Republic of Kenya
Ministry of Health

Kenyan National Guidelines on Nutrition and HIV/AIDS

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Foreword

In accord with the 2005-2010 Kenyan National HIV/AIDS Strategic Plan, the Government of Kenya has identified good nutrition as a key component of the national response to the HIV/AIDS epidemic. This is in keeping with global recognition that good nutrition is essential for the promotion of health and quality of life of all people, particularly people living with HIV/AIDS (PLWHA).

There is an important relationship between HIV and nutrition. HIV infection increases nutrient requirements, and at the same time impairs nutrient intake and uptake. In turn, poor nutrition increases the risk of opportunistic infections and accelerates the progression of HIV to AIDS. Malnutrition and HIV/AIDS are synergistic and create a vicious cycle that additively weakens the immune system.

HIV and AIDS pose a major threat to food security and nutrition, diminishing the availability of food and reducing household's ability to purchase food. Household members who are ill can not effectively contribute to household income and labour, often require care and support from other members of the household and incur medical expenses that further deplete income. Therefore, HIV/AIDS impacts on a household's economic potential and retards the social economic development of the community, jeopardizing community advancement.

In response to this individual, family, community and even national crisis, the Kenyan government, in collaboration with multilateral and bilateral agencies, NGOS and CBOs spearheaded the Kenya National Guidelines on Nutrition and HIV/AIDS for harmonized nutrition strategies for PLWHA and people affected by HIV/AIDS.

A Technical Working Group was established under the auspices of NASCOP/Ministry of Health to determine and outline the nutritional needs of people affected by HIV/AIDS in a coordinated and optimal manner. These Guidelines are a synthesis of information drawn from an extensive review of local and international knowledge and experience. The Guidelines are written for frontline service providers and for institutions in the health, nutrition, agriculture, education and social services sectors. They are for use by facility and extension workers whose mandates include care and support of PLWHA and home-based care. They give clear direction on nutritional support to PLWHA, including chapters dedicated to vulnerable groups such as children and pregnant or lactating women. The Guidelines are written for all Kenyans, though health workers may have to adapt information to meet the local situation; stress certain issues related to their patients; or translate information to meet various language needs.

Successful nutritional care and support of PLWHA requires an inferred partnership between those affected and different levels of care providers. A coordinated effort is required from people in many disciplines. The wide dissemination and use of these Guidelines, as well as supportive policies and services to implement the recommendations herein, will help all stakeholders to improve the quality of life of people living with HIV and AIDS.

Honourable Charity Ngilu EGH.M.P
Minister for Health

Preface

In the two decades since the onset of the HIV epidemic, there have been significant improvements in the understanding of its pathogenesis. It is now clear, for example, that HIV infection contributes to malnutrition, wasting away reserves of fat and muscle. Good nutrition, on the other hand, gives strength to help fight opportunistic infections and can enhance the quality of life of a PLWHA.

A varied and healthy diet and adequate micronutrient intake are fundamental to better health for HIV-infected individuals. Education and support about nutrition, particularly in nutritionally-vulnerable populations, is essential. In the management of HIV infection, correct and consistent information on nutrition is part of the continuum of care and support of PLWHA.

The Kenyan National Guidelines on Nutrition and HIV/AIDS offers that information, including daily nutritional requirements for various groups (such as the malnourished, children and women), and how to fulfil those requirements. There are clear steps how to assess and analyze a client's nutritional situation, and there are actions recommended to avert malnutrition; reserve nutritional status; or rehabilitate the malnourished. As well, the Guidelines include policy imperatives required to further advocate for better nutrition.

These Guidelines will contribute to realising the national goals of the Kenya National HIV/AIDS Strategic Plan for 2005-2010 (KNASP): to improve the quality of life of those infected and affected by HIV/AIDS; and mitigate the socio-economic impact of HIV/AIDS. The Guidelines will help users develop new strategies and activities, or review existing ones, in the nutritional care for PLWHA, and even for the population in general.

To best implement the Guidelines, partnerships among sectors (such health and nutrition, education, agriculture, and social services) must be established to bring the issue of nutrition and HIV/AIDS across all sectors. Nutritionists and health professionals play a pivotal role to develop these partnerships and bring the nutrition Guidelines into multi-sector, national development strategies. If individuals in the health sector take action, the Guidelines will catalyze the development of comprehensive, national nutrition policies and actions, and facilitate scaling-up of ART.

These Guidelines were developed based on updated research and evidence. Periodic reviews of the Guidelines will be necessary to accommodate new information as it becomes available.

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Executive Summary

People infected with HIV are at greater risk of malnutrition than those who are not infected. HIV and opportunistic infections interfere with the desire and ability to eat thus reducing dietary intake; causing mal-absorption of nutrients; increasing energy demand thus increasing nutrient requirements; and causing abnormal use of protein. Limited food security and inadequate knowledge of good nutrition in regions of Kenya where HIV is prevalent, makes the situation worse. The fundamental nutritional concerns for HIV-infected people include: the availability of a balanced diet on a continuous basis; factors that negatively impact food intake and utilization; drug/nutrient interactions; and interventions to help cope with nutrition-related, chronic conditions such as diabetes mellitus. HIV infection and associated malnutrition progressively weaken the immune system, lowering quality of life and odds for survival, thus infected persons and caregivers need clear, concise information on nutritional care and support. Nutritional care, as an adjunctive intervention to ART viral treatment, will enhance rehabilitation, optimize antiretroviral therapy, and enhance adherence to ART.

The purpose of these Guidelines is to:

- Provide simple and practical ways to assess the nutritional status of HIV-infected clients and assess the risk of malnutrition;
- Assist service providers to identify locally-appropriate, sustainable ways of increasing dietary intake by those who are infected with HIV; and
- Mainstream nutrition interventions into the national HIV/AIDS response.

The Guidelines' content is summarized as follows.

- Assessment of nutritional status and nutritional risks include determining a client's dietary intake and global anthropometric and body composition measurements (e.g. weight, body mass index (BMI), weight for age in children and middle upper arm circumference (MUAC). Clinical and laboratory assessment of haemoglobin, blood count, and nutrient biochemistry, among other indicators, are important for early detection of poor nutrition. Ideally, these services should be provided in facilities where PLWHA seek help, for example at counseling and testing sites.

- HIV-infected children and adults who are asymptomatic require about 10% more energy than their uninfected contemporaries. For symptomatic PLWHA, energy needs increase by 20-30% for adults and 50-100% for children who are experiencing weight loss. Pregnant and lactating HIV-infected women require 23% to 50% additional energy depending on their severity of symptoms, their well being during pregnancy and their lactation status. With adequate intake of staple foods, these needs can be met. By including nutrient-dense snacks in the diet; increasing intake of energy rich foods and using innovative food processing practices (such as fermenting, sprouting and blending) it is possible to meet the energy requirements of PLWHA.

- Protein intake at 12% to 15% of the total energy requirements (50-80 g/day) is adequate to support the growth, maintenance and repair of body tissues, and meet immune functions in both HIV-infected and uninfected persons. Children and pregnant and lactating women require additional proteins. A variety of Kenyan plant source foods is required daily to ensure adequacy and quality of protein. Eating animal source foods, such as dairy products, poultry, meats and fish, enhance the chances of adequate protein intake.

- Vitamins and minerals (micronutrients) are required in the production and function of proteins, enzymes, hormones and the immune system. Vitamins A, C, E, folate and the B group vitamins along with iron, zinc, selenium, iodine, magnesium and calcium are most critical. Requirements for PLWHA should be maintained at one Recommended Daily Allowance (RDA). Consumption of a variety of protective foods daily (consisting of vegetables and fruits along with animal sources) will provide adequate micronutrients and a significant amount of the daily fibre requirement (15-25 g). Dietary diversification, food fortification and multiple micronutrient supplementation, assist in meeting Recommended Daily Allowances (RDA). In addition, HIV-infected lactating women and children, should take vitamin A supplementation and iodine suppment as recommended by the MOH and WHO, with iron-folate and iodine supplements also being given during the prenatal period.

- Pregnant women who are HIV-infected should be counselled to choose between exclusive breastfeeding or exclusive replacement feeding. Breastfeeding mothers should be taught how to optimally breastfeed their infants. Replacement feeding can be used when it is acceptable, feasible, affordable, sustainable and safe (AFASS). If a breastfeeding mother develops AIDS symptoms while breastfeeding, a safe alternative food for her infant should be found, and she should stop breastfeeding with as little mixed feeding as possible. To further promote the well-being of children, all children should receive vaccines and vitamin A according to the national schedule. It is also recommended that HIV-infected children be given multi-micronutrient supplements daily (RDA). HIV-infected mothers should be informed and supported to introduce nutrient dense complementary foods in addition to breast milk substitutes when the baby is six months. If there is evidence of growth faltering, the mother should be advised to introduce high nutrient dense complementary food as early as four months.

- With regard to water requirements, PLWHA should take at least 2 litres (8 glasses) of safe clean water per day (boiled or treated). Those with diarrhoea, excess sweating or vomiting and those on medications such as ARVs should take more water to avoid dehydration and related complications. Beverages such as fruit juices, soups and milk are suitable to help achieve the desired fluid intake. Alcohol intake should be discouraged and other beverages such as tea, coffee and soft drinks taken with moderation as they provide little nutritional benefit. Non-dietary interventions also can enhance quality of life for PLWHA. Adequate daily exercise, and healthy lifestyle practices such as proper personal hygiene, sanitation, and food handling practices, contribute to breaking the infection and malnutrition cycle.

- Drugs used by PLWHA may adversely alter food intake, nutrient absorption, metabolism rates, distribution and excretion. They may cause loss of appetite, change in taste, and diarrhoea. Conversely, food and nutrient intake may positively alter drug absorption, metabolism, distribution and excretion. This synergetic relationship between medications and nutrition is central to the efficacy and adherence of ARVs and other medicines used to treat HIV and AIDS. Also, undernourished PLWHA require therapeutic nutrition or food aid before and during the early phase of ART. For individuals who are not able to take food orally, health workers should administer tube and parenteral therapeutic nutrition.

In order to scale-up nutritional care and support to the national level, a framework for coordination, communication and implementation of the Guidelines is critical. Further, there are several points of summary actions for service providers incorporated into the guidelines specific to the nutrirional care and support. This will permit effective multi-sectoral implementation, monitoring and evaluation in line with the Kenya National AIDS Strategic Plan as well as inform future policy considerations for nutrition care and support in the national response to the HIV/AIDS epidemic.

Acronyms

AED	Academy for Educational Development
AFASS	Acceptable, Feasible, Affordable, Sustainable and Safe
AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-Retroviral Therapy
ARV	Anti-Retroviral drugs
BMI	Body Mass Index
DfID	Department for International Development (of the UK)
FANTA	Food and Nutrition Technical Assistance
FAO	Food and Agriculture Organization of the United Nations
HAART	Highly Active Anti-Retroviral Therapy
Hb	Haemoglobin
HDL	High Density Lipoprotein
HIV	Human Immunodeficiency Virus
KDHS	Kenya Demographic and Health Survey
LBM	Lean Body Mass
MoH	Ministry of Health
MTCT	Mother-to-Child Transmission
MUAC	Mid Upper Arm Circumference
MUFA	Mono-Unsaturated Fatty Acids
NASCOP	National AIDS and STI Control Programme
NCHS	National Centre for Health Statistics
OI	Opportunistic Infection
OVC	Orphans and Vulnerable Children
PI	Protease Inhibitor
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
PUFA	Polyunsaturated Fatty Acids
RDA	Recommended Daily Allowance
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNFPA	United Nations Family Planning Association
UNICEF	United Nations Children's Fund
VAD	Vitamin A Deficiency
WHO	World Health Organization

Definition of Terms

AIDS	A combination of illnesses caused by the human immunodeficiency virus (HIV) that weaken the immune system.
Advocacy	Speaking or writing in support of someone or a cause.
Antenatal	Period during pregnancy before delivery.
Anthropometry	Tool used to identify malnutrition and monitor body measurements.
Antioxidant	Compounds that scavenge free radicals (oxygen molecules) in the body.
Anti-retro Viral therapy	Treatment of persons with AIDS using drugs that specifically deal with treatment of viruses including the HIV virus.
Asymptomatic	A person infected with a disease but without clinical signs and symptoms.
Bacteria	Disease-causing micro-organism bigger than a virus and treatable with antibiotics.
Balanced diet	A meal containing all nutrients in adequate proportions to ensure nourishment of the body.
Bioavailability	The degree and rate at which a substance is absorbed into the body at the site of physiological activityand absorption (e.g. gut).
CD4 cells	A subset of specialized lymphocytes that are key in fighting (attacking) infections used as a marker for HIV progress.
Cholesterol	A fat-like substance that is produced in the liver, and also found in animal-source foods. It circulates in blood as low-density lipoproteins (LDL) and high-density lipoproteins (HDL).
Diet	Amount and kind of food and/or drink taken by a person.
Disease	Period after infection when signs and symptoms appear.
Entomophagy	The traditional practice of consuming edible insects such as termites and locusts.
Erythropoiesis	The process of red blood cells formation in the bone marrow.
Geophagy	The practice of craving and chewing non-food material (such as soil and soft rock).
HAART	Highly Active Anti-Retroviral Therapy. A combination of several anti-retroviral drugs which inhibit HIV multiplication in the body, improve health status, and delay development of AIDS.
Haematopoiesis	Process of blood formation.
Health	A state of physical, social and mental well-being (not necessary absence of disease).
Helminths	Intestinal worms.
Home-based care	Care given in the community/home by non-health personnel to people who are sick or recuperating from sickness.
HIV	The human immunodeficiency virus that causes AIDS.
Hypogonadism	Delayed sexual maturity.
Hypothyroidism	Reduced functional activity of the thyroid gland.
Immunosuppression	A weakened body defense system, creating vulnerability to infection and other disorders.
Indigenous foods	Local/native foods grown in a community.
Infant	A child from birth to 12 months of age.
Infection	The presence of disease caused by micro-organisms.
kcal	Energy taken in food and measured as its used in daily life.
Lactation	Production of breastmilk.
Lactose intolerance	A body's inability to digest lactose, the sugar that is primarily found in milk and milk products.
Lean body mass	Weight of the body without fat composed of muscle, bones and other tissues.

Malabsorption	Failure by the digestive tract to absorb nutrients leading to deficiencies.
Malnutrition	A condition in the body brought about by inadequate or excess intake of required nutrients, or malabsorption.
Meal	Food eaten at a particular time, especially breakfast, lunch and supper.
Monounsaturated fats/oils and Polyunsaturated fats/oils	Produce cholesterol in the body that reduce the risk of heart disease, and may protect against certain cancer. They are also referred to as 'good' fats.
Morbidity	Sickness or illness.
Mortality	Death, usually expressed as a rate of mortality, e.g. rate of death over a period of time.
Nutrient	A substance or component of food, including carbohydrates, proteins, fats, vitamins, minerals and water.
Nutrition	Process of food ingested, digested and absorbed to provide the body with required nutrients
Nutritional Status	A measurement of the extent in which an individual's physiological needs for nutrients are being met.
Oedema	Swelling due to accumulation of fluids.
Opportunistic infections	Illnesses caused by various organisms, some of which do not cause disease in people with a normal functioning immune system.
Over-nutrition	Excessive nutrients and nutritional stores in the body, causing obesity.
Polyunsaturated fats/oils	Produce cholesterol in the body that reduces the risk of heart disease d, and may protect the body against some cancers. They are also referred to as 'good' fats.
Prebiotics	Nutrients that support growth of healthy bacteria such as lactobacilli in the gut.
Probiotics	Live microorganisms that, when administered in adequate amounts, confer health benefits on the host.
Quality of Life	Life with minimized burden of illness with respect to daily functioning as valued by individuals.
RDA	Recommended Daily Allowance. Average requirement of various nutrients to maintain nutritional status of a healthy person according to international standards.
Red blood cells	Cells that help transport oxygen to parts of the body.
Saturated fats	Fats responsible for high levels of cholesterol in body, therefore increasing the risk of heart disease. They are also referred to as 'bad' fats.
Snack	Food or drinks readily available, eaten without much preparation, and usually taken between main meals.
Symptomatic	Infection with signs and symptoms.
Synbiotics	Combination of Prebiotics and Probiotics.
Trans fats	Solidified and partially-hydrogenated vegetable oils that raise blood LDL cholesterol levels (thus called "bad" cholesterol) and reduce the HDL or "good" cholesterol levels.
Under-nutrition	Inadequate nutrients or food intake in the body.
Viral load	Amount of human immunodeficiency virus in blood used as a marker for progress of HIV to AIDS.
Virus	Smallest of all disease-causing micro-organisms.
Vitamins	Nutrients with main function to protect the body against infection.
White blood cells	Combination of cells that protect the body and fight against infections.