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OBJECTIVES & EXPECTED COMPETENCIES FOR HEALTH WORKER TRAINING

This participant's manual is a supporting document for the training on the Maternal and Child Health Record Book, nutrition counseling services and respectful care.

OBJECTIVES:

The training seeks to build the capacity of health workers on:

1. The effective use of the Maternal and Child Health Record Book (MCH RB)
2. Nutrition Counseling skills, Counseling Services and Respectful Care
3. Appropriate use of the Growth Charts and Nutrition and Child Health Register

EXPECTED OUTCOME:

At the end of the training, the health workers will gain knowledge and skills on:

1. how to use MCH RB.
2. how to establish Nutrition Counseling Services and provide strengthened nutrition services and respectful care.
3. how to use Growth Charts and Nutrition and Child Health Register.

COMPETENCIES

It is expected that health workers will be able to:

1. Introduce MCHRB to mother.
2. Take history, examine and complete all sections of the MCHRB correctly.
3. Measure weight, length and height.
4. Calculate Body Mass Index (BMI) and determine Estimated Weight at Delivery
5. Plot and interpret trends of a child's growth on the various growth charts.
6. Counsel a pregnant woman on her own health and nutrition using the 3A counseling steps.
7. Counsel a caregiver on health and adequate nutrition for her child using the 3A counseling steps.
8. Fill the counseling tables for pregnant woman and caregiver and take appropriate actions.
9. Introduce developmental milestone to mother/caregivers.
10. Establish and operate Nutrition Counseling Services as a part of routine MCH services.
11. Provide respectful care during service delivery.
12. Accurately fill the Nutrition and Child Health Register.

MODULE 1: Introduction to Maternal and Child Health Record Book

Module description

The module aims to give a general overview of the Maternal and Child Health Record Book (MCHRB). It describes the contents of the book and explains how the health worker is expected to introduce the book to the mothers and other caregivers in an effective manner. The module outlines what the MCHRB is, how to introduce MCHRB and deliver the key messages to mother, what Continuum of Care (CoC) is and how to use the CoC card.

Objective

By the end of the module, health workers should know the content of the MCH RB and be able to introduce the MCHRB to mother.

Unit 1. Knowing your MCHRB and the CoC Card

What is MCHRB

Home-based health record of mothers, newborns and children which contains essential information to promote and maintain their health and their family's health.

MCHRB was developed to;

- link maternal health and child health records
- promote Continuum of Care
- improve communication between health providers, clients, and clients' family members
- increase knowledge of mothers, fathers and families
- share information for referral and counter referral
- improve work efficiency of health workers

The content of MCHRB

- Pink -- family identification (p.3), sweet memories and CoC card (p.60-63)
- Orange -- pregnancy records (p.4-19)
- Yellow -- delivery records (p.20-22)
- Blue -- postnatal record for mother and child and child identification (p.23-33)
- Green – records of child growth and development (p.34-59)

What is the Continuum of Care Card (CoC Card)?

It is a card for encouraging uptake of essential health care services through the provision of an acknowledgement system for mothers and children when services are rendered. All essentials

services for mothers and children are all listed at one glance. Orange for ANC services, yellow is for delivery, blue is for PNC services and green is for child welfare clinic services.

Unit 2. When and How to use CoC Card

See MCH RB page 62-63 and User Guide page 51-53

Whenever an essential service is delivered, the health worker will use the star stamp to stamp the space provided below the description of the service. Stars are given when the pregnant women, mother or caregiver accesses the service on schedule as recommended (see page 52 of User guide for recommended timings).

Key point:

- Give mother a star stamp when she receives essential services and education at recommended timings.
- Explain to a mother why you did not give a star for any particular service delivered and encourage uptake on time.

NOTE: Always acknowledge the mother's effort when you give a star stamp

Unit 3. Introduction to MCHRB (Dear Mother)

Use Page 1 of the Maternal and Child Health Record Book

Key points:

- Welcome the mother
- Request for a pregnancy test (if not done and if woman is not obviously pregnant)
- Introduce MCHRB and deliver the key messages to mother
- Request from pregnant women/caregiver if they have any questions to ask, then answer them appropriately

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MODULE 2: Completing recording sections in MCHRB

1. Module description

The module covers how to complete maternal and child records in various sections of MCHRB. It covers family identification, pregnancy record, delivery record and postnatal records for mother and child, child identification, record of child growth and development pages.

2. Objective

By the end of this module, the participant should be able to complete recording of MCHRB

Unit 1. How to fill MCHRB:

Read both MCHRB and User guide: Family identification…page 3/page 11-13, Pregnancy record…page 4-14/page 13-24, Delivery record…page 21-22/page 25-27, Postnatal record for mother and child and child identification…page 23-28/page 28-33, Records for child growth and development…page 43-57/page 33-50

Use the information provided to fill in the various records and review with the trainer.

Important things to note:

- Most of the contents are same as the old books, only the layout is different.
- Circle around the responses (○), do not tick (☒).
- When the client is not ready to give information, or when information is not available put **Dash** (-) in the space. Endeavor to probe for the information during subsequent visits
- Risk cases: if abnormalities are detected during examination, record the treatment/action taken and recommendations in the progress notes
- Always write full name and sign in health workers name and signature spaces provided

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MODULE 3: Determining Age and Measurement of height/length and weight

1. Module description

The module aims to equip health workers with skills to conduct accurate and appropriate measurement of length/height and weight of child and mother. This will include introduction and explanation on how to use newly introduced height/length board and 2 in 1 electronic weighing scales.

2. Objective

By the end of this module, participants should be able to:

- Determine the age of a child in months
- Weigh a child
- Measure length/height of a child
- Measure height of an adult

Unit 1. Determining the Age of a child

You will always need to calculate the child's age at the time of visit in order to know:

- what services to give; in the case of nutrition services whether to measure length or height
- whether or not the child will need to be measured that day
- how to plot, interpret the chart and provide appropriate counseling on feeding. !

The age of a child is determined using the **Date of Birth** of the child and the **Date of Visit to Clinic or CWC**. The age should always be calculated in **completed or absolute months** ***A child will complete a month when his/her date of birth has passed in the next month; until the last day to the next date of birth in the ensuing month.***

For example, if a child was born on 14th June 2008, he/she will be one (1) complete month on 14th July all the way till 13th August. On the 14th August, the child will turn two (2) complete months.

Where the exact date of birth is unknown, a local events calendar could be used to establish the child's likely date of birth

Example
Grace is seen at a clinic on 18th May 2016. Her mother has brought her for immunization. Grace's date of birth is already recorded on the Child Identification page of the Maternal and Child Health Record Book as 4th September 2015. Date of birth: 4th September 2015. So, 4th October 2015 – 1month

4th November 2015 – 2months 4th December 2015 – 3 months 4th April 2016 ---------- 4th May 2016 ----------

Exercise A: DETERMINING AGE

	Childs Date of birth	Date of clinic visit	Sex	Age (completed months)
A	5th May 2015	7th January 2016	M	
B	17th December 2014	2nd March 2016	M	
C	14th June 2015	9th December 2015	F	
D	21st March 2013	22nd April 2015	M	
E	20th June 2014	7th November 2015	F	
F	2nd February 2013	1st April 2014	F	
G	8th February 2015	8th August 2015	F	

Unit 2. Measurement of Weight

Assessing children's growth involves taking measurements of body parts. Weight refers to how heavy a child is and is a critical indicator of growth as it's changes almost always depicts whether the child is growing adequately.

- It is more sensitive, much easier to take and less invasive compared to others

Table 1: MEASUREMENT OF A CHILD'S WEIGHT USING THE HANGING SCALE

- To set up the scale, get a strong support. Make several knots with the twine on the support and attach the scale with the upper hook. At the beginning of each day, hang a weighing pant on the scale and re-set to zero. Repeat zeroing after every 20-30 weighing.
- Have the caregiver remove the child's clothing and put on the weighing pant. Help the caregiver if necessary.
- Receive the child and hang him/her gently on the lower hook of the scale. Involve the caregiver in calming the child. Have her remain close to the child.
- Wait until pointer stops before taking the exact reading.
- Take the reading at eye level.
- Do not round the measurement

Table 2: MEASUREMENT OF A CHILD'S WEIGHT USING THE TARED SCALE

- Place the scale on a flat, hard surface, after inserting your batteries or placing it in a well-lit area (if the scale is solar powered). The solar panel should be in good light or batteries should be new
- Mention that the mother would undress the baby.
- Put the scale on using the on/off button. If the scale is solar powered, turn it on by covering the solar panel for a second. Wait until the number 0.0 appears.
- Ask the mother to remove her shoes. Then ask her to step on the scale and stand still. Ask her to remain on the scale even after her weight appears, until you have finished weighing the baby.
- After the mother's weight is displayed, tare the scale by
    - Pressing the mother/baby feature if present
    - Pressing the two-in-one knob
    - covering the solar panel for only a second and then waiting for the number 0.0 to appear along with a figure of a mother and baby.

Note: for some of the scales, the mother/baby feature will need to be pressed before weighing the mother. The taring is automatically done

- Gently hand the "baby" to the mother. In a moment, the "baby's" weight will appear.
- Note: If the scale takes a long time to show 0.0 or a weight, it may not have enough light or the batteries may be spoilt. Reposition the scale so that the solar panel is under the most direct light available or check the batteries and ensure they are in good working condition.
- Note: If a mother is very heavy (such as more than 100 kg) and the baby is light (such as less than 2.5 kg), the baby's weight may not register on the scale. In such cases, have a lighter person hold the baby on the scale.

Unit 3a. Measurement of Length of baby

See User guide page 41-43

Length and height are new measures included in the child welfare clinic services package. The aim is to provide data to assess stunting and also as for weight, to provide information for immediate counselling of caregiver. Stunting is being too short for your age (compared to the growth standards)

The effects can be:

- Short-term: poor brain development, lower IQ, weakened immune system
- Long-term: smaller structure, lost productivity and health care costs
- Greater risk to obesity and other NCDs
- Could lead to pre-mature death

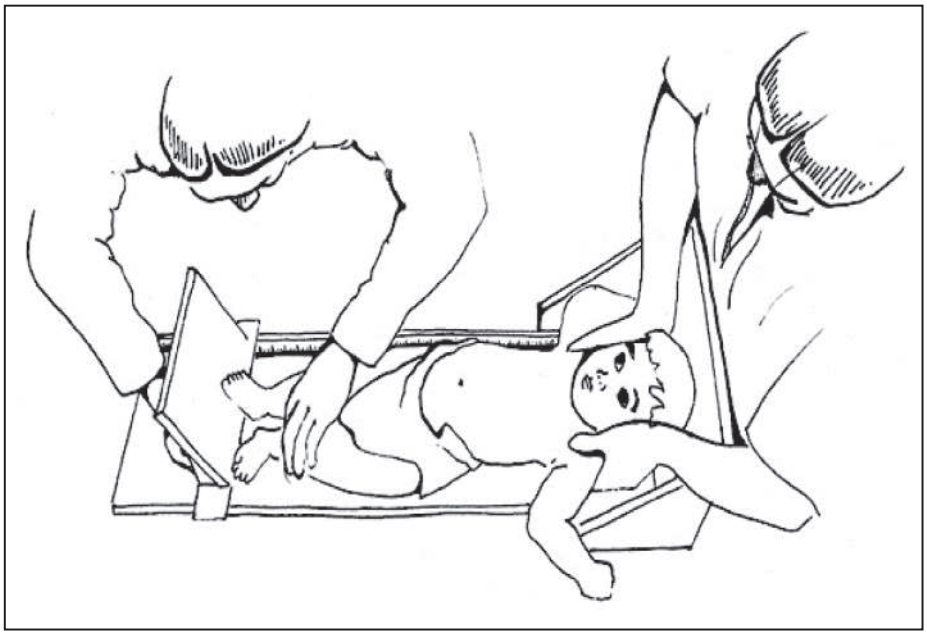
Length is measured for all children less than 2 years and height is measured for children two years till 5 years

Table 3: MEASURING A CHILD'S LENGTH USING THE LENGTH BOARD

- Place the length board on a sturdy surface, such as a table or the floor. Cover the length board with a cloth or paper towel.
- Stand on the side where you can see the measuring tape and move the footboard.
- Explain to the 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. Also show her where to place the baby's head (against the fixed headboard).
- When the mother is ready, ask her to lay the child on his back with his head against the headboard, compressing the hair.
- Quickly position the head so that the child's eyes are looking straight up (imaginary vertical line from the ear canal to the lower border of the eye socket is perpendicular to the board). The person assisting should stand behind the headboard and hold the head in this position.
- Speed is important.
- Check that the child lies straight along the board and does not change position.
- Hold down the child's legs with one hand and move the footboard with the other. You will have best control if you hold the child's legs at the knees (with one finger between the knees) and gently press them down.
- While holding the knees, move the footboard against the soles of the child's feet. The soles should be flat against the footboard, toes pointing upwards. If the child bends the toes or arches the foot, 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 (this is the last line that you can see).
    - **Note:** If the child is extremely agitated and both legs cannot be held in position, measure with one leg in position.
    - **Note:** It is not possible to straighten the knees of newborns. Apply minimum pressure because newborns are fragile and could be injured easily.

Note: If the child whose length you measured is 2 years or older, subtract 0.7 cm from the length and record the result as height on the Growth Parameters Table in the MCH RB

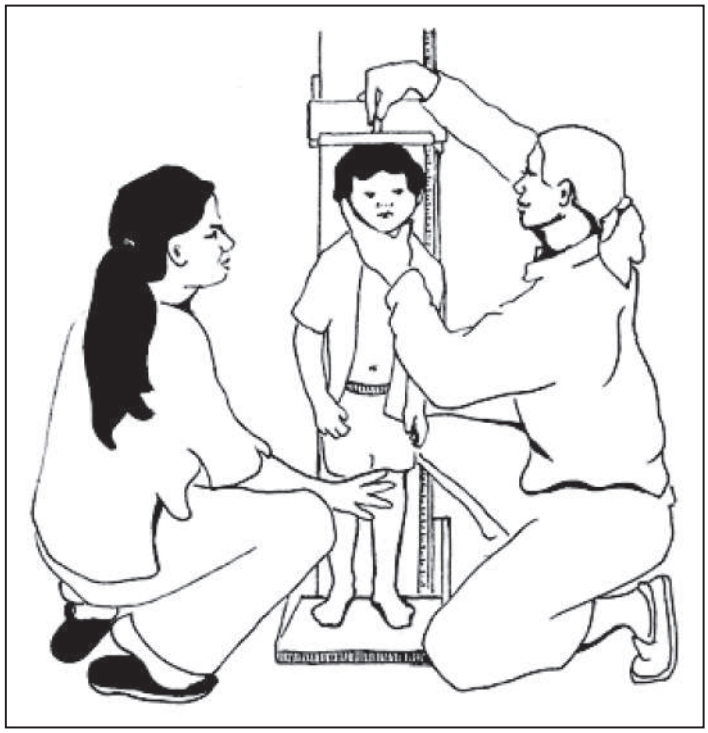
Figure 1: Taking the Length of a Baby



Unit 3b. Measurement of height of child

Table 4: MEASURING THEHEIGHT OF A CHILD USING THE HEIGHT BOARD
▪ Place the height board with its back against the wall, so that it sits flat on the floor and cannot tip backward. ▪ Place yourself to the right of the height board, kneeling down so that your head is at the level of the child's head. ▪ Position the "child" (doll) on the baseboard with the **back of the head, shoulder blades, buttocks, calves, and heels** touching the vertical board. These are known as the five critical points in height measurement ▪ Ask the person assisting to kneel down, hold the child's knees and feet in place, and to focus the child's attention and soothe the child as needed. ▪ Position the child's head and hold the chin in place with your left hand. Push gently on the tummy to help the child stand to full height. ▪ With your right hand bring down the headboard to rest on the top of the head. Read and record the measurement to the last completed 0.1 cm. This is the last line that you can actually see.

Figure 2: Measuring standing Height of a child



Unit 3c. Measuring Height of Adult

While the measurement of height of children might be simple, it is not so for adults, especially adult women due to the variability of body shapes. However, for the adult woman, efforts should be made to get at least two of the five critical points to touch the board – heels, calf, buttocks, shoulder and back of head.

Table 5: MEASURING THE HEIGHT OF AN ADULT

- Explain you will want the participant to stand as tall and straight as possible.
- Ensure that heavy outer clothing and shoes are removed, undo or adjust hairstyles and remove hair accessories that interfere with measurement.
- Ask the participant to stand on the stadiometer, facing forwards as tall and straight as possible with their arms hanging loosely at their sides.
- Their feet should be flat on the base plate of the stadiometer and positioned slightly apart, in line with their hips, to aid balance. There will be some exceptions (e.g. participants with a larger chest/belly).
- Their knees should be straight, and their buttocks and shoulders should touch the stadiometer. Again, there may be some exceptions (e.g. participants with a bigger bottom).
- Ensure the participant's head is in the "Frankfurt plane". This position is an imaginary line from the centre of the ear hole to the lower boarder of the eye socket.
- One measurer may manipulate the participant's head in his/her hands by placing the heels of his/her palms to either side of the face and the fingers of each hand resting on the back of the

skull above the neck. Firmly but gently, apply upward pressure lifting their head to the maximum height.

- Both measurers can check for any bending of the knees, slumping of shoulders or raising of heels.
- Ask the participant to take a deep breath and hold.
- The assisting measurer standing at the side should then bring the head plate down onto the head, ensuring it rests on the crown of the head.
- The person should then read the measurement. Health worker's eyes should be level with counter/pointer and measurement read to the nearest 0.1 cm.

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MODULE 4: Plotting and Interpretation

1. Module description

The module will describe and explain how to plot measured weight and height/length of child and interpret the child's growth, as well as to calculate BMI and determine estimated desired weight at delivery.

2. Objective

By the end of this module, health workers should be able to:

- plot height/length and weight and interpret the growth for child
- explain Growth Monitoring and Promotion and the rationale for conducting GMP
- appropriately fill the Nutrition and Child Health Register
- determine estimated desired weight at EDD for a pregnant woman.

Unit 1. Plotting

See MCHRB page 43-50 and User Guide page 36-38

Plotting is the process of combining the weight/length/height and age of a child on the growth chart to be able to determine the pattern of growth. **A plotted point** – the point on a graph where a vertical line drawn from the x-axis (e.g. age) intersects with a horizontal line drawn from a measurement on the y-axis (e.g. weight).

Important Things to Note when plotting

- Use the appropriate growth charts pages for boy or girl
- Write the measured weights/heights in the boxes at the bottom of the chart.
- Join the dots/plots for successive visits
- If the client missed one or two scheduled measurements, do not join the dots.

Unit 2. Interpret a plotted point and a set of plotted points

The curved lines printed on the growth charts will help you interpret the plotted points that represent a child's growth status. on the growth chart,

- The line labelled 0 represents the median, which is, generally speaking, the average.
- The other curved lines called z-score lines indicate distance from the average. The median and the z-score lines on each growth chart were derived from measurements of children in the WHO Multicentre Growth Reference Study.
- Z-score lines on the growth charts are numbered positively (2, 3) or negatively (, −2, −3).
- In general, a plotted point that is far from the median in either direction (for example,

close to the 3 or −3 z-score line) may represent a growth problem

- To interpret points, consider other factors, such as the growth trend and the health condition of the child.

Table for Interpretation of Plotted points

WEIGHT-FOR-AGE		**LENGTH/HEIGHT-FOR-AGE**	
Classification	**Z-Score**	**Classification**	**Z-score**
Normal	From -2 SD to +2 SD and above	Normal	From -2 SD to +2 SD
Moderate underweight	Below -2 SD to -3 SD	Moderate stunting	Between -2 SD and -3 SD
Severe underweight	Below -3SD	Severe stunting	Below -3SD
WEIGHT-FOR-LENGTH/HEIGHT		Tall	Between +2 SD and +3 SD
Classification	**Z-score**	Very tall	Above +3 SD
Normal	From -2 SD to +2 SD		
Moderate wasting	Between -2 SD and -3 SD		
Severe wasting	Below -3SD		
Overweight	Between +2 SD and +3 SD		
Obese	Above +3 SD		

**The z-score label in this column refers to a range.*

For example 'above 2' means 2.1 to 3.0; below -2' refers to -2.1 to -3.0, etc.

Unit 4. Growth Monitoring and Promotion

- Growth Monitoring is the process of tracking how well child's growth by comparing it to a standard through periodic anthropometric measurements in order to assess growth adequacy and identify faltering at early stages.
- Assessing growth allows capturing growth faltering before the child reaches the status of under-nutrition.
- Growth Monitoring and Promotion is a **prevention activity** that **uses growth monitoring to facilitate communication and interaction with caregivers and to generate adequate action to promote child growth through:**
  - Increased caregiver's awareness about child growth.
  - Improved caring practices
  - Increased demand for other services as needed
  - Appropriate actions base on correct interpretation, counseling and follow-up achieve adoption of recommended behaviors that support optimal growth of the child, but also the entire household.

Unit 5. The Nutrition and Child Health register

The Nutrition and Child Health Register is the document in which information taken during the Growth Monitoring and Promotion sessions are recorded on a daily basis at the facility level. The data is then collated at the end of the month onto the Child Health and Nutrition forms and entered onto the online software.

***The Nutrition and Child Health Register: Registration Details*:**

Registration Page:

REGISTRATION DETAILS											
Serial No.	Child Regis No.	Child's Name	Date of Birth	Date First Seen	Sex	Birth Weight	Birth Length	Birth Regis. No.	Sickling Status	Mothers Name	Tel. No./Traceable Address

The Nutrition and Child Health Register: Growth Monitoring 0-11; 12-23; 24-59 months

GROWTH MONITORING

Month 1		Month 2	Month 3			Month 4	Month 5	Month 6			Month 7	Month 8	Month 9		Month 10	Month 11
Date:	HIV EXPOSED [Y] [N]	Date	Date		Feeding Status	Date	Date	Date		Vitamin A [Y]	Date	Date	Date		Date	Date
W (kg)/Z-S	*PROPHYLAXIS GIVEN [Y] [N]	W (kg)/Z-S	W (kg)/Z-S	**L(cm)/ Z-S	[EBF]	W (kg)/Z-S	W (kg)/Z-S	W (kg)/Z-S	**L(cm)/ Z-S	CF started [Y] [N]	W (kg)/Z-S	W (kg)/Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	W (kg)/Z-S
Classify [S] [M] [N]	EID DONE [Y] [N] EID RESULTS	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	[Other]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]		Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]

GROWTH MONITORING

Month 12			Month 13	Month 14	Month 15		Month 16	Month 17	Month 18			Month 19	Month 20	Month 21		Month 22	Month 23
Date		Vitamin A @ 12mos	Date	Date	Date		Date	Date	Date		Vitamin A [Y]	Date	Date	Date		Date	Date
W (kg)/Z-S	**L(cm)/ Z-S	[Y]	W (kg)/Z-S	W (kg)/Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	W (kg)/Z-S	W (kg)/Z-S	**L(cm)/ Z-S	*Antibody Test Result	W (kg)/Z-S	W (kg)/Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	W (kg)/Z-S
Classify [S] [M] [N]	Classify [S] [M] [N]	Is child BF [Y] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	[P] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]

GROWTH MONITORING

Visit 1		Visit 2		Visit 3		Visit 4		Visit 5		Visit 6		Visit 7		Visit 8		Visit 9		Visit 10		Visit 11		Visit 12		VIT A @ 24mos	VIT A @ 30mos	VIT A @ 36mos	VIT A @ 42mos	VIT A @ 48mos	VIT A @ 54mos
Date		Date		Date		Date		Date		Date		Date		Date		Date		Date		Date		Date							
Age		Age		Age		Age		Age		Age		Age		Age		Age		Age		Age		Age							
W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S	W (kg)/Z-S	**L(cm)/ Z-S						
Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]	Classify [S] [M] [N]						

Unit 6. Determine estimated desired weight at Delivery and interpret

See MCHRB page 6 and User Guide page 16-17

At the first ANC visit, health worker should set client's **weight gain goal during pregnancy** based on the Body Mass Index (BMI) category determined **by 12 weeks of pregnancy**, talk to them about appropriate weight gain during each trimester and stress the importance of eating a nutritionally adequate meal and being active during pregnancy as a part of nutrition education.

Step 1: Determine the BMI and Classify

There are three ways to be able to determine or obtain the body mass index of the pregnant woman.

a. Calculate the BMI using the formula

BMI = Weight (kg)/Height (m^2)

If you have a mobile phone or a calculator, you can easily calculate the BMI. You should divide weight by height **twice.**

For example, weight 53 kg and height 162. The calculation will be 53÷1.62 ÷1.62=20.20.

Classify using the Table below:

Table 6: Classification of BMI

BMI at ANC1 (by 12 weeks) = Weight (kg) / Height (m^2)	
<18.5	**Underweight**
18.5 - 24.9	**Normal**
25 - 29.9	**Overweight**
≧30	**Obese**

b. Use the BMI Chart

The BMI Chart is a tool used to determine how appropriate one's weight is compared to the height. The standardized BMI chart is split into four categories:

- Underweight = a BMI score less than 18.5 (note that some experts feel this number should be closer to 19, as a BMI of 18.5 is very rarely a healthy weight for most adults)
- Normal, healthy weight = BMI score between 18.5–24.9
- Overweight = BMI between 25–29.9
- Obesity = BMI of 30 or greater

The Chart has the classifications embedded in it. To use the BMI Chart,

1. Find the client's height in the left-hand column (1 meter=100cm).

2. Find the client's weight in the corresponding height row.
3. Read off the corresponding BMI value.

Blue shows underweight (BMI <18.5)

Green shows normal (BMI 18.5-24.9)

Yellow shows overweight (BMI 25 – 29.9)

Red shows obese (BMI □30)

Table 7: The Body Mass Index (BMI) Chart: BMI Values corresponding to height and weight

BMI	16.0	17.0	18.5	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0
	Underweight		Normal							Overweight					Obese
Height(cm)	Weight (kg)														
140.0	31.4	33.3	36.3	37.2	39.2	41.2	43.1	45.1	47.0	49.0	51.0	52.9	54.9	56.8	58.8
141.0	31.8	33.8	36.8	37.8	39.8	41.8	43.7	45.7	47.7	49.7	51.7	53.7	55.7	57.7	59.6
142.0	32.3	34.3	37.3	38.3	40.3	42.3	44.4	46.4	48.4	50.4	52.4	54.4	56.5	58.5	60.5
143.0	32.7	34.8	37.8	38.9	40.9	42.9	45.0	47.0	49.1	51.1	53.2	55.2	57.3	59.3	61.3
144.0	33.2	35.3	38.4	39.4	41.5	43.5	45.6	47.7	49.8	51.8	53.9	56.0	58.1	60.1	62.2
145.0	33.6	35.7	38.9	39.9	42.1	44.2	46.3	48.4	50.5	52.6	54.7	56.8	58.9	61.0	63.1
146.0	34.1	36.2	39.4	40.5	42.6	44.8	46.9	49.0	51.2	53.3	55.4	57.6	59.7	61.8	63.9
147.0	34.6	36.7	40.0	41.1	43.2	45.4	47.5	49.7	51.9	54.0	56.2	58.3	60.5	62.7	64.8
148.0	35.0	37.2	40.5	41.6	43.8	46.0	48.2	50.4	52.6	54.8	57.0	59.1	61.3	63.5	65.7
149.0	35.5	37.7	41.1	42.2	44.4	46.6	48.8	51.1	53.3	55.5	57.7	59.9	62.2	64.4	66.6
150.0	36.0	38.3	41.6	42.8	45.0	47.3	49.5	51.8	54.0	56.3	58.5	60.8	63.0	65.3	67.5
151.0	36.5	38.8	42.2	43.3	45.6	47.9	50.2	52.4	54.7	57.0	59.3	61.6	63.8	66.1	68.4
152.0	37.0	39.3	42.7	43.9	46.2	48.5	50.8	53.1	55.4	57.8	60.1	62.4	64.7	67.0	69.3
153.0	37.5	39.8	43.3	44.5	46.8	49.2	51.5	53.8	56.2	58.5	60.9	63.2	65.5	67.9	70.2
154.0	37.9	40.3	43.9	45.1	47.4	49.8	52.2	54.5	56.9	59.3	61.7	64.0	66.4	68.8	71.1
155.0	38.4	40.8	44.4	45.6	48.1	50.5	52.9	55.3	57.7	60.1	62.5	64.9	67.3	69.7	72.1
156.0	38.9	41.4	45.0	46.2	48.7	51.1	53.5	56.0	58.4	60.8	63.3	65.7	68.1	70.6	73.0
157.0	39.4	41.9	45.6	46.8	49.3	51.8	54.2	56.7	59.2	61.6	64.1	66.6	69.0	71.5	73.9
158.0	39.9	42.4	46.2	47.4	49.9	52.4	54.9	57.4	59.9	62.4	64.9	67.4	69.9	72.4	74.9
159.0	40.4	43.0	46.8	48.0	50.6	53.1	55.6	58.1	60.7	63.2	65.7	68.3	70.8	73.3	75.8
160.0	41.0	43.5	47.4	48.6	51.2	53.8	56.3	58.9	61.4	64.0	66.6	69.1	71.7	74.2	76.8
161.0	41.5	44.1	48.0	49.2	51.8	54.4	57.0	59.6	62.2	64.8	67.4	70.0	72.6	75.2	77.8
162.0	42.0	44.6	48.6	49.9	52.5	55.1	57.7	60.4	63.0	65.6	68.2	70.9	73.5	76.1	78.7
163.0	42.5	45.2	49.2	50.5	53.1	55.8	58.5	61.1	63.8	66.4	69.1	71.7	74.4	77.1	79.7
164.0	43.0	45.7	49.8	51.1	53.8	56.5	59.2	61.9	64.6	67.2	69.9	72.6	75.3	78.0	80.7
165.0	43.6	46.3	50.4	51.7	54.5	57.2	59.9	62.6	65.3	68.1	70.8	73.5	76.2	79.0	81.7
166.0	44.1	46.8	51.0	52.4	55.1	57.9	60.6	63.4	66.1	68.9	71.6	74.4	77.2	79.9	82.7
167.0	44.6	47.4	51.6	53.0	55.8	58.6	61.4	64.1	66.9	69.7	72.5	75.3	78.1	80.9	83.7
168.0	45.2	48.0	52.2	53.6	56.4	59.3	62.1	64.9	67.7	70.6	73.4	76.2	79.0	81.8	84.7
169.0	45.7	48.6	52.8	54.3	57.1	60.0	62.8	65.7	68.5	71.4	74.3	77.1	80.0	82.8	85.7
170.0	46.2	49.1	53.5	54.9	57.8	60.7	63.6	66.5	69.4	72.3	75.1	78.0	80.9	83.8	86.7
171.0	46.8	49.7	54.1	55.6	58.5	61.4	64.3	67.3	70.2	73.1	76.0	79.0	81.9	84.8	87.7
172.0	47.3	50.3	54.7	56.2	59.2	62.1	65.1	68.0	71.0	74.0	76.9	79.9	82.8	85.8	88.8
173.0	47.9	50.9	55.4	56.9	59.9	62.9	65.8	68.8	71.8	74.8	77.8	80.8	83.8	86.8	89.8

174.0	48.4	51.5	56.0	57.5	60.6	63.6	66.6	69.6	72.7	75.7	78.7	81.7	84.8	87.8	90.8
175.0	49.0	52.1	56.7	58.2	61.3	64.3	67.4	70.4	73.5	76.6	79.6	82.7	85.8	88.8	91.9
176.0	49.6	52.7	57.3	58.9	62.0	65.0	68.1	71.2	74.3	77.4	80.5	83.6	86.7	89.8	92.9
177.0	50.1	53.3	58.0	59.5	62.7	65.8	68.9	72.1	75.2	78.3	81.5	84.6	87.7	90.9	94.0
178.0	50.7	53.9	58.6	60.2	63.4	66.5	69.7	72.9	76.0	79.2	82.4	85.5	88.7	91.9	95.1
179.0	51.3	54.5	59.3	60.9	64.1	67.3	70.5	73.7	76.9	80.1	83.3	86.5	89.7	92.9	96.1
180.0	51.8	55.1	59.9	61.6	64.8	68.0	71.3	74.5	77.8	81.0	84.2	87.5	90.7	94.0	97.2
181.0	52.4	55.7	60.6	62.2	65.5	68.8	72.1	75.4	78.6	81.9	85.2	88.5	91.7	95.0	98.3
182.0	53.0	56.3	61.3	62.9	66.2	69.6	72.9	76.2	79.5	82.8	86.1	89.4	92.7	96.1	99.4
183.0	53.6	56.9	62.0	63.6	67.0	70.3	73.7	77.0	80.4	83.7	87.1	90.4	93.8	97.1	100.5
184.0	54.2	57.6	62.6	64.3	67.7	71.1	74.5	77.9	81.3	84.6	88.0	91.4	94.8	98.2	101.6
185.0	54.8	58.2	63.3	65.0	68.5	71.9	75.3	78.7	82.1	85.6	89.0	92.4	95.8	99.3	102.7
186.0	55.4	58.8	64.0	65.7	69.2	72.7	76.1	79.6	83.0	86.5	89.9	93.4	96.9	100.3	103.8
187.0	56.0	59.4	64.7	66.4	69.9	73.4	76.9	80.4	83.9	87.4	90.9	94.4	97.9	101.4	104.9
188.0	56.6	60.1	65.4	67.2	70.7	74.2	77.8	81.3	84.8	88.4	91.9	95.4	99.0	102.5	106.0
189.0	57.2	60.7	66.1	67.9	71.4	75.0	78.6	82.2	85.7	89.3	92.9	96.4	100.0	103.6	107.2
190.0	57.8	61.4	66.8	68.6	72.2	75.8	79.4	83.0	86.6	90.3	93.9	97.5	101.1	104.7	108.3
191.0	58.4	62.0	67.5	69.3	73.0	76.6	80.3	83.9	87.6	91.2	94.9	98.5	102.1	105.8	109.4
192.0	59.0	62.7	68.2	70.0	73.7	77.4	81.1	84.8	88.5	92.2	95.8	99.5	103.2	106.9	110.6
193.0	59.6	63.3	68.9	70.8	74.5	78.2	81.9	85.7	89.4	93.1	96.8	100.6	104.3	108.0	111.7
194.0	60.2	64.0	69.6	71.5	75.3	79.0	82.8	86.6	90.3	94.1	97.9	101.6	105.4	109.1	112.9
195.0	60.8	64.6	70.3	72.2	76.1	79.9	83.7	87.5	91.3	95.1	98.9	102.7	106.5	110.3	114.1
196.0	61.5	65.3	71.1	73.0	76.8	80.7	84.5	88.4	92.2	96.0	99.9	103.7	107.6	111.4	115.2
197.0	62.1	66.0	71.8	73.7	77.6	81.5	85.4	89.3	93.1	97.0	100.9	104.8	108.7	112.5	116.4
198.0	62.7	66.6	72.5	74.5	78.4	82.3	86.2	90.2	94.1	98.0	101.9	105.9	109.8	113.7	117.6
199.0	63.4	67.3	73.3	75.2	79.2	83.2	87.1	91.1	95.0	99.0	103.0	106.9	110.9	114.8	118.8
200.0	64.0	68.0	74.0	76.0	80.0	84.0	88.0	92.0	96.0	100.0	104.0	108.0	112.0	116.0	120.0
201.0	64.6	68.7	74.7	76.8	80.8	84.8	88.9	92.9	97.0	101.0	105.0	109.1	113.1	117.2	121.2
202.0	65.3	69.4	75.5	77.5	81.6	85.7	89.8	93.8	97.9	102.0	106.1	110.2	114.3	118.3	122.4
203.0	65.9	70.1	76.2	78.3	82.4	86.5	90.7	94.8	98.9	103.0	107.1	111.3	115.4	119.5	123.6
204.0	66.6	70.7	77.0	79.1	83.2	87.4	91.6	95.7	99.9	104.0	108.2	112.4	116.5	120.7	124.8
205.0	67.2	71.4	77.7	79.8	84.1	88.3	92.5	96.7	100.9	105.1	109.3	113.5	117.7	121.9	126.1
206.0	67.9	72.1	78.5	80.6	84.9	89.1	93.4	97.6	101.8	106.1	110.3	114.6	118.8	123.1	127.3
207.0	68.6	72.8	79.3	81.4	85.7	90.0	94.3	98.6	102.8	107.1	111.4	115.7	120.0	124.3	128.5
208.0	69.2	73.5	80.0	82.2	86.5	90.9	95.2	99.5	103.8	108.2	112.5	116.8	121.1	125.5	129.8
209.0	69.9	74.3	80.8	83.0	87.4	91.7	96.1	100.5	104.8	109.2	113.6	117.9	122.3	126.7	131.0
210.0	70.6	75.0	81.6	83.8	88.2	92.6	97.0	101.4	105.8	110.3	114.7	119.1	123.5	127.9	132.3

c. Use a BMI wheel

The BMI wheel is a tool to help health workers to quickly determine the Body Mass Index (BMI) of the pregnant woman. The outer disk shows weight in kilo grams and inner disk shows height in meters.

The BMI wheel is a type of Chart; only in a wheel form.

To us the BMI Wheel,

- Measure weight and height of the client
- Match her weight and height on the wheel and determine her BMI category.

To Classify, flip the wheel. The table at the backside of the wheel shows BMI categories. After determination of the BMI of the woman, compare the value obtained to the standard values at the back of the wheel.

Example: if a woman's weight is 50 Kg and height is 153 cm, find 50 Kg gridline of the outer disk, and move inner disk until 1.53 m is aligned with 50 Kg. Then look at the BMI category pointed by the arrow. It points at "ideal body weight" category, which means her BMI is "normal".

Step 2: Determine desired weight at delivery

See Table 8:

- Add the weight measured at ANC1 at or before 12 weeks to the minimum and maximum weight gain expected.

- Record the weight range: minimum and maximum on Page 6 at the Estimated weight at EDD section
- Remember to compare weight measured during all ANC visits to the EDD range. A weight below the minimum recorded near term requires intervention. Similarly, a weight above or close to the maximum before term should be investigated and appropriate action(s) taken.

Table 8: BMI classification and estimated desired weight at EDD

BMI at ANC1 (by 12 weeks) = Weight (kg) / Height (m)^2	**Estimated desired weight at EDD (range)**
< 18.5 Underweight	From weight at ANC 1 + **12.5kg** to weight at ANC 1 + **18kg**
18.5 - 24.9 Normal	From weight at ANC 1 + **11.5kg** to weight at ANC 1 +**16kg**
25 - 29.9 Overweight	From weight at ANC 1 + **7 kg** to weight at ANC 1 + **11.5kg**
≧ 30 Obese	From weight at ANC 1 + **5kg** to weight at ANC 1 + **9 kg**

Practice: calculate BMI and estimated desired weight with the following information,

- Question A: 21 year-old, 9 weeks pregnancy, height 156cm, weight 44kg
- Question B: 23 year-old, 10 weeks pregnancy, height 151cm, weight 58kg
- Question C: 29 year old, 8 weeks pregnancy, height 167cm, weight 68kg
- Question D: 35 year old, 11 weeks pregnancy, height 162 cm, weight 72kg
- Question E: 31 year old, 8 weeks pregnancy, height 169 cm, weight 90kg

Notes

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MODULE 5: Basic Nutrition and Health and Key Nutrition Messages

1. Module description

The module discusses basic maternal and child nutrition and health and nutrition messages that should be delivered to pregnant women/caregivers as well as the recommended timings to deliver each of the key messages. It also explains components of nurturing care and assessment of developmental milestones.

2. Objective

By the end of this module, participants should be able to understand basic maternal and child nutrition, including nurturing care and be able to deliver timely and appropriate health and nutrition messages, assess child developmental milestones and give recommendations for child care.

Unit 1. Basic nutrition

Section 1. Nutrient Requirements and Feeding/Dietary Recommendations in Pregnancy, Lactation, Infancy and Childhood

Section 1a: Nutritional Requirements in Pregnancy

- Pregnancy is characterised by high growth rate, which usually makes that woman have increased nutritional needs. This is due to growing foetus, expanding blood volume and need to lay down fat for the lactation period and for maternal needs if woman is undernourished or an adolescent.

- During the period of pregnancy, a woman should gain weight steadily; at least 12.5kgs for the whole pregnancy period.
  - During the first three months, weight gain a total of 1–2 kg is expected and thereafter, about 0.5kg every week for the rest of her pregnancy.
  - If she has already gained 11 kg after six–seven months, she should continue to gain moderately until delivery. The baby puts on most of its weight during the last few months.
  - Excessive weight gain during pregnancy can increase baby's risk of health problems such as foetal macrosomia. The pregnant women might also be at increased risk of pregnancy induced hypertension, gestational diabetes, and prolonged labour.

- If a woman is undernourished, her ability to survive childbirth and give birth to a healthy baby is weakened, translating into increased morbidity and mortality of mothers and their infants.

- What a woman eats when she is pregnant can have a profound and lasting effect on her health and the health of her child. Foetal growth is negatively affected in the presence of poor nutrition.

- Consequences of poor nutrition during pregnancy includes:

  For the pregnant woman:

  - Increased risk of maternal complications and death
  - Increased infection
  - Anaemia
  - Lethargy and weakness, lower productivity

  For the foetal and infant health

  - Increased risk of foetal, neonatal, and infant death
  - Intra-uterine growth retardation, low birth weight, prematurity
  - Birth defects
  - Cretinism
  - Brain damage
  - Increased risk of infection

Section 1b: Meeting needs during Pregnancy

In Pregnancy

Increased need for: energy, protein, essential fatty acids, **vitamin A**, vitamin C, B vitamins (B1, B2, B3, B5, B6, B12, folate), calcium, phosphorus, **iron**, zinc, copper and **iodine**. Therefore, **the pregnant woman should eat** at least one additional meal (200 Kcal) per day; and should include foods that are good sources of iron and other micronutrients.

Section 1c: Meeting needs during Lactation

In lactation

Cost of breastmilk production and woman's own needs; her nutritional status (especially for underweight women) in addition to her own increases her requirements. Therefore, the lactating woman should increase energy intake by about 505kcal, translating into 2 additional meals per day. This should be increased if the woman is undernourished or an adolescent

Note: for all pregnant and lactating women:

- Use iodised salt for their cooking.
- Reduce energy expenditure: e.g. receive support from family to reduce household chores and

take rest periods.

- Eat vitamin A rich foods (e.g plant/animal sources).
- Eat a variety of foods (by meal and across the day).
- Take your Iron and Folic Acid tablets as recommended.

(See Pg 17 and 29 of MCHRB)

Section 1d: Requirements for the HIV+ Mother

- HIV infection increases energy requirements. Reduced appetite, poor nutrient absorption, and physiological changes can lead to weight loss and malnutrition in HIV-infected people. There is less chance of an HIV-positive woman passing the virus to her baby if she is healthy.
- Nutritional requirements of HIV-positive women are greater and should be met by increased intakes of nutritious foods.

HIV-POSITIVE ASYMPTOMATIC (not showing signs associated with the infection)	HIV-POSITIVE SYMPTOMATIC (showing signs associated with the infection)
At least 3 or 4 meals and 2 snacks	At least 4 meals and 2 snacks

Section 1e: Recommendations for Calcium

- Calcium supplementation is not recommended routinely during pregnancy or lactation and that emphasis should be placed on dietary sources.
- They should supplement only when dietary sources are unable to provide adequate amounts according to the schedule below:
  - Calcium supplements equivalent to I.5 - 2 mg elemental calcium daily (in 3-doses).
  - And they need is to leave at least 2 hours in-between taking calcium supplements and taking iron supplements.

Section 1f: Nutritional Requirements and Feeding Recommendation from Infancy to 23 months

See MCHRB page 29 and 31

- Meeting Nutritional requirements and feeding recommendations during infancy and childhood are to ensure adequate growth and development: growth in length, weight, brain development.
- The needs are different for different ages and that there are additional increases during the periods of growth spurts and illness

Recommendations from 0-6 months

- **Exclusive breastfeeding of infant from birth till six months.**
- Breastmilk supplies all the energy and nutrient needs of the infant from birth up to 6months and even more.
- The body adapts to the changing needs of the infant… first day- very little is needed.

Recommendations for HIV exposed baby

- HIV positive mothers should **exclusively breastfeed their infants for the first 6 months of life**, introduce appropriate complementary foods thereafter and **continue breastfeeding for the first 12 months of life**
- Exclusive breastfeeding reduces the risk of death from diarrhoea, pneumonia and malnutrition among babies born to HIV positive mothers in the same way that it protects babies of HIV negative mothers against infections

Recommendations from 6 months

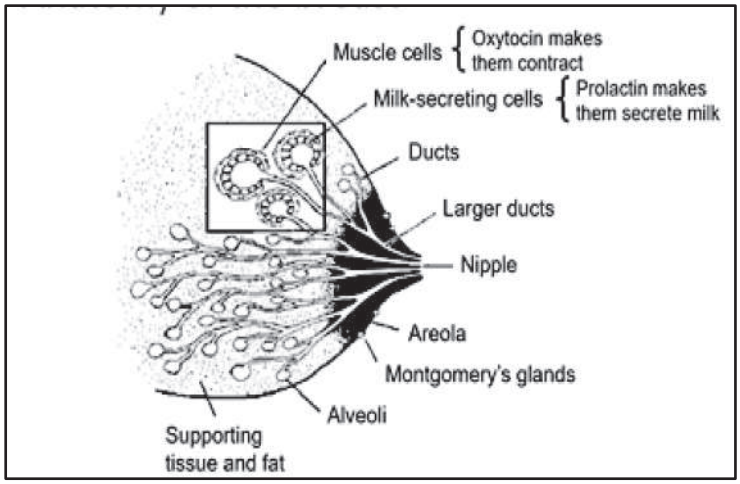
- From 6 months, breastmilk is no longer adequate to supply all the nutrients and energy the baby needs. It however supplies about 60% energy up to 1 year and about 40% energy from 1 up to 2 years. There is the need to fill gap with family foods to complement BM until child fully transits onto family foods. This is called **Complementary feeding**.
- It is expected that Complementary foods should be rich in energy, protein and micronutrients (particularly iron, zinc, calcium, vitamin A, vitamin C and folate); not spicy or salty; easy for the child to eat; liked by the child and locally available and affordable.

Key Complementary Feeding Recommendations

- Recommendations for feeding the child from 6 months is based on Age of child and describes
  - Frequency (number) of meals per day
  - Amount to be eaten at a meal
  - Texture (consistency)
  - Variety of meals (the 4-star diet)
  - Responsive feeding and
  - Hygiene practices

Section 2: Breastfeeding

Figure 3: Anatomy of the Breast



Hormonal controls in breast milk production and breastfeeding

- Breastmilk production is controlled by hormonal impulses in the brain. When a child suckles, impulses are sent to the brain to release a hormone called 'prolactin', which acts on the alveoli to produce milk.
- The suckling impulses causes the brain to produce another hormone, 'oxytocin' , which acts on the myoepithelial cells to contract, pushing out the milk.

Figure 4: Hormonal Controls during Breastfeeding – Prolactin

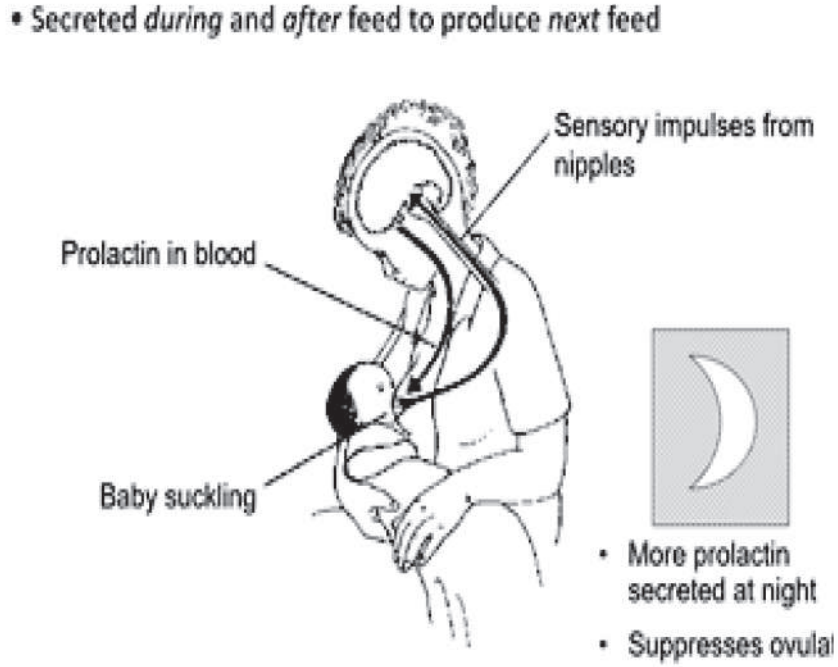


Figure 5: Hormonal Controls during Breastfeeding – Oxytocin

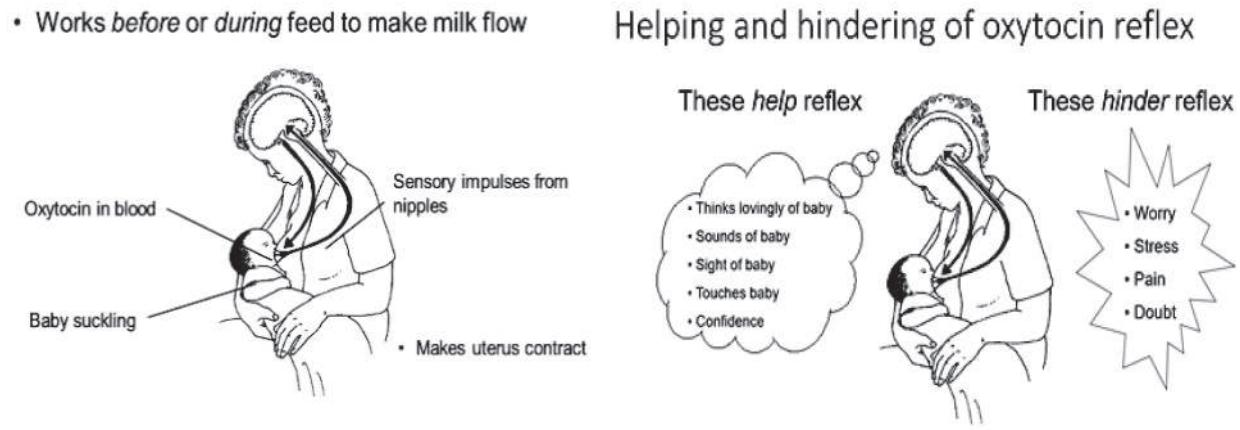
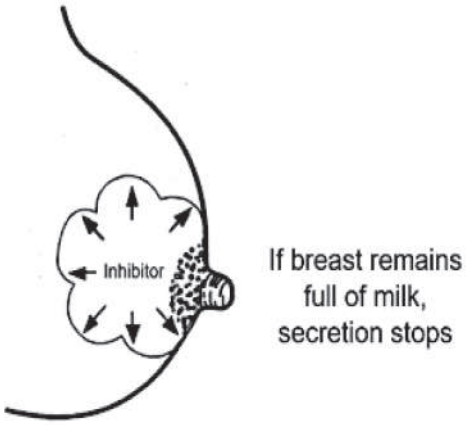


Figure 6: Action of Inhibitor in Breastmilk



Main benefits of breastfeeding

The Lancet Series, 2016 on https://www.thelancet.com/series/breastfeeding

- Breast milk has perfect nutrients, is easily digested, efficiently used and protects against infection.
- Breastfeeding helps bonding and development, helps delay a new pregnancy, protects mothers' health and is priceless.

Key Breastfeeding Recommendations

- Breastfeeding communication during ANC
- Early Skin-to-skin contact and Initiation of breastfeeding

- Avoidance of pre-lacteal feeding, unless medically indicated
- Promotion Exclusive Breastfeeding
- Promotion of Demand feeding: frequently, both day and night (10 – 12 times)
- Encourage emptying of one breast completely before offering the other: Let baby come off breast by itself
- Ensure Good positioning and attachment

Section 5: Seasonal food calendar

Seasonal Food Calendar: Inexpensive and available foods (market and/or home)

January	**February**	**March**
Home	Home	Home
Market	Market	Market
April	**May**	**June**
Home	Home	Home
Market	Market	Market
July	**August**	**September**
Home	Home	Home
Market	Market	Market
October	**November**	**December**
Home	Home	Home
Market	Market	Market

Unit 3. Nurturing Care in Early Childhood Development (ECD)

- Nurturing care refers to the creation of a stable environment by parents and other caregivers that ensure children's good health and nutrition.
- Nurturing care also involves putting in place measures that protects the child from threat and gives young children opportunities for early learning through interactions that are emotionally supportive and responsive
- The five critical domains in Nurturing care
  - Adequate Nutrition
  - Good Health
  - Responsive caregiving
  - Early Learning
  - Security and Safety

Important take home messages

- A mother's physical, nutritional and mental wellbeing affects the ultimate health and wellbeing of her child
- Ensuring good health of the child means monitoring the child's growth, seeking care and appropriate treatment for illnesses, protection from household dangers, etc.
- Promote age appropriate feeding and food safety to ensure adequate nutrition
- Responsive care giving include observing and affectionately responding to the child's movement, sounds, gestures and verbal requests.
- Ensuring safety and security is critical as young children cannot protect themselves and are vulnerable to unanticipated danger, physical pain, hazardous chemicals, extreme poverty and abuse or harsh punishment.
- Over 80% of the child's brain is formed by the age of three. It is therefore important to initiate play and stimulation activities in the early stages of growth and development. Example: allowing child to play with safe household items such as cups, spoons etc. and stimulate

Unit 4. Assessment of Developmental milestones and recommendations for childcare

See MCHRB pages 58-59

The health worker is the professional who is closest to child and the family in early stages of life, and that their role in early childhood development is critical.

- Developmental milestones: provides information on specific developmental stages in children that both caregiver and health worker can use to monitor the child's growth
- Recommendations for childcare: provides care and support needed for child in each stage.
- When a child comes to PNC and CWC, show the page to the mother and introduce age specific developmental milestones, check the milestones the child has reached on page 59 of MCHRB and explain recommendations for childcare.
- If a child reaches all the age specific milestones, tell the mother that the child is developing well.
- If a child does not reach the age-specific milestones, record it as remarks so that a health worker can check it at the next visit. If a child can't reach any age-specific milestone after several months, recommend the mother to have a consultation with a doctor.

NOTE: Developmental milestones are only guides; some children will reach the milestones earlier/a little later than others.

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MODULE 6: Nutrition Counseling

Module description

The module outlines the counseling skills and the 3-steps counseling process health workers use during the interactions with clients, discusses how to use these skills and steps to counsel, and how to investigate causes of malnutrition. Appropriate practice of the counseling skills must be conducted with respectful care which we will look at in a different module. This is the key to motivate pregnant women and caregivers of children to adopt dietary, feeding and care recommendations.

Objective

By the end of this module, participants should be able to:

- Know the 6 Listening and Learning and the 6 Confidence Building and Support Giving Skills
- Use these counseling skills
- Understand the 3-Steps Counseling Process
- Conduct counseling using the 3-steps process
- Know how to investigate causes of malnutrition

Unit 1. Counseling Skills- The Listening and Learning Skills

See User guide page 68-71

What is counselling?

It is an interaction in which a counsellor offers another person the time, attention, information, and respect that is necessary to help him/her use the information to make a choice or solve a problem.

- not just a conversation; Though you need to sustain the interest.
- not to educate the woman on everything she needs to know: Though you give little relevant information.
- not a fault-finding session: Yet do not let a misconception remain after the session
- not advising: You can only suggest.

Listening and Learning Skills

SKILL 1: Helpful Non-verbal communication
SKILL 2: Ask open questions
SKILL 3: Use responses and gestures that show interest
SKILL 4: Reflect back what the mother said
SKILL 5: Empathize - show that you understand how she/he feels
SKILL 6: Avoid using judging words

Unit 2. Counseling skills: Confidence Building and Support Giving Skills

Confidence Building and Support Giving Skills

SKILL 1: Accept what a mother/pregnant woman thinks and feels
SKILL 2: Recognize what pregnant woman/mother does right and praise
SKILL 3: Give practical help
SKILL 4: Give a little, relevant information
SKILL 5: Use simple language
SKILL 6: Make one or two suggestions, not commands

Unit 3. The 3-Step Counseling Process (3-As)

See User Guide 22-23, 43-46, 68-71

- **Assessment -** evaluation of an individual, group or the entire population's nutritional practices and status. At the individual level, assessment means ask about age appropriate feeding and condition of mother/father/caregiver and child: ask, listen and observe. Note causes related to recurrent illness or other social and environmental factors.

- **Analysis -** the process of scrutinizing information obtained during the assessment to understand why an individual or community's nutritional status is compromised. On the personal/individual level, analysis means looking or identifying the gaps in practice with respect to expected or recommendations and prioritizing the difficulties .

- **Action -** putting in place a plan or intervention to address the identified gap or problem associated with the compromised nutritional status. At the individual level, action means discuss, suggest small amount of relevant information, agree on feasible doable option that mother/father/caregiver can try.

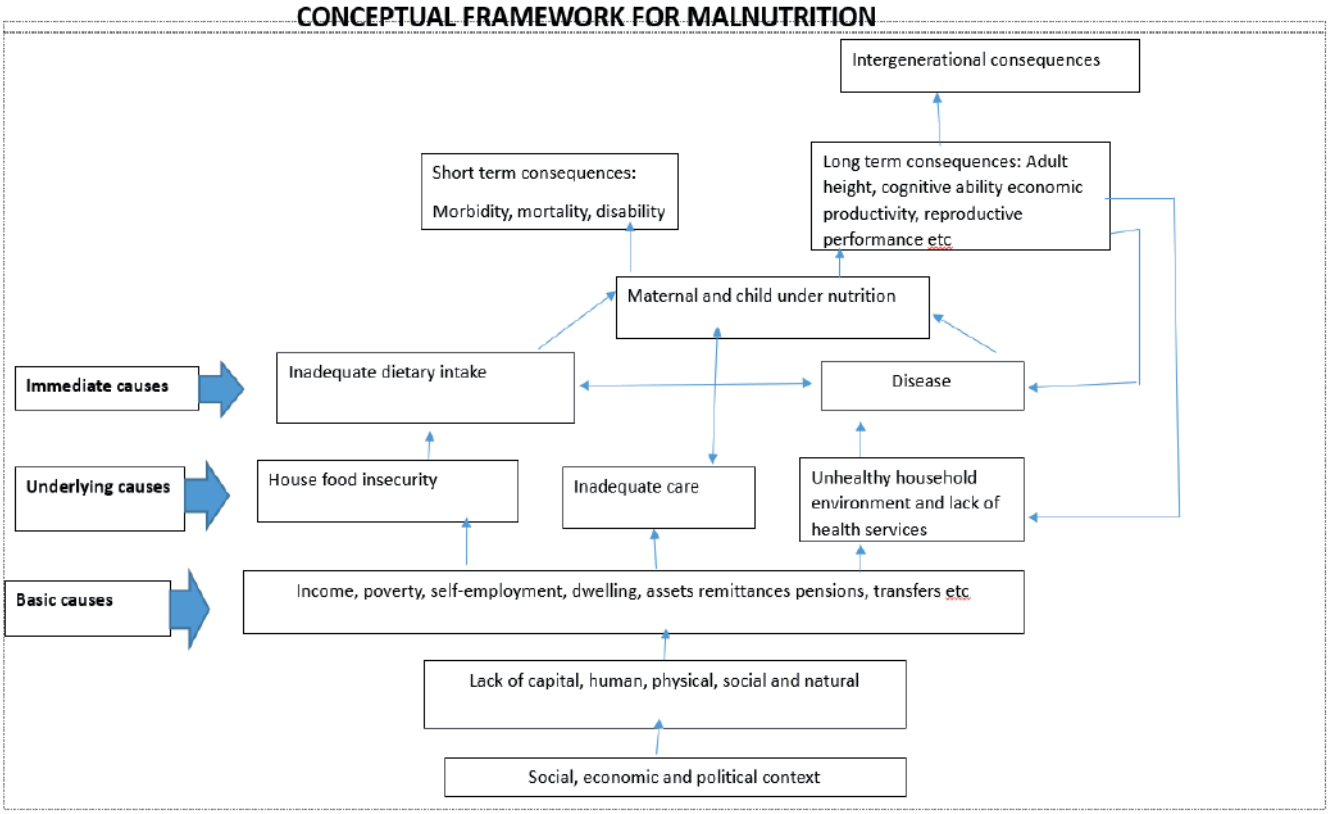
  The table below further explains the linkage between the Nutrition counselling terminology and the Nursing/Midwifery process terminology.

Nutrition counseling	Nursing/midwifery process
Assessment	History taking, examinations and observations identification of nursing problems
Analysis	Nursing/midwifery diagnosis
Action	Nursing/midwifery interventions
Follow up and remarks	Nursing/midwifery evaluation

Unit 5. Investigating Causes of Malnutrition

Conceptual Framework for Malnutrition

The UNICEF framework describes the **causes of malnutrition**; indicating that they occur on different levels and classified as immediate, underlying, and basic. Malnutrition comprises both Undernutrition and Overweigh/Obesity.



(UNICEF 2013)

- **Immediate causes (individual level):** The interplay between inadequate dietary intake and illness tends to create a vicious circle. You need to determine…
  - Whether the child is currently ill or has been recently ill.
  - How the baby has been feeding and observe a breastfeed

- **Underlying causes (household or family level)**: inadequate access to food, unhealthy household environment and insufficient health services and inadequate care and feeding for children and women lead to inadequate dietary intake and infectious disease.

- **Basic causes (societal level)**: political, economic, cultural and religious systems and institutional structures.

Types of Malnutrition in Children and Pregnant Women

- **Child <5 years**
  - Underweight (below –2 z-score weight-for-age!)
  - Stunting (below –2 z-score length/height-for-age)
  - Wasting (below –2 z-score weight-for-length/height or MUAC less than 11.5cm)
  - Overweight (above +2 z-score in weight-for-length/height)
  - Has a trend toward one of these problems.
- **Pregnant woman**
  - Underweight (BMI <18.5)
  - Overweight/Obese (BMI ≥ 25~29.9)
  - Anaemia (Hb <11g/dL)
  - Slow or stagnant weight gain/rapid weight gain

Examples of causes of malnutrition

- Examples of possible immediate causes of undernutrition
  - not breastfeeding/not feeding frequently enough/early supplementation
  - difficulties with breastfeeding technique
  - replacement of breast milk with poor quality supplements or inadequate replacement feeding
  - not being fed according to the age-appropriate recommendations for complementary feeding
  - diarrhea
- Examples of possible immediate causes of Overweight
  - physically inactive hours spent each day. For example: how much time does a baby spend confined in a crib or baby carrier? watching television or play computer or video games?
  - formula or other milk intakes per day?
  - intakes in a typical day? Look out for
    - sugary drinks or foods like cakes, sweets or other high energy foods like chocolates, jam, margarine, butter? How often?
    - no of meals and snacks
    - eating in-between meals?

- Possible underlying household and basic socio-cultural and environmental factors
  - child's living condition: with own parents, foster care, street etc.
  - number of persons in household; especially children under 5 years
  - health status of parents
  - care practices from those he/she lives with: look out for abuse of child, lack of meals, poor hygiene practice, care during sickness etc.
  - amount of food at home, portion size for the child, work status of caregivers

Notes

MODULE 7: Field practice

1. Module description

This module would enable participants practice how to use the MCHRB correctly and effectively. This session should be conducted in a health facility with pregnant women and caregivers of children 0-59months.

2. Objective

To practice essential skills on how to use the MCHRB

Unit 1. Preparation for field practice

Prior information and the necessary permissions should be sought before the team travels out to the field practice site.

Items to prepare for field practice

- Copies of MCHRB or photocopies of appropriate pages
- Stationery
- Weighing scales with batteries
- Length/height boards
- Gifts for respondents (if required)
- Transport to the field site (if required)

Instructions for field practice:

ANC

- Take turns in the pairs to introduce the MCH Record Book to pregnant women and mothers
- Fill out the family identification and pregnancy records
- Weigh pregnant women, especially those who are less than 12 weeks and measure their height
- Calculate Body Mass Index (BMI) and determine desired range of weight gain at Estimated Date of Delivery (EDD)
- Give a star on the CoC card

Delivery - Ward

- Take turns in the pairs to introduce the MCH Record Book to newly delivered mothers
- Fill out the family identification and delivery records
- Give a star on the CoC card

Postnatal Clinic

- Take turns to introduce book to caregiver
- Fill out the delivery and PNC portions of the book using the information available
- Give a star on the CoC card

Child welfare clinic

- Take turns to introduce book to caregivers
- Fill out child identification page.
- Weigh the child.
- Measure length/height of child-Make efforts to get at least 2 children for length measurement and 2 children for height measurement.
- Record today's and previous measurement on growth parameters page.
- Fill out the immunization page with information from the book.
- Plot today's measurement on growth charts.
- Conduct nutrition counselling and fill the nutrition counselling table.
- Give a star on the CoC card appropriately

Unit 2. Field practice 1

The objective of the field work is to introduce MCHRB to pregnant women and caregivers, fill the MCHRB, conduct measurement of weight and height/length and plot.

Unit 3. Field Practice 2

The objective of the field work 2 is to practice how to conduct measurements and counsel a client using the listening and learning; confidence building and support giving skills, the 3-step counseling process, the algorithms and the nutrition counseling tables.

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MODULE 8: Strengthening Nutrition Counseling Services and Respectful Care

1. Module description

The module covers the concept of Nutrition Counseling Services and Respectful Care and how it should be provided.

2. Objective

By the end of this module, participants should be able to:

- Understand the concept of Nutrition Counseling Services
- Understand the concept of Respectful Care
- Develop Philosophy of Care
- Provide Respectful Care
- Understand the Algorithms and fill the nutrition counselling tables in MCHRB correctly

Unit 1. Concept of Nutrition Counseling Service

- Nutrition Counseling Services is the provision of comprehensive nutrition care through effective communication and counselling, targeting caregivers, pregnant and lactating women.

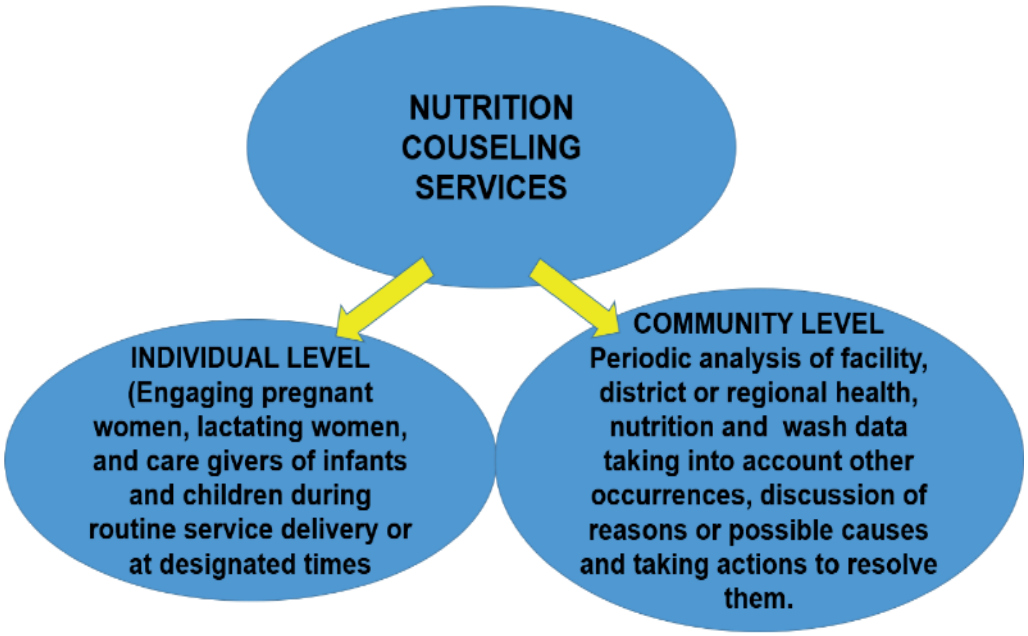
- **The Goal is to equip and empower caregivers and the entire population to adopt optimal nutrition practices and other nutrition-related behaviours to ensure the optimal health, survival and wellbeing of pregnant women and children**.

- The focus is on
  - Pregnant and Lactating Women
    - Promoting a healthy diet by increasing the diversity and amount of foods consumed
    - Promoting adequate weight gain through sufficient protein and energy intake
    - Promoting consistent and continued use of micronutrient supplements, food supplements or fortified foods where needed.
  - Children under five years
    - Promoting appropriate, adequate and safe feeding.
    - Promoting optimal growth and development of children and prevent malnutrition through Growth and feeding assessment and identification of risk/provision of guidance on feeding and care.
- Nutrition counseling activities can be conducted at both the Individual (pregnant woman/caregiver) and Community level.

Approach and organization of the NCS

- The nutrition counseling services should be integrated into routine antenatal, post-natal and child welfare clinic services and where required, as a stand-alone service. Special emphasis will be put on those with conditions requiring special care such as anaemic and malnourished women and children.
- Individual counseling sessions should be conducted at the service delivery points or as a standalone clinic (referrals)
- Community engagements for nutrition counseling services can also be conducted in the communities
- All cadre of staff can conduct NCS e.g. Community Health Nurses, Midwives, Enrolled Nurses, Nutrition Officers, Public Health Nurses, Physicians, Dietitians and Health Promotion Officers

Figure 8: Nutrition Counseling Approach



Revised Schedule

- Pregnant women

  Once in each trimester: Additional follow-up sessions if required
- Caregivers of children under 5 years

  All caregivers at every visit, On Schedule for 6 weeks, 3 months as per original plan: Additional follow-up sessions if required

Unit 2. Concept of Respectful care

1. What is Respectful Care?

- Respectful Care refers to care organized for and provided to all clients in a manner that maintains their dignity, privacy and confidentiality, ensures freedom from harm and mistreatment, and enables informed choice and continuous support. (adapted from WHO recommendation 2018)
- Respectful maternity care (RMC) is a universal human right that is due to every childbearing woman in every health system. Women's experiences with maternity caregivers can empower and comfort them, or inflict lasting damage and emotional trauma. (White Ribbon Alliance 2017)
- WHO 'Standard for improving quality of maternal and newborn care in health facility' and 'Standards for improving the quality of care for children and young adolescents in health facility'; components related to Respectful Care include 'Effective communication', 'Respect and preservation of dignity' and 'Emotional support'.
- All service personnel shall
  - be competent, dedicated, honest, client-focused and operate within the laws of the land
  - respect the right of patients/clients, colleagues and other persons and shall safeguard patient/clients' confidence.
  - work together as a team to best serve patients'/clients' interest, recognizing and respecting the contributions of others within the team.
  - respect confidential information obtained in the course of their duties.
  - provide information regarding patients' condition and management.
  - No discrimination against any patient/client's illness, political affiliation, occupation, disability, culture, ethnicity, language, race, age, gender, religion etc

2. What is the service provider's responsibility according to Patient's Rights?

PATIENT'S RIGHTS

from the GHANA HEALTH SERVICE PATIENT'S CHARTER February 2002

A) The patient has the right to quality basic health care irrespective of his/her geographical location.

B) The patient is entitled to full information on his/her condition and management and the possible risks involved except in emergency situations when the patient is unable to make a decision and the need for treatment is urgent.

C) The patient is entitled to know of alternative treatment(s) and other health care providers within the Service if these may contribute to improved outcomes.

D) The patient has the right to know the identity of all his/her caregivers and other persons who may handle him/her including students, trainees and ancillary workers.

E) The patient has the right to consent or decline to participate in a proposed research study involving him or her after a full explanation has been given. The patient may withdraw at any stage of the research project.

F) A patient who declines to participate in or withdraws from a research project is entitled to the most effective care available.

G) The patient has the right to privacy during consultation, examination and treatment. In cases where it is necessary to use the patient or his/her case notes for teaching and conferences, the consent of the patient must be sought.

H) The patient is entitled to confidentiality of information obtained about him or her and such information shall not be disclosed to a third party without his/her consent or the person entitled to act on his/her behalf except where such information is required by law or is in the public interest.

I) The patient is entitled to all relevant information regarding policies and regulation of the health facilities that he/she attends.

J) Procedures for complaints, disputes and conflict resolution shall be explained to patients or their accredited representatives.

K) Hospital charges, mode of payments and all forms of anticipated expenditure shall be explained to the patient prior to treatment.

L) Exemption facilities, if any, shall be made known to the patient.

M) The patient is entitled to personal safety and reasonable security of property within the confines of the Institution.

N) The patient has the right to a second medical opinion if he/she so desires.

3. Stress management

- Stress can be defined as any emotional, physical, social, or economic factor that requires a response or a change from an individual. However, prolonged stress is destructive and debilitating. Stress is a natural phenomenon. Work-related stress emerges when the knowledge and abilities to cope with an individual worker or with a group are not matched with the expectations of the organizational culture of that enterprise.

- Just as there are many different causes of stress, there are various ways of managing it.
  - At management-collective level: control, social support, matching the job and the worker, training and education, transparency and fairness, physical working environment
  - At individual level: get to know your own stress reactions. Try to find out what it is in your situation which causes the stress, a lot of what stresses you may be trivial, something you will soon have forgotten, and nothing to worry about. Do not trouble yourself with worries about what might happen in the future ("what if…"). Try to accept the inevitable. Seek to compensate in other ways. Do fun things with your family if you are having a hard time at work. Or try to enjoy work if family life is hard. Find social support. Get a hold of reality. Be realistic when you set yourself goals. Try to get control of your own life. If the above points do not help – do not hesitate to see a doctor.

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ALGORITHM FOR NUTRITION COUNSELLING SERVICES AT ANC

ASSESSMENT	ANALYSIS/SIGNS	ACTION	FOLLOW UP
At first visit			
FOR REGISTRANTS IN FIRST TRIMESTER ➢ Check record for Body Mass Index (Refer to MCHRB page 6)	**FOR REGISTRANTS IN FIRST TRIMESTER** ➢ Normal: BMI 18.5~24.9 (Only for registrants in first trimester)	✓ Conduct scheduled nutrition counseling including estimated desired weight	
FOR ALL ➢ Check record for Hb level and/or Pallor, Sickling and blood film for malarial parasites (Refer to MCH RB page 6 and 7) ➢ Check record for complaints of nausea, vomiting, constipation, diarrhea, loss of appetite (Refer to MCH RB page 7) ➢ Conduct a dietary assessment (see MCHRB page 9, Nutrition Counseling for Pregnant women)	**FOR ALL** ➢ Hb> 11.0 g/dl ➢ No pallor ➢ Sickling negative ➢ BF(-)No vomiting, diarrhea or constipation ➢ No Identified gaps in dietary practice	✓ Conduct scheduled nutrition counseling with encouragement to comply with IFA regimen	
	➢ Identified gaps in dietary practice	✓ Conduct nutrition counseling based on identified gaps	
	For Registrants in first trimester ➢ Underweight: BMI <18.5 or ➢ Overweight: BMI 25~29.9	✓ Conduct nutrition counseling based on nutritional status	
	For all ➢ Moderate anaemia HB (7-10.9 g/dl) **and/or** ➢ Moderate pallor	✓ Treat anaemia; iron 60mg bd, Folic acid (1 tablet daily) ✓ Agree on a next	

		counseling session in 2 weeks	• If Hb improved, continue with treatment until Hb is 11g/dl or more • If Hb is 11g/dl or more move onto IFA maintenance dose • If no change in Hb after two weeks, **refer to the next level**
	➢ Mild vomiting, diarrhea or constipation	✓ Prescribe ORS ✓ Conduct nutrition counseling ✓ Agree on next counseling session in 2 weeks	
	For Registrants in first trimester ➢ Obese BMI≧30	✓ Conduct nutrition counseling based on nutritional status	
	For All ➢ Severe anaemia HB< 7.0 g/dl) ➢ Sickling positive ➢ BF(+)	✓ Treat anaemia; iron 60mg bd, Folic acid (1 tablet daily) ✓ **Refer to the next level**	• Link client to community health nurse for regular home visits and another follow-up.
	➢ Severe vomiting or constipation or diarrhea loss of appetite	✓ Prescribe ORS ✓ **Accompany the client to the next level**	
For subsequent visits			
For all ➢ Check record for Hb level and/or Pallor, Sickling and blood film for malarial parasites ➢ Check record for results of stool RE	➢ Hb≥ 11.0 g/dl and or ➢ No pallor ➢ Sickling negative ➢ BF(-) ➢ Stool RE (+)	✓ Conduct scheduled nutrition counseling ✓ Deworming	

➢ Check record for complaints of nausea, vomiting, constipation, diarrhea, loss of appetite (Refer to MCH RB page 7) ➢ Check weight today to determine adequate or inadequate weight gain *For clients with record of desired weight gain on Page ---, check for change in weight by comparing current weight in line with desired weight gain* ➢ Review previous nutrition counseling session and conduct a dietary assessment for 2nd/3rd Trimester (see MCHRB page 9, Nutrition Counseling for Pregnant women)	➢ No vomiting, diarrhoea or constipation	✓ Conduct scheduled nutrition counseling	
	➢ Slow/Rapid Weight gain ➢ Weight gain is in line with desired weight gain ➢ No identified gaps in dietary practices	✓ Conduct scheduled nutrition counseling as appropriate	
	➢ Identified gaps in dietary practices	✓ Conduct nutrition counseling based on gaps	● Review weight gain and discuss
	➢ Moderate anaemia HB (7-10.9 g/dl)	✓ Treat anaemia; iron 60mg bd, Folic acid (1 tablet daily) ✓ Agree on a next counseling session in 2 weeks	● If Hb improved, continue with treatment until Hb is 11g/dl or more ● If Hb is 11g/dl or more move onto IFA maintenance dose ● If no change in Hb after two weeks, **refer to the next level**
	➢ Mild vomiting, constipation, diarrhea	✓ Prescribe ORS ✓ Conduct nutrition counseling ✓ Agree on next counseling session in 2 weeks	
	➢ Severe anaemia HB<7.0g/dl ➢ Sickling positive ➢ BF(+) ➢ Severe vomiting or constipation or diarrhea	✓ Treat anaemia; iron 60mg bd, Folic acid (1 tablet daily) ✓ **Refer to the next level** ✓ Prescribe ORS ✓ **Accompany the client to the next level** ✓ **~~Refer~~ to the next**	● Link client to community health nurse for regular home visits and another follow-up.

ALGORITHM FOR NUTRITION COUNSELLING SERVICES AT CWC

ASSESSMENT	ANALYSIS/SIGNS	ACTION	FOLLOW UP
For all children ➢ Measure weight and determine Weight-for-Age ➢ Ask mother/caregiver is presently ill or has been ill within the past two weeks ➢ Conduct a dietary assessment ***For eligible children*** ➢ Measure length/height and determine Length/height-for-Age	➢ Normal weight for age (z score SD to +2 SD and above -2) ➢ Normal length/height for age (z score SD to +2 SD and above -2) ➢ Growth curve going up ➢ Child is not ill ➢ No dietary gaps identified / dietary gaps Identified	✓ Conduct nutrition counseling as appropriate	
	➢ Child has normal W/A and L/H for age and child is ill ➢ Identified dietary gaps	✓ **Counsel and refer child for treatment** ✓ Counsel on feeding the sick child ✓ Agree on next visit	
FOR CHILDREN 6-59 MONTHS	**6-59-MONTHS-CHILD**		
➢ Measure weight and determine Weight-for-Age ➢ Ask mother/caregiver is presently ill or has been ill within the past two weeks	➢ Moderate underweight (W/A -z score SD Below -2 SD to -3 SD) ➢ Moderate stunting (L/A -z score SD Below -2 SD to -3	✓ Conduct nutrition counseling session based on gaps identified ✓ Agree on follow-up contact in 14 days	✓ If child has gained weight, congratulate mother. Conduct a quick assessment of mother's practices (feeding and care practices)

➢ Conduct a dietary assessment ***For eligible children*** ➢ Measure length/height and determine Length/height-for-Age	SD) ➢ Static weight ➢ Weight loss and ➢ Child is not ill ➢ Identified dietary gaps	✓ Schedule targeted home visit	✓ Ask mother to come back for the next CWC session ✓ If child has not gained weight, counsel mother. ✓ Agree on a follow-on home visit
	➢ Static weight for 3 continuous visits or ➢ Weight loss for two continuous visits	✓ **Refer to the next level**	✓ Conduct a home visit when child returns from referral level ✓ If child has gained weight, congratulate mother. ✓ Conduct a quick assessment of mother's practices (feeding and care practices) and counsel appropriately ✓ Agree on a follow-up visit at the facility in 14 days
For children 6-59 months with severe underweight (W/A -z sore Below -3SD) ➢ Measure MUAC ➢ Check for oedema of both feet	➢ Severe underweight (W/A -z score SD Below-3SD) and ➢ MUAC greater than or equal to 11.5cm	✓ Conduct nutrition counseling based on gaps identified ✓ Follow-up every two weeks ✓ Conduct home visit	✓ If child has gained weight at follow-up visit, counsel the mother ✓ Follow-up in 14 days. If there is progress, repeat 14-day visits for 2 times. ✓ Discharge to join normal CWC if w/a >-2SD
	➢ MUAC less than 11.5cm or	✓ **Refer to CMAM OPC if available**	✓ If the child does not gain weight, re-assess MUAC and oedema. If

	➢ Bilateral pitting oedema + or ++ and ➢ Child has no other illness	✓ **Refer to higher level if CMAM OPC is not available**	condition is same, **counsel and refer to the next level** ✓ **Refer if child is getting worse**
	➢ Bilateral pitting oedema +++ ➢ MUAC less than 11.5 and any grade of oedema!	✓ **Refer to hospital (IPC)**	
	➢ MUAC less than 11.5cm or Bilateral pitting oedema + or ++ and Medical complication		
	Less than 6-month-baby		
For children less than 6 months with underweight (W/A z score SD Below -2 SD to below -3 SD) ➢ Check for visible severe wasting ➢ Check for bilateral pitting oedema ➢ Assess breastfeeding (frequency, demand feeding, positioning and attachment,	➢ No visible severe wasting ➢ No oedema ➢ Identify gaps in breastfeeding practice	✓ Conduct breastfeeding counseling based on gaps identified ✓ Correct positioning and attachment ✓ Follow-up every two weeks ✓ Conduct home visit	✓ If child has gained weight at follow-up visit, counsel the mother on breastfeeding ✓ If child has no prospects of breastfeeding, counsel on other milk intake ✓ Follow-up in 14 days. If there is progress, repeat 14-day visits for 2 times. ✓ Discharge to join normal CWC if W/A >-2SD ✓ If the child does not gain weight,

intake of other fluids/foods etc)			**counsel and refer to the next level** ✓ **Refer if child is getting worse**
	➢ Visible wasting or Bilateral pitting oedema present ➢ Identified breastfeeding difficulties	✓ Correct positioning and attachment ✓ **Review and teach mother how to express breastmilk and feed with a cup** ✓ **If child has no prospects of breastfeeding, counsel on other milk intake** ✓ **Refer urgently to hospital (IPC)**	✓ If child has gained weight at follow-up visit, counsel the mother on breastfeeding ✓ Follow-up in 14 days ✓ Discharge to join normal CWC if W/A >-2SD

*For all scheduled nutrition counseling (6 weeks, 14 weeks, 6 months, 9 months, 12 months, 18 months and 24 months) visits and when growth faltering is identified, conduct a nutrition counseling and fill the nutrition counseling table.

Unit 3: The Nutrition Counseling Table

Nutrition Counseling Table

Date	Assessment of Growth					Analysis	Action	Remarks	Name & Signature
	Weight (kg) / Z-score*	Height (cm) / Z-score*	Interpretation of Chart or Curve	Recent History of Illness	Recent History of Feeding	List Identified Gaps in Feeding and Care	Recommended Actions (Doable options agreed with Client)	(Additional notes on Assessment, Analysis and Actions)	
/ /									
/ /									
/ /									
/ /									
/ /									
/ /									

* Mark in red if Z-score of plotted point (weight or height) is below - 2.
Nutrition counseling should be conducted at 6weeks, 14weeks (3months), 6months, 9months, 12months, 18months and 24months.

Unit 4. Role play

Scenario for role-play

Scenario A: Counseling at ANC	**Scenario A: Counseling at ANC**
Midwife, Margaret Awuni	**Pregnant women, Madam Nancy Mensah.**
Today is 16 August 2019. Working at Adenta district hospital. This is the first time the midwife is seeing Madam Nancy Mensah, because her regular midwife is on leave. Madam Nancy Mensah came to the health center for her 5th ANC contact at 30 weeks of gestation in 2nd trimester with lab result. Midwife has already checked and recorded Weight, Bp, Urine, fundal height, presentation, descent and FHR. Midwife now starts health and nutrition counseling based on the client's results. See the attached records to check the results	Today is 16 August 2019. This is the 5th ANC. Pregnant woman is a little nervous today, because a midwife wasn't friendly during the last ANC contact. In these days, she has been having constipation with black and hard stools.

Scenario B: Counseling at CWC	**Scenario B: Counseling at CWC**
Community Health Nurse (CHN), David Addo	**Mother and her child, Madam Fosua and baby John**
Today is 1 October 2019. Working at Bongo health center. Madam Fosua and her child of 9 months are well known to the CHN. CHN already checked his weight and length. CHN observed that the child can sit unsupported and hold a biscuit which mother gave him. See the attached records to check weigh and length.	Today is 1 October 2019 Mother came to Bongo health center for her child's 9 months' checkup. Mother heard that her neighbor's child has developmental problem and went to hospital for a consultation with specialist. Although her son is fine, she is worrying and anxious about her son's development.

Scenario A

Records of current pregnancy

First day of the last menstrual period (L.M.P.)	Date: 18 / 1 / 2019
Estimated Date of Delivery (EDD)	By SCAN or (LMP) Date: 25 / 10 / 2019
Height 161 cm	Weight at ANC1 (Before 12 weeks) 52 kg
BMI at ANC1 (Before 12 weeks) 20.0	Estimated desired weight at EDD 63.5 - 68 kg
Type of contraception used before this pregnancy (If any)	None

Investigations

Tests	Date	Results	Tests	Date	Results
Blood Group	29 / 3 /2019	A / B / (O) / AB	Hb* (first visit)	29 / 3 /2019	11.5g/dl
Rh typing	29 / 3 /2019	(Positive) / Negative	Repeat Hb*	/ /	
HBsAg	29 / 3 /2019	(Negative) / Positive	Repeat Hb* (at 28 weeks)	2 / 8 /2019	10.9g/dl
Sickling	29 / 3 /2019	(Negative) / Positive (AS/SS/SC/AC/Other)	Repeat Hb*	/ /	
G6PD	29 / 3 /2019	(No Defect) / Full Defect / Partial Defect	Repeat Hb* (at 36 weeks)	/ /	
VDRL/Syphilis	29 / 3 /2019	(Negative) / Positive	Repeat Hb*	/ /	
HIV Antibody	29 / 3 /2019	280	Urine RE	/ /	
Repeat HIV Antibody (before 34weeks)	/ /		Repeat Urine RE	/ /	
BF for Malaria	29 / 3 /2019	Negative / Positive	Stool RE	/ /	

* If Hb is below 11g/dl, refer to protocol.
All laboratory / investigation results must be reviewed before next routine visit is scheduled.
If the result is abnormal, please write with red pen.

Ultrasound Scan Results

	Date	Placenta location	Amniotic Fluid Volume	Gestational Age	Presentation	Any Abnormality (specify)
First Scan (before 20 weeks)	26/4/2019	(Posterior)/ Anterior/ Low	(Normal)/ Abnormal	14 weeks	-	N.A.D
Second Scan (after 32 weeks)	/ /	Posterior/ Anterior/ Low	Normal/ Abnormal			
Other	/ /	Posterior/ Anterior/ Low	Normal/ Abnormal			

Antenatal Records

Date	Weight (kg)	BP (mmHg)	Urine (−/+/++/+++) Protein / Sugar	Gest. Age in weeks	Fundal Height (cm)	Presentation	Descent	Fetal Heart Rate (/bpm)	Number of days IFA* supplied	Complaints/ Remarks**	Name & Signature	Date of Next Visit
29/ 3 2019	52	110/70	− / −	10	-	-	-	-	28 days	morning sickness	Monica Mensah	24/5 2019
24/ 5 2019	54.0	108/74	− / −	18	15	-	-	-	28 days	feels well	Monica Mensah	21/6 2019
21/ 6 2019	55.5	100/70	− / −	22	20	Breech	-	130	28 days	feels well	Monica Mensah	19/7 2019
19/ 7 2019	57.5	110/74	− / +	26	23	Cephalic	5/5th	140	28 days	feels well	Monica Mensah	16/8 2019
16/ 8 2019	60.0	112/70	− / +	30	28	Cephalic	5/5th	130				/ /
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*** IFA: Iron and Folic Acid**

****Always check for bleeding, contractions, edema, and put comments under Complaints/Remarks. If the mother has any complaints, please write the details on the progress note.**

Scenario B

M. Records of Child Growth and Development

Date of birth 25 / 12 / 2019

Growth Parameters

Date	Age (month)	Weight * (kg)	Length/Height ** (cm)	Remarks ***	Name & Signature	Date of Next Visit
5 / 2 / 2019	1	4.2			Monica Mensah	5 / 3 / 2019
5 / 3 / 2019	2	5.2			Monica Mensah	2 / 4 / 2019
2 / 4 / 2019	3	6.6	62		Felicia Anthony	7 / 5 /2019
7 / 5 / 2019	4	7.2			Rosemond Arthur	4 / 6 / 2019
4 / 6 / 2019	5	8.0			Monica Mensah	2 / 7 / 2019
2 / 7 / 2019	6	8.0	67		Rose Oran	6 / 8 / 2019
6 / 8 / 2019	7	8.2			Rose Oran	3 / 9 / 2019
3 / 9 / 2019	8	8.6			Monica Mensa	3 / 9 / 2019
1 / 10 / 2019	9	9.2	72			/ /
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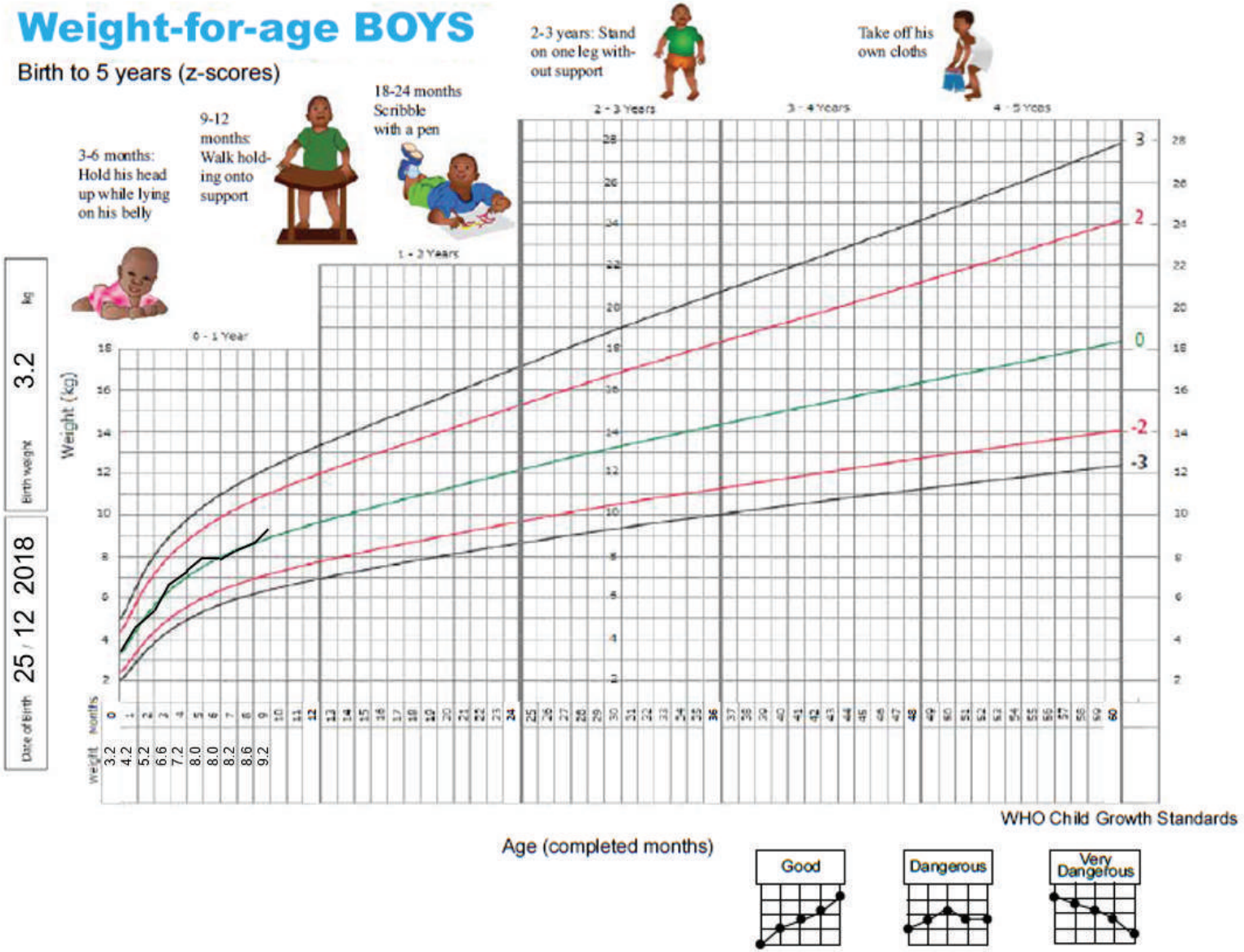
*** Weight should be measured monthly for 0-1 year, quarterly for 1-2 years, and half-yearly for 2-5 years.**

**** Length/Height should be measured every 3 months from 0 to 2 years of age and every 6 months from 2 to 5 years of age.**

***** If you measure MUAC (Mid-Upper Arm Circumference), please fill in the Remarks column.**

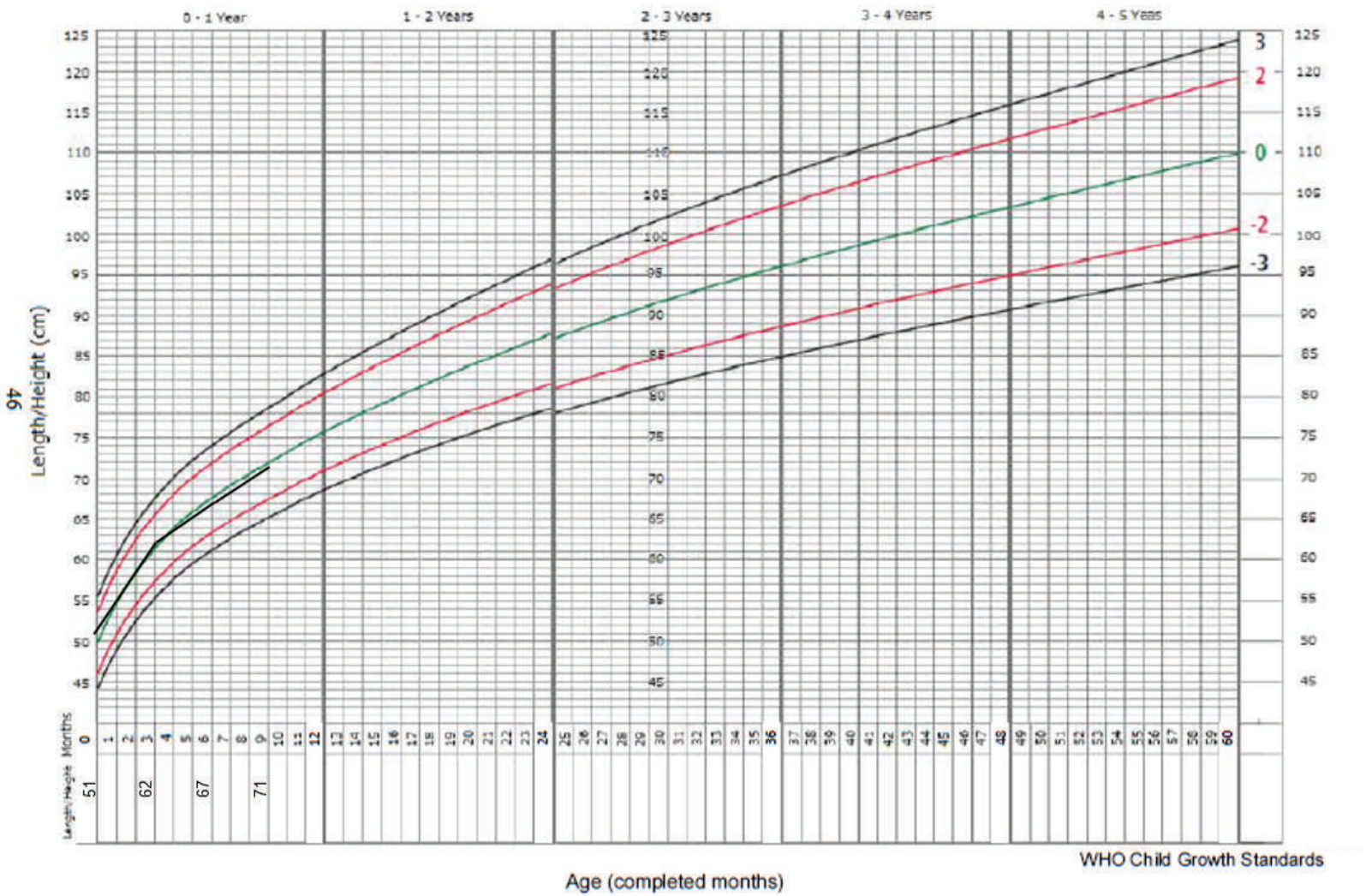

Weight-for-age BOYS
Birth to 5 years (z-scores)
2-3 years: Stand on one leg without support
Take off his own cloths
18-24 months Scribble with a pen
9-12 months: Walk holding onto support
3-6 months: Hold his head up while lying on his belly
0 - 1 Year
1 - 2 Years
2 - 3 Years
3 - 4 Years
4 - 5 Years
Weight (kg)
Months
Date of Birth 25 / 12 2018
Birth weight 3.2 kg
3
2
0
-2
-3
WHO Child Growth Standards
Age (completed months)
Good
Dangerous
Very Dangerous

45

Length/height-for-age BOYS

Birth to 5 years (z-scores)

Date of Birth 25 / 12 / 2018 | Birth Length 51.0 cm



Nutrition Counseling Table

Date	Assessment of Growth					Analysis	Action	Remarks	
	Weight (kg) / Z-score*	Height (cm) / Z-score*	Interpretation of Chart or Curve	Recent History of Illness	Recent History of Feeding	List Identified Gaps in Feeding and Care	Recommended Actions (Doable options agreed with Client)	(Additional notes on Assessment, Analysis and Actions)	Name & Signature
2/4/2019	6.6 / Normal	62 / Normal	Normal growth	None	Exclusive breastfeeding 10 times/day	No gap	Continue exclusive breastfeeding		Mary Mensah
2/7/2019	8.0 / Normal	67 / Normal	Normal growth	Diarrhea a week ago and recovered	Exclusive breastfeeding 10 times/day	No gap	Start complementary feeding 2 or 3 times/day		Mary Mensah
1/10 2019	9.2 / Normal	72 / Normal							
/ /									
/ /									
/ /									

*** Mark in red if Z-score of plotted point (weight or height) is below - 2.**

Nutrition counseling should be conducted at 6weeks, 14weeks (3months), 6months, 9months, 12months, 18months and 24months.

Notes