



CHILD HEALTH & NUTRITION INDICATORS DICTIONARY: DATA MANAGEMENT IN EARLY CHILDHOOD CARE AND EDUCATION

Prepared for the Seychelles Institute for
Early Childhood Development in
collaboration with the Ministry of Health

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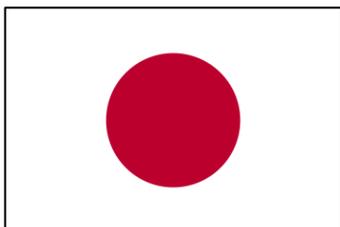


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Introduction

This package of 12 indicators for Seychelles was designed with the goals of enabling the country to capture data on its most pressing public health challenges in the areas of child health and nutrition, as well as allow the country to report on its progress towards global nutrition targets to international health and nutrition bodies. The two goals are complementary, as many childhood health and nutrition challenges facing Seychelles are shared by many other countries around the world.

This proposal positions Seychelles to report on the six global nutrition targets set in 2012 at the World Health Assembly (WHA). The global nutrition targets are set for 2025. After a consultative process, in 2014 the World Health Organization issued the Global Monitoring Framework for Maternal, Infant, and Young Child Nutrition (MIYCN) to establish how to monitor progress towards the 2025 targetsⁱ. These indicators are believed to capture the most pressing public health challenges faced around the globe. The six MIYCN Plan global nutrition targets to be achieved by 2025 areⁱⁱ:

1. A 40% reduction of the global number of children under five who are stunted
2. A 50% reduction of anaemia in women of reproductive age
3. A 30% reduction of low birth weight
4. No increase in childhood overweight
5. Increase the rate of exclusive breastfeeding in the first six months up to at least 50%
6. Reduce and maintain childhood wasting to less than 5%

To achieve these targets, the plan proposes these five actionsⁱⁱⁱ:

1. Create a supportive environment for the implementation of comprehensive food and nutrition policies.
2. Include all required effective health interventions with an impact on nutrition in national nutrition plans.
3. Stimulate development policies and programmes outside the health sector that recognize and include nutrition.
4. Provide sufficient human and financial resources for the implementation of nutrition interventions.
5. Monitor and evaluate the implementation of policies and programmes.

The proposal for Seychelles includes indicators that directly capture progress towards the 2025 WHA targets. It also includes intermediate outcome indicators, which monitor conditions on the

causal pathways to the targets, and process indicators, which monitor programs and situation-specific progress.

Additionally, the package includes indicators that are not found in the 2025 WHA targets but are deemed to be relevant to the public health challenges currently facing Seychelles. These challenges were identified through existing data and consultations with stakeholders throughout the Ministry of Health and the early childhood health and nutrition community in Seychelles. Many of these challenges concern the “double burden” of malnutrition, whereby individuals, societies and countries can simultaneously face challenges of poor nutrition and overweight and obesity.

This reference guide includes a definition of each of the 12 indicators, including a formula for calculation. All definitions are based on current WHO guidelines, both to enable Seychelles to adopt international best practice and to report in coming years on the country’s progress towards the 2025 global nutrition targets. The importance of each indicator for young child and maternal health is explained. A brief explanation of the relevance of the indicator to the context of Seychelles is also included. A separate manual on how to gather and calculate the data has been prepared.

Indicator definitions & significance for Seychelles

All indicator definitions are according WHO definitions and are based on WHO sources.

Prevalence of haemoglobin <11 g/dL in pregnant women (iron deficiency anaemia among pregnant women)

Introduction

Anaemia is a condition in which the number of red blood cells or their oxygen-carrying capacity is insufficient to meet physiologic needs, which vary by age, sex, altitude, smoking, and pregnancy status^{iv}. Anaemia is an indicator of both poor nutrition and poor health.

Iron deficiency is thought to be the most common cause of anaemia globally, although other conditions, such as folate, vitamin B12 and vitamin A deficiencies; chronic inflammation; parasitic infections; and inherited disorders can all cause anaemia. Pregnant women and children are particularly vulnerable.

Iron deficiency anaemia among pregnant women is a *primary outcome indicator* that measures progress towards the six global nutrition targets, that is, a 50% reduction of anaemia in women of reproductive age (target number two).

Definition

Iron deficiency anaemia among pregnant women is defined as the prevalence of a haemoglobin concentration of <11 g/dL (110g/L) in the blood of pregnant women.

$$\begin{aligned} & \textit{Prevalence of Iron deficiency anaemia in pregnant women} \\ & = \textit{Number of pregnant women with haemoglobin concentration} \\ & \textit{< 11 g per dL} \div \textit{Total number of pregnant women} \end{aligned}$$

Range of anaemia

- 10.0-10.9 g/dL is considered mild anaemia
- 7.0-9.9 g/dL is considered moderate anaemia
- Lower than 7.0 g/dL is considered severe anaemia

Significance for Seychelles

According to the IFPRI (International Food Policy Institute) 2015 Nutrition Country Profile for Seychelles, the number of women of reproductive age with anaemia in 2011 was roughly 5,000; comprising 21% of the total population of women of reproductive age. This is considered a moderate public health problem according to WHO standards.

According to the WHO, anaemia is the world's second leading cause of disability and is a serious global public health problem.^v Pregnant women are particularly at risk because in

pregnancy the body produces more blood to support the baby's growth. If the mother lacks iron or other nutrients, her body may not be able to produce the red blood cells it needs to make the additional blood. Symptoms can include weakness, fatigue, difficulty concentrating, pale skin, and rapid heartbeat. Mild anaemia is typically treatable with iron supplements and appropriate dietary consumption. Untreated anaemia in pregnancy is associated with higher risk for miscarriage, stillbirth, preterm delivery and low birth weight.

Prevalence of haemoglobin <11 g/dL in young children (iron deficiency anaemia among young children)

Definition

Iron deficiency anaemia among young children is defined as the prevalence of a haemoglobin concentration of <11 g/dL (110g/L) in the blood of children 6-59 months of age.

Prevalence of anemia in young children
= Number of children 6 to 59 months of age with haemoglobin concentration < 11 g per dL ÷ Total number of children 6 to 59 months of age

Range of anaemia

- 10.0-10.9 g/dL is considered mild anaemia
- 7.0-9.9 g/dL is considered moderate anaemia
- Lower than 7.0 g/dL is considered severe anaemia

Significance for Seychelles

The WHO's Global Prevalence of Anaemia in 2011 report estimated that 37% of young children in Seychelles have haemoglobin concentrations in the blood below the threshold definition of 11 g/dL.^{vi} This constitutes a moderate public health problem according to WHO definitions.

Young children are susceptible to iron deficiency anaemia because they need a lot of iron to grow and develop. Babies are born with iron stores, but these are depleted by the first 4-6 months of life. If children lack adequate iron intake in their diet, they may develop anaemia. Low birth weight and preterm babies are at high risk of anaemia because they are born with lower iron stores in their bodies. Iron-rich foods, breast milk from mothers with adequate iron stores, iron-supplemented foods, or iron supplements can often prevent or treat anaemia. Consumption of cow's milk in children below 1 year is a risk factor, as cow's milk consumption may hinder iron absorption and reduce consumption of iron-rich foods.

Symptoms of anaemia in children can include pale skin, irritability, weakness, and fatigue. Anaemia in young children can impair their ability to learn, which can lead to developmental delays. These can be difficult to remediate if untreated before 36 months.

Prevalence of infants born <2500 g (low birthweight)

Introduction

Birthweight should be measured within an hour of birth, before significant postnatal weight loss occurs.

The definition of low birthweight is based on epidemiological studies showing that infants born below 2500 g are 20 times more likely to die than babies born heavier.^{vii} Low birthweight is usually a result of preterm birth (prior to 37 weeks of gestation) or fetal (intrauterine) growth restriction but can also be affected by the mother's health at conception. Babies born weighing less than 1500 are considered very low birthweight, and babies born weighing less than 1000 g are considered extremely low birthweight. Women from low socio-economic status backgrounds are at higher risk to have low birthweight babies.

In addition to a higher risk of death, low birthweight is associated with a higher likelihood of poor growth, cognitive delays, and chronic diseases later in life, such as Type 2 diabetes and cardiovascular disease.

Reducing the incidence of low birthweight may require a multipronged strategy, and include improving maternal nutrition for women of reproductive age, treating pre-eclampsia and other health conditions associated with pregnancy, and providing adequate maternal and infant healthcare.

Low birth weight is a *primary outcome indicator* that measures progress towards the six global nutrition targets, that is, a 30% reduction of low birth weight (target number three).

Definition

Infants with low birthweight is defined as babies born weighing less than 2500 g (equivalent to 5.5 lbs.).

$$\text{Prevalence of low birthweight infants} = \frac{\text{Number of live born babies weighing} < 2500\text{g}}{\text{Total number of live born babies}}$$

Significance for Seychelles

The prevalence of low birthweight babies in Seychelles is not readily available. The raw data for this indicator are already being collected routinely at maternity wards, so gathering and calculation are the next steps in producing the indicator.

As explained above, low birthweight is associated with increased infant mortality and morbidity, as well as increased risk for later physical growth issues, cognitive development delays, and chronic disease.

Prevalence of low length/ height-for-age in children under five years of age (stunting)

Introduction

Stunting is being too short for one's age, and restricts one's longterm growth potential. Stunting can indicate poor health and development. Children who are stunted typically have poor nutrition and/or suffer from recurrent infections. They may come from disadvantaged socioeconomic backgrounds. Their mothers may have been poorly nourished during pregnancy, and/or they may not have proper nutrition as infants and children. This puts them at increased risk of illness and death. Additionally, their capacity to learn is diminished, meaning they are likely to have poorer cognitive development and school achievement than they would be capable of had they been properly nourished. This has long term impacts on their ability to succeed in jobs and contribute to their country's economy.

Defining a child as stunted relies on comparing the child's length or height and weight value with an acceptable set of reference values. Current international best practice uses the WHO Child Growth Standards released in 2006 as the international reference population. WHO researchers tracked the growth of children living in environments believed to be optimal for child growth across six countries throughout the world, including the U.S. They are meant to be applicable to children across ethnic backgrounds and socioeconomic status. The WHO has protocols for measurement, including training materials and videos. Adherence to proper measurement protocols is crucial to capturing accurate data, so investment in training and oversight of those conducting the child measurement is importance.

One note of caution: this definition of stunting is useful at a population level, but may not be valid for individual assessment. If a child's height for age value falls in the lowest 5% of the international growth standards, this may be because of natural variation in the gene pool. The child may be properly nourished and healthy, but may simply have short parents. However, if a large percentage (or at least more than 5% of the population) have height for weight scores that are below the 5th percentile of the reference population, then that suggests that the stunting is at work at least in some of those cases, with malnutrition as the probable cause.

Approaches to preventing stunting include adequate nutrition for pregnant women and lactating mothers, exclusive breastfeeding for the first six months of life, adequate complementary feeding after six months of age, and good sanitary practices and primary healthcare to prevent and treat infections.

Stunting is a *primary outcome indicator* that measures progress towards the six global nutrition targets, that is, a 40% reduction of the global number of children under five who are stunted (target number one).

Definition

A child under five years of age is defined as stunted if his/her length/ height-for-age value is less than two standard deviations of the median length/ height-for-age of the WHO child growth

standards median, regardless of the reason. Two standard deviations below the median of the reference population corresponds with a value that falls below the fifth percentile of the reference population. The WHO Child Growth Standards are currently the best option for use as the reference population. Length should be used for children below 24 months of age. For 24 months and older, height should be used.

Prevalence of stunting in children below five years of age
= Number of children under five years of age with a length or height for age value
< 2 SDs under the median length or height for age value of the WHO growth standards median
÷ Total number of children under five years of age in the population

Significance for Seychelles

The IFPRI (International Food Policy Institute) 2015 Nutrition Country Profile for Seychelles estimates that in 2012 the stunting rate for children under 5 years of age was 8%, the same rate as in 1988. This corresponds to roughly 1,000 children. As discussed above, some of the figure may include children who are well-nourished and healthy, but are short due to genetics. However, given that the figure is above 5%, it suggests that malnutrition is the cause of some of the stunting cases in the country.

In Seychelles, cases of child malnutrition may be less obvious than in countries with lower levels of development. Stunting may not be obvious from a child's appearance. Children may consume adequate calories, but there may not be adequate nutrient content in their food to support their proper growth. For this reason, good data and monitoring are necessary to capture the magnitude of the problem.

In the near term, stunting impairs children's cognitive development and physical growth, and in the long term has implications for success in school, job productivity, and ultimately a country's economy. Research shows that stunting in the first 2 years of life leads to irreversible damage, including shorter adult height, lower attained schooling, reduced adult income and decreased offspring birthweight.^{viii}

Prevalence of low weight-for-height in children under five years of age (wasting)

Introduction

Wasting is weighing too little for one's height. A child can be wasted but not necessarily short. Children can become wasted when they lose weight rapidly from untreated illness, inadequate feeding practices, poor food security and diversity, and poor sanitation and hygiene. Children who have inadequate body weight are at increased risk for illness and death. For example, a child who is wasted and acquires pneumonia or diarrhea has a much higher risk of death than a well-nourished child who acquires those illnesses. Children who are not adequately nourished are at risk of developing severe acute malnutrition or severe stunting. Children who are wasted

are at higher risk of death than those who are only stunted; children who are both stunted and wasted face an even higher risk of death.

Like stunting, defining a child as wasted relies on comparing the child's height and weight value with an acceptable set of reference values. Again, like stunting, current international best practice relies on the WHO Child Growth Standards released in 2006. The WHO has protocols for measurement, including training materials and videos. Adherence to proper measurement protocols is crucial to capturing accurate data, so investment in training and oversight of those conducting the child measurement is importance.

Stunting and wasting share underlying causal factors, and similar approaches will help address both conditions.

Wasting is a *primary outcome indicator* that measures progress towards the six global nutrition targets, that is, reduce and maintain childhood wasting to less than 5% (target number six).

Definition

A child under five years of age is defined as wasted if his/her weight for length/ height value is less than two standard deviations of the median weight for length/ height of the WHO child growth standards median, regardless of the reason. Two standard deviations below the median of the reference population corresponds with a value that falls below the fifth percentile of the reference population.

Prevalence of wasting in children under five years of age
= *Number of children under five years of age with a weight for length or height value < 2 SDs below the median weight for length or height value of the WHO growth standards median*
÷ *Total number of children under five years of age in the population*

Significance for Seychelles

The IFPRI (International Food Policy Institute) 2015 Nutrition Country Profile for Seychelles estimates that in 2012 the wasting rate for children under 5 years of age was 4%, or less than 1,000 children. While this rate is fairly low, it may still troubling for a high income country with high levels of human development to have wasting. The raw data to calculate the indicator are collected at health clinics, so it is an easy indicator to calculate.

Wasting among children is a serious health condition which carries a high risk of morbidity and mortality.

[Prevalence of high weight-for-height in children under five years of age \(overweight in young children\)](#)

Introduction

In recent years the number of young children who are overweight has risen dramatically throughout the world due to changes in dietary consumption and more sedentary lifestyles. The rise has been especially rapid in low and middle income countries.

Many countries now face what is known as the “double burden of malnutrition,” that is, they confront challenges of both malnutrition and overweight and obesity. In fact, an individual may be both malnourished and overweight. For example, a child can be overweight and lacking in adequate nutritional intake; an adult who was stunted as a child is at higher risk of being overweight as an adult. In the prenatal and infant periods, a child may be poorly nourished, and as the child grows older he or she may consume foods that are high in fat and calories but low in nutrients, and at the same time have low levels of physical activity.

Overweight and obese children are likely to remain overweight and obese as adults. They are at increased risk of developing non-communicable diseases such as diabetes, cardiovascular disease, and high blood pressure at younger ages. Their quality of life may be negatively affected by being obese.

Preventing and addressing overweight and obesity in young children requires educating families on the importance of providing a healthy diet based on unprocessed foods with high nutritional content, as well as encouraging lots of physical activity. Government policies can help promote access to healthy and inexpensive food, and opportunities and space for physical activity for young children. Children who eat healthily early in life are more likely to continue these habits into adulthood.

Overweight among children is a *primary outcome indicator* that measures progress towards the six global nutrition targets, that is, no increase in childhood overweight (target number four).

Definition

A child under five years of age is defined as overweight according to WHO Indicators for the Global Monitoring Framework on Maternal, Infant, and Young Child Nutrition if his or her weight for height value is greater than 2 standard deviations above the median weight for height value of the WHO growth standards. The WHO has protocols for measurement, including training materials and videos. Adherence to proper measurement protocols is crucial to capturing accurate data, so investment in training and oversight of those conducting the child measurement is importance.

Prevalence of high weight for height in children under five years of age =
Number of children below five years of age with a weight for height value >
2 SDs above the median weight for height value of the WHO growth standards median ÷
Total number of children under five years of age in the population

The definitions of overweight and obesity are different for young children than they are for adolescents and adults. Because children grow at different rates in their first few years of life, it is more difficult to construct a good measure of overweight and obesity.

Significance for Seychelles

The IFPRI (International Food Policy Institute) 2015 Nutrition Country Profile for Seychelles estimates that in 2012 the overweight rate for children under 5 years of age was 10%. Like many other countries, the typical diet in Seychelles has changed in recent decades from one based on local, unprocessed foods to sugary, high fat processed foods, coupled with a more sedentary lifestyle. Children's food and exercise habits in childhood may continue on into adulthood, putting them at higher risk for illness, disability, and death.

Prevention and treatment of overweight and obesity in children should be a high priority due to its associated health impairments, costs to the healthcare system and the country's economic productivity.

Prevalence of exclusive breastfeeding in infants aged six months or less (exclusive breastfeeding)

Introduction

Breast milk is nature's perfect food for infants. It contains all of the nutrition babies need for the first six months of life. Babies should be exclusively breastfed for the first six months of life for optimal health, growth, and development. If medically indicated however infants can receive oral rehydration therapy, drops and syrups (vitamins, minerals and medicines).

Exclusive breastfeeding reduces infant mortality due to common illnesses such as pneumonia and diarrhea. Children who exclusively breastfeed are less likely to be stunted or overweight.

Exclusive breastfeeding is a *primary outcome indicator* that measures progress towards the six global nutrition targets, that is, increase the rate of exclusive breastfeeding in the first six months up to at least 50% (target number 5).

Definition

Exclusive breastfeeding is defined as no other food or drink, not even water, except breast milk for the first 6 months of life.

$$\begin{aligned} & \textit{Prevalence of exclusive breastfeeding in infants aged six months or less} \\ & = \textit{Number of infants aged six months or less who are exclusively breastfed} \\ & \div \textit{Total number of infants aged six months or less in the population} \end{aligned}$$

Significance for Seychelles

The prevalence of exclusive breastfeeding until six months in Seychelles is not currently available in international sources. Data on breastfeeding practices are collected in the Nutrition Data Form completed by nurses at children's visits to health centers and also by midwives on the post natal ward.

Raising exclusive breastfeeding rates in the community should be a key goal for improving child health and nutrition, so data are needed to set goals and monitor progress.

Proportion of children who are breastfeeding at 1 year (continued breastfeeding)

Introduction

Continued feeding with breast milk after complementary feeding has begun at six months is WHO's recommendation for optimal feeding. Breast milk continues to provide important nutrients to promote optimal growth and development, even after a baby has begun to consume food.

Definition

Continued breastfeeding at 1 year of age is defined as receiving breast milk in addition to complementary foods.

$$\begin{aligned} & \textit{Proportion of continued breastfeeding in children aged 6 to 12 months} \\ & = \textit{Number of children aged 6 to 12 months who receive breastmilk} \\ & \div \textit{Total number children aged 6 to 12 months in the population} \end{aligned}$$

Significance for Seychelles

The prevalence of continued breastfeeding at 1 year in Seychelles is not currently available in international sources. Data on breastfeeding practices are collected in the Nutrition Data Form completed by nurses at children's visits to health centers, but the continued breastfeeding rate is not regularly calculated.

Given the public health significance of continued breastfeeding, data are important to set goals and monitor progress.

Proportion of pregnant women with gestational diabetes mellitus (gestational diabetes)

Introduction

Gestational diabetes causes blood sugar levels to become too high. A woman may have gestational diabetes and not display any symptoms. Having gestational diabetes in pregnancy makes a woman more likely to have diabetes later. It increases the risk of fetal macrosomia,

whereby the baby is too large for gestational age, which can increase the risk of birth complications. Gestational diabetes also increases the risk of preeclampsia (high blood pressure), which can lead to preterm birth and associated risks.

The risk of developing gestational diabetes is increased if the mother is overweight. Genetics also plays a role. Gestational diabetes can often be treated with diet and exercise. Medication is necessary in some cases.

The diagnostic criteria currently used in Seychelles are different from the WHO criteria. For this reason, the prevalence in Seychelles may not be directly comparable to the prevalence in countries that use WHO criteria. Nevertheless, calculating this indicator is extremely important.

Obstetric guidelines in Seychelles require that pregnant women are screened for gestational diabetes at 24-28 weeks of gestation unless they are identified as high risk.

Criteria for high risk includes:

- high pre-pregnancy weight (BMI >30)
- member of an ethnic group with a high prevalence of diabetes [e.g. black women]
- known diabetes in first degree relatives
- history of abnormal glucose tolerance
- history of poor obstetric outcome
- glycosuria at booking
- polycystic ovarian syndrome (PCOS)

High risk pregnant women are tested at booking or as early as possible.

At 24-28 weeks, women identified as low risk are tested. The protocol is as follows:

Glucose Challenge Test (GCT) or Glucose Load Test (GLT):

- In non-fasting state, administer 50g oral glucose solution.
- Draw venous blood sample 1 hour after glucose intake.
- Positive test: Plasma glucose ≥ 7.8 mmol/l, indication for 3-hour Oral Glucose Tolerance Test (OGTT).

Oral Glucose Tolerance Test:

- Draw venous blood in fasting state
- Administer 100g oral glucose solution
- Draw venous blood 1 hour, 2 hours, and 3 hours after glucose load

Criteria for diagnosis of Gestational Diabetes Mellitus (GDM):

- GCT > 10.3 mmol/l
- OR**
- Abnormal OGTT with at least two values above the following:

Table 1.

Time	Plasma glucose level (mmol/l)
Fasting	5.3
1 hour	10.0
2 hour	8.6
3 hour	7.8

Note:

These criteria include high and low risk pregnancies. Patients with a single abnormal OGTT value are not classified as GDM. However, they are at a higher risk for neonatal morbidity and fetal macrosomia and should receive dietary advice and physical activity counseling. The same goes for patients with GCT between 7.8mmol/l and 10.3mmol/l and a normal OGTT.

Definition

Based on these diagnostic criteria, the calculation for the GDM prevalence rate in Seychelles is:

$$\begin{aligned}
 & \textit{Proportion of pregnant women with GCT} \\
 & > 10.3 \textit{ mmol} \\
 & / \textit{l or abnormal OGTT with at least two values above those in Table 1} \\
 & \div \textit{Total number of pregnant women in the population}
 \end{aligned}$$

Significance for Seychelles

The proportion of pregnant women with gestational diabetes in Seychelles is not readily available. Pregnant women are routinely screened for gestational diabetes at antenatal clinics, so the data must only be gathered and calculated. Being overweight or obese increases the risk of gestational diabetes. With fairly high overweight and obesity rates among women, gestational diabetes is likely to be fairly prevalent.

Proportion of children 6-23 months who receive a minimum acceptable diet (minimum acceptable diet)

Definition

The definition and calculation of what constitutes a minimum acceptable diet for a young child is the most complicated indicator proposed in the package. Minimum acceptable diet requires consumption of a minimum dietary diversity and minimum meal frequency the previous day. Gauging this requires asking a number of questions of the baby’s caregiver, which requires a

rather extensive questionnaire and training for the nurse who would be administering it. The definitions and sample questionnaire below are from the WHO's *Indicators for Assessing Young Child and Infant Feeding Practices, Part 2: Measurement, 2010*.

Number of breastfed children 6 to 23 months who had at least the minimum dietary diversity and the minimum meal frequency the previous day ÷ Total number of breastfed children 6 to 23 months

and

Number of non-breastfed children 6 to 23 months who had at least the minimum dietary diversity and the minimum meal frequency the previous day ÷ Total number of Non-breastfed children 6 to 23 months

Calculation of 6 food group score:

The 6 foods groups used for calculation of the dietary diversity component of the indicator for non-breastfed children are:

1. grains, roots and tubers
2. legumes and nuts
3. flesh foods (meat, fish, poultry and liver/organ meats)
4. eggs
5. vitamin-A rich fruits and vegetables
6. other fruits and vegetables

Construct the 6 food group score as follows:

Begin with a score of 0.

For each of the 6 food groups, add a point if any food in the group was consumed.

Food group 1	Add 1 point if:	IYCF Q10G=1 OR Q12A=1 OR Q12C=1
Food group 2	Add 1 point if:	IYCF Q12K=1
Food group 3	Add 1 point if:	IYCF Q12G=1 OR Q12H=1 OR Q12J=1
Food group 4	Add 1 point if:	IYCF Q12I=1
Food group 5	Add 1 point if:	IYCF Q12B=1 OR Q12D=1 OR Q12E=1 OR Q12Q=1
Food group 6	Add 1 point if:	IYCF Q12F=1

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES			QUESTIONS AND CODING CATEGORIES	
			YES	NO		DK
10	Next I would like to ask you about some liquids that (NAME) may have had yesterday during the day or at night. Did (NAME) have any (ITEM FROM LIST) ? <i>READ THE LIST OF LIQUIDS STARTING WITH 'PLAIN WATER'.</i>					
			YES	NO	DK	
					11 How many times yesterday during the day or at night did (NAME) consume any (ITEM FROM LIST) ? <i>READ QUESTION 11 FOR ITEMS B, C, AND F IF CHILD CONSUMED THE ITEM. RECORD '98' FOR DON'T KNOW.</i>	
A	Plain water?	A	1	2	8	
B	Infant formula such as [insert local examples]?	B	1	2	8	B. TIMES __ __
C	Milk such as tinned, powdered, or fresh animal milk?	C	1	2	8	C. TIMES __ __
D	Juice or juice drinks?	D	1	2	8	
E	Clear broth?	E	1	2	8	
F	Yogurt?	F	1	2	8	F. TIMES __ __
G	Thin porridge?	G	1	2	8	
H	Any other liquids such as [list other water-based liquids available in the local setting]?	H	1	2	8	
I	Any other liquids?	I	1	2	8	

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS IN THIS BOX THAT RESPONDENT MENTIONED BUT ARE NOT IN THE LIST BELOW:

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES			
			YES	NO	DK
A	Porridge, bread, rice, noodles, or other foods made from grains	A	1	2	8
B	Pumpkin, carrots, squash, or sweet potatoes that are yellow or orange inside	B	1	2	8
C	White potatoes, white yams, manioc, cassava, or any other foods made from roots	C	1	2	8
D	Any dark green leafy vegetables	D	1	2	8
E	Ripe mangoes, ripe papayas, or (insert other local vitamin A-rich fruits)	E	1	2	8
F	Any other fruits or vegetables	F	1	2	8
G	Liver, kidney, heart, or other organ meats	G	1	2	8
H	Any meat, such as beef, pork, lamb, goat, chicken, or duck	H	1	2	8
I	Eggs	I	1	2	8
J	Fresh or dried fish, shellfish, or seafood	J	1	2	8
K	Any foods made from beans, peas, lentils, nuts, or seeds	K	1	2	8
L	Cheese, yogurt, or other milk products	L	1	2	8
M	Any oil, fats, or butter, or foods made with any of these	M	1	2	8
N	Any sugary foods such as chocolates, sweets, candies, pastries, cakes, or biscuits	N	1	2	8
O	Condiments for flavor, such as chilies, spices, herbs, or fish powder	O	1	2	8
P	Grubs, snails, or insects	P	1	2	8
Q	Foods made with red palm oil, red palm nut, or red palm nut pulp sauce	Q	1	2	8
Check categories A–Q		IF ALL 'NO': → GO TO 13 IF AT LEAST ONE 'YES' OR ALL 'DK': → GO TO 14			

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
13	Did (NAME) eat any solid, semi-solid, or soft foods yesterday during the day or at night? IF 'YES' PROBE: What kind of solid, semi-solid, or soft foods did (NAME) eat?	YES 1 GO BACK TO Q12 AND RECORD FOODS EATEN. THEN CONTINUE WITH Q14 NO 2 DON'T KNOW 8	 → GO TO 15 → GO TO 15
14	How many times did (NAME) eat solid, semi-solid, or soft foods other than liquids yesterday during the day or at night?	NUMBER OF TIMES DON'T KNOW 98	
15	Did (NAME) drink anything from a bottle with a nipple yesterday during the day or night?	YES 1 NO 2 DON'T KNOW 8	

After a period of six months of exclusive breastfeeding, babies should receive complementary foods comprised of high nutrient content and sufficient quantity from diverse sources to meet the needs of their rapid development. This type of feeding can promote growth and reduce malnutrition.

The proportion of children 6-23 months who receive a minimum acceptable diet is a *process indicator* that measures progress towards the six global nutrition targets, specifically stunting, wasting, and overweight.

Significance for Seychelles

The proportion of children 6-23 months in Seychelles who consume a minimum acceptable diet is not available. Anecdotal evidence is that many young children do not eat a variety of nutritious foods, which sets them on the path to sub-optimal nutrition, and puts them at higher risk for conditions such as overweight and stunting. Given that calculating this indicator would require implementing an extensive questionnaire, training nurses to collect the data, and using staff time to input the data, consideration should be given to how the findings would be used. Rather than ongoing data collection, a survey could be conducted to give a picture of the diets of the young children in the country.

Proportion of women aged 15-49 years old with low body mass index (underweight in women of childbearing age)

Definition

Women ages 15-49 years old with low body mass index (BMI < 18.5 kg/m²) are considered to be underweight women of childbearing age.

Proportion of women aged 15 to 49 years old with low body mass index

= Number of women aged 15 to 49 years with body mass index

< 18.5 $\frac{kg}{m^2}$

÷ Total number of women aged 15 to 49 years old in the population

Body Mass Index (BMI)

= person's mass in kilograms ÷ person's height in meters squared

A woman with low BMI who becomes pregnant has a higher risk of experiencing intrauterine growth restriction and having a low birth weight baby. There is also an elevated risk of stunting and wasting. The woman may be at a higher risk of anaemia.

The proportion of underweight women of childbearing age is an *intermediate outcome indicator* that measures progress towards the six global nutrition targets.

Significance for Seychelles

The underweight prevalence of women of reproductive age in Seychelles is not readily available. However, data for women age 25-64 can be obtained through the Seychelles Heart Surveys,

conducted most recently in 2013. Global School Based Health Surveys conducted most recently in school children aged 11-17 years contain the data for teenagers, as do national school screening programs conducted annually.

Proportion of women age 18-49 with high and very high body mass index (overweight and obesity in women of childbearing age)

Definition

Women ages 18-49 years old with body mass index (BMI) greater than or equal to 25 kg/m² are considered to be overweight and obese.

Proportion of women aged 18 to 49 years old with high and very high body mass index
= *Number of women aged 18 to 49 years with body mass index*

$$\geq 25 \frac{\text{kg}}{\text{m}^2} \div \text{Total number of women aged 18 to 49 years old in the population}$$

Body Mass Index (BMI)

$$= \text{person's mass in kilograms} \div \text{person's height in meters squared}$$

Obesity is a global epidemic now found in low, middle and high income countries due to changing diets and lifestyles in recent decades. Maternal overweight and obesity poses a number of health risks for both mothers and their babies, making it an intergenerational health problem. Overweight mothers face higher risks of maternal morbidity, and their babies are at higher risk of infant mortality. Mothers who are overweight are more likely to have children who are overweight, with its attendant health risks of type 2 diabetes and heart disease.

The proportion of overweight and obese women of childbearing age is an *intermediate outcome indicator* that measures progress towards the six global nutrition targets.

Significance for Seychelles

The IFPRI (International Food Policy Institute) 2015 Nutrition Country Profile for Seychelles estimates that in 2014 63% of adult females were overweight (BMI \geq 25), and 36% were obese (BMI \geq 30). While those figures cover all adult women and are not specific to women between ages 18 and 49, it is likely that the rates for that age group are similarly high. These high rates of women of childbearing age who are overweight and obese means that many women who will become pregnant will face increased risks of mortality and morbidity for both themselves and their babies.

It is likely that data to calculate this indicator for women age 25-64 can be obtained through the Seychelles Heart Surveys, conducted most recently in 2013.

Endnotes

ⁱ http://www.who.int/nutrition/topics/proposed_indicators_framework/en/

ⁱⁱ http://www.who.int/nutrition/topics/indicators_monitoringframework_miyen_background.pdf?ua=1

ⁱⁱⁱ http://www.who.int/nutrition/topics/indicators_monitoringframework_miyen_background.pdf?ua=1

^{iv} <http://www.who.int/vmnis/indicators/haemoglobin.pdf>

^v http://www.who.int/medical_devices/initiatives/anaemia_control/en/

^{vi} http://apps.who.int/iris/bitstream/10665/177094/1/9789241564960_eng.pdf?ua=1&ua=1

^{vii} <http://apps.who.int/iris/bitstream/10665/43184/1/9280638327.pdf>

^{viii} Victoria et al 2008, Lancet 371:340-57