

MODULE 3

Nutrition Considerations for Children with Disabilities

(Total time: 175 minutes)

3.1 Common Nutritional Concerns in Children with Disabilities

Time: 80 minutes

Preparation & materials required: Slide Deck, flipchart, markers, sticky notes, Nutritional Concerns Matching Cards activity sheet and answer key, Common Nutritional Concerns in Children with Disabilities handout, Causes of Malnutrition Case Studies activity sheet and answer key.

Objectives: At the end of this module, learners will be able to:

- List nutritional concerns that are common in children with disabilities.
- Identify causes of malnutrition in children with disabilities.

Key message(s) to take away for learners:

1. Common nutrition-related concerns in children with disabilities include constipation, gastroesophageal reflux disease, celiac disease, poor oral health, micronutrient deficiencies, poor weight gain, and unintended weight gain.
2. The causes of malnutrition in children with disabilities often fall into three overlapping categories: what the child eats (the quality and diversity of their diet), how much the child eats (the quantity of food consumed relative to their needs), and how the child's body uses nutrients (how well their bodies absorb and utilize nutrients).

Activity 3.1.1 (40 minutes)

Nutritional concerns in children with disabilities

Activity Summary	Key messages	Slides & Materials
Interactive matching game	1	Slides 94-98 Mod 03_Activity Sheet_ Nutritional Concerns Matching Cards Mod 03_Activity Sheet_ Nutritional Concerns Matching_Answers Mod 03_Handout_Common Nutritional Concerns in Children with Disabilities Quick Guide

Instructions

- Introduce this section:

- Children with disabilities may experience health challenges that can affect their nutritional wellbeing and eating habits. These challenges, and how severe they are, can vary widely, even among children with the same diagnosis.
- One of the challenges is feeding difficulties. This will be covered in detail in upcoming modules. In this section, we will focus on nutrition-related concerns. There are many, but we will highlight the most common ones.

Activity (30 minutes):

- Before the training, prepare three sets of cards: “Condition” cards, “Symptom” cards, and “Risk factor” cards. Cut along the dotted lines in the nutritional concerns matching activity sheet to separate the cards. Adjust the total number of cards based on your group size, ensuring that each condition has at least one matching symptom and one matching risk factor. For example, if you are training 25 participants, you might include all 7 “Condition” cards, all 7 “Symptom” cards, and 11 “Risk factor” cards (with 1-2 risk factors per condition).
- Create an open space in the room for participants to move around.
- Tell participants that we are going to learn about common nutritional concerns in children with disabilities through a fun matching game.
- Shuffle each set of cards and distribute them randomly:
 - Give one “Condition” card to each of a number of participants (or facilitators if needed).
 - Everyone else gets a “Symptom” or “Risk factor” card.
- Explain the activity:
 - Some of you are holding a card labelled with a nutrition-related condition. The rest of you have cards with symptoms or risk factors linked to one of the conditions.
 - Your task is to walk around and find your matching group: each group will have one condition and at least two symptoms or risk factors related to it.
 - You have five minutes to move around, talk to each other, and figure out where your card belongs.
 - Once you think your group is complete, come to me for a check.
- As groups check in, use the answer key to confirm their matches.
 - If the group is correct, ask them to stay together and stand on one the side of the room.
 - If not, offer a hint and send them back to continue searching.
- Once all matches are made correctly, bring the groups back together.
- Ask each group to briefly present their condition and symptoms/risk factors they identified.
- Use the information below on common nutritional concerns to fill in any gaps:

Constipation

- Constipation is a gastrointestinal (GI) condition characterized by infrequent, hard, or difficult-to-pass bowel movements. It can cause discomfort, bloating, pain, irritability, and poor appetite.
- Children with disabilities may be at increased risk of constipation if they have:
 - *Low muscle tone*, which slows bowel movement
 - *High muscle tone*, which may make it difficult for muscles to relax and release bowel movements
 - *Limited physical activity*, which slows digestion and bowel movement
 - *Low fiber intake*, which makes stools harder and more difficult to pass
 - *Difficulty drinking enough fluids* (for example, due to difficulty swallowing), which can lead to dehydration and dry stools
 - *Chronic stress*, which can disrupt normal bowel patterns

Gastroesophageal reflux disease (GERD)

- GERD is a chronic GI condition in which stomach acid flows back up into the esophagus. It can cause heartburn, pain, vomiting, and ulcers, making eating

difficult. Over time, it can also lead to poor weight gain, difficulty swallowing, feeding refusal, and dental erosion.

- Children may be at increased risk of GERD if they have:
 - *Delayed gastric emptying* (slow digestion), which prolongs the presence of food in the stomach
 - *Low or high muscle tone*, affecting the muscles involved in digestion and swallowing
 - *Long periods of lying flat*, which can promote reflux due to gravity
 - *Difficulty swallowing*, increasing the likelihood of reflux or aspiration
 - *Constipation*, which puts extra pressure on the abdomen
 - *Skeletal abnormalities* (e.g., scoliosis), which may compress or displace the stomach
 - *Medication side effects* (e.g., epilepsy/seizure medications)

Celiac disease

- Celiac disease is an autoimmune disease (the immune system mistakenly damages healthy cells in the body) that primarily affects the small intestine. It is triggered by eating gluten, a protein found in wheat, rye, and barley. In children with celiac disease, gluten causes damage to the small intestine, impairing nutrient absorption. Symptoms vary based on the child's age and may include excessive gas, abdominal pain, irritability, constipation, diarrhea, vomiting, anemia, weight loss, and failure to thrive. Diagnosing celiac disease requires a blood test and often a biopsy of the small intestine.
- Children may be at increased risk of celiac disease if they have:
 - *Down syndrome*
 - *Other genetic disorders*

Poor oral health

- Poor oral health in children with disabilities may include tooth decay, gum inflammation, plaque buildup, and misaligned or missing teeth. These issues can cause pain, toothaches, and gum discomfort, leading to reduced appetite, difficulty feeding, vomiting, and overall decreased food intake. In more severe cases, poor oral health has been linked to aspiration, pneumonia, and other respiratory illnesses.
- Children may be at increased risk of poor oral health if they have:
 - *Sensory sensitivities*, which can make tooth brushing uncomfortable or distressing
 - *Motor impairments*, which can make tooth brushing difficult
 - *Communication barriers*, which may affect the ability to understand oral hygiene instructions or express oral discomfort or pain
 - *Behavioral difficulties*, which can interfere with establishing and maintaining oral hygiene routines
 - *Feeding difficulties*, which may lead to food being retained in the mouth, increasing tooth exposure to sugar and acids
 - *Chronic reflux*, causing dental erosion
 - *Medications* that cause dry mouth (e.g., seizure medications), contributing to buildup of bacteria

Micronutrient deficiencies

- Micronutrient deficiencies occur when the body lacks adequate levels of essential vitamins and minerals to grow, develop, and function properly. Micronutrient deficiencies weaken the immune system and increase the risk of infections. Common deficiencies in children with disabilities include iron, zinc, calcium, vitamin D, and vitamin C. For example, if a child does not eat enough iron-rich foods, their

body cannot make enough hemoglobin—the part of red blood cells that carries oxygen—which can lead to iron-deficiency anemia.

- Children may be at increased risk of micronutrient deficiencies if they have:
 - *Feeding difficulties* that limit their food intake
 - *Diets low in nutrient-dense foods*
 - *Restricted diets* due to food allergies, intolerances, or medical conditions
 - *GI conditions* that lower the absorption of nutrients
 - *Medications side effects* that interfere with the absorption and utilization of nutrients (how nutrients are used in the body)
 - *A feeding tube* and are unable to tolerate the full volume required for their age and needs

Poor weight gain

- Poor weight gain is when a child is not meeting expected growth patterns due to insufficient intake, increased nutrient losses, poor nutrient absorption, or an underlying genetic or medical condition that affects growth.
- Children may be at increased risk of poor weight gain if they have:
 - *Diets low in energy and protein*, which do not meet the child's nutritional needs for growth
 - *Feeding difficulties* that limit their food intake
 - *Communication difficulties*, which can make it hard for the child to signal hunger, leading to underfeeding
 - *High muscle tone*, which makes the child's body work harder and use more energy
 - *Low muscle tone*, which can make feeding inefficient
 - *GI conditions* that lower nutrient absorption
 - *GERD*, which can make eating painful or uncomfortable, reducing food intake
 - *Medication side effects* that reduce appetite or alter taste
 - *Had recent surgery* (e.g., for a heart defect), which increases caloric and protein needs
 - *Genetic conditions* that inherently affect growth and metabolism
 - *Chronic stress*, which disrupts nutrient absorption and utilization
 - *Experienced neglect or inadequate care*, which may result in insufficient feeding and stimulation needed for growth

Unintended weight gain

- Unintended weight gain occurs when caloric intake consistently exceeds energy needs, potentially leading to overweight and obesity. This can negatively affect a child's physical health, mobility, and overall wellbeing.
- Children may be at increased risk of unintended weight gain if they have:
 - *Low mobility or activity levels*, which means the body uses less energy
 - *Social or communication difficulties*, which may limit participation in physical activities
 - *Low muscle tone*, which contributes to reduced energy needs
 - *Short stature*, resulting in reduced energy needs
 - *Hypothyroidism*, a condition that slows metabolism
 - *Altered body composition* (higher fat percentage)
 - *Difficulty signaling fullness*, which may lead to overfeeding
 - *Sensory sensitivities or picky eating*, often resulting in diets high in energy-dense foods but low in nutrient-dense foods
 - *Medication side effects*, which can slow metabolism or increase appetite (e.g., medications for mental health conditions)
 - *Some genetic disorders* (e.g., Prader-Willi Syndrome), which often causes hyperphagia or wanting to eat all the time without feeling full

- Conclude this section:
 - Distribute the quick guide handout on common nutritional concerns in children with disabilities.
 - Tell participants:
 - Keep in mind that many of the risk factors for these nutritional concerns are similar to those seen in typically developing children. However, children with certain disabilities may experience additional challenges that increase their vulnerability to these common risks, and may also experience a unique set of risk factors not shared by their peers without disabilities.

Activity 3.1.2 (40 minutes)

Causes of malnutrition in children with disabilities

Activity Summary	Key messages	Slides & Materials
Case studies	2	Slides 99-105 Flipchart, markers, sticky notes Mod 03_Activity Sheet_Causes of Malnutrition Case Studies Mod 03_Activity Sheet_Causes of Malnutrition Case Studies_Answers

Instructions

Note: Adapt case studies to reflect the local context. This may include changing the names of children and types of foods, and modifying details to align with the realities of the country or community where the training is taking place.

- Introduce this section:
 - In the previous section, we explored three types of malnutrition: micronutrient deficiencies, poor weight gain, and unintended weight gain. We also looked at a variety of risk factors that can contribute to these conditions.
 - In this next section, we'll learn how to systematically identify these risk factors so we can address them in a timely and effective way.
- Present the causes of malnutrition:
 - Malnutrition in children often results from a combination of factors, which can be grouped into three overlapping categories:
 - *What children eat:* A diet that lacks diversity, relies on highly processed foods, or excludes certain foods due to allergies can leave out key nutrients. Without these essential nutrients, malnutrition can develop.
 - *How much children eat:* Feeding difficulties, poor appetite, or limited availability of food impact how much a child eats compared to what they need. If children do not get enough food to meet their body's nutritional needs, malnutrition can develop.
 - *How children use nutrients:* Frequent illnesses, infections, chronic stress, or neglect can prevent a child's body from properly absorbing or using the nutrients from their food. If children do not get the full benefit of those nutrients, malnutrition can develop.
- Tell participants:

- When counseling caregivers about nutrition and feeding, it's important to ask open-ended questions that help you gather information across all the three categories.
- For example, I might ask a caregiver: "What did your child eat yesterday?" "What does your child usually have for snacks?" These questions help me understand whether the child's diet is diverse, contains highly processed foods, and if it's missing essential nutrients due to food allergies.
- What are some other questions you could ask to learn more about *what* a child eats? *[Listen to answers and contribute more questions if needed.]*
 - Answers may include:
 - What does your child usually eat for breakfast/lunch/dinner?
 - How many different fruits and vegetables does your child eat in a typical week?
 - Are there any foods your child refuses to eat or avoids?
 - Does your child follow any special diet (e.g., gluten-free, dairy-free)?
 - Is your child able to eat the same food as the rest of the family?
 - Does your child have difficulty chewing or swallowing certain foods?
 - Do you have any challenges finding or affording certain foods?
- What are some questions you could ask to learn more about *how much* a child eats? *[Listen to answers and contribute more questions if needed.]*
 - Answers may include:
 - How many meals and snacks does your child usually eat in a day?
 - Does your child finish most of their meals or leave a lot of food on the plate?
 - Do you feel your child eats enough for their age and activity level?
 - Does your child ever skip meals? If so, why?
 - Has your child's appetite changed since our last session?
 - Do you have any challenges serving enough food for the entire family?
- What are some questions you could ask to learn more about *how a child's body uses nutrients*? *[Listen to answers and contribute more questions if needed.]*
 - Answers may include:
 - Has your child had any recent illnesses or infections?
 - Does your child have any conditions that affect the stomach or intestines?
 - Has your child had any diarrhea, constipation, or vomiting since our last session?
 - Is your child currently taking any medications?
 - Has your child had any recent surgeries?
 - Can you walk me through what a typical day looks like for your child—including who they spend time with and what kind of activities they do?
 - Do you notice any changes in your child's eating or sleeping when they are upset?
- Be sure to tailor your questions to the child's individual needs, their disability, and any background information you have about the family.

Activity (25 minutes):

- Prepare a flipchart with three large overlapping circles labeled:
 - "WHAT" (What the child eats),
 - "HOW MUCH" (How much the child eats), and
 - "USE" (How the child uses nutrients)
- Tell participants that we will now apply this approach to some case studies.
- Divide participants into five groups.
- Give each group copies of the causes of malnutrition case studies (one per participant), sticky notes, and markers.
- Assign each group a case scenario.

- Explain the activity:
 - Each group has a case scenario involving a child with disability who might be malnourished or at risk for malnutrition.
 - Based on your assigned case study, identify the potential causes of malnutrition. These causes can relate to what the child eats, how much they eat, or how their body uses the nutrients they consume.
 - Write each cause on a separate sticky note. If a cause fits in more than one category, write it on separate sticky notes for each.
 - Label your sticky notes with your case study number.
 - When your group is ready, come up to the flipchart and place each sticky note in the appropriate circle.
- Allow 5-7 minutes for group discussion and posting.
- Bring everyone back together.
 - Review the sticky notes by case study.
 - Ask groups to share their reasoning.
 - Make corrections as needed by referring to the answer key.
- Conclude this section:
 - Malnutrition can lead to poor health outcomes, delays in growth and development, new or worsened disabilities or impairments, and premature death. That's why it's so important to understand not just *what* and *how much* a child eats, but also how their body *uses* those nutrients—so we can identify the root causes and respond early.
 - Ask participants:
 - In your current work, which of these three areas —WHAT, HOW MUCH, or USE—do you think is most often overlooked when assessing a child's nutrition?
 - Which of these three areas do you feel most confident assessing? Which one do you find more challenging?



Check before proceeding.

These are the key messages for this module. Have these been explicitly addressed and learners appear to have a good understanding of them?

1. Common nutrition-related concerns in children with disabilities include constipation, gastroesophageal reflux disease, celiac disease, poor oral health, micronutrient deficiencies, poor weight gain, and unintended weight gain.
2. The causes of malnutrition in children with disabilities often fall into three overlapping categories: what the child eats (the quality and diversity of their diet), how much the child eats (the quantity of food consumed relative to their needs), and how the child's body uses nutrients (how well their bodies absorb and utilize nutrients).

3.2 Growth in Children with Disabilities

Time: 65 minutes

Preparation & materials required: Slide Deck, flipchart, markers – green, orange, red, and black (optional), Growth Assessment Flashcards activity



Save the Children

sheet and answer key, Growth Expectations Case Studies activity sheet and answer key.

Objectives: At the end of this module, learners will be able to:

- Describe how disability can affect growth.
- Discuss growth expectations for children with disabilities.
- Discuss key considerations when measuring and interpreting growth for children with disabilities.

Key message(s) to take away for learners:

1. When assessing the growth of children with physical impairments, it is important to select only the measurements that can be taken safely and accurately.
2. Growth assessment for children with disabilities follows the same steps as for any child: weigh and measure, compare results to standards, determine risk, design a care plan, counsel caregiver, and follow-up.
3. While existing WHO growth charts may not always reflect realistic expectations for children with certain disabilities, they are still useful tools when interpreted with care and the child's situation in mind.
4. Children with certain disabilities like Down syndrome, cerebral palsy, and spina bifida, may have altered growth patterns due to the disability itself.
5. All children with disabilities can reach their own growth potential if they receive proper nutrition and feeding, adequate health services, and nurturing care.

Activity 3.2.1 (25 minutes)

Growth assessment – a review

Activity Summary	Key messages	Slides & Materials
Quiz game	1, 2, & 3	Slides 106-113 Optional: Flipchart, markers (green, orange, red, black) Mod 03_LB_Activity Sheet_Growth Assessment Flashcards Mod 03_LB_Activity Sheet_Growth Assessment Flashcards_Answers

Instructions

- Introduce this section:
 - A key step in assessing a child's growth is to compare the child's measurements, like weight and height, to growth standards to determine how well the child is growing.
 - The World Health Organization (WHO) Growth Standards are recommended for use worldwide, regardless of a child's ethnicity, socioeconomic background, or geographic location. The WHO growth charts allow us to visually track a child's growth and identify whether, and to what extent, a child may be malnourished.
 - In this section, we will discuss how to use WHO growth charts to interpret growth patterns for children with disabilities.

Activity (20 minutes):

Note: You may skip this activity if all participants regularly conduct growth assessment using WHO growth charts and a review is not necessary.

- Prior to the sessions, prepare the flash cards (20 in total) by cutting along the dotted lines in the growth assessment flashcards activity sheet. Shuffle the cards.
- Project the PowerPoint slide that contains a WHO growth chart to refer to during the game if needed. Alternatively, on a flipchart, draw a large growth chart including the x-axis, y-axis, median (in green), +1 and -1 z-scores lines (in orange), +2 and -2 z-scores lines (in red), and +3 and -3 z-scores lines (in black).
- Introduce the activity:
 - Many of you already have experience with weighing and measuring children and plotting their growth on WHO growth charts. Today, we will be reviewing these essential steps with a fun and competitive quiz game.
- Divide participants into five teams.
- Explain the rules of the game:
 - Each team will take turns drawing a flashcard.
 - Each card will have a question or scenario related to growth assessment. Some are easier than others.
 - The team will have 20 seconds to discuss and respond to the question or scenario.
 - If you answer correctly, you earn 10 points.
 - The team with the most points at the end wins.
- Start the game, having each team draw a flashcard and respond.
- Use a flipchart to keep track of points.
- Encourage teams to explain their reasoning when applicable.
- Refer to the answer key to provide the correct answer and additional information.
- After the first round, play three more rounds if time allows. Rotate turns quickly to maintain engagement.
- Tally the points on the flipchart. The winning team gets a round of applause (or a small prize if available).
- Conclude this section:
 - Growth assessment for children with disabilities is a key aspect of their care. However, when working with children with disabilities we are faced with two major challenges.
 - First, accurate and reliable weight, length, and height measurements may be difficult to obtain for some children due to impairments such as scoliosis or joint contractures.
 - Second, children with certain disabilities may have different growth patterns than their typically developing peers. The WHO growth charts, which are based on data from typically developing children, may not always reflect realistic expectations for children with certain disabilities. While alternative growth charts exist for certain disabilities, they have limitations and may not be widely applicable. Therefore, it is still recommended to use the WHO growth charts for children with disabilities.
 - In the next section, we will discuss how to interpret these charts appropriately when assessing growth in children with disabilities.

Activity 3.2.2 (40 minutes)

Growth expectations in children with disabilities

Activity Summary	Key messages	Slides & Materials
Case studies	3, 4, & 5	Slides 114-124

		Mod 03_LB_Activity Sheet_Growth Expectations Case Studies
		Mod 03_LB_Activity Sheet_Growth Expectations Case Studies_Answers

Instructions

Note: Adapt case studies to reflect the local context. This may include changing the names of children and types of foods, and modifying details to align with the realities of the country or community where the training is taking place.

- Present information on the factors that impact growth in children with disabilities:
 - Growth in children with disabilities is not a product of a single, isolated factor. **Genetic** (e.g., family genetics, genetic disorders), **medical** (e.g., severity of the disability, secondary medical conditions, impaired motor skills), and **environmental** (e.g., feeding practices, care practices) factors and their interaction can influence children's growth. Determining which of these factors play the biggest role in a child's growth can inform the design of an effective and individualized care plan.
 - Children with certain disabilities may grow differently than their typically developing peers due to the nature of their disability. For example:
 - Down syndrome is a genetic condition that directly affects height. As a result, children with Down syndrome are typically shorter than other children of the same age.
 - Cerebral palsy can influence both height and body composition. Children with cerebral palsy often have higher body fat and lower lean body mass (muscles, organs, and bones). Because of this, they may be shorter and weigh less than typically developing children – not necessarily because they are undernourished, but because of the way their condition affects their bodies.
 - Children with spina bifida may have disproportionate growth of the lower body resulting in short stature. In some cases, they may also have a deficiency in growth hormones, which stimulate growth, help build bones and muscles, and regulate metabolism. Because of this, children with spina bifida may be shorter than their typically developing peers. If a growth hormone deficiency is not identified and managed, it can lead to slower metabolism, increasing the risk for unintended weight gain.
 - When we use WHO growth charts to assess these children, they may appear to be growing poorly. However, these growth patterns can be an expected part of their condition. At the same time, we know that children with disabilities are more likely to have nutrition and feeding concerns. If these issues go unaddressed, they can contribute to true growth faltering.
 - The key challenge is to determine whether a child's poor growth is a natural part of their disability – which cannot be changed – or a sign that something can and should be improved.
 - While a child's disability may help explain unusual growth patterns, it's important to remember that children with disabilities can still reach their own growth potential – especially when they receive proper nutrition and feeding support, access to health services, and nurturing care. In many cases, poor growth in children with disabilities is the result of inadequate care plans and support.

Activity (30 minutes):

- Introduce activity:

- We will now work with four case studies to practice how to assess growth in children with disabilities and think through what factors to consider.
- Divide participants into four groups.
- Give each participant a copy of the growth expectations activity sheet.
- Assign one case study to each group.
- Explain the activity:
 - Each case study includes some background information about the child and their growth chart.
 - Read the case study and examine the growth chart.
 - Discuss the following questions within your group:
 - Do you expect this child to grow differently as part of their condition? If yes, how might the disability alter the child's growth?
 - Are you concerned about the child's growth? Why or why not?
 - What other information should you consider when interpreting this child's growth?
 - Be sure to incorporate the three key factors in your discussion: what the child eats, how much, and how their body uses the nutrients they consume.
 - Prepare to present your case and your group's answers to the larger group.
- While groups work, walk around the room to answer questions and provide support as needed.
- After 10 minutes, bring the entire group back together.
- Each group will present their case and discuss their responses.
- Display the corresponding growth chart slide for everyone to see.
- Refer to the answers in the activity sheet to highlight any important points that were missed or to clarify key ideas.
- Wrap up the activity by highlighting the following points:
 - Always interpret growth in context, considering the child's growth trend, diet and feeding history, health status, care practices, overall wellbeing, functional ability, and growth expectations. When evaluating poor growth in children with disabilities, consider these two questions:
 - Is poor growth expected or typical for a child with that disability and, therefore, cannot be modified?
 - Is poor growth impacted by factors that can be improved, such as nutrition and feeding?
- Conclude this section:
 - Ask participants:
 - How has your understanding of growth assessment in children with disabilities changed?
 - What will you do differently when interpreting growth or speaking with caregivers as a result? *[Note: Encourage participants to have a discussion with the caregiver about their child's expected growth. However, emphasize the importance of avoiding assumptions or reinforcing the belief that all children with disabilities will experience poor growth.]*



Check before proceeding.

These are the key messages for this module. Have these been explicitly addressed and learners appear to have a good understanding of them?

1. When assessing the growth of children with physical impairments, it is important to select only the measurements that can be taken safely and accurately.



2. Growth assessment for children with disabilities follows the same steps as for any child: weigh and measure, compare results to standards, determine risk, design a care plan, counsel caregiver, and follow-up.
3. While existing WHO growth charts may not always reflect realistic expectations for children with certain disabilities, they are still useful tools when interpreted with care and the child's situation in mind.
4. Children with certain disabilities like Down syndrome, cerebral palsy, and spina bifida, may have altered growth patterns due to the disability itself.
5. All children with disabilities can reach their own growth potential if they receive proper nutrition and feeding, adequate health services, and nurturing care.

3.3 Dietary Considerations for Children with Disabilities

Time: 30 minutes

Preparation & materials required: Slide Deck, flipchart, markers.

Objectives: At the end of this module, learners will be able to:

- Share key dietary recommendations for children with disabilities.
- Describe strategies to manage common nutritional concerns in children with disabilities.
- Explain when to refer children with disabilities for further evaluation of nutritional concerns.

Key message(s) to take away for learners:

1. Energy, protein, and micronutrient needs for children with disabilities should be personalized based on their activity level, muscle tone, nutritional status, and overall health – similar to children without developmental delay or disabilities.
2. Effectively managing nutrition-related concerns such as constipation, GERD, celiac disease, oral health, and weight issues requires tailored dietary strategies.
3. Refer children for further evaluation of nutritional concerns if they are under 6 months, show faltering growth, have feeding difficulties or poor nutrition, are not improving, or if caregivers or you have concerns about their health or wellbeing.

Activity 3.3.1 (30 minutes)

Dietary strategies to address nutrition-related concerns

Activity Summary	Key messages	Slides & Materials
Large group discussion	1, 2 & 3	Slides 125-139 Flipchart, markers

Instructions

Note: Contextualize examples of foods to what is available in the country or community where you are training. Where appropriate, incorporate references to national health and nutrition guidelines and local services and programs. If relevant to the context, include a brief discussion following this session on food insecurity and referrals to locally-available cash transfers and other social protection services.

- Present information on key dietary recommendations for children with disabilities:

Energy and protein requirements:

- Children with disabilities might need more or fewer calories depending on their activity level and muscle tone. For example, a child with high muscle tone and a high activity level will use more energy and need to eat more than a child with low muscle tone and a low activity level.
- The best way to estimate caloric needs of children with disabilities is to individualize them, taking into account mobility, muscle tone, and activity level. This is the same approach that is used for typically developing children.
- No evidence currently exists to suggest that protein requirements of children with disabilities differ from those of typically developing children.
- For severely undernourished children with disabilities, additional protein and energy may be required to promote 'catch up' growth.
- Ongoing monitoring of whether children are meeting their energy and protein requirements is important to avoid overfeeding or underfeeding. This should be done through a combination of asking the caregiver about their child's dietary intake and monitoring changes in weight and length/height (if able to measure).

Micronutrient requirements:

- Children with disabilities need a variety of vitamins and minerals, similar to their peers, and in most cases, the recommended amounts are the same. However, there are certain situations where supplemental vitamins and minerals may be needed:
 - Children with limited mobility or who have trouble getting enough nutrients in their diet due to feeding difficulties are more likely to have weak bones (low bone density). This makes their bones more likely to fracture, or break. A doctor may recommend calcium and vitamin D supplements to keep bones strong.
 - Some medications can interfere with the body's ability to absorb or use certain nutrients. For example, anti-seizure medications interfere with how vitamin D is processed in the body, making supplementation necessary to maintain healthy levels.
 - Children with celiac disease are more likely to have deficiencies in key micronutrients, including iron, folic acid, and vitamin B12, which can lead to anemia. In such cases, supplements may be needed to treat or prevent anemia and other deficiencies.
- Referring children with disabilities who might be at risk to a health facility for micronutrient status testing is recommended.

Activity (20 minutes):

- Facilitate a group discussion on dietary strategies for managing common nutrition-related concerns by inviting participants to share their tips and experiences for each concern:
 - Nausea and vomiting
 - Diarrhea
 - Constipation
 - GERD
 - Celiac disease
 - Poor oral health
 - Micronutrient deficiencies
 - Poor weight gain
 - Unintended weight gain
- Record responses on a flipchart.
- Use the content provided below to supplement the discussion with additional strategies:

Nausea and vomiting

- Offer small sips of clean fluids (water, fresh juice, rice drink) often

- Give small, frequent meals every 2–3 hours
- Choose plain, soft foods (bread, rice, boiled potatoes)
- Include favorite nutrient-rich foods if tolerated
- Avoid greasy, fried foods and foods with strong smells

Diarrhea

- Offer small, frequent sips of fluids (clean water, rice drink) to prevent dehydration
- Use Oral Rehydration Solution (ORS) if possible
- Provide small meals every 2–3 hours
- Offer soft, low-fat foods (plain rice, bananas, bread, boiled potatoes or chicken)
- Avoid milk if it makes diarrhea worse

Constipation

- Increase fiber-rich foods (fruits, vegetables, whole grains, legumes)
- Encourage adequate fluid intake
- Encourage physical activity
- Limit highly processed, low-fiber foods

GERD

- Offer smaller, more frequent meals
- Position child upright or in an inclined position after meals
- Avoid trigger foods (fried, citrus, chocolate)
- Manage feeding difficulties to improve swallowing

Celiac disease

- Follow a strict gluten-free diet (no wheat, barley, or rye)
- Ensure alternatives provide enough fiber and nutrients
- Monitor for hidden sources of gluten
- Reduce cross-contamination (ingesting small amounts of gluten, like crumbs from a cutting board or toaster, can trigger small intestinal damage).

Poor oral health

- Offer soft, easy-to-chew, nutrient-rich foods
- Avoid sticky or sugary snacks and drinks
- Encourage water after meals
- Work on gentle, sensory-friendly approaches to improve daily oral care (e.g., use soft bristle brushes, toothpaste with tolerated flavors, a soft cloth to wipe teeth and gums while working towards using a toothbrush, visual timers, songs and playful routines)
- Encourage regular dental care from a professional

Micronutrient deficiencies

- Provide a variety of nutrient-dense foods (fruits and vegetables, eggs, dairy, fortified cereals)
- Consider fortified foods or supplements (e.g., micronutrient powder) if needed
- Monitor with a health provider for specific deficiencies

Poor weight gain

- Increase energy intake with energy- and nutrient-dense foods (avocado, peanut butter, full-fat dairy)
- Modify traditional recipes to increase their nutritional value by adding nutrient-dense foods (nuts, seeds, avocado, starchy vegetables, eggs, dairy, legumes, animal protein).
- Offer frequent meals and snacks
- Manage feeding difficulties to improve intake

Unintended weight gain

- Focus on balanced meals with fruits, vegetables, proteins, and whole grains
- Limit sugary, high-fat, and highly processed foods
- Encourage active play or movement as able

- Share key red flags that indicate the need for referral for further evaluation:

- Always follow the referral protocols and guidelines established by your country and workplace.
- Refer children with nutritional concerns for further evaluation if:
 - The child is under 6 months of age
 - There is evidence of faltering growth
 - The concern is affecting the child's feeding or ability to get enough nutrition
 - The child's condition is not improving despite intervention
 - The concern is negatively affecting the well-being or quality of life of the child or caregiver
 - The caregiver expresses concern about the child's growth, development, or health
 - You have concerns about the child's growth, development, or health
- Conclude this section:
 - To support healthy growth in children, provide practical strategies to manage common nutrition-related concerns and encourage caregivers to make every bite count – meaning each bite should be as nourishing as possible to support the child's growth and development.
 - When applying dietary strategies, always consider:
 - The food textures the child can safely eat
 - Any feeding difficulties the child may have
 - Food allergies or intolerances
 - The child's appetite and ability to manage larger meals
 - The family's access to food and overall food security
- Conclude this module:
 - Children with certain disabilities have unique but manageable nutritional needs. With careful growth monitoring and tailored support, we can help every child reach their full growth and health potential. Always refer when concerns arise – early action makes a difference.



Check before proceeding.

These are the key messages for this module. Have these been explicitly addressed and learners appear to have a good understanding of them?

1. Energy, protein, and micronutrient needs for children with disabilities should be personalized based on their activity level, muscle tone, nutritional status, and overall health – similar to children without developmental delay or disabilities.
2. Effectively managing nutrition-related concerns such as constipation, GERD, celiac disease, oral health, and weight issues requires tailored dietary strategies.
3. Refer children for further evaluation of nutritional concerns if they are under 6 months, show faltering growth, have feeding difficulties or poor nutrition, are not improving, or if caregivers or you have concerns about their health or wellbeing.