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MINISTRY OF HEALTH - ETHIOPIA

የዜጎች ጤና ለሃገር ብልጽግና!
HEALTHIER CITIZENS FOR PROSPEROUS NATION

Adolescent Maternal Infant and Young Child Nutrition Implementation Guideline



September 2022
ADDIS ABABA





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SEPTEMBER 2022

Addis Ababa

Recommended Citation

Government of Ethiopia, Federal Ministry of Health, 2022; *National Guideline for Adolescent, Maternal, Infant and Young child Nutrition*, Addis Ababa: FMOH.

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Foreword

The Government of Ethiopia has demonstrated its policy commitment to nutrition by developing the first ever food and nutrition policy, its implementation strategy (2021-2030) and the Seqota Declaration to end under nutrition. Nutrition has been incorporated into the nation's development plan and mainstreamed in different sectoral strategies and programs.

The national Food and Nutrition Strategy (FNS) has 13 strategic objectives with different directions, initiatives, and actions. The strategic actions need guiding documents for lower-level implementation, and for this, the Minister of Health developed and endorsed the Adolescent, Maternal, Infant, and Young Child Nutrition (AMIYCN) implementation guideline. This guideline is an updated version of the 2016 AMIYCN guideline mainly revised based on the national FNS and also aligned with other national and international recommendations.

The national guideline for AMIYCN aims to capacitate and guide nutrition service providers into providing quality nutrition services. Intended users of the guideline are food and nutrition service providers and program managers, food and nutrition implementing sectors, partners, academia, and researchers at all levels. This will help improve coordination and integration among actors, feeding and caring practices, and ensure optimal nutritional status, productivity, longevity, and quality of life across the life cycle. In this guideline, nutrition interventions are standardized and packaged for quality service provision. The guideline mainly focuses on the promotion of optimal nutrition in the first 1000 days plus nutrition targeting adolescents, pregnant and lactating mothers, infants and young children.

To achieve the objectives of the guideline, commitment and accountability of nutrition implementing sectors, coordination and linkage among different stakeholders and actors as well as monitoring and evaluation exercises are critical. If we all collaborate and coordinate our efforts, I assure you that we will achieve our goal of ending all forms of malnutrition by 2030. We must prioritize and invest our resources on nutrition for healthy and productive nation.



Lia Tadesse (MD, MHA),
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Acknowledgement

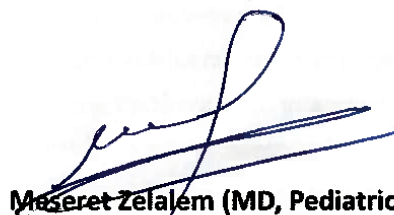
The Adolescent, Maternal, Infant, and Young Child Nutrition (AMIYCN) implementation guideline was successfully completed with the efforts and involvement of numerous organizations and individuals at different stages.

Ministry of Health would like to thank Alive & Thrive, Save the Children and UNICEF for their financial support in the revision of the guideline. Special acknowledgement goes to Alive and Thrive for hiring a consultant to support the revision process.

The guideline was a product of a highly technical, intensive, and consultative process led by the Nutrition Coordination Office of the Ministry of Health and supported by members of the AMIYCN Technical Working Group. Finally, we would like to acknowledge the various experts involved in the development of the guideline.

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Acronyms

AMIYCN	Adolescent Maternal Infant and Young Child Nutrition
ANC	Antenatal Care
BFHI	Baby Friendly Hospital Initiative
CBHI	Community Based Health Insurance
CF	Complementary Feeding
DA	Development agent
DRI	Dietary Reference Index
ECD	Early Childhood Development
EFDA	Ethiopian Food and Drug Authority
EPI	Expanded Program of Immunization
GMP	Growth Monitoring and Promotion
HDA	Health Development Army
HEW	Health Extension Workers
HMIS	Health Management Information System
HSTP	Health Sector Transformation Plan
ITN	Insecticide Treated Net
IDD	Iodine Deficiency Disorder
IDP	Internally Displaced People
IMAM	Integrated Management Acute Malnutrition
IUGR	Intrauterine Growth Retardation
IYCF	Infant and Young Child Feeding
IYCN	Infant and Young Child Nutrition
IYCN-E	Infant and Young Child Nutrition in Emergency
LBW	Low Birth Weight
LLITN	Long Lasting Insecticide Treated Net
MOWE	Ministry of Water and Energy
MAM	Moderate Acute Malnutrition
MBFI	Mother Baby Friendly Initiative
MCH	Maternal and Child Health
MDD	Minimum Diet diversity
MDD-W	Minimum Diet Diversity for Women
MUAC	Mid-Upper Arm Circumstance
NCD	Non-Communicable Disease
OPD	Out-patient Department
ORS	Oral Rehydration Solution
OVC	Orphan and Vulnerable Children
PLW	Pregnant and Lactating Woman
PMTCT	Prevention of Mother to Child Transmission
PNC	Post Natal Care
PSNP	Productive Safety Net Program
PTA	Parent Teacher Association

RDA	Recommended Dietary Allowances
RMNCH	Reproductive Maternal Newborn and Child Health
TSFP	Targeted Supplementary Feedings Program
SBCC	Social Behavioral Change Communication
SC	Stabilization Center
SMEs	Small- and Medium-sized Enterprises
UNICEF	United Nations Children’s Fund
VAD	Vitamin A Deficiency
VAS	Vitamin A supplementation
WASH	Water Sanitation and Hygiene
WHO	World Health Organization
WIFAS	Weekly Iron Folic Acid Supplementation
WRA	Women of Reproductive Age

Executive summary

Background: Breaking the intergenerational cycle of malnutrition is vital as the issues and concerns in one age group may spring from the nutritional issues and concerns in the earlier age groups. Therefore, nutritional interventions focusing only on one or few age groups may not be sufficient for sustainable improvements in health and nutrition outcomes. Cognizant of these generational implications, the National Food and Nutrition Policy and Strategy documents have incorporated important initiatives to improve the nutritional status of adolescent, pregnant and lactating women, infant and young children. For effective implementation of the policy and strategy, it is critical to develop an implementation guideline that provides direction for nutrition and health service providers to translate the initiatives into actions. This guideline will provide the framework for standardization of the prioritized nutrition interventions and address nutrition along the life cycle using evidence-based, integrated, and multi-sectoral approaches.

Objective: This guideline aims to provide guidance to nutrition and health service providers, program managers, food and nutrition implementing sectors, academia, and researchers working on optimal adolescent, maternal, infant, and young child nutrition services in Ethiopia.

Interventions and implementation strategies: The guideline includes both nutrition-specific and sensitive interventions for women, adolescent, infant, and young children comprising nutrition assessment, counseling and treatment, promotion of optimal breastfeeding, complementary feeding, and growth monitoring and promotion, supplementation, deworming, dietary diversification, consumption of animal source foods and fruits and vegetables, food fortification, WASH practices, physical activity, and healthy lifestyle. Furthermore, it provides guidance for addressing nutrition issues during special situations.

Delivery modalities: Those interventions could be delivered through the existing health system at different contact points in integrated ways and/or through separate nutrition service delivery rooms/units at health facilities/outreach sites. In addition, linkages with other nutrition sensitive intervention delivery points such as schools, health and nutrition services centers/facilities, youth friendly services/centers/, and existing structures for adolescent nutrition services could be used as delivery platforms.

Definition of Terms

Food: : any nutritious substance that people eat and drink to maintain life and growth.

Nutrition: the science of ingestion, digestion, absorption, assimilation, biosynthesis, transport, metabolism, excretion, and the actions of nutrients within the body for physical and mental growth and development, prevention of diseases and development of the immune system.

Nutrients: chemical substances obtained from food and used in the body to provide energy, repair of body tissues, support growth and aid the normal functioning of the body system.

Food security: food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet the dietary needs and food preferences for active and healthy life.

Nutrition security: nutrition security is more than access to sufficient, safe and nutritious foods. Individuals must also have safe water and adequate sanitation, the ability to access health care services, and knowledge of proper household and community practices in childcare, food storage and preparation and hygiene.

Food group: a collection of foods that share similar nutritional properties or biological classifications.

Minimum meal frequency: examines the number of times children received foods/meals other than breast milk for breast feeding child, and other milk for non-breast-feeding child, and it is a proxy for a child's energy requirements.

Minimum Diet Diversity (MDD): the consumption of five or more food groups out of eight for children, and MDD-W is a dichotomous indicator of whether a woman 15–49 years of age has consumed at least five out of ten defined food groups the previous day or night.

Minimum acceptable diet: a composite indicator of minimum dietary diversity and minimum meal frequency.

Malnutrition: a state of deficiency, excess or, imbalance of energy and/or nutrient intake or impaired nutrient utilization that causes measurable adverse effects on health, body growth and function.

Under nutrition: lack of proper nutrition, caused by inadequate ingestion of nutrients, mal-absorption, impaired metabolism, loss of nutrients due to diarrhea, or increased nutritional requirements (as occurs in cancer or infection).

Stunting: a chronic or recurrent under nutrition from poor diet, repeated infection, and inadequate psychosocial stimulation. Children are defined as stunted if their height-for-age is less than negative two standard deviations (<-2 SD) according to the WHO child growth standard.

Wasting: often indicates recent and severe weight loss. Children are defined as wasted if their weight-for-height is less than negative two standard deviations (<-2 SD) according to the WHO child growth standard.

Underweight: low weight-for-age which reflects acute and/or chronic malnutrition. Children are defined to be underweight if their weight-for-age is below negative two standard deviations (<-2 SD) according to the WHO child growth standard.

Micronutrient deficiency: a deficiency of one or more vitamins or minerals required for body function, optimal health, growth, and development.

Over nutrition a form of malnutrition arising from excessive intake of nutrients and food, and imbalance between food intake and expenditure (physical exercises), due to sedentary life leading to accumulation of body fat that may impair health (i.e., overweight/obesity).

Anorexia nervosa: an eating disorder characterized by low weight, food restriction, body image disturbance, fear of gaining weight, and an overpowering desire to be thin.

Bulimia nervosa; eating large amounts of food with a loss of control over the eating.

Food Intolerance: difficulty digesting certain foods and having unpleasant physical reaction to them. It is important to note that food intolerance is different than a food allergy.

Food allergy: an immune system reaction that occurs soon after eating a certain food. Even a tiny amount of the allergy-causing food can trigger signs and symptoms.

1. Introduction

Malnutrition spans across generations, impacting populations through its vicious intergenerational cycle of occurrence. Nutritional issues and concerns in one age group may derive from the nutritional issues and concerns in the earlier age groups. Interventions focusing only on one or few age groups may not be enough for sustainable improvements in health and nutrition outcomes. Hence, if malnutrition is not addressed across all the different stages of the life cycle, the consequences will lead to increased levels of maternal and neonatal mortality and morbidity, low birth weight babies, impeded growth, impaired cognitive development of children, and poor socioeconomic development. Optimal Adolescent, Maternal, Infant, and Young Child Nutrition (AMIYCN) service delivery and utilization contribute to improved nutritional status, sustained growth & development, child survival and optimal birth outcomes.

This guideline is updated to guide the implementation of AMIYCN interventions at facility and community levels. It lays out the steps that service providers at different levels need to follow to implement the interventions efficiently and effectively across regions. The guideline follows the life cycle approach for easier use and delivering quality nutrition services. It includes introduction, adolescent nutrition, maternal nutrition, infant and young child nutrition, social and behavioral change communication (SBCC) and monitoring and evaluation (M & E) as its major topics. It also guides the integration of nutrition-specific and nutrition-sensitive interventions. It will be regularly reviewed and updated for addressing new nutrition interventions and changes on service delivery platforms in the future.

1.1. Background

According to the Mini-Ethiopian Demographic and Health Survey (EDHS, 2019), 37%, 21%, and 7% of under-five children were stunted, underweight and wasted, respectively. Even though breastfeeding is universal (96%) in Ethiopia, only 59% of infants under 6 months are exclusively breastfed, 55% of the children are fed a minimum number of times (minimum meal frequency), and 14% of the children are fed a minimum number of food groups (minimum dietary diversity), resulting in only 11% of 6–23-month-old children receiving a minimum acceptable diet (EDHS, 2019).

In Ethiopia, 22%, 8%, and 24% of reproductive age women were thin, overweight or obese and anemic respectively (EDHS 2016). In addition, 29%, 15% and 11.3% of adolescents (15-19 years) were thin, stunted, obese or overweight respectively. More than 58% of adolescents are married before their 18th birthday, which increases the risk of adverse pregnancy and birth outcomes and exacerbates the vicious cycle of malnutrition in Ethiopia (EDHS, 2016). Regarding Iron Folic Acid (IFA) supplements, only 11% of pregnant women took the recommended 90 plus days (EDHS, 2019).

1.2. Policy landscape

Good nutrition is fundamental to achieving the right to health. Moreover, as stated in the Convention on the Rights of a Child, children have the right to adequate nutrition and access to safe and nutritious food, and both are essential for fulfilling their right to the highest attainable standard of health. No country can achieve universal health coverage without investing in essential nutrition actions. The government of Ethiopia recognizes that food and nutrition security is a fundamental human right. Thus, national policies integrate key aspects of ensuring safe and nutritious food that meets the dietary needs of the population. Furthermore, Ethiopia, as a member, state commits to

global policies and strategies that contribute to improving the nutrition and health of women of reproductive age, children, adolescents and infants.

The AMIYCN guideline has been developed taking into consideration global and national policies and guidelines including the following.

At global level:

- a) Convention on the Rights of a Child
- b) The 2030 Agenda for Sustainable Development
- c) Global Strategy for Infant and Young Child Feeding
- d) Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition
- e) International Code of Marketing Breast Milk Substitutes
- f) UN Decades of Action for Nutrition, 2030
- g) World Health Assembly Target, 2025
Guideline; Implementing Effective Actions for Improving Adolescent Nutrition, WHO, 2018
- h) Global Strategy for Women's, Children's, and Adolescents' Health, 2016–2030
- i) Africa Regional Nutrition Strategy, 2016-2025
- j) SUN Movement Strategy, 2021-2025

At national level:

- a) The Food and Nutrition policy Ethiopia, 2018
- b) Food and nutrition implementation strategy, 2021-2030
- c) Seqota Declaration Road Map, 2015-2030
- d) Baby Food Directive, 2021
- e) Infant Formula and Follow-up Formula Directive No.30/2016
- f) The Ethiopia Health Sector Strategic Plan II 2020-2025,
- g) Operational Guideline for Infant and Young Child Feeding during Emergencies, 2021
- h) National Guideline on the Management of Acute Malnutrition

1.3. Rationale

Optimal nutrition through the life cycle is fundamental for survival, good health, growth, and development. Implementation of optimum AMIYCN interventions is critical to break the inter-generational cycle of malnutrition. Ethiopia is aiming to end malnutrition in all its forms through its commitments to achieve the 2030 Sustainable Development Goal targets. The Ethiopian government developed and endorsed a Food and Nutrition Policy and Strategy with detailed objectives, directions, initiatives and actions. To implement the strategic actions, the revision of the AMIYCN implementation guideline is found to be important. This AMIYCN guideline aims to improve the implementation of recommended nutrition actions targeting adolescents, mothers, infants, and children in Ethiopia. It provides guidance to health and nutrition service providers, program managers, food and nutrition implementing sectors, academia, and researchers to deliver high quality and standardized nutrition services to communities.

1.4. Scope

This guideline covers recommended nutrition actions through the lifecycle approach targeting adolescents, maternal, infants, and children and is aligned with the national food and nutrition strategy.

1.5. Objectives

General Objective

To provide technical guidance to health and nutrition service providers, program managers, food and nutrition implementing sectors, academia, and researchers in the design and implementation of optimal adolescent, maternal, infant and young child nutrition services in Ethiopia.

Specific objectives

- To provide technical guidance on the implementation of AMIYCN interventions in Ethiopia at facility and community levels
- To serve as a capacity building tool for quality AMIYCN service delivery by frontline workers and program managers.

1.6. Users of the guideline

Primary users: Nutrition and health workers and program managers,

Secondary users: Food and nutrition strategy implementing sectors, academia, researchers, policy makers, advocates, nutrition champions, development partners, media professionals and professional associations/societies.

1.7. Expected outcomes of the guideline

The AMIYCN guideline will contribute to the following.

Immediate outcomes:

- Guided and capacitated nutrition and health service providers and program managers;
- Used as reference for FNS implementing sectors, academia, researchers, instructors, policy makers, advocates, nutrition champions, development partners, media professionals and professional associations/societies.

Medium and long term outcomes:

- Improved food and nutrition leadership and management, and supplies, information system, partnership and financing;
- Increased quality AMIYCN service coverage;
- Reduced under and over nutrition among AMIYC.

2. Nutritional Assessment

Nutritional assessment is a detailed evaluation and interpretation of multiple parameters that include Anthropometric, Biochemical, Clinical and Dietary assessments.

Nutritional screening is a brief evaluation to identify people at high risk which may include checking for bilateral pitting edema, measuring weight and MUAC, and asking about recent illnesses and appetite.

2.1. Anthropometric assessment

Anthropometry is the measurement of the human body. It is the most accessible, universally applicable, cheap, simple, and noninvasive method. Common anthropometric measurements include weight, height/length, MUAC, head circumference, waist circumference, waist to hip ratio, and skinfold thickness.

The more frequently used anthropometric indexes are height for age (stunting), weight for age (underweight), weight for height (wasting), BMI (underweight and overweight or obesity) and BMI for age (thinness and obesity) expressed in percentiles or Z scores. The MUAC is also used as a measurement for acute malnutrition, which is commonly applied for screening and admission purposes. It is also used in nutritional screening of pregnant and lactating women. (Target group specific anthropometric assessment methods and classifications are included in their respective sections)

2.2. Biochemical assessment

Biochemical assessment involves measurement of either the total amount of the nutrient in the body, or its concentration in a particular storage organ, blood, urine, saliva and stool. Biochemical assessments can be done at various levels depending on the level of the nutritional status information needed. However, as the laboratory assessment is expensive and may require sophisticated facilities; only essential tests could be used. Biochemical assessments are summarized in the table below.

Table 1: Biochemical Nutritional Assessments at different levels

Levels of Approach	Laboratory Evaluation
Minimal Level (HC and primary Hospitals)	<ul style="list-style-type: none">• Hemoglobin, urine analysis, and blood sugar
Mid-level (General hospitals, and regional research laboratories)	<ul style="list-style-type: none">• Serum albumin, serum iron and TIBC, vitamin A and beta carotene• RBC Indices, blood urea nitrogen (BUN), zinc and cholesterol• Glucose, inflammatory markers, helminthes
In-depth (Specialized/referral hospitals and national research laboratories)	<ul style="list-style-type: none">• Blood tests: folate and vitamin C; alkaline phosphatase; RBC transketolase; RBC glutathione; lipids• Urine: creatinine; nitrogen; zinc; thiamine; riboflavin; loading tests (xanthurenic acid/FIGLU)• Hair root: DNA; protein; zinc; other metals

2.3. Clinical assessment

Clinical assessment of nutritional status involves a detailed history, a thorough physical examination, and the interpretation of the signs and symptoms associated with malnutrition (Robert D Lee and David C Neiman, Nutritional Assessment, 2013).

Medical history: It is required because nutritional problems may be caused by underlying medical conditions. Additionally, specific medical conditions and their current status are important factors altering nutrient requirements and dietary prescriptions.

Table 2: Medical history for nutritional assessment

Category	Indicators of nutrition risk
History of body weight	Presence of weight loss
	Presence of weight gain
	Weight before the nutritional problem started
	Presence of recent change in appetite
	Suspected reason of weight change
Past medical history	History of cardiovascular disease, hypertension, DM, hyperlipidemia, renal diseases, cancer, surgical history or medication use, substances abuse
Eating disorder	Suffering from anorexia nervosa, bulimia nervosa, food allergies, food intolerance, binge eating or emotional eating and difficulty chewing or swallowing

Physical examination: This examination focuses on signs of nutrient deficiency or excess. These signs usually appear only when the deficiency is advanced and are not expected in marginal deficiencies. The physical examination should start with a general visual assessment of the patient (wasting or overweight or obese). Typical signs for selected nutritional deficiencies are presented in the table below.

Table 3: Typical clinical signs for nutritional deficiencies

Deficiency	Clinical signs
Wasting (acute malnutrition)	<ul style="list-style-type: none"> • Emaciation (loss of muscle and fat tissue), bone and skin • Dermatitis: abnormally light or dark in color, shedding of skin in scales or sheets, and ulceration of the skin of the perineum, groin, limbs, behind the ears, and in the armpits that could be seen in children with acute malnutrition: <ul style="list-style-type: none"> + (mild): discoloration or a few rough patches of skin + + (moderate): multiple patches on arms and/or legs + + + (severe): flaking skin, raw skin, fissures (openings in the skin) • Bilateral pitting edema <ul style="list-style-type: none"> Grade +: below the ankle Grade ++: below the knee • Grade +++: generalized edema
Protein deficiency	<ul style="list-style-type: none"> • Dry and scaly skin, cellophane appearance

Protein, calories (protein energy deficiency)	<ul style="list-style-type: none"> • Interosseous muscle atrophy, • Squaring off of shoulders, • Poor hand grip and leg strength
Vitamin D deficiency	bowlegged, musculoskeletal deformity, rachitic rosary (pigeon chest)
Zinc deficiency	hair loss, changes in their nails
Vitamin A deficiency	<ul style="list-style-type: none"> • Bitot's spots (superficial foamy white spots on the conjunctiva (white part of the eye)) • Night blindness • Follicular hyperkeratosis • Corneal clouding: opaque appearance of the cornea (the transparent layer that covers the pupil and iris) • Corneal ulceration: a break in the surface of the cornea (a sign of severe vitamin A deficiency)
Niacin deficiency	<ul style="list-style-type: none"> • Skin pigmentation changes
Vitamin C deficiency	<ul style="list-style-type: none"> • Petechiae • Lassitude, weakness, irritability, weight loss, and vague myalgias and arthralgias may develop early. Symptoms of scurvy (related to defects in connective tissues) develop after a few months of deficiency.
Vitamin C, vitamin K deficiency	<ul style="list-style-type: none"> • Purpura -discoloration of skin or mucus due to hemorrhage in small vessels
Iron, vitamin B ₁₂ , folate deficiency	<ul style="list-style-type: none"> • Palmar pallor
Iron	<ul style="list-style-type: none"> • Pale tongue
Iron, vitamin B12, folate	<ul style="list-style-type: none"> • Conjunctiva pallor
Riboflavin, pyridoxine, niacin	<ul style="list-style-type: none"> • Angular stomatitis/cheilosis (dry, cracking, ulcerated lips)
Riboflavin, niacin, B vitamins, iron, folate	<ul style="list-style-type: none"> • Glossitis (inflammation and swelling of the tongue)
Vitamin C, riboflavin	<ul style="list-style-type: none"> • Bleeding gums
riboflavin and niacin	<ul style="list-style-type: none"> • Red tongue

2.4. Dietary Assessment

Dietary assessment is used to evaluate food and fluid intakes both qualitatively and quantitatively. It provides information on dietary quantity, quality, frequency, eating patterns, identification of cultural and religious patterns and reasons for inadequate and/or excessive food and nutrients intake. The results are compared with recommended dietary practices and recommended dietary allowance (RDA) on how to improve diets to prevent malnutrition or treat conditions affected by food intake and nutritional status. Dietary assessment tools such as 24hr dietary recall, food records, diet histories, and food frequency questionnaires can be used to collect data to estimate both inadequate and excessive food and nutrient intakes.

Table 4: Dietary assessment indicators

Indicator	Definition	Remark
Introduction of solid, semisolid or soft foods 6–23 months	Percentage of infants 6–23 months of age who consumed solid, semi-solid or soft foods during the previous day	Amount Diversity Consistency/Thickness Frequency Responsive feeding WASH practices
Minimum dietary diversity 6–23 months	Percentage of children 6–23 months of age who consumed foods and beverages from at least five out of eight defined food groups during the previous day	Food groups are: 1. Breast milk 2. Grains, roots/tubers and plantains 3. Pulses (beans, peas, lentils, chickpeas, kidney bean), nuts and seeds 4. Dairy products (milk, yogurts, cheese) 5. Flesh foods (meat, fish, poultry, organ meats) 6. Eggs 7. Vitamin-A rich fruits and vegetables 8. Other fruits and vegetables.
Minimum meal frequency 6–23 months	Percentage of children 6–23 months of age who consumed solid, semi-solid or soft foods for breastfeeding children and milk feeds for non-breastfed children (the minimum number of times or more during the previous day)	Minimum number of feeds per day Breakfast, morning snack, lunch, afternoon snack and dinner Breast milk and other milk will not be counted for the child feeding NB: Encourage mothers on demand feeding.
Minimum acceptable diet 6–23 months	Percentage of children 6–23 months of age who consumed a minimum acceptable diet during the previous day	Optimal meal frequency Optimal dietary diversity

<p>Minimum Dietary Diversity for Women (MDD_W) WRA (15-49)</p>	<p>The proportion of WRA who achieve the minimum of five food groups out of ten in a population</p>	<p>The ten food groups</p> <ol style="list-style-type: none"> 1. Grains, white roots and tubers & Plantains (varieties of banana and false banana) 2. Pulses (beans, peas, chickpea, kidney beans and lentils) 3. Nuts and seeds 4. Milk and milk products 5. Meat, poultry and fish 6. Eggs 7. Dark green leafy vegetables 8. Other vitamin A-rich fruits & vegetables 9. Other vegetables 10. Other fruits <p>NB: Please see annex I for list of food items</p>
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Source: WHO, IYCF Indicators, 2021, and FAO, Minimum Dietary Diversity for Women Guide, 2021

Commonly used dietary assessment tools are:

24hr dietary recall: Gives information on the respondent's exact food intake during the previous 24-h (preceding day). Information is used to characterize the mean intake of a group. Single 24-hr recall indicates recent intakes while multiple replicates of 24-hr recalls are needed for habitual intakes.

Weighed food record: Subjects are instructed to weigh all foods and beverages consumed over a specified time.

Dietary history: estimates the usual food intake and meal pattern over relatively long time (often a month).

Food Frequency Questionnaires (FFQ): asks respondents to report their usual frequency of consumption of each food from a list of foods for a specific period of time. Unlike other methods, the FFQ can be used to circumvent recent changes in diet (e.g., changes resulting from disease) by obtaining information about individuals' diets as recalled about a prior period.

3. Adolescent Nutrition

3.1. Introduction

Adolescence is defined as a person's age between 10-19 years (WHO). It is the second-fastest growth stage in life after infancy and creates an increased nutritional demand which makes them vulnerable for malnutrition. Adolescents' behavior and environmental factors are significant determinants to improve their nutritional status. So far, initiatives to prevent malnutrition commonly target infants, young children, pregnant and lactating women, but not adolescents which makes their need remain unmet. Preventing malnutrition in adolescents has direct health and cognitive benefits to future generations.

Why adolescent nutrition?

- Macro and micronutrient requirements increase during adolescence. The nutritional status of adolescents has a profound impact on their immediate and future growth, development and health.
- The period of adolescence offers a unique chance to address nutritional problems that occur during the early age of life. It is a 'second window of opportunity' to break the intergenerational cycle of malnutrition. Optimal adolescent nutrition impacts on their future reproductive health/birth outcomes.
- Investing in adolescent health brings triple dividends: better health for adolescents now, for their future adult life and for their children.
- Overweight and obesity in adolescence resulting from an unhealthy diet and inadequate physical activity poses significant health problems including non-communicable diseases (NCDs).
- It is a time of increased engagement with the environment and receptivity to new ideas. It is also a time when identities, values, capacities and attitudes are formed, including those that may shape an individual's lifelong health, diet and eating practices.

3.2. Objectives

- To provide guidance for nutrition and health service providers and program managers on recommended actions that promote and support adolescent nutrition at all levels
- To provide standardized guidance on the implementation modalities of adolescent friendly nutrition services at health facilities, schools, and community levels
- To contribute to improve nutritional status of adolescents.

3.3. Nutritional requirements of adolescents

3.3.1. Macronutrient requirement

Adolescence is a critical period for gains in height as well as weight. Girls gain relatively more fat, and boys gain relatively more muscle. Thus, the requirement of energy as well as protein increases reaching the peak during this period. The protein requirement of adolescents aged 10-13 years is 34g/day for both sexes. For adolescents aged 14-18 years, it is 46 and 52 g/day for females and males respectively (Dietary Reference Intakes Series, 2005). The energy requirement of adolescents

depends on their physical activity level, age and sex. Carbohydrate and fat shall be the primary energy sources. The table below shows energy requirement based on habitual physical activity levels with age and sex.

Table 5: Girls’ energy requirement in a population with three levels of habitual physical activity

Age	Daily energy requirement		
	*Light physical activity	**Moderate physical activity	***Heavy physical activity
	kcal/d/kg	kcal/d/kg	kcal/d/kg
9 -10	56	67	76
10 -11	55	65	74
11-12	53	62	72
12-13	51	60	69
13-14	49	58	66
14-15	48	56	65
15-16	45	53	62
16-17	44	52	59
17-18	43	50	57

Source: Energy requirement FAO 2001

Table 6: Boy’s energy requirement in a population with three levels of habitual physical activity

Age	Daily energy requirement		
	*Light physical Activity	**Moderate physical Activity	***Heavy physical activity
	kcal/d/kg	kcal/d/kg	kcal/d/kg
9-10	52	61	70
10-11	49	58	66
11-12	47	55	63
12-13	44	52	60
13-14	42	49	57
14-15	40	47	54
15-16	39	45	52
16-17	38	44	51
17-18	37	44	51

Source: Energy requirement FAO 2001

***Light physical activities:** Light activities that do not cause you to break a sweat or produce shortness of breath. Some examples of light physical activities include walking slowly (i.e., shopping, walking around the office), sitting at your computer, making the bed, eating, preparing food, and washing dishes.

****Medium physical activities:** Moderate-intensity activities are those that get you moving fast enough or strenuously enough to burn off three to six times much energy per minute as you do when you are sitting quietly or exercise that clock in at 3 to 6 METs. Some examples include sweeping the floor, walking briskly, slow dancing, vacuuming, washing windows, and shooting a basketball.

*****Heavy physical activities:-** Jogging or running, race-walking, hiking uphill, cycling more than 10 miles per hour or steeply uphill, swimming fast or lap swimming, dancing, fast dancing, and step aerobics, strength training and heavy gardening with digging, hoeing.

3.3.2. Micronutrient Requirement

Micronutrients play a crucial role in adolescent nutrition. Their requirement, such as those of iron and folate increases during this period due to rapid growth with sharp increase in lean body mass and blood volume. In addition, due to high burden of infectious diseases, parasitic infestations and low bioavailability of iron from diets, iron requirement in adolescence is higher. In girls, some iron is also lost during menstruation which further increases their iron requirement. Zinc is known to be essential for growth and sexual maturation during puberty. It enhances bone formation and inhibits bone loss. Iodine is also very important for high growth velocity of adolescents as well as for the needs of the fetus in case of pregnancy. The requirements of other minerals and vitamins such as calcium, vitamins A, C, and D also increase during adolescence and in case of pregnancy. The daily requirement of these minerals and vitamins is summarized in the table below.

Table 7: Recommended dietary intake of minerals for adolescence

Adolescents	Calcium(mg/day)	Selenium mg/day)	Magnesium mg/day)	Zinc(mg/day)		
				High	Moderate	Low
Females (10-18 years)	1300	26	220	4.3	7.2	14.4
Males (10-18 years)	1300	32	220	4.3	7.2	14.4

Report of a Joint FAO/WHO Expert Consultation: Food and Agriculture Organization, 2002

Table 8: Recommended dietary intake of vitamins for adolescence

Group	Vitamin C (mg/day)	Thiamine (mg/day)	Riboflavin (mg/day)	Niacin mg (NE/day)	Vitamin B6 (mg/day)	Pantothenate (mg/day)
Females (10–18 years)	40	1.1	1.0	16	1.2	5.0
Males (10–18 years)	40	1.2	1.3	16	1.3	5.0

Report of a Joint FAO/WHO Expert Consultation: Food and Agriculture Organization, 2002

3.4. Adolescent nutrition interventions

Adolescent nutrition interventions aim to enable optimal nutrition of adolescent boys and girls. Nutritional interventions among adolescents should consider both undernutrition and overnutrition. Providing regular nutritional assessment and screening is important to identify adolescents with malnutrition.

To ensure optimal adolescent nutrition, it is recommended to promote consumption of adequate macronutrient and micronutrient and discourage unhealthy food choices. Efforts should be made to integrate nutrition services in adolescent-friendly platforms such as health facilities, community and school platforms. The interventions also encourage completion of schooling, partly as a motivation to delay the age of marriage until 21 years among adolescent girls. The following are the recommended adolescent nutrition interventions.

3.4.1. Regular adolescent nutrition assessment

Nutrition interventions need to be evidence based; thus, all interventions need to be tailored to the identified gaps. Body Mass Index (BMI) for age is the recommended screening tool for overweight, obesity, and thinness in adolescents. Implementing BMI measurement along with nutrition counseling would support the adoption of optimal nutrition practices among adolescents. Table 9 summarizes the classification and cut off points for BMI. BMI in adolescents is calculated as adults and then compared with Z-scores or percentiles.

Table 9: Nutritional status classification of adolescents 10-19 years of age (BMI/age)

Classification	BMI-for-age Z-score	Recommendation
Severe thinness	<-3SD	Counseling, treatment and/or referral to a health care provider or dietician for evaluation of potential metabolic disorders, chronic health conditions, or eating disorders
Thinness	>or=-3SD &<-2 SD	
Normal	>or = -2SD &+1SD	Counsel to keep the normal weight
Overweight	>+1SD &≤ +2SD	Complete medical evaluation to determine potential obesity related complications

Recommended actions

- Conduct quarterly school/facility or community-based adolescent weight and height measurement, classification, and counseling services.
- Link adolescents with malnutrition to social protection services (PSNP/TSFP/other food support programs).
- Promote lifestyle modification and physical exercise for adolescents with overweight/obesity.

3.4.2. Improving diet diversity of adolescents

Consuming a diverse diet from different food groups is necessary to meet the increased nutrient demand. Consumption of a minimum of five food groups out of ten can be used as a proxy to describe micronutrient adequacy at a population level (FAO, MDD-W Guide, 2021). The table below depicts a summary of food groups.

Table 10: Food groups for minimum dietary diversity score

The ten food groups	
1. Grains, white roots and tubers, and plantains	6. Eggs
2. Pulses (beans, peas and lentils)	7. Dark green leafy vegetables
3. Nuts and seeds	8. Other vitamin A-rich fruits and vegetables
4. Milk and milk products	9. Other vegetables
5. Meat, poultry and fish	10. Other fruits

Recommended actions

- Provide nutrition counseling and support for adolescents and their guardians to enable them to consume a diverse diet from different food groups including animal source foods and fruits and vegetables.

- Ensure diversified and nutrient dense/rich meals are provided through school feeding programs.
- Promote home and school gardening.
- Promote the consumption of bio fortified and fortified foods.
- Implement multi-sector nutrition coordination for year-round availability and access to a diverse diet.
- Implement SBCC interventions targeting both in-school and out-of-school adolescents and their influencers at multiple levels to improve diet diversity.
- Implement SBCC interventions to prevent girls' cultural practices on food taboo.
- Enhance the skills of adolescents and their guardians on appropriate menu planning and preparation for improved diversified food consumption.

3.4.3. Meeting increased energy demand of adolescents

To ensure energy adequacy, adolescents should consume adequate and diverse meals for breakfast, lunch and dinner. In addition, at least one healthy snack should be consumed per day. In general, the total energy pool is recommended to be 45-65% from carbohydrate, 20-35 % from fat, and 10-35 % from protein.

Recommended actions

- Provide nutrition education/ counseling by engaging parents, focusing on adolescents' consumption of adequate and diverse meals three times per day and at least one healthy snack.
- Link food insecure households with livelihood interventions and social protection programs such as PSNP.
- Ensure energy adequacy of meals provided through school feeding programs.
- Implement SBCC interventions to engage influencers at multiple levels for improved energy adequacy.
- Counsel adolescents on the consumption of adequate energy based on their habitual physical activity, age and sex.

3.4.4. Promoting healthy diet and eating behavior

Adolescents are encouraged to limit consumption of unhealthy diets such as high fat diet, junk foods, processed and fried foods, free sugars/sweets and salt. It is recommended to increase consumption of fruit, vegetables, and dietary fiber. Unhealthy behaviors such as skipping meals, unhealthy dieting, repeated weight loss attempts, and sedentary behavior remain common among adolescents in the urban and semi urban areas. Eating disorders such as anorexia nervosa and bulimia nervosa are also emerging problems among urban adolescents.

Recommended actions

- Promote and counsel adolescents and guardians on limiting salty foods, sugary foods and beverages consumption.

- Promote and counsel adolescents and guardians on increased fruits, vegetables and dietary fiber consumption.
- Counsel and educate adolescents on avoiding unhealthy eating behavior.
- Implement multi-sector nutrition coordination and linkage for accessibility of safe, affordable, sustainable, and healthy foods.
- Engage the private sector in promoting healthy diet and discouraging unhealthy eating behavior.
- Promote enforcement of policies/regulations that protect adolescents from the marketing of unhealthy foods and beverages in schools and beyond.
- Promote the use of food and nutritional information labeling.
- Promote the establishment of a school health and nutrition clubs.

Micronutrient supplementation and fortification

Micronutrient deficiency among adolescents is associated with impaired growth, poor school performance, reduced productivity and increased maternal and infant mortality.

Recommended actions

- Provide Iron and Folic Acid Supplements (WIFAS) once a week containing 60 mg of iron and 2.8 mg of folic acid for in-school and out-of-school adolescent girls. It should be given for 3 months twice yearly. WHO recommends the intervention in areas where the prevalence of anemia in adolescent girls and women of reproductive age is 20% or higher.
- Counsel and educate adolescents on the benefits and adherence to WIFAS.
- Counsel and educate on iron rich food consumption, iron absorption enhancers and inhibitors.
- Deworm annually or bi-annually with albendazole (400 mg) or mebendazole (500 mg), to control and/or prevent anemia in adolescents. The annual and biannual deworming is recommended if the prevalence of helminths infection is 20% - 50% and > 50% respectively.
- Promote proper hygiene and sanitation practices.
- Promote micronutrient fortification of staple foods, salt, and edible oil.

3.4.5. Promoting physical activity and age-appropriate body weight and height

Physical activity during adolescence is important to ensure energy balance, weight control and prevention of overweight, obesity and related non-communicable diseases. It also contributes to development of musculoskeletal tissues, bone health and reduces the risk of depression and anxiety among adolescents.

Recommended actions

- Promote adequate regular physical activity of moderate to vigorous intensity for 30 minutes daily. Most of the daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, at least three times per week.

- Create an enabling environment at schools for nutritional screening and physical activity.
- Provide regular nutritional assessment and counseling.
- Promote and provide public awareness programs on physical activity using adolescent friendly media (social media, community radios, mini-media, and others).

3.4.6. Preventing adolescent pregnancy and promoting school completion

Preventing unintended pregnancies and reducing adolescent childbearing through universal access to sexual and reproductive healthcare and girls' education is crucial to the health and well-being of the adolescent. Compared with women, adolescent girls are more likely to die during pregnancy and childbirth. Delaying the age of childbearing until completion of growth and physiological maturation is an important intervention for protecting and promoting adolescent nutrition.

Recommended actions

- Encourage and promote girls to remain longer in school through increasing educational opportunities for them.
- Promote delaying the age of marriage until 21 and pregnancy until 24 through engaging influencers.
- Provide life skills and reproductive health trainings to build adolescents' negotiation, decision making, leadership and bargaining skills
- Provide contraceptive counseling for those at risk of unintended pregnancy.

3.4.7. Providing access to safe environment and hygiene for adolescents

Inadequate access to safe water, hygiene and sanitation services are risk factors for malnutrition, diarrheal diseases, soil transmitted helminths infections and other communicable diseases.

Recommended actions

- Promote personal hygiene and environmental sanitation.
- Engage in multi-sector advocacy to improve access to safe water, sanitation and hygiene services for in-school and out-of-school adolescents.
- Advocate for improving access to nearby, safe, separate and private sanitation facilities essential for menstrual hygiene management for in-school and out-of-school adolescents.
- Ensure safe working environment for adolescents.

3.4.8. Addressing the dietary requirements of adolescents in special situations

Addressing nutritional needs of adolescents in special situations such as refugees, internally displaced, homeless, disabled, orphans and neglected adolescents requires a different strategy and approach.

3.4.9. Adolescents with HIV/AIDS: Compared to other populations, adolescents face additional barriers in accessing testing and treatment services. HIV positive adolescents also are less likely than adults to adhere to their treatment regimens.

Recommended actions

- Implement optimum nutritional screening, counseling, and support through improved adolescent friendly HIV services.

3.4.10. Adolescents with Acute malnutrition: severe malnutrition is a common problem among children. However, it may also occur in adolescents in special conditions such as famine, refugee, and illness. Adolescents with malnutrition should be treated as per acute malnutrition guidelines.

Recommended actions

- Counsel, treat and provide referral for adolescents with severe malnutrition (BMI for Age < -3 SD).
- Advocate for inclusion of treatment of severely malnourished adolescents in the national acute malnutrition treatment guideline.
- Link malnourished and food insecure adolescents with household livelihood interventions and social protection programs such as PSNP, Blanket Supplementary Feeding Program (BSFP).

3.4.11. Pregnant adolescents: Unintended and/or early pregnancy and unsafe abortion have detrimental consequences on health and nutritional status of adolescents. Pregnant adolescents are at higher risk of nutritional deficiencies with poor pregnancy and birth outcomes.

Recommended actions

- Counsel on healthy eating behavior.
- Counsel on optimal weight gain patterns for optimal birth outcomes.
- Link pregnant adolescents in food insecure households with social protection programs.
- Promote regular ANC follow-up, skilled birth attendance and postnatal care among adolescents.
- Avail reproductive health services for internally displaced adolescents.

3.4.12. Substance abuse: adolescents are vulnerable to the effects of substance abuse and are at increased risk of developing long-term consequences including nutritional deficiencies. The most common substance abuse includes alcohol consumption, chewing khat, shisha and cigarette smoking.

Recommended actions

- Advocate for the enforcement of policies to reduce substance abuse.
- Implement SBC interventions to prevent substance abuse.
- Promote substance free school environment.
- Improve access to appropriate counseling and referral to rehabilitation centers for adolescents affected by substance abuse.

3.5. Implementation modality and integration of adolescent nutrition interventions

3.5.1. Adolescents' nutrition implementation modality

Adolescent nutrition interventions are implemented using multi-sector engagement such as health, agriculture, education, water, social protection and different platforms through various entry points. Interventions should also target both in-school and out-of-school adolescents. The table below shows a list of nutrition activities and delivery platforms.

Table 11: Implementation modality and integration of adolescent nutrition interventions

Platform	Nutrition intervention	Entry point
Health System	<ul style="list-style-type: none"> Screening and assessment, treatment and rehabilitation (micronutrient deficiency, SAM, substance abuse) Anemia prevention (WIFAS, Deworming, ITN utilization) Nutrition education and counseling (hygiene and sanitation, dietary diversity, adequate meal frequency, healthy eating behavior, physical activity) Adolescent friendly reproductive health service 	<ul style="list-style-type: none"> Youth friendly centers OPD, ART and TB clinics, ANC, PNC, FP, EPI <p>at Hospital, HC and HP levels</p>
Education	<ul style="list-style-type: none"> Screening, assessment and referral (micronutrient deficiency, SAM) Anemia prevention (WIFAS, Deworming) Nutrition education and counseling (hygiene and sanitation, dietary diversity, adequate meal frequency, healthy eating behavior, physical activity, preventing adolescent pregnancy, substance abuse) Promoting child rights (girls' education, prevention of early marriage & child labor) Promoting life skills training (assertiveness, decision making, meal menu planning, school gardening) Providing access to WASH services including menstrual hygiene management (MHM). Promoting school feeding initiatives 	<ul style="list-style-type: none"> School clubs (nutrition, health, gender, mini media, flag ceremony, etc.) Mass media (traditional and social media, school radio and television) School clinics Classrooms School feeding programs Parent Teacher Associations (PTAs)
Community	<ul style="list-style-type: none"> Screening, assessment and referral, (micronutrient deficiency, SAM) Anemia prevention (WIFAS, deworming, ITN utilization) Nutrition education and counseling (hygiene and sanitation, dietary diversity, adequate meal frequency, healthy eating behavior, physical activity, preventing adolescent pregnancy & substance abuse) Homestead gardening, Nutrition advocacy and social mobilization 	<ul style="list-style-type: none"> Traditional/community gatherings (festivals, events, etc.) Youth associations, youth centers Farmer Training Centers (FTC) Campaigns, health outreach visits Religious institutions Public libraries Companies and factories Large scale farms (flower, coffee, etc. Small scale businesses

Household	<ul style="list-style-type: none"> • Nutrition education and counseling (hygiene and sanitation, dietary diversity, adequate meal frequency, healthy eating behavior, physical activity, preventing adolescent pregnancy & substance abuse) • Homestead gardening (seed and seedling provision) 	<ul style="list-style-type: none"> • House to house visits • Religious and community leaders • Media (community radio)
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NB: For more information, please refer to the Adolescent Nutrition Implementation Guideline.

3.5.2. Integration of adolescent nutrition interventions across different platforms

Integration of adolescent nutrition interventions can be within sectors or across sectors. Intra-sector integration and coordination is to harmonize adolescent nutrition programs that are implemented in different departments or directorates within the same sector. Inter-sectorial integration is harmonizing nutrition-specific and nutrition-sensitive adolescent nutrition interventions implemented by different sectors so that they complement each other and have a cumulative impact on nutritionally vulnerable adolescents. Each sector is required to ensure the following as a commitment to the integration of adolescent nutrition services into the specific sector and across sectors.

- Review sector goals and objectives within an adolescent nutrition lens.
- Define the sector’s role and responsibility with respect to adolescent nutrition.
- Create common understanding within the sector and across sectors.
- Establish institutional structure and capacity for adolescent nutrition program implementation.
- Develop a sector-specific adolescent nutrition plan.

Potential integration within the health sector

- Integration with youth friendly services, family planning, EPI, ANC, OPD, IDP, Delivery, PNC services and other support groups at community level.

Potential integration with other sectors

- Integration with education (e.g. school clubs, mini media, school feeding programs, school gardening)
- Integration with agriculture (e.g. promoting NSA such as home gardening, poultry production and consumption).
- Integration with culture and sports (such as promoting healthy lifestyle)
- Integration with the women and social affairs sector (such as empowering women, tackling cultural taboos, promoting girls education, empowering adolescents economically through access to micro credits and income generating activities (IGAs)).

4. Maternal Nutrition

4.1. Introduction

The time from conception to child's second birthday is a time of rapid growth and nutritional vulnerability. Nutrition during preconception, pregnancy and lactation has effect on pregnancy outcomes and the health of the mother and the child. Furthermore, poor maternal dietary intake and deficiencies of nutrients compromise the physical and mental potential of the child, increase maternal complications and cause newborn and maternal death and birth defects. A woman's health and nutritional status during her reproductive years influences her overall wellbeing. One who enters pregnancy with good nutritional status will have a lower risk of poor maternal-fetal outcomes and reduce lifelong risk for chronic diseases for both the mother and child.

Women's nutrition is influenced by access to and affordability of food, household dynamics, gender inequality and socio-cultural norms. These factors one way or another affect their ability to make decisions about their diets and nutritional care. Major strategies for promoting maternal nutrition include creating a supportive environment that enables access to nutritious foods, adequate nutrition services and positive nutrition practices which need to be an integral part of maternal nutrition programs. Additionally, focus should be placed on enhancing the quality and coverage of existing maternal nutrition services, bringing innovations, institutionalizing new service packages, and working on a systems approach given the multidimensional determinants of maternal nutrition. The platforms for the implementation of maternal nutrition services include ANC, delivery, PNC, FP, HH visits, youth health service centers/rooms

4.2. Objectives

- To provide guidance to service providers and nutrition programmers on the implementation of maternal nutrition services for prevention and treatment of all forms of malnutrition during preconception, pregnancy, and lactation.
- To set implementation standards and improve the provision of quality maternal nutrition services at health facilities and community platforms.

4.3. Nutritional requirements during pre-conception, pregnancy & lactation

Women of reproductive age (WRA) do have more requirements for certain nutrients such as iron to meet the body's increased demand during menstruation. Therefore, ensuring dietary adequacy and healthy weight is essential during a woman's reproductive years and preconception period.

For positive pregnancy outcomes, all women who are planning to conceive are recommended to receive folic acid supplements and attain optimal pre-pregnancy weight. Pregnant women need to consume adequate quantities of nutritionally dense foods that not only balance maternal and fetal energy expenditure but also provide additional energy for fetal growth, as well as the growth of maternal tissues such as fat mass, breast tissue, uterus, and placenta. All women who are in their first trimester of pregnancy are recommended to take an additional 100–200 kcal/day to support proper fetal growth and the mother's health. The energy requirement during the second and third trimester is recommended to be 340kcal/day and 452kcal/day, respectively (Institute of Medicine and National Research Council, 2009).

Deficiencies of micronutrients such as vitamin A, iron, iodine, and folate are particularly common during pregnancy and lactation due to increased nutrient requirements of the mother and the developing fetus. The daily requirement of nutrients during pregnancy and lactation are indicated in the following table.

Table 12: Recommended Dietary Intakes of minerals for pregnant and lactating women

Group	Calcium (mg/day)	Selenium (ug/day)	Magnesium (mg/day)	Zinc(mg/day)		
				High Bioavailability	Moderate Bioavailability	Low Bioavailability
Pregnant women						
First trimester	1000	26	220	3.4	5.5	11.0
Second trimester	1000	28	220	4.2	7.0	14.0
Third trimester	1200	30	220	6.0	10.0	20.0
Lactating women						
0–3months	1000	35	270	5.8	9.5	19.0
3–6months	1000	35	270	5.3	8.8	17.5
7–12months	1000	42	270	4.3	7.2	14.4

Report of a Joint FAO/WHO Expert Consultation: Food and Agriculture Organization, 2002

Table 13: Recommended dietary intakes of vitamins for pregnant and lactating women

Group	Vitamin C (Ascorbic Acid) (mg/day)	Vitamin B1(Thia- mine(mg/day)	Vitamin B2 (Riboflavin) (mg/day)	Vitamin B3 (Niacin) (mg NE/ day)	Vitamin B6 (Pyridoxine) (mg/day)	Vitamin B5 (Pantothenate) (mg/day)
Pregnant women	55	1.4	1.4	18	1.9	6.0
Lactating women	70	1.5	1.6	17	2.0	7.0

Report of a Joint FAO/WHO Expert Consultation: Food and Agriculture Organization, 2002

Table 14: Dietary reference intakes (DRIs): Recommended dietary allowances and adequate intakes, total water and macronutrients

Life Stage Group	Total Water (L/d)	Carbohydrate (g/d)	Total Fiber (g/d)	Linoleic Acid (g/d)	α-Linolenic Acid (g/d)	Protein (g/d)
14–18 y	3.0*	175	28*	13*	1.4*	71
19–30 y	3.0*	175	28*	13*	1.4*	71
31–50 y	3.0*	175	28*	13*	1.4*	71
14–18	3.8*	210	29*	13*	1.3*	71
19–30 y	3.8*	210	29*	13*	1.3*	71
31–50 y	3.8*	210	29*	13*	1.3*	71

(Accessed from https://ods.od.nih.gov/HealthInformation/Dietary_Reference_Intakes.aspx# Accessed on 9 March 2022).

4.4. Nutritional interventions during preconception, pregnancy and lactation

4.4.1. Nutritional interventions during preconception

Preconception nutrition involves a set of interventions that are to be provided before pregnancy to ensure the health and well-being of women and their couples and ultimately facilitate positive pregnancy and child-health outcomes. Preconception/pre-pregnancy nutrition service is the most ignored, but critically important service for improving the outcome of pregnancy. A woman who enters pregnancy maintaining a healthy weight and micronutrient status will have positive maternal-fetal outcomes. The following interventions will be addressed during the pre-pregnancy period.

a) Micronutrients supplementation and counseling on adherence during preconception

Studies showed that taking folic acid before and during the first weeks of pregnancy helped to lower the chance of neural tube defect (NTD). In Ethiopia, iron and folic combination or supplementation of folic acid alone would be provided daily for the first three months of preconception period and that continues throughout the first trimester. Women who have the risk of NTD would be supplemented with a higher dose of folic acid.

Recommended actions

- Provide daily oral iron and folic acid tablet (elemental iron (30 - 60mg)) and folic acid (400µg/0.4mg) which is equivalent to 1 tablet supplementation daily from 3 months before the planned pregnancy or upon suspicion of pregnancy until 12 weeks of gestation. If not available, it can be replaced by 300mg ferrous sulfate hepta-hydrate, 180mg ferrous fumarate or 500mg of ferrous gluconate each of which is equivalent to 60mg of elemental iron.
- Provide folic acid (400g/0.4mg) daily to women in places where anemia is less than 20% from 3 months before the planned pregnancy or upon suspicion of pregnancy until 12 weeks of gestation is an optional recommendation to the daily IFA provision.
- For women who have had a history of a fetus diagnosed with neural tube defect or given birth to a baby with a neural tube defect should:
 - ✓ Provide high-dose supplementation (5mg folic acid daily).
 - ✓ Provide information on the risk of recurrence.
 - ✓ Provide counseling on the protective effect of preconception folic acid supplementation and adherence.
 - ✓ Counsel to increase intake of foods rich in folate; dark green vegetables, beans, peanuts, sunflower seeds, fresh fruits, whole grain, liver and sea foods(fish).

b) Improving dietary diversity during preconception

In resource limited countries like Ethiopia, women in the reproductive age (WRA) consume a monotonous diet of predominantly starchy staples which often contain few or no animal source foods with limited seasonal fruits and vegetables. Diversifying diet is essential to ensure micronutrient adequacy among women.

Recommended Actions

- Provide nutrition counseling for women during preconception to engage their husbands/ partners to consume adequate and diversified foods (food from at least five food groups out of ten) focusing on locally available ones and these include:
 - ✓ Energy dense foods such as cereals (e.g. maize, rice, millet, sorghum), white roots and tubers (e.g., potatoes, cassava) and plantains
 - ✓ Protein and micronutrient rich foods including animal products such as meat, milk, eggs, and fish
 - ✓ Plant source, protein rich foods such as legumes including beans, peas, soybean, and groundnuts
 - ✓ Calcium rich foods such as dairy products (yoghurt, milk, and cheese), eggs, fish, beans, soybeans, beef and cereals like whole millet and rice.
 - ✓ Zinc rich foods such as meat, fish, legumes, seeds, nuts, dairy, eggs, whole grains, and some vegetables.
 - ✓ Counseling on intake of iodine through use of iodized salt for all WAR

The ten food groups “counted” in the minimum dietary diversity for women of reproductive age indicator are:

- ✓ Grains, white roots and tubers, and plantains
- ✓ Pulses (beans, peas, and lentils)
- ✓ Nuts and seeds
- ✓ Dairy
- ✓ Meat, poultry, and fish
- ✓ Eggs
- ✓ Dark green leafy vegetables
- ✓ Other vitamin A-rich fruits and vegetables
- ✓ Other vegetables
- ✓ Other fruits

For ease of operationalizing and counseling on eating diversified diet, the above food groups are clustered in to six category food groups of staples, legumes/nuts, vegetables, animal source foods, fats and fruits as indicated below with examples of locally available food items under each food group.



Eat Diversely!

SURE programme
Ministry of Health &
Ministry of Agriculture

For good health eat at least 4 different food groups at every meal!
















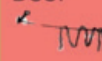






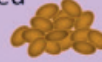








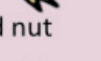


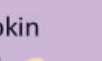





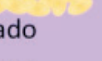



STAPLES	LEGUMES/NUTS	VEGETABLES	ANIMAL FOODS	FATS	FRUITS
Millet 	Lentils 	Kale 	Egg 	Cooking oil 	Mango 
Sorghum 	Peas 	Broccoli 	Fish 	Butter 	Papaya 
Maize 	Broad beans 	Carrot 	Beef 	Sesame Seeds 	Avocado 
Teff 	Chick peas 	Orange sweet potato 	Lamb 	Linseed 	Banana 
Barley 	Beans 	Pumpkin 	Poultry 	Sunflower seeds 	Grapes 
Wheat 	Ground nut 	Cabbage 	Milk 	Pumpkin seeds 	Pineapple 
Oats 		Squash 	Yoghurt 	Avocado 	Guava 
		Tomatoes 			Orange 

Figure 1: Food items among different food groups

c) Promoting healthy eating behavior during preconception

Promoting healthy eating behavior during preconception is important for the current and future wellbeing of the woman and enhances the health of the child and safety of her future pregnancy. Healthy eating means eating a variety of foods that give you the nutrients you need to maintain your health, feel good, and have energy. These nutrients include protein, carbohydrates, fat, water, vitamins, and minerals. It is also important to avoiding consumption of unhealthy foods such as consumption of saturated fats, sugary beverages, processed meats, and high sodium.

Recommended actions

- Promote regular consumption of fiber rich foods which are essential for bowel movement (whole grains, fruits, vegetables).
- Promote consumption of adequate amounts of drinking water (at least 2 liters per day).
- Counsel on avoiding tea and coffee consumption (inhibitors of iron/zinc/calcium absorption) within one hour before or after eating, and promote increased intake of absorption enhancers, vitamin C-rich foods such as oranges, tangerines, mangoes etc.
- Counsel and educate on limiting consumption of processed and junk foods as well as soda and other sweetened drinks to prevent overweight and chronic diseases.

d) Promoting healthy weight during preconception

Pre-pregnancy BMI strongly influences gestational weight gain (GWG) and potentially fetal and maternal outcomes. For women with a low pre-pregnancy BMI (<18.5kg/m²), inadequate weight gain has been linked to low birth weight (LBW), preterm birth, and small for gestational age (SGA) infants. Infants with low birth weight are known to have an increased risk of infant morbidity and mortality (The Lancet. 2021). Non pregnant women's nutritional status is classified based on their BMI as presented in the table below.

Table 15: Nutritional status classification of WRA during preconception based on BMI

Nutritional status/Classification	BMI (Kg/m ²)
Underweight	< 18.5
Normal weight	18.5-24.9
Overweight	25-29.9
Obese	≥30

Source: WHO; Recommendations on Antenatal Care for a positive pregnancy experience; 2020

Recommended actions

- Provide counseling and education on the importance of normal pre-pregnancy weight and regular weight measurement and recording.
- Provide counseling and education on the consumption of safe, adequate, and diversified meals.
- Provide balanced energy and protein supplements for pre-pregnant women with low BMI (supplement such as fortified blended foods, ready to use supplementary food).
- Provide counseling and education on healthy lifestyle for overweight and obese women.

e) Promoting lifestyle modification

The aim of pre-pregnancy lifestyle modification intervention is to optimize women to adapt to the physiologic and anatomic changes and increased nutritional needs that will happen during pregnancy and maximize fetal growth and development.

Recommended actions

- Provide counseling and education on avoiding alcohol consumption, smoking including secondhand smoking, and substance abuse.
- Provide counseling and education on the importance of moderate regular physical activity 3-5 times per week for at least 30 minutes alongside with optimal nutrition
- Provide counseling and education for women on personal hygiene and environmental sanitation.
- Promote and counsel on early initiation of antenatal care.
- Promote and counsel on healthy diet that includes fruits, vegetables, whole grains, proteins and dairy in appropriate amounts and reducing processed high fat and sugar.
- Use different platforms such as reproductive clinics /workplace, youth clubs, schools and universities to access young people and provide awareness on preconception care.

Preconception care should be integrated into existing family planning service contact points; contraceptive discontinuation could be a good time to start.

4.4.1.1. Implementation modality for preconception

Table 16: Implementation modality of interventions among preconception

Interventions	Implementation modalities	Entry point
Micronutrient supplementation and counseling on adherence during preconception	<p>Counsel on the purpose of micronutrients supplementation during preconception</p> <p>Link the discontinuation of family planning services to folate supplementation</p> <p>Provide micronutrient supplements according to the guideline</p>	School , FP and other health services, youth friendly services
Improving dietary diversity during preconception	<p>Promote consumption of micronutrient rich foods</p> <p>Promote consumption of fortified and biofortified foods</p> <p>Demonstrate gardening at school, YFS and home</p>	School , FP and other health services, youth friendly services
Promoting Healthy eating behavior during preconception	Counsel on consumption of unhealthy food (pizza, fried food, burger, beverage etc)	School, FP and other health services, youth friendly services
Promoting lifestyle modification	<p>Promote physical exercise</p> <p>Counseling to avoid smoking, chewing khat, substance abuse, etc.</p>	School , FP and other health services, youth friendly services

4.4.2. Nutritional Interventions during Pregnancy

Given the increased nutritional needs during pregnancy and the special care and support required for pregnant women, there are a range of recommended nutritional interventions that need to be provided at health facility and community levels.

a) Micronutrient supplementation and counseling on adherence during pregnancy

Deficiencies of micronutrients such as folate, iron, iodine and vitamin A, are particularly common during pregnancy, due to increased nutrient requirements of the mother and developing fetus. These deficiencies can negatively impact the health of the mother, her pregnancy, as well as the health of the newborn baby. In response to this, in addition to dietary diversification pregnant women must be provided with micronutrients supplements and counseling on adherence in every ANC contact.

Table 17: Recommended micronutrient supplement

Interventions	Recommended Actions	Delivery Modality
<p>Daily oral iron and folic acid (IFA)</p>	<ul style="list-style-type: none"> • Provide daily oral IFA supplementation in composition of 30 - 60mg elemental iron and 400µg/0.4mg folic acid) which add up to 180 tablets for a total of 6 months. • Counsel on the benefits of consuming 180 IFA tablets such as preventing maternal anemia, puerperal sepsis, low birth weight, and preterm birth. • Counsel on side effects and their management, when to take tablets, drinks to be avoided while taking tablets. • Counsel on IFA adherence that includes tracking of number of tablets consumed • Counsel to continue taking daily oral iron and folic acid supplementation during lactation if a woman did not finish the recommended 180 IFA tablets during pregnancy. • Counsel on the consumption of iron rich foods such as animal source foods (liver, meat, etc), dark green leafy vegetables. 	<p>ANC contacts, pregnant women conferences, home to home visits, community conversations, Mother-to-mother support groups and local media</p>
<p>Screening and treatment of anemia during pregnancy</p>	<ul style="list-style-type: none"> • Treat a woman diagnosed with anemia during pregnancy with daily elemental iron of 120mg until her Hb concentration rises to normal (Hb 110g/L or higher). Thereafter, she can resume the standard daily antenatal iron dose (30 - 60mg) to prevent recurrence of anemia. • Counsel on adherence of anemia treatment. • Counsel on consumption of iron rich foods such as animal source foods (liver, meat, dark green leafy vegetables, etc.). • Counsel on the utilization of bed net on malaria endemic areas. 	<ul style="list-style-type: none"> • ANC contacts

Calcium supplements	<ul style="list-style-type: none"> • In populations with low dietary calcium intake, daily supplementation of 1.5–2.0gm oral elemental calcium is recommended for 180 days. • Promote consumption of locally available, calcium-rich foods such as milk, other dairy products, and green leafy vegetables. • Counsel on the benefits of taking calcium in preventing preeclampsia, blood clotting, building bones and teeth, , regulating nerve and muscle activity. 	<ul style="list-style-type: none"> • ANC contacts
Preventive deworming	<ul style="list-style-type: none"> • Deworm all pregnant women with a single dose of albendazole (400mg) or mebendazole (500mg) after the first trimester. • Albendazole and mebendazole are well tolerated, with no adverse events when given after the first trimester. • Anthelmintic medicines (albendazole and mebendazole) must not be given during the first trimester of pregnancy. 	<ul style="list-style-type: none"> • ANC contacts • Household visits • PW conferences, women conferences, community conversations

Note: MMS would be used in place of IFA tablets once the ministry has issued guidelines based on evidence gathered from the current implementation research undertakings.

b) Improving dietary diversity of pregnant women

Pregnancy imposes increased macro and micronutrient demands, deficiencies of micronutrients such as vitamin A, iron, iodine, and folate are particularly common during pregnancy and lactation falling short of increased nutrient requirements of the mother and the developing fetus. Pregnant women need to consume a diverse diet in order to meet their increased energy and micronutrient needs and ensure optimal pregnancy and positive birth outcomes.

Recommended actions

Provide nutrition counseling for pregnant women engaging their husbands/ partners and other family members to consume adequate and diversified foods focusing on locally available foods and these include:

- ✓ Roots and tubers: e.g., potatoes, cassava, and plantains
- ✓ Protein and micronutrient rich foods including animal products such as meat, milk, eggs, and fish
- ✓ Plant based protein rich foods such as legumes like beans, peas, soybean, and groundnuts.
- ✓ Minerals and vitamin rich foods such as fruits and vegetables
- Provide counseling on the importance of iodine. Iodine is essential for healthy brain development

of the fetus. A woman's iodine requirements increase substantially during pregnancy to ensure adequate supply to the fetus.

- Promote consumption of iodized salt and foods rich in iodine such as sea foods (e.g., fish). Counsel and educate to add salt during serving or at the end of cooking during food preparation.
- Counsel on and encourage consuming foods that are rich in zinc such as meat, fish, legumes, seeds, nuts, dairy, eggs, whole grains and some vegetables. Recognizing an adequate supply of zinc is especially important for pregnant women due to the central role of zinc in cell division, protein synthesis and growth.

c) Promote appropriate weight gain during pregnancy

Weight gain during pregnancy, referred to as gestational weight gain (GWG), is necessary for a woman's body to support adequate growth and development of the fetus and subsequent lactation (breastfeeding upon birth). Inadequate GWG is associated with SGA, poor birth outcome, and child growth and health.

Recommended weight gain during the first trimester is relatively low. Then the rate of weight gain grows rapidly reaching its peak in the second trimester. During the third trimester, the rate of gain slows down slightly, and then remains constant until the date of delivery. Steady increase of 1.5–2kgs per month is expected from 4 months of pregnancy. On average, women are expected to gain 10–12kgs average weight gain throughout pregnancy. The table below summarizes the recommended weight gain based on pre-pregnancy BMI (weight gain during pregnancy, reexamining the guidelines. 2009).

Table 18: Recommended weight gain during pregnancy and dietary recommendation

Pre-pregnancy weight Category (BMI in kg/m ²)	Recommended total weight gain in (kg)	Rate of weight gain in the 2nd &3rd Trimester (kg/week)	Recommended diet
Underweight (< 18.5)	12.5–18	0.51 (0.44-0.58)	More calorie and protein diet, adequate vegetables and fruits
Normal (18.5 to <24.9)	11.5–16	0.42 (0.35-0.50)	Moderate carbohydrate and protein diet and adequate vegetables and fruits
Overweight (25 to <29.9)	7–11.5	0.28 (0.23-0.33)	Normal carbohydrate and protein diet, very low fat, more vegetables and fruits
Obese (>= 30)	5–9	0.22 (0.17-0.27)	Less carbohydrate and protein diet, more vegetables and fruits, avoid fat foods

Women are advised to increase their daily calorie intake during pregnancy according to their pre-pregnancy body weight, physical activity, and gestational age. Counseling mothers to get at least one additional nutrient-dense, safe, and diverse meals per day during pregnancy to fulfill the extra energy and protein requirement is important.

Recommended actions

- Measure and monitor weight gain, and counsel on appropriate weight in every ANC contact.
- Provide counseling on the importance of appropriate weight gain for the mother as well as

the baby, expected weight gain throughout pregnancy and expected increase in the upcoming contact.

- Provide counseling and encouragement to take one additional diversified meal per day during pregnancy to gain recommended weight.
- Provide counseling on addressing excessive weight gain.
- Promote the importance of adequate rest and care.
- Identify and link food insecure and malnourished pregnant women with PSNP, supplementary feeding programs and other social support schemes.

d) Promoting healthy eating behavior and lifestyle during pregnancy

Promoting healthy eating behavior and lifestyle modification during pregnancy is important for the mothers to stay healthy and prevent excessive weight gain during pregnancy.

Recommended actions

- Counsel and educate on avoidance of alcohol consumption, smoking, including secondhand smoking, khat and other substance use to prevent congenital anomalies and spontaneous abortion.
- Counsel and educate on the reduction of caffeine intake (Daily caffeine intake should not exceed 300mg which is equivalent to 3 small cups of Ethiopian coffee.)
- Counsel on reduction of free sugar intake to less than 10% of the total energy intake.
- Counsel on reduction of salt intake to less than 5gm/day (2gm sodium per day) which is equivalent to 1 teaspoon.
- Counsel on avoiding junk foods such as fast foods (e.g., burger, pizza, etc.).
- Counsel to engage in moderate regular physical activity 3-5 times per week for 30 minutes alongside consuming nutritional diet to maintain healthy weight.
- Counsel on appropriate food preparation methods such as avoiding overcooking of vegetables to prevent loss of nutrients.
- Promote consumption of adequate amounts of drinking water (at least 2 liters per day).

e) Promoting Food safety, safe drinking water, sanitation, and hygiene

Recommended actions

- Counsel on using clean and safe drinking water, and keeping personal hygiene
- Counsel on appropriate use of latrine and proper solid and liquid waste disposal and management.
- Promote food safety such as keeping kitchen areas clean and free from insects and rodents, separating raw and cooked foods, cooking thoroughly, keeping food at room temperature and using safe ranges.

- Counsel on avoiding consumption of raw meat, raw /partially cooked eggs, mould-ripened soft cheese, salad, unwashed raw vegetables, unpasteurized dairy products to prevent listeriosis, toxoplasmosis, salmonella, miscarriage, still birth and premature delivery.
- Counsel on preventing excess weight gain by remaining physically active during pregnancy.

e) Promotion of early breastfeeding practice

Promotion of early breastfeeding practice is important to initiate and make the mother ready for breastfeeding.

Recommended actions

- Establish and implement mother and baby friendly health facility initiatives.
- Inform all pregnant women about the benefits and management of breastfeeding.
- Help mothers initiate breastfeeding within the first one hour of birth.
- Give newborns no food or drink other than breast milk, unless medically indicated.
- Practice rooming-in - allow mothers and infants to remain together 24 hours a day.
- Encourage breastfeeding on demand.
- Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.

4.4.3. Implementation modality of nutrition services for pregnant mothers

Interventions	Implementation modalities	Entry point
Micronutrient supplementation and counseling on adherence during pregnancy	Counsel on the importance of micronutrient supplementation to pregnant women. Provide IFA to pregnant women. Deworm after the first trimester	Health posts, health centers and hospitals (EPI, ANC, delivery, PNC units)
Improving dietary diversity of pregnant women	Promote consumption of safe, diversified and nutritious food. Promote consumption of fortified and biofortified food. Promote backyard gardening and small animal rearing. Organize food cooking demonstration to mothers.	Health posts, health centers, hospitals, villages, farmer training centers, women conferences, home to home visits, community conversations, local media Mother to mother support group
Promoting appropriate weight gain during pregnancy	Regularly monitor weight gain at ANC units. Interpret the result and proper counseling.	Outreach, health posts, health centers, hospitals (ANC)
Promoting healthy eating behavior and lifestyle during pregnancy	Counsel on consumption of health and nutritious food Avoid consumption of alcohol, chewing khat, substance abuse, etc.	Outreach, health posts, health centers, hospitals (ANC)

Promoting food safety, safe drinking water, sanitation, and hygiene	<p>Counsel mothers to clean raw food items (vegetables, fruits and animal product) before consumption.</p> <p>Counsel mothers to cook vegetables well and animals source foods thoroughly.</p> <p>Counsel mothers to drink safe and clean water (piped water, boiled and treated water).</p> <p>Counsel mothers to avoid consumption of raw foods items or products.</p>	Outreach, health posts, health centers, hospitals (ANC)
Promotion of early breast-feeding practice.	<p>Promote early initiation of breastfeeding within one hour.</p> <p>Promote exclusive breastfeeding for the first six months of an infant's life.</p>	Outreach, health posts, health centers, hospitals (ANC)

4.4.4. Nutrition Interventions during lactation

To support children's optimal growth and development and women's well-being during lactation, women need to have access to adequate nutritious, safe, and affordable diets. This could be attained through postnatal care services including nutrition counseling and support and a healthy environment that enables access to healthy foods, adequate nutrition services and positive nutrition practices.

a) Promote adequate energy intake during lactation

Lactation places a high demand on maternal stores of energy, protein, and other nutrients. These stores need to be established, conserved, and replenished. The energy, protein, and other nutrients in breast milk come from a mother's diet or her own body stores. Women who do not get enough energy and nutrients in their diets are at risk of maternal depletion. As a result, lactating women need an additional 640kcal/day (two additional diversified meals). Furthermore, lactating women can be malnourished if they fail to take adequate energy. Lactating women up-to 6 months post-partum with MUAC <23cm are classified to be underweight.

Recommended action

- Counsel on the consumption of two additional diversified and nutrient-dense meals, daily during lactation.
- Prepare and disseminate context specific nutritious recipes for lactating women.
- Promote the importance of adequate rest and care for lactating mothers.
- Promote the engagement of husbands, grandparents, and other household members who play key roles in providing continuous care for women.
- Counsel on family planning and birth spacing.
- Identify and link food insecure and malnourished LW with PSNP, supplementary feeding programs and other social support schemes.

b) Improving dietary diversity of lactating women

Lactation imposes increased macro and micronutrient demands; lactating mothers need to consume a diverse diet in order to meet their increased energy and micronutrient needs.

Recommended actions

Provide nutrition counseling for lactating women on engaging their husbands/ partners and other family members to consume adequate and diversified foods (food from at least five food groups) focusing on locally available foods including:

- ✓ Roots and tubers e.g., potatoes, cassava, and plantains
- ✓ Protein and micronutrient rich foods including animal products such as meat, milk, eggs, and fish
- ✓ Plant based protein rich foods such as legumes like beans, peas, soybean, and groundnuts.
- ✓ Minerals and vitamin rich foods such as fruits and vegetables
- Provide counseling addressing the importance of iodine for the health of the mother and the baby.
- Promote consumption of iodized salt and foods rich in iodine such as seafoods (e.g., fish).
- Counsel and educate to add iodized salt during serving or just at the end of cooking.
- Counsel and encourage consumption of foods that are rich in zinc such as meat, fish, legumes, seeds, nuts, dairy, eggs, whole grains and some vegetables.

c) Promoting healthy eating behavior and lifestyle during lactation.

Promoting healthy eating behavior and lifestyle modification during lactation is important for the mothers to stay healthy and prevent excessive weight gain during lactation.

Recommended actions

- Counsel and educate on avoidance of alcohol consumption, smoking including secondhand smoking, khat chewing and other substance use to prevent congenital anomalies and spontaneous abortion.
- Counsel on reduction of free sugar intake to less than 10% of the total energy intake.
- Counsel on reduction of salt intake to less than 5gm/day (2gm sodium per day) which is equivalent to 1 teaspoon.
- Counsel on the consumption of junk foods such as fast foods.
- Counsel to engage in moderate regular physical activity 3-5 times per week for 30 minutes alongside consuming nutritional diet to maintain healthy weight.
- Counsel on appropriate food preparation methods such as avoiding overcooking of vegetables to prevent loss of nutrients.

4.4.4.1. Implementation modality for lactating women

Table 19: Implementation modality of interventions among lactating women

Interventions	Implementation modalities	Entry point
Promoting adequate energy intake during lactation	Counsel lactating mothers to consume food items that are energy rich (carbohydrate and fat). Promote utilization of labor and time saving technologies.	Health posts, health centers, hospitals (PNC, FP and EPI) and PSNP
Improving dietary diversity of lactating women	Promote consumption of safe, diversified and nutritious diet. Organize food cooking demonstration sessions to lactating mothers Promote backyard gardening and small animal's rearing practices. Promote consumption of fortified and bio fortified foods.	Health posts, health centers, hospitals (PNC, FP and EPI) and PSNP
Promoting healthy eating behavior and lifestyle during lactation	Avoid consumption of alcohol, chewing khat, substance abuse, etc.	Health posts, health centers hospitals (PNC, FP and EPI) and PSNP

4.4.5. Nutrition-sensitive interventions among women

Women's diets are influenced by household food security, food affordability, women's education status, gender inequality and cultural norms affecting their ability to make decisions about their nutrition and care. Barriers to nutritious diets during pregnancy and lactation include limited knowledge about the quantity and quality of food to eat and the amount of weight to gain, unavailability and unaffordability of nutritious foods, poor access to safe water supply and sanitation facilities, cultural and social taboos that dictate what women can and cannot eat. The multifaceted nature of barriers, therefore, needs multi sectorial collaborations.

Table 20: Nutrition sensitive interventions for women

Sectors	Interventions
Agriculture	<ul style="list-style-type: none"> Establish communal fruit and vegetable gardens dedicated for PLW. Provide agriculture extension services to households with PLW for backyard gardening, poultry production, small ruminant rearing. Introduce simple food processing and preserving techniques/technologies and train PLW for year-round availability of fruits, vegetables, and animal source foods. Prioritize households with PLW for seed provision, livestock restocking, etc. Establish and strengthen cash transfer and conditional voucher programs that include nutritious foods for PLW. Orient farmers/husbands on improved farming methods for increased production of nutritious foods and on the benefits of dietary diversity for mothers in collaboration with DAs/HEWs. Create market linkages with local tool makers to improve access to time and labor-saving technologies for women Promote production and consumption of bio fortified crops (orange fleshed sweet potato, high protein maize, etc.).

WASH	<ul style="list-style-type: none"> • Construct private/public latrines with handwashing facilities with special focus to PLW. • Encourage small well/spring/surface water maintenance and treatment technologies. • Regularly distribute and promote water treatment kits for PLW households. • Mobilize community for rainwater collection, storage, and treatment with priority given to PLW. • Train and support community level WASH committee members to handle simple maintenance problems for communal water points.
Social and Women and Social Affairs	<ul style="list-style-type: none"> • Promote water fetching services for PLW as one of the public work activities under PSNP. • Early identify PLW and timely transition from public works to temporary direct support. • Improve women empowerment and decision-making power. • Promote maternal nutrition, care and support for PLW using public work and other events under PSNP through availing counseling materials. • Engage private sectors to provide baby-sitting services for lactating working mothers in rural areas. • Enforce compliance with maternity leave for pregnant and lactating women in both the private and public sectors. • Advocate for extension of maternity leave for up to six months. • Promote engagement of men and boys in doing household chores. • Advocate gender equity and equality for key influencers and religious leaders.

4.4.6. Maternal nutrition under special circumstances

a) Maternal nutrition in emergency situations

During emergencies, access for pregnant and non-pregnant women to essential routine services such as antenatal care (ANC), routine obstetric care, reproductive health, and other disease prevention and treatment services may be disrupted. The impact of emergencies such as limited mobility and poor access to food can also exacerbate already existing vulnerabilities and risks for women and their children. When food is in short supply, women and girls are more likely to reduce their intake (either voluntarily or not) in favor of other household members.

Nutrient requirements may also increase due to malabsorption and nutrient losses caused by diarrheal and infectious diseases. Hence, pregnant and lactating mothers are more vulnerable mainly to wasting, deficiencies of iodine, vitamin A and iron in emergency situations. Increases in forced early marriage may also lead to more adolescent pregnancies in protracted emergencies. There are gaps in policy and guidance for addressing maternal nutrition in emergencies in the country.

Recommended actions

- Provide emergency food assistance, especially fortified food provision and link PLW with livelihood programs such as cash incentive provisions.
- Prioritize PLW in humanitarian aid programs and support them to meet their energy and other nutrient needs.
- Provide essential pregnancy related services during emergencies including micronutrient supplementation and deworming.
- Provide safe childbirth and postpartum services during emergencies.

- Provide women’s education and nutritional counseling during emergencies
- Provide disease prevention and control services such as malaria, and HIV
- Develop water, sanitation and hygiene strategies.
- Provide family planning services for women during emergencies.
- Work towards prevention of gender-based violence during emergencies.
- Provide psychosocial support including ECD and mental health services for PLW.
- Ensure appropriate and workable policy and guidance to address maternal nutrition in emergency situations.

b) Disease

The nutritional status of pregnant women is undermined by risks of communicable and non-communicable diseases. The common diseases affecting pregnant women and pregnancy outcomes are outlined in the table below.

Table 21: Common Diseases Affecting Pregnant Women and Pregnancy Outcome

Illness	Risk Factors	Recommended Actions
Hypertension	<ul style="list-style-type: none"> • Family history (genetic factors) • Obesity • Lack of regular physical activity • Poor nutrition, especially low calcium intake • Stress • Unhealthy food habits • Extreme ages • Nulliparity 	<ul style="list-style-type: none"> • Provide clinical treatment and regular follow-up. • Encourage women to maintain a healthy diet during pregnancy. • Counsel on increasing exercise. • Counsel on reducing intake of sodium/table salt • Counsel on increasing calcium intake. • Discourage the use of alcohol • Provide psychosocial support to manage stress. • Promote preconception services.
Diabetes Mellitus (DM) or pregnancy induced DM	<ul style="list-style-type: none"> • Family history • Obesity • Sedentary lifestyle • Environmental factors and drug induced 	<ul style="list-style-type: none"> • Counsel on eating small, regular meals to help control weight and glucose levels. • Counsel on eating a variety of foods to help maintain adequate nutrition. • Counsel on moderate exercise for 30 minutes or more on most days of the week. • Counsel on eating low fat foods. • Encourage consumption of foods that contain dietary fiber (e.g., fruits, vegetables, whole wheat bread, cereals, brown rice, and legumes). • Encourage PLW to avoid smoking and alcohol intake.

Malaria	<ul style="list-style-type: none"> • Stagnant water • Large mosquito population living environment • Lack of long lasting insecticide treated net (LLITN) • Low health seeking behavior 	<ul style="list-style-type: none"> • Encourage early diagnosis and treatment of pregnant mothers. • Manage according to the current national malaria protocols. • Provide free long-lasting ITNs in all malaria endemic areas and counsel to sleep under its cover. • Counsel on increasing fluid intake including water. • Small frequent meals of wide variety in case of low appetite and vomiting. • Promote continued intake of iron and folic acid supplements.
HIV/AIDS:	<ul style="list-style-type: none"> • Poor ANC attendance • Poor compliance with drugs • Poor diet intake 	<ul style="list-style-type: none"> • Encourage pregnant women to attend ANC on regular basis. • Ensure pregnant mothers know their HIV status. • If possible, encourage them to take the ARV drugs. • Counsel on having adequate, safe, diversified and nutritious diet.
COVID-19	<ul style="list-style-type: none"> • Failure to follow appropriate COVID-19 prevention actions • Previous CVD • Previous lung disease • Obesity 	<ul style="list-style-type: none"> • Manage pregnant COVID patients based on the national treatment protocol. • Counsel on appropriate COVID prevention actions. • Counseling on Physical activity. • Counsel on eating fruit and vegetables. • Counsel adequate fluid intake

5. Child Nutrition

5.1. Introduction

Access to adequate nutrition is a fundamental right of every child. Children who are fed with adequate, diversified and age appropriate diet in the right way are more likely to be healthy, achieve physical growth, cognitive and behavioral development. The first 1000 days of life is a “critical window” of opportunity for implementing nutrition interventions to ensure optimal child nutrition.

Conditions like drought, flood, conflict, internal displacement, refuge, disease outbreaks and other emergency situations are critical to prevent growth retardation, deterioration to severe malnutrition and death. In addition, children with special needs such babies having HIV/ AIDS, those born preterm and with low birth weight require special nutritional support.

Nutrition specific and sensitive interventions need to be aligned and integrated across all implementing sectors. Therefore, it is crucial to bring synergy among food and nutrition implementing sectors, development partners and all other relevant stakeholders.

5.2. Objectives

- To provide guidance on standard nutrition services for infants, young children and children under 10
- To ensure optimal IYCF practices under normal and special circumstances
- To improve the nutritional status of under 10 children.

5.3. Nutritional requirements of children

The nutritional requirements of children depend on several factors including their age, sex, health status, physical activity, and environmental conditions. The table below summarizes the standard nutritional requirements of children.

Table 22: Nutritional requirement of children

Macro/micronutrients	Age			
	0 - 6 months	6 - 12 months	1 - 3 years	4 to 8 years
Energy Kcal/day	615	686	900	1400 to 2000
Total water(L/d) *	0.7	0.8	1.3	1.7
Carbohydrate (g/d)	60	95	130	130
Total Fiber (g/d)	ND	ND	19	25
Fat (g/d)	31	30	ND	ND
Protein (g/d)	9.1	11.0	13	19
Vitamin A (µg/d)	400	500	300	400
Vitamin C (mg/d)	40	50	15	25
Vitamin E (mg/d)	4	5	6	7

Vitamin K (µg/d)	2.0	2.5	30	55
Vitamin B6 (mg/d)	0.1	0.3	0.5	0.6
Folate (µg/d)	65	80	150	200
Vitamin B12 (µg/d)	0.4	0.5	0.9	1.2
Calcium (mg/d)	200	600	700	1000
Iodine (µg/d)	110	130	90	90
Iron (mg/d)	0.27	11	7	10
Zinc (mg/d)	2	3	3	5
Potassium(g/d)	0.4	0.7	3.0	3.8
Sodium (g/d)	0.12	0.37	1.0	1.2
Chloride (g/d)	0.18	0.57	1.5	1.9

*All water contained in food, beverages and drinking water

ND: Not Determinable due to lack of data of adverse effects

Source: Dietary Reference Intakes (DRIs): Estimated Average Requirements Food and Nutrition Board, Institute of Medicine, National Academies.

5.4. Child nutrition interventions and their implementation modalities

Optimal breastfeeding, complementary feeding, GMP, micronutrient supplementation, dietary diversification, nutritional assessment and counseling are among the key child nutrition interventions. As a core component of nutritional intervention, nutritional assessment and screening are presented in the table below.

Table 23: Recommended anthropometric assessments and nutritional status classification of children 0-9 years

Measurement	Age group	Frequency	Nutritional Status classification		
			Normal	Moderate malnutrition	Severe malnutrition
WAZ	<ul style="list-style-type: none"> 0-59 months 5-9 years 	Monthly	≥-2z-score	• - 3 to <-2 z scores (Moderate underweight)	<-3zs-score (Severe underweight)
WHZ (Wasting/a	<ul style="list-style-type: none"> 0-59 months 5-9 years 	As required	≥-2z-score	• - 3 to <-2 z scores (Moderate wasting)	<-3zs-score (Severe wasting)
HAZ (Stunting)	<ul style="list-style-type: none"> 0-59 months 	As required*	≥-2z-score	• - 3 to <-2 z scores (Moderate stunting)	<-3zs-score (Severe stunting)
MUAC (Acute malnutrition)	<ul style="list-style-type: none"> 6-24 months 	As required	≥ 12.5 cm	• 11.5 to <12.5 cm (Moderate wasting)	<11.5cm (Severe wasting)
	<ul style="list-style-type: none"> 24-59 months 	As required	≥ 12.5 cm	• 11.5 to < 12.5 cm (Moderate wasting)	<11.5cmb (Severe wasting)
	<ul style="list-style-type: none"> 5-9 years 	As required	≥ 14.5 cm	• ≥ 13.5 to < 14.5 cm (Moderate wasting)	< 13.5 cm (Severe wasting)

Based on the WHO growth standards, nutritional status of children 5-9 years can also be classified using their BMI/age as presented in the table below.

Table 24: Nutritional status classification of children 5-9 years based on BMI/age

Classification	BMI-for-age Z-score	Recommendation
Sever thinness	<-3SD	Counsel, treat and/or refer for evaluation of potential metabolic disorders, chronic health conditions, or eating disorders.
Thinness	>or=-3SD &<-2 SD	
Normal	>or = -2SD &+1SD	Counsel to keep the normal weight.
Overweight	>+1SD &≤ +2SD	Complete medical evaluation to determine potential obesity related complications.
Obese	>+2SD	

5.4.1. Recommended infant feeding practices among 0-6-month infants

1. Delayed cord clamping

WHO recommends delayed cord clamping as part of the essential neonatal care services? Clamping “not earlier than one minute” and delaying to 2-3 minutes or until cord pulsation ceases allow a physiological transfer of placental blood to the infant, the majority of which occurs within 3 min. Hence, this placental transfusion provides sufficient iron reserves and can improve the infant’s iron status for up to 6 months. However, it should not be confused with milking of the cord (WHO. Guideline: Delayed umbilical cord clamping for improved maternal and infant health and nutrition outcomes. Geneva: World Health Organization; 2014)

Recommended action

- Delay clamping of the cord up to 1-3 minutes during the essential neonatal care.

2. Birth weight measurement

Birth weight should be measured immediately after delivery to assure that the neonate is in the acceptable weight range. If a baby is diagnosed with low birth weight (LBW), it is mandatory to provide or refer to appropriate care and feeding.

Recommended action

- Measure birth weight immediately after birth.
- Provide/refer LBW babies to appropriate care and feeding.

3. Skin-to-skin contact

Skin-to-skin contact refers to the practice where a baby is dried and laid directly on the mother’s bare chest after birth. It is scientifically proven to be one of the best techniques for stimulating the baby to move to the mother’s breast, attach and begin feeding. Evidence suggests that it stimulates a specific part of the newborn’s brain. Additionally, it helps for better absorbance and digestion of nutrients, effective thermoregulation, improved weight gain, more stable heartbeat and breathing and higher blood oxygen levels. Long-term benefits also include improved brain development and function, parental attachment, and stronger immune systems.

Recommended action

- Counsel on delaying bathing for a minimum of 24 hours or 1 day after birth.

4. Early initiation of breastfeeding

Early initiation of breastfeeding is understood as the optimal practice in which a newborn baby is fed breast milk within the first hour of birth. It protects the newborn from acquiring infection, reduces newborn mortality, facilitates emotional bonding of the mother and the baby, and has a positive impact on duration of exclusive breastfeeding. It also prevents postpartum hemorrhage and increases breast milk production. Rooming/bedding in of the mother and baby is important for practicing early initiation of breastfeeding, breastfeeding on demand, and better-quality sleep. The baby will develop a more regular sleep-wake cycle earlier, more stable body temperature and be less crying.

Recommended action

- Counsel and support mothers to initiate breastfeeding within one hour of birth.

5. Feeding colostrum

Colostrum is the first milk babies get when they start breastfeeding during the first few days after birth. It is a nutrient-dense substance which contains antibodies that protect the newborn against disease. It has high protein, low fat and sugar, high level of secretory immunoglobulin A (SIgA) and natural laxative.

Recommended action

- Counsel mothers on the benefits of colostrum.
- Support mothers to feed colostrum.

6. Avoiding pre-lacteal feeding

Pre-lacteal feeding is giving any solid or liquid foods other than breast milk during the first three days after birth. It affects timely initiation of breastfeeding and exclusive breastfeeding practices. Furthermore, pre-lacteal feeding is a source of infection and interfere with establishing breastfeeding practices.

Recommended action

- Counsel mothers to practice no pre-lacteal feeding.

7. Exclusive breastfeeding

Breast milk contains all the necessary nutrients infants need in their first six months of life. Infants should be exclusively breastfed for the first six months except for provision of prescribed medications, vaccines, vitamins, and minerals. The use of bottles, teats or pacifiers should also be avoided.

Breastfeeding reduces mortality from infections, decreases the risk of overweight/obesity in childhood and adolescence, and increases intellectual abilities. It also prevents depression, reduces the risk of breast cancer, ovarian cancer, and postmenopausal osteoporosis. It also helps for birth spacing by delaying pregnancy.

Recommended actions

- Counsel mothers to exclusively breastfeed their infants for the first six months.
- Counsel and support expressed feeding of breast milk in situations where breastfeeding is not feasible.
- Implement, monitor, and enforce the regulations on the marketing of breast milk substitutes according to the national law.
- Advocate and ensure that employers protect and promote maternity rights and benefits.
- Ensure that all health facilities offering maternity services implement the Baby Friendly Health Facility Initiative (BFHI) and become certified according to the BFHI requirements.

8. Breastfeeding on demand

Breastfeeding on demand means giving breast milk as often as the child wants; 8-12 times in 24 hours or more if needed. It ensures that infants get enough milk and is an ideal way to adjust the mother's milk production to the baby's needs. The more the baby suckles, the more the breast produces milk.

Recommended actions

- Advise and educate mothers to breastfeed their children day and night.
- Counsel and support mothers to breast feed frequently on demand, 8-12 times in 24 hours.
- Counsel and support mothers to continue and increase the frequency of breastfeeding when the child is sick.
- Advise mothers to empty one breast before switching to the other.

9. Proper positioning and attachment

Successful breastfeeding depends on the proper positioning and attachment during breastfeeding. It helps to ensure the baby feeds well and stimulate milk production. It is also important for the mother to feel no pain during breastfeeding and prevent sore or cracked nipples.

Signs that an infant is properly positioned:

- a. Infant's whole body is in straight line and facing the mother (breast) and close to her.
- b. Mother holds infant's entire body, not just the neck and shoulders.

There are different ways to position babies that can be used in convenience for both the baby and the mother as needed. The figure below illustrates the different breastfeeding attachment positions.

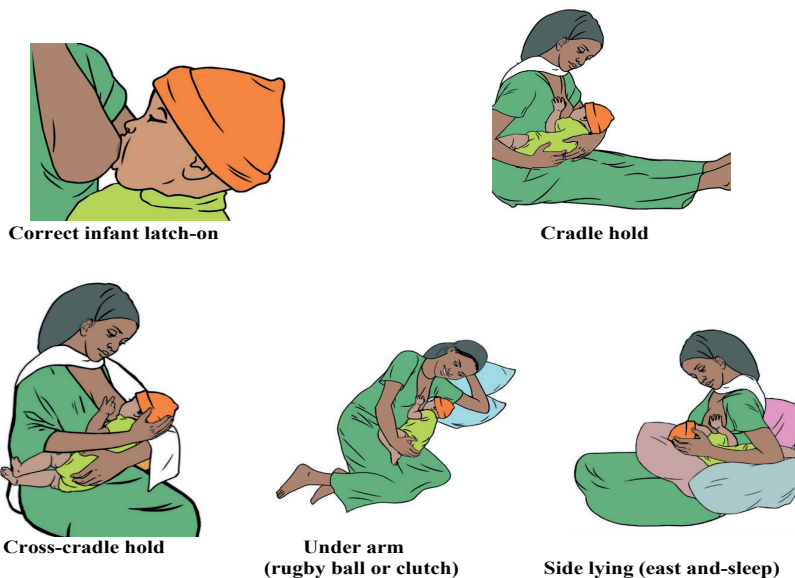


Figure 2: Types of breastfeeding position

Signs that an infant is properly attached:

- a. Mother brings infant toward her breast, not the breast toward her infant.
- b. Infant’s mouth is open wide.
- c. Infant’s lips are curled outwards.
- d. Infant’s chin touches mother’s breast.
- e. Mother’s entire nipple and a good portion of the areola (dark skin around the nipple) are in infant’s mouth. More areola is showing above rather than below the nipple.

Recommended actions

- Counsel, demonstrate, and support mothers on proper positioning and attachment during breastfeeding.

10. Growth Monitoring and Promotion (GMP)

Growth Monitoring and Promotion (GMP) is an activity that tracks a child’s growth by consistently measuring the child’s weight and age, comparing the child’s growth to a standard, identifying if the growth is adequate, and providing the necessary follow-up actions through tailored counseling and referral if needed. It is used for early detection of growth faltering to counsel parents so that they can take actions to improve child growth.

Recommended actions

- Record age of the child.
- Measure weight of the child.
- Plot and interpret weight-for-age monthly.
- Discuss growth patterns with mother/involved parents/ caregivers.
- Identify problems & solutions involving mothers/caregivers.

- Provide age-appropriate nutrition counseling.
- Maintain a family folder/mother-&-child health card to monitor the growth and development of the child.
- Follow-up/link children with growth faltering for further screening and management services.
- Link with social support programs (PSNP/TSFP and others/) when applicable.
- Demonstrate, counsel and support mothers to practice responsive caregiving, and age-appropriate play and stimulation for the proper growth and development of the baby (ECD).

Table 25: Summary of interventions and implementation modality among 0-6 month infants

Interventions	Implementation modality	Place of delivery
<ul style="list-style-type: none"> • Delayed cord clamping • Birth weight measurement • Skin to skin contact • Early initiation of breastfeeding 	<ul style="list-style-type: none"> • Provide essential newborn care and nutrition services. 	<ul style="list-style-type: none"> • Delivery room • PNC clinics
<ul style="list-style-type: none"> • Giving colostrum 		<ul style="list-style-type: none"> • PNC clinics
<ul style="list-style-type: none"> • Avoiding pre-lacteal feeding • Exclusive breastfeeding • Breastfeeding on demand • Proper positioning and attachment 	<ul style="list-style-type: none"> • Advice to avoid breast milk substitutes/ artificial feedings and ensure the implementation of Baby Friendly Health Facility Initiative (BFHI) at hospitals and health centers. 	<ul style="list-style-type: none"> • ANC clinics • Maternity room • Breastfeeding corner
<ul style="list-style-type: none"> • Growth Monitoring and Promotion (GMP) 	<ul style="list-style-type: none"> • Ensure availability and utilization of field tested and contextualized job aids, brochures, posters and documentation and reporting tools to facilitate counseling with PLW and caregivers. • Ensure availability of anthropometric measurement equipment such as infant weight scale. • Integrate nutrition counseling and support in ANC, delivery, PNC, well baby clinic and immunization, GMP and sick baby clinic service provisions. • Advocate and ensure that employers protect and promote maternity rights and benefits. 	<ul style="list-style-type: none"> • Nutrition/GMP room • Under-five clinics/ OPD
<ul style="list-style-type: none"> • Promotion of key IYCF practices at health facility and community levels 	<ul style="list-style-type: none"> • Advocate and ensure that employers protect and promote maternity rights and benefits. • Implement, monitor, and enforce the regulations on the marketing of infant and young child foods according to the national law. 	<ul style="list-style-type: none"> • Community; community conversation (CC), community care association, women development army (WDA), agriculture development army (ADA)

5.4.2. Key Interventions for children aged 6-24 months

Optimal complementary feeding

Complementary feeding (CF): is giving infants and young children foods along with breast milk starting from the age of 6 months. At the age of six months, children should be given age-appropriate complementary food with adequate frequency, amount, thickness/consistency, safety, and diversity. Active/responsive feeding and hygiene recommendations should also be followed while feeding children. At one-year, young children should progress from eating soft to semi-solid foods to solid and family foods.

Cooking demonstration: is a process of demonstrating how to prepare nutritious complementary food to a target group through cooking and sharing nutritional messages. This includes discussing different available foods and how they can be prepared at home, as well as cooking and tasting foods prepared together.

Vitamin A supplementation: Oral vitamin A supplementation is a recommended practice to control vitamin A deficiency (VAD) in most high-risk countries. It is recommended in populations where the prevalence of night blindness is 1% or higher in children 24–59 months of age or where the prevalence of VAD (serum retinol 0.70 µmol/l or lower) is 20% or higher in infants and children 6–59 months of age. In this section, we focus on a periodic prophylactic vitamin A supplementation (VAS) to pre-school children 6–59 months of age who are at risk of VAD. Vitamin A supplementation refers to the practices of providing all pre-school aged children with the WHO-recommended dose of vitamin A every six months. Vitamin A supplementation is inexpensive; it costs about a dollar per person per supplementation.

Multiple micronutrient powder: is a combination of iron, zinc, vitamin A and other micronutrients. It is used to prevent anemia and other micronutrient deficiencies. The target age group is generally those 6 months to 5 years of age. The MNP sachet should be mixed with solid or semi-solid food just before serving. Children shall be given one sachet every day for a period of two months followed by a period 3 to 4 months of supplementation. While no major side effects of MNP have been documented, minimal abdominal discomfort may sometimes occur.

Table 26: Interventions and implementation modality in children aged 6-24 months

Interventions	Implementation modality	Place of delivery
Counseling mothers/care givers on timely initiation of age-appropriate CF at 6 months (start at the 181 st day).	<ul style="list-style-type: none"> Register mothers with newborns and document for follow up. Ensure availability of appropriate, culturally tailored BCC materials in the health centers, health posts and for HDAs. Create contact with pregnant mothers or mothers with newborns at different points. This helps to counsel mothers about initiation of CF at the age of 6 months. 	<ul style="list-style-type: none"> MCH units during child vaccination and PNC visits Health posts during vaccination Household-HEWs sessions during house-to-house visits Pregnant mothers' conference in the village

Counseling mothers to continue frequent and on demand BF up to 24 months and beyond	<ul style="list-style-type: none"> • Counsel the mother on breast feeding up to 24 months. • Set up user friendly breast-feeding corners equipped with BCC materials. 	<ul style="list-style-type: none"> • Health centers • Health posts • Hospitals • Community • Day care centers
Counseling mothers/care givers on appropriate food preparation considering diversity, density and consistency	<ul style="list-style-type: none"> • Understand the traditional way of food preparation, and ensure diversity, density, and consistency. • Analyze the information and understand nutrition value in terms of diversity, density, and consistency. • Counsel mothers on the pros and cons of the traditional way of food preparation and demonstrate the acceptable recipe based on the local context. 	<ul style="list-style-type: none"> • Households • Community • Health facilities
Counseling mothers on the amount of food to be provided using local measurement	<ul style="list-style-type: none"> • Collect information on household measurement tools (cup, spoon, hand, etc.) and standardize them. • Counsel and educate mothers on how to measure with local measurement tools. 	<ul style="list-style-type: none"> • Households • Pregnant women's conference
Counseling on responsive feeding, feeding frequency and use of locally available nutritious food whenever possible	<ul style="list-style-type: none"> • Educate mothers to have responsive and on demand feeding rather than feeding by force. • Ensure love, comfort and reassurance between baby and mother. <p>Help mothers/caretakers understand they need to be patient until children adapt to the newly prepared food.</p>	<ul style="list-style-type: none"> • Households • Community platforms (women's conference, mother-to-mother support groups, etc.) • Health facilities
Counseling mothers to include animal source foods in children's diets	<ul style="list-style-type: none"> • Educate mothers on the importance of animal source foods for child health • Include animal products in a recipe and demonstrate how to prepare it. • Allow all attendees to taste the food and get feedback during cooking demonstrations. 	<ul style="list-style-type: none"> • Health facilities • Community platforms (women's conference, pregnant mothers' conference)
Counseling on food hygiene and safety	<ul style="list-style-type: none"> • Educate mothers how to practice personal hygiene while preparing food. • Educate mothers how to clean utensils, and store food ingredients. 	<ul style="list-style-type: none"> • Households • Community platforms • Health facilities
Counseling mothers on feeding during and after illness.	<ul style="list-style-type: none"> • Counsel mothers to continue breast feeding during and after a child's illness. • Counsel mothers that children after illness need to be offered more food than usual to replenish the energy and nourishment lost due to the illness. 	<ul style="list-style-type: none"> • Health facilities
Counseling mothers on proper utilization of ITN in malaria endemic areas	<ul style="list-style-type: none"> • Ensure availability of LLITN in households with children. • Demonstrate how to make ITN over the bed. • Educate mothers not to wash the ITNs. 	<ul style="list-style-type: none"> • Households • Community platforms (Women's conference)

<p>Cooking demonstration: Organizing practical cooking and feeding demonstration sessions using locally available food items</p>	<ul style="list-style-type: none"> • Identify major food products in the village and prepare appropriate recipe in line with the FMOH guideline. • Identify convenient sites for cooking demonstration. • Educate mothers on the purpose of providing diversified food for children before the demonstration. • Clearly demonstrate how to cook food and engage mothers in the cooking demonstration • Give mothers and children the chance to taste the food. • Educate the community on how to exchange food items that are not available in the house or market. 	<ul style="list-style-type: none"> • Selected sites (schools, health posts, FTC in the village)
<p>Promoting and supporting backyard gardening practices</p>	<ul style="list-style-type: none"> • Collaborate with agriculture and water sectors. • Use culturally and locally tailored guideline. • Educate mothers and family members on the possibility of practicing gardening in a small area around the house. • Organize demonstration sessions on how to prepare backyard gardening. • Randomly monitor the status of gardening. • Provide refresher orientation after random assessment. 	<ul style="list-style-type: none"> • FTCs • HPs • Community
<p>Growth monitoring and promotion (GMP)</p>	<ul style="list-style-type: none"> • Ensure availability of measuring tools in facilities. • Train nutrition service providers on how to conduct GMP. • Record age of the child. • Measure weight and height of the child. • Plot and interpret weight-for-age monthly. • Discuss growth patterns with mother/involved parents/ caregivers. • Identify problems & solutions involving mothers/ caregivers. • Provide age-appropriate nutrition counseling. • Counsel mothers to maintain a family folder/mother-&-child health card to monitor the growth and development of the child. • Follow-up/link children with growth faltering for further screening and management services. • Link with social support programs (PSNP/TSFP and others/) when applicable. • Demonstrate, counsel and support mothers to practice responsive caregiving, and age-appropriate play and stimulation for the proper growth and development of the baby (ECD). • Counsel on early childhood development. 	<ul style="list-style-type: none"> • GMP rooms • EPI rooms • Under five OPD • Health posts • Outreach sites

<p>Counseling mothers on age-appropriate play and stimulation for the proper growth and development of the baby</p>	<ul style="list-style-type: none"> • Assess the traditional child play and stimulation practices. • Identify barriers and facilitators. • Prepare/use messages for child play and stimulation. • Counsel and educate mothers/care givers on appropriate play and stimulation practices. • Monitor the changes in practice. 	<p>Community HPs HCs Hospitals Media</p>
<p>Biannual vitamin A supplementation for children 6-59 months and deworming for children 12 -24 months</p>	<ul style="list-style-type: none"> • Ensure availability of vitamin A and deworming tablets. • Provide high dose vitamin A supplementation every 6 months.; 100,000 IU (one capsule) for children 6-11 months, and 200,000 IU (2 capsules) for children 12-59 months. • Provide deworming tablets for children of age 1 – 2 years – give ½ tablet of albendazole (400 mg) or 1 tablet of mebendazole (500 mg). • Place albendazole tablet inside a folded piece of paper, then crush with a glass bottle and mix it with water in a very small cup and slowly pour the stirred medicine into the child’s mouth. • Never force a child to take deworming, do not hold a child’s nose to force them to swallow, and do not give it to a child who is crying. • Properly record and report vitamin A supplementation and deworming activities. 	<ul style="list-style-type: none"> • Enhanced outreach services, community health days • Routine HEP • Outreach • Mobile health and nutrition teams
<p>Promoting use of iodized salt and fortified and bio-fortified foods complementary foods</p>	<ul style="list-style-type: none"> • Ensure the use of iodized salts using test kits • Discuss the result of the assessment with respective sector offices for action 	<ul style="list-style-type: none"> • Households • Health facilities
<p>Providing multiple micronutrient powder</p>	<ul style="list-style-type: none"> • Identify the target. • Ensure the availability of the multiple micronutrient powder. • Estimate the amount needed. • Provide the supplement. • Educate mothers about the benefits • Monitor changes. 	<ul style="list-style-type: none"> • Community • HPs • HCs • Hospitals • Schools • Refugee center

5.4.3. Key interventions for children aged 24-59 months

Nutrition interventions for the specified group range from ensuring dietary adequacy to, prevention of micronutrient deficiencies, early detection, and management of acute malnutrition. The interventions for this group extend to ensuring access and provision of integrated early childhood care and development stimulation with existing community and facility-based child nutrition programs.

Table 27: Interventions and implementation modality among 24-59 months children

Interventions	Implementation modality	Place of delivery
Promote healthy, safe, diversified, adequate, balanced, and nutritious diet		
Promoting consumption of a safe, diversified and nutritious foods and drinks with recommended amount and frequency.	<ul style="list-style-type: none"> Identify target groups. Assess the locally available food items. Prepare/utilize age and time appropriate messages for each food items. Deliver the messages to mothers/caregivers. Monitor the behavioral change. 	Community, HPs HCs Hospitals Media Daycare centers Kindergartens (KG)
Promoting and counseling mothers on including animal source foods in the child food items	<ul style="list-style-type: none"> Assess and identify locally available animal source foods. prepare/use communication tools with appropriate messages. Educate mothers/caretakers about the benefits of animal source foods. Monitor the progress and behavioral changes among mothers. 	Community HPs HCs Hospitals Media
Counseling and supporting all mothers to employ responsive feeding and caring practices.	<ul style="list-style-type: none"> Assess the cultural feeding and caring practices. Identify barriers and facilitators. Prepare/use messages of responsive feeding and caring practices. Counsel and educate mothers/caregivers on appropriate responsive feeding and caring practices. Monitor the behavioral changes. 	Community, HPs HCs Hospitals Media
Counseling mothers on age-appropriate play and stimulation for the proper growth and development of the baby	<ul style="list-style-type: none"> Assess the traditional play and stimulation practices Identify barriers and facilitators. Prepare/use messages for play and stimulation practices. Counsel and educate mothers/care givers on appropriate play and stimulation practices. Monitor the changes in practice. 	Community HPs HCs Hospitals Media

<p>Avoiding foods and drinks that are high in sugar, salt and fat</p>	<ul style="list-style-type: none"> • Assess child feeding practices related to high sugar, salt, and fat consumption. • Identify barriers and facilitators. • Prepare/use communication materials. • Educate mothers/care givers on consumption of sugar, salt and fat in moderation. • Monitor behavioral changes and impacts. 	<p>Community HPs HCs Hospitals Media</p>
<p>Growth monitoring and promotion (GMP)</p>	<ul style="list-style-type: none"> • Ensure availability of measuring tools in facilities. • Train nutrition service providers on how to conduct GMP. • Record age of the child. • Measure the weight of child. • Plot and interpret weight-for-age monthly. • Discuss growth patterns with mothers/involved parents/caregivers. • Identify problems & solutions involving mothers/caregivers. • Provide age-appropriate nutrition counseling. • Counsel mothers to maintain a family folder/mother-&-child health card to monitor the growth and development of the child. • Follow-up/link children with growth faltering for further screening and management services. • Link food insecure HHS. 	<p>Nutrition/GMP rooms, under five OPD, EPI rooms at / Hospitals/ , HCs /HPs</p> <p>Community outreach sites, mobile health and nutrition teams</p>
<p>Provision and use of ITN in malaria endemic areas</p>	<ul style="list-style-type: none"> • Identify stakeholders to collaborate for ITN provisions. • Ensure ITN distribution. • Support mothers with children to sleep under the net. • Monitor the implementation. 	<p>Community HPs HCs Hospitals Media</p>
<p>Providing deworming services</p>	<ul style="list-style-type: none"> • Provide 400 mg albendazole tabs or 500 mg of mebendazole every six months for children 24-59 months. • Counsel mothers/caregivers on the benefits of deworming. • Record the data properly and report. 	<p>Community, HPs, HCs Hospitals Media EOS CHD Routine HEP</p>

Providing vitamin A supplementation	<ul style="list-style-type: none"> • Provide 200000 IU for children aged 24-59 months every six months. • Counsel and educate mothers/caregivers on the benefits of VAS • Record the data properly and report. 	Community HPs HCs Hospitals Media EOS CHD Routine HEP
Promoting the use and consumption of iodized salt, fortified and bio fortified foods	<ul style="list-style-type: none"> • Identify the major micronutrient deficiencies that are of public health importance. • Assess and identify fortified or bio fortified food items. • Prepare/Use promotional messages. • Educate mothers/caregivers using the standardized messages on consumption of fortified and bio fortified foods. • Monitor the progress made. 	Community Health facility Media
Providing zinc with ORS for management of children with diarrhea.	<ul style="list-style-type: none"> • Identify children with diarrhea . • Ensure the availability of zinc with ORS. • Provide zinc with ORS for all children with diarrhea. • Counsel mothers on the benefits of zinc with ORS. • Follow up and provide monitoring support. 	Health facility

5.4.4. Key interventions for children aged 5-9 years

Middle childhood, ages 5 to 9 years, is characterized by a slow, steady rate of physical growth. However, cognitive, emotional, and social development occurs at a tremendous rate. The period between 5 and 9 years of age is a time of continued growth and development. Physical, social, and mental skills develop at a steady pace during middle childhood, and children become much more capable of making decision maintaining sustained and following plans. To achieve optimal growth and development during middle childhood, nutritious and safe diets, essential nutrition services and positive nutrition practices are vital for children to grow, learn and stay active. In contrast, poor nutrition can delay children’s physical growth and development throughout childhood.

Table 28: Interventions and implementation modality among children 5-9 years

Key interventions	Implementation modality	Place of delivery
<p>Promoting healthy school and nutrition environment</p> <p>Organizing awareness raising sessions for teachers, parents and formal and informal food vendors in and around the school</p>	<ul style="list-style-type: none"> • Coordinate between health and education sectors to develop and implement school legislations on healthy environment. • Develop and implement guidelines for enabling healthy environments in and around schools on nutrition, food, health, hygiene, and physical activities. • Promote enforcement of policies/regulations that protect adolescents from the marketing of unhealthy foods and beverages in schools and beyond. • Strategically utilize school clubs, outdoor environment, mini media, and parents' gatherings to promote healthy diet and other relevant information. • Organize awareness raising sessions for teachers, parents and formal and informal food vendors in and around the school. 	<p>Ministries of education and health, regional education and health bureaus,</p> <p>woreda health and education offices,</p> <p>health facilities.</p> <p>schools,</p> <p>PTAs</p>
<p>Providing annual / biannual deworming services</p>	<ul style="list-style-type: none"> • Deworm annually or bi-annually with albendazole (400 mg) or mebendazole (500 mg), to control and/or prevent anemia in adolescents. The annual and biannual deworming is recommended if the prevalence of helminths infection is 20% - 50% and > 50% respectively. • Ensure collaboration among education and health sectors in planning and implementation of supplementation and deworming programs during targeting, supply procurement and distribution, monitoring, and reporting activities. 	<p>Primary schools,</p> <p>health facilities (health posts, health centers and hospitals)</p>
<p>Promoting healthy diet and lifestyle</p> <p>Ensuring availability of safe drinking water in schools Promoting school, health and nutrition packages, feeding programs, gardening, and WASH.</p>	<ul style="list-style-type: none"> • Advocate for regular physical exercise in the school • Use school formal structures such as mini media, clubs, and non-school platforms like youth clubs 30 minutes per day for promoting healthy diet and lifestyle. • Ensure coordination between water, education and health bureaus to increase access to safe potable water at health centers, health posts, schools, and outreach sites. • Promote school health and nutrition packages, feeding programs, gardening, and WASH. • Promote provision of diversified and healthy meal in school feeding programs. 	<p>Primary schools (mini media, clubs)</p> <p>health facilities (health posts, health Centers, and hospitals)</p>

<p>Conducting nutrition education/counseling and assessments</p> <p>Identifying and promoting the prevention of harmful traditional practices (food taboos)</p>	<ul style="list-style-type: none"> • Create coordination between schools and health facilities in targeting, assessing, and linking children for nutritional assessment and counseling. • Provide periodic nutritional assessment and counseling for children 5-9 years. • Provide regular trainings for teachers and health workers. • Identify and promote the prevention of harmful traditional practices (food taboos). 	<ul style="list-style-type: none"> • Pediatric OPD • Health posts • School health and nutrition clubs • School feeding programs (school meals)
<p>Advocate for the use of fortified staples in school feeding programs and the fortification of school meals</p>	<ul style="list-style-type: none"> • Ensure the support of health and agriculture sectors to develop and implement guidelines for food handlers and other actors to realize food safety and hygiene standards in schools. • Support the Ministry of Education to conduct food audits to ensure adherence to nutrition guidelines and quality. • Promote homegrown feeding programs in schools. • Advocate for the use of fortified staples in school feeding programs and the fortification of school meals. 	<p>Federal and regional bureaus of education, agriculture, and health, schools and woreda level health and education offices</p>
<p>Incorporating nutrition education in formal curriculum</p>	<p>Promote the incorporation of nutrition education in the curriculum from pre-primary to higher grades.</p>	<p>Federal ministries of health and education</p>
<p>Protecting and supporting children in special situations such as refugees, internally displaced persons, People living with HIV & disabilities, orphans, street children etc.)</p>	<p>Strengthen establishment of Mobile Health and Nutrition Teams (MHNT) and outreach services where there is a need and it is applicable.</p>	<p>IDP and refugee camps</p> <p>Orphanage centers/ foster care , centers for kids with special needs</p>

5.4.5. Infant and young child nutrition (IYCN) interventions in difficult circumstances

The Global Strategy for Infant and Young Child Feeding (WHO/UNICEF 2003) highlights the difficult circumstances in which infants and young children and their families require special attention regarding feeding. These include exposure to HIV, emergencies, severe malnutrition, low birth weight, migration, and internal displacement. Other social circumstances also include orphans and children in foster care, children born to adolescent mothers and mothers suffering from physical or mental disabilities, or mothers who are imprisoned or part of disadvantaged or otherwise marginalized populations. In the Ethiopian context, this guideline focuses on low birth weight, HIV/AIDS, emergencies, orphanage and vulnerable children (OVC), disability and illness.

Nutrition interventions for Low-Birth-Weight infants

Very low or low birth weight infants should be fed breast milk unless there is a medical contraindication. Very low or low birth weight infants who can be breastfed should be put to the breast after birth as soon as possible. They should also be exclusively breastfed until they turn 6 months. A cup should be used for those who need to be fed by an alternative oral feeding method.

Table 29: Interventions for Low-Birth-Weight infants

Age group/category	Intervention/Essential action	Place of delivery
< 32 weeks gestational age or Weight < 1500 g (Very low birth weight).	<ul style="list-style-type: none"> Keep the child warm through incubator or KMC. Refer to the nearby hospitals. Feed using naso-gastric tube for expressed breast milk. 	<ul style="list-style-type: none"> Newborn intensive care units (NICU) / Hospitals
32-34 weeks or weight between 1499 – 2500 g ¹ (Low birth weight)	<ul style="list-style-type: none"> Exclusively breastfeed on demand for babies who can suckle the breast. Counsel mothers on how to express breast milk. Feed expressed milk using a cup Counsel mothers to frequently breastfeed when suckling is established. Give around 60 ml/kg/day to babies who are on cup feeding (that is 60 ml of breast milk for every kilogram of the baby's weight every day) and increase this by 20 ml/kg/day as the baby demands more feeding. Keep the child warm through KMC. 	<ul style="list-style-type: none"> Health centers and health posts Home
Supplementing iron for LBW babies	<ul style="list-style-type: none"> Provide ¼ tablet of iron (50mg) daily. Use cups for those who can feed orally. Insert nasogastric (NG) tubes for those unable to take orally. Begin giving iron supplements at 2 months and continue until the infant is on complementary feeding. This should be in conjunction with measures to prevent and control malaria. 	<ul style="list-style-type: none"> Hospitals

Source: <https://www.open.edu/openlearncreate/mod/oucontent/view.php?id=342§ion=1.5>

Child nutrition in the context of HIV

Nutritional assessment and support should be integrated into the routine care of HIV-infected children. Dietary interventions should consider issues of food security, quantity, and quality, as well as absorption and digestion of nutrients.

Current evidence indicates that exclusive breastfeeding and the use of antiretroviral drugs greatly reduce mother-to-child transmission (MTCT). Counseling and support to the mothers based on the infant feeding options for HIV positive according to the National PMTCT guidelines is necessary.

Table 30: Child nutrition Interventions in the context of HIV positive mothers

Target group	Interventions	Essential action	Place of delivery
0-6 months	Promote exclusive breastfeeding	<ul style="list-style-type: none"> • Counsel mothers on exclusive breastfeeding up to 6 months. • Counsel mothers to take their ARV drugs. • Use SBCC materials. 	MNCH units in health centers, hospitals and CBNC
	Provide replacement feeding for women who cannot breastfeed and choose replacement.	Counsel mothers on how to prepare safe replacement feeding.	
6-24 months	Introduce complementary feeding at 6 months and continue breastfeeding until 24months.	<ul style="list-style-type: none"> • Counsel mothers on age-appropriate optimal CF. • Organize cooking demonstration sessions. 	RMNCH units in hospital, health centers and health posts

Source: <https://www.open.edu/openlearncreate/mod/oucontent/view.php?id=342§ion=1.5>

Nutrition interventions in emergencies

During emergencies such as floods, drought, conflict, earthquakes, disease and deaths among under-five children are generally higher than any other age group. Morbidity and mortality may be particularly high due to the combined impact of rampant communicable diseases and soaring rates of undernutrition. The best food for all infants in difficult circumstances is their own mothers' milk unless medically contraindicated, given the multiple benefits of breastfeeding. The use of replacement feeding is recommended only when the mother is absent and unable to breastfeed. Complementary feeding for children 6-23 months of age and age specific nutrition interventions for children 2-9 years of age is also recommended.

Table 31: Interventions during emergency

Interventions	Essential action
Protect, promote, and support breastfeeding.	Use IYCF-E- guideline
Facilitate and create conducive environment.	Establish BF corners, facilitate a tent or any favorable place for BF.
Avoid separating mothers and their infants to facilitate continued feeding and care.	Provide special attention to BF women; give priority in providing shelter, food etc.
Be aware of accurate and up-to-date information about infant feeding policies, guidelines, and practices.	Introduce yourself with national and global guidelines such as like BMS code directive for emergency response.
Promote appropriate, timely and safe complementary feeding.	Use IYCF-E- guideline.
Screen and treat children with acute malnutrition (0-59 months)	Use national guideline for the treatment of acute malnutrition

Nutrition in orphanage and vulnerable children (OVC)

An OVC is a child who is at high risk of lacking adequate care and protection due to parental death, disease, disaster, or acute poverty. There is evidence that showed the prevalence of stunting, wasting and underweight among the OVC was higher than their counterparts.

Table 32: Interventions for OVC

Interventions	Place of delivery
Identify orphan centers and volunteer community groups and train on how to provide nutritious food to the OVC group.	Orphanages, grassroots platforms, women's and social affairs office.
Identify the vulnerable group through respective sectors and facilitate these group to get protection and service through PSNP or any other food support in the area.	Orphan centers, grassroots platforms, women's and social affairs office

Source: Adapted from “Nina Berr, Yemisrach Nigatu & Nebiyu Dereje. Nutritional status among orphans and vulnerable children aged 6 to 59 months in Addis Ababa, Ethiopia: a community-based cross-sectional study: BMC Nutrition volume 7, Article number: 24 (2021).”

Child nutrition during common illnesses

Proper understanding of the appropriate IYCF actions in the context of different infectious diseases is necessary.

Table 33: Interventions during common childhood illnesses

Interventions	Age group	Essential action	Place of delivery
Ensure essential feeding practices during illness	children 0-6 months	<ul style="list-style-type: none"> • Counsel mothers on frequent breastfeeding, increase the frequency of BF >12 times in 24 hrs. • If the child is too sick to suckle council mother on expression of breast milk and cup feeding • Council mother on the benefits of breast milk help to fight the sickness and regain weight • Counsel on use of ITN in malaria area 	Health centers, health posts, Community
	children 6-59 months	<ul style="list-style-type: none"> • Counsel mothers to continue breastfeeding until 24 months. • Counsel mothers to give diversified, age-appropriate complementary foods. • Encourage small frequent and responsive feeding. • Counsel mothers to increase the frequency and amount of food during recovery. • Supplement with vitamin A every six months. • Counsel mothers on the use of ITN in malaria prone areas. • Counsel on hygiene and sanitation. 	Health facilities Community
	5-10 years	<ul style="list-style-type: none"> • Counsel mothers to give diversified and frequent diet. • Counsel mothers to increase the frequency and amount of food during recovery. • Counsel mothers on the use of ITN in malaria prone areas. • Counsel on hygiene and sanitation. 	

Source: Adapted from Guideline for Infant and Young Child feeding in Emergency for Ethiopia, 2021

5.4.6. IYCN integration with key sectors and programs

To facilitate and ensure proper integration of IYCN actions with food system, the following directions should be considered at different levels.

- The Ministry of Trade would encourage, facilitate, and support SMEs to ensure the availability of diversified, healthy processed and fortified complementary foods.
- Authorized government sectors [Ethiopian Standards Agency (ESA) and Ethiopian Food and Drug Authority (EFDA)] ensure that market-available processed, and premix products are produced as per the national standard.
- Strengthen the coordination, facilitation, and support of regular platforms for joint planning, implementation, and monitoring of nutrition-sensitive actions between the health and agriculture extension service providers [development agents (DA)].
- Use the Scaling up Nutrition (SUN) Business Network (SBN) as a platform to spread awareness, encourage, and involve private sector engagement in IYCN action including healthy, safe, and nutritionally sound production and marketing.
- Ensure that all local and international NGOs have one plan for food system intervention through proper alignment and convergence.

Health sector: Integrating the IYCN service with under-5 OPD, ECD, EPI, ANC, delivery, PNC, and FP services in the health program is an opportunity to promote and improve child nutrition.

- Build the capacity of health workers for IYCN integration.
- Integrate IYCN services with other RMNCAHYH services.
- Record the nutrition services during integrated service delivery.
- Integrate IYCN indicators into other health services, ISS, performance review and monitoring activities.
- Integrate IYCN promotion activities with other health service promotion activities.
- Integrate IYCN with ECD service delivery at community and health facility levels.

Women's and social affairs sector: Social protection improves the effectiveness and efficiency of investments in development activities including nutrition. Currently, the government is working vigorously on Productive Safety Net Program (PSNP) to reduce extreme poverty, scaling up of Community Based Health Insurance (CBHI) to increase health service uptake and child protection to ensure children's survival, health, and well-being.

- Social workers at kebele level should support the timely linkage of a mother having children under two years with moderate or severe malnutrition.
- Health extension workers are expected to identify lactating mothers timely and provide health and nutrition services as a co-responsibility for temporarily direct support clients.
- Ensure that optimal breastfeeding and complementary feeding are promoted for TDS and public work participants through tailored behavioral change communication sessions on the ground.

- Prioritize households who have children for cash transfer and other livelihood support programs under PSNP implementations supported by government and partners.
- Ensure that CBHI scheme members can access health services free of charge.
- Support and promote membership to CBHI scheme at all levels to help facilitate informational campaigns, registration of members, collection of contributions, and monitoring of health service providers.
- Strengthen childbirth registration services as part of a civil registration and vital events system to improve access and utilization of health and nutrition services.
- Strengthen collaborative efforts between the vital events registration sector and women's, children's, and youth affairs office to ensure timely communication for different social protection services.
- Ensure that engagement of community and local level government structures is in place to coordinate and follow the functionality of child protection policies.

Water and energy sector: WASH and IYCF integration can be ensured through promoting personal hygiene practices, environmental sanitation and access to safe water to reduce morbidity and mortality among children.

- MoWE will need to ensure urban and rural communities' access to safe and adequate water; Proper handling and treatment of clean water during scarcity need to be considered.
- Coordinate water treatment intervention to reach all children.
- Health service providers need to ensure proper handling of waste and environmental hygiene and sanitation practices through promotion of improved latrines.
- Health service providers need to promote baby wash friendly initiatives in the community to minimize enteropathy and other diarrheal diseases.
- Extension workers should promote proper hand washing practices at critical times.
- Ensure workforces of existing and new healthcare systems are receiving capacitated with hygiene promotion strategies and approaches.

Agriculture sector: The food system's improvement is key to the availability of diverse, safe, and quality food for all. The role of the agriculture sector in the food system is critical, and it includes the production of food sources such as poultry, crops, animals, vegetables, and fruit. Moreover, small-and-medium-sized enterprises (SMEs) are an important venture to make available new and value-added complementary foods and other healthy child food processing and marketing. A recent study confirmed that small-and-medium-sized enterprises (SMEs) in sub-Saharan Africa produce, process, or market some 70% of the nutritious food, such as fresh fruits and vegetables and animal-sourced proteins, sold in low-income markets.

Education sector: Poor health and malnutrition result in the loss of a considerable number of school days annually. Children obtaining proper nutrition exhibit better IQ and school performance compared to children who feed inappropriately and who develop different forms of malnutrition. School feeding and nutrition education is an important strategy for a healthy food environment, helping school children, adolescents, and their communities to improve their diets and food choices. It further helps to build their capacity to act as agents of change.

According to the National School Health and Nutrition Strategy;

- Schools should have gardens for demonstration purposes, serving as resource centers for learning more about nutrition.
- In hotspot woredas, school feeding programs shall be in place and home-grown feeding promoted to minimize breakfast and lunch skipping.
- Standards and regulations shall be developed by the relevant ministries (MOH-FDA or ESA) for controlling food handlers and school feeding programs that cover storage, preparation, and quality of food served to students.
- Different health services including deworming to students in schools shall be strengthened by healthcare providers and school communities.
- The water sector needs to ensure school communities' sustained access to adequate and safe water.
- Personal and environmental hygiene need to be promoted in schools through construction of gender sensitive latrines with handwashing facilities.
- Guidelines and curriculums should consider regular physical exercise to all school communities.
- School teachers and supervisors should be equipped with appropriate nutrition information for pre-school and school-age children.
- Linkages shall be created and promoted between regular health and nutrition services and school activities, including regular monitoring of the nutritional status of children.

Note: The MOH should ensure that the coordination platforms work regularly and effectively as per the indicators of IYCN related nutrition sensitive actions.

6. Communication for Adolescent, Maternal, Infant and young child Nutrition

6.1. Introduction

Social and Behavioral Change Communication (SBCC) is a systematic application of interactive, theory-based, and research-driven communication processes and strategies to address tipping points for change at individual, community, and social levels. Communication in nutrition is the sharing, receiving and understanding of instructions, concepts, opinions and information about nutrition issues and reacting to those issues. By its very nature, nutrition requires the engagement of various stakeholders having varying responsibilities and competing priorities. Therefore, communication is crucial to coordinate activities through these stakeholders and ensure uptake of essential nutrition messages with the targeted population.

6.2. Objectives

General Objective

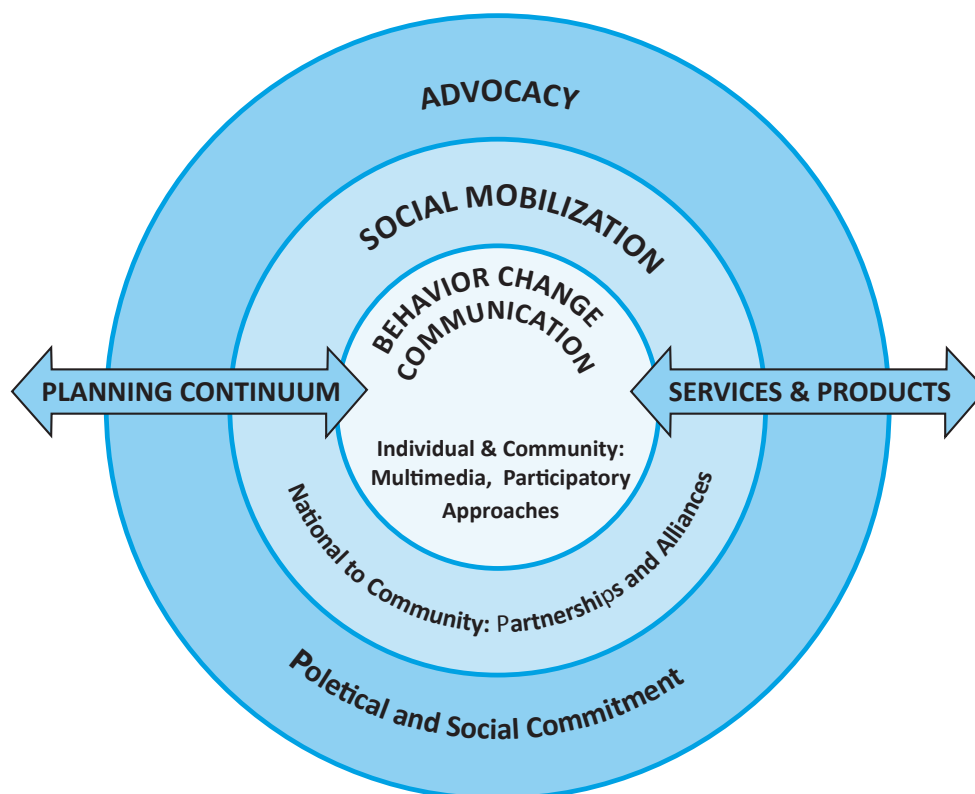
- Improve AMIYCN services uptake through continued and quality advocacy, social mobilization, and behavioral change communication at all levels.

Specific Objectives

- Advocate and lobby policy makers for their political attention and resource allocation for AMIYCN activities at all levels.
- Conduct public awareness on AMIYCN issues through social mobilization.
- Improve knowledge, attitude, and practices of AMIYCN interventions at individual, community and service delivery levels.

6.3. Implementation strategies

Improving feeding and caring practices along with the comprehensive food and nutrition service delivery at all levels requires strong advocacy, lobbying, social mobilization, and behavior change communication activities.



SOURCE: Adapted from McKee, N. *Social Mobilization and Social Marketing in Developing Communities* (1992)

Figure 3: Communication approaches/implementation strategies

Advocacy: is a process to influence decisions within political, economic, social systems and institutions. It includes activities to influence policy, laws and budget based on evidence. Advocacy could be undertaken through activities such as media campaigns, public speaking, and publishing research.

Lobbying: is a specialized form of advocacy. It is a strategic, planned, and informal way of influencing decision-makers. Characteristics of lobbying are open (two-way) communication, influencing by linking the interests of different stakeholders, creating win-win situations, and investing in long-term relationships with decision-makers.

Social mobilization: is a process that raises awareness and motivates people to demand change or a particular development. Social mobilization mostly used by the participation of institutions, community networks, civic societies, and religious groups to raise demand for or sustain progress toward a development objective. It usually is a broad-scale movement and engages a large number of people in action. Social mobilization is most effective when composed of a mix of advocacy, community participation, partnerships and capacity building activities for sustained action and behavior change.

Behavioral change communication: refers to a stage of awareness/knowledge/practice of desired behaviors to help position communication activities and messages according to the “Stages of Behavior Change.” It involves face-to-face dialogue with individuals or groups to inform, motivate, solve problems or plan with the objective to promote and sustain behavior change. Social mobilization and behavior change communication will focus on igniting change at community, household, and individual levels.

Counseling: is the use of an interactive helping process focusing on the needs, problems or feelings of the client and significant others to enhance or support coping and problem solving.

For Effective counseling approaches;

The following 3-Steps will help to counsel mothers or caregivers about infant and young child feeding. The 3-Steps are **Assess, Analyze and Act** (UNICEF, infant and young child feeding counseling guide for community workers).

Step 1: Assess: ask, listen, and observe

- Greet the mother (or caregiver), using friendly language and gestures.
- Ask some initial questions that encourage her (or him) to talk.
- Listen to what is being said and observe what is going on using your listening, learning, building confidence and giving support skills.
- Assess the age-appropriate feeding practice(s) and the condition or health of the child and mother (or caregiver).

Step 2: Analyze: identify and prioritize difficulties

- Decide if the feeding you observe is age-appropriate and if the condition or health of the child and mother (or caregiver) is good.
- If there are no apparent difficulties, praise the mother (or caregiver) and focus on providing information needed for the next stage of the child's development.
- If one or more feeding difficulties are present, or the condition or health of the child or mother (or caregiver) is poor, prioritize the difficulties.
- Answer the mother's (or caregiver's) questions if any.

Step 3: Act: discuss, suggest a piece of relevant information, and agree on doable action

- Depending on the factors analyzed above, select a piece of information to share with the mother or caregiver that is most relevant to her or his situation.
- Be sure to praise the mother or caregiver for what she or he is doing well.
- Present options for addressing the feeding difficulty or health condition of the child or caregiver in terms of small do-able actions. These actions should be time-bound (within the next few days or weeks).
- Share key information with the mother or caregiver, using the appropriate FHG, counseling cards or take-home brochures and answering questions as needed.
- Help the mother or caregiver select one option that she or he agrees to try in order to address or overcome the difficulty or condition that has been identified. This is called reaching-an-agreement.
- Suggest where the mother or caregiver can find additional support. Refer them to the nearest health facility if appropriate and/or encourage participation in WDA meetings and other educational talks in the community.

- Confirm that the mother or caregiver knows where to find a community development army and/or other health workers.
- Thank the mother or caregiver for her or his time.
- Agree on when you will meet again, if appropriate.

Table 34: SBCC Strategy, Problems, target audiences, expected outcomes and beneficiary from SBCC interventions

Strategy	Problem	Target audience	Expected Outcomes	Beneficiaries
Advocacy / lobbying	<ul style="list-style-type: none"> • Despite continued efforts, malnutrition rates in Ethiopia are unacceptably high. • Nutrition lacks priority and attention at all levels including media. • No nutrition structure at facility and community levels. • The nutrition workforce is inadequate. • Coordination in nutrition among actors is sub-optimal. • Financial and organizational resources are scarce. • Private sector involvement is minimal. 	<ul style="list-style-type: none"> • Administrative offices • Sectors offices • Partners • Private sectors • Community leaders • Media • CSOs/CBOs • Academia 	<ul style="list-style-type: none"> • Nutrition owned by decision makers at all levels • Awareness on nutrition increased at all levels • Leadership, commitment, coordination, and action increased at all levels • Nutrition structure created • Adequate nutrition workforce deployed • Adequate budget for nutrition allocated • Private sector involvement strengthened 	<ul style="list-style-type: none"> • Children under 10 years • Adolescents • PLW • AMIYC with special situations

<p>Social mobilization</p>	<ul style="list-style-type: none"> • High prevalence of stunting, wasting and underweight • High prevalence of iron deficiency anemia, iodine deficiency disorders (IDD), vitamin A deficiency, folate deficiency and other micronutrient deficiencies • Poor health seeking behavior for nutritional problems • Low coverage of AMYCN services • Sub-optimal breastfeeding practices • Poor feeding and caring practices • Food taboos among AMIYC • Poor consumption of fruit and vegetables among AMIYC • Poor consumption of animal source foods such as meat, fish, milk, eggs among AMIYC 	<ul style="list-style-type: none"> • Mothers/ Caregivers of children under 10 • Husbands/ partners of PLW • Relatives of PLW • Neighbors and peers of caregivers and mothers of children under 10 • Community media • Traditional healers • Teachers, students, and Parent-Teacher Associations • Community, religious, clans, kebele leaders and elders • Social workers • Women’s groups / structures • Traditional birth attendants • Small shop owners • Faith-based organizations • Youth structures • Higher education institutions • Grassroots community structures 	<ul style="list-style-type: none"> • Prevalence of stunting, wasting, underweight, anemia and other micronutrient deficiencies reduced • Nutrition service coverage (GMP, VAS, Deworming, Nutrition screening and counseling, weight gain monitoring) improved • dietary diversity and meal frequency improved • Animal source food consumption improved • Consumptions of fruits and vegetables improved • Awareness regarding of food taboos raised • Pre-lacteal feeding and bottle-feeding practices abandoned • Optimal breastfeeding practices • Complementary feeding practices improved 	<ul style="list-style-type: none"> • Children under 10 years • Adolescents • PLW • AMIYC with special situations
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BCC	<ul style="list-style-type: none"> • Inadequate knowledge on breastfeeding, complementary feeding and GMP • Poor nutritional service utilization • Sub-optimal cooking demonstration skills • Poor caring and feeding practices • Unhealthy eating behavior • Low coverage & quality of adolescent and youth health (AYH) services • Low awareness of early childhood care & development / ECCD/ • Weak school health and nutrition programs • Food taboos • Pre-lacteal feeding • Bottle feeding • Formula feeding • Poor dietary diversity and meal frequency • Inadequate consumption of fruits, vegetables, and animal source foods • Poor WASH practices 	<ul style="list-style-type: none"> • Mothers/fathers or care takers • Adolescents • Non-pregnant women • PLW • Displaced mothers/ care takers • Adolescents with special needs (e.g., HIV/TB patients, pregnant girls) • PLW with special needs • Street children • Orphans • School community • Health care providers 	<ul style="list-style-type: none"> • Nutrition service awareness among mothers/fathers or care takers improved • Cooking demonstration skills improved • Optimal feeding and caring practices • Healthy eating behavior • Service coverage improved • Dietary diversity and minimum meal frequency improved • Fruit, vegetable and animal source food consumption improved • WASH practices improved • Regular health education programs increased 	<ul style="list-style-type: none"> • U10 children • Adolescents (10-19 yrs) • PLW • Highly vulnerable AMIYC
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Table 35: SBCC materials and channels

Strategy	SBCC materials	Dissemination channels
Advocacy and lobbying	<ul style="list-style-type: none"> ✓ Factsheets ✓ Policy briefs ✓ Banners ✓ Brochures ✓ Presentations ✓ Advocacy videos ✓ Learning visits ✓ Success stories ✓ Scientific conferences 	<ul style="list-style-type: none"> ✓ Print media ✓ Electronic media ✓ Government structures (National to kebele levels) ✓ CSO structures ✓ Business networks ✓ Partner networks
Social mobilization	<ul style="list-style-type: none"> ✓ Banners ✓ Brochures ✓ Flyers ✓ Billboards ✓ Stickers ✓ TV/Radio spots ✓ TV/radio Messages ✓ Dramas ✓ Presentations ✓ Press release ✓ Roundtable discussions ✓ Panel discussions 	<ul style="list-style-type: none"> ✓ Print media ✓ Electronic media ✓ Local radios/Community radios ✓ Educational radios ✓ Social media ✓ Community structures (Ekub, mahiber, edir, religious networks, clan networks, woman machineries) ✓ Government structures (National to kebele levels) ✓ CSO structures ✓ Business networks ✓ Partner networks
Behavioral change communication	<ul style="list-style-type: none"> ✓ Posters ✓ Brochures ✓ Stickers ✓ Pictures ✓ Guidelines ✓ Job aids ✓ Quick reference books ✓ Calendars ✓ Digital technologies (mobile text messages, mobile applications, audio books, pico projectors) 	<ul style="list-style-type: none"> ✓ Health facilities ✓ Households ✓ Print media ✓ Government structures (National to kebele levels) ✓ Community structures ✓ Youth centers ✓ School mini media ✓ School community ✓ CSO structures ✓ Private sector ✓ Partner networks ✓ Innovators

7. Monitoring, Evaluation, Accountability and Learning

7.1. Introduction

The monitoring and evaluation section of this guideline provides guidance on monitoring the performance of the AMIYCN interventions across all levels. The aim of monitoring and evaluation is to improve service provision by measuring the progress of output, outcome and impact indicators. The indicators included in this guideline are affiliated with the national HSTP II targets and the national food and nutrition strategic plan (2020-2030) which is aligned with the global sustainable development goals (SDGs) set for 2030.

7.2. Objectives

1. Monitor implementation of AMIYCN interventions and measure progress (inputs, activities, outputs, outcome and impact) against established indicators.
2. Summarize lessons learned, command of accountability and the decisions taken on the AMIYCN activities and their effect on the progress.

7.3. Planning

Planning is the process of thinking regarding the activities required to achieve a desired goal. Before initiating the implementation of AMIYCN at each level, appropriate monitoring and evaluation plan should be developed. It is important to set measurable targets with clear objectives and activities in line with this guideline.

7.4. Monitoring

Monitoring is a continuous process of collecting and analyzing program information, and comparing actual performance against the planned activities in order to determine how well the intervention are being implemented. It utilizes the data generated by the program itself and makes comparisons across individuals and types of interventions so that actions can be taken. The existence of a reliable monitoring system is essential for evaluation and correction of deficiencies as quickly as possible.

The Implementation of AMIYCN services can be monitored in addition to the routine health information tracking system by forming a technical working group that would regularly and frequently follow the progress, conduct strengthening performance reviews, integrated supportive supervisions, site visits and apply timely feedback systems.

7.5. Documentation, reporting and feedback

A standard recording and reporting format with the selected AMIYCN indicators will be used for capturing and reporting AMIYCN performance parameters. Recording and reporting formats include nutrition cards, registers and tally sheets that are available at health posts, health centers and hospitals according to the type of service delivery. These are the comprehensive integrated nutrition service (CINS) register, adolescent nutrition registration, pregnant and lactating women (PLW)

nutrition screening register, therapeutic feeding program (TFP) register, MAM treatment for 6-59 months register and MAM treatment for PLW register and other nutrition service delivery related registration templates. Other nutrition sensitive intervention indicators will be monitored using a multi-sectoral scorecard. The selected indicators are expected to measure the service provision with regard to the AMIYCN interventions. Following the reports, feedback mechanisms should be put in place at all levels to improve the routine service delivery schemes from woreda to national levels, ensure appropriate data handling, interpreting and use for decision making purposes. Ways of providing feedback include supportive supervision and review meetings.

7.6. Quality improvement

Continuous quality assessment activities will be employed to achieve AMIYCN outcomes and generate evidence based AMIYCN interventions. Hence, continuous monitoring and evaluation will take place to improve AMIYCN services using standard national quality improvement methodologies.

7.7. Data quality assurance and utilization

To monitor data quality, a set of standard indicators in AMIYCN that will be employed at all levels for routine reporting through facility information systems and quantifying problems around data completeness, timeliness, consistency and accuracy. Local levels will apply simple analysis mechanisms, which will help to improve the routine service provisions in AMIYCN, while regional and federal levels will apply advanced data analytics to produce estimates, design and intervention modalities, synthesize research findings and articulate insights for coordinated development and revision of policies and strategies.

7.8. Accountability

Different accountability tools will be applied, including but not limited to community score cards, community dialogues; joint monitoring, confidential complaints, and feedback mechanisms. In addition, cultivating accountability mechanisms such as demonstration, reward, integrity, responsiveness will be developed and employees shall be encouraged to share both successes and challenges, measure results and explain to internal and external stakeholders, address non-performance and recognize good performance and integrity.

7.9. Learning

Approaches to guide in learning include comparing results across time to determine which interventions are used to achieve the set goals and expected results, facilitation of both formal and informal learning will be facilitated for sharing experiences (positive and negative) with relevant stakeholders using different platforms such as peer learning, performance review meetings, experience sharing visits, workshops to reflect on lessons learned, and documentation of best practices.

7.10. Evaluation

Systematic and objective evaluation will be conducted across the program from the design stage to, implementation and results achieved to determine overall worth or significance of interventions. This will help to generate data for decision-makers to identify ways to achieve more of the desired

results. The AMIYCN activities and interventions will be evaluated for their relevance, effectiveness, efficiency, and impact in light of specified objectives. This evaluation will be conducted on quarterly, biannually, and yearly bases. The detailed evaluations input, activity, output, outcome, and impact indicators are listed on Table 36.

7.11. AMIYCN M&E Framework

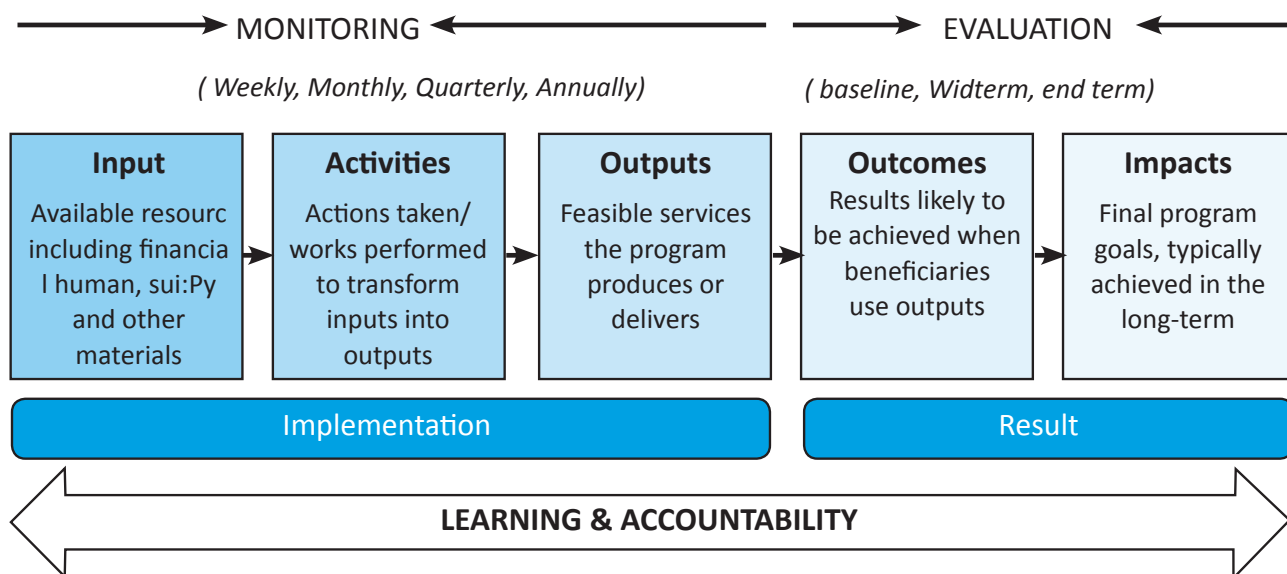


Figure 4: AMIYCN M&E Framework

Table 36: AMIYCN indicators for monitoring and evaluation

S.N	Indicator Type	Indicator	Description	Numerator	Denominator	Data source	Frequency of reporting
	Maternal Nutrition indicators						
	Outcome	Proportion of pregnant women who consumed at least one additional meal	No. of pregnant women who consumed one additional meal during pregnancy	No. of pregnant women who consumed one additional meal during pregnancy	Total No. of pregnant women who were included in the survey	Survey	Five years
	Output	Proportion of pregnant women screened for acute malnutrition	No. of pregnant women who were screened for acute malnutrition	No. of pregnant women who were screened for acute malnutrition	Total estimated No. of pregnant women	HMIS	Monthly
	Outcome	Prevalence of anemia among pregnant women	No. of pregnant women who were anemic	No. of pregnant women who were anemic	Total No. of pregnant women who were included in the survey	Survey	Five Years
	Output	Proportion of pregnant women who received at least 90+ IFA tabs supplementation	No. of pregnant women who received at least 90+ IFA tabs supplementation	No. of pregnant women who received at least 90+ IFA tabs supplementation	Total estimated No. of pregnant women	HMIS/Survey	Monthly/ Five years
	Output	Proportion of pregnant women who received deworming tablets	No. of pregnant women who took deworming tablets after first trimester	No. of pregnant women who took deworming tablets	Total estimated No. of pregnant women	HMIS/Survey	Monthly/ Five years
	Output	Proportion of pregnant women who got preconception nutrition counseling services	No. of pregnant women who got preconception nutrition counseling services	No. of pregnant women who got preconception nutrition counseling services	Total No. of pregnant women who were included in the survey	Survey	Five years

	Output	Proportion of pregnant women who got preconception Folate supplementation	No. of pregnant women who got preconception Folate supplementation	No. of pregnant women who got preconception Folate supplementation	No. of pregnant women who got preconception Folate supplementation	Total No. of pregnant women who were included in the survey	Survey	Five years
	Output	Proportion of pregnant women counseled for nutrition during ANC	No. of pregnant women who were counseled on nutrition during ANC	No. of pregnant women who received counseling service on nutrition during ANC	No. of pregnant women who received counseling service on nutrition during ANC	Total estimated No. of pregnant women	Survey/HMIS	Five years/ monthly
	Output	Proportion of lactating mothers screened for acute malnutrition	No. of lactating mothers who were screened for acute malnutrition	No. of lactating mothers who were screened for acute malnutrition	No. of lactating mothers who were screened for acute malnutrition	Total estimated No. of lactating mothers	Survey/HMIS	Five years/ monthly
	Outcome	Proportion of lactating mothers who are underweight (BMI<18.5)	No. of lactating mothers who are underweight (BMI<18.5)	No. of lactating mothers who are underweight (BMI<18.5)	No. of lactating mothers who are underweight (BMI<18.5)	Total No. of lactating mothers who were included in the survey	Survey	Five years
	Outcome	Proportion of lactating mothers who consumed at least two additional meals	No. of lactating mothers who consumed two additional meals during the first 6 months of lactations	No. of lactating mothers who consumed two additional meals during lactation	No. of lactating mothers who consumed two additional meals during lactation	Total No. of lactating mothers who were included in the survey	Survey	Five years
	Output	Proportion of PLWs that are linked to PSNP's temporary direct cash or food support with soft conditionality	No. of PLWs that are linked to PSNP's temporary direct cash or food support with soft conditionality	No. of PLWs that are linked to PSNP's temporary direct cash or food support with soft conditionality	No. of PLWs that are linked to PSNP's temporary direct cash or food support with soft conditionality	Total estimated No. of PLWs who are targeted for PSNP	HMIS	Monthly
	Output	Proportion of women linked to an income generating activities	No. of susceptible women linked to income generating activities	No. of women linked to income generating activities	No. of women linked to income generating activities	Total No. of susceptible women who were included in the survey	Survey	Five Years

	Output	Proportion of non-pregnant and non-lactating women (15-49 years of age) who were screened and counseled on nutrition	No. of non-pregnant and non-lactating women (15-49 years of age) who were screened and counseled on nutrition	No. of non-pregnant and non-lactating women (15-49 years of age) who were screened and counseled on nutrition	Total No. of non-pregnant and non-lactating women (-49 years of age) who were included in the survey	Survey	Five
	Output	Proportion of pregnant women in all malaria endemic areas who slept under insecticide-treated nets (ITNs)	No. of pregnant women in all malaria endemic areas who slept under insecticide-treated nets (ITNs)	No. of pregnant women in all malaria endemic areas who slept under insecticide-treated nets (ITNs)	Total No. of pregnant women in all malaria endemic areas	HMIS	Monthly
	Output	Presence of preconception health and nutrition service delivery platform in health facilities	Presence of preconception health and nutrition service delivery platform	No. of health facilities with preconception health and nutrition service delivery platform	Total No. of health facilities	Admin report	Annually
	Output	Proportion of pregnant women who weighed during pregnancy	Every pregnant woman who visited the ANC should measure her weight to check her weight gain	Number of pregnant women who measured her pregnancy weight	Total No. of pregnant women	HMIS	Monthly
	Outcome	Proportion of pregnant women who gained at least 10-12kgs during pregnancy (single preg.)	No. of pregnant women who gained at least 10-12kgs during pregnancy (single preg.)	No. of pregnant women who gained at least 10-12kgs during pregnancy (single preg.)	Total No. of pregnant women	HMIS	Monthly
	Output	Proportion of PLW who uses clean water for drinking	No. of PLW who uses clean water for drinking	No. of PLW uses clean water for drinking	Total No. of PLW who were included in the survey	Administration report	Annually

CHILD NUTRITION								
Outcome	Proportion of new-born babies to whom breastfeeding was initiated within one hour of birth	No. of new-born babies to whom breastfeeding was initiated within one hour of birth	No. of new-born babies to whom breastfeeding was initiated within one hour of birth	No. of new-born babies to whom breastfeeding was initiated within one hour of birth	No. of new-born babies to whom breastfeeding was initiated within one hour of birth	Total No. of new-born babies who were included in the survey	Survey	Five years
Outcome	Proportion of new-born babies who were fed colostrum	No. of new-born babies who were fed colostrum	No. of new-born babies who were fed colostrum	No. of new-born babies who were fed colostrum	No. of new-born babies who were fed colostrum	Total No. of new-born babies who were included in the survey	Survey	Five years
Outcome	Proportion of infants exclusively breastfed for 6 months (180 days)	No. of infants exclusively breastfed for 6 months (180 days)	No. of infants exclusively breastfed for 6 months (180 days)	No. of infants exclusively breastfed for 6 months (180 days)	No. of infants exclusively breastfed for 6 months (180 days)	Total No. of infants under six months who were included in the survey	Survey	Five years
Outcome	Proportion of children 12–23 months of age who were fed breast milk during the previous day.	No. of children who continued breastfeeding 12–24 months of age	No. of children who continued breastfeeding 12–24 months of age	No. of children who continued breastfeeding 12–24 months of age	No. of children 12–23 months of age who were fed breast milk during the previous day.	Total No. of children 12 to 23 months of age	Survey	Five years
Outcome	Proportion of children who received pre-lacteal feeding	No. of children who received pre-lacteal feeding	No. of children who received pre-lacteal feeding	No. of children who received pre-lacteal feeding	No. of children who received pre-lacteal feeding	Total No. of children aged less than six months in the survey	Survey	Five years
Output	Proportion of GMP participation among children under 2 years of age	No. of children under 2 years of age who participated GMP services	No. of children under 2 years of age who participated GMP services	No. of children under 2 years of age who participated GMP services	No. of GMP participation among children under 2 years of age	Total estimated No. of under 2 children	HMIS	Monthly
Output	Proportion of children with growth faltering linked to treatment and care services	No. of children with growth faltering linked to treatment and care services	No. of children with growth faltering linked to treatment and care services	No. of children with growth faltering linked to treatment and care services	No. of children with growth faltering linked to treatment and care services	Total No. of children who were monitored and have growth faltering	HMIS	Monthly

	Output	Proportion of infants of 0-6 months screened and identified for acute malnutrition	No. of infants of 0-6 months screened and identified for acute malnutrition	No. of infants of 0-6 months screened and identified for acute malnutrition	Total estimated No. of infants 0-6 months	HMIS	Monthly
	Output	Proportion of infants of 0-6 months with acute malnutrition treated	No. of infants of 0-6 months with acute malnutrition treated	No. of infants of 0-6 months treated for acute malnutrition	Total No. of infants of 0-6 months identified with acute malnutrition	HMIS	Monthly
	Outcome	Proportion of children who have 5 or more food groups out of 8, where at least one of the food groups is animal source food	No. of children who have consumed 5 or more food groups out of 8, where at least one of the food groups is animal source food	No. of children who have consumed 5 or more food groups out of 8, where at least one of the food groups is animal source food	Total No. of children who were included in the survey	Survey	Five years
	Outcome	Proportion of children with minimum acceptable diet	No. of children with minimum acceptable diet that is with minimum meal frequency and minimum diet diversity	No. of children with minimum acceptable diet	Total No. of children who were included in the survey	Survey	Five years
	Outcome	Proportion of infants who start complementary feeding at 6 months	No. of infants who start complementary feeding at 6 months	No. of infants who start complementary feeding at 6 months	Total No. of infants who were included in the survey	Survey	Five years
	Output	Proportion of children with special needs who have received treatment for acute malnutrition	No. of children with special needs who have received treatment for acute malnutrition	No. of children with special needs who have received treatment for acute malnutrition	Total No. of children with special needs	Admin report	Quarterly

	Output	Proportion of children 24-59 months in PSNP areas with access to nutrition and health services (screening, counseling and treatment)	No. of children 24-59 months in PSNP areas with access to nutrition and health services (screening, counseling and treatment)	No. of children 24-59 months in PSNP areas that were included in the survey	Survey	Five years
	Output	Proportion of children 6-59 months who received 2 doses of vitamin A in the last year	No. of children 6-59 months who received 2 doses of vitamin A in the last year	Total No. of children 6-59 months of age who were included in the survey	Survey	Five years
	Output	Proportion of children screened by Family MUAC in the community level for acute malnutrition identification and linkage	No. of children screened by Family MUAC in the community level for acute malnutrition identification and linkage	Total No. of children screened by Family MUAC at the community level for acute malnutrition	Admin report	Monthly
	Output	Proportion of children under the age of five screened for acute malnutrition	No. of children under the age of five screened for acute malnutrition	Total estimated No. of children under the age of five	HMIS	Monthly
	Output	Treatment outcome for management of severe acute malnutrition in children under the age of five	Treatment outcome for management of severe acute malnutrition in children under the age of five /disaggregated by recover, death, default, transfer/	Total No. of children under the age of five with severe acute malnutrition admitted for treatment	HMIS	Monthly

	Output	Proportion of children aged 24-59 months that have undergone quarterly growth monitoring (weight and height measurement)	No. of children aged 24-59 months that have undergone quarterly growth monitoring (weight and height measurement)	No. of children aged 24-59 months that have undergone quarterly growth monitoring (weight and height measurement)	Total estimated No. of children aged 24-59 months	HMIS	Monthly
	Outcome	Diet diversity score for children of 24-59 months	No. of children who have consumed 4 or more food groups out of 7, where at least one of the food groups is animal source food	No. of children who have consumed 4 or more food groups out of 7, where at least one of the food groups is animal source food	Total No. of children who were included in the survey	Survey	Five years
	Outcome	Prevalence of anemia in children of 6-59 months	No. of children 6-59 months that are anemic	No. of children 6-59 months that are anemic	Total No. of children 6-59 months who were included in the survey	Survey	Five years
	Output	Proportion of children of 24-59 months dewormed biannually	No. of children of 24-59 months dewormed biannually	No. of children of 24-59 months dewormed biannually	Total No. of children 24-59 months of age	HMIS	Monthly
	Output	Proportion of 6-10 years old children who were assessed and counseled for malnutrition	No. of 6-10 years old children who were assessed and counseled for malnutrition	No. of 6-10 years old children who were assessed for malnutrition	Total No. of children 6-10 years old that were included in the survey	Survey	Five years
	Output	Proportion of children 6-10 years old who accessed nutritional services (treatment)	No. of children 6-10 years old who accessed nutritional services (treatment)	No. of children 6-10 years old who accessed nutritional services (treatment)	Total estimated No. of children 6-10 years old (who visited)	HMIS	Monthly

	Outcome	Prevalence of vitamin A deficiency among children 6-10 years old	Vitamin A deficiency among children 6-10 years old	No. of children 6-10 years old with vitamin A deficiency	Total No. of children 6-10 years old that were included in the survey	Survey	Five years
	Outcome	Prevalence of Iodine deficiency (urinary iodine) among children 6-10 years old	No. of children 6-10 years old with Iodine deficiency (urinary iodine)	No. of children 6-10 years old with Iodine deficiency (urinary iodine)	Total No. of children 6-10 years old that were included in the survey	Survey	Five years
	Outcome	Prevalence of zinc deficiency among children 6-10 years old	No. of children 6-10 years old with zinc deficiency	No. of children 6-10 years old with zinc deficiency	Total No. of children 6-10 years old that were included in the survey	Survey	Five years
	Output	Coverage of biannual deworming for school children and out-of-school children aged 6-10 years old	No. of school and out-of-school children aged 6-10 years old that dewormed biannually	No. of school and out-of-school children aged 6-10 years old that dewormed biannually	Total No. of school and out-of-school children aged 6-10 years old that were included in the survey	Survey	Five years
	Output	Proportion of students benefiting from school feeding programs	No. of students benefiting from school feeding programs	No. of students benefiting from school feeding programs	Total No. of students from targeted schools	Admin report	Annually
	outcome	Proportion of children born with LBW	No. of children born with LBW	No. of children born with LBW	Total no. of children born in the Health facilities		

ADOLESCENT NUTRITION							
Outcome	Proportion of adolescents with BMI for Age <-2SD	No. of adolescents with BMI for Age <-2SD	No. of adolescents with BMI <-2SD	No. of adolescents with BMI <-2SD	No. of adolescents with BMI for Age <-2SD	Total No. of adolescents who were included in the survey	Annually
Outcome	Proportion of adolescents with HAZ <-2SD	No. of adolescents with HAZ <-2SD	No. of adolescents with HAZ <-2SD	No. of adolescents with HAZ <-2SD	No. of adolescents with HAZ <-2SD	Total No. of adolescents who were included in the survey	Annually
Outcome	Prevalence of adolescent girls who became pregnant before turning 24 years	No. of adolescent girls who became pregnant before turning 24 years	No. of adolescent girls who became pregnant before turning 24 years	No. of adolescent girls who became pregnant before turning 24 years	No. of adolescent girls who became pregnant before turning 24 years	Total No. of adolescents who were included in the survey	Five years
Outcome	Proportion of married adolescent girls under 21 years of age	No. of married adolescent girls under 21 years of age	No. of married adolescent girls under 21 years of age	No. of married adolescent girls under 21 years of age	No. of married adolescent girls under 21 years of age	Total No. of adolescents who were included in the survey	Five years
Output	Proportion of adolescents linked to microfinance/IGA services	No. of adolescents linked to microfinance services	No. of adolescents linked to microfinance services	No. of adolescents linked to microfinance services	No. of adolescents linked to microfinance services	Total No. of adolescents who were included in the survey	Five years
Outcome	Proportion of adolescents who consumed diversified food (at least 5 food groups out of 10)	No. of adolescents who consumed diversified (at least 5 food groups out of 10)	No. of adolescents who consumed diversified (at least 5 food groups out of 10)	No. of adolescents who consumed diversified (at least 5 food groups out of 10)	No. of adolescents who consumed diversified (at least 5 food groups out of 10)	Total No. of adolescents who were included in the survey	Five years
Outcome	Proportion of adolescents (10-19 years old) with goiter	No. of adolescents (10-19 years old) with goiter	No. of adolescents (10-19 years old) with goiter	No. of adolescents (10-19 years old) with goiter	No. of adolescents (10-19 years old) with goiter	Total No. of adolescents who were included in the survey	Five years
Outcome	Prevalence of anemia among adolescents aged 10-19	No. of adolescents aged 10-19 years that are anemic	No. of adolescents aged 10-19 years that are anemic	No. of adolescents aged 10-19 years that are anemic	No. of adolescents aged 10-19 years that are anemic	Total No. of adolescents who were included in the survey	Five years

	Output	Proportion of adolescents aged 10-19 who received deworming tablets	No. of adolescents aged 10-19 years who received deworming tablets	No. of adolescents aged 10-19 years who received deworming tablets	No. of adolescents aged 10-19 years who received deworming tablets	Total No. of adolescents who were included in the survey	Admin report	Annually
	Output	Proportion of adolescent girls supplemented with weekly iron folic acid	No. of adolescent girls supplemented with weekly iron with folic acid	No. of adolescent girls supplemented with weekly iron with folic acid	No. of adolescent girls supplemented with weekly iron with folic acid	Total No. of adolescents who were included in the survey	Admin report	Annually
	Output	Proportion of adolescents with special situations who benefited from nutritional services	No. of adolescents with special situations (HIV/AIDS, obesity, undernourishment, substance abuse, mental health and eating disturbances) who benefited from nutritional services	No. of adolescents with special situations (HIV/AIDS, obesity, undernourishment, substance abuse, mental health and eating disturbances) who benefited from nutritional services	No. of adolescents with special situations who were included in the survey	Total No. of adolescents with special situations who were included in the survey	Survey	Five years
	Output	Proportions of adolescents who received routine nutritional assessment and counseling services at health facilities	No. of adolescents who received routine nutritional assessment and counseling services at health facilities	No. of adolescents who received routine nutritional assessment and counseling services at health facilities	No. of adolescents who received routine nutritional assessment and counseling services at health facilities	Total No. of adolescents who were included in the survey	HMIS	Quarterly
NUTRITION FOR SPECIAL NEED								
	Output	Proportion of PLWs in IDP camps who received nutritional counseling and support	No. of PLWs in IDP camps who received nutritional counseling and support	No. of PLWs in IDP camps who received nutritional counseling and support	No. of PLWs in IDP camps who received nutritional counseling and support	Total no. of PLWs in IDP camps		
	Outcome	Proportion of PLWs with MDR TB who were screened and received therapeutic feeding	No. of PLWs with MDR TB who were screened and received therapeutic feeding	No. of PLWs with MDR TB who were screened and received therapeutic feeding	No. of PLWs with MDR TB who were screened and received therapeutic feeding	Total No. of PLWs with MDR TB	Admin report	Monthly

Outcome	Proportion of clinically undernourished WRA with HIV on ART who received therapeutic/supplementary foods	No. of clinically undernourished people with HIV on ART who received therapeutic/supplementary foods	No. of clinically undernourished people with HIV on ART who received therapeutic/supplementary foods	Total No. of clinically undernourished people with HIV on ART	HMIS	Monthly
Output	Proportion of WRA with HIV/AIDS, TB or other infectious diseases and malnutrition who are linked to PSNP	No. of WRA with HIV/AIDS, TB or other infectious diseases and malnutrition who are linked to PSNP	No. of WRA with HIV/AIDS, TB or other infectious diseases and malnutrition who are linked to PSNP	Total No. of WRA with HIV/AIDS, TB or other infectious diseases and malnutrition who were included in the survey	Survey	Five years
Output	Proportion of WRA with NCDs screened and counseled on nutritional status	No. of WRA NCDs patients screened and counseled on nutritional status	No. of WRA NCDs patients screened and counseled on nutritional status	Total No. of WRA screened in the survey	Survey	Five years
Outcome	Proportion of WRA with obesity/overweight	No. of WRAs that were screened and have obesity/overweight	No. of WRA with obesity/overweight	Total No. of WRA that were included in the survey	Survey	Five years
Output	Proportion of WRA with hypertension	No. of WRA with hypertension	No. of WRA with hypertension	Total No. of WRA that were included in the survey	Survey	Five years
Output	Proportion of WRA with diabetes mellitus	No. of WRA with diabetes mellitus	No. of WRA with diabetes mellitus	Total No. of WRA that were included in the survey	Survey	Five years
Output	Proportion WRA with diet related NCDs who received clinical and dietary care	No. of WRA with diet related NCDs who received clinical and dietary care	No. of WRA with diet related NCDs who received clinical and dietary care	Total No. of WRA with diet related NCDs	Admin report	Annually

Outcome	Proportion of WRA who consume fruits at least five times a week	No. Of WRA who consume fruits at least 5 times a week	No. of WRA who consume fruits at least five times a week	Total WRA that were included in the survey	Survey	Five years
Outcome	Proportion of WRA who consume vegetables at least five times a week	No. of WRA who consume vegetables at least five times a week	No. of WRA who consume vegetables at least five times a week	Total No. of WRA that were included in the survey	Survey	Five years
Outcome	Proportion of PLW with adequate knowledge about safe food preparation	No. of PLW with adequate knowledge about safe food preparation	No. of PLW with adequate knowledge about safe food preparation	Total No. of individuals that were included in the survey	Survey	5 years
Output	Percentage of households using adequately iodized salt	Percentage of households using adequately iodized salt (>15 PPM)	No. of households using adequately iodized salt (>15 PPM)	Total No. of households using salt that are included in the survey	Survey	Every 5 years
FACILITY						
Output	Proportion of health facilities implementing BFHI	No. of health facilities implementing BFHI that are certified	No. of certified health facilities implementing BFHI	Total No. of health facilities implementing BFHI	Admin report	Annually
Outcome	Presence of enforced regulations that discourage advertisements of unhealthy diets, beverages and behaviors	Presence of enforced regulations that discourage advertisements of unhealthy diets, beverages and behaviors	No. of enforced regulations that discourage advertisements of unhealthy diets, beverages and behaviors	Total available media outlets	Admin report	Annually

	Outcome	Proportion of private health institutions providing nutrition services for their clients	No. of private health institutions providing nutrition services for their clients	No. of private health institutions providing nutrition services for their clients	No. of private health institutions providing nutrition services for their clients	Total No. of private health institutions providing services for their clients	Admin report	Annually
	Output	Presence of well-equipped and functioning growth monitoring and promotion room/site at all health facilities and community levels	Presence of well-equipped and functioning growth monitoring and promotion room/site at all health facilities and community levels	Presence of well-equipped and functioning growth monitoring and promotion room/site at all health facilities and community levels	No. of well-equipped and functioning growth monitoring and promotion room/site at all health facilities and community levels	Total No. of health facilities	Admin report	Annually
	Output	Proportion of health facilities equipped with essential supplies, diagnostic equipment and other treatment inputs	The No. of health facilities equipped with essential supplies, diagnostic equipment and other treatment inputs	The No. of health facilities equipped with essential supplies, diagnostic equipment and other treatment inputs	Total No. of health facilities equipped with essential supplies, diagnostic equipment and other treatment inputs	Total No. of health facilities	Admin report	Annually
	Outcome	Proportion of health facilities providing nutrition assessment and counseling services for people with HIV/TB and other infectious diseases	No. of health facilities providing nutrition assessment and counseling services for people with HIV/TB and other infectious diseases	No. of health facilities providing nutrition assessment and counseling services for people with HIV/TB and other infectious diseases	No. of health facilities providing nutrition assessment and counseling services for people with HIV/TB and other infectious diseases	Total No. of health facilities providing HIV/TB and other infectious diseases that were included in the survey	Survey	Every two years

	Output	Proportion of health facilities providing food for mothers/caretakers at stabilization centers (SC)	No. of health facilities providing food for mothers/caretakers at stabilization centers (SC)	No. of health facilities providing food for mothers/caretakers at stabilization centers (SC)	No. of health facilities providing food for mothers/caretakers at stabilization centers (SC)	Total No. of health facilities that have stabilization centers	Admin report	Annually
	Output	Proportion of health facilities/community centers that perform food cooking demonstrations	No. of health facilities/community centers that perform food cooking demonstrations	No. of health facilities/community centers that perform food cooking demonstrations	No. of health facilities/community centers that perform food cooking demonstrations	Total No. of health facilities/community centers that were included in the survey	Survey	Five years
	Output	Proportion of public institutions providing nutrition assessment and counseling services for adolescents and youth	No. of public institutions providing nutrition assessment and counseling services for adolescents and youth	No. of public institutions providing nutrition assessment and counseling services for adolescents and youth	No. of public institutions providing nutrition assessment and counseling services for adolescents and youth	Total No. of public institutions for adolescents and youth	Admin report	Annually
	Outcome	Presence of surveillance on lifestyle-related NCDs	Presence of surveillance on lifestyle-related NCDs	No. of surveillance on lifestyle-related NCDs	No. of surveillance on lifestyle-related NCDs	1	Admin report	Annually
	Outcome	No. of surveys conducted on NCDs risk factors	No. of surveys conducted for NCDs risk factors	No. of surveys conducted for NCDs risk factors	No. of surveys conducted for NCDs risk factors	1	Survey	Five years

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