

Nigeria: Complementary Feeding and Food Demonstration Training

Complementary Feeding Manual



About SPRING

The Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project is a five-year USAID-funded cooperative agreement to strengthen global and country efforts to scale up high-impact nutrition practices and policies and improve maternal and child nutrition outcomes. The project is managed by JSI Research & Training Institute, Inc., with partners Helen Keller International, The Manoff Group, Save the Children, and the International Food Policy Research Institute.

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Acronyms

EED	environmental enteric dysfunction
TOT	training-of-trainer
UNICEF	United Nations Children's Fund
WINNN	Working to Improve Nutrition in Northern Nigeria
WHO	World Health Organization

Introduction to This Manual and the Complementary Feeding Training Package

This *Complementary Feeding Manual* is the second component in a training package on food demonstrations for complementary feeding that includes—

- *Nigeria: Food Demonstration Training Facilitator's Guide*
- *Nigeria: Complementary Feeding Manual*
- *Nigeria: Food Demonstration Manual*
- *Nigeria: Complementary Food Demonstration Training Handouts*
- *Nigeria: Complementary Food Demonstration PowerPoint Slides*
- *Nigeria: Food Demonstration Recipe Cards.*

It should be used to train health care providers and community-based service providers at various levels (training-of-trainers, training of community volunteers, etc.) alongside the following documents:

- *Food Demonstration Manual*
- *Food Demonstration Recipe Cards.*

The resource persons/ facilitators and participants will have copies of the manual to provide basic information and guide discussions during the training. Resource persons will refer participants to relevant sections of the recipe cards as the training goes on. Participants will be encouraged to facilitate different sections of the manual after the trainer has presented the first two or three sections.

All materials related to the *Nigeria Complementary Feeding Training Package* may be found on the SPRING website: <https://www.spring-nutrition.org/countries/nigeria>.

Note: For guidance on how to roll out a complementary feeding training, please see the *WINNN Complementary Feeding Training Strategy*. For more information, contact Dr. Liman Mohammed, National Programme Manager-WINNN at mohammed.liman@savethechildren.org.

Section 1: Complementary Feeding

Complementary feeding means giving food in addition to breastmilk. Complementary feeding should begin when an infant is 6 months old because breastmilk alone is no longer sufficient to meet his or her nutritional needs and, therefore, other foods and liquids should be given along with breastmilk.

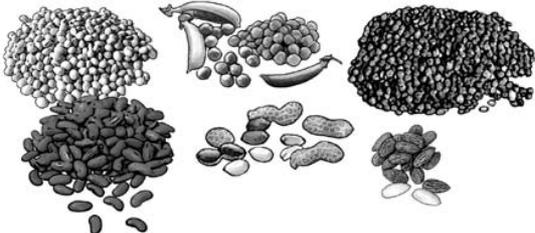
Meals served during the complementary feeding period are made from locally available, affordable, nutritious foods. Introducing soft, semi-solid food a little at a time allows the infant to get accustomed to the flavour and texture of the food. The infant is fed frequently every day and, as he or she grows, the portion size increases.

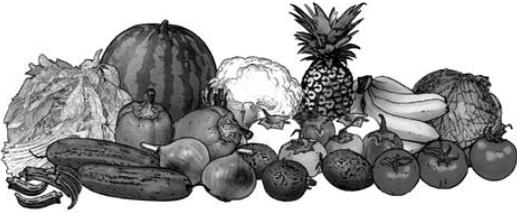
Energy Needs in Children

- **From 0 up to 6 months:** Breastmilk supplies all the energy needs of a child.
- **From 6 up to 12 months:** Breastmilk continues to supply about half of a child's energy needs; the other half must be met with complementary foods.
- **From 12 up to 24 months:** Breastmilk continues to supply about one-third (1/3) of the energy needs of a child; the missing energy needs must be filled with complementary foods.

Besides nutrition, breastfeeding continues to provide protection to the child against many illnesses, and provides closeness, comfort, and contact that helps development.

Different Types of Locally Available Foods

<p>Staples: Grains, such as maize, wheat, rice, millet, and sorghum; roots and tubers, such as cassava and potatoes.</p>	
<p>Legumes, such as beans, lentils, and peas; and groundnuts and seeds, such as sesame and benniseed.</p>	
<p>Vitamin A-rich fruits and vegetables, such as mango, pawpaw, passion fruit, oranges, dark-green leaves, carrots, orange-flesh sweet potato, and pumpkin; and other fruits and vegetables, such as banana, pineapple, avocado, watermelon, tomatoes, eggplant, garden egg, and cabbage.</p>	

Different Types of Locally Available Foods	
	
<p>Animal-source foods, including flesh foods, such as meat, chicken, fish, liver, cheese, and eggs; and milk and milk products.</p> <p><i>Note: Animal source foods should be started at age 6 months.</i></p>	
<p>Oil and fat, such as oil seeds, margarine, and butter added to vegetables and other foods will improve the absorption of some vitamins and provide extra energy. Infants only need a very small amount (no more than half a teaspoon per day).</p>	

Note:

- Iron is important for the baby's development. The iron stores present at birth are gradually used up over the first six months. There is little iron in breastmilk (although it is easily absorbed). After six months, the baby's iron needs must be met by the food he or she eats. Good sources of iron are animal foods, such as liver, lean meats, and fish. Some vegetarian foods, such as legumes, have iron as well. Plant sources, such as beans, peas, lentils, and spinach are also a source of iron. Eating foods rich in vitamin C with/or soon after a meal, increases the absorption of iron. Drinking tea and coffee with a meal reduces the absorption of iron.
- Use iodised salt in preparing family foods to ensure iodine is present. Otherwise, do not add salt to the baby's meals so he or she can get used to the natural flavour of the food.
- Flavour enhancers, including stock cubes, are not recommended in complementary foods. Even though they are commonly used in the household, they do not have any nutritional value and they add ingredients that are unhealthy and can increase the risk of diseases in the long term. In addition, an essential part in the introduction to new foods is for the infant to learn and accept new flavours, those naturally found in the food, which would be otherwise masked by artificial flavours.

Nutrition in Children 0–6 months

It is recommended that infants be breastfed within 30 minutes of birth and exclusively breastfed for the next six months without water, juice, or food. Breastmilk provides the infant with all his or her nutritional requirements for growth and development.

Nutrition in Children 6–24 months

Exclusive breastfeeding will no longer be sufficient to meet all the nutritional requirements of an infant over 6 months; timely, adequate complementary food should be introduced to the child.

Complementary feeding, with breastmilk, is recommended for children between 6–24 months. It is characterized by the soft or semi-soft consistency of food, the number of times a child is fed, and the quantity of food, as well as by the person who feeds the child.

Complementary food should be prepared in hygienic conditions in order not to contaminate the food, which could lead to the child becoming sick.

The meal consists of one or two locally sourced nutritious ingredients, such as nutritious thick pap and porridge, or pureed basic food, fruits, and vegetables. Breastmilk is fed first to the baby before a meal is offered.

Considerations for Complementary Feeding: AFATVAH

A=Age of infant/young child

F=Frequency of feeding

A=Amount of foods

T=Texture (thickness/consistency)

V=Variety of foods

A=Active or responsive feeding

H=Hygiene.

Recommended Complementary Feeding Practices

Age	Recommendations			
	Frequency (per day)	Amount of food an average child will usually eat at each meal (in addition to breastmilk)	Texture (thickness/consistency)	Variety
Start complementary foods after baby reaches 6 months 	2 to 3 meals, plus frequent breastfeeds	Start with 2 to 3 tablespoons Start with 'tastes' and gradually increase amount	Thick porridge/pap or mashed/pureed fruits/vegetables	Breastmilk (Breastfeed as often as the child wants) PLUS Staples (maize millet, sorghum pap/porridge, agidi, or other local examples) PLUS Legumes (roasted groundnuts paste or other local examples)
From 6 months to 9 months 	2 to 3 meals plus frequent breastfeeds 1 to 2 snacks can be offered	2 to 3 tablespoons per feed Increase gradually to half (½) of a 250 ml cup/bowl	Thick porridge/pap Mashed/pureed family foods and fruits/vegetables	Legumes (soft boiled beans, moi-moi, or other local examples) PLUS Legumes (roasted groundnuts paste or other local examples)
From 9 months to 12 months 	3 to 4 meals plus breastfeeds 1 to 2 snacks can be offered	Half (½) of a 250 ml cup/bowl	Finely chopped family foods and fruits/vegetables Finger foods, including fruits/vegetables Sliced foods	Legumes (soft boiled beans, moi-moi, or other local examples) PLUS Fruits (banana, mango, oranges)/vegetables (ugu leaves, green leaves, okro, ewedu, or other local examples)
From 12 months to 24 months 	3 to 4 meals plus breastfeeds 1 to 2 snacks can be offered	Three-quarters (¾) to one 250 ml cup/bowl	Sliced foods Family foods	Legumes (soft boiled beans, moi-moi, or other local examples) PLUS Fruits (banana, mango, oranges)/vegetables (ugu leaves, green leaves, okro, ewedu, or other local examples)
Note: If child is less than 24 months and not breastfed	Add 1 to 2 extra meals 1 to 2 snacks can be offered PLUS 1 to 2 cups of milk per day PLUS 2 to 3 cups of extra fluid, especially in hot climates	Same as above, according to age group	Same as above, according to age group	Same as above

<p>Active/responsive feeding (alert and responsive to your baby's signs that she or he is ready to eat; actively encourage, but do not force your baby to eat)</p>	<ul style="list-style-type: none"> • Be patient and actively encourage your baby to eat more food. • If your young child refuses to eat, encourage him/her repeatedly; try holding the child in your lap during feeding, or face him/her while he or she is sitting on someone else's lap. • Offer new foods several times, children may not like (or accept) new foods in the first few tries. • Feeding times are periods of learning and love. Interact and minimize distraction during feeding. • Do not force-feed. • Help your older child feed him- or herself.
<p>Hygiene</p>	<ul style="list-style-type: none"> • Feed your baby using a clean cup/bowl and spoon; never use a bottle because it is difficult to clean and may cause your baby to get diarrhoea. • Wash your hands with soap and water before preparing food, before eating, and before feeding young children. • Wash your child's hands and face with soap before and after he or she eats.

Nigeria Federal Ministry of Health. 2012. *The Community Infant and Young Child Feeding Counselling Package: Facilitator Guide 2012*. Adapted from World Health Organization (WHO)/UNICEF. *Infant and Young Child Feeding Counselling: An Integrated Course*. WHO/UNICEF: 2006.

Section 2: Water

Water is essential to sustain life, and a satisfactory (adequate, safe, and accessible) supply must be available. Improving access to safe drinking water can result in tangible benefits to health and nutrition. It is important to ensure that there is an adequate supply of water in a household for drinking, personal hygiene, cleaning, and gardening. In one day, at least 20–40 liters of water are required for drinking, personal hygiene, and cleaning. Water can come from a variety of sources. Some water sources are considered safe for drinking, while other water sources are considered unsafe for drinking. To be certain that drinking water is safe, it is recommended that all household drinking water be disinfected after the water is transported to the household and before it is consumed. This section will detail several different methods for making water safe for drinking.

Safe drinking water is water free from biological, physical, and chemical contaminants.¹ Safe drinking water should also meet certain standards of acceptability, meaning the taste, odor, and appearance of the water should appeal to consumers (who use the water).¹

Safe drinking water, as defined by the World Health Organization (WHO) guidelines, “does not represent any significant risk to health over a lifetime of consumption, including different sensitivities that may occur between life stages.”¹ Everyone is at risk of waterborne illness, which means that everyone needs to take steps to protect themselves against exposure to any waterborne pathogens, such as boiling their drinking water. Safe drinking water is especially important for infants, children, the disabled or ill, and the elderly. Only water used for drinking and food preparation must be disinfected prior to use.

Household Water Disinfection

Ways of making water clean and safe for drinking include—

- **Filtration** using a certified ceramic, sand, or membrane filter.
- **Boiling** is the simplest method. For boiling to work, water must be brought to a rolling, bubbling boil. Water that is simply steaming has not been boiled and is not safe.
- **Treatment with chlorine:** A host of chlorine-based products are available for water treatment. Common chlorine products include aqua tabs (available on the local market) and PUR packets. When using chlorine products, it is important to follow the product instructions to ensure the water-to-chlorine ratio is correct.
- **Solar disinfection:** Placing water in a small, clear container and placing it in direct sunlight for eight hours makes water safe for drinking. Ultraviolet (UV) light from the sun kills the bacteria. For this method to work, the water cannot contain much sediment—it must be almost clear.

Water collection and storage: Even if a water source (borehole, well, etc.) is a safe water source, water is often recontaminated during collection, transportation, and storage. People’s hands, insects, animals, and dirty collection or storage containers can recontaminate water after it has been collected, making it unsafe for drinking. People need vessels to collect water, to store it, and to use to wash, cook, and bathe. These vessels should be clean and easy to carry, and be appropriate to local needs and habits, in terms of size, shape, and design.

Children, disabled people, older people, and people living with HIV and AIDS may need smaller or specially designed water carrying containers. The amount of storage capacity required depends on the size of the

¹ World Health Organization (WHO). 2011. *Guidelines for Drinking-Water Quality*. Fourth Edition. Geneva: WHO. http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/

household and the consistency of water availability (e.g., approximately 4 litres per person per day would be appropriate for situations where there is a constant daily supply). Promotion and monitoring of safe collection, storage, and drawing provide an opportunity to discuss water contamination issues with vulnerable groups, especially women and children.

Important note for providing water storage:

1. Each household should have at least two clean water collecting containers of 10–20 litres each, plus enough clean water storage containers to ensure there is always water in the household.
2. Water collection and storage containers should have narrow necks and/or covers, or other safe means of storing, drawing, and handling. Narrow neck designs or capped containers ensure that people's hands do not enter the water container and recontaminate the water in the container.

Waterborne Diseases

Diarrhoea: Is caused by a variety of micro-organisms, including viruses, bacteria, and protozoans. Diarrhoea causes a person to lose both water and electrolytes, which leads to dehydration and, in some cases, to death. Ingestion of food or water contaminated with faeces is the main cause of childhood diarrhoeal diseases.

About 4 billion cases of diarrhoea per year cause 1.8 million deaths, over 90 percent of them (1.6 million) among children under 5. Repeated episodes of diarrhoeal disease makes children more vulnerable to other diseases and to malnutrition. Diarrhoea is the most important public health problem directly related to water and sanitation. The simple act of washing hands with soap and water can cut diarrhoeal disease by one-third. Next to providing adequate sanitation facilities, it is the key to preventing waterborne diseases.

Arsenicosis: Long-term exposure to low concentrations of arsenic in drinking water causes painful skin keratosis (hardened lesions) and can result in cancers of the skin, lungs, bladder, and kidney. Millions of people are potentially in danger from arsenic poisoning because they rely on water supplies that are contaminated with arsenic (mainly from natural sources) and do not have a safe water alternative, or they are unaware of the risks.

Cholera: This is an acute bacterial infection of the intestinal tract. It causes severe attacks of diarrhoea that, without treatment, can quickly lead to acute dehydration and death. Cholera can be prevented by having access to safe drinking water, sanitation, and good hygiene behaviour (including food hygiene).

Guinea-worm disease: People contract the disease (also known as dracunculiasis) when drinking water contaminated with the *Dracunculus* larvae. The larvae mature into large (up to a meter long) adult Guinea worms and leave the body after about one year, causing debilitating ulcers.

Intestinal worms: People become infected with intestinal parasitic worms (also known as helminths) through contact with soil contaminated with human faeces from an infected person, or by eating contaminated food. Children are particularly susceptible and typically have the largest number of worms.

Typhoid fever: Is a bacterial infection caused by ingesting contaminated food or water. Symptoms are characterized by headaches, nausea, and loss of appetite.

Summary

- Clean and safe water is essential for healthy life and development.
- After collecting water, the water should be made safe at home by boiling, filtering, or treating with chlorine (e.g., aqua tab).
- Impure water can cause diseases, such as diarrhoea and cholera and can also lead to death. Although water may look clean, it is often dirty. To ensure the water is safe for drinking, one of the methods above should always be used for drinking and cooking water.

Section 3: Sanitation and Hygiene

Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and faeces. Inadequate sanitation is a major cause of disease worldwide, and improving sanitation is known to have a significant beneficial impact on health. The word 'sanitation' also refers to the maintenance of hygienic conditions through services, such as garbage collection and wastewater disposal.

Sanitation and Diseases

Diseases, such as cholera, diarrhoea, worms, and typhoid fever are caused by germs present in faeces.

Germs are spread in different ways:

1. Person-to-person through hands, dust, food, water, and flies.
2. Stool that gets into water and is used for drinking, washing, cleaning, and bathing.

Stools passed by a person contains millions of disease-causing organisms.

We can protect ourselves from illnesses and deadly diseases by following simple hygiene and sanitation rules that will ensure a healthy and friendly environment.

Environmental enteric dysfunction: Mounting evidence suggests that poor water and sanitation conditions, including contaminated water, can contribute to undernutrition and stunting through three main pathways; diarrhoea (described above), intestinal worm infections (described above), and environmental enteric dysfunction (EED).² EED is chronic damage to the intestinal lining caused by continuous consumption of high bacteria loads. When a person's intestines are exposed to high concentrations of bacteria, the intestines become inflamed and the body's immune system spends extra nutrients trying to fight off infection, instead of spending that energy on growth and development; this ultimately contributes to undernutrition.

Good Hygiene and Sanitation Practices

To ensure a healthy lifestyle, regulations are put in place to make the community safe.

Good hygiene practices:

1. Maintain a clean environment in the home that is free of soil and animal faeces by sweeping, cleaning, and mopping.
2. Keep infants and children away from soil. Keep them out of reach of animal faeces, soil, or contaminated items that they may want to place in their mouth.
3. Dispose of refuse in a dustbin.
4. Burn and bury refuse.
5. Always disinfect your rooms and toilet.
6. Keep food covered at all times.
7. Wash your hands with soap or ash before and after eating.
8. Keep latrines clean and covered at all times.
9. Do not pass a stool in a river, stream, or open space, or within 30 metres of one.

² UNICEF, USAID & WHO (2015). *Improving Nutrition Outcomes with Better Water Sanitation & Hygiene: Practical Solutions for Policies and Programmes*. http://apps.who.int/iris/bitstream/10665/193991/1/9789241565103_eng.pdf

10. Where there is no toilet, dig and bury the stool to prevent flies and contamination.
11. Wash your hands with soap or ash after going to the toilet.
12. Wash spoons, plates, and other utensils with soap, and cover in a clean rack.
13. Avoid spitting around your room and surrounding areas.
14. Take anyone with diarrhoea or cholera to a health clinic or hospital immediately.
15. Wash fruits and vegetables with disinfected water before eating.

Safe Disposal of Faeces

Faeces are a major source of contamination of water sources, households, and communities due to pathogenic organisms. Children's faeces are just as harmful as adult faeces. If a child is sick, their faeces may be even more contaminated than normal child or adult faeces. Hence, children's faeces should be disposed safely and handled with great caution and separated from the household materials.

Safe disposal of faecal matter refers to a caregiver assisting a child in using the toilet or rinsing their faeces into a toilet or latrine. Unsafe disposal of faecal matter, such as rinsing baby's bottom on the ground at home and open defecation, puts a community or household at risk. Flies are attracted to faeces. This helps to breed and spread the pathogenic organisms onto food. Therefore, it is vital to ensure hygienic/safe disposal of faecal matter. After disposing of infant or child faeces, a person should wash their hands with soap.

Tips on Hygiene

1. Wash hands with soap or ash before cooking, feeding, after going to the toilet, or after cleaning a baby's bottom.
2. Cover foods before and after preparation to avoid contamination.
3. Avoid rats, cockroaches, and other insects.
4. Wash all utensils immediately after use to reduce the possibility of attracting rodents and insects.

Summary

1. Sanitation and hygiene involve keeping our body, houses, and surroundings clean and free from disease-causing materials and organisms.
2. Sanitation and hygiene is essential for a healthy life and development for every person, society, and the nation.
3. Stools/faeces and dirt are sources of germs/vectors, which cause illness that could lead to ill health or death.
4. Infant and child faeces are just as harmful as adult faeces. In fact, during times of illness, infant and child faeces may contain a higher concentration of bacteria.

Section 4: Food Safety

The preparation of complementary food not only includes diet diversity and frequency of feeding, but also preparing and storing of food in a safe manner that will not cause those eating the food to become sick. This process is called food safety.

Foodborne diseases are diseases that are either infectious or toxic in nature, and are caused by germs that enter the body through the ingestion of the food into the body. 'Germs' include bacteria, viruses, fungi, or protozoa. They can be carried by vectors, such as rats, mice, flies, and ants. It is, therefore, important to store food appropriately in order to reduce contamination and spoilage.

Many children become sick or die from diarrhoea during the period of complementary feeding and, possibly, due to their exploratory nature of putting things into their mouths.

The Hazards Linked with Food Safety Are—

Biological hazards: Relates to any mishandling of food at some point in the course of harvesting, processing, storing, preparing, and cooking, through to consuming.

Cholera: A disease that can be transmitted through water and, in some cases, through contaminated food.

Parasites: These organisms play a major role in chronic malnutrition and, in turn, make a child susceptible to other infections. Common parasitic diseases related to food include roundworms, amoebas, giardia, trichinosis, and tapeworms.

Other foodborne illnesses include salmonellosis, infections from *E. coli*, and *rotavirus*.

Other hazards: Can be naturally occurring, including metal poisoning and sand/dirt.

Naturally occurring toxins include mycotoxins, such as aflatoxin. Aflatoxins associated with groundnuts and maize are linked to liver cancer.

To eliminate the risk of contamination of food, it is important to adhere to WHO's, *Five Keys to Safer Food*. (According to the WHO's *Five Keys to Safer Food*³).

The Five Keys to Safer Food

1. Keep food clean.
2. Separate raw and cooked foods.
3. Cook food thoroughly.
4. Keep food at safe temperatures.
5. Use safe water and other raw material.

1. Keep clean

Why is it important to keep clean? Dangerous germs are widely found in soil, water, animals, and people. These microorganisms are carried on hands, wiping cloths, and utensils, especially cutting boards; contact can transfer them to food and cause foodborne diseases. Therefore, it is important to take action to keep clean.

Four important ways to keep clean while preparing or eating food:

- Wash your hands before handling food and often during food preparation.

³ World Health Organization (WHO). 2006. *Five Keys to Safer Food Manual*. Geneva: WHO. <http://www.who.int/foodsafety/publications/5keysmanual/en/>

- Wash your hands after going to the toilet.
- Wash and sanitize all surfaces and equipment used for food preparation.
- Protect kitchen areas and food from insects, pests, and animals, and animal faeces.

2. Separate raw and cooked foods

Why is it important to separate raw and cooked foods? Raw food, especially meat, poultry, and seafood, and their juice/liquid, can contain dangerous germs that can be transferred onto other foods during food preparation and storage.

Three important actions to separate raw and cooked foods:

- Separate raw meat, poultry, and seafood from other foods.
- Use separate equipment and utensils, such as knives and cutting boards, for handling raw foods.
- Store food in containers to avoid contact between raw and prepared foods.

3. Cook thoroughly

Why is it important to cook food thoroughly? Proper cooking can kill almost all dangerous germs. Cooking food at 70 degrees Celsius can help ensure it is safe for consumption.

Three actions to ensure food is cooked thoroughly:

- Cook meat and poultry until it is no longer pink and no longer looks raw.
- Bring foods, like soups and stews, to boiling to make sure that they have reached the proper temperature. For meat and poultry, make sure that juices are clear, not pink.
- Reheat cooked food if it has been sitting out longer than two hours.

4. Keep food at a safe temperature

Why is it important to keep foods at a safe temperature? Germs can multiply quickly at normal household temperature. To ensure that food remains safe, it should be kept hot until serving, or reheated if it is stored for long periods of time.

Two actions to ensure food is stored at proper temperatures:

- Do not store food too long at room temperature after cooking. If food is stored at room temperature for more than two hours, reheat the food prior to serving.
- When preparing soups or stews, ensure the food remains hot until serving.

5. Use safe water

Why is it important to use safe water when cooking? Water can contain germs. If dirty water is used to cook, the germs in the water can contaminate the food being prepared.

Two actions to ensure safe water:

- Disinfect water prior to using it for cooking (see the safe water section).
- Wash fruits and vegetables with disinfected water, especially if eaten raw. This ensures that any soil and germs on the fruits and vegetables is removed prior to eating.

Section 5: Food Processing

Food processing: Foods do not always grow or come in ready-to-eat form, but they require a transformation obtained through physical or chemical means to make them edible, digestible, and the nutrients readily available. Processing food can provide a form of food preservation, for instance, when dry grains are processed into flour. Different techniques are required for the different food groups. See figures 1 and 2.

Processing of Grains

After grains, such as millet, guinea corn, and corn are harvested, the grains are removed from the cob. The processing of grains includes harvesting, cleaning, grinding, milling, soaking, parboiling, drying, and sieving.

Figure 1. The Processing of Millet



Figure 2. The Processing of Soya Beans



Section 6: Food Preparation

Sources of staples, legumes, meat, vegetables, and fruits are prepared differently when used for complementary feeding. The preparation methods used to make the food easier to consume, are not only to kill germs or increase the shelf life, but also to retain or increase the nutrient density in the food.

Cereals and grains can be sprouted to increase nutrient density. Cooking food is recommended for complementary feeding because it kills germs, thereby making it safer and increasing the shelf life of the food.

Food preparation requires using fresh, carefully selected nutritious ingredients that include the appropriate mixture of food crops to achieve a nutritious delicious balanced meal for children 6–24 months.

Complementary food requires using the proper food preparation techniques to achieve the appropriate texture and consistency for the age group. In addition, food safety requires not handling animal sources with fruits or cutting them on the same chopping board. Washing of hands after handling meat is necessary.

Food Preparation Methods

There are various forms of preparing food: it can be through chemical and mechanical means, such as sprouted grains, or mechanical means that allow them to increase the nutrient value.

Chemical

1. Sprouting of grains helps increase the nutrient content and prevent anti-nutrients from attaching to minerals, preventing their absorption.
2. Drying of fruits, grains, and locust removes the moisture content of the food and lengthens the shelf life of the food. The nutrients that are not sensitive to heat are usually concentrated in dried food products.

Mechanical

1. Cutting requires the use of a knife for meat, chicken, or sweet potatoes.
2. Dicing requires the use of a knife to cut staples and vegetables for boiling into cubes.
3. Slicing vegetables, such as onions and tomatoes, allows them to be sautéed to make a sauce.
4. Grating carrots, as opposed to dicing, makes them easy for children to swallow and avoids choking.
5. Tearing spinach reduces nutrient loss.
6. Mashing with a spoon or a fork can be used to smash the cooked foods, like diced sweet potatoes.

Cooking

1. Boiling.
2. Frying with oil or the oils from the seeds.
3. Smoking/barbecuing.

Example of preparation method for fruits and vegetables

Fruits are usually seasonal and require preservation to be accessible until the next harvest. To prepare them for drying or pickling, it is essential that they be harvested when just ripe.

Fruits require washing with clean water before eating or peeling. Fruits, such as oranges and watermelon, can be juiced or eaten as segments. Bananas can be pureed.

Wash vegetables before you cut/slice/grate or chop them to reduce the loss of nutrients. In case of green leafy vegetables, tear the leaves by hand and not with a knife to reduce nutrient loss.

Other forms of preparation methods are demonstrated in the recipe cards, such as preparing fish, ground nuts, milk, and tofu.

Section 7: Food Demonstration

Food demonstration is a process of conveying nutritional information, which is directed at a target group, through cooking and sharing nutritional tips as it is being done. The prepared food is sampled by the children within the three age categories and it is tasted by their mothers. It requires a demonstrator to explain the processes involved in preparing a meal—in this case, a complementary meal. The recipes are developed to be easily accessible, affordable, prepared in a safe environment, and retain a high nutrient content to meet most of the needs of the child, while still breastfed by his/her mother.

The purpose of food demonstration is to convey the complementary feeding key messages for children age 6–24 months, and to educate mothers on improved recipes. It is also to improve on and show mothers, as well as health care workers, the best practices or methods for the preparation of complementary feeding, with an emphasis on also demonstrating hygienic conditions during food demonstrations.

It will also serve as a means to share relevant messages on the use of not adding salt or seasonings to the baby's meals, to enable him/her to discover the various flavours of the food.

The food demonstration will take place at a venue agreed on by the target before the heat is at its peak. The decision is best left to the target group.

All the ingredients must be purchased in the community, so as to demonstrate the accessibility of the food. Also, it is advisable to purchase all the food required for the demonstration at the weekly market.

In addition, for the adoption of the recipes demonstrated, it is recommended to follow up with groups of households to prepare the foods that they would bring into the communities.

10 Steps to a Successful Food Demonstration

1. Identify your target group—test their knowledge on the types of food in their locality and what the food does in the body.
2. Create a concise message on nutrition.
3. Be organized, confident, and courteous.
4. Use relevant recipes with affordable, locally available ingredients.
5. Be sure the demonstration area is clean and will capture the attention of the audience.
6. Emphasize nutrition messages and hygienic practices while demonstrating.
7. Ensure active participation of the group members in the food preparation tasks.
8. Allow all participants to taste the prepared food.
9. Observe good food safety and handling habits and practices.
10. Obtain feedback through questions and answers for future improvement of the food demonstration.

Section 8: Programme for Training

Training-of-Trainers Workshop on Food Demonstration on Complementary Feeding

Pre-Test Questions

To be done by the participants.

S/N	Questions	Yes	No	Don't know
1	Good nutrition is essential to children, adults, and the elderly.			
2	Young girls need special attention regarding good nutrition.			
3	Nutritional status of pregnant women has nothing to do with the nutritional status of their newborn baby.			
4	All pregnant women should eat one extra nutritious meal and snack daily.			
5	Breastfeeding mothers do not need to eat extra meals to adequately breastfeed their babies.			
6	On hot days, babies can hardly survive on breastmilk alone.			
7	Complementary foods are better introduced from the age of 4–5 months.			
8	At 6 months, the first foods the baby takes should be the texture of breastmilk so the young baby can swallow it easily.			
9	A 7-month-old baby should be fed meals and snacks 3–4 times a day.			
10	Meat, eggs, and fish can cause abdominal pains if given to babies 9–12 months.			
11	Good complementary food should consist of items from all the food groups available in the country.			
12	Water from wells is always clean and safe.			
13	Adding groundnut or soya beans to local pap increases its energy content.			
14	Breastmilk is not safe at the age of 20–24 months.			
15	Food demonstrations can only be done by health providers.			

Food Demonstration Evaluation

Recipe Name: _____

Date: _____

Demonstrator: _____

S/N	Questions	Yes	No
1	I liked the sample I tasted at this demonstration.		
2	I plan to use this recipe at home.		
3	This demonstration taught me the skills I need to make this recipe at home.		
4	I learned new ways to help my children eat healthier with the foods locally available and affordable to me.		
5	The ingredients used in this demonstration are items that I use at home.		
6	The ingredients used in this demonstration are items that I am able to buy.		
7	I have participated in food demonstrations before.		
Suggestion/Comment, if any:			

Thank you for your time.

Note:

- This applies at the end of the demonstration.
- This should be completed by at least 10% of the caregivers who attended the food demonstration.
- Where possible, someone other than the moderator and demonstrator should handle this tool.

Consolidated Complementary Feeding Food List

Consolidated Complementary Feeding Food List*									
S/N	Grains, Roots, and Tubers	Legumes and Nuts	Dairy Products	Flesh Foods (meat, fish, poultry and liver/organ meats)	Eggs	Vitamin A-rich Fruits and Vegetables		Other Fruits and Vegetables	
						Fruits	Vegetables	Fruits	Vegetables
	Maize	Beans (cowpea)	Cow milk	Beef	Chicken eggs	Mango seasonal	Ugu leaves	Watermelon	Sweet potato
	Sorghum/guinea corn	Groundnut	Yoghurt	Ice fish (titus, croaker)		Carrot seasonal	Water leaf	Orange	Okro
	Cassava	Soya beans	Local cheese	Liver			Tomatoes	Guava	Amanranthus
	Rice	Gurgiya (Bambara nut)		Crayfish				Banana	Onion
	Yam	Locust beans/dawadawa		Seafood (fresh water fish, crayfish, crabs, periwinkle)				Avocado pear	Garden eggs
	Water yam	Egusi							
	Millet								
	Coco yam								
	Unripe plantain								
	Unripe banana								
	Sweet potato								
	Maize								
	Sorghum/guinea corn								

SPRING

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