



NUTRITION and COVID-19 in Africa: Possible Response

An AUDA-NEPAD Position - *DRAFT*

Abstract:

Since the first reported cases of the Coronavirus disease in December 2019, several countries and regions of the world are experiencing an unprecedented exponential rise in the level of infections and deaths. Africa is not spared, with over 25,000 cases reported so far. The impact of COVID-19 hits beyond the health sector. The multiple negative consequences on the economy, education, basic services are being deeply felt across communities, especially the poor and socially marginalized.

The COVID-19 pandemic, coupled with the already broken global food systems, the reality is that a significant number of people will become even more vulnerable to food insecurity and malnutrition. Unfortunately, Africa is already home to some of the most malnourished populations worldwide. Optimum nutrition is usually the first line of defence against numerous infections, ill-health and poor outcomes, including death.

Malnutrition in all its forms – stunting, wasting, micronutrient (essential vitamin and mineral) deficiencies, overweight and obesity are linked to both immediate and long-term poor physical, mental well-being, as well as poor socio-economic development. Poor nutrition may increase the heightened susceptibility of Coronavirus infected persons to quickly progress to the illness and secondary infections.

Healthy diets and the specific nutrients that are found in the food we eat play very critical roles in the sustenance, survival as well as the prevention of infections and healing of illnesses. However, during times of economic stress, as COVID-19 harshly presents, healthy and nutritious foods are the first ones to be left from the food basket due to their high cost. Ensuring food security, and the provision of nutritional care and support must form part of the broader policy and programme strategic responses. Therefore, this is not the time to teeter in the subject of nutrition. Food safety, good hygiene, access to potable water and sanitation are a must. Public, private sector and civil society must collaborate, to deliver a synergized rapid and sustained response. Therefore, providing additional financial, material and human resources for nutrition, demands re-thinking policy transformation, programme planning and stringent prioritization. Innovation in modes of delivery of nutrition services remains at the heart of what impacts shall be registered in the prevention, control and management of COVID-19.

Introduction:

The Coronavirus Disease of 2019 otherwise known as COVID-19 has hit the world with such a sudden shock, both in terms of the spread of the infections, number of morbidities and mortalities. COVID-19 is glaringly exposing pre-existing societal vulnerabilities; particularly to the poor and otherwise marginalized or disadvantaged. While Africa to date is recording some of the lowest rates - in total number of infection cases and deaths, it is clearly not spared the effects and impacts of this current outbreak and devastating pandemic.

COVID-19 is not just a health nor medical issue, but a pandemic with a grave multiplicity of resultant negative outcomes and consequences on various aspects of society. Albeit not having all the research required to ascertain the absolute impact, what remains immediately apparent is that it is affecting the economy, geo-political spaces, agriculture and agribusiness, food systems, nutrition, schooling and general education, social protection, migration, labour and services productivity, employment, mental health, and least of which would be the direct impact on poverty.

In coping with the pandemic, resource challenged, and fragile countries will need to approach COVID-19 in a very different way as compared to middle and high income well- resourced countries. Where health and other systems are already weak and lacking, the perceived and real burden is insurmountable, and the virus is poised to plunge more people into greater exposure to disease and related socio-economic calamities. This in turn would naturally put more strain on the care and support of infected individuals by households, communities and governments.

As a direct result of the imposed quarantines and lockdowns, there are economic downturns and shocks not just in Africa but globally. This is bound to negatively influence the availability and accessibility of nutritious foods. And without nutritious food, many people are less capable of being protected to ward off infections and being able to physiologically recover when ill.

Having been the continent most infected, affected and ravaged by outbreaks and epidemics such as HIV/AIDS, TB, Malaria and Ebola to name but a few; Africa has a lot of lessons to draw from in terms of designing appropriate (and effective) policies and programmes targeting the prevention and management of these through robust nutrition interventions.

According to the WHO COVID-19 Special Envoy (David Nabarro) the pandemic is forcing us to look at crisis versus a new reality as Coronavirus is not likely to go away soon. It could take about two years to develop and roll a vaccine. COVID-19 poses a threat beyond health, food systems and nutrition, thus necessitating to build coherent collective actions.

This paper, therefore, seeks to bring to bear some of the previous scientific research, policy, programmatic experiences during crises to put a spotlight on nutrition in addressing the current COVID-19 pandemic on the continent and building resilient systems.

COVID-19 situation in Africa:

Continentially, as at 23 April 2020, the COVID-19 tested and confirmed reported cases in Africa exceeded the 25,000 mark. Reported deaths exceeded a thousand people. Almost all countries (53) except for only two, namely Comoros and Lesotho reported cases of infection. Statistics show that there is a rise in new cases - a minimum of between over 1000 to 4000 people per day since April 17, 2020. The death rate hovers around 5% of total confirmed cases and about 20% of recoveries on average. Given these figures, it can only be concluded that the recoveries fall far behind the caseloads reported. A worrisome trend, as numbers are rising at a steady albeit undesirable pace.

So as noted earlier, that although Africa is overall recording low cases of infection and fatalities, it is nevertheless important to note that the pandemic is still at its early stages and the curves have not flattened yet. Therefore, no country cannot afford not to act with the required and necessary diligence and investment towards preventing and combating the pandemic.

Nutrition and Food Security Situation in Africa:

Hunger is on the rise in almost all subregions of Africa, the region with the highest prevalence of undernourishment in the world. According to the United Nations State of Food and Nutrition (SOFI) 2019, the prevalence of undernourishment in Africa stands at 256 million people which translates into about 20 percent of the world population that is undernourished. These numbers underscore the immense challenge posed to achieve Zero Hunger set by the African Union by 2025 as well the global SDGs by 2030.

Regarding malnutrition in its various forms i.e. stunting, wasting, micronutrient deficiencies, Africa is not performing well. At the same time, overweight and obesity are on the rise, resulting in non-communicable diseases including diabetes, heart diseases, and numerous cancers. As per SOFI 2019, this is the prevalence of various of malnutrition in Africa: Stunting in children under five years of age 30%, Wasting 7%, Low birth weight 14%, Overweight in children under 5 years 5%, Obesity in adult population over 18 years 12%, Anaemia in women of reproductive age (15-49 years) 38%. Due to the paucity of accurate information as a result of poor data collection, analysis and reporting on other vitamin and mineral deficiencies of public health importance including Vitamin A, Zinc, Iodine etc. it is hard to ascertain the actual national or continental population micronutrient status. Nevertheless, it is safe to conclude based on some (older) UN reports, that there is relatively high preponderance of these micronutrient deficiencies across the continent – exceeding for example 70% of the general population for Vitamin A.

Malnutrition in all its forms is linked across the life cycle, with undernutrition in the first 1000 Days contributing to both immediate and long-term health problems such as stunted physical growth, mental development, overweight and obesity, coronary heart diseases, stroke, and

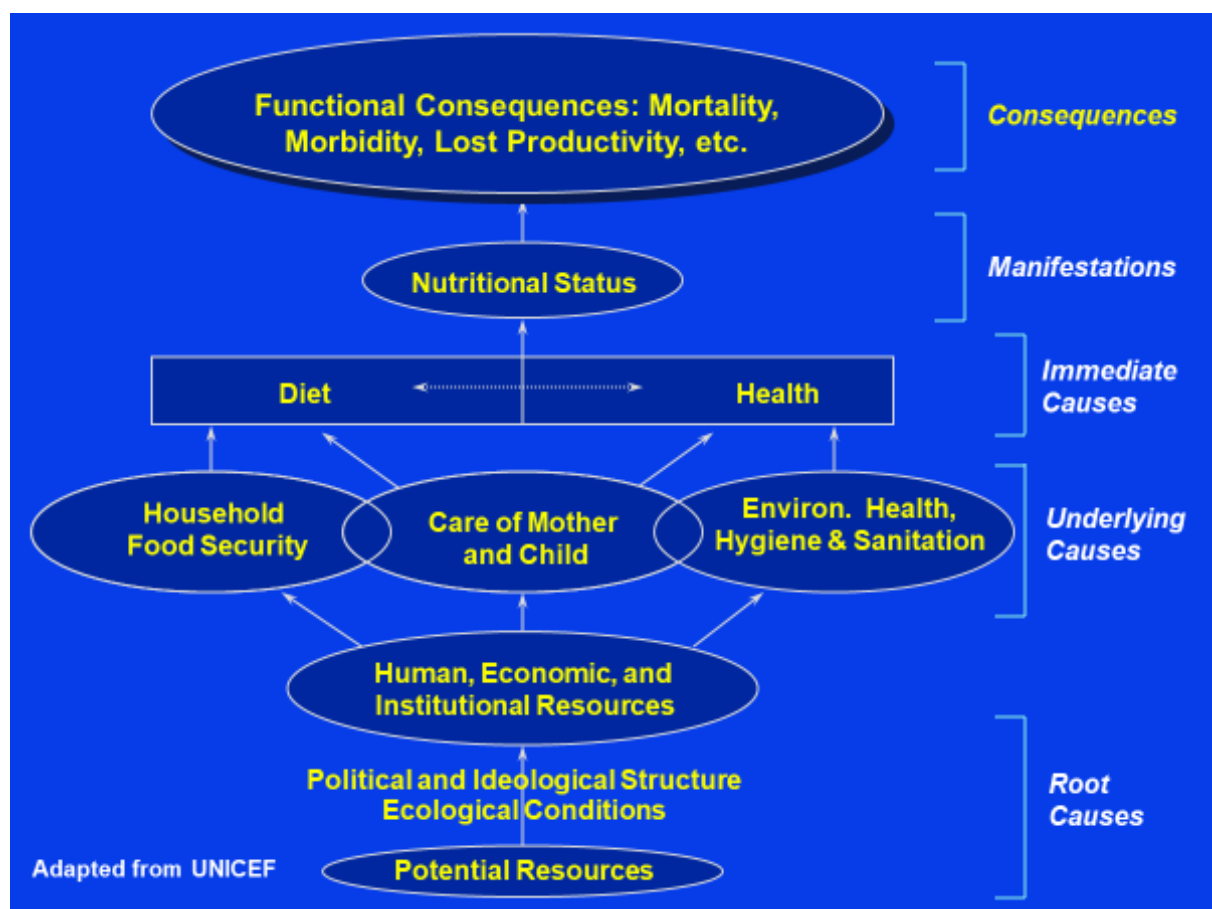
diabetes. Unfortunately, in addition to ill-health and death, malnutrition is also associated with low productivity and high economic costs due to loss of human capital.

Striving not to only improve but prevent all forms of malnutrition in any country should be a standing priority – not only in times of emergencies and crises – for both state and non-state actors working in tandem. Functional and robust early warning systems, surveillance and vigilance in tracking the status of food security and nutrition therefore remains imperative. Sadly, most governments have been dithering, despite the given importance of functional food systems, food security and nutrition in human, social and economic development beyond the COVID-19 global wake-up call.

Overview of causes and impact of malnutrition:

In the current COVID-19 situation, coupled with the already broken global food systems, it stands to reason that a significant number of people will become even more vulnerable to food insecurity and malnutrition.

As illustrated by the diagram below, there are several basic, underlying and direct/immediate causes of malnutrition leading to the associated outcomes and consequences. The etiology, pathology and impact of COVID-19 does relate and fit snugly in this visual.



Links between malnutrition and viral infections - COVID-19:

The imperative to attend to nutrition considerations when dealing with viral infections including COVID-19 cannot be overstated. This is because optimum nutrition is usually the first line of defence against numerous infections, health conditions and negative outcomes that we know of today. Although not scientifically established yet, it is extremely likely that a relationship exists between nutrition and COVID-19. Poor nutrition may increase the heightened susceptibility of Coronavirus infected persons to quickly progress to the illness and secondary infections.

Deducing from the previous Nutrition in the context of HIV/AIDS studies, it can be said that this relationship could be bi-directional for COVID-19 as well in that any immune impairment as a result of Coronavirus infection and the disease leads to malnutrition. And conversely, malnutrition leads to immune impairment and worsening of COVID-19. On the other hand, good and improved nutrition may slow the rapid progression from diagnosis of the infection, to the hospitalization and full-blown intensive care. Therefore, optimum nutrition may even help in halting the initial viral infection and preventing its spread.

Most people of Africa live below the poverty line, and by and large have a compromised nutritional status that poses a risk to their health, personal development and hinders their meaningful contribution to society. The overall attendant meagre survival, naturally, does not allow for optimum health and nutritional status. Being poverty-stricken, and generally food insecure, a growing majority of Africans face another challenge of poor access to basic priority services such as potable (running) water and good sanitation. These poor conditions and standards of living present a ripe and favourable breeding ground for exacerbating infections and their spread thereof. Furthermore, in many African country contexts, there is a real problem of informal settlements with high density dwelling areas which make it [near] impossible to practice and adhere to the prescribed sensible social/physical distancing to prevent contracting or passing on the virus.

Yet another monster of a reality aside from general environmental safety, are concerns with food safety. There exists a plethora of food safety challenges along the entire food systems and value chains – from sea/river/field/farm to the plate e.g. Heavy metals, Aflatoxins, Pesticide residues, Salmonella, Staphylococcus, Listeria, E-coli etc. that can cause illnesses. Hitherto, the chemical, bacterial, viral and parasitic poison sources, do pose further nutrition, health and food security risks, as there can never be adequate food security and quality nutrition without food safety.

General Impact of COVID-19 on health and nutrition:

The World Health Organization (WHO), The Africa Center for Disease Control (ACDC), as well as other leading health centers globally, have already identified the following common or

typical symptoms viz, **cough, fever, fatigue/tiredness, shortness of breath or difficulty breathing, and skin pallor** (in some instances). However, given the current precautions of the lockdowns in many countries, there are several scenarios that may play out and lead to sub-optimal nutrition and unintended adverse outcomes. These would include (but are not limited to) the following;

- 1. Micronutrient (essential vitamin and mineral) deficiencies.** These micronutrient deficiencies under COVID-19 circumstances (e.g. loss of earnings, down-sizing in expenditure, including particularly on food), could be a direct result of or be exacerbated by general food shortages, lack of access to fresh quality produce (meat, dairy, fruits and vegetables) and/or forced unhealthy low nutrient quality diets. Needless to add, low vitamin and mineral status will compromise the immune system even more; without doubt leading to a cascade of ill-health and complications.
- 2. Weight loss.** For most households and individuals already in a precarious food security situation, this is an almost inevitable consequence and impact of the Coronavirus pandemic. Families are losing or have already grossly lost incomes and are spiraling down a black hole of hunger and near starvation. The last of their body fat and nutrient stores are depleted.
- 3. Weight gain.** Because of the reduction in normal daily activities and movement, resulting therefore in much less energy expenditure, it is highly likely that a significant number of people will gain weight. A related cause and association of the weight gain could be increased intake of food – especially unhealthy, nutrient empty comfort foods high in sugars, saturated fats and salt.
- 4. Mental illness – depression and anxiety.** As a result of wide sweeping economic shutdowns, loss of employment and incomes, it stands to reason that the uncertainty will result in unprecedented panic/anxiety disorders and depression among the many twists and forms that mental illness can take. But, aside from the loss of income for some if not most people, an important element to interrogate is that of the lockdown consequences. Being housebound 24/7 and the ‘cabin fever’ that comes with being ‘unnaturally caged’ for extended periods of time is naturally disturbing. With even the mildest of depression, the pendulum can swing to either extremes; being mindless overeating or loss of appetite and total lack of interest in food and nourishment. In whichever case, nutritional status will be affected. And malnutrition does adversely impact mental health.

Recommended general good nutrition practices:

Based on several nutrition dietary guidelines from across the world, there are important practices that can be followed regularly to improve the quality of the diets and meals consumed for optimum health and nutritional benefits. These would be particularly beneficial for COVID - 19 as well. Here they are;

- Ensuring that a diet that is diverse; eating a variety of foods from all food groups
- Including more fruits, vegetables, whole grains, pulses and legumes

- Eating natural, wholesome, and minimally processed foods
- Increasing intake of insoluble fibre (roughage) and soluble fibre
- Limiting sweets, sugary soft drinks, foods with added and refined sugar
- Reducing the intake of salt (sodium)
- Choosing leaner sources of protein
- Avoiding/limiting high fat foods, especially trans and saturated fats
- Increasing (within limits, not to excess) the use of mono and polyunsaturated oils
- Utilizing non-fat/oily methods of food preparation such as frying, instead to use steaming, boiling, grilling or baking
- Using potable water, washing hands and ensuring other hygienic practices
- Eating small but frequent meals throughout the day

In addition to nutrition, good practices such as regular exercise, not smoking and managing stress should form part of a healthy lifestyle to prevent and mitigate illnesses.

Nutrition and the role of specific nutrients in infections:

As already alluded to severally before, it is well documented that healthy diets and the specific nutrients that are found in the food we eat play very critical roles in the sustenance, survival as well as the healing of individuals. Unfortunately, during times of economic stress, healthy and nutritious foods are the first ones to be left from the food basket due to their high cost.

Macronutrients, that is carbohydrates, fats and proteins provide the body with the much-needed energy and body building nutrients. In the event of any infection and associated fever, they assist in preventing severe weight loss and wasting.

Micronutrients, the essential vitamins and minerals, although consumed in small quantities compared to the macronutrients, perform several extremely important tasks, supporting and enhancing both physical and mental performance.

Vitamin A is responsible for the maintenance of mucosal epithelial cells and those cells active to promote immunity. Low Vitamin A status is associated with accelerated disease progression, and increased mortality (particularly in children – more than 40% of total deaths). Vitamin A is also largely linked to good eye health and vision.

The B Vitamins, B-Complex as they are commonly referred, are important for energy metabolism, support the integrity of the skin, normal cell growth, nervous and digestive systems, and help to make red blood cells. Recent research has pointed to some positive association with lung function and reduction in lung cancer risk (American Medical

Vitamin C helps to fight infections. Vitamin E protects cell structures and facilitates resistance against diseases. Iron transports oxygen to the blood and helps build new red blood cells. Zinc reinforces the immune system, facilitates digestion and transports Vitamin A. Selenium protects the heart muscle. Iodine supports the thyroid gland to produce the hormone thyroxine which ensures proper development and functioning of the brain and the nervous system.

Nutrition screening:

Nutrition (including access to food) assessment is one of the most important steps in the care cycle as it provides valuable information about the status of the client before and following testing, including the clinical diagnosis. It also provides an opportunity for the right food security intervention and targeted dietetic/nutritional management of Coronavirus infection and disease. Additionally, both individual and community screening provides for a systemic coordinated social assistance programme design and timeous delivery, during the COVID-19 emergencies and beyond recovery. This would – hopefully - also influence policy change and sustained implementation.

Nutritional care and support:

Nutrition interventions in infection and management of disease have the following objectives, to;

- Provide adequate energy, protein and essential micronutrients
- Prevent malnutrition and its effects on immunity
- Maintain, promote healthy weight and preserve lean body mass
- Minimize effects of gastrointestinal symptoms like constipation, diarrhoea and vomiting
- Enhance response to therapy
- Minimize food-food and food-drug negative interactions
- Prevent food and waterborne illness by promoting hygiene, food and water safety
- Reduce morbidity and mortality.

Policy and programmatic response actions/options:

In addition to the messages and advice already being provided to the public on COVID-19, which include social/physical distancing, use of masks and gloves, handwashing and application of sanitizers, there are other measures at policy and programmatic level for consideration. These actions must be considered very strongly for promoting the food and nutrition security of individuals and communities at large. Improving access to basic services such as potable water and sanitation at scale is paramount. The identified interventions would naturally cut across multiple sectors, demanding more and better coordination for good outcomes. In this COVID-19 case especially, the public and private sectors must collaborate, and deliver a synergized rapid and sustained response. Tackling COVID-19 is already placing undue strain on limited resources. Therefore, requirements for additional financial, material and human resources, naturally demands re-thinking planning and stringent prioritization. Innovation in modes of delivery of services also remains at the heart of what impacts shall be registered in the prevention, control and management of COVID-19.

There are multiple policy transformation and programme actions that should be implemented by both public and private sectors in the face of COVID-19 and beyond.

Government/public policy:

- Review interlinked policies that impact nutrition and food systems to improve access and scale
- Mobilize and increase financing for nutrition
- Provide smart agriculture subsidies - prioritizing small holder farmers - to support production, processing, and distribution of food commodities
- Keep vigil on demand and supply chains of agricultural products and on strengthening the coordination of food systems for healthy diets
- Pay and improve attention to nutritious food (nutrient dense) value chains – fruits, vegetables, dairy, fish, meat, legumes, pulses, and nuts
- Coordinate with and support the food industry to fortify key food commodities and go to scale; for example, enforcing mandatory food fortification
- Maintain and improve movement of food commodities within and across borders
- Provide food parcels or vouchers as part of the broader social assistance and safety net schemes
- Ensure the continuation of an equivalent of a nutritious school meal provision (during school closures, lockdowns and term breaks)
- Monitor food pricing spikes and volatility to improve access to nutritious foods
- Establish and stock food banks
- Build stronger links between health and other referral systems
- Tap into traditional (governance) structures and local knowledge systems to strengthen nutrition strategic focus and implementation
- Enforce and monitor phytosanitary and related standards to ensure food safety and quality
- Develop, strengthen and maintain functional national food and nutrition surveillance systems
- Take this opportunity to support countries with the development of national food based dietary guidelines.

Programme guidance and recommendations:

- Strengthen data collection and analysis for timely action at local, district/provincial and national levels
- Establish quick win multi-pronged programme interventions (integrated one stop service centres)
- Build and strengthen the nutrition capacity of service providers and caregivers
- Recommend and provide therapeutic feeding for critical and severely malnourished clients
- Provide multivitamin and mineral supplements based on diagnosis and requirements
- Promote and support community and homestead kitchen food and nutrition gardens
- Provide on-site (wet)feeding through e.g. soup kitchens
- Provide access to psychological counselling support services
- Develop and disseminate nutrition education and knowledge products (advocacy briefs, pamphlets etc.)
- Strengthen communications to sensitize and deepen nutrition information uptake via TV, radio, print and social media.

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