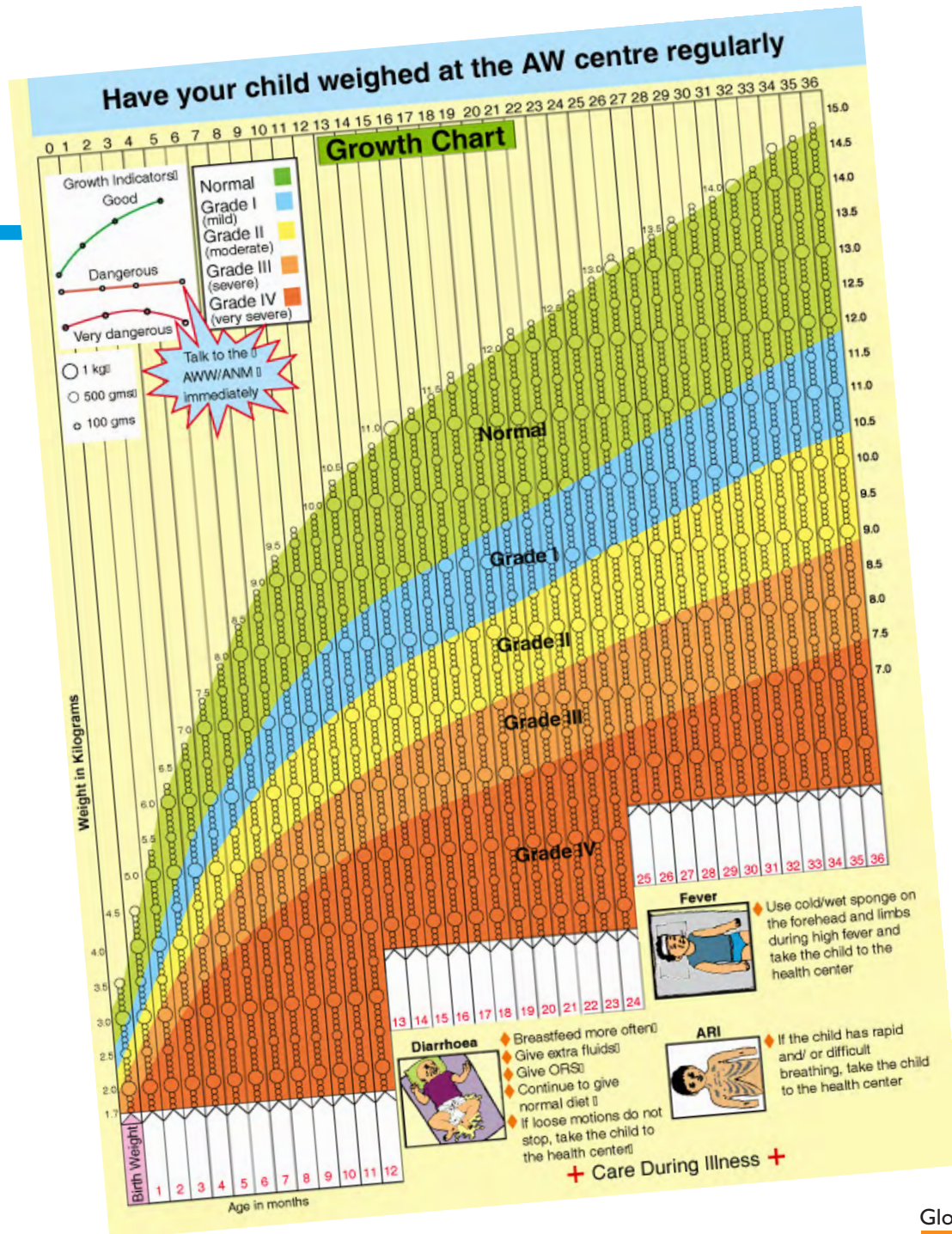


Your Country's Road to Health Card



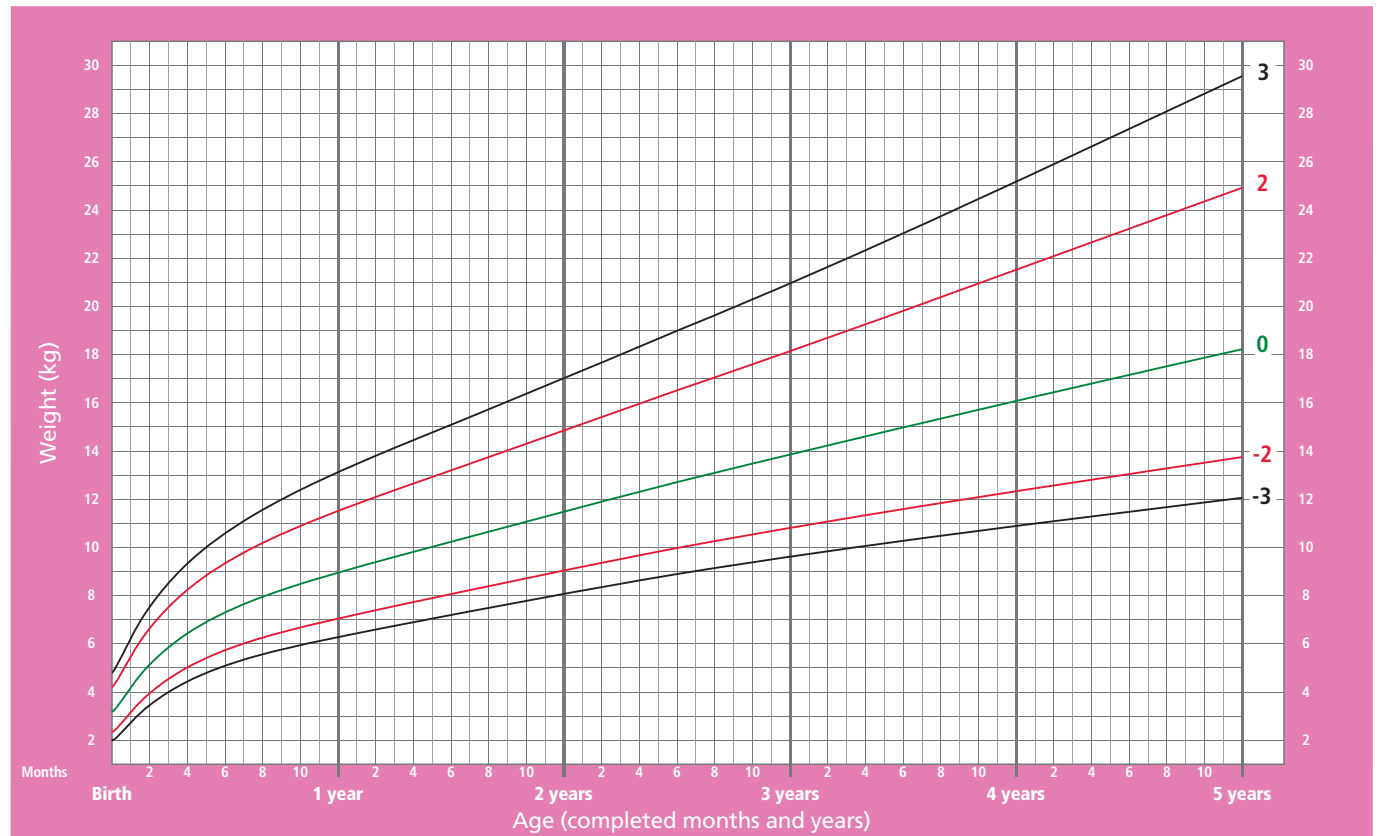
Plotting a Growth Curve (Rose)

Rose (Female)
DOB: March 2007
Birth Weight: 3.2 kg

Growth Monitoring Results	
April 2007	3.2 kg
May 2007	3.8 kg
June 2007	3.9 kg
July 2007	4.0 kg
August 2007	4.2 kg
September 2007	4.3 kg
October 2007	4.4 kg
November 2007	5.3 kg
December 2007	6.1 kg
January 2008	6.4 kg
April 2008	6.8 kg
June 2008	7.2 kg
September 2008	7.8 kg

Weight-for-age GIRLS

Birth to 5 years (z-scores)



WHO Child Growth Standards

Growth Monitoring Exercise

Nandi: (female)

Date	Weight (kg)
March 2007 (DOB)	3.7
April 2007	3.7
May 2007	4.3
June 2007	4.4
July 2007	4.5
August 2007	4.7
September 2007	4.8
October 2007	4.9
November 2007	5.8
December 2007	6.6
January 2008	6.9
April 2008	7.3
June 2008	7.7
September 2008	8.3

Sinto: (male)

Date	Weight (kg)
July 2007 (DOB)	3.5
August 2007	4.4
October 2007	5.2
November 2007	7.3
December 2007	8.0
February 2008	8.8
April 2008	10.2
June 2008	10.5

Tinu: (male)

Date	Weight (kg)
Nov 2007 (DOB)	2.3
December 2007	2.9
February 2008	3.8
March 2008	4.3
April 2008	4.7
June 2008	5.6
July 2008	6.3
August 2008	6.7
October 2008	7.2

Harjinder: (female)

Date	Weight (kg)
June 2007 (DOB)	3.6
August 2007	4.5
October 2007	5.7
November 2007	5.8
January 2008	6.2
February 2008	6.4
March 2008	6.4
May 2008	6.5
July 2008	6.8
September 2008	7.0
October 2008	7.1
December 2008	7.5

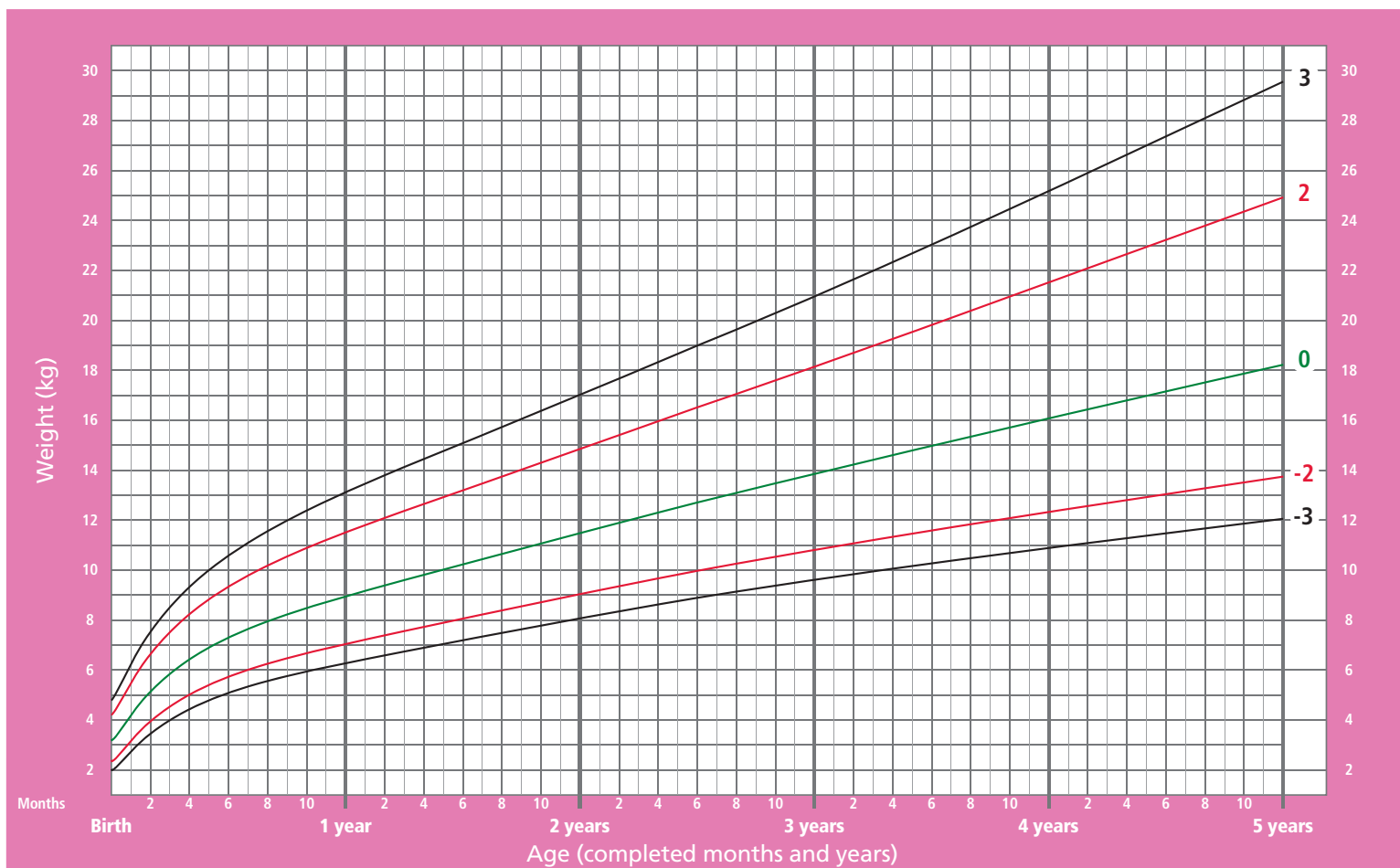
Sarah: (female)

Date	Weight (kg)
Feb 2008 (DOB)	2.0
March 2008	2.5
April 2008	3.1
May 2008	3.5
June 2008	4.0
July 2008	4.6
August 2008	5.0
September 2008	5.4
October 2008	5.9
November 2008	6.2
January 2009	6.9

Weight-for-Age Chart for Girls

Weight-for-age GIRLS

Birth to 5 years (z-scores)



WHO Child Growth Standards

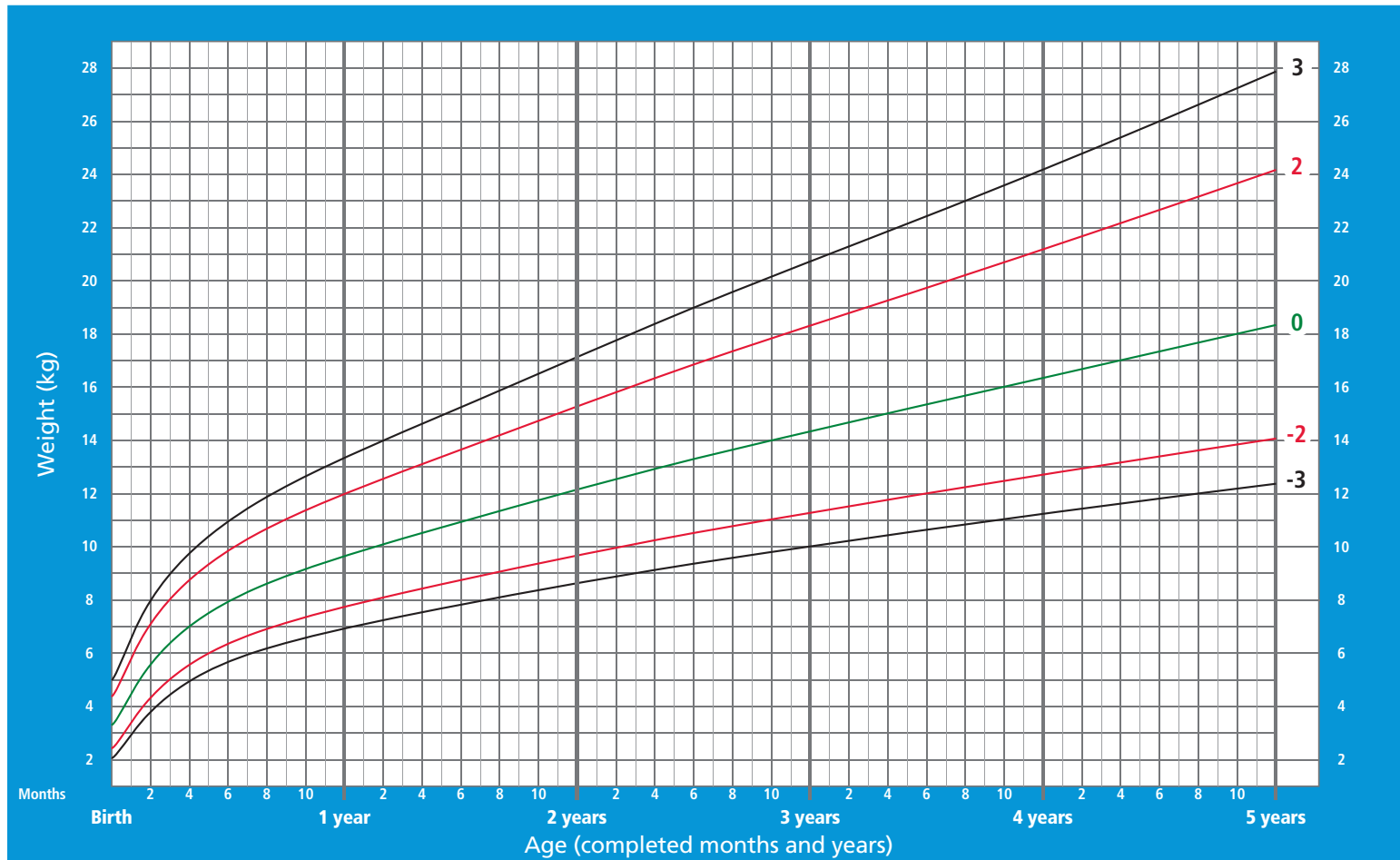
Global Health & WASH

Nutrition Centre of Expertise

Weight-for-Age Chart for Boys

Weight-for-age BOYS

Birth to 5 years (z-scores)



WHO Child Growth Standards

Global Health & WASH

Nutrition Centre of Expertise

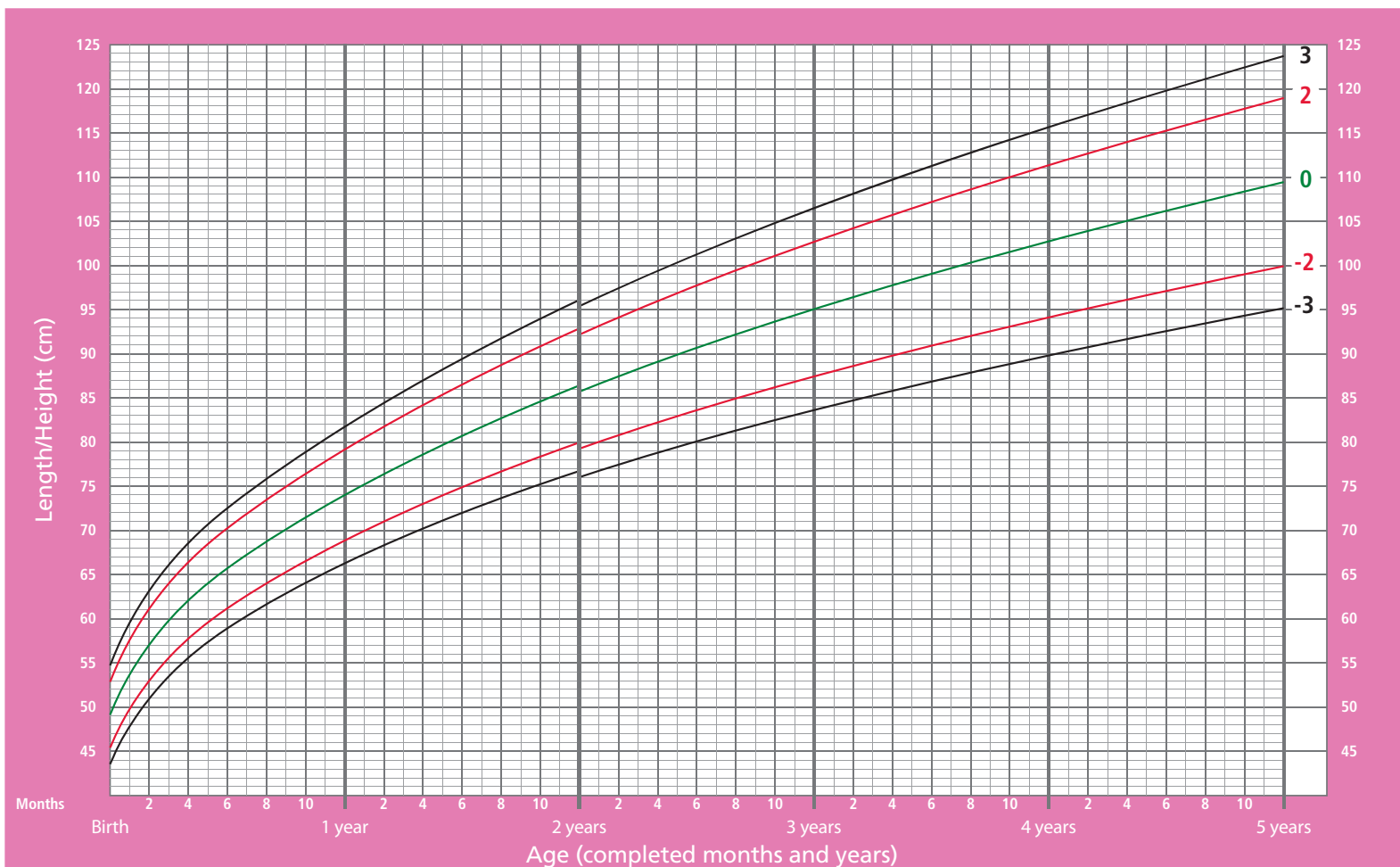
Comparing Individual Heights



Height-for-Age Chart for Girls

Length/height-for-age GIRLS

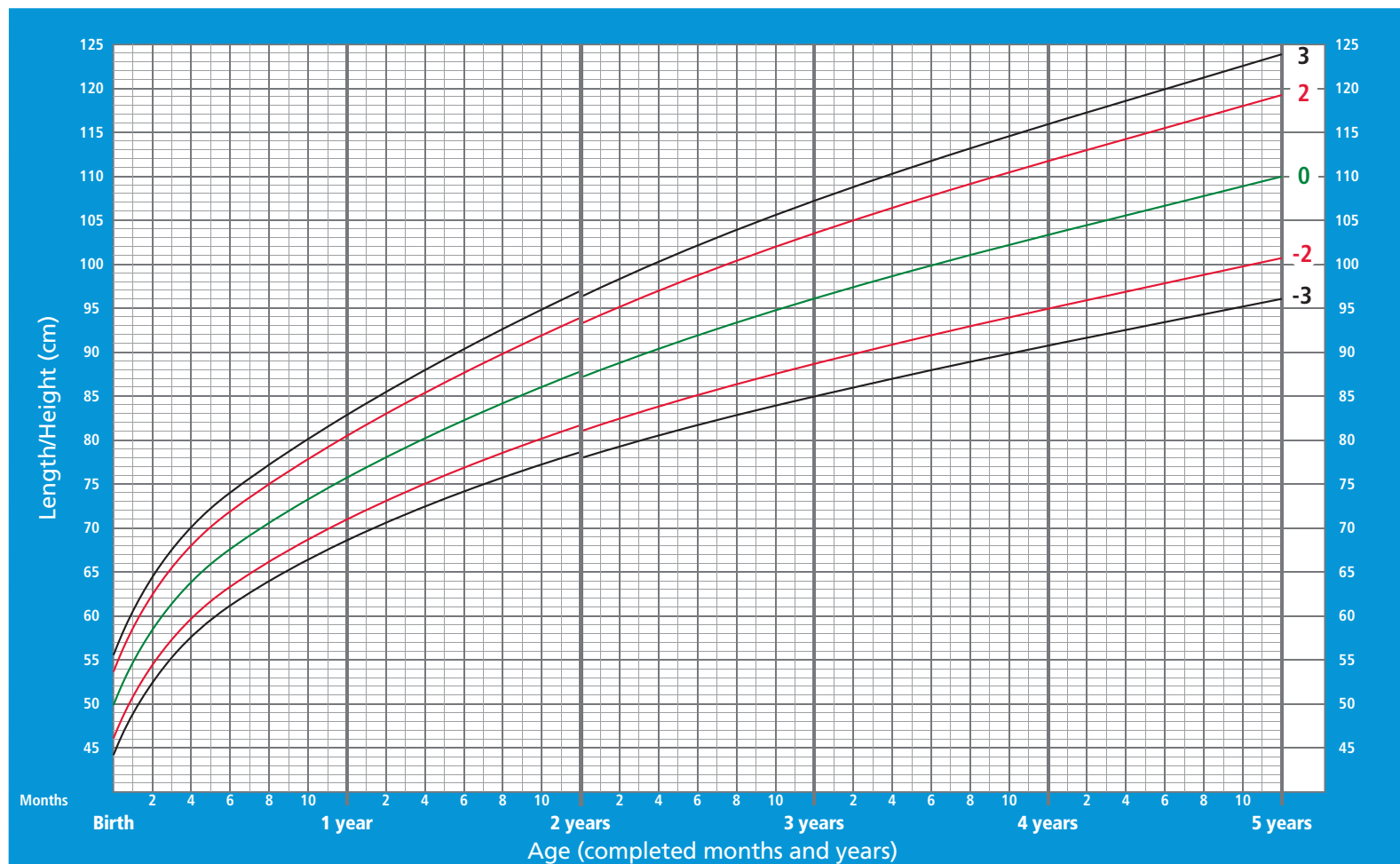
Birth to 5 years (z-scores)



Height-for-Age Chart for Boys

Length/height-for-age BOYS

Birth to 5 years (z-scores)



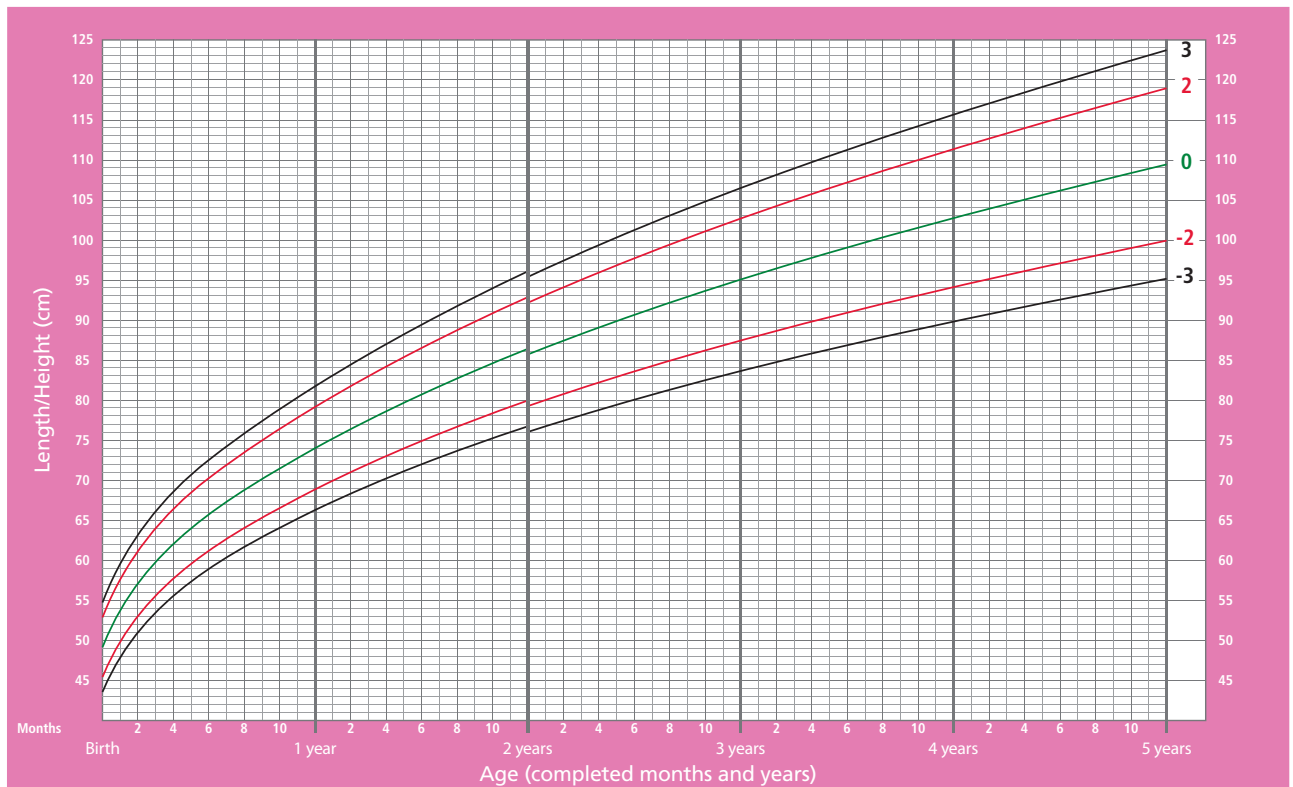
Length Measurements (Nandi)

Nandi: (female)

Date	Length (cm)
March 2007 (DOB)	53
April 2007	57
May 2007	60
June 2007	63
July 2007	64
August 2007	65
September 2007	65
October 2007	66
November 2007	66
December 2007	66
January 2008	67
April 2008	70
June 2008	71
September 2008	73

Length/height-for-age GIRLS

Birth to 5 years (z-scores)

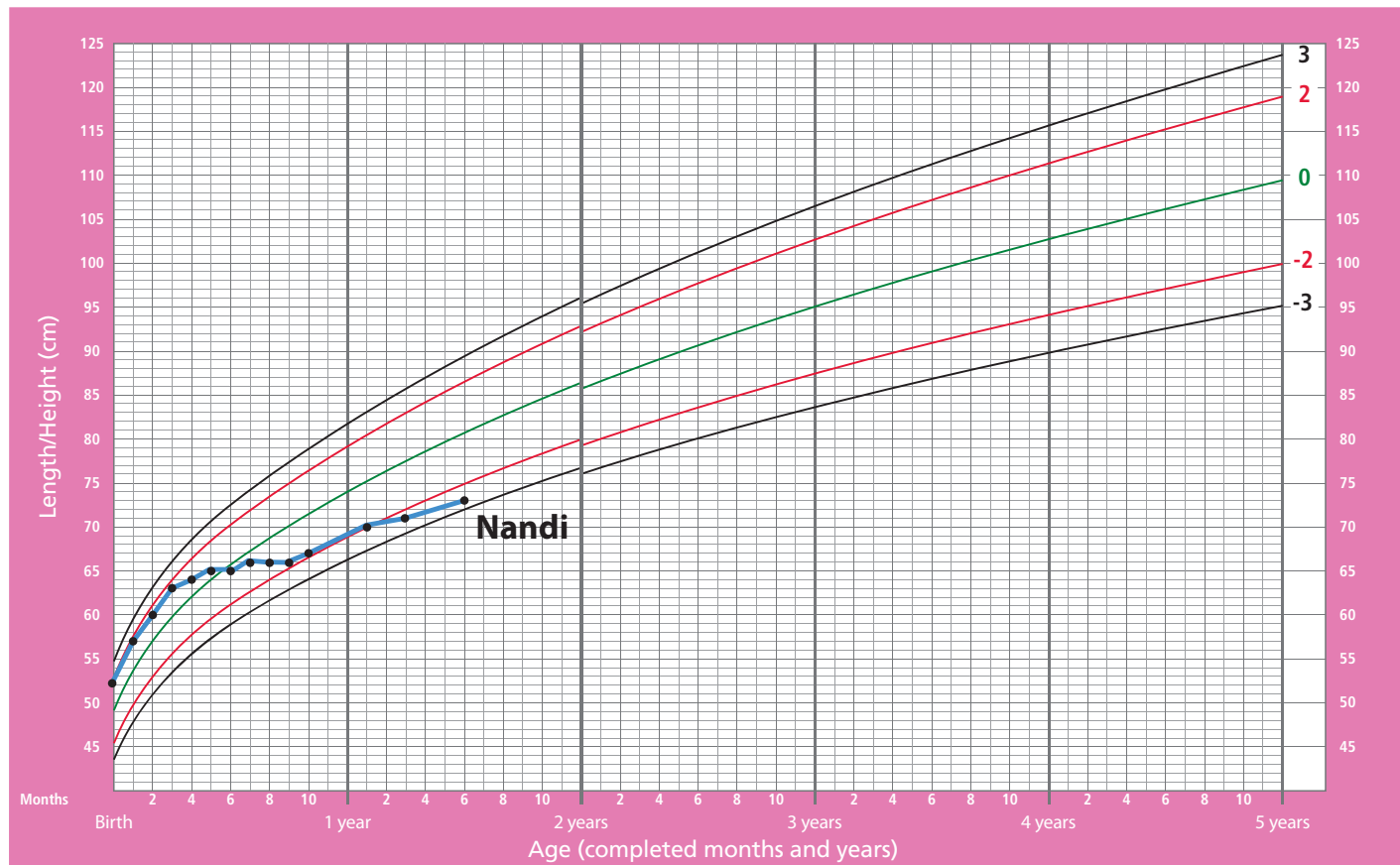


WHO Child Growth Standards

Height-for-Age Chart (Nandi)

Length/height-for-age GIRLS

Birth to 5 years (z-scores)



WHO Child Growth Standards

Weight-for-Height/Length Chart

Weight-for-length GIRLS

Birth to 2 years (z-scores)



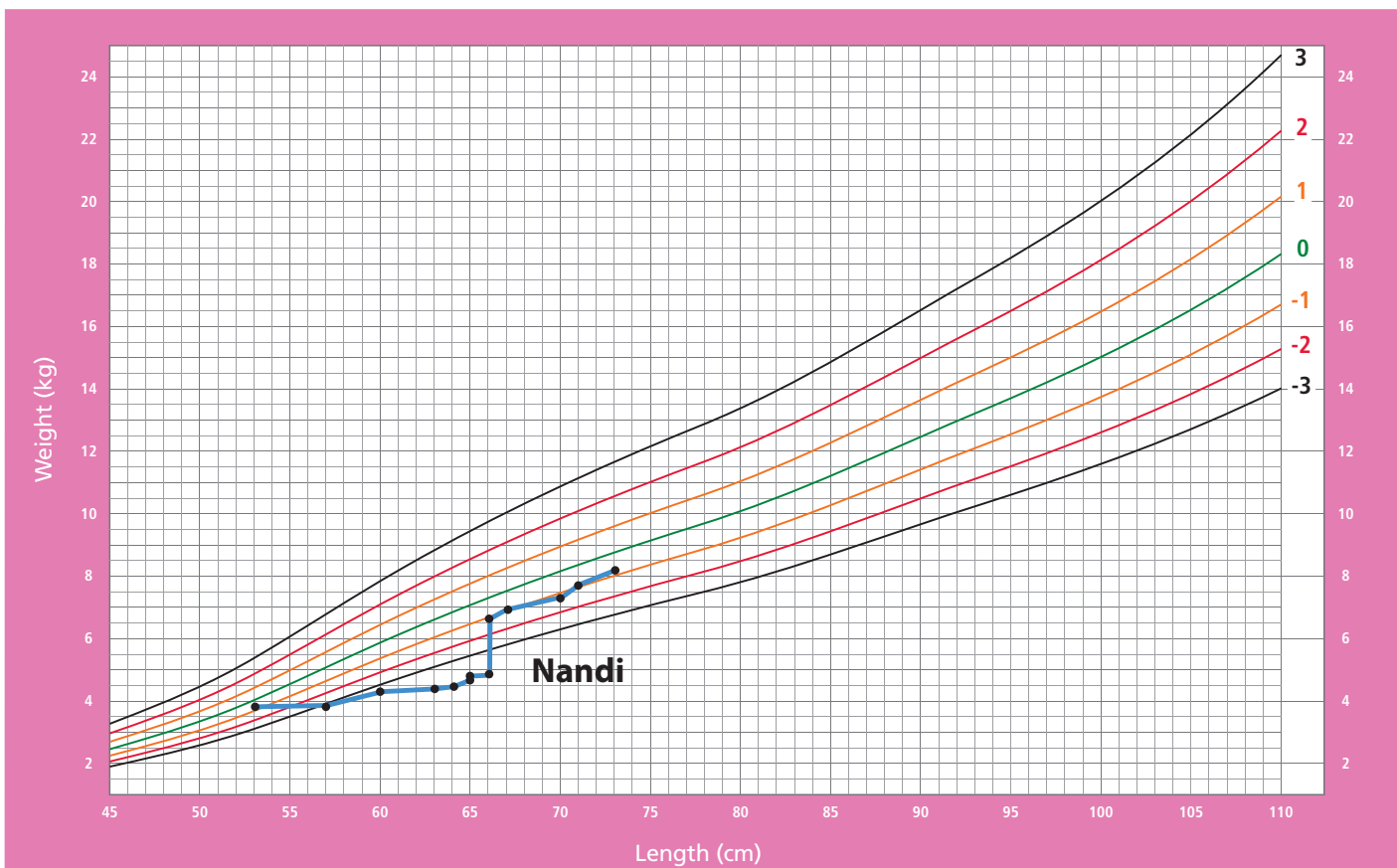
Nandi's Weight and Length Measurements

Date	Weight (kg)	Length (cm)
March 2007 (DOB)	3.7	53
April 2007	3.7	57
May 2007	4.3	60
June 2007	4.4	63
July 2007	4.5	64
August 2007	4.7	65
September 2007	4.8	65
October 2007	4.9	66
November 2007	5.8	66
December 2007	6.6	66
January 2008	6.9	67
April 2008	7.3	70
June 2008	7.7	71
September 2008	8.3	73

Weight-for-Height/Length Chart (Nandi)

Weight-for-length GIRLS

Birth to 2 years (z-scores)



WHO Child Growth Standards

Growth Counselling Reminders

- Have a conversation with the caregiver.
- Ask questions that will help you understand what practices she has at home that might contribute to the child's lack of growth.
- Listen carefully to the answers and make some recommendations to the caregiver.
- Reach an agreement about some steps the caregiver could take at home.
- Ask the caregiver to state what agreements you reached during the conversation to ensure she understands and remembers what she had agreed to try to promote her child's growth.

Counselling Card #11

Complementary feeding from 7 up to 9 months



Card 11

Complementary feeding from 7 up to 9 months

11

- **Continue breastfeeding your baby on demand both day and night.** This will maintain his or her health and strength as breast milk continues to be the most important part of your baby's diet.
- **When feeding a baby who is between 7 and 9 months old, always give your baby breast milk first before giving other foods.**
- **FADDUAH:** Think of these characteristics when giving complementary foods to your baby. **F** = Frequency, **A** = Amount, **D** = Density (consistency), **D** = Diversity (different kinds of foods), **U** = Utilisation, **A** = Active/responsive feeding, and **H** = Hygiene
 - **Frequency:** Feed your baby 3 times a day.
 - **Amount:** Gradually increase the amount of food to ½ a cup (a cup is 320 ml). Babies have small stomachs and can only eat small amounts at each meal.
 - **Density (consistency):** Mash and soften the foods so that the baby can easily chew and swallow. Breast milk, animal milk or fresh fruit juice can be used to prepare the soft food. Do not add water. Be careful not to make the baby's food too thin. Thicken the baby's food as the baby grows older, making sure that he/she is still able to easily swallow without choking.
 - **Diversity:** Every day, or as often as possible, your baby needs at least a small bit of food from each of the following groups:
 - a. Millet flour, sorghum flour, maize flour, potatoes, banana, etc.
 - b. Fresh or dry beans, peas or groundnuts
 - c. Meat, chicken, fish or eggs
 - d. Vegetables like dark green vegetables (chisoso, nkhwani, bonongwe, kholowa), tomato, eggplant, carrot, cabbage, etc.
 - e. Fruits like passion fruit, mango, pawpaw, orange, banana, watermelon, pineapple, avocado, etc.
 - f. Oil, margarine, meat fat or avocado
 - **Utilisation:** Add a few spoons of mashed pieces of fruit or fresh fruit juice to the baby's food.
 - **Active/responsive feeding:** Be patient and actively encourage your baby to eat. Use a separate plate to feed the baby to make sure he or she eats all the food given.

- **Hygiene:** Good hygiene is important to avoid diarrhoea and other illnesses.
 - Always use a clean open cup to give water or any liquid foods to your baby. DO NOT use bottles, teats or spouted cups. They are difficult to clean and can cause your baby to become sick.
 - Always use a clean hand, spoon, bowl or plate to give foods to your baby.
 - Always store the foods given to your baby in a safe, hygienic place.
 - Always wash your hands with soap and water before preparing foods and before feeding your baby. Wash your hands after using the toilet and after washing baby's bottom.

Example of balanced baby foods:

- A thick porridge can be made out of a flour of either maize, cassava, millet or soya. Milk, sugar, oil, groundnuts, eggs, vegetables and fruits can be mixed into the porridge.
- A mashed food mixture can combine foods like banana, potato, cassava, maize, millet with a food like fish, meat, beans or groundnut paste. Vegetables like greens, pumpkin, carrot, eggplant, avocado or tomato should also be mixed into the baby food.

Note for the health worker about HIV positive babies:

- HIV positive mothers who have decided to stop breastfeeding should feed their babies at least one and a half cups (500 ml) of animal milk every day.
- HIV positive babies need more food than HIV negative babies:
 - An HIV positive baby who is not sick should receive one extra feed each day.
 - An HIV positive baby who is sick and/or losing weight should be fed twice as much compared to what a healthy baby should eat.

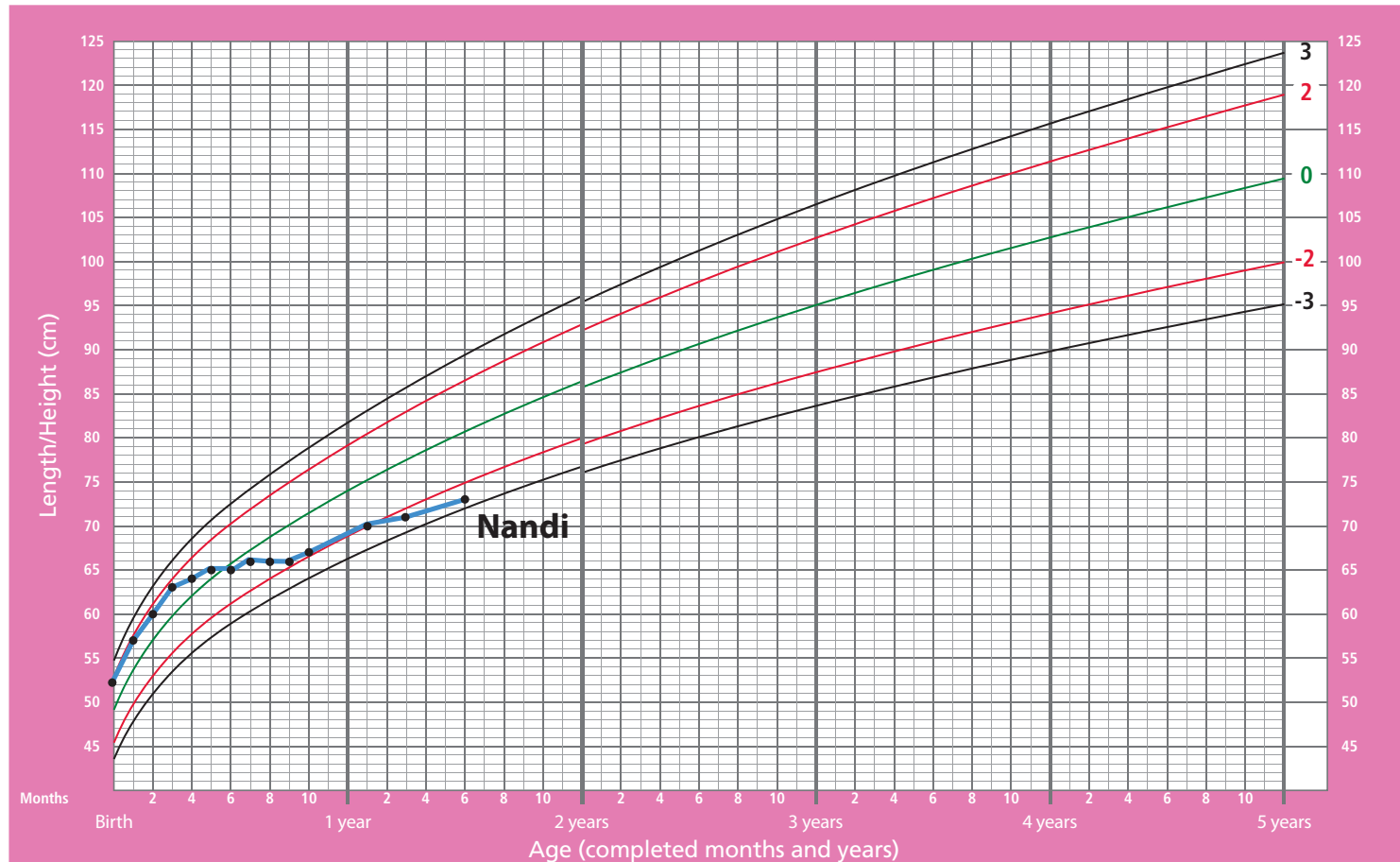
Note for the health worker about the size of cups:

- All cups shown and referred to in the Counselling Cards are mugs which have a volume of 320 ml. If other types or sizes of cups are used to feed a baby, they should be tested to see what volume they hold and the recommended quantities of food or liquid should be adjusted accordingly.

Height/Length-for-Age (Nandi)

Length/height-for-age GIRLS

Birth to 5 years (z-scores)

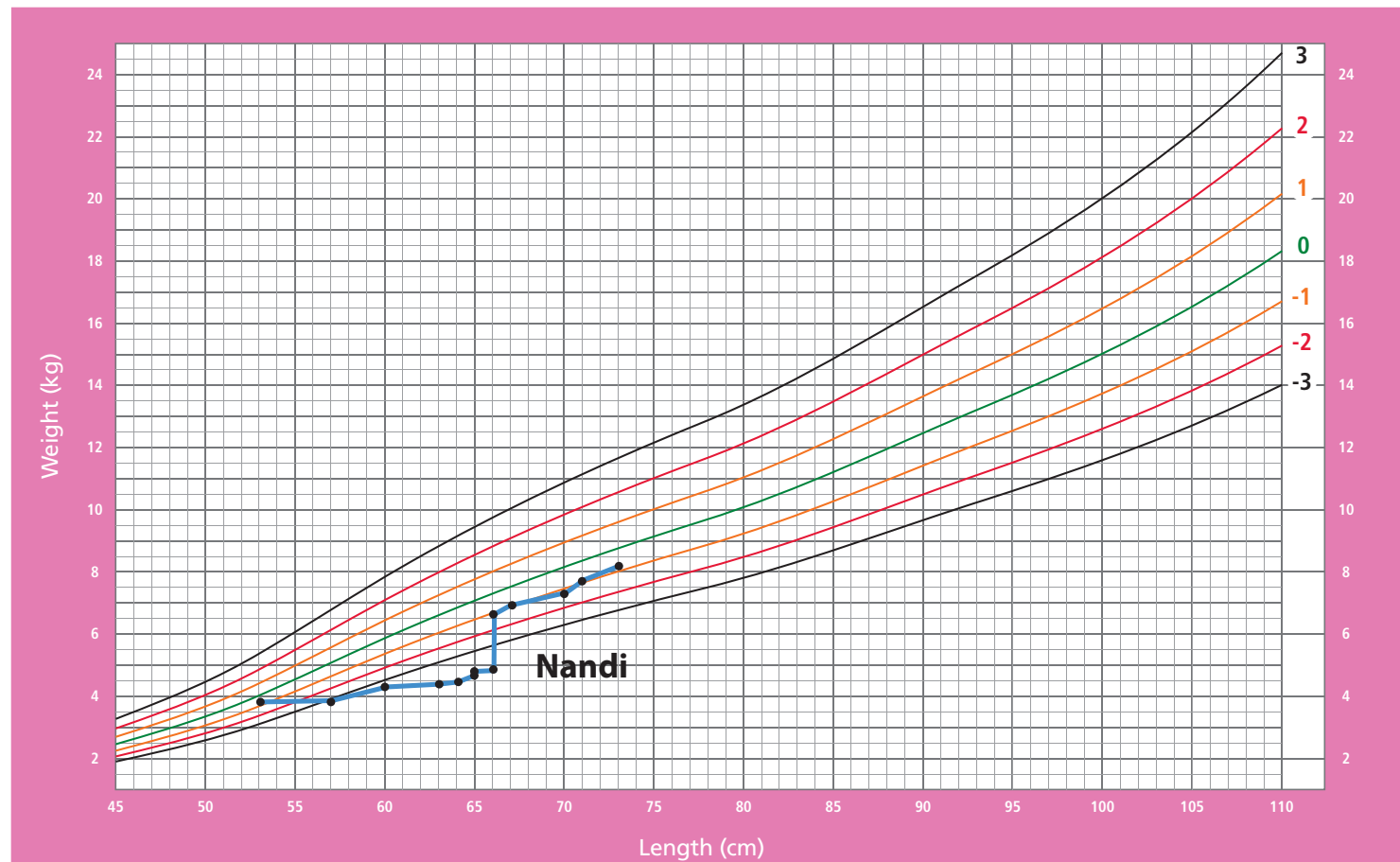


WHO Child Growth Standards

Weight-for-Height/Length (Nandi)

Weight-for-length GIRLS

Birth to 2 years (z-scores)

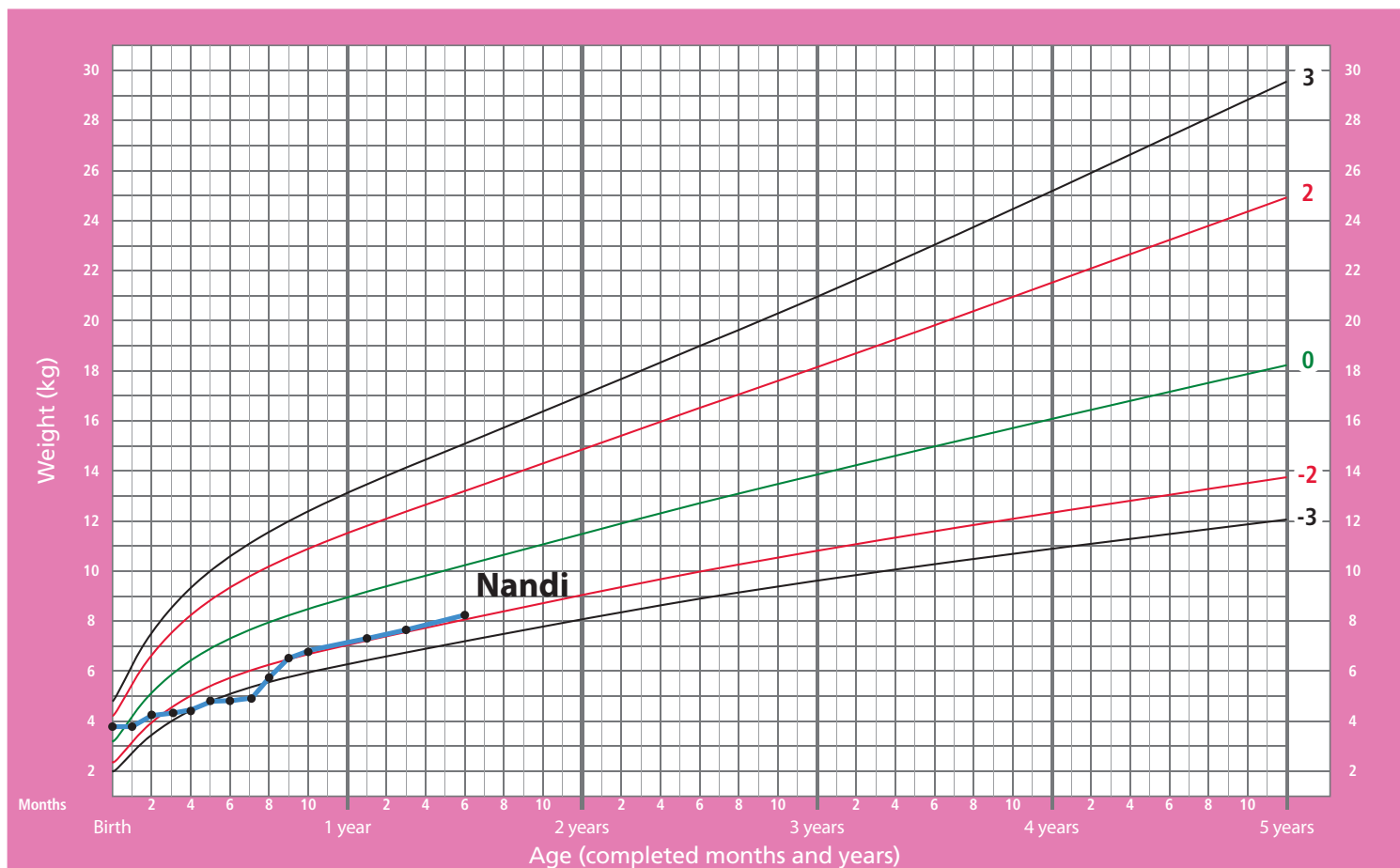


WHO Child Growth Standards

Weight-for-Age (Nandi)

Weight-for-age GIRLS

Birth to 5 years (z-scores)



WHO Child Growth Standards

Counselling Card #15

Feeding the sick child more than 6 months



Card 15

Feeding the sick child more than 6 months

15

Feeding during illness

- Breastfeed more frequently and offer additional food during illness. This will help the baby to fight sickness, recover more quickly and not lose weight.
- Encourage your child to breastfeed, eat and drink more. A child needs more food and drinks during illness.
- DO NOT use bottles, teats or spouted cups. They are difficult to clean and can cause your baby to become sick.
- Take time to patiently encourage your sick child to eat as his or her appetite may be decreased because of the illness.
- Assist your child by putting the food within his or her reach or by helping his or her to hold the cup or spoon. Offer verbal encouragement when the child eats something.
- Feed your child foods he or she likes, not too thick and not too dry, in small quantities throughout the day.
- Offer the baby simple foods like porridge and fruits, even if he or she does not express interest in eating.
- Avoid spicy or fatty foods.

Feeding during recovery

- When a baby is recovering from an illness, he or she will breastfeed and eat more than usual. The baby is replacing what he or she lost during illness. This can be tiresome for the mother.
- After replacing what he or she lost the baby will feed as before.
- Give your baby one additional meal of solid food each day during the next two weeks after he or she has recovered. This will help him or her regain weight lost during the illness.
- Take enough time to actively encourage your baby to eat this extra food and to breastfeed more frequently when his or her appetite has returned.

Counselling Card #12

Complementary feeding from 9 up to 12 months



Card 12

Complementary feeding from 9 up to 12 months

12

- **Continue breastfeeding your baby on demand both day and night.** This will maintain his or her health and strength as breast milk continues to be the most important part of your baby's diet.
- **When feeding a baby who is between 9 and 12 months old, always give your baby breast milk first before giving other foods.**
- **FADDUAH:** Think of these characteristics when giving complementary foods to your baby. **F** = Frequency, **A** = Amount, **D** = Density (consistency), **D** = Diversity (different kinds of foods), **U** = Utilisation, **A** = Active/responsive feeding, and **H** = Hygiene
 - **Frequency:** From 9 months onwards, feed your young child 4 times a day (3 meals and 1 snack).
Note about snacks: Snacks are extra foods given between meals, that are easy to prepare, are clean, safe and locally available. These foods are in addition to other meals, and do not replace meals. Good snacks provide energy and nutrients. They should not be confused with sweets. Most snacks can be eaten as finger foods such as pieces of fruit or vegetables.
 - **Amount:** Give your baby between one half (1/2) and two thirds (2/3) of a cup at each feed. (A cup is 320 ml.) Babies have small stomachs and can only eat small amounts at each meal.
 - **Density (consistency):** Mash and soften the foods so that the baby can easily chew and swallow. Breast milk, animal milk or fresh fruit juice can be used to prepare the soft food. Do not add water. Be careful not to make the baby's food too thin. Thicken the baby's food as the baby grows older, making sure that he/she is still able to easily swallow without choking.
 - **Diversity:** Every day, or as often as possible, your baby needs at least a small bit of food from each of the following groups:
 - a. Millet flour, sorghum flour, maize flour, potatoes, banana, etc.
 - b. Fresh or dry beans, peas or groundnuts
 - c. Meat, chicken, fish or eggs
 - d. Vegetables like dark green vegetables (chisoso, nkhwani, bonongwe, kholowa), tomato, eggplant, carrot, cabbage, etc.

- e. Fruits like passion fruit, mango, pawpaw, orange, banana, watermelon, pineapple, avocado, etc.
- f. Oil, margarine, meat fat or avocado

- **Utilisation:** Add a few spoons of mashed pieces of fruit or fresh fruit juice to the baby's food.
- **Active/responsive feeding:** Be patient and actively encourage your baby to eat. Use a separate plate to feed the baby to make sure he or she eats all the food given.
- **Hygiene:** Good hygiene is important to avoid diarrhoea and other illnesses.
 - Always use a clean open cup to give water or any liquid foods to your baby. DO NOT use bottles, teats or spouted cups. They are difficult to clean and can cause your baby to become sick.
 - Always use a clean hand, spoon, bowl or plate to give foods to your baby.
 - Always store the foods given to your baby in a safe, hygienic place.
 - Always wash your hands with soap and water before preparing foods and before feeding your baby. Wash your hands after using the toilet and after washing baby's bottom.

Note for the health worker about HIV positive babies:

- HIV positive mothers who have decided to stop breastfeeding should feed their babies at least one and a half cups (500 ml) of animal milk every day.
- HIV positive babies need more food than HIV negative babies:
 - An HIV positive baby who is not sick should receive one extra feed each day.
 - An HIV positive baby who is sick and/or losing weight should be fed twice as much compared to what a healthy baby should eat.

Note for the health worker about the size of cups:

- All cups shown and referred to in the Counselling Cards are mugs which have a volume of 320 ml. If other types or sizes of cups are used to feed a baby, they should be tested to see what volume they hold and the recommended quantities of food or liquid should be adjusted accordingly.

Community Weighing Summary

Number of Children Weighed in Each Category

	Normal	Mildly Malnourished	Moderately Malnourished	Severely Malnourished	Total Children
Totals (#)	30	28	8	6	72
Totals (%)					100

To calculate percentages: = $\frac{\text{the number of children in the category}}{\text{the total number of children}} \times 100$

Example $\frac{30 \text{ normal children}}{72 \text{ total children}} \times 100$
 = .417 X 100
 = 41.7% We can round this up to 42%

42% of children have normal nutrition and are growing well.

Triggers for Action – Underweight

% of children 0-59 months moderately and severely malnourished

	Acceptable	Attention Required	Critical
Underweight Moderately/Severely Malnourished	<10%	10-19%	≥20%

Level of Stunting in Community

Height/Length-for-Age – Number of Children

	Normal	Mildly Malnourished	Moderately Malnourished	Severely Malnourished	Total Children
	I	 II	I		
Totals	16	32	21	3	72

To calculate percentages: = $\frac{\text{the number of children in the category}}{\text{the total number of children}} \times 100$

Example $\frac{16 \text{ normal children}}{72 \text{ total children}} \times 100$
 $= .22 \times 100$
 $= 22 \%$

22% of children have normal nutrition according to their height-for-age and are growing well.

Triggers for Action – Stunting

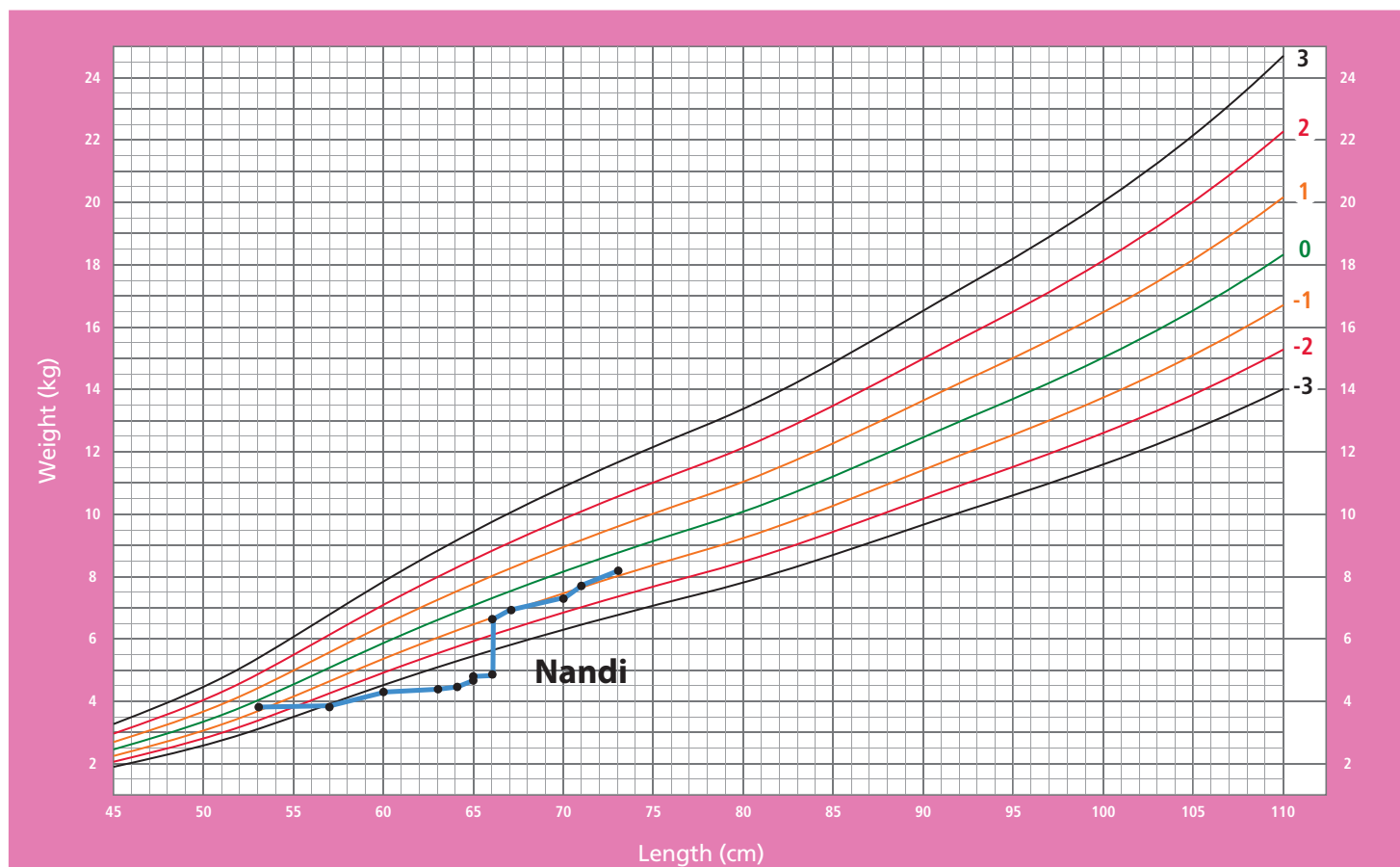
% of children 0-59 months moderately and severely malnourished

	Acceptable	Attention Required	Critical
Stunting (height-for-age)	<20%	20 – 29%	≥30%

Weight-for-Height/Length (Nandi)

Weight-for-length GIRLS

Birth to 2 years (z-scores)



WHO Child Growth Standards

Triggers for Action – Wasting

% of children 0-59 months moderately and severely malnourished

	Acceptable	Attention Required	Critical
Wasting (weight-for-height)	<5%	5 – 9%	≥10%

Demographic and Health Survey (DHS) Chart Sample

Table 13.7 Nutritional status of children
Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height for age, weight for height, and weight for age, by background characteristics, and percentage of children of noninterviewed mothers, and all children classified as malnourished, Cambodia 2000

Background characteristic	Height-for-age			Weight-for-height			Weight-for-age			Number of children
	Per-centage below -3 SD	Per-centage below -2 SD	Mean Z-score (SD)	Per-centage below -3 SD	Per-centage below -2 SD	Mean Z-score (SD)	Per-centage below -3 SD	Per-centage below -2 SD	Mean Z-score (SD)	
Child's age in months										
<6	5.1	14.5	-0.4	1.9	9.0	-0.1	1.1	7.7	-0.4	351
6-9	4.4	21.5	-1.1	1.4	9.3	-0.4	6.1	20.2	-1.1	229
10-11	6.1	26.5	-1.1	2.5	20.0	-1.0	14.0	44.6	-1.7	104
12-15	14.0	36.6	-1.4	7.1	24.9	-1.2	10.8	49.4	-1.9	226
16-23	23.2	49.3	-2.0	5.1	21.5	-1.1	17.1	51.2	-2.0	340
24-35	22.3	50.4	-2.1	3.9	16.7	-1.0	14.9	51.9	-2.0	640
36-47	27.2	53.2	-2.1	4.2	14.8	-0.9	12.3	51.8	-2.0	734
48-59	27.6	54.5	-2.2	4.0	11.7	-0.9				746
Child's sex										
Male	19.0	43.3	-1.7	3.9	15.4	-0.9	11.9	44.3	-1.8	1,735
Female	22.1	45.9	-1.8	3.9	14.6	-0.9	13.4	46.3	-1.8	1,637
Birth order²										
1	18.0	40.9	-1.7	3.8	15.6	-1.0	12.3	43.6	-1.8	611
2-3	20.1	44.2	-1.7	2.8	13.7	-0.8	11.5	42.8	-1.7	1,160
4-5	19.8	42.7	-1.7	4.2	14.3	-0.9	11.8	44.5	-1.8	744
6+	22.5	48.7	-1.8	4.9	17.1	-1.0	14.9	49.5	-1.9	773
Birth interval in months²										
First birth	18.0	40.8	-1.7	3.8	15.6	-1.0	12.3	43.6	-1.8	612
<24 months	31.3	55.3	-2.2	3.5	11.7	-0.9	17.0	52.2	-2.0	529
24-47 months	19.6	46.0	-1.8	3.6	15.4	-0.9	11.6	45.2	-1.8	1,488
48+ months	14.7	34.9	-1.4	4.4	16.1	-0.9	11.2	39.6	-1.6	660
Residence										
Urban	19.4	38.1	-1.6	3.3	12.6	-0.8	9.1	37.9	-1.6	484
Rural	20.7	45.7	-1.8	4.0	15.4	-0.9	13.2	46.5	-1.8	2,888
Region										
Banteay Mean Chey	11.7	28.9	-1.3	5.0	19.5	-1.1	10.5	39.5	-1.7	162
Kampong Cham	19.3	48.2	-1.8	5.2	15.6	-1.0	13.6	47.8	-1.9	464
Kampong Chhnang	19.4	45.9	-1.9	0.7	9.5	-0.9	9.9	46.1	-1.8	161
Kampong Speu	17.4	44.5	-1.7	3.6	16.9	-1.0	13.7	44.0	-1.9	232
Kampong Thom	26.1	47.2	-1.7	10.2	24.5	-1.0	12.5	49.4	-1.9	150
Kandal	17.6	46.2	-1.9	1.1	11.8	-0.9	10.6	48.2	-1.8	301
Kaoh Kong	30.8	55.0	-2.2	3.9	14.7	-0.6	15.4	42.7	-1.4	40
Phnom Penh	17.0	25.6	-1.2	3.1	18.3	-0.9	8.0	35.0	-2.0	197
Prey Veang	27.4	51.2	-2.1	6.5	15.1	-1.0	17.5	56.8	-1.8	244
Pousat	20.0	46.3	-1.7	1.3	13.4	-1.0	12.4	46.3	-1.7	126
Svay Rieng	22.9	51.3	-1.8	4.9	13.0	-0.8	13.5	45.9	-1.8	125
Takeo	21.1	42.1	-1.6	4.8	17.2	-0.8	14.5	39.9	-1.6	210
Bat Dambang/										
Krong Pallin	15.9	36.3	-1.4	5.7	21.1	-1.0	12.0	36.4	-1.6	240
Kampong Krang/Kaeb/										
Krong Preah Sihanouk	26.0	43.4	-1.8	2.6	9.6	-0.5	12.6	39.8	-1.5	230
Preah Vihear/Stueng										
Traeng/Kracheh	22.9	51.0	-2.0	2.8	10.9	-0.9	13.2	47.0	-1.9	164
Mondul Kiri/Ratanak Kiri	33.4	55.0	-2.2	6.2	15.2	-0.9	19.0	54.0	-2.0	51
Siem Reap/Ordar										
Mean Chey	21.0	50.7	-2.0	0.8	10.6	-0.8	10.9	49.9	-1.8	266
Mother's education²										
No education	24.4	51.0	-1.9	4.7	15.7	-0.9	15.1	51.2	-1.9	1,067
Primary	19.4	42.6	-1.7	3.6	15.3	-0.9	12.1	42.7	-1.8	1,778
Secondary and higher	14.1	35.1	-1.4	2.6	12.6	-0.9	8.4	39.7	-1.5	463
Children of interviewed mothers	20.2	44.3	-1.7	3.8	15.0	-0.9	12.5	44.9	-1.8	3,288
Children of non-interviewed mothers										
Mother in household	*	*	*	*	*	*	*	*	*	20
Mother not in household	35.6	61.5	-2.2	8.2	15.0	-0.8	15.9	57.6	-1.9	64
Total	20.5	44.6	-1.8	3.9	15.0	-0.9	12.6	45.2	-1.8	3,372

Note: This table refers to de facto children. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
¹ Includes children who are below -3 standard deviations from the International Reference Population median.
² Excludes children whose mothers were not interviewed.

Comparing DHS to Triggers for Action

% of children under five who are moderately and severely malnourished

	DHS Total	DHS District (Kampang Cham)	Immediate Action Required (Trigger)
Underweight	45.2%	47.8%	$\geq 20\%$
Stunting	44.6%	48.2%	$\geq 30\%$
Wasting	15.0%	15.6%	$\geq 10\%$

% of children under five who are moderately and severely malnourished

	DHS Total	DHS _____ District	Community Information	Trigger for Action
Underweight				$\geq 20\%$
Stunting				$\geq 30\%$
Wasting				$\geq 10\%$

Congratulations! We're finished.
Now on to fighting malnutrition!

