CHDR,

- Choose the correct graph in the A portion and plot the measurement of weight and length/height accurately.
- If the child has been regularly presented for measuring, join the two plotted points (the current measurement and the measurement taken during the last visit) with a straight line.
- If the child has presented for measuring irregularly (later than the recommended time interval since the last visit) join the two plotted points with a dotted line.

Step 3 – Interpreting the plotted point and the growth curve and recording the relevant code (in A and B portions of the CHDR)

The growth status of the child should be correctly interpreted in relation to the colour zone and the standard growth curves given in the graphs of the A portion of the CHDR, and then the relevant code as given in the following table should be recorded. The PHM should record this code each time she measures the child in the B portion of the GHDR and if this is done in a clinic she should record the code also in the visit notes section of the A portion in addition to the B portion.

Interpreting the weight for age curve

Direction of the growth curve	Status of growth	Code
Growth parallel to the standard growth curves in the green/light green zone*	Normal growth	N
In the green/light green zone, between two subsequent weighings; <ul style="list-style-type: none"> - Inadequate gain in weight (e.g. in line with the birth weight) - Failure to gain weight (no weight gain at all or flattening of the curve) - Drop in weight 	Growth faltering** (within the normal zone)	NO
Growth parallel to the standard growth curves in the orange zone	Moderate underweight	X
In the orange zone, between two subsequent weighings; <ul style="list-style-type: none"> - Inadequate gain in weight (e.g. in line with the birth weight) - Failure to gain weight (no weight gain at all or flattening of the curve) - Drop in weight 	Growth faltering** (within the moderate underweight zone)	XO
Growth parallel to the standard growth curves in the red zone	Severe underweight	XX
In the red zone, between two subsequent weighings; <ul style="list-style-type: none"> - Inadequate gain in weight (e.g. in line with the birth weight) - Failure to gain weight (no weight gain at all or flattening of the curve) - Drop in weight 	Growth faltering** (within the severe underweight zone)	XXO
Purple zone	“over weight”	OW
Growth curve is within the green zone but rising steeply within a short period of time crossing the standard growth curves***	“over weight”	OW

* Light green zone – if growth faltering occurs in a child in the light green zone, the risk of falling into the orange zone is high. Therefore special attention should be paid to these children to maintain their growth curve as recommended.

**A child with growth faltering should be considered as having growth faltering (and therefore recorded as such) till the growth curve of that child reaches the initial growth potential that was there before growth faltering occurred.

***A child who shows a rapid catch up growth after a period of growth faltering should not be considered as overweight.

Interpreting the length/height for age curve

Direction of the growth curve	Status of growth	Code
Growth parallel to the standard growth curves in the green/light green zone*	Normal growth	NH
Growth curve in the orange zone	Moderate stunting	S
Growth curve in the red zone	Severe stunting	SS

* light green zone - if faltering in the length/height occurs in a child in the light green zone, the risk of falling into the orange zone is high. Therefore special attention should be paid to these children to maintain their growth curve as recommended.

If the child did not present for weighing (after the recommended interval) in a particular month it should be recorded in the growth record of the B portion of CHDR as 'A' to denote absence.

Interpreting growth curves for pre term infants

It is compulsory for all preterm infants (after measuring weight and length) to be referred to the MOH for correct interpretation of the status of growth.

The medical officer should take the corrected age of the infant when interpreting the status of growth in relation to the standard growth curves; i.e. for infants born before 37 weeks of POA the same period should be subtracted from the present calendar age to calculate the corrected age.

e.g. For a child born at 32 weeks of POA (born 8 weeks before Expected Date of Delivery) who presents at 5 months of age, the corrected age should be 3 months (5 months – 8 weeks = 3 months). Therefore the growth curves for age of this infant should be interpreted as for an infant aged 3 months to get a correct understading of the growth.

(See General Circular Letter No. 02-18/2008 - “Protocol for managing nutritional problems among under 5 children in community”).

Till such an infant reaches 6 months of age or till a paediatrician decides so, the corrected age of these preterm children has to be considered in the assessment of their growth. After that the calendar age of the infant can be used for growth assessment.

An example of a duly filled growth chart from a B portion of CHDR is shown below;

The growth chart of the child

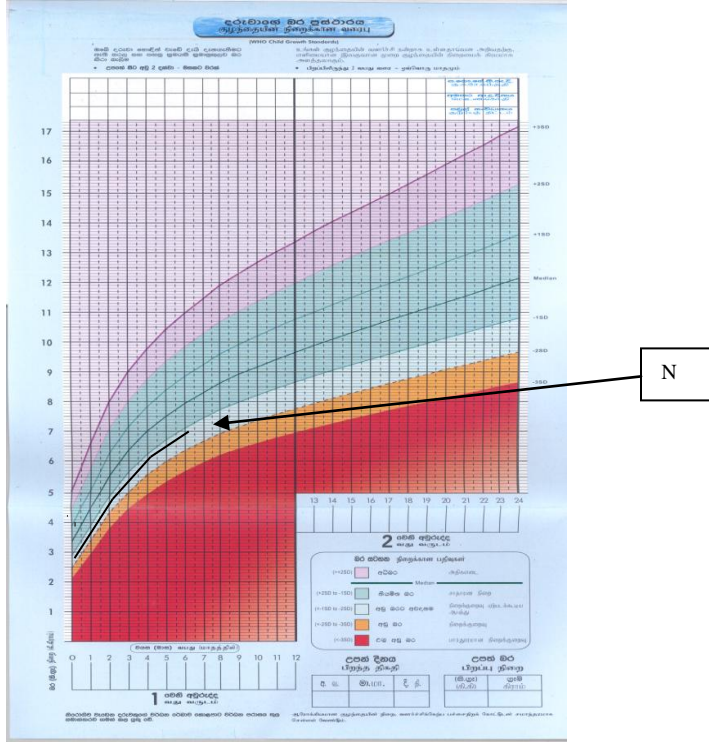
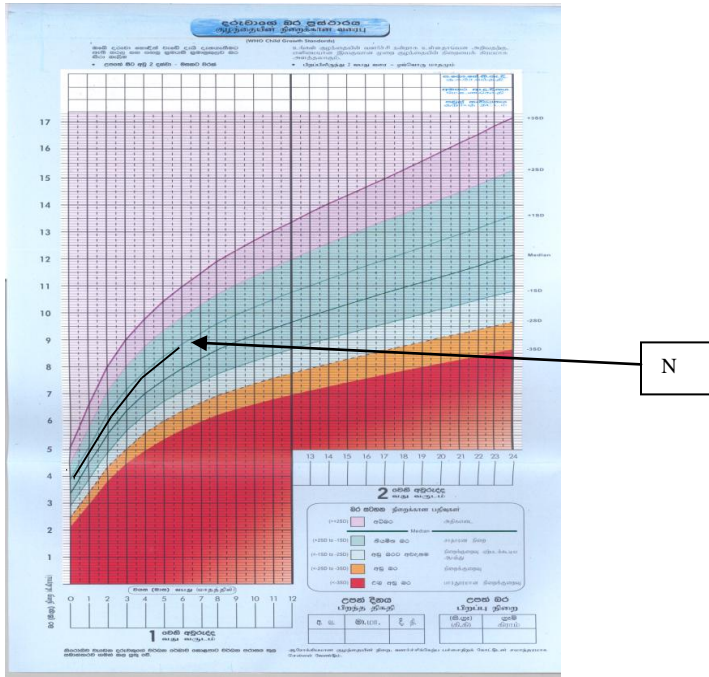
Birthweight -3.2 kg.....

Length at birth -48.5 cm.....

Date			Status of growth					Date of issuing thripasha			Notes on interventions carriedout
D	M	Y	Weight			Length/height		D	M	Y	
			Kg	Normal weight/ "overweight"/ Moderate underweight/ severe underweight	Growth faltering	c.m	Staus of length/ height				
10	10	09	3.8	N	-	-	-				
12	11	09	4.7	N	-						
14	12	09	5.5	N	-						
12	01	10	6.2	N	-	62	N				
15	02	10	6.8	N	-						
10	03	10	7.5	N	0						Advised on correct feeding pattern
15	04	10	7.6	N	0			18	04	10	
12	06	10	7.6	N	0			20	06	10	
20	07	10	8.1	N	0	72.5	N				Referred to clinic
10	10	10	7.5	N	0			15	10	10	
15	02	11	7.7	X	0			19	02	11	
15	04	11	8	X	0	82	N				Not gone to clinic. Advised again.

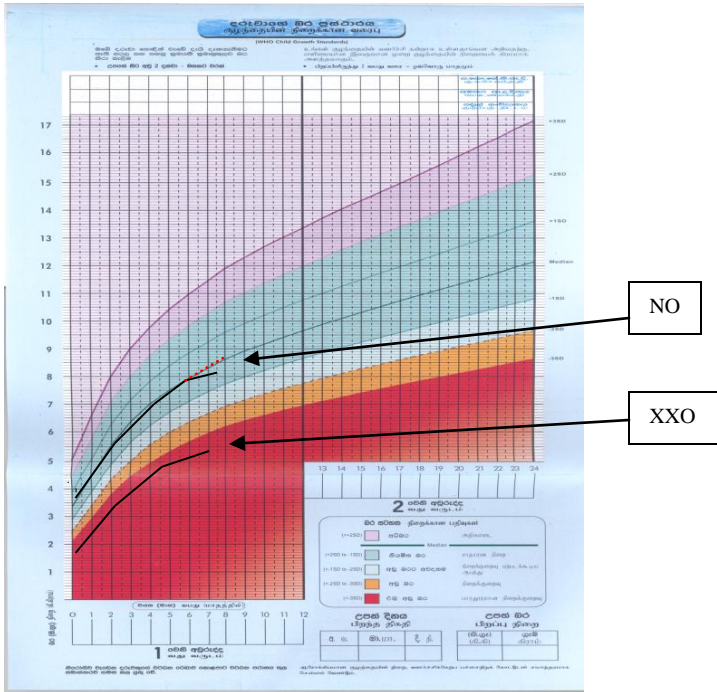
Normal growth (N)

The growth curve within the green (or light green) zone and rising parallel to the standard growth curves.

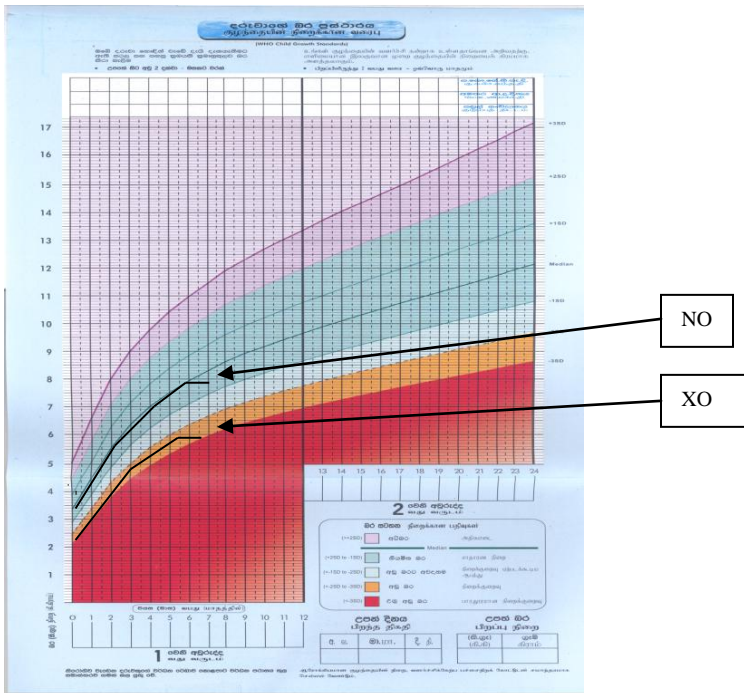


Growth faltering (O)

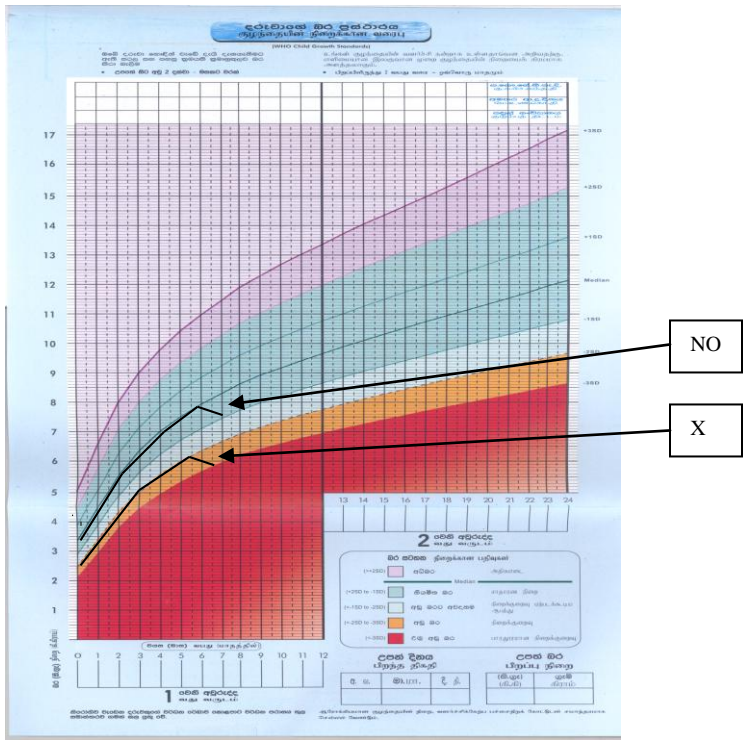
1. A slowing of growth (inadequate gain in weight), of a child whose growth curve has been growing parallel to the standard growth curves either in green, light green, orange or red zone.



2. Weight remaining the same (no gain in weight at all or flattening of curve), of a child whose growth curve has been growing parallel to the standard growth curves either in green, light green, orange or red zone.

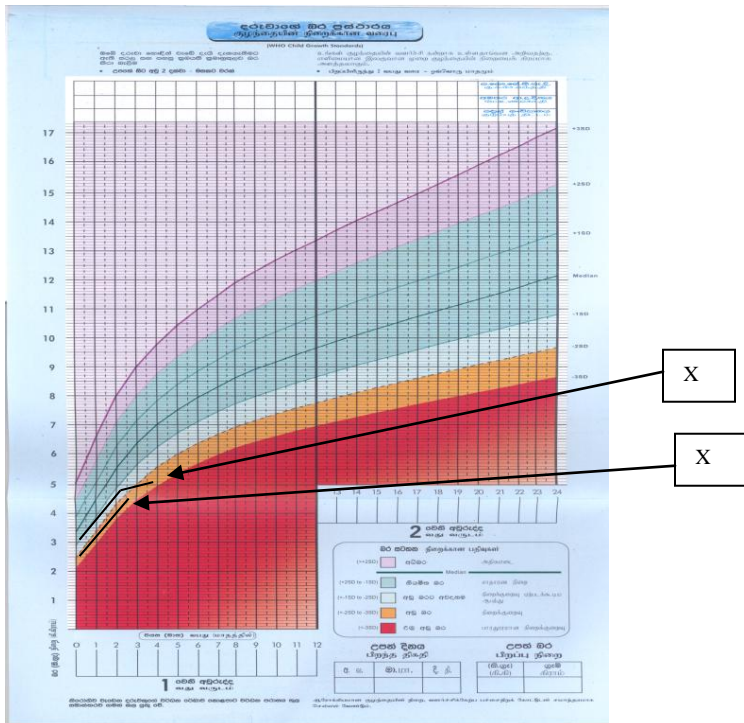


3. A drop in weight, of a child whose growth curve has been growing parallel to the standard growth curves either in green, light green, orange or red zone.



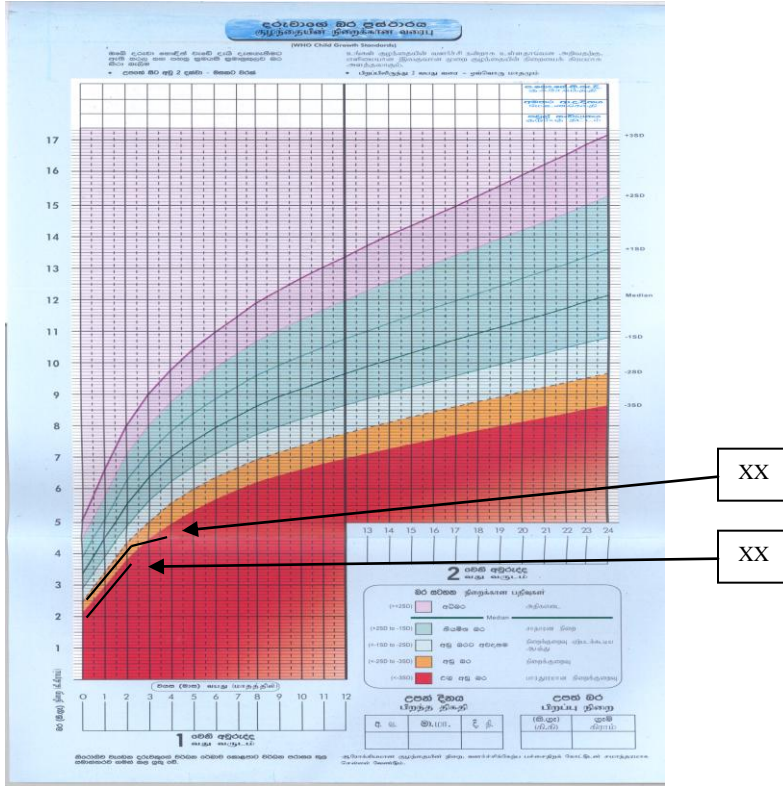
Moderate Underweight (X)

Children whose birth weight and the subsequent growth curve lie within the orange zone (and rising parallel to the standard growth curves) **and** those children whose growth curve has come down from the the green (or light green) zone into the orange zone.



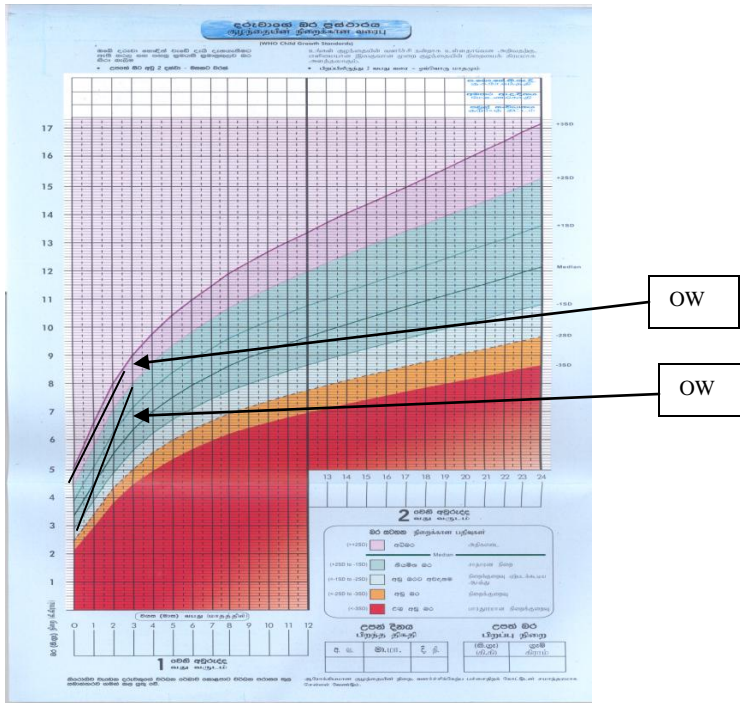
Severe Underweight (XX)

Children whose birth weight and the subsequent growth curve lie within the red zone (and rising parallel to the standard growth curves) **and** those children whose growth curve has come down from the the orange zone into the red zone.



“Overweight” (OW)

The growth curve lying within the purple zone **or** rising steeply and crossing standard growth curves rapidly in the green zone.



Children whose weight for length/height falls above +2SD are diagnosed as being overweight. Yet in the National Programme for Growth Monitoring and Promotion assessment of the weight for length/height is not carried out routinely for all the children. Therefore weight for age is used in this programme as a proxy measure to identify overweight children. If a child is considered to be “overweight” according to the weight for age graph, that child should be referred to the clinic to be assessed for weight for length/height in order to identify overweight status correctly, as it is very important to carry out proper nutritional interventions for an overweight child.

Annex 7

Assessing nutritional status of school age children

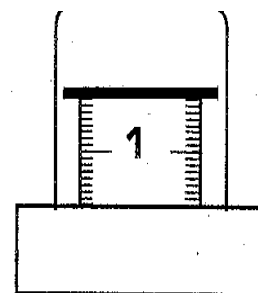
Measuring Weight

1. Check the accuracy of the scale using a standard weight, monthly.
2. Keep the scale steady on a flat hard surface.
3. Make sure the scale's reading is at the '0'.
4. Remove child's extra clothes and shoes.
5. Ask the child to stand in the middle of the scale, keeping the feet together.
6. Read the weight to the nearest 100g. Record the measurement then and there.
7. Assess the nutritional status by using relevant graphs.

Measuring Height

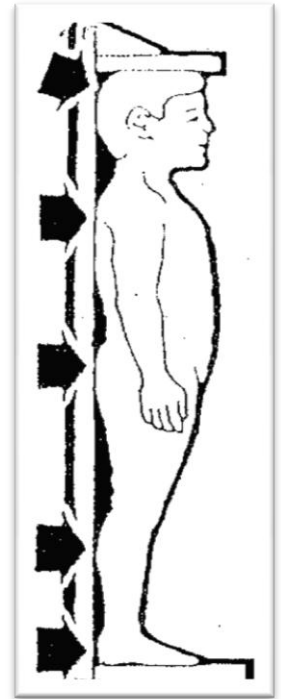
Calibrating the instrument

1. Choose a wall high enough and in a well-lighted place to fix the instrument. A wall near a door or window is not suitable. The ground near the wall must be flat.
2. You will need a chair, a nail and a hammer.
3. **Fixing the instrument correctly:** Keep the instrument pressed to the ground with foot and then drag the tape vertically up and parallel to the wall till the maximum height is reached.
4. Mark this point on the wall and then fix a nail on that point. (Will need another person's support for this).
5. Lift the instrument gently and hang it on the nail.
6. **Checking the accuracy of the instrument before use:** drag the calibrated tape vertically down till the end of the tape is reached. When this is done it will be seen that the red line of the instrument has come to the starting point of calibrated markings on the tape.



Steps of measuring Height

1. Hang the correctly adjusted instrument.
2. Ask the child to remove shoes and to stand parallel to the wall by keeping the feet together.(Back of the heels, calves, buttocks ,back of the shoulders and back of the head should touch the wall).
3. Bring down the head piece gently till it properly touches the child's head.
4. Read the child's height correctly to the nearest centimeter(the mark immediately below the red line of the instrument)
5. After reading the measurement correctly mark it on the Growth Chart of the CHDR.
6. Assess the nutritional status using relevant graphs.



Calculating Body mass index(BMI)

BMI is calculated by dividing the child's squared weight (in Kilograms) by child's squared height (in meters).

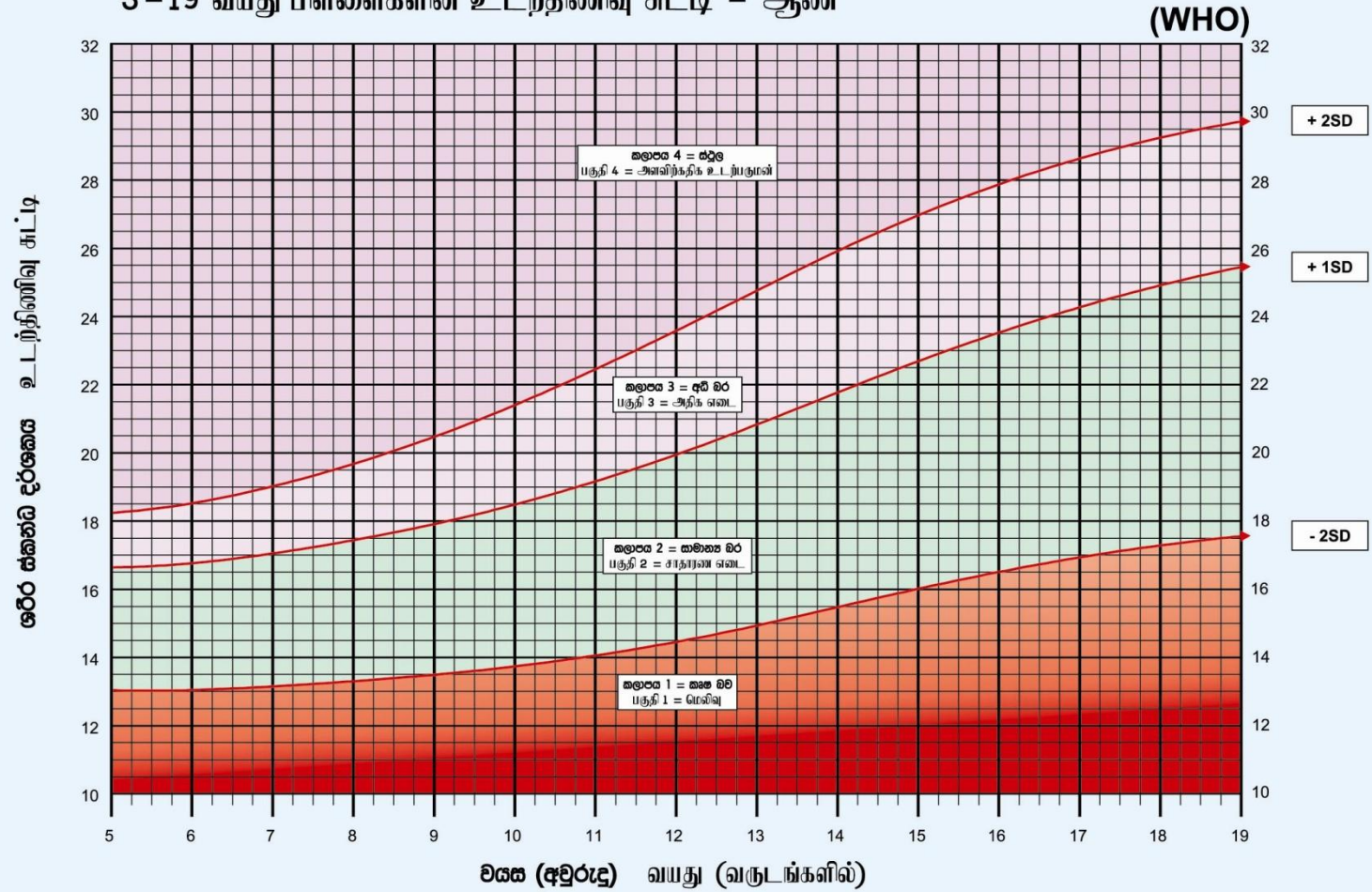
$$\frac{\text{Weight}^2 \text{ (kg)}}{\text{Height}^2 \text{ (m)}}$$

Reference:

Assessment of the nutritional status of school children -
Reference Growth Charts,
Family Health Bureau, Ministry of Health, 2010.

அலி 5-19 க் அகர லுதலு ஁ரீர ஸ்கலல டுரலுல - ஸீரீல
5-19 வயது லுள்ளுுகளலு் ஁டற்துணலு ஸுடலு - ஁லுண்

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Annex 8

Assessing nutritional status of pregnant mothers

8.1 Anthropometric assessment of pregnant women

Weighing, measuring height, assessing BMI (using BMI chart)

Measuring weight at the clinic setting

The weighing scale should be placed on a smooth, leveled surface.

Before weighing, the person should be asked to remove slippers, heavy clothes, handbags and any other heavy item (keys, coins etc.) with them.

The reading of the scale should be checked and it was adjusted to '0'.

Then the person should be asked to step onto the scale. It should be made sure that:

- Person stands upright, with her arms hanging loosely at sides.
- Person looked straight ahead and not moving

Reading of the scale display should be noted down to the nearest 0.1kg when it stopped changing.

Measuring height at the clinic setting

Microtoise tape should be used to measure the height.

Microtoise should be set up against a wall in full length.

Ask the mother to remove slippers and stand against the wall as straight as she can.

Look at the person from the front and made sure that she is under the Microtoise meter and keeping the feet slightly apart.

Look at the person from the side and make sure that her back of the head, shoulders, buttocks and her heels are touching the wall.

Lower the head piece of Microtoise until it hits firmly on the top of the head and made sure that it touched the head and not the hair.

The reading should be taken to the nearest 0.5cm.

Calculation of the Body Mass Index (BMI)

$$\text{BMI} = \frac{\text{Weight (Kg)}}{\text{Height (m}^2\text{)}}$$

Instead of calculating BMI, field health care workers can use the BMI chart or BMI wheel, which gives BMI comparing weight and height. For pregnant mothers BMI should be calculated before 12 weeks, ideally at the booking visit around 6-8 weeks.

Interpretation of BMI

<18.5 kg/m ²	Under nutrition
18.5 – 24.9 kg/m ²	Normal
25 – 29.9 kg/m ²	Over weight
≥ 30 kg/m ²	Obese

Monitoring of weight gain during pregnancy

Monitoring of the weight gain during pregnancy depend on the BMI during the booking visit/ first trimester. Expected weight gains according to the BMI as follows:

BMI (kg/m²) Expected Weight Gain in kg

BMI (kg/m ²)	Expected Weight Gain in kg
<18.5 (underweight)	12.5-18
18.5-24.9 kg/m ² (Normal)	11.5-16
25-29.9 kg/m ² (over weight)	7.0-11.5
>= 30 kg/m ² (Obese)	≤ 6.8

Maternal weight gain should be recorded on the weight gain chart in the pregnancy record.

Annex 8.2 Weight Gain Chart

Instructions to maintain weight gain chart and graph

1. Fill in the following information regarding the mother at the first clinic visit (before 12 weeks) in the box located in the left upper corner of the graph:
 - Height
 - Weight at the first clinic visit (before 12 weeks)
 - BMI at the first clinic visit (before 12 weeks)

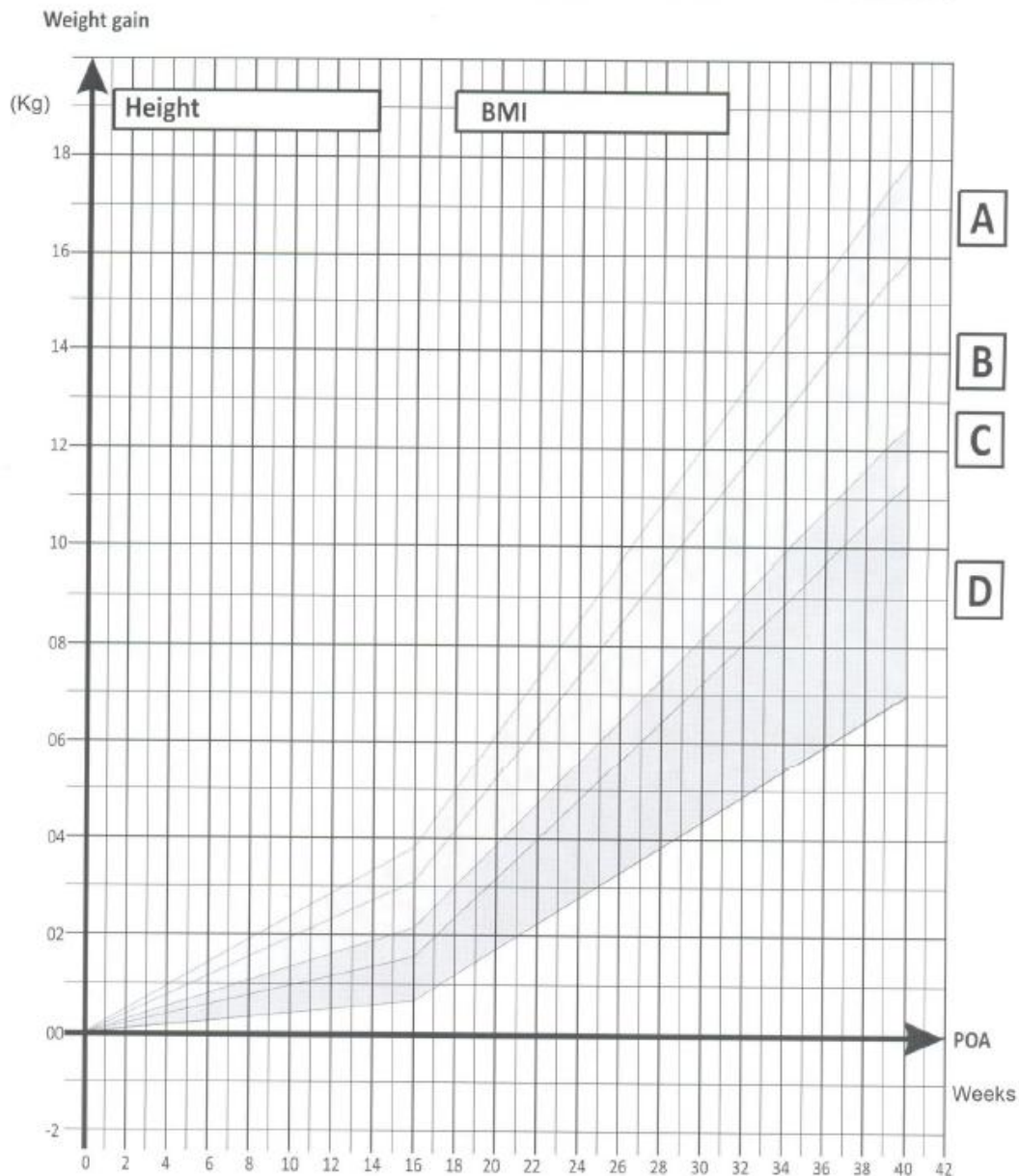
During the first visit no data to plot on the graph.

2. During subsequent clinic visits POA and weight should be recorded on the table and weight gain should be calculated (by deducting the mother's weight at the first clinic visit from weight at the current clinic visit). Then the weight gain should be plotted on the graph according to the POA.
3. Poor weight gain as well as the excessive weight gain should be identified timely and relevant interventions should be carried out.
4. Recommended weight gain
 - It is assumed that woman's pre pregnancy BMI is more or less equal to the BMI at her first clinic (before 12 weeks)
 - For a woman with BMI less than 18.5kg/m² during first 12 weeks, recommended weight gain range is 12.5 – 18 kg. Her weight gain should be within the areas shown as A & B in the weight gain chart.
 - For a woman with normal BMI (18.5 - 24.9kg/m²), recommended weight gain range is 11.5 – 16 kg. Her weight gain should be within the areas shown as B&C in the weight gain chart.

- For women who are overweight (BMI 25-29.9 kg/m²), recommended weight gain range is 7 – 11.5 kg (area C & D) while obese women (BMI ≥30kg/m²) should gain weight less than 6.8 g (below area D).
- Once the infant is born fill the birth weight in the box shown in the right lower corner of the weight gain graph.

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POA									
Weight (Kg)									
Weight gain (Kg)									



Annex 9

Maintenance of equipment and calibrating

Maintenance of equipment

To ensure the accuracy of the measurements, proper care and maintenance of the equipment used for weighing or length/height measurement is essential. All equipment must be kept clean, stored at normal indoor temperature and protected from humidity and wetness.

When the instrument is used for the first time the accuracy of the measurements should be checked by using standard measurements. Thereafter this procedure has to be repeated to check the accuracy of weighing or length/height measuring equipment at regular intervals as recommended for that particular equipment.

Checking and ensuring the accuracy of weighing scales

Check accuracy of scales using standard weight sets once in every three months for the beam balance scales, and once a month for spring balance scales.

For infant beam balance scale, the standard weights of 10g, 100g, 500g, 1 kg and 2 kg should be used. 10 g weight is not required for the spring balance scale. For the adult beam balance scale weights from 100g to 5 kg can be used.

When standard weights are not available, a known and accurate weight can be used instead for this purpose.

If the measurement is not accurate calibration of the instrument is required. If it is a fixed error (e.g. for all the weights the readings of the measurement give a 0.2 kg difference in the same direction), the measurement can be carried out using the correct method and the fixed difference can be corrected from the subsequent reading, but the measurer should be vigilant as this fixed error can change with the passage of time.

If the error is not a fixed error, the equipment cannot be used for weighing.

Checking and ensuring the accuracy of length/height measuring scales

- When assembling the length/height boards/ rods, measure rods of known length to check that they are assembled correctly.
- Check that the joints are tight and straight. If not, tighten or straighten them.
- Check that the measuring tape can be read clearly. If it is too worn to be read, it should be replaced.

Annex 10

Assessing the 24 hour dietary recall of children aged 6 – 23 months

24 hour dietary recall;

- Record the type, quantity and frequency of all the foods and drinks **consumed** by the child from waking up until going to sleep at night and waking up again the next morning and the timing of the meal.
- Categorize food consumed according to the broad food groups. Count frequency of food eaten from each food group.
- Assess the quantity (amount of food eaten should be interpreted using a common household measure such as a tea cup = 200 ml) and quality of food consumed.

When the 24 hour dietary recall is taken, use the following checklist to **evaluate** the quality and the quantity of the diet. The Food Intake Reference Information Sheet can be used in counseling for identified gaps.

Jobaid to evaluate information on feeding practices of children		
Name of the child		
Date of birth	Age of child at visit	
Feeding practices	Yes / the frequency where relevant	Key message given
Growth curve rising parallel to the standard growth curves within the recommended zone?		
Child received breastmilk?		
How many meals of a thick consistency did the child eat yesterday? (use the food consistency photos)		
Oil added to prepare food yesterday?		
Child ate any iron rich animal food yesterday? (fish/meat/liver/sprats)		
Child ate a milk product yesterday?		
Child ate eggs yesterday?		
Child ate pulses/ legume/ nuts or seeds yesterday?		
Child ate dark green leaves or yellow/orange colour vegetables/fruits yesterday?		
Child ate a sufficient number of main meals and snacks yesterday, for his/her age?		
Time interval between two meals adequate?		
Quantity of food eaten by the child at main meals yesterday appropriate for child's age?		
Mother/care giver assisted the child at meal times?		
Child received any vitamin or micronutrients?		
Child ill or recovering from an illness?		

Food intake reference information sheet on feeding a child

Feeding practice	Optimal feeding practice	Key message to help a mother
Growth curve rising parallel to the standard growth curves within the recommended zone?		Be vigilant about the direction the growth curve – is the child growing as recommended.
Child received breastmilk?	Yes	Exclusive breastfeeding till 6 months are completed and continuing breastfeeding till 2 years or beyond after starting complementary food immediately on completion of the 6 th month helps the baby grow well.
How many meals of a thick consistency did the child eat yesterday? (use the food consistency photos)	3 meals	Foods thick enough to stay in the spoon will give more energy and nutrients to the baby.
Oil added to prepare food yesterday?	Yes. 1-2 tea spoons.	Adding oil to complementary food from about one week after starting complementary food will give more energy to the baby.
Child ate any iron rich animal food yesterday? (fish/meat/liver/sprats)	Iron rich animal origin foods are a must in the daily diet.	Introducing iron rich animal origin foods soon (by the first week of starting complementary food) is very important for the baby to be intelligent, grow well, be strong and active.
Child ate a milk product yesterday?	Add a milk product to the daily diet.	Milk foods after the seventh month provides nutrients for a baby to grow well.
Child ate eggs yesterday?	Give eggs several days a week. The egg yolk can be started by about 2 weeks after starting complementary foods	Introducing eggs from about two weeks after starting complementary food is important for a baby to grow well, be strong and active.
Child ate pulses/ legume/ nuts or seeds yesterday?	If an iron rich animal source food is not eaten daily, it is very important to add legume/pulses to the daily diet of the child alongwith foods containing vitamin C to increase absorption of iron.	Pulses, legumes, nuts and seeds help growth. Adding nuts will provide antioxidants and fatty acids.
Child ate dark green leaves or yellow/orange colour vegetables/fruits yesterday?	Dark green leaves or a yellow/orange colour vegetables/fruits must be added to the diet daily.	Dark green leaves or yellow/orange colour vegetables/fruits helps good eyesight and protection from infections.
Child ate a sufficient number of main meals and snacks yesterday, for hhis/her age?	6+ to 8 months: 2-3 main meals and 1-2 nutritious snacks (one snack between two main meals) 9-23 months: 3-4 main meals and 1-2 nutritious snacks (one snack between two main meals)	A growing child needs 2-4 main meals a day and 1-2 snacks in between according to age. These meals should offer a variety of food.

Time interval between two meals adequate?	A child needs some time to get hungry again after a meal, 2-2 1/2 hours at times but this can vary from child to child.	If a child is fed before he gets hungry he will eat only a small amount or refuse food. Therefore frequent feeding should be avoided and a reasonable interval (at least 2 hours) should be kept between two meals.
Quantity of food eaten by the child at main meals yesterday appropriate for child's age?	6+ to 8 months; Gradually increase the amount till a little more than 1/2 of a 200 ml size cup at each main meal. 9-11 months; 3/4 a cup at each main meal. 12-23 months A bit more than one full cup or more	A growing child needs an increasing amount of food.
Mother/care giver assisted the child at meal times?	Yes. Encouraging the child to eat and helping him to learn how to eat.	Young children are still learning to eat, so be patient with them and encourage and help them to eat.
Child received any vitamin or micronutrients?	Supplementary vitamins or micronutrients should be given only if the child's daily diet is inadequate to fulfill a child's daily vitamin/micronutrient needs.	Vitamin should be given as recommended for age. If dietary iron is inadequate iron supplements should be given on medical advice only.
Child ill or recovering from an illness?	During illness and when recovering additional food which are nutritious should be given to a child.	An ill child should be encouraged to drink more fluids and eat more food. Extra food should be given during recovery also to make the recovery faster.

Annex 11

A summary of interventions for children referred to the nutrition clinic of the MOH

For further details please refer the following guidelines of the Family Health Bureau of the Ministry of Health

- General circular letter no. 02-18/2008 - Protocol on Managing Nutritional Problems among Under Five Children in the Community
- Guidelines on Infant and Young Child Feeding
- Management of severe acute undernutrition – Manual for Health Workers in Sri Lanka

	Zone of growth according to the CHDR	Intervention
1	Children with growth faltering who are in the green zone of the weight for age graph (+2SD to -1SD) And Children with growth faltering who are in the light green zone (-1 SD to -2 SD)	Take a detailed history and perform clinical examination to see whether any illness or disease condition causes the faltering of growth. If there is an underlying illness which can be treated at MOH level, give necessary treatment. If suspected to be having a condition which cannot be treated at MOH level (urinary tract infections, congenital abnormalities, metabolic disorders etc.) refer to the specialist for investigations/ treatment/advice. If no underlying medical condition is suspected, Get the 24 hour dietary recall and assess the diet quantitatively and qualitatively. <ul style="list-style-type: none">- Identify the immediate cause/s. if there are several causes identify a cause that should be addressed as a priority and can be modified.- Intervene as required.- Follow up about the mother/caregivers carrying out instructions correctly. Monthly weighing is a must.- If the weight gain is satisfactory (and interventions carried out for all identified causes) the child can be referred back to the field. Close monitoring is essential after discharge from the nutrition clinic.- Appropriate stimulation to enhance psycho social development is also essential during these interventions.- If the progress is not satisfactory after a 3 consecutive weight measurements or a shorter time interval depending on the problem, the child should be referred to a paediatrician.

		<p>If the child is having a medical condition</p> <ul style="list-style-type: none"> - Get the illness history (including any special dietary advice given by specialists to suit the medical condition) and the feeding practices during illness and recovery. - If feeding practices during illness/recovery needs to be improved do necessary interventions. - Appropriate stimulation to enhance psycho social development - Follow up after a reasonable time interval - Re assess the growth status after recovery and then manage as for a child who is not ill (as mentioned above).
2	Children who are in the orange/red zones of the weight for age graph (below -2SD)	<p>A) For children who are in these zones due to growth faltering, the MOH should intervene from the very first instance of identification of such children. These children should be assessed for weight for length/height and if falls below -3SD in the weight for length/height graph, they should be referred immediately to the paediatrician for therapeutic feeding.</p> <ul style="list-style-type: none"> - Even when the weight for length/height is above -3SD level, if suspected of having a condition which needs specialist interventions (urinary tract infections, congenital abnormalities, metabolic disorders etc.) refer to the specialist for investigations/ treatment/advice. <p>Children who are not in need of specialist interventions/ therapeutic feeding can be managed as specified in section 1, but if no satisfactory weight gain is seen at one month should be referred immediately to the paediatrician.</p> <p>B) For children who are growing in the orange or red zones from the birth itself (preterm infants and infants born with IUGR)* must be regularly assessed by a paediatrician. Further, the MOH on the first instance such a child is seen, should take a detailed history and perform a thorough examination to assess their status of health and growth (<i>for pre term infants according to the corrected age</i>) and identify factors affecting their growth including medical conditions.</p> <ul style="list-style-type: none"> - For an otherwise healthy IUGR child an effort should be made to take the growth curve gradually upwards to the zone immediately above. If this fails ensure that the child maintains a growth in the upper part of the same zone, parallel to the standard growth curve. - A preterm infant without IUGR will show a rapid catch up growth during the initial months and after

		<p>reaching his/her full growth potential will grow parallel to the standard growth curves in the newly acquired zone. Such a child can be considered as a normal child after this.</p> <ul style="list-style-type: none"> - If a child growing in the orange/red zone develops growth faltering that child should be immediately referred to the MOH. These children then should be managed as specified under section A. <p>When these children are discharged back to the field ensure;</p> <ul style="list-style-type: none"> - Continuous follow up - Age appropriate immunization - Vitamin A megadose at recommended ages - Appropriate stimulation to enhance psycho social development - Regular monitoring of weight and length/height <p>* For low birth weight babies (pre term infants and IUGR infants), special attention should be given to promote breastfeeding and to give iron and vitamin C supplements from 2 months onwards as recommended by the paediatrician (at the paediatric clinic where the child is followed up).</p>
3	<p>Children growing in the purple zone of the weight for age graph (> +2SD) And Children whose growth curve is rising steeply in the green zone (crossing standard growth curves within a short period of time)</p>	<ul style="list-style-type: none"> • Assess the weight for length/height and look at the direction of this curve to ascertain whether the child is having a risk of being overweight. • A baby who is being exclusively breastfed needs no special interventions for being overweight during this period, but the MOH should examine the child for the presence of other pathologies (e.g. hypothyroidism, other hormonal problems etc.) and refer accordingly. <p>For children after 6 months of age;</p> <ul style="list-style-type: none"> • A detailed history and examination should be performed to exclude any underlying pathology other than nutritional obesity. • If an underlying pathology is suspected refer to a paediatrician for advice/ investigation or treatment. • If no underlying pathology is suspected, a detailed dietary history and an activity recall should be taken. • Identify the immediate cause/s. if there are several causes identify a cause that should be addressed as a priority and can be modified. • Intervene as required. • Follow up about the mother/caregivers carrying out instructions correctly. Monthly weighing is a must.

		<ul style="list-style-type: none"> Follow up the child at the clinic for twomonths. If the weight for age has continued to increase rapidly inspite of interventions, refer to a paediatrician immediately. If weight for age increases is parallel to the reference curves, weight for length/height should be checked. If it continues to be above+2 SDor the weight for length/height curve is still high or rising further, the child should be referred to the paediatrician. <p>Note –it is not recommended to reduce the weight of an overweight child. The <u>rate of weight gain</u> should be slowed down instead, while maintaining the rate of increase in length/height.</p>
5	Children whose length/height for age curve deviating from the reference curves (slow gain in length/height or no gain at all)	<ul style="list-style-type: none"> Take a detailed history and perform a clinical examination to exclude an underlying pathology If a pathological cause is suspected (e.g. congenital/chronic disease, recurrent infections etc.) refer the child to a paediatrician. If no underlying pathology is suspected, a detailed dietary historyincluding a 24 hour dietary recall should be taken to identify nutritional causes. Identify the immediate cause/s. if there are several causes identify a cause that should be addressed as a priority and can be modified. Intervene as required. Follow up about the mother/caregivers carrying out instructions correctly. Measuring length/height at regular intervals is a must (once in two months for children under 2 years of age and once in 3 months for older children). If the gain in length/height remains unsatisfactory, the child should be referred to a paediatrician. <p>Note ; A stunted child needs a diet balanced in all the nutrients, especially consisting of foods that provide protein, calcium, zinc, phosphorous etc. that are needed for the gain in length/height. If a stunted child is given a diet high in energy, the child will be at risk of becoming overweight.</p>
6	Children whose length/height for age curve is in the orange/red zones (below -2 SD)	<ul style="list-style-type: none"> Need referral to a paediatrician for the initial assessment.
7	Children whose length/height for age curve is rising steeply	<ul style="list-style-type: none"> Need referral to a paediatrician for the initial assessment.

8	Children whose weight for length/height is below -2SD	<ul style="list-style-type: none"> • Moderate wasting / Moderate acute malnutrition (MAM) – orange zone in the weight for length/height chart (between -2SD and -3SD) → while interventions are being carried out as specified in section 1, should be entered into a supplementary food programme (e.g. thriposha) • Severe wasting / Severe Acute Malnutrition (SAM) – red zone in the weight for length/height chart (below -3SD) → refer to the paediatrician immediately for therapeutic feeding.
9	Children whose weight for length/height is above + 1SD	<ul style="list-style-type: none"> • Risk of being overweight (between +1 SD and +2 SD) • Overweight (above + 2 SD) <p>For both categories intervene as specified in section 3.</p>
10	<p>Field management of children whose growth is as expected</p> <ul style="list-style-type: none"> • Inform parents that the child is growing well • Praise them for their effort • Inform them about the next date to come for weighing • Take a 24 hour dietary recall and assess the quality and quantity of food and the feeding practices. • If the diet and the feeding practices need changes in the immediate future (till the date of next weighing) give them the relevant information; i.e. number of meals, the amount of food per main meal, the type and consistency of food etc. 	

Relevant information for some of the specific nutritional problems

Poor quality food	
Consistency of food not thick enough for age	On completion of 6 months start giving food thick enough to stay in the spoon and increase the thickness gradually; i.e. from well mashed food → fine particles → coarse particles → finger food → by the age of one year the consistency of food should be as same as the adult food.
Not adding oil to prepare food	Use a source of oil such as thick coconut milk, gingelly oil, ghee etc. when cooking the food or add 1-2 teaspoons of scrapd coconut, butter or margarine to cooked food.
Diet low in variety	The following components should be included in the daily diet. <ul style="list-style-type: none"> - An energy rich staple - Animal origin food with haem iron - Pulses/ legumes/ nuts or seeds - Eggs - Dark green leaves or orange/ yellow vegetable/fruit - Source of oil (oil, thick coconut milk, butter/margarin/cheese) - Breastmilk or a milk product
Giving inappropriate food frequently	- Sweets, sweetened drinks, sugar/jageery etc. while being low in other nutrients delay a child from getting hungry and therefore should not be

	<p>given often.</p> <ul style="list-style-type: none"> - Giving milk and dairy foods above the recommended daily intake will hinder the child from getting a balanced diet. - A diet extra rich in oil or oily food will reduce the amount of food the child eats and therefore reduces the amount of nutrients received by the child. - Processed food poor in nutrients; i.e. savoury mixture, bites etc. - Drinks and juices – nutrient density is low.
Amount per main meal is inadequate	
Giving the child too many snacks poor in nutrients making the child not hungry at meal times	<ul style="list-style-type: none"> - Look for the reason behind the inadequate quantity. The reasons can vary. - Correct these causes to increase the amount of food eaten per each mainmeal as follows; <ul style="list-style-type: none"> o 6+-8 months: on completion of 6 months start with 1-2 tea spoons of food at a time and increase this amount gradually till a little more than ½ a tea cup (200 ml) of food by the age of 8 months o 9-11 months: around ¾ of a 200 ml tea cup o 12-23 months: a little more than a full 200 ml tea cup
Offering food when the child is not hungry	
Offering only a small quantity of food due to ignorance or lack of food	
Force feeding thus making the child dislike the meal	
Child left to eat on its own and not assisted by adults during meal times	
Number of meals received is inadequate	
	<p>Space out the meals so that an appropriate number of meals are given.</p> <ul style="list-style-type: none"> - Around 7-8 months of age 2-3 main meals a day with 1-2 nutritious snacks as required by the child’s status of growth (one snack between two main meals) - Around 9-24 months 3 main meals a day with 1-2 nutritious snacks as required by the child’s status of growth (one snack between two main meals)
Inappropriate feeding practices	
	<ul style="list-style-type: none"> - Feed small children - Let older children eat by them selves while the adult assists - Identify hunger and satiety cues - Feed slowly and patiently

	<ul style="list-style-type: none"> - Let older children take their meals at family meal times along with other members of the family - Keep regular meal times (do not make the meal too long so that the child starts disliking the meal; preferably not more than ½ hour). Spacing between meals is also important; preferably 2- 2 ½ hours between two meals – this may vary from child to child. - Have a regular place for the child to have its meals - Avoid force feeding - Keep the child’s attention to the meal while feeding. Do not distract its attention by showing the television/ animals or birds, walking while feeding or letting the baby play while feeding. - Lovingly encourage the child to eat. - Talk to the child during the meal. Keep eye to eye contact. - Use different ways to encourage the child to eat; <ul style="list-style-type: none"> o Talk with the child about the different types of food, different tastes, colour of food, number of mouthfuls etc. o Add variety to meals by changing the type of food, tastes and consistency etc. - Praise the child while eating.
Unhygienic practices in preparation of food, feeding the child and storage of food	
	<p>When preparing food, feeding the child and during storage of food;</p> <ul style="list-style-type: none"> - Wash hands properly - Uses safe water and safe food - Use clean utensils - Store food safely - Avoid using bottles or teats
Wrong feeding practices during illness and recovery	
During illness	<ul style="list-style-type: none"> - Encourage the child to eat with a lot of patience - Give frequent feeds with a small amount at a time - Give nutritious food the child likes to have - Give a variety of nutrient dense food - Add oil/ thick coconut milk/margarin/butter as usual - Continue breastfeeding and breastfeed more often
During recovery	<ul style="list-style-type: none"> - Breastfeed more often - Give an extra meal - Give an extra amount of food per meal - Give extra nutritious food - Feed with extra tender loving care and patience

Issue of thripasha should be according to the departmental instructions given

Children aged 6 months to 5 years who are

- Underweight (who fall below – 2 SD in the weight for age graph)*
- Has long standing growth faltering (growth faltering in 3 consecutive measurements)
- Hospitalized children who belong to above two categories

* Thripasha should be given to children who are below – 2 SD curve in the weight for age graph, and those who are in the -2 SD to - 3 SD zone in the weight for length/height graph. The children who fall below – 3 SD curve in the weight for length/height graph should be referred to a paediatrician for therapeutic feeding.

Annex 12

Physical activity recall for school age children

24 hour activity recall

Let the child narrate the list of activities done by the child usually in one day (from the time of getting up in the morning till getting up in the morning the day after. All activities including sleeping, studying and playing should be included the list. If it is a sport, the type of the sport needs to be specified. The day under recall should be a usual weekday in which the child attended school. It should not be a weekend or any other special day such as a day in which the child attended a party, went on a trip, attended a sports meet etc.

For each of the activities mentioned, the starting time and the ending time should be noted down along with the type of the activity in order to calculate the duration of the activity.

Eg:

Starting time of the activity	Type of the activity (Specify)	Ending time of the activity	Duration of the activity

Evaluation of the 24 hour activity recall

<i>Non sedentary Activities</i>
<ul style="list-style-type: none">• Running• Cycling/Fast cycling• Swimming/Fast swimming• Walking/Fast Walking• Competitive sports and team sports (Football, Netball, Basketball, Hokey, Badminton, Elle)• Dancing• Tilling the floor• Household work• Yoga• Aerobic exercise• Carrying weights around• Gardening
<i>Sedentary Activities</i>
<ul style="list-style-type: none">• Studying• Reading books• Games that are played seated in one place (Chess, 'pancha', Carom, Monopoly, Computer games etc.)• Watching television• Travelling in vehicles

Considered as high risk for developing non communicable diseases;

- If involved in **sedentary activities more than 4 hours** per day.
- If involved in **non-sedentary activities less than 1 hour** per day.

Annex 14

Nutrition during pregnancy and interventions for nutritional problems during pregnancy

Nutrition during pregnancy and lactation

Nutrition during the preconception period as well as throughout the pregnancy has a profound influence on the course and outcome of the pregnancy as well as mother's performance during lactation. The association between pre pregnancy weight and BMI, total weight gain and the rate of weight gain in pregnancy and the pregnancy outcome is significant. Weight gain in the second half (after 20 weeks) of pregnancy has more pronounced effect on the growth and the birth weight of the baby. Poor weight gain especially in the third trimester is associated with low birth weight of the baby.

Low birth weight is associated with a higher incidence of infant mortality and morbidity, poor cognitive development and learning disabilities. They are also at a higher risk of been subjected to the non-communicable disease such as heart disease, hypertension and diabetes mellitus in later life. Thus, it appears future health of mankind depends to a greater extent on the nutritional foundation laid during the prenatal life. Therefore, nutrition of the pre pregnant women as well as the pregnant mothers should receive utmost attention in order to have a baby with a good birth weight.

Nutrition and care during Pre pregnancy

Pre pregnancy weight and BMI are strongly linked with the pregnancy outcome. Therefore, nutrition and care of the pre pregnant woman is an essential component in the strategy for low birth weight reduction. The existing health care system offers following services to improve the nutritional and health status of the pre pregnant woman.

- Early identification of couples getting married and provision health services and health education
- Registration of all eligible couples by PHM and provision of necessary services.
- Nutritional assessment and take necessary actions:
 - Check Body Mass Index (BMI) do necessary interventions according to the BMI
 - Do Haemoglobin estimations and if anaemic, take necessary actions

The women who intend to become pregnant should be advised that their nutritional status should be optimal at the time of conception for a successful pregnancy.

Provide Folic acid 5mg daily, for women who expecting a pregnancy.

Ascertain that they have protected with Rubella immunization.

Management of pre-pregnant women with a BMI less than 18.5kg/m²

- Take 24 hour dietary recall and assess adequacy of diet (calorie, protein and micronutrient)
- Nutrition counseling on appropriate diet.
 - Help to modify diet by increasing amount of starch based foods such as rice, manioc, other cereals, flour based foods at each meal
 - Consuming 1-2 extra meals than other days
 - Using 1-2 table spoonful of oil
 - Including fish/dried fish/egg, pulses, vegetables and green leaves to daily diet
- Asses dietary habits, food taboos, misconceptions and correct if there are any negative one
- Excessive work load may have an influence on the weight gain. Therefore, assess the workload and act accordingly
- Screen for the presence of any illnesses by referring to the MOH
- Follow up and monitor weight gain monthly
- If weight gain is inadequate after 6 months refer to MOH for further advice.

Management of pre- pregnant women with BMI more than 24.9 kg/m²

- Take 24 hour dietary recall and assess adequacy / excessive consumption of diet (calorie, protein and micronutrient)
- Nutrition counseling on appropriate diet.(to reduce starch, fats, & sugar)
- Emphasize the importance of regular exercise
- Assess dietary habits, food taboos, myths and misconceptions and correct if there are any negative ones.
- Should be screened for Diabetes Mellitus, Hypertension, Hypercholesteraemia by referring to the MOH.
- Follow up and monitor weight gain monthly
- If weight reduction is inadequate after 6 months refer to MOH for further advice.

Nutritional requirements and advice during pregnancy

Pregnant women should be advice to consume variety of locally available healthy foods containing adequate amounts of cereals, yams, animal foods, pulses, vegetables, green leaves, fruits and milk to meet increasing nutritional demands in pregnancy. Mothers should be encouraged to consume 3 nutritious main meals supplemented by one or two additional small meals. They should be advised to consume **additional** ½ a spoonful (spoon made of coconut shell) of rice at each meal with additional amounts vegetables green leaves, pulses and cereals.

The amount of food a woman should consume during pregnancy varies according to her level of physical activity and her BMI at the start of pregnancy. The calorie and other nutritional requirement during pregnancy is stated in the table. The daily menus should be planned to incorporate all the essential nutrients using locally available food items.

Calorie requirement during pregnancy

For women with normal BMI

Light exertion 2000 kcal

Moderate exertion 2375 kcal

Heavy exertion 2750 kcal

The recommended daily dietary allowances during pregnancy

	Age of woman		Additions for	
	16-17yrs	18-30yrs	Pregnancy	Lactation
Energy, kcals	2150	1750	360	700
Protein, g	44	44	07	19
Vitamin A, µg	750	750	-	450
Vitamin D, µg	2.5	2.5	7.5	7.5
Thiamin, mg	0.9	0.8	0.14	0.30
Riboflavin, mg	1.3	1.3	0.21	0.45
Niacin, mg	14.2	13.2	2.31	4.95
Folic Acid, µg	200	200	200	100
Vitamin B12, µg	2.0	2.0	1.0	0.5
Ascorbic acid, mg	30	30	20	20
Calcium, mg	600	500	600	600
Iron, mg	28	28	60	60
Zinc, mg	22	22	5	22

Nutrition and care of the lactating mother

Nutrition during postpartum period is extremely important due to following reasons:

- i.** To replenish the lost nutrients during pregnancy and labour
- ii.** Mothers should exclusively breast feed the child till 6/12.
- iii.** As the principle care taker of the infant, mother needs additional calories for her day to day activities geared towards survival, growth and psychosocial development of the child.
- iv.** To ensure health & nutrition throughout the life time.

Lactating mothers should be:

- Educated on diet
 - ✓ Extra serving of starch based foods at each meal
 - ✓ Consume extra piece of fish/egg/dried fish, extra serving of pulses, vegetables and green leaves daily
 - ✓ Fat (oil, butter, margarine) 1 tea spoonful
 - ✓ Fruits : ½ riped banana / any fruit like wood apple, Nellie, mangoes that is locally available
- Give Ironfolate/ iron+ folic acid, Vitamin C and Calcium for a period of six months
- Provide Thripasha 2 packets
- Educate on importance of attending postpartum clinics
- Assess and support breast feeding
 - ✓ Special follow up of children born with Low Birth Weight

(Refer the section on nutrition in the postpartum guide)

Mothers who need close monitoring and evaluation

- ✓ Low pre pregnancy BMI (< 18.5kg/m²)
- ✓ Higher pre pregnancy BMI (≥25kg/m²)
- ✓ Multiple pregnancies
- ✓ Anaemic pregnant women
- ✓ Short interval pregnancies
- ✓ Teenage pregnancies
- ✓ Pregnant while lactation
- ✓ Pregnant women with various social problems such as economically deprived, single, unmarried, subject to domestic violence, displaced.
- ✓ Pregnant women with infections such as malaria, TB, intestinal infections, STD, HIV
- ✓ Pregnant women with medical disorders like Type I & II Diabetes, gestational diabetes, PIH, Thalassemia.
 - ✓ Weight gain of < 1 kg/ month for women with normal BMI <0.5 Kg for women who are overweight.
- ✓ Gain of more than 3 Kg per month for any pregnant women

Management of a pregnant woman with a BMI less than 18.5kg/m² at first trimester or inadequate weight gain

- Measurement error has to be eliminated as a cause for inappropriate weight gain
- Take 24 hour dietary recall and assess adequacy of diet (calorie, protein and micronutrient)
- Assess dietary habits, food taboos, misconceptions and correct if there are any negative ones
- Nutrition counseling on appropriate diet:

Help to modify diet by increasing amount of starch based foods such as rice, manioc, string hoppers etc at each meal

Consuming 1-2 extra meals than other days

Using 1-2 table spoonful of oil

Including fish/dried fish/egg, pulses, vegetables and green leaves to daily diet

- Thripasha 2 packets monthly (to eat 50grams a day mixed with two teaspoons each of sugar and coconut). Assess the compliance
 - Prevent anaemia (Refer the Genral circular No. 1945 on prevention of maternal anaemia page 100)
 - Micronutrients (Iron folate, vitamin C and Calcium) daily after the 1st trimester.
 - Give worm treatment.
 - Assess the compliance of micronutrients and worm treatment.
-
- Assess and educate on factors other than dietary which could affect the maternal weight gain
 - Assess the help to reduce the house hold work load and heavy manual work. Educate the husband and the family.
 - Assess the mental support she possess and educate regarding the association between maternal mental relaxation and fetal well being
 - Assess the exposure to house hold smoke and passive tobacco smoke
 - Look for any other illnesses from which the mother suffers: eg; Urinary tract infections, parasitic infections, medical illnesses (Hypertension, DM). Refer to MOH where necessary.
 - Improve the quality of antenatal care received by the mother.
 - Follow up monthly
 - If weight gain is inadequate, refer to MOH

Assessment and management of the nutritional status of overweight or obese pregnant women

1. Assess to modify dietary habit;

- Take 24 hour dietary recall and give necessary advice accordingly (to reduce starch, fats, & sugar).
- Assess dietary habits, myths and misconceptions. Correct if there are any.
- Educate regarding the expected weight gain.
- Follow the different dietary menus provided
- Attain high coverage of micronutrients

2. They should be explained the importance of regular exercise in weight management.

3. Following advantages of weight management should be explained to them.

- Reduces the risk of hypertension, preeclampsia, gestational diabetes,
- Reduces the risk of obstetric complications such as prolonged labour, and postpartum haemorrhage.

4. Over nourished mothers should be screened for gestational diabetes, pregnancy induced hypertension and fetal wellbeing.

Annex 15

List of essential drugs for a MOH Office

For further information please refer to General circular 02-27/2011 dated 22.02.2011.

Type of drug	Name of drug	Dosage form and strength
Micronutrients	Iron folate	Tab 60mg elemental iron, 400 microgram folate
	Ferrous Sulphate	Tab 60mg elemental iron
	Folic Acid	Tab 1mg
	Calcium Lactate	Tab 300mg
	Vit C	Tab 100mg
	Vit B Complx	Tab
	Vit A	Cap 100000 IU
Antehelminthics	Mebendazole	Tab 100mg
Antibiotics	Amoxicillin	Syrup 125mg in 5ml Tab 125mg Cap 250mg
	Cloxacillin	Cap 250mg
	Metranidazole	Tab 200mg
	Erythromycin	Syrup 125mg in 5ml
	Doxycyclin	Tab 100 mg
	Miconazole	Cream 5g tubes
Drugs for Syndromic Management of disease	Salbutamol	Tab 4mg
	Chlorpheniramine	Syrup 2mg in 5ml Tab 4mg
	Paracetamol	Syrup 120mg in 5ml Tab 500mg
Local Applications	Benzyl Benzoate cream	500ml Bottles
	Lindane Solution	50-100ml Bottles
	Povidone Iodine Solution	500ml Bottles
Oral Rehydration Solution	Oral Rehydration Solution	Sachets

<p>Components of the Emergency Tray</p>	<p>Sterile Geuze Cotton Wool swabs Pair of Scissors Elasto-plaster 5ml Syringes 10ml Syringes 1ml insulin Syringes 23G Needles 0.9% Normal Saline(500ml) 50% Glucose for injection (10ml) Drip sets 23G IV Cannula Butterfly Cannula Ambu bag Face Mask-In 3 Sizes Adult,Child,Infant Adrenalin 1 in 1000 Chlorpheneramine 4mg tablets Prednisolone 5mg tablets</p>	<p>1reel 02 02 02 05 02 02 02 02 02 02 01 01 in each 02 vials 10 10</p>
<p>For screening and detection of hyperglycaemia in pregnant mothers and NCD</p>	<p>Glucose strips</p>	