REPÚBLICA DE MOÇAMBIQUE
Ministério da Saúde

REPÚBLICA DE MOÇAMBIQUE
MINISTÉRIO DA EDUCAÇÃO

Every Girl Can
Improve Nutrition

World Vision

Every Girl Can Improve Nutrition

IMPACT+ Nutrition Curriculum

Module: Nutrition

Goal:

The goal of the Nutrition Module is to engage IMPACT members to promote and initiate healthy habits for good nutrition in their own lives, understand everyone's right to adequate nutrition and influence their families and communities to promote an enabling environment for good nutrition.

General Learning Objectives:

After this module, IMPACT members will be able to…

- (K) Describe nutrition and how it affects their lives and those in their community
- (A) Explain how to address one of the biggest nutritional issues in the world and for their age group, anaemia
- (A) Promote healthy habits for themselves and others in their community, including lifestyles with regular physical activity, healthy diets, and other healthy habits
- (K) Describe the benefit of regular physical activity for their health (emphasised in optional session)
- (V) Demonstrate and promote a healthy and positive body image (Love, Appreciation of Beauty & Excellence)

Structure of the Module:

1. Creating Healthy Habits
2. Learning about Food and Nutrition
3. Understanding Malnutrition
4. The Big Problem of Anaemia
5. Addressing Causes of Anaemia

The Nutrition Module and doing a Community Service-Learning Project:

Meetings in this module are meant to help your IMPACT club members to better understand nutrition and how it can be improved in your community. Your club can design a **Community Service-Learning Project** related to nutrition as your club goes through this module. The sessions, including the community assessment tools, will also help you to be better prepared to implement a nutrition service-learning project in your community. For this reason, you should go through the meetings from the Nutrition module in the curriculum while simultaneously going through the conception and planning phases of your project. The community service-learning project will focus on what causes malnutrition in your community and what your group can do about it.

Examples of problems which could be addressed in the service-learning project about nutrition:

- Poor diets and food choices among young people
- Availability and access to nutritious foods in your communities and schools
- Deceptive food marketing practices for a particular age group in your community (e.g. young children, older children, adolescents, women, men, etc.) leading to poor and unhealthy eating
    - For protecting children, adolescents and adults, this could include fast foods, sugary foods and drinks, highly processed foods or beverages promoted as "healthy" or for weight loss, alcohol, energy or stimulant drinks
- Anaemia among adolescent girls and boys
- Poor nutrition and health of marginalized groups in the community e.g. street children, refugees
- Poor nutrition and health of adolescent girls
- Rising overweight, obesity and non-communicable diseases among adolescents (or children)
- Thinness or body image issues among adolescents
- Lack of opportunities or green space for physical activity
- An exercise campaign or competition

Examples of activities that could be done in service-learning projects about nutrition:

Remember: These are just examples! Please be creative and feel open and free to think of your own service-learning project.

- Initiate a movement for people to choose locally grown or minimally processed foods
- Meet with religious and community leaders to share Photobooks and the importance of adolescent nutrition
- Purchase more seeds or farming equipment for the school gardens
- Start a campaign on the right to adequate nutrition for all, engaging local leaders and influencers, to invest equitable, socially inclusive health, education and food systems
- Create a community garden or festival for promoting indigenous and/or locally available fruits and vegetables or foods rich in iron and other micronutrients of concern in the community
- Create art (e.g. posters) or drama to sensitize adolescent girls to not forget to take their iron-folate supplements and/or dispel any myths or concerns regarding supplementation during community or school meetings
- Create education and sensitization activities on nutrition issues in the community or among adolescents to share within gender clubs
- Visit and learn from local nutrition programmes in the community, e.g. food and nutrition security initiatives (e.g. kitchen gardens, biofortification projects)

- Set up a visit to learn more about work at a health clinic and/or shadow a health or a community health worker (CHW) for a day (Note: Link with WV staff to ensure necessary protocols and safeguarding procedures are put in place for this job-shadowing opportunity)
- Speak in community events (or presenting dramas, games) to share nutrition messages to different groups in the community
- Create games and activities for different ages to educate and sensitize nutrition messages, e.g. locally nutritious fruits and vegetables to eat daily
- Cooking demonstrations/food demonstrations to popularize healthy recipes and healthy preparation methods and to involve and encourage children and adolescents to learn to cook
- Fixing any water sources that are broken at your school so you have adequate and clean water, as water is essential for health and nutrition.
- Fixing any broken latrines at school, as broken latrines can increase the risk for infection and disease which can be harmful for your health and nutrition.

Meeting #1: Creating Healthy Habits – Little by Little

Meeting Goal:

To equip IMPACT members with an understanding of the process of behaviour change and how they can apply it to themselves for the formation of healthy habits.

Learning Objectives:

After this meeting, IMPACT members will be able to…

(K) Describe how behaviour change works.

(K, A) Learn and use celebration to accelerate the formation of habits.

(K, A) Design and start new habits for better health and nutrition.

(V) Change their behaviours and build new habits (**hope, perseverance**)

(V) Influence others to change their behaviours and habits (**leadership**)

Key Concepts:

Behaviours: a reaction to the environment or a prompt

Habit: A settled or regular tendency or practice, especially one that is hard to give up.

Behaviour Change: changing our reaction to the environment or a prompt

Hope: confidence in the possibility that current realities can change for the better, which includes the confidence that one's actions can make a difference and influence change.

Perseverance: ability to keep on trying and not give up easily, even through difficulties and challenges.

Leadership: the ability to organize, encourage or influence a group or society to accomplish goals and demonstrate behaviours, maintaining positive relationships.

The Plan:

Activities	Non-Formal Methods	Time Needed	Materials
1. Welcome and Introduction	Presentation	5 min	
2. Celebrate success	Group activity	15 min	Contextualised scenarios
3. Healthy Habits Brainstorm	Presentation and Group work	20 min	Paper, pencils/pens
4. Aesop's Fable of the Hare and the Tortoise	Story and Discussion (Role Play, optional)	15 min	
5. Growing Healthy Habits	Presentation	25 min	Handout: Growing Healthy Habits Paper, pencils/pens
6. Work on Community Service-Learning Project	Group Work	30 min	
7. Evaluation and Closing		10 min	Attendance list, paper and pencils/pens
Total Time: 120 min.			

Facilitator's Notes:

This module has presentations with hands-on learning in designing and developing a new healthy habit. You can contextualise the scenarios in the Celebrate Success activity to situations that will be relevant for your group.

Description of Activities:

1. Welcome and Introduction *(5 min)*

Note: This time helps youth feel comfortable and settled down for the meeting and helps them know what to expect from the time together.

Set up and facilitation: Arrange chairs (if you have them) in a circle. As youth arrive, invite them to take a seat and talk about their past week. Enjoy this time together. Once all of the members have arrived, take a few minutes to introduce today's lesson: "We're going to learn how to change our behaviours and form healthy habits for ourselves." Explain that this

week's meeting will equip them with how behaviour change works and how they can start to develop new healthy habits.

2. Celebrate success *(15 min)*

Share with the group:

We're going to learn how we can use positive emotions to help create healthy habits. You may already know that positive experiences reinforce behaviours. It is true: Emotions create habits. Celebrating success can help you strengthen new habits.

Do you remember a situation where you felt so proud of yourself? Do you recall a feeling of accomplishing something that you wanted to do? We're going to read a few of scenarios and all of you can just give your first reaction to the situation. Be brave and bold! It's ok to do whatever you would do to celebrate. If you want to cheer, jump, dance or whatever it is, do it. Some may be loud, some may be quieter celebrations. The point is to figure out what makes you feel successful, and there are a variety of ways for each person.

Everyone may feel silly, but the more you're able to act it out, the better you will be able to create that feeling to support the habits you want to build in your life.

Read the scenarios that you've selected to use from the list below or you can also create ones within your group that fit your context. Go through at least 2-3 scenarios to help people identify some ways they celebrate. Tell the large group that you will read a scenario and they need to react right away (so it's best not to think too much about it). When the group understands, start reading the scenarios one by one.

<u>Celebration scenarios:</u>

1. You are playing football with your friends and the game is tied. Just minutes from the end of the game, your friend passes you the ball and you score the winning goal! Show how you would feel or react.
2. You spend lots of time making a gift for your friend's birthday. When you give it to your friend, your friend is so amazed and touched that you made this. Your friend says that they have never had a friend as kind and thoughtful as you. Show how you would feel or react.
3. You have studied day and night for an exam and are anxious for the results. You find out that you passed and not only that, you received the highest exam mark in your entire class. Everyone congratulates you for your outstanding results. Show how you would feel or react.
4. You practice hard to become excellent at your sport. You have been recruited for your national team, and you find out that your teammates have voted you as the most valuable player for your sports team this year. Show how you would feel or react.

5. You wanted to become a teacher, so you worked toward your goal, not giving up. You did well in school, and when you applied, you were given a scholarship to study to become a teacher. Show how you would feel or react.

   Thank everyone for sharing their reactions.

Ask for volunteers to share their own quick way of celebrating an achievement and lead the group to practice their method. If the group needs some examples, please feel free to use some of your own or examples from the list below:

- Do a celebration dance on the spot
- Give yourself a double-thumbs up
- Pat your yourself on your back
- Clap
- Say to yourself, "You did great!"

Thank everyone for their creative ways of celebrating. Share with the group that it is important to celebrate all the efforts and steps (no matter how small) toward new habits that they want to build.

3. Healthy Habits Brainstorm *(20 min)*

Set-up and Facilitation:

Share with the group:

Now that we have some ways to help reinforce our habits that we want to start with celebration, we're going to start thinking about what healthy habits you would like to have in your life. You may already have some healthy habits in mind that you would like to achieve. I will share with you some very common healthy habits that people who like to have and both are critical to nutrition and health:

[Write the bolded text below on a board or paper. The notes after can guide you on what to say as you talk about each habit.]

Eating more fruits and vegetables every day – Fruits and vegetables are good for our body, but we don't eat very much fruits and vegetables at all. Worldwide, low fruit and vegetable consumption is a huge factor contributing to the burden of disease[1]. Children and adolescents consume very little fruits and vegetables.
Doing regular exercise every day – Did you know that children and adolescents require at least 60 minutes of moderate to vigorous exercise a day regularly? Unfortunately, children and adolescents all over the world have very low physical activity. More than 80% of adolescent girls (11-17 years old) worldwide do not get at least 60 minutes of moderate or

[1] Lock, K, Pomerleau J, Causer L, Altmann DR, McKee M. The global burden of disease attributable to low consumption of fruit and vegetables: implications for the global strategy on diet. *Bull World Health Organ* 2005;83(2):100-8.

vigorous exercise daily; similarly, about 75% of adolescent boys (11 to 17 years old) do not get sufficient amounts of exercise[2].

Practice handwashing with soap/ash at critical times (e.g. before food preparation and eating, after latrine, after handling animals, waste) – Handwashing with soap decreases the chance of diarrhoea as well as other infectious diseases. There may be other habits around water, sanitation and hygiene that you may want to have as well.

Reduce stress and support positive social and mental health – Adolescent girls have higher rates of depression, eating disorders, suicide ideation and attempts than boys[60]. On the other hand, adolescent boys engage more in high-risk behaviours, have more issues with anger and die by suicide more than girls[60]. In addition to good nutrition and exercise, you can promote better social and mental health for yourself by practising:

- Gratitude
- Mindfulness, meditation, prayer or some form of reflection, e.g. journaling
- Empathy and kindness for meaningful connection with other people around us
- Good sleep habits (consistent and regular schedule with sufficient and quality sleep)

Go through this activity below:

Pass out a piece of paper and pen/pencil to each member. Have a blank flipchart.

Ask the participants to think of one healthy habit that they want to develop.

Then ask the participants to put all the practices that they can think of that would help support that healthy habit. Ask them to think of the smallest steps that they can take toward the new habit. Every action counts, no matter how small. Give them 5 minutes to think of as many as they can. You can put a few down for your example on the flip chart.

It could look like this:

Eat more fruits and vegetables:

- Eat one fruit in the morning
- Instead of having biscuits, eat some fruit with tea
- Wash and prepare fruits and vegetables when preparing a meal
- Walk by a fruit tree or vegetable garden to pick a fresh fruit or vegetable to eat
- Learn a new recipe with a fruit or vegetable that I like to eat
- Add some green leaves (vegetables) in the dishes I make

After the 5 minutes, ask the members to look at what they have come up with and **cross off the ones that they can't do by themselves or they don't want to do.** Give them 2-3 minutes.

[2] https://nyaspubs.onlinelibrary.wiley.com/doi/full/10.1111/nyas.13336

It will then look something like this:

Eat more fruits and vegetables:
- Eat one fruit in the morning
- Instead of having biscuits, eat some fruit with tea
- Walk by a fruit tree or vegetable garden to pick a fresh fruit or vegetable to eat
- Learn a new recipe with a fruit or vegetable that I like to eat

Once this is complete, ask the members to look through all the behaviours again and **select 1-2 that they think are best to help them build this new habit.** Share the below example to help them understand how they can decide.

Eat more fruits and vegetables:
- Eat one fruit in the morning
- Instead of having biscuits, eat some fruit with tea → *don't have tea often*
- Walk by a fruit tree or vegetable garden to pick a fresh fruit or vegetable to eat
- Learn a new recipe with a fruit or vegetable that I like to eat → *have some recipes but haven't used yet*

Once that is complete, have them share in pairs what their healthy habit is and the key behaviours that they have identified.

Share:

We will learn how to design these key behaviours by first understanding how behaviour change works. To do this we will listen to a familiar story.

4. Aesop's Fable of the Hare and the Tortoise *(15 min)*

Note: This is to start the discussion on how to develop long-term habits that promote a healthy life. It emphasizes that consistency and persistence, taking small steps forward will help achieve long-term goals. The Rabbit and the Snail (rather than the Hare and the Tortoise) can be used if it works better for your context. The story can be retold in your own words.

Set-up: Draw a picture of the tortoise and the hare, so that there is a visual when you tell the story. An alternative plan is to use three participants (to be the Hare, Tortoise and Fox) to help act out the story as you tell it.

Facilitation:

Share with the group the story below:

I will tell you a well-known story about a race between the Hare and the Tortoise.

The Hare & the Tortoise (Taken from Library of Congress Press - http://read.gov/aesop/025.html)

A Hare was making fun of the Tortoise one day for being so slow.

"Do you ever get anywhere?" he asked with a mocking laugh.

"Yes," replied the Tortoise, "and I get there sooner than you think. I'll run you a race and prove it."

The Hare was much amused at the idea of running a race with the Tortoise, but for the fun of the thing he agreed. So the Fox, who had consented to act as judge, marked the distance and started the runners off.

The Hare was soon far out of sight, and to make the Tortoise feel very deeply how ridiculous it was for him to try a race with a Hare, he lay down beside the course to take a nap until the Tortoise should catch up.

The Tortoise meanwhile kept going slowly but steadily, and, after a time, passed the place where the Hare was sleeping. But the Hare slept on very peacefully; and when at last he did wake up, the Tortoise was near the goal. The Hare now ran his swiftest, but he could not overtake the Tortoise in time.

The race is not always to the swift.

Ask these reflection questions to the group:

1. What words would you use to describe the Hare? The Tortoise?
2. The Tortoise won the race and not the Hare. What lessons can you take from the story?
3. If you were to think of the race as long-term goals in your life, what advice do you think you would get from the Tortoise? What advice do you think you would get from the Hare after the race?

5. Growing healthy habits (25 min)

Set-up: Provide the Growing Healthy Habits Handout.

Facilitation:

Share with the group:

Like the Tortoise, we need to take small steps toward building our new healthy habit. You have already selected 1-2 small behaviours that you will help you to build you new healthy habit.

Looking at those key behaviours, I want you to think about them as seeds. Where are you going to plant these seeds so that they can grow best? How will you care for the seeds so that they will sprout and grow?

Ask the group what they need to consider when planting seeds and what care is needed to ensure they grow well. For example, the seed would need to be planted in good soil, receive adequate water, sunlight, etc.

Another way to think about the key behaviours is to think of them as babies. How would you help these "baby" behaviours to grow into a strong healthy habit in your life? What kind of environment and care would these babies need?

Ask the group what the baby would need to grow well (e.g. love, attention, breastfeeding, appropriate care, nutritious foods, warmth, protection, immunizations, health services, etc.)

Thinking about their new behaviours as a seed or a baby, ask the group to think about when is the best time for them to their new practice (the more specific the better) and what they need to nurture the new habit (they can use their celebration methods and also think of getting others here or in their family to help them build their new practices). Give the members the handout to work on individually.

Questions to answer for their new practices:

1) **When should they do it?** Be specific on when and how many times in a day or week It will happen.
2) **What do they need to do to care and support the new practice?** E.g. they can cheer themselves on for doing the new practice, they can ask their family member to encourage them and ask them about their new practice, they can setup a space to remind them that they should be doing that new practice, they can pray for one another to build their new practices

Ask the group to share in the large group their plans on starting their new practices this week. Remind everyone to be excited and that they can try things out to see if they work for building their new practices. If it doesn't work, they can try again and think of another way to support and care for their new practices. This is all part of learning something new!

6. Community Service-Learning Project *(30 min)*

Note: Give this time for members to review progress and work on their community service-learning project.

Share with group: You will be given 100 USD to fund your community service project. In your groups, please brainstorm some ideas that might help your community have better nutrition. You will be able to refine the project idea in the coming weeks as we go through the sessions.

7. Evaluation and Closing *(10 min)*

Note: Be intentional about creating a positive atmosphere and excitement for next week!

Set-up and facilitation:

Write this on a poster paper or board:

> Success is not final, failure is not fatal: it is the courage to continue that counts. (Unknown)

Have a volunteer read this aloud.

Then share with the group:

This is just the starting point. You'll continue to learn and improve your skills for building habits, and this will influence how you see yourself and realise opportunities for change in your life. You will have both successes and failures in your process of building new healthy habits. Keep going, keep trying and think through your design for behaviour change until you find something that works. Always keep celebrating each step of the way!

Ask them to think about what they learned about building healthy habits. Ask them to share with a partner or small group of three what they have learned today.

Complete the attendance list, cover any administrative details and announce when and where the next meeting will take place. Thank participants for their presence in this meeting,and be sure to say a warm goodbye to each member as they leave.

Handouts:

1. Growing Healthy Habits

Meeting #2: Learning about Food and Nutrition

Meeting Goal:

To familiarize IMPACT members with a healthy diet and ways to make healthy food choices and meals for themselves.

Learning Objectives:

After this meeting, IMPACT members will be able to…

(K) Describe the role of food in nutrition and the guidance for healthy diets related to dietary diversity and food processing

(K) Describe what a healthy eating plate is and that our diet is linked to our health and our planet's health

(A) Create a meal that is based on the healthy eating plate

(A) Share and cook their healthy eating plate recipes with their family, friends and/or social media (optional)

(V) Consider the effects of our food choices and consumption in relation to our health and nutrition (**perspective**)

(V) Understand that cooperation and teamwork are often needed to accomplish our goals (**teamwork**) – applicable when using variation of Matching Game for Food Groups

Key Concepts

Food Groups: a way to organise foods into similar categories, e.g. fruits and vegetables (protective foods).

Food processing: any change to foods after being taken from its natural, living form. It may involve a variety of methods of cutting, grinding and cooking foods, adding ingredients to improve taste and preserving foods.

Unprocessed foods[3]: the edible parts of plants (such as fruit, leaves, stems, seeds, roots) or from animals (such as muscle, offal, eggs, milk), and also fungi, algae and water, after separation from nature.

Minimally processed foods[1]: natural foods altered by methods that include removal of inedible or unwanted parts, and also processes that do not include any addition of salt, sugar, oils or any other ingredients. Some examples include drying, grinding, powdering, roasting, boiling, non-

[3] Monteiro, C.A., Cannon, G., Lawrence, M., Costa Louzada, M.L. and Pereira Machado, P. 2019. Ultra-processed foods, diet quality, and health using the NOVA classification system. Rome, FAO. http://www.fao.org/3/ca5644en/ca5644en.pdf

alcoholic fermentation, freezing, and placing in containers. There is not much difference between unprocessed and minimally processed foods, so they are in the same food group.

Processed culinary ingredients[1]: these ingredients include salt, sugars, oils, butter, lard.

Processed foods[1]: these are simple products made by adding sugar, oil, salt or processed culinary ingredients and unprocessed or minimally processed foods. Most processed foods have two or three ingredients. The type of food processing includes various preservation or cooking methods, and, in the case of breads and cheese, non-alcoholic fermentation.

Ultra-processed foods[1]: These are industrial formulations typically with five or more and usually many ingredients. Such ingredients often include those also used in processed foods, such as sugar, oils, fats, salt, anti-oxidants, stabilisers, and preservatives as well as substances not used in any of the other food groups. Unprocessed and minimally processed foods often make up very little of the ingredients in ultra-processed foods.

Healthy Eating Plate: this is a set of recommendations on how to construct healthy meals and build a healthy diet. It shows how much of a plate or meal should consist of vegetables, fruits, grains and healthy proteins. It also show the type of oils and beverages that are part of a healthy diet.

Perspective: the ability to see the bigger picture in life and the broader impact of everyday decisions

Teamwork: the ability to contribute and work together with others for the success of a team, group, or society.

The Plan:

Activities	Non-Formal Methods	Time Needed	Materials
1. Welcome and Introduction	Presentation	10 min	
2. Never Have I Ever Eaten…	Game	10 min	
3. Food Groups – A way to understand what we eat	Presentation	10 min	NOVA food classification system handout Foods/ingredients for Cooking Session (for pointing out a few examples for the NOVA food groups)
4. Matching Game for NOVA Food Groups	Game	15 min	Paper with names of 4 NOVA food groups

			List of foods/drinks for Matching Game for Food Groups
5. Healthy Eating Plate	Demonstration	15 min	Handout: Healthy Eating Plate Foods/Ingredients for Cooking Session
6. Making your own healthy eating plate recipe	Cooking Session	75 min	Foods (include oil, salt, sugar, condiments) for Cooking Session Cooking station with stove, pan/pot, cooking utensils for every small group Plates or bowls/cups for eating (eating utensils if needed)
7. Evaluation and Closing		10 min	Attendance list
Total Time: 140 min.			

Facilitator's Notes:

Food is linked with nutrition, and there are many different sources of dietary advice. It is also good to ask the health staff or health focal point in your AP about any national dietary guidance available to share to the members. This can be used to complement the specific guidance from the NOVA food classification system, which looks at the purpose and amount of processing done to foods/drinks to determine whether they are healthy or not healthy, and the Healthy Eating Plate, which helps members to understand how to eat healthy meals every day.

Description of Activities:

1. Welcome and Introduction *(10 min)*

Note: This time helps youth feel comfortable and settled down for the meeting and helps them know what to expect from the time together.

Set up and facilitation: Arrange chairs (if you have them) in a circle. As youth arrive, invite them to take a seat and talk about their past week. Enjoy this time together. Once all of the members have arrived, take a few minutes to introduce today's lesson: "We are going to learn more about food and how it relates to nutrition. We will also learn how to make healthy food choices and cook a healthy meal for ourselves."

Introduce the concept of community service-learning project. For the community service-learning project, they will take the first step today and brainstorm what they would like to do for their project.

2. Never Have I Ever Eaten... *(10 min)*

Note: This is a fun icebreaker to get members to get to know each other and think about food and nutrition.

Set-up: Get everyone to stand in a circle facing each other.

Facilitation:

Share with the group that we're going to do an icebreaker to get to know each other better. The game is called "Never have I ever". They can all hold up their hands showing ten fingers. Each person is going to take turns sharing a food that they never have eaten, e.g. "Never have I ever eaten a mouse." Then the rest of the group that has never eaten a mouse will close one of their fingers. If they have eaten a mouse, they keep their fingers open. The game ends when everyone has had a turn, and the winner is the person(s) with the most fingers still open.

3. Food Groups – A way to understand what we eat *(10 min)*

Set up: It is also good to ask the health staff or health focal point in your Area Programme (AP) about any national dietary guidance. This local dietary guidance can be shared with the NOVA system.

Facilitation:

Share with the group:

When you think about nutrition, you likely think about food. Food gives our bodies fuel. It helps us to grow. Food and drink are the things that we regularly put inside of our bodies. What you eat and drink can affect your nutritional status.

You may have heard of different food groups. You may know that some foods and drinks are healthy and some foods and drinks are not. We are going to explore foods and drinks and how it can provide us with good nutrition and also how by eating too little or too much of different types of foods and drinks, we can become malnourished.

We have different food groups to help us understand which foods are alike. A lot of dietary guidance focusses on sharing recommendations for what is needed for a healthy diet from each food group.

Is anyone familiar with the national dietary guidance?

[Show a diagram of the guidance, if available. Wait for responses and share the national guidance using the diagram. You could go through the food groups by pointing out the examples of foods available for the cooking activity later in the session.]

Another way to look at foods is to look at how much they have been processed.

Processing covers all the different cooking and preservation methods like drying, curing, smoking, boiling, steaming, frying, pickling, mixing with other ingredients, etc. The more you add things and change the food, the more you have processed the food. It also may not be done by you or at home, the most processed foods or ultra-processed foods are made by industries in factories. There are a lot of different things that the food industry puts in the food that you can't find or put in your food yourself. A lot of ultra-processed foods, like junk foods, snacks, candies don't have very much natural foods in them anymore, almost all have been processed, particularly highly processed.

Share the NOVA[4] food classification system with the members.

The NOVA food group system divides foods into four different groups according to the purpose of the processing and how much processing the food has been done on the food.

The first group are the unprocessed or minimally processed foods. They are foods as God made them. The unprocessed foods are plants that you can eat like corn, okra, potato, orange, banana. They could also be animal source foods like mouse, goat, chicken, crickets, and fish, as well as rats, frogs, and grasshoppers because they also have nutritional value. Water is a unprocessed drink. Minimally processed foods are these natural foods that have been cut up, dried, ground, roasted, etc. without adding salt, sugar, fat or anything else. An example would be dried beans, dry roasted peanuts, corn flour. [Hold up one example from the food table prepared for the cooking activity.] *These foods are great for your health and are the basis of a healthy diet.*

Prepare a sign using a sheet of paper that has "Unprocessed/Minimally Processed Foods" and put it in one corner of the room.

The second group under NOVA is processed culinary ingredients. They are made from unprocessed or minimally processed foods (like cane sugar or vegetable oils), or directly from nature (like salt and honey). [Hold up one example from the food table prepared for the cooking activity.] *The recommendation for these type of foods is to use them in small amounts as needed for cooking.*

Prepare a sign using a sheet of paper that has "Processed culinary ingredients" and put it in another corner of the room.

The third group are processed foods. These are foods from the first group that have been processed with addition of sugar, salt, oils or other processed culinary ingredients . The processed foods have usually 2 or 3 ingredients. Examples are cheese, canned or bottled vegetables, freshly baked breads, cured or smoked meats. [Hold up one example from the food table prepared for the cooking activity.] *The recommendation for processed foods is that*

[4] NOVA is not an acronym, but a name meaning "new."

that they should be used in small or limited amounts as part of a diet that has lots of unprocessed or minimally processed foods.

Prepare a sign using a sheet of paper that has "Processed foods" and put it in another corner of the room.

The fourth group is the ultra-processed foods and drink products. This is anything that has any more processing done to them and are made by industry. They usually have 5 or more ingredients. In most cases, many more. They also contain a lot of ingredients that are not available at home and they are added to improve the taste, colour or shelf-life of the food (or how long the food lasts).

[Bring an example or examples of an ultra-processed food or drink, e.g. candy, snack, drink that is popular locally. Hold this up and ask a participant to share how many ingredients it has.]

These ultra-processed foods are not good for your health, and the recommendation is to avoid these types of foods in your diet. Many packaged foods and drinks are made with ultra-processed foods or ingredients. Eating these foods and drinks are linked to premature death, overweight and obesity and many different diseases, like heart disease, high blood pressure, diabetes, cancers, depression and even adolescent asthma[5].

When you are deciding whether a food is processed or ultra-processed, one easy way is to look at the ingredients. How many ingredients are there? If there are less than 5, it is likely processed. If it is 5 of more ingredients, it's likely ultra-processed. Or another question to ask is: do you recognise the ingredients? If there are ingredients in the food item that don't sound like food, it is ultra-processed.

Be Proud of your Indigenous Foods!

Do not feel ashamed of your natural and indigenous foods, such as cassava, grasshoppers or rats. These foods are nutritious and healthy, and you should feel proud of them. Many companies like to trick people into thinking their packaged and processed foods are healthy by using fancy and colorful ways to package the foods. This is a trick! Often times the healthiest foods are those foods that God made naturally, without any packaging. Eating food in its natural form is often the best form for your nutrition.

Prepare a sign using a sheet of paper that has "Ultra-processed foods and drink products" and put it in another corner of the room.

[5] Chen, X., Zhang, Z., Yang, H. *et al.* Consumption of ultra-processed foods and health outcomes: a systematic review of epidemiological studies. *Nutr J* **19,** 86 (2020). https://doi.org/10.1186/s12937-020-00604-1

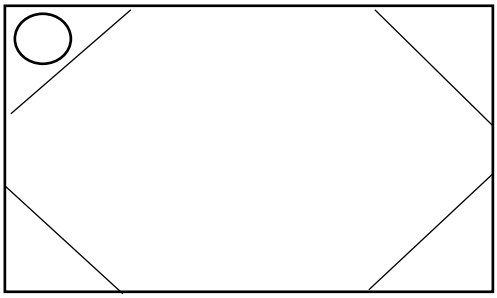
4. Matching Game for NOVA Food Groups *(10 min)*

Point to the four different corners of the room.

Right now, we're going to play a quick game to help you get familiar with what foods belong to what NOVA food group. I'm going to call out a food, and you run to the corner or food group where that food belongs.

Use the Handout on the NOVA Classification of Foods for some examples to come up with a list of 8-10 foods or drinks. Thank the members for their participation in this game. Ask if they have any further questions about the food groups and the advice for healthy eating.

Alternative game to include teamwork: Divide the participants into two teams. There will be two timed rounds of 3 minutes and a tie-breaking question, if needed. The objective of the game is get your team to match as many foods to the right food group or corner as possible. You will call out the food or drink and the team needs to get all its members in that corner. Mark the ground with a line of tape that is large enough to fit the entire team in the corner (see picture below: the circle represents the teams and the lines represent the line of tape at the corners.).



They will be asked to form a circle facing outward and to link arms with the persons beside them. Tell them that you will call out a food or drink and they need decide as a team where to go to get their team circle to that corner of the room without breaking the links of their arms and without anyone falling (or injuring) themselves. Remind them to be kind as some people will be moving forwards, but others sideways or backwards, and take care of each other.

The two teams will take turns. To decide who goes first or second, you can ask them to pick a number 1 to 10 and whoever is closer gets to pick whether they want to go first or second. The team that is not playing will be watching against the walls of the room.

Thank the teams for their team efforts and give a group cheer for the winning team. Ask if they have any further questions about the NOVA food groups.

Guiding notes for facilitator about processed and ultra-processed foods/drinks: Home or restaurant/shops cooking of foods into meals and dishes does have many ingredients. The difference between these meals/dishes and ultra-processed foods and drinks are that the

ingredients are only from the first three groups for the meals/dishes whereas ultra-processed foods and drinks use ingredients that are outside of the first three groups to improve taste, colour or shelf-life. The NOVA food groups are classifying the basic ingredients of meals, not the cooking/preparation of ingredients into meals or dishes.

Also, some types of foods can be made in a way that would allow them to fall into Processed foods versus Ultra-processed foods. For example, potato chips could be processed or ultra-processed depending on how it was made. The same can be said for chocolate and ice cream.

5. Healthy Eating Plate *(15 min)*

Note: This is to help members understand and reflect on what we can eat to keep ourselves healthy. This can be replaced with the national dietary guidance.

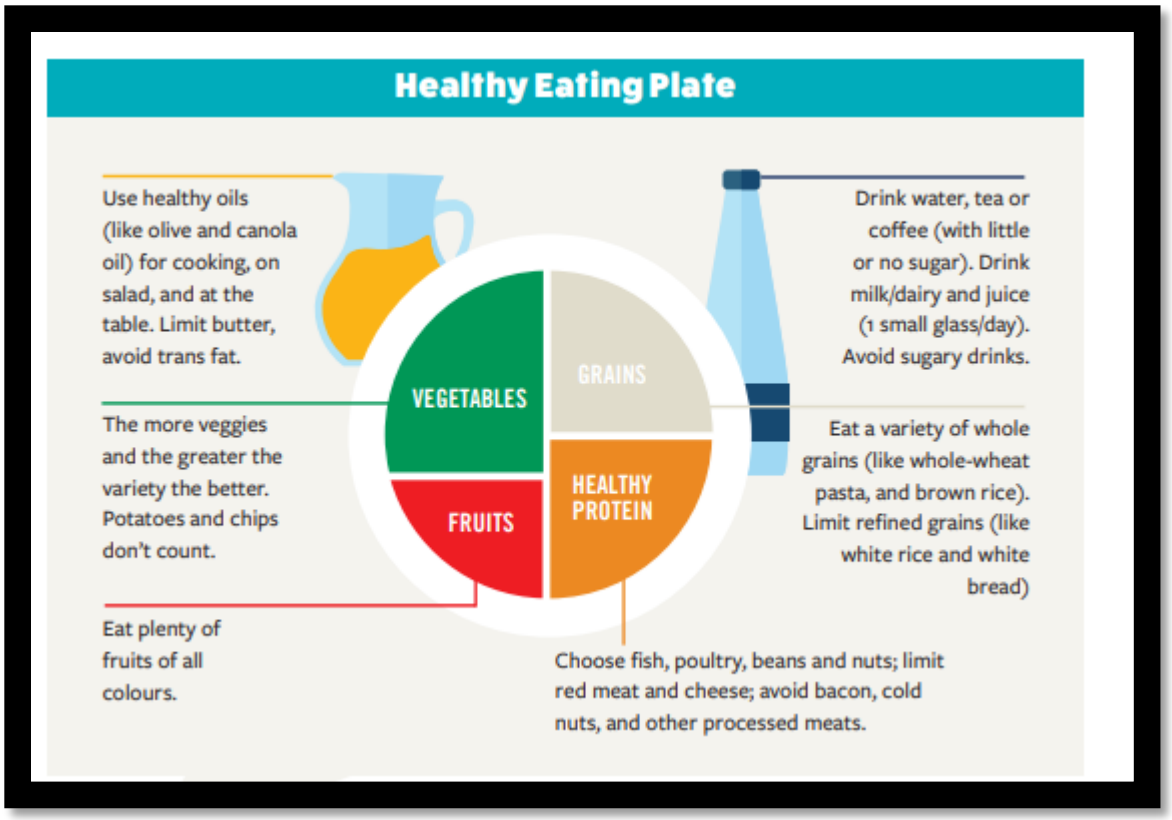
Set-up: Prepare a table of local foods and cooking ingredients (e.g. oils, salt, sugar, condiments, etc), which will also be used for the cooking activity.

If possible, use a large tarp or blanket and set it on another table or the ground. Make a big circle using a marker or string. Then, make a line down the middle.

Print the handout for the healthy eating plate for each participant.

Facilitation:

Draw or put up the picture of the healthy eating plate. Share with the group:



(Image taken from Youth Leaders for Nutrition Adolescent Nutrition Briefs[6])

This is the Healthy Eating Plate.

Half the plate is fruits and vegetables: one third fruits and two thirds vegetables. This is an important recommendation as most people in the world do not eat enough fruits and vegetables for their health. What are some fruits and vegetables that you enjoy? [Wait for responses.]

The other half is made of grains and healthy proteins. All plant-based proteins, like legumes, nuts, seeds are healthy, and fish and poultry are also lean meats for healthy eating. Red meats and cheese should not be eaten often and processed meats should not be eaten if at all possible. What are some grains that you like to eat? What are some healthy proteins (e.g. rats, beans)?

Similar to the NOVA food group recommendations, all ultra-processed foods and drinks should be avoided as well.

For use of oils, it is better to use plant-based oils like vegetable and seed oils than animal fats like butter and lard. Trans fat is not found in nature and is made by industry. This is a fat mainly found in manufactured foods and drinks. It is good to avoid products with trans fat for your health.

[6] Mason, F and Jones, L. Youth Leaders for Nutrition: Adolescent Nutrition Briefs. Save the Children UK, GAIN, Anthrologica. 2019.

For hydration, water is best as well as tea or coffee with little to no sugar. Sugary drinks should be avoided.

Ask the group if they have any questions about the Healthy Plate.

Making your own healthy eating plate *(75 min)*

Set-up: Prepare the table of foods (purchase or collect foods available in the community) and ingredients for this activity. Set up cooking stations for each small group. Have some pens/pencils for members to write down their recipe on the back of the Healthy Eating Plate handout.

Facilitation:

1) Describe the activity and the foods available. (5-10 min)

Show the members a table of different foods. Ask the adolescents to form small groups of 2-3 people to create a meal together that follows the advice from the healthy eating plate, remembering also what they've learned the local dietary guidance as well the advice from NOVA food groups.

Let's try to apply the healthy eating plate and see what we can do to create a meal that supports our health and nutrition.

2) Provide time to plan the meal. (10-15 min)

Give all the members the healthy eating plate handout. On the back they can start to plan a local recipe that follows the healthy eating plate. Prepare a few familiar recipes from your community to help the members if they are stuck. Many online videos of recipes are also available, which is particularly helpful if they aren't familiar with cooking. They can use the recipes and improve it to better match the healthy eating plate and local dietary guidance. Remind members to make small portions, so that it's enough for them to enjoy with little to no food wasted.

3) Allow the members to prepare, cook and taste their meals. (50-60 min)

Once the groups have an idea of what to cook, they can prepare by washing their hands with soap or ash. Then they can pick up and wash the ingredients (if needed). They can then head to the cooking stations (e.g. portable stove or fuel-efficient stoves) and cooking pans/pots/utensils. Cooking oil, salt, sugar and other condiments for your local context can be provided on a separate table. It would be good to remind that these are to be used in very small quantities to cook or season and flavour foods.

During the cooking process, it is good to remind the members of food safety rules, such as: Cook meat and eggs fully to ensure you will not get sick from these foods; wash your hands after handling raw meat and eggs; boil beans, cassava leaves, and other vegetables for at least two minutes to get rid of potential poisons called cyanides.

You could also share tips for the nutrients in foods to be better absorbed. For foods that are high in vitamin A (e.g. orange fleshed sweet potato, carrot, moringa), it is good to cook with a bit of oil, as oil is needed to help vitamin A absorption.

Once the group is done, they can take a picture of their creations, taste their meals and enjoy taste testing other groups' creations as well.

Encourage the members to make a meal this week for their family using the recipes that they have created. Encourage the members to teach their mothers, and other members of their family, such as grandmothers, how to cook the meal. Also remind the members that it doesn't matter how food is cooked (i.e. over an open fire versus on a stove), if cooking is being done. If appropriate for your context, they can share their recipes and pictures of their creations on social media to promote their healthy recipes. **Point the students to possible indigenous recipe ideas in the Annex section of the curriculum as well.**

Budget Note: Your project will have to plan a modest budget to purchase these ingredients for the cooking session. Alternatively, it may be appropriate to assign each club member with one ingredient to contribute. This will require some planning prior to this session.

8. Evaluation and Closing *(5 min)*

Note: Be intentional about creating a positive atmosphere and excitement for next week!

Set-up and facilitation:

Ask the group to share in pairs what has been going on with the healthy habits that they started last week. This may include what worked and didn't work well for the design of their new habits. If there is time, ask if anyone would like to share anything that they learned about starting their new habits.

Ask participants to share this new knowledge on healthy diets and their recipe ideas with their mothers, grandmothers, or other household member, because it will be beneficial to their health as well. Encourage them to share what they learned and take some time to learn about different recipes and ways to use local foods from their mothers/grandmothers as well. Provide them with a list of questions below to interview their respective family member and inform them that they will share their findings during the next session (like a "show and tell" of knowledge). Encourage them to also share what they learned in this session with whomever they interview to foster the knowledge exchange. Have the students write these questions down on their notebooks/chalkboards:

1. Where did you get the recipes for the meals we eat (e.g. were they passed down, etc.)? Is there a story behind their creation?
2. What are some of your favourite dishes to make and ingredients to cook with?
3. What are the steps to make that dish?

4. What are the health benefits of the meals that you make for our family?

Actions for this week: Spend some time sharing or showing your family member how to cook the meal you learned during the session. Interview them using the list of questions. Ask them to reflect on what they learned and if they would consider changing the types or amounts of ingredients used in their cooking. Be prepared to share next meeting about some of the things you've learned.

Complete the attendance list, cover any administrative details and announce when and where the next meeting will take place. Thank participants for their presence in this meeting, and be sure to say a warm goodbye to each member as they leave.

Handouts:

1. Healthy Eating Plate

2. Nutrition Knowledge Sharing Interview Questions

Meeting #3: Understanding Malnutrition

Meeting Goal:

To understand the causes and consequences of malnutrition in their community.

Learning Objectives:

After this meeting, IMPACT members will be able to…

(K) To understand the causes and consequences of malnutrition globally and in their community

(A) To collect and analyse data from their community to better understand the causes of malnutrition

(V) To reflect on how they can address nutrition issues for their nutrition, family's nutrition and their community's (**judgement and kindness**)

Key Concepts:

Adequate Nutrition: is having enough energy and nutrients, mostly from foods and water, to match our needs.

Malnutrition: Malnutrition is when something is wrong ('mal') with a person's nutrition. It is a term that covers undernutrition (underweight, stunting, wasting, thinness conditions, micronutrient deficiencies) and overnutrition (overweight/obesity). Malnutrition can be caused by several factors including diet, disease, food insecurity, inadequate care, unhealthy environment including poor hygiene, violence, inadequate health access/infrastructure, poverty and other social, environmental and political factors.

Undernutrition: The body not getting enough of the nutrition it needs at every stage for health and growth. This results in the person becoming underweight, stunting, wasting, thinness conditions, along with micronutrient deficiencies. It can be caused by not having enough to eat, or not having enough food with the necessary vitamins, minerals, proteins, etc. Undernutrition can also be cause by illness and disease.

Micronutrient Deficiencies: A lack of sufficient amounts of any given vitamin or mineral in a person's diet. This can happen at the same time as other forms of malnutrition (e.g. undernutrition and overnutrition).

Overnutrition: is having more than the body needs for normal health and growth leading to overweight and obesity. It can be caused by eating too much, eating the wrong kinds of foods, the lack of enough physical activity, hereditary factors, disease and medication.

Overweight: A person is overweight if they weigh too much for their height and have too much fat on their bodies (which can affect their health). An adolescent may be considered overweight if their body mass index* is higher than expected for the same age and sex (i.e. BMI-for-age z-score is from 1 to 2 standard deviations) according to the WHO Growth Reference). However,

these standards are useful for population or group assessments and not necessarily conclusive for individuals, as the reference cannot be adjusted for whether an adolescent has entered puberty or not and does not account for body composition.

Obesity: The more extreme and dangerous form of being overweight has an even greater impact on the health of the adolescent. An adolescent may be obese if their body mass index is much higher (i.e. BMI-for-age z-score is more than 2 standard deviations) than the WHO Growth reference. However, these standards are useful for population or group assessments and not necessarily conclusive for individuals, as the reference cannot be adjusted for whether an adolescent has entered puberty or not and does not account for body composition.

Non-Communicable Diseases (NCD): A disease that is not spread from person to person. Many noncommunicable diseases are related to or affected by nutrition. These include diabetes, high blood pressure, heart disease and cancers.

Judgement: critical thinking and the ability to weigh different facts and evidence fairly and to keep an open mind before making decisions

Kindness[20]: consists of showing respect, empathy and good deeds for others without the expectation of personal gain. This strength requires caring and seeking the benefit or success of others.

The Plan:

Activities	Non-Formal Methods	Time Needed	Materials
1. Welcome and Introduction	Presentation	20 min	
2. Icebreaker – Fruit Salad	Game	10 min	Chairs
3.Understanding Nutrition	Demonstration	5 min	Scale and weights or pictures of scale and weights
4. Nutrition Survival Game	Game	25 min	Food, Water, Health and Care Cards (number of members + 1 extra set, e.g. if 12 members, make 13 sets)
7. Evaluation and Closing		5 min	Attendance list
Total Time: 65 min.			

Facilitator's Notes:

Nutrition and malnutrition are complex topics, and this session introduces some concepts that may be technically difficult to understand for IMPACT members. It may be helpful to consult the health and nutrition workers in your health centre or a partner organisation to provide support in providing some starting points for understanding nutrition in their community.

Description of Activities:

1. Welcome and Introduction *(20 min)*

Note: This time helps youth feel comfortable and settled down for the meeting and helps them know what to expect from the time together.

Set up and facilitation: Arrange chairs (if you have them) in a circle. As youth arrive, invite them to take a seat and talk about their past week. Enjoy this time together. Once all of the members have arrived, take a few minutes to introduce today's lesson: "We're going to learn more about what causes malnutrition globally and in our community."

Then move into small groups of 2-3 forstudents to share about their interview findings from talking with their mother, grandmother or other family member. Provide 5-7 minutes in the small groups and then ask each group to share a short reflection on what they had learned from the activity..

2. Icebreaker – Fruit Salad *(10 min)*

Set-up and facilitation: Everyone is still seated in a circle from the introductions. Ask the participants to share their favourite fruit. Ask them to remember what it is.

Then ask one person to take their chair out of the circle and be in the middle. The person can call out a fruit and whoever has that as their favourite fruit needs to move to a new seat, while the person in the middle tries to take a seat back. The person in the middle can also call out "fruit salad." If someone says "fruit salad," then everyone needs to find a new seat. Play this for a few rounds and then thank the group for their participation.

3. Understanding Nutrition *(5 min)*

Note: This section illustrates some basic concepts on adequate nutrition and malnutrition.

Set-up: Prepare a picture with a balance or see-saw (whatever is more context-appropriate.) If you have a balance or see-saw, this can be used instead of the picture. If using a real balance or scale, make sure you have weights or objects you could use as the balls in the pictures.

Facilitation:

Introduction: Introduce the concept of community service-learning project. For the community service-learning project, they will take the first step to understanding if there is malnutrition in their community and what is causing malnutrition in their community by

planning for their community nutrition assessment. To start, they will learn what malnutrition means.

Demonstration: Balance/Seesaw (5 min)

Say to the group:

[7]Share: *Malnutrition has many forms.*

It can be when you have too little to support good growth and development, as in ***undernutrition****.*

It can be when you have too little micronutrients (vitamins and minerals) for your body to function properly, as in ***micronutrient deficiencies****.*

You can also have malnutrition when you eat too much for your body to handle like when you regularly have more than you need in terms of energy and macronutrients (e.g. carbohydrates, proteins, fats). You could be eating too much processed and ultra-processed foods, which include many fast foods and packaged foods and sugary drinks. This then leads to ***overweight, obesity and related non-communicable diseases, like high blood pressure, diabetes, heart disease, and cancers****.*

A person can experience multiple forms of malnutrition at the same time, and also experience different forms over the time of their life. All of these different forms of malnutrition can also be found at the same time in families, communities and countries.

4. Nutrition Survival Game *(25 min)*

Note: The game is based on a variation of the UNICEF framework produced by SPRING [2]. It helps members understand the components needed to support adequate nutrition.

Set-up:

Prepare the cards that say "health", "care", "food", and "water" so that there is one set of these four cards for every member of the group. Make an extra set so you can show them what it looks like when you're introducing the game. You could also use pictures on the cards instead of words. This is for the nutrition survival game. Hide the "health," "food", "water", "care" cards around the room where you meet before the session starts if possible. If this is not possible, be creative so that the members have their eyes closed or blindfolded (e.g. they need to form a line from youngest to oldest) for a few minutes while you hide the cards.

Facilitation:

Game (15 min)

Explain to the group that you will now play a game to better understand what is needed for adequate nutrition. They will need to find four cards (show the cards), which are hidden around the room (or specify the boundary where you hid the cards).

Explain each card:

One represents "health", which is all dimensions of health (physical, mental, social, spiritual) and also an environment (like proper water, sanitation and hygiene and adequate health services). This is one critical factor for adequate nutrition. Everyone has the right to standard of living adequate for health and well-being.

Another card represents "food" as we all need to eat and obtain nutrients from food. It includes fortified foods and supplements to support adequate nutrient intake as well. It includes sufficient access to safe, affordable, acceptable foods. Everyone has the right to food.

Another card represents "water" since access to safe and clean water is important for good nutrition. We all need water to survive, but having clean water is critical because it helps with proper nutrient absorption in the body. Drinking safe and clean water also reduces the risk of pathogens entering your body. If pathogens enter through the water you drink, this can lead to poorer nutritional outcomes because your body will have to focus on fighting the disease and will require more energy and nutrients to do so. Similarly, having poor nutrition and then

developing a disease can lead to even worse nutritional outcomes because it will reduce the amount of nutrient absorption in the body. We can ensure that the water we're drinking is safe by filtering it, boiling it, or washing our cups/cans/buckets before we fill them with water.

The last card is "care" which is the about your caregivers providing you nurturing care and you taking care of yourself. It includes freedom from violence and abuse; positive relationships in your life; and time for school, care for yourself and others, and free time. Marrying early can put you at greater risk for poorer nutritional outcomes, and these outcomes can be passed on to your child. In your context, what are the things that support you to be healthy, to grow well, to feel safe?Children and adolescents have the right to a standard of living adequate for their physical, mental, spiritual, moral and social development.

Health, food, water and care together support adequate nutrition. Once you have found all four cards, please take a seat.

Reflection question (10 min):

In your community, what do you think are key causes of malnutrition?

Write their responses on a flip chart. If there are few responses, ask: Are there any more causes related to food? To water? To health? To care? Probe deeper when possible by asking why that happens in the community. For example, if they say that it is because families do not have nutritious foods, you can ask them why is that to probe deeper.

****

5. Evaluation and Closing *(5 min)*

Note: Be intentional about creating a positive atmosphere and excitement for next week!

Set-up and facilitation:

Ask the group:

Thinking over what we learned this session, what do you think is needed most to end malnutrition?

Write down your reflection on a piece of paper. Reflect over the time in these sessions and see if you have any new thoughts or reflections at the end of the nutrition module.

Complete the attendance list, cover any administrative details and announce when and where the next meeting will take place.

Thank participants for their presence in this meeting, and be sure to say a warm goodbye to each member as they leave.

Handouts

1. Concepts of Nutrition

Meeting #3: The big problem of anaemia

Meeting Goal:

To familiarize IMPACT members with what anaemia and iron deficiency are and how they are important to address for adolescents and the broader community.

To understand their health better by getting tested for anaemia.

Learning Objectives:

After this meeting, IMPACT members will be able to…

(K) Describe what anaemia and iron deficiency are and their consequences

(A) Assess whether or not they have anaemia, so they can take actions for their own health.

(V) Assess their nutritional status (i.e. anaemia status) and take recommendations to prevent and/or treat anaemia (**prudence**).

Key Concepts:

Blood: is a body fluid in humans and other animals. Blood brings oxygen and nutrients to all the parts of the body so they can keep working. Blood carries carbon dioxide and other waste materials to the lungs, kidneys, and digestive system to be removed from the body. Blood also fights infections and carries hormones around the body. Blood is made up of different types of blood cells (red, white and platelets) and plasma. Plasma is a yellowish fluid that has nutrients, proteins, hormones, and waste products. The different types of blood cells have different jobs.

Red Blood Cell (RBC): a component that contains haemoglobin and transports oxygen around the body in the blood circulatory system; it makes up 45% of blood (roughly 5 million RBCs per drop of blood).

Haemoglobin: a protein-structure that has iron in its centre and binds with oxygen to help transport it around the body from the lungs to all the cells in every part of the body. There are roughly 250 million haemoglobin molecules inside every red blood cell

Anaemia: a condition where you don't have enough healthy red blood cells or haemoglobin to carry oxygen through your body. The main cause of anaemia is not eating enough foods that contain iron. Anaemia is a big issue for many adolescent girls in particular because of their growing bodies and monthly menstruation[8].

Iron Deficiency: a condition where you lack enough iron in your body to function properly. You may experience tiredness, lack of concentration and strength, dizziness, headaches, irregular heartbeat and/or abnormally pale skin. Iron deficiency is a major cause of anaemia. Iron deficiency anaemia is a severe form of iron deficiency.

[8] SAVE adolescent nutrition advocacy toolkit - glossary

Prudence: character of thinking, planning and acting carefully to reduce undue risks or harm.

The Plan:

Activities	Non-Formal Methods	Time Needed	Materials
1. Welcome and Introduction	Presentation	5 min	
2. Review Game: Life-Sized Tic-Tac-Toe	Review Game	15 min	9 chairs, prepared set of review questions
3. Our body needs oxygen	Demonstration	10 min	
4. Problem of iron deficiency and anaemia	Presentation	10 min	Flipchart, marker
5. Oxygen relay race	Game	25 min	2 bags of beans/rice, 2 cups, 2 large spoon/2 small spoons
8. Evaluation and Closing		5 min	Attendance list
Total Time: 70 min.			

Facilitator's Notes:

Make sure the members have signed (or verbal) consent from their caregivers to participate in the anaemia testing portion of this session.

Description of Activities:

1. Welcome and Introduction *(5 min)*

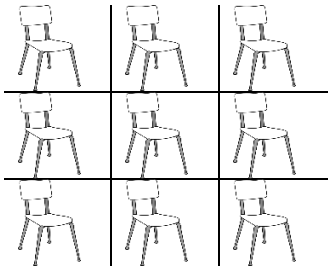
Note: This time helps youth feel comfortable and settled down for the meeting and helps them know what to expect from the time together.

Set up and facilitation: Arrange chairs (if you have them) in a circle. As youth arrive, invite them to take a seat and talk about their past week. Enjoy this time together. Once all of the members have arrived, take a few minutes to introduce today's lesson: "We're going to talk learn about the problem of anaemia and iron deficiency, which is one of the major causes of anaemia. We will also give everyone a chance to check if they have anaemia."

2. Review Game: Life-sized Tic-Tac-Toe *(15 min)*

Note: This is a fun, interactive game to help reinforce some concepts learned in the previous session.

Set-up: If you have an outdoor space to conduct this icebreaker, it works well outdoors too. Put nine chairs in a 3 x 3 arrangement like a tic-tac-toe board.



Prepare a sheet of review questions (feel free to use some of these):

- What does adequate nutrition mean?
- What is malnutrition?
- What is undernutrition?
- What causes/are micronutrient deficiencies?
- What does overweight mean?
- What is obesity?
- What are Non-Communicable Diseases (NCDs) and give examples?
- What is anaemia?
- Name three fruits or vegetables in your community.
- Name three plant protein sources in your community.
- Share the two immediate causes of malnutrition.
- Share two likely causes of malnutrition in your community.
- What proportion by volume do fruits and vegetables take up on the healthy eating plate?

Facilitation:

Share with the group that we are going to do review game of things we learned in our last session. Ask if the members are familiar with the game of Tic Tac Toe. If needed, show a quick drawing of a tic tac toe game on the board and demonstrate how two players try to get three in a row on the tic tac toe board. (Here is a video on how to play tic tac toe if you need some help to describe how to play.)

Break the group into two teams: one team will be team "X" and the other team "O". They are going to compete with the other team to get three in a row (vertically, horizontally, and diagonally) on the tic-tac-toe board. They can get a member of their team to sit in the chair they answer a review question correctly before the other team. To help them remember who is the 'X' on the board, team X" members will sit with their legs crossed (or an alternative is to make an "X" shape with their arms). Team "O" members can sit normally without legs crossed (or make an "O" shape with their hand).

Ask one representative from each team to start the game. The two members from opposite teams will clap their hands if they know the answer. If the person answers correctly, s/he can take a seat in the free chair (their team can support them in their decision). If the person answers incorrectly, then the opponent gets a chance. If no one is correct, you can ask the entire group what the answer is. No one will get a spot on the board for that round. Continue going through the review questions until one team wins (or both teams tie) on the tic-tac-toe board. If the game goes quickly, you can play additional games. Thank everyone for their participation.

Alternative method: Instead of using chairs, you can also draw the tic-tac-toe board on the flip chart paper or white board. The teams will need to answer a review question correctly before putting an X or O on the board (depending on which symbol their team is using).

3. Our body needs oxygen *(10 min)*

Note: This is to initiate some interest in the importance of anaemia by drawing attention to the primary reason it is harmful: it decreases oxygen in our body. This also shows how our body is built naturally to respond to insufficient oxygen and helps the members to understand later how anaemia can affect their body's responses.

Set-up and facilitation:

Share:

We all need things for survival, like food, water and air. For food, we could possibly go 2-3 weeks and still survive. For water, we could possibly go 2-3 days and still survive. For air or oxygen, we could possibly last 2-3 minutes without it and survive.

As you can see, oxygen is very important for life and important for our bodies. Our bodies have developed various ways to respond when it needs more oxygen.

We're going to see this in action. Everyone, let's get up onto your feet. Let's all do some exercise.

[Ask the group to do any exercise movement or suggest one group for the group to do together, e.g. jumping jacks or running on the spot/outside.]

Allow everyone to get back to their spot.

Ok, let's keep standing. What did you notice about your heart when you were exercising?

(Possible responses: It was beating faster. It is probably still beating quite fast.)

What did you notice about your breathing?

(Possible response: It was faster too.)

Our bodies do this so that when our body needs more oxygen, the lungs take in more oxygen by breathing more quickly and our heart works harder and beats faster to pump out blood, that has

the oxygen we need, around the body, like to our muscles as we're moving. When our muscles don't have enough oxygen, we may get muscle cramps. That's our muscles telling us they don't have enough oxygen.

When the lungs take in oxygen, they are absorbed from our lungs into our blood. In our blood, there is something called a red blood cell. Did you know that a single drop of blood has around 5 million red blood cells? Each red blood cell has inside millions (250 million) protein pieces called haemoglobin. Haemoglobin holds onto oxygen that we take in at our lungs.

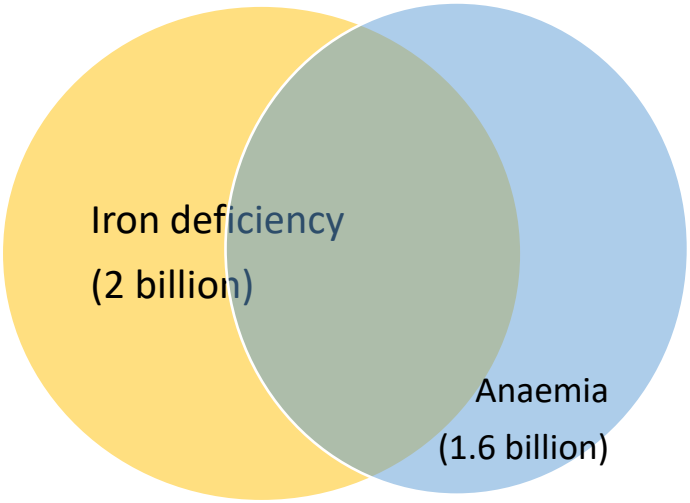
We will now learn more about two serious public health problems that reduce our body's ability to deliver oxygen required for our body to function. These problems are iron deficiency and anaemia.

4. The problem of iron deficiency and anaemia *(5 min)*

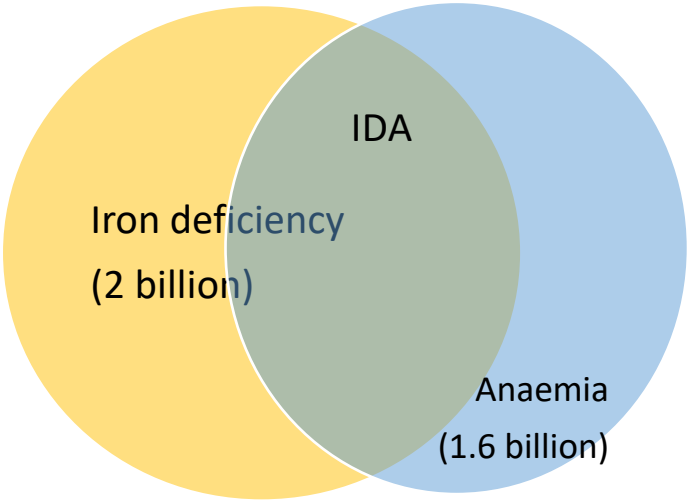
Note: This section introduces the magnitude of the problem of iron deficiency and anaemia and how they are related. It also introduces how anaemia affects the ability to get oxygen around our bodies by impacting our red blood cells and haemoglobin.

Explain:

Iron deficiency (lack of iron to meet our requirements) is one of the most common micronutrient deficiencies in the world, and the most common micronutrient deficiency among adolescents. Iron deficiency affects more than 2 billion people. Anaemia is also a worldwide public health problem. Anaemia affects roughly the same number of people (1.6 billion). Anaemia is a condition where you don't have enough healthy red blood cells or haemoglobin to carry oxygen through your body. Haemoglobin is a protein that binds to oxygen within red blood cells.



This overlap represents people who have iron deficiency anaemia or IDA, for short. [Label the overlap "IDA".] *It is estimated that up to half of anaemia is iron-deficiency anaemia.*



Iron is related to anaemia because iron is needed for haemoglobin. Iron gives haemoglobin its red colour (like rust) when it binds with oxygen. Red blood cells (with all the haemoglobin inside) carry

oxygen that they pick up from the lungs and then your heart pumps them around your body to your vital organs and tissues. You can measure and identify anaemia as having low haemoglobin in blood. Sometimes red blood cells are not healthy and have a change in size or shape of the red blood cell[9]. Anaemia is harmful as our bodies will not be able to work properly without enough oxygen.

How big is the problem of anaemia?

430 million adolescents (roughly a quarter – 24% of adolescents) have anaemia[10]. This is also roughly a quarter of all people who have anaemia.

Among adolescents, iron deficiency anaemia causes the largest burden of disease[11], particularly for adolescent girls (10-19 years) and boys (10-14 years). This means that it causes the highest loss of healthy years of life due to early death and living with disability/ill-health, which is also known as disability-adjusted life years (DALYs)).

Now that we know that anaemia is important issue, let's learn more about anaemia.

5. **Oxygen relay race** *(20 min)*

Note: This relay race shows how red blood cells transport oxygen around the body, and how anaemia limits their ability to do so. It will also highlight what happens to our different vital body parts due to lack of oxygen when we have anaemia.

Set-up: You will need two bags of beans/rice or other small objects (it could be small tightly crumpled paper balls made from scrap paper) and two cups of the same size. Set these two bags and two cups around 5-10 metres apart (or one end of the room to the other). You will need 2 large spoons of the same size (e.g. tablespoons) and 2 small spoons of the same size (e.g. teaspoons).

Facilitation:

Split the group into two teams.

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[9] One example of a change in shape is sickle cell trait and anaemia. There are also haemoglobin disorders like thalassemia that shrink the size of the haemoglobin. Iron deficiency anaemia also has smaller than normal haemoglobin.

[10] Peter S Azzopardi, Stephen J C Hearps, Kate L Francis, Elissa C Kennedy, Ali H Mokdad, Nicholas J Kassebaum, Stephen Lim, Caleb M S Irvine, Theo Vos, Alex D Brown, Surabhi Dogra, Stuart A Kinner, Natasha S Kaoma, Mariam Naguib, Nicola J Reavley, Jennifer Requejo, John S Santelli, Susan M Sawyer, Vegard Skirbekk, Marleen Temmerman, Jordan Tewhaiti-Smith, Joseph L Ward, Russell M Viner, George C Patton. **Progress in adolescent health and wellbeing: tracking 12 headline indicators for 195 countries and territories, 1990–2016**. *The Lancet*, 2019; DOI: 10.1016/S0140-6736(18)32427-9

[11] GBD 2017 Child and Adolescent Health Collaborators. Diseases, Injuries, and Risk Factors in Child and Adolescent Health, 1990 to 2017: Findings From the Global Burden of Diseases, Injuries, and Risk Factors 2017 Study. *JAMA Pediatr.* 2019;173(6):e190337. doi:10.1001/jamapediatrics.2019.0337 https://jamanetwork.com/journals/jamapediatrics/fullarticle/2732143

Explain the demonstration:

We are going to learn how red blood cells and haemoglobin works in our body with the oxygen relay race. Every person is now a red blood cell. You will need to use the spoon, which is like all your haemoglobin, to pick up some beans/rice (which is the oxygen). When your teammate comes back to the lungs, you can take the spoon and continue the relay. Each team will receive 1 large spoon to represent when you are healthy red blood cell and 1 small spoon to represent when you are an unhealthy red blood cell. Red blood cells are smaller when a person has anaemia due to iron deficiency, chronic disease or a genetic disorder like thalassemia. You will start at the lungs (which is the beans/rice bag) and pick up the oxygen. Then you will carry the oxygen to the cup, which is like the vital organs.

During the race, I will shout, "Anaemia!" The first time you will switch to the small spoon. Whoever is next in line for the relay will use the small spoon. All the following times after that, when I shout, "Anaemia!" the last person in line will need to sit out for the rest of the relay.

Your goal is to fill the cup with oxygen. I will end the game when I see that a team has filled their cup.

You can use these reflection questions for the relay race:

- *What did you learn about anaemia?*
- *What do you think happens when the body doesn't receive enough oxygen? What happens to the brain, heart, lungs, skin and muscles?*

Let the members respond and then summarise:

When organs and tissues need more oxygen (like in anaemia or even in exercise), the lungs and heart respond quickly to get more oxygen into the body. You breathe faster to take more oxygen into your lungs and your heart beats faster to pump the red blood cells with oxygen around the body. However, if there still isn't enough oxygen, then a person could start experiencing symptoms of anaemia. The lungs will have to work harder, so it is easier for a person to be short of breath. Without enough oxygen for the heart, a person may have chest pain. This is the same for other muscles – they just can't work as hard without pain. When the brain doesn't enough oxygen, a person won't be able to concentrate and learn things well. They may feel dizzy and/or tired. These are all consequences of anaemia.

6. **Evaluation and Closing** *(5 min)*

Note: Be intentional about creating a positive atmosphere and excitement for next week!

Set-up and facilitation:

Ask everyone to write down one thing that they learned about anaemia today that they found helpful for their lives. Ask if a few people would like to share their thoughts. Collect the papers as they leave to read over.

Complete the attendance list, cover any administrative details and announce when and where the next meeting will take place. Thank participants for their presence in this meeting, and be sure to say a warm goodbye to each member as they leave.

Further reading on anaemia:

http://www2.pathfinder.org/pf/pubs/focus/IN%20FOCUS/Anemia.html

Meeting #4: How can we address anaemia?

Meeting Goal:

To help IMPACT members understand the causes of anaemia and how to address it.

Learning Objectives:

After this meeting, IMPACT members will be able to…

(K) To understand the causes of anaemia and how to address it

(A) To collect and analyse data to understand what causes anaemia in their community

(V) To seek out what is contributing to anaemia in their lives as well as their families and communities (**curiosity**)

(V) To assess what they can do to increase awareness and actions to address anaemia (**judgement** and **social responsibility**)

Key Concepts:

Anaemia: a condition where you don't have enough healthy red blood cells or haemoglobin to carry oxygen through your body. The main cause of anaemia is not eating enough foods that contain iron. Anaemia is a big issue for many adolescent girls in particular because of their growing bodies and monthly menstruation[12].

Iron Deficiency: a condition where you lack enough iron in your body to function properly. You may experience tiredness, lack of concentration and strength, dizziness, headaches, irregular heartbeat and/or abnormally pale skin. Iron deficiency is a major cause of anaemia. Iron deficiency anaemia is a severe form of iron deficiency.

Heme Iron: a form of iron found in animal source foods. It is well-absorbed by our body and makes up a very small portion of the iron that we receive from our diets (even for groups that eat animal source foods regularly.)

Non-Heme Iron: a form of iron found in plant source foods. Much of iron that we receive from our diet comes in this form. It is not as easily absorbed by our body, and our body can adjust its absorption of this form of iron. For example, if we have lower iron in our bodies, we can absorb more of this iron. Vitamin C also helps our bodies to better absorb non-heme iron.

Fortification: a process of adding micronutrients into foods. This is used to help groups that are not receiving enough of particular micronutrients through their regular diet to obtain more micronutrients through foods that they eat, e.g. flours, rice, oil, salt.

Biofortification: a process of breeding crops to increase their micronutrient content, usually of a particular micronutrient, like iron. The purpose of biofortification is to grow crops that have

[12] SAVE adolescent nutrition advocacy toolkit - glossary

better nutritional value to help groups that are not receiving enough of particular micronutrients through their regular diet.

Micronutrient supplementation (or supplementation): a way to obtain extra micronutrients in pill or powdered form. This is usually used to support groups that have particularly high requirements due to their life-stage. For example, young children, menstruating women and girls, pregnant women have higher iron needs due to their life stage.

Curiosity: interest in pursuing new things to explore and discover for personal growth and learning.

Judgement: critical thinking and the ability to weigh different facts and evidence fairly and to keep an open mind before making decisions

Social responsibility: the duty to support and help others in a group or society as we are informed and able to do so for their success or benefit.

The Plan:

Activities	Non-Formal Methods	Time Needed	Materials
1. Welcome and Introduction	Presentation	5 min	
2. What causes anaemia?	Presentation	10 min	Flipchart, marker
3. Increasing iron intake	Presentation, Group work	20 min	Regional or national food composition table Iron Folic Acid tablets Iron-fortified foods, e.g. iron-fortified flour
4. Red Light, Green Light – What prevents or contributes to anaemia?	Game	20 min	Red and Green cards for every pair in the group
5. Evaluation and Closing		5 min	Attendance list
Total Time: 60 min.			

Facilitator's Notes: Ask a local health expert or AP health focal point to review the causes of anaemia diagram so as to include only causes that are relevant for your context. You may

want to adjust the "Red Light/Green Light" game or make note of what causes are most relevant for your local community as you are explaining what causes anaemia.

Description of Activities:

1. Welcome and Introduction *(5 min)*

Note: This time helps youth feel comfortable and settled down for the meeting and helps them know what to expect from the time together.

Set up and facilitation: Arrange chairs (if you have them) in a circle. As youth arrive, invite them to take a seat and talk about their past week. Enjoy this time together. Once all of the members have arrived, take a few minutes to introduce today's lesson: "We're going to talk learn how to address the problem of anaemia. We will understand what things contribute to anaemia and what things prevent anaemia."

2. What causes anaemia? *(5 min)*

Note: The causes of anaemia are quite complex. This section organizes some of the causes that communities can participate and engage in addressing (so the types that require more specific medical treatments or cannot be addressed at all, like genetic disorders, are not detailed.) The key point is that anaemia cannot be addressed by iron treatment or a single intervention. It requires some consideration of the multiple causes of anaemia. Please ask the local AP health staff to check if the causes in asterisks are applicable for your context.

Set-up: There are many causes of anaemia, so please check which ones are relevant for your context. Please check with your local AP health focal point or local health staff with the Ministry of Health for help.

Facilitation:

You could have members hold out their hand and count off the four causes as you go through them.

Explain: *There are many causes of anaemia. Let's try to learn four direct causes of anaemia.*

Causes of Anaemia:

1) **Micronutrient deficiencies (poor diet)**: one important micronutrient for anaemia is iron because it is part of red blood cells. Iron deficiency anaemia is the most common type of anaemia. When children and adolescents are growing (or when a pregnant women has a baby growing inside them), they need more of some micronutrients to support this growth. When they don't get enough of these micronutrients from their diet, they may develop micronutrient deficiencies. Having access to a nutritious and diverse diet as well as micronutrient supplementation is important to prevent anaemia.

2) **Infection and inflammation:** includes HIV, TB, diarrhoea. Even if you have enough micronutrients from your diet, there may be infections that prevent good absorption from the foods that you eat. Also being sick makes you lose appetite and you may eat less, making it easier to have micronutrient deficiencies and thus, become anaemic. Good hygiene and WASH as well as health services are important to prevent anaemia by addressing infections and diseases.
3) **Bleeding:** includes heavy menstruation, parasitic infections (hookworm, schisotosomiasis). Blood contains red blood cells. If you lose blood, it is hard sometimes for your body to make up for loss, thus you may become anaemic. Treatment for parasites and support of health services can prevent anaemia due to bleeding.
4) **Malaria**: Malaria destroys red blood cells when the parasite multiplies with a red blood cell and makes it burst. Sleeping under an insecticidal-treated bednet and managing malaria is helpful to prevent anaemia.

Note to facilitators: Genetic disorders are another direct cause of anaemia, e.g. including sickle cell anaemia and thalassemia. Genetic screening using a blood test at health facilities would be a way to identify people with such disorders and provide further support.

Ask the members to repeat the four causes of anaemia.

3.[13][14] Increasing iron intake (20 min)

Note: This is to help members understand that there is a way to increase iron absorption from plant-based foods. It also highlights that there are two forms of iron: one from plants and one from animals.

Set-up: Have a piece of tape or rope to make a line on the ground.

Facilitation:

Explain:

A healthy diet with a variety of foods can help with iron intake. Most of our iron comes from plant-source foods, and this is common even in countries where people eat meat or other animal source foods regularly[15]. Adolescents are need more iron in their diet to support their growing bodies.

Iron from plants is called non-heme iron and is not as well-absorbed as iron from animals (heme iron).

[15] Although the contribution of heme iron to total iron intake is low, recently estimated to be 4–6% in the United Kingdom, it is generally more efficiently absorbed and less influenced by iron status than is nonheme iron.

One effective way to increase non-heme iron absorption from our diets is to eat vitamin C-rich foods, like fruits and vegetables[16].

Demonstration: Show the line on the floor. Ask for two volunteers.

Share: This person is iron. The other person is vitamin C. Pretend the line on the ground is where your body would absorb nutrients. Let's have both iron and vitamin C on the left side. They are not absorbed into the body, which is on the right side.

It is hard for iron to be absorbed by itself. [Ask the person who is iron to struggle to cross over the line.]

But when there is vitamin C, iron can easily be absorbed into the body. [Ask the volunteers to link arms/hold hands and easily walk across the line.]Iron folic acid supplements and multiple micronutrient supplements with iron and folic acid provide iron on top of what is in adolescent girls' diets to help them have adequate iron for their growth and body's needs. This form of iron in the supplements are usually the same form as plants and will absorb better with Vitamin C-rich foods.

[Show the iron folic acid tablets and multiple micronutrient supplements.].]

Activity: Foods high in iron and foods high in vitamin C (15 min)

Set-up: Provide one copy of the handout, Foods high in iron and foods high in vitamin C, per small group.

Facilitation:

Provide them with the handout to identify some foods that they like to eat high in iron and high in vitamin C. Mention local, easily sourced foods like grasshoppers, rats, and frogs that can be eaten as well because of their rich iron content.

Encourage the groups to brainstorm ideas for how they might cook these animal sources of iron if they don't already eat them. Have them discuss with their group. Ask them to form small groups to share foods that they like to eat that are high in iron or high in vitamin C. Ask if they can eat these foods often or not.

[16] The key dietary enhancers of iron absorption include vitamin C (ascorbic acid), meat, poultry, fish, and alcohol (including fermented/germinated foods), and inhibitors include tannins (found in tea and coffee), calcium and dairy products, polyphenols, phytate, animal proteins (milk and eggs), and other micronutrients, e.g., zinc and copper (5, 8). In a study that examined whole diets (beyond single meal studies), vitamin C (ascorbic acid) was a significant enhancer, and it was not clear any other enhancers or inhibitors have effects beyond individual meals. This simplifies the application of how to increase iron absorption in diets as it would simply mean eating fruits and vegetables regularly with vitamin C. Avoiding inhibitors is not recommended to increase iron absorption in overall diets, so it is good to continue eating beans, eggs, milk and other dairy products or drink tea or coffee as part of a healthy diet.

4. **Red Light/Green Light Game - What prevents or contributes to anaemia?** *(10 min)*

Set-up:

Make enough green and red cards so that there is enough for every pair in the group. Clear the room or find an area so that participants can stand next to each other in a line facing you.

Use the "Things that help prevent or cause anaemia" handout for this game.

Facilitation:

Share that we will now play a game to understand what prevents and what causes anaemia.

Instruct participants to pair up and line up shoulder-to-shoulder at one end of the room, facing you. Give each pair a red and green card. They can each hold one of the cards.

You will say either something that prevents anaemia or causes anaemia. Then you ask, "Red-light or Green-light?" The pairs must immediately then decide whether the action prevents anaemia or contributes to anaemia.

- If they decide the action prevents anaemia, this is a green-light and they show the green card.
- If they decide it contributes to anaemia, this is a red-light and they show the red card.

Once everyone has put up a card, you will say if it was a Green-light or Red-light. Those who were right move forward one step. First pair to reach you on the other side of the room wins.

Alternative to game: Participants can form a single line, and line up shoulder-to-shoulder. One by one, each is given a card where they determine whether it prevents or causes anaemia. They share the card out loud and then step forward if it is prevents anaemia and backward if it causes anaemia. If they are responded incorrectly, they need to move back to their original position. Play until you complete all the factors in the handout.

After the game, write this on flipchart:

To prevent anaemia: 1. Promote healthy diets, particularly iron rich foods and vitamin C-rich fruits and vegetables (can use locally sourced vegetables and fruits from your own home or school gardens) 2. Prevent infectious diseases

3. Ensure access and use of health services
4. Ensure access and use of proper water, sanitation and hygiene for disease control
5. Promote safe and nurturing families and communities and choose friends who support good decision-making

After the group returns to their seats, summarise:

To prevent and reduce anaemia in communities, you need to consider all five areas and ask yourself if they apply to your context:

1) *Promotion of healthy diet (for prevention of overweight and obesity and related NCDs) and adequate iron intake (e.g. increasing iron in diet from plants, animal source foods; increasing vitamin C rich foods to increase iron absorption from plants; increasing fruit and vegetable intake; increasing consumption of iron-fortified foods; increasing adherence to iron/multiple micronutrient supplementation regimes); find ways to increase access to fruits and vegetables high in vitamin C by planting gardens at home and in the community*
2) *Prevention and management of malaria, hookworm (and other helminth infections), diarrhoeal diseases, other infectious diseases (e.g. TB, HIV)*
    a. *Malaria – Sleeping under long-lasting insecticidal nets (LLINs), reduce standing water, health-seeking to treat malaria (e.g. fever) and receiving malaria treatment (treatment available and accessible)*
    b. *Hookworm and other helminth infections – wearing closed shoes, adequate WASH, deworming for treatment of helminth infections*
    c. *Diarrhoeal diseases– adequate WASH, especially hand hygiene (i.e. handwashing with soap at critical times)*
    d. *Other infectious diseases (e.g. TB, HIV) – adequate WASH, up-to-date vaccinations for age, health-seeking and treatment of infectious diseases, sexual reproductive health services and utilization, physical distancing and rest for affected individuals*
3) *Access and appropriate use of health services, including sexual reproductive health services, management and treatment of infectious diseases, injuries*
4) *Access and appropriate use of water, sanitation and hygiene and waste facilities and services for disease control (including prevention of diarrhoea and other infectious diseases)*
5) *Promotion of safe and nurturing families and communities (e.g. for injury prevention and positive social and mental supports to reduce domestic and community violence)*

Reflection questions:

1. What are key barriers for adolescents to address anaemia?

Choosing Friends Who Support Good Decision Making

Friends can have powerful influence on the decisions we make in life. Choosing friends that help us make good decisions for our health and nutrition, such as eating healthy foods, can help you grow healthy, strong, and happy. We often become like the people we are friends with. Choose friends that you want to be like; friends that you admire and respect.

2. Any ideas on how to overcome these barriers? (Note: information alone is not always enough to change behaviour. It is important to look at the barriers and what can be done about them.)

In your community service-learning project, you can do a scavenger hunt to find out what prevents and what contributes to anaemia in your community.

5. Evaluation and Closing *(5 min)*

Note: Be intentional about creating a positive atmosphere and excitement for next week!

Set-up and facilitation:

Provide the anaemia scavenger hunt handout to all the participants. Go over the instructions and ask the members to go through this activity before the next meeting.

Complete the attendance list, cover any administrative details and announce when and where the next meeting will take place. Thank participants for their presence in this meeting, and be sure to say a warm goodbye to each member as they leave.

Handouts:

1. Foods high in iron and foods high in vitamin C
2. Things that help prevent or cause anaemia
3. Anaemia Scavenger Hunt

Growing New Habits Handout

My new behaviours(s) that I have selected are:

When will I do my new practice(s)? (If applicable, how frequently will I do my new practice(s)?)

How will I grow my new habits?

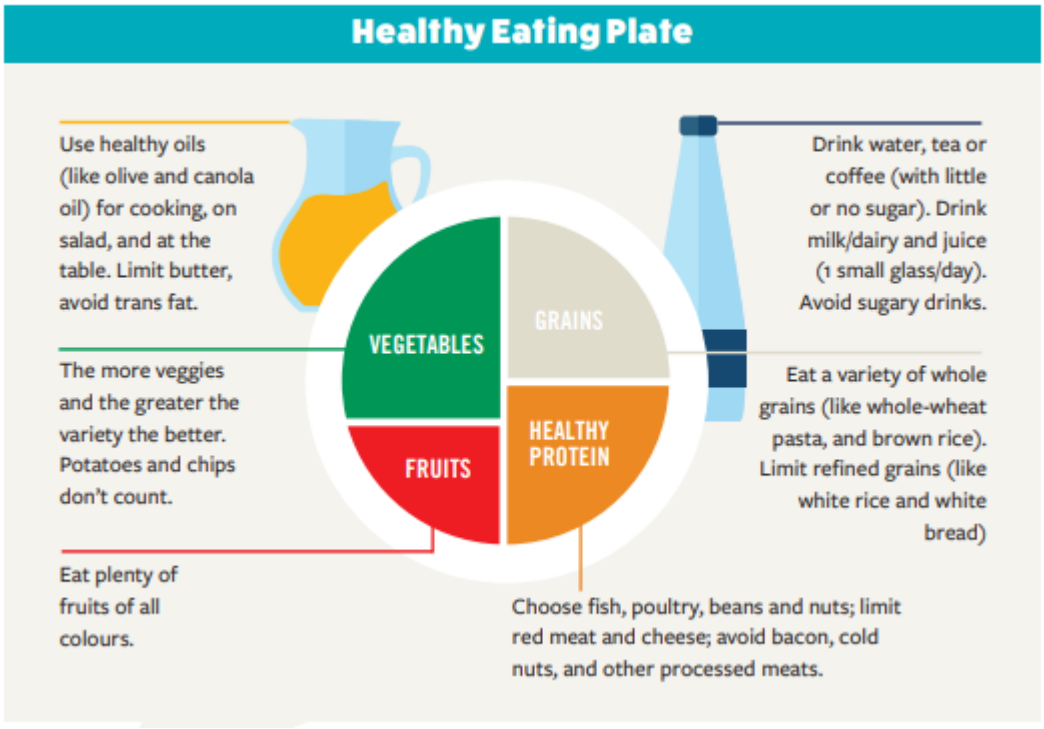
Ways that I will celebrate my achievements (even the small steps):

Ways that others can support me:

Ways that I will prepare spaces to grow my new practices:

Healthy Eating Plate

(Image taken from Youth Leaders for Nutrition Adolescent Nutrition Briefs[17])



[17] Mason, F and Jones, L. Youth Leaders for Nutrition: Adolescent Nutrition Briefs. Save the Children UK, GAIN, Anthrologica. 2019.

Foods High In Iron and Foods High in Vitamin C

Instructions: The tables below show the amount of iron and vitamin C in foods per 100 grams of food (only edible parts counted). Go through and check off foods in each group that are high in iron and/or vitamin C. Put a star beside the ones you would like to eat.

Food (English)	Vitamin C (mg)	Iron (mg)	Source*
1. Grains, Roots, and Tubers			
Cassava, boiled	13	1.4	1
Maize or Sorghum Ugali	0	1.3	7
Maize, white, whole, boiled	2	1.2	1
Maize, yellow, boiled	1	1.6	1
Millet, whole grain, boiled	0	6.4	1
Potato, boiled	11	0.8	1
Rice Flake, water soaked	0	2.0	9
Rice noodle (mee suah)	0	1.6	10
Rice noodle, fermented	0	0.1	10
Rice steamed, white	0	0.4	10
Rice, brown, boiled	0	0.7	1
Rice, white, boiled	0	1.0	1
Rice, white, fried	0	1.6	10
Rice, white, soaked	0	1.6	10
Sorghum, whole grain, boiled	0	3.6	1
Steamed sticky rice (white), grilled	0	0.1	10
sticky rice (white), steamed	0	0.3	10
Sweet Potato, boiled	15	1.7	1
Taro, boiled	3	0.9	1
Wheat noodle (waiwai), instant	0	1.6	10
Yam, boiled	5	1.0	1

Food (English)	Vitamin C (mg)	Iron (mg)	Source*
2. Legumes and Nuts			
Beans, kidney, boiled without salt	1	2.2	5
Cashewnut, raw	0	6.4	7
Chickpea, boiled without salt	1	2.9	5
Chickpea, dry	3	6.2	5
Coconut water	2	0.1	1
Coconut, mature, fresh, raw	2	2.5	1
Cowpea, Leafy tips, boiled and drained	18	1.1	5
Cowpea, seeds, black, dried, boiled	0	2.5	10
Groundnut, dried, raw	1	4.3	1
Groundnut, dried, roasted (also gnut flour)	0	4.6	6
Groundnut, fresh, boiled	0	1.9	6
Groundnut, fresh, roasted	0	3.0	6
Groundnut, seeds, dried, raw	1	2.3	1
Lentils, boiled without salt	2	3.3	5
Mung Bean, boiled without salt	1	1.4	5
Pumpkin seeds, dry	0	10.0	11
Soya bean, boiled without salt	2	5.1	5
Soya bean, dry roasted	5	5.0	5
Soya bean, roasted without salt	2	3.9	5

Food (English)	Vitamin C (mg)	Iron (mg)	Source*
3. Dairy Products (milk, yogurt, cheese)			
Breastmilk, human, mature, raw	1	0.2	1
Milk UHT, Thaidenmark brand (non-fortified)	0	0.1	10
Milk, cow, powder, whole	12	0.7	1
Milk, cow, whole, raw	2	0.1	1
Milk, goat, whole, raw	2	0.1	1
Milk, instant, Anmum brand (fortified)	22	2.6	10
Yoghurt, drinking, foremost brand	3	0.1	10
Yoghurt, wholemilk, natural	1	0.1	1

Food (English)	Vitamin C (mg)	Iron (mg)	Source*
4. Flesh Foods (Meat, fish, poultry, and liver/organ meats)			
Anchovy, fillet, grilled	2	3.8	1
Anchovy, fillet, steamed	2	2.9	1
Beef ball, blanched	1	5.0	10
Beef internal organ, barbecued	9	5.0	10
Beef liver, pan-fried	1	6.2	5
Beef, blanched	0	3.0	10
Beef, dried, grilled	0	11.8	10
Beef, dry, fried	0	11.8	10
Beef, grilled	0	4.9	10
Beef, ground, 20% fat, pan-broiled	0	3.6	5
Beef liver, grilled	18	10.1	10
Chicken, roasted	0	0.8	10
Chicken liver, boiled	14	7.3	10
Chicken, boiled	1	0.6	10
Chicken, cooked	0	1.4	6
Chicken liver, grilled	14	7.3	10
Dried small fish (*usipa*), cooked with salt	0	3.3	6
Duck, roasted	0	1.3	10
Fermented fish with bone	0	5.5	10
Fermented fish, sour, fried	0	2.1	10
Lamb, cooked	0	1.9	5
Mackerel, Pacific and jack, cooked dry heat	2	1.5	5
Mussels, boiled	0	2.9	2
Mutton/Lamb Liver	20	6.3	9
Nile tilapia, roasted	0	0.7	10
Pork sausage, grilled	2	1.2	10
Pork blood, boiled	0	25.9	10
Pork, boiled	0	1.5	10
Pork, fresh, cooked	0	1.0	5
Pork, grilled	0	2.5	10
Pork liver, grilled	19	15.5	10
Pork, shredded, Chinese style	0	17.8	10
Prawns or shrimps, cooked in moist heat	0	0.3	5
Rabbit, stewed	0	2.4	5
Short bodied mackerel fried	2	2.4	10
Short bodied mackerel, roasted	5	1.4	10

Siamese mud carp, grilled	1	0.6	10
Tilapia, cooked dry heat	0	0.7	5

Food (English)	Vitamin C (mg)	Iron (mg)	Source*
5. Eggs			
Egg, duck, whole, boiled	0	3.4	10
Egg, hardboiled	0	1.2	5
Egg, hen, whole	0	2.8	10
Egg, hen, whole, boiled	0	3.5	10
Egg, raw	0	2.4	1
Hen egg, fried	0	1.9	10
Omelet duck egg	0	3.2	10
Omelet hen egg	0	2.2	10

Food (English)	Vitamin C (mg)	Iron (mg)	Source*
6. Vitamin-A rich fruits and vegetables			
Amaranth, boiled	41	2.3	5
Bean leaves, fresh, cooked with salt	12	1.1	6
Carrot, boiled	3	0.7	1
Carrot, raw	7	0.9	1
Cassava, fresh leaves, cooked with salt	12	1.6	6
Cassava, fresh leaves, raw	370	5.6	1
Chinese cabbage blanched	33	1.6	10
Dark Green Leaves, fresh	100	4.0	2
Dark Green Leaves, fresh, cooked with salt	17	0.5	6
Green amaranth, small, blanched	41	2.3	10
Green amaranth, small, fresh	49	3.1	10
Horse tamarind, young leaves	7	3.4	10
Mango, ripe, fruit, raw	35	1.0	1
Moringa leaves, boiled	0	4.8	1
Moringa leaves, raw	0	6.1	1
Morning glory/Swamp cabbage, blanched	16	1.3	10
Morning glory/Swamp cabbage, fresh	28	3.3	10
Mustard green, blanched	14	1.1	10
Mustard green, fermented, sour	20	1.3	10
Mustard green, stem and leaves, boiled	43	1.5	10
Mustard leaves, fresh, cooked with salt	0	1.0	6
Mustard, fresh	57	2.5	10

Okra, leaves, cooked with salt	11	0.3	6
Papaya (paw paw), fruit, ripe, raw	59	0.7	1
Pumpkin, boiled	5	0.2	6
Pumpkin, fresh leaves, boiled	11	0.5	6
Pumpkin, mature, fresh	15	0.7	10
Pumpkin, raw	15	0.8	2
Squash, raw	1	0.3	2
Squash, winter, all varieties, cooked without salt	10	0.4	5
Tamarind, young leaf, fresh	32	1.5	10
Taro, leaves, cooked without salt	36	1.2	5
Taro, young leaves, raw	52	2.0	1
Wildbetal Leafbush	17	4.2	10

Food (English)	Vitamin C (mg)	Iron (mg)	Source*
7. Other Fruits and Vegetables			
Apple, prink, fresh	2	0.2	10
Avocado, raw	16	1.1	1
Banana, flowers, fresh	10	1.1	10
Banana, ripe, raw	10	1.0	1
Banana, ripe, yellow	12	0.4	10
Banana, ripe, yellow, boiled	10	0.4	10
Bean sprouts, fresh	23	1.4	10
Cabbage, blanched	32	1.0	10
Cabbage, boiled	21	0.4	1
Cabbage, common, fresh	32	1.0	10
Cabbage, raw	54	0.6	1
Cauliflower, boiled	47	0.8	9
Chayote, boiled	10	0.4	10
Chayote, fruit, fresh	10	0.4	10
Chili pepper, hot, red, fresh	142	1.2	10
Cilantro	27	1.8	2
Coriander, fresh	34	2.6	10
Cucumber, fresh	12	0.4	10
Cucumber	0	0.5	1
Dill, fresh	40	2.3	10
Eggplant, boiled without salt	1	0.3	5
Eggplant, raw	6	0.9	1
Eggplant/brinjal, green, fresh	8	0.9	10
Fennel common leaves, fresh	23	2.3	10

Fig, raw	15	6.0	1
Garlic, fresh	10	0.7	10
Garlic, raw	18	1.5	1
Ginger, raw	5	1.1	9
Guava, fruit, raw	281	1.4	1
Hairy basil, fresh	18	2.1	10
Jackfruit, raw	9	0.6	2
Lemon grass, fresh	1	2.0	10
Lemon, fruit, raw	46	0.6	1
Lemon, juice	53	0.6	4
Light/Pale Green Leaves, fresh	40	0.5	2
Mango, unripened, fruit, raw	86	1.4	1
Mint, leaf	84	4.1	10
Okra, fresh, boiled	5	0.8	6
Okra, fresh, raw	29	0.9	1
Onion	8	0.7	10
onion, cooked	5	0.2	5
Onion, raw	7	0.5	1
Orange, raw	47	0.1	1
Orange, sweet, fresh	65	0.4	10
Pak kha yeng, raw	5	5.2	10
Passion Fruit	17	1.2	3
Pineapple, raw	31	0.5	1
Pomelo (grapefruit), raw	44	0.6	4
Radish, boiled	9	0.5	9
Radish, raw	17	0.4	9
Rumbutam, fresh	43	0.7	10
Shallot, bulb	9	0.9	10
Spring onion, fresh	42	2.3	10
Tamarind, fruit, raw	10	0.7	1
Tiliacora triandra diels	141	7.0	10
Tomato, fresh	29	0.9	10
Tomato, raw	29	0.9	1
Tomato, red, ripe, cooked	23	0.7	5
Watermelon, fruit, raw	7	0.2	1
Yard long bean, green, fresh	20	0.8	10

Food (English)	Vitamin C (mg)	Iron (mg)	Source*
8. Fats and Oils			
Butter, cow's milk	0	0.2	1

Coconut oil	0	1.5	1
Ghee, cow	0	0.2	9
Groundnut oil	0	0.0	1
Mustard oil	0	0.0	9
Palm oil	0	0.4	1
Vegetable oil	0	0.0	4

Food (English)	Vitamin C (mg)	Iron (mg)	Source*
10. Additional Foods			
Banana Porridge	9	0.4	7
Cassava Stiff Porridge	7	1.2	7
Coconut juice, fresh	5	0.1	10
Coconut milk	2	0.6	10
Deep fried banana with powder	8	0.4	10
Maize Porridge (with oil)	1	5.6	7
Maize Porridge (with oil)	1	5.6	7
Porridge, white rice, boiled	0	0.1	10
Soy milk, Lactasoy brand	0	0.4	10
Mushrooms, portabella, grilled	0	0.4	5
Bamboo shoots, cooked, boiled, without salt	0	0.2	5
Bamboo shoots, cooked, boiled, with salt	0	0.2	5
Frog legs, raw	0	1.5	5
Beans, yellow, cooked, boiled without salt	2	2.5	5
Mongogo Nut, Bok Nut	0	3.7	
Snail, pond, river	0	8.7	11
Caterpillar, fresh	0	0.5	11
Caterpillar, green, Dried Raw	0	75.1	11
Caterpillar, boiled	0	17.5	11
Cricket	0	9.5	11

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Things that help prevent or cause anaemia

Things that help prevent anaemia	Things that help cause anaemia
When we have low iron status, our body absorbs more iron from foods from plants (non-heme iron).	Having diarrhoea or blood in stools
Eating vitamin C-rich fruits and vegetables in your regular diet	Eating mainly staple foods (e.g. grains or other starchy vegetables, like potatoes, bananas) regularly
Avoiding and preventing injury (especially internal bleeding and blood loss)	Missing/skipping meals (may be related to food insecurity)
Using and eating iron-fortified flour or other iron-fortified products in your regular diet	Eating unhealthy, processed foods often (especially substituting for healthy, nutritious foods)
Taking iron-folic acid supplementation (for menstruating girls and women)	Eating soil[18]
Eating animal source foods in your regular diet	Low consumption of fruits and vegetables regularly
Good water, sanitation and hygiene behaviours and environment	Low consumption of iron-rich foods from plants and animals
Adequate management, treatment and control of infectious diseases	Having malaria, TB or HIV
Sleeping under long-lasting insecticidal nets (LLINs)	Having hookworm or schistosomiasis
Taking iron-folic acid supplements during pregnancy	Heavy menstruation

[18] A form of pica (eating non-food items) called geophagia. It is practiced particularly among pregnant women in Sub-Saharan Africa.

Able to access services and goods for sexual reproductive health needs to prevent pregnancy and transmission of HIV and other sexually transmitted diseases	Pregnancy, childbirth and lactation
	Poverty and inequality (low socioeconomic status)
	Rapid growth and development in the body
	Poor water and sanitation and hygiene behaviours and environment
	Frequent infections (e.g. lower iron intake through lower absorption by the body and/or lower consumption during illness)

Anaemia Scavenger Hunt

You can go out into your community this week to discover what prevents anaemia in your community and what contributes to anaemia in your community. You can do a transect walk in the community and see what you can observe and find that will help prevent anaemia. Or you could observe your household. Hopefully, you will find some iron-rich foods that you didn't notice before (like dark green leaves, legumes and nuts, animal source foods). You may also observe that people wear shoes and use tippy-taps to wash their hands.

You can record your observations in a table like this:

Factors related to:	Things that prevent anaemia	Things that contribute to anaemia
Food	People eat beans People eat fruits like mangoes and guava People eat animal source foods like fish	People do not eat meat very much No iron-fortified foods in the community Most people eat a lot of staple foods (e.g. maize, rice, potatoes)
Health	Young infants/children sleep under bed nets People wear shoes People have tippy-taps People can walk and reach health care centre easily (20 min walk)	People openly defecate People do not wash hands with soap Malaria is common Diarrhoea happens frequently among young children
Care	Grandmothers support the care of young children	Domestic violence is common Some youth need to work in unsafe work areas (e.g. factory work)

When you have recorded your observations, try to think of one way you can promote something that prevents anaemia and one way you can stop or discourage something that contributes to anaemia.

One thing I can promote in my community is:

_____

_____

One thing I can stop or discourage in my community is:

_____

_____

Annex

Toda Rapariga é Capaz
Melhoria do Estado Nutricional

World Vision

DEMOSTRATION KITCHEN MENU

Every Girl Can Improve Nutrition

Monapo District

MENU

1. Butter Bean Soup
2. Moringa-enriched porridge
3. Pumpkin porridge
4. Okra, Enheue leaf (Amarathus) and moringa leaf
5. Green Banana Numino
6. Pumpkin and coconut jam
7. Ripe banana jam with coconut
8. Cassava leaf with coconut milk and crushed peanuts
9. Fried cassava with eggs
10. Cafrial chicken braised with onion
11. Green banana stew
12. Butter Bean Stew
13. Flour Xima
14. Rice with onion

HEALTHY RECIPES

1. Butter bean soup

Ingredients

- Butter Beans
- Enheue (Amaranthus) Leaf
- Ripe tomato
- 2 Onions
- Vegetable Oil
- Sufficient water
- Salt to taste

How to prepare

1. Sort the beans, wash them thoroughly, and cook them in a pot of water. Once cooked, allow them to cool.

2. Wash the mortar thoroughly and place the cooked beans in it to grind them well, or crush the beans with clean hands.

3. Add water to the crushed beans, strain the mixture to remove the skins, and store in a pot.

4. In another pot, add the oil and sauté the onion, garlic, and chopped tomatoes. Then add the bean broth, adding enough water. Let it boil for 15 minutes.

5. Add the Enheue leaves and let it boil for another 10 minutes.

2. Moringa-enriched porridge

Ingredients

• Corn flour porridge
• 1 teaspoon of moringa powder
• 1 spoon of sugar

How to prepare

1. Prepare the corn flour porridge
2. After taking the pan off the heat, mix the ingredients (moringa and sugar) with the still hot porridge.
3. Leave to cool and serve.

3. Pumpkin porridge

Ingredients

• Flour porridge with oil
• Pumpkin peeled and cut into pieces

How to prepare

1. In a pan, put boiling water.
2. Add the pumpkin pieces and leave to cook until cooked.
3. Once cooked, remove the pumpkin and mash it with a fork until you get a puree.
4. Prepare the cereal flour porridge, using the pumpkin cooking water to prepare the porridge.
5. Mix the pumpkin puree with the flour porridge while still hot.
    - You can replace the pumpkin with boiled and mashed carrots or papaya or peeled and mashed mango or peeled and mashed banana, or boiled and mashed eggs

4. Okra, Enheue leaf (Amaranthus) and moringa leaf

Ingredients

• 1 cup of okra
• 1 cup of moringa leaves
• 1 cup of enheue leaves
• 1 medium onion
• 1 tomato
• Salt

How to prepare

1. Boil the water and add the cut vegetables (okra and Nheue leaves)
2. Add the onion, tomato. Let it boil for 10 minutes
3. Add the moringa and let it boil for 1 minute
4. Serve with rice or chima flour of your choice.

5. Green Banana Numino

Ingredients

- Babana Verde
- Pounded peanuts
- Onion
- Tomato

How to prepare

1. Peel the banana and cut into slices
2. Pour water into a pan and add the crushed peanuts, bring the peanut milk to a boil
3. When it is cooked, add the banana
4. Add the chopped tomato and onion, salt to taste and cook until the broth becomes more consistent and the banana is cooked.

6. Pumpkin and coconut jam

Ingredients

- 1/2 pumpkin
- ½ cup of coconut milk
- Sugar to taste

How to prepare

1. Peel the pumpkin and scrape the inside to remove the seeds.
2. Cut the pumpkin into small pieces and wash with clean water,
3. Then place the pumpkin in the pan and add enough water to cook.
4. Crush the pumpkin until pure
5. Add the coconut milk and sugar and mix very well
6. Cook for another 5 minutes
7. Remove from heat, add the moringa leaves and serve immediately.

7. Ripe banana jam with coconut

Ingredients

- 6 ripe bananas
- 1 cup of crushed peanuts
- Milk from 1 grated coconut
- Sugar to taste

How to prepare

1. Peel the banana, wash and heat to cook in a pan with little water.
2. Add the medoim and coconut

3. Bring to a boil and ensure the ingredients are cooked. Leave to cool and serve.

8. Cassava leaf with coconut milk and crushed peanuts

Ingredients

- 2 bunches of cassava leaves
- 2 cups of water
- 8 cloves of garlic
- 1 onion
- 2 tomatoes
- 1 cup of crushed peanuts
- 2 cups of coconut milk
- Salt to taste

How to prepare

1. Wash the cassava leaves well and place them in a clean mortar with the garlic, until it is very fine.
2. Place the crushed leaf in a pan with water and cook for 25 minutes.
3. Add the onion, tomato, coconut milk and crushed peanuts.
4. Leave to cook for 30 minutes, serve with rice or Xima.

9. Fried cassava with eggs

Ingredients

- Cassava
- Onion
- Pepper
- Oil
- Eggs
- Garlic
- Salt
- Water

How to prepare

1. Peel the cassava and cut into small pieces
2. Wash very well with clean water
3. Place the cassava in a pan to boil with water for 15-20 minutes
4.In another pan, add oil, onion, garlic and eggs and mix very well.
5. Add the cooked cassava and mix very well until the ingredients start to fry.

10. Cafrial chicken braised with onion

Ingredients

- Cafrial chicken
- Water
- Onion
- Garlic
- Oil
- Salt

How to prepare

1. Kill the chicken, pluck it and smoke it with grass
2. Remove offal and wash very well
3. Cut into medium pieces
4. In the pan, add the oil, onion, garlic and pepper, let it brown.
5. Add the chicken pieces, stir to mix
6. Add water to cook the meat
7. Serve with rice or xima

11. Green banana stew

Ingredients

- Peeled green bananas
- 2 spoons of oil
- Garlic (optional)
- 2 tomatoes cut into pieces
- Pepper (optional)
- Moringa leaves
- Water

How to prepare

1. Heat the oil and sauté the onion and garlic until golden.
2. Add the tomato and pepper and cook for 2 minutes.
3. Add salt, add banana and some water
4. Let the banana cook over low heat until all the water evaporates and the bananas are cooked.
5. You can serve it immediately or mash the banana if you want.

12. Stewed butter beans

Ingredients

- Butter Beans

• Onion
• Tomato
• Garlic
• Oil
• Water
• Salt

How to prepare

1. Choose the feijoa butter
2. Wash very well with clean water
3. Bring to a boil until cooked
4.In another pan, sauté the oil, onion, tomato, garlic and pepper. Mix very well.
5. After the beans are cooked, add them to the pan with the other ingredients and let them boil for 10 to 15 minutes.
6. You can serve it with rice or xima.

13. Cornmeal Xima

Ingredients:

• Corn/cassava/sorghum or millet flour
• Water

How to prepare

1. In the pan, add boiling water until it is lukewarm.
2. Then gradually add the flour and mix until the mixture is homogeneous.
3. After the porridge cooks, add the flour and continue stirring until it reaches the point, forming a homogeneous paste.

14. Rice with onion

Ingredients:

Rice
Onion
Oil
Water
Salt

How to prepare

1. Place oil, onion and salt in a pan.
2. Let the onion brown.
3. Add water. After the water boils, add the rice and cook until ideal.

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