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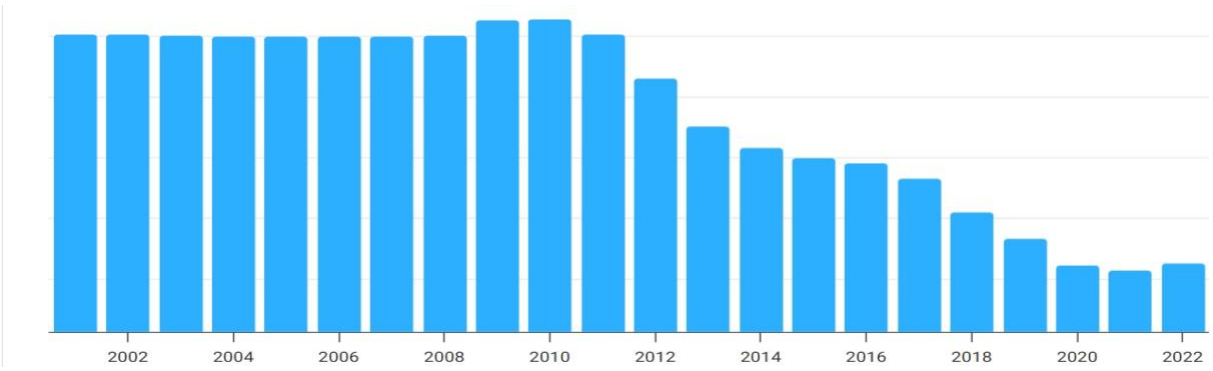
Somalia, Dietary Diseases

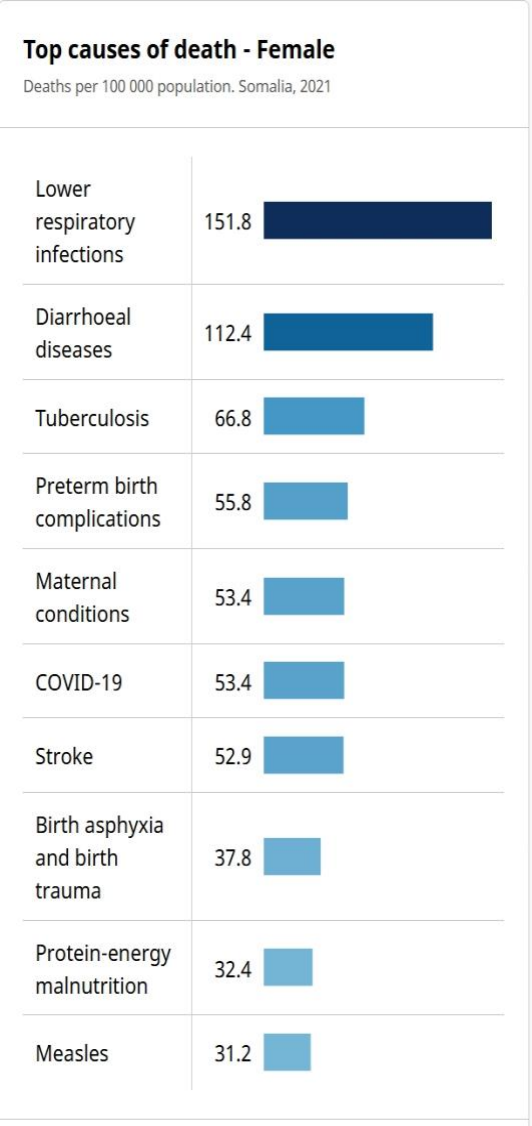
From Deficiency to Resilience: Integrating Nutrition and Yoga for Somalia's Future

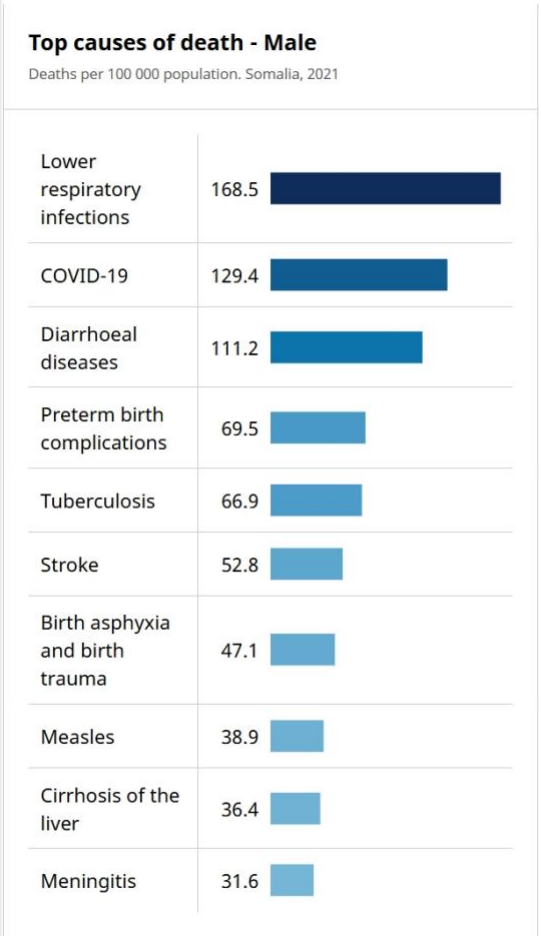
Every working machinery requires a fuel for its functioning. We HUMANS are living machinery and the fuel we require is food. Food is life, yet millions of people are denied its power. In Somalia, hunger is not just about empty stomachs—it is about stunted futures, high mortality, and preventable diseases. There are over 850 million people worldwide that are not getting a proper diet. One of the country of Africa "SOMALIA" plays a vital role in this number. Total population of Somalia is around 19.3 million out of which more than 50% is suffering from malnutrition.
Somalia is a tropical and arid country, located in the horn of Africa. A report of IPC reveals that over 1.7 million children between 6-59 months in Somalia will likely suffer acute malnutrition in 2025, including 466,000 cases of Severe Acute Malnutrition (SAM) and 1.2 million Moderate Acute Malnutrition (MAM) cases. Around 64 percent of cases are concentrated in southern Somalia. Compared to last year, GAM is expected to rise by 4 percent, while SAM will increase by 9 percent. Between April and June 2025, malnutrition is likely to worsen due to disease outbreaks and reduced food access. Somalia is in this horrible condition since years and its condition will get even worse if suitable steps are not be taken at the earliest.
This graph shows the undernourished population of Somalia out of total population since years (2001-2022)



The number has reduced in past year but yet its still very high. Somalia is in very concerning condition as majority of its youth are vulnerable to many diseases that can be fatal if not treated in time. Many children under the age of 5 are underweight and facing food insecurity, this is the prime reason due to which these innocent lives suffer from diseases like anemia and diarrhea very often. Unknowingly, Somalis are hosting many deadly diseases among them. **Kwashiorkor**, **Stunting**, **Wasting**, **Anemia**, **Osteomalacia**, **Scurvy**, **Measles** etc are very common in Somali youth, and hence the mortality rates are very high.

These graphs from WHO reports shows the cases of diseases in Somali males and females:





What are the reasons of this condition in Somalia ?

Key factors includes Somalia's poor economic condition, as well as reoccurring of floods and droughts followed by climatic limitations in Somalia. But most Importantly the dietary practice of Somali youth. Majority of Somali population lacks various essential micronutrients in their diet, the staple food of Somali youth includes Sorghum, Maize, Pasta and Rice along with some poor quality sauces and oils and sometimes with a mix of lentils. As the nutritional value of these food items is not complete which makes Somalis deficient to many micronutrients and expose them to various nutrient

deficiencies that can be fatal if untreated. Essential nutrients that Somali youth is lacking can be understand by nutritional value of their daily diet.

Sorghum which is a staple crop of Somalia is rich in carbohydrates and antioxidants but poor in absorbable iron content, and its prolonged eating without involving other nutrients in diet contributes to deficiency diseases.

Another staple food is Maize , it is rich in carbohydrates and zeins but very poor in tryptophan and lysin due to which it can provide a very low quality of protein. Furthermore phytates present in maize can reduce absorption of zinc and iron . Continuous improper consumption of it can cause Pellagra which can be fatal if untreated.
Pasta is eaten by Somali population because it is cheap and affordable to them but due to the usage of refined flour and other unhealthy processed items in it , makes it very unhealthy and it can lead to many gastric and digestive problems .
Lack of awareness and knowledge is an another parameter due to which the Somali youth is unable to use their existing resources in a proper way in escaping the crises of dietary diseases caused due to malnutrition. Their very own nutritious crops like sorghum are of no use without proper use and knowledge. Somali youth need to work smartly to save themselves from these deadly diseases. That can be initiated only when they are well aware of what they are lagging.

Dietary Diseases in Somali youth and the very cause of it

Anemia, which is caused due to deficiency of iron is a disease that is very common in Somali youth. It is affecting almost 50% of all women, 30% of all aged children and 60% of children under five the most. Anemia in children can delay both physical and intellectual growth; lead to increased risk of infectious disease and an increased risk of death. In women, anemia can lead to poor foetal development and birth complications during pregnancy, as well as an increased risk of infectious disease and death. The primary reasons for this disease has a wide range of factors which includes frequent exposure to diseases which are often untreated, and the consumption of predominantly cereal based diets, which are missing key vitamins and minerals, furthermore foods are often too expensive for poor households to buy and the problem is

further exacerbated by inadequate health care and sanitation and lack of awareness among citizens.
Another very common deficiency disease is Night blindness that is caused due to deficiency of vitamin A. Night blindness might not seems dangerous but deficiency of Vitamin A increases the risk of death from the disease such as measles. In Somalia, measles is prevalent, with cases reported annually. As of February 2024, there have been 3,365 reported cases and 37 deaths since the beginning of the year. This significant rise is due to limited access to health care services, medical supplies, proper sanitation, safe water and lowered immunity due to acute malnutrition and lack of awareness. The risk is further aggravated among vulnerable communities due to low vaccination rates, widespread malnutrition and vitamin A deficiency among children younger than 5 years old.
Stunting is a result of suboptimal nutrition or long-term nutrition deprivation, which can occur in utero and during childhood . Short-term consequences of stunting include increased risk of infectious diseases , poor cognitive development , and increased morbidity . The long-term consequences of stunting include reduced height and lean body mass in adulthood, along with decreased cognitive performance between 6 and 11 years of age and less educational attainment overall .Wasting is due to inadequate nutrient intake and/or disease . Wasted children have an acutely increased risk of death and therefore require urgent medical and nutrition treatment . Wasting in young children often results in a weakened immunity and delayed physical development.According to the Somali Health and Demographic Survey 20201, in 2018-2019 the prevalence of wasting was 11.9% and the prevalence of stunting was 26.9%.
Somali population is at very high risk of various diseases like Tuberculosis, Pneumonia, Diarrhea, Hypertension , HIV/AIDS and many more due to their weak immunity because of their poor dietary patterns.
Although there are no nationally representative data for vitamin D; nonetheless, a large hospital-based series from Mogadishu (n=28,125) reported that ≈42% had vitamin D deficiency (10–19 ng/mL) and ≈46% had severe deficiency (<10 ng/mL), suggesting that vitamin D deficiency may be widespread — but hospital data cannot substitute for population surveys. Further nationally representative vitamin D assessments are needed.

Solutions

1) To manage everything and to overcome this issue the first essential step is to aware people about themselves and their eating practices and the diseases they are exposed to, then proper planned management of existing resources is required to overcome this problem with feasibility. One of the resource which left unused in Somalia is SEAFOOD. Somalia's seas stretch over 3,300 kilometres, the longest coastline in mainland Africa, and beneath those waves lies immense promise. The country's waters are teeming with tuna, lobster, sardines, and snapper—species that are not only staples in local diets but also prized commodities in global markets. But yet this sector left untouched in Somalia, addition of accurate seafood in diet can be very beneficial to overcome many deficiencies.

<u>Advantages</u>
Economically feasible to all, even the poor class.
Excellent source of Omega-3 Fatty Acids (DHA & EPA), Which improves functioning and development of brain.
High in Micronutrients, very rich source of iron, calcium, iodine, vitamin D etc. That can help to prevent Somali population from severe anemia, also iron content in sea food is heme-iron that is better than the iron content of plant based product that is non-heme iron, as heme iron is better absorbed by the body (about 15-35%) than non-heme iron (about 2-20%)
Rich in Protein, Supports growth in children, prevents **kwashiorkor** and **stunting**.
Introducing seafood in diet practices will also create new job opportunities in Somalia.

Problem of cold storage facility and transportation due to lack of money and high poverty rate can be a challenge in this process but it can be overcome by using drying and smoking in sun techniques to store fishes and other seafood for long time. Introduction of dried fish powder in dishes can also take place, which will make this new food low cost intensive and feasible to all.
Small scale Aquaculture can also be introduced to make the process more easy, Small-scale tilapia or catfish farms can be introduced in rural areas.

2) Another step that can be taken is to increase the production rate of **MORINGA** in Somalia. Moringa (Moringa oleifera), often called the

"Miracle Tree" or "Tree of Life", is a fast-growing, drought-resistant tree native to India. It is nicknamed as Miracle Tree as it actually done miracles starting from, Every part of the plant - leaves, pods, seeds, flowers, and roots is edible and has nutritional or medicinal value. Because of its ability to survive harsh, arid climates, Moringa is especially valuable in regions like Somalia where food insecurity and malnutrition are widespread.

Nutritional Value of Moringa

Moringa leaves are among the most nutrient-dense plant foods in the world:
Protein: Contains all 9 essential amino acids.
Vitamins: Rich in vitamin A, vitamin C, vitamin E, and several B vitamins.
Minerals: High in calcium, potassium, iron, magnesium, and zinc.
Antioxidants: Contains flavonoids and polyphenols that protect against disease.
Iron Content: Rich in Iron that helps fight anemia (very common in Somalia).

Advantages

Moringa leaves are very highly rich in Vitamin A even more than many of the vegetables , which make it very efficient to overcome the deficiency of vitamin A and the diseases caused due to it, also it is resistant to droughts and other calamities and can be easily grown in the Somali land. Moreover the seeds of Moringa can be used as a low-tech water purification system, which studies show can remove up to 90% of organic and inorganic contaminants from drinking water. This quality can help in preventing diseases spread due to poor quality of drinking water, additionally Moringa is highly rich in calcium that will ultimately increase the strength of bones and can help in the overall development and growth of body. Fortification of dried moringa leaves powder and fish powder in maize or sorghum flour can also increase the overall nutritional value of these crops and will be easily to consume.

3) While nutrition remains the foundation of combating dietary deficiencies, complementary lifestyle practices such as **YOGA** can play an important role in improving overall well-being. The practice of yoga in Africa has been shaped by various historical influences, including the spread of Indian culture through trade and migration, the impact of colonialism, and the integration of indigenous spiritual practices. Indian traders and migrants introduced yoga to East Africa, particularly in countries like Kenya and Tanzania, during the late 19th and early 20th centuries. Colonialism further influenced the adaptation of yoga as it intersected with Western fitness trends, leading to a blend of traditional practices with modern interpretations. Additionally, many African communities have incorporated yoga into their own spiritual and wellness practices, creating a unique fusion that reflects local beliefs and customs. In Somalia, where access to healthcare is limited and mental stress is widespread, yoga offers a cost-effective method to strengthen immunity, improve digestion, and reduce stress-related illnesses. Yoga is no equipment requiring practice that have infinite benefits, Regular practice of breathing exercises (pranayama) and simple postures can improve digestion, enhance nutrient absorption, and boost immunity, thereby supporting recovery from deficiencies like anemia, rickets, and osteomalacia. Furthermore, yoga provides mental health benefits, helping individuals cope with the psychological stress of poverty, food insecurity, and conflict.

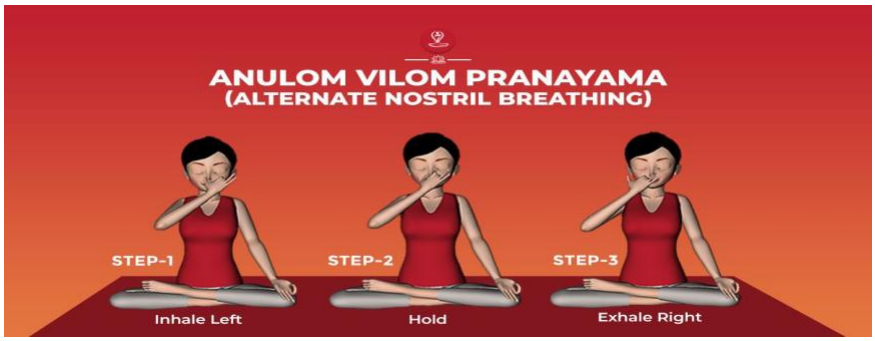
Yoga for Somali People: Disease Prevention & Health Improvement

1. Pranayama (Breathing Practices)

Anulom Vilom (Alternate Nostril Breathing)

Balances oxygen flow, improves lung health, reduces stress.

Good for TB, pneumonia-prone individuals.



2. Gentle Asanas (Postures)

Tadasana (Mountain Pose)

Improves posture, balance, circulation.

Helps strengthen weak bones (rickets/osteomalacia prevention).

Bhujangasana (Cobra Pose)

Strengthens the spine, improves digestion, reduces back pain.

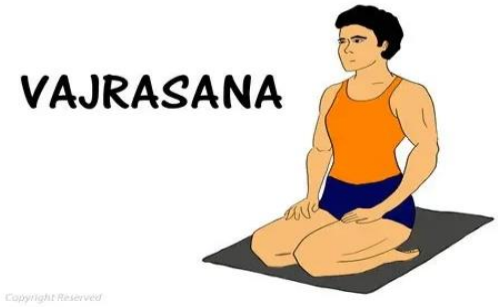
Very good for anemia patients as it boosts oxygen circulation.

Vajrasana (Diamond Pose / Thunderbolt Pose)

Can be practiced after having a meal

Improves digestion, reduces bloating from cereal-heavy diets (maize/sorghum).

Enhances nutrient absorption, including iron.



3. Surya Namaskar (Sun Salutation – 4–6 rounds daily)

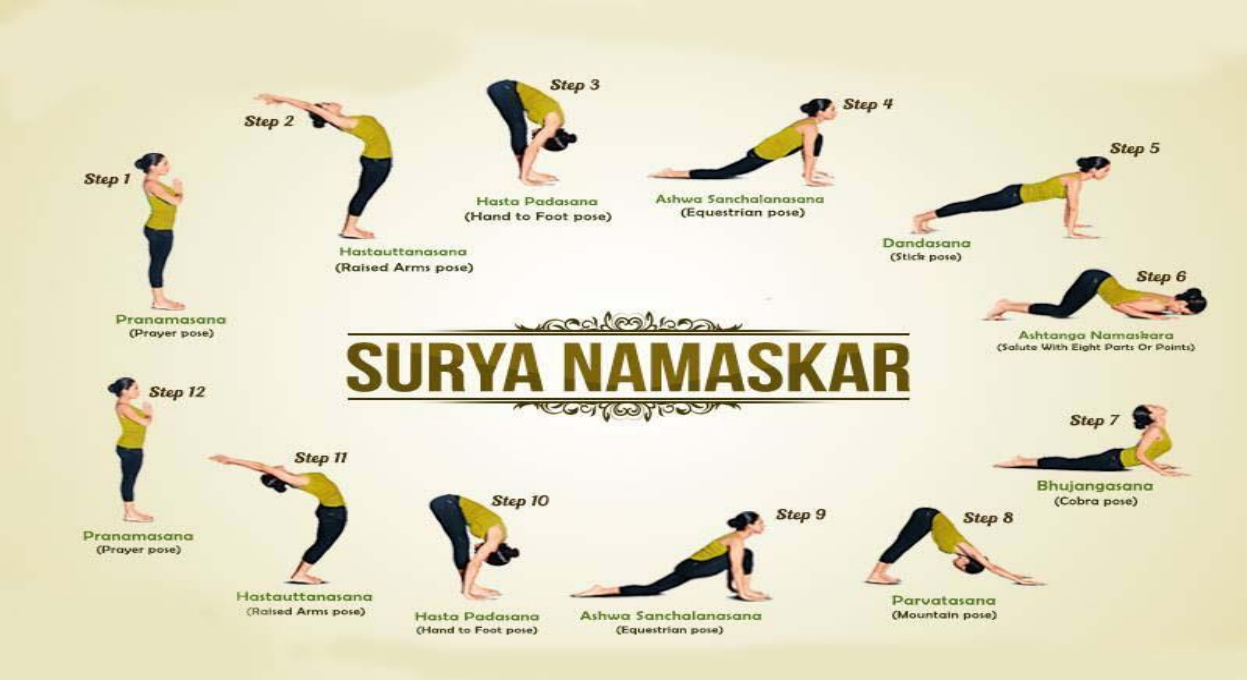
A complete workout: stretches muscles, improves blood flow, boosts vitamin D synthesis when done in sunlight.

Builds strength & stamina in youth.

There are total 12 asana's in Surya Namaskar:

Pranamasana (Prayer Pose), **Hasta Uttanasana** (Raised Arms Pose), **Padahastasana** (Hand to Foot Pose), **Ashwa Sanchalanasana** (Equestrian Pose), **Dandasana** (Stick/Plank Pose), **Ashtanga Namaskara** (Salute with Eight Parts), **Bhujangasana** (Cobra Pose), **Parvatasana** (Mountain Pose / Downward Dog), and then again , **Ashwa Sanchalanasana** (Equestrian Pose), **Padahastasana** (Hand to Foot Pose), **Hasta Uttanasana** (Raised Arms Pose), **Pranamasana** (Prayer Pose) in reverse order.

Daily practice of Surya Namaskar will result in strong immunity and stamina that will be very beneficial to Somali population.



Yoga is highly beneficial without any demerits, When combined with nutrient-rich foods such as moringa and seafood, yoga can enhance nutrient absorption and circulation, allowing the body to maximize the benefits of dietary interventions.

4) All three suggestions above are of no benefit without proper awareness and knowledge. In awaring youth, school plays an important role. An monthly calculations of the nutritional value and diseases in students should be done by the school on the basis of child's dietary patterns. This will help youth to know where they are lacking and what are the changes they should adapt in their diet and livelihood to meet the needs of healthy body . Schools can guide alternative diet options to the children according to their feasibility so that this issue can be resolved. Apart from this organization of Community Feast Program within village and among communities will be an another adaptation they can adapt this will not only help to built strong connections among individual but also a mix alternative of diet will help in completing nutritional needs, and since resources for this program can be contributed by citizens themselves and can be supported by some NGOs, so it will be feasibly to all. For nutrition check in villagers or poor population, small groups DAG (Diet Awaring Group) of 4-5 people with one dietitian can visit them to check their nutritional intakes and aware them regarding risks

of poor diet, also these DAG can suggest them other diet option according to people's affordibility.

Feasibility of solutions proposed

The proposed solutions are not only practical but also highly feasible in Somalia's current socio-economic and climatic conditions. Seafood, though underutilized, can be preserved through traditional low-cost methods such as drying, smoking, or sun-drying, which bypass the need for expensive cold storage facilities. Fish powder or flakes can easily be incorporated into porridge or sauces, making seafood both culturally acceptable and nutritionally impactful. Similarly, moringa, known as the "miracle tree," is drought-resistant and thrives in arid regions like Somalia, offering abundant sources of vitamin A, iron, calcium, and protein. Its leaves, pods, and seeds can be used for food, medicine, and even water purification, making it a multipurpose crop that requires minimal investment. Yoga, on the other hand, is a no-cost, equipment-free lifestyle practice that improves digestion, enhances nutrient absorption, strengthens immunity, and provides mental relief from stress and trauma, which are widespread in conflict-affected communities. Finally, awareness campaigns delivered through schools, mosques, radio, and simple offline mobile tools can empower Somali families to make better use of the resources already available to them. Taken together, these interventions are low-cost, culturally adaptable, and sustainable, offering a comprehensive pathway to reduce malnutrition and improve public health in Somalia.

Conclusion

Malnutrition in Somalia is a complex crisis fueled by poverty, climate challenges, limited healthcare, and poor dietary diversity. However, it is not an unsolvable problem. By introducing nutrient-rich local resources such as seafood and moringa, and combining them with low-cost lifestyle practices like yoga, Somalia can address both immediate nutritional deficiencies and long-term health outcomes. Awareness programs and simple digital tools can further empower communities to make informed dietary choices, ensuring that solutions are practical and sustainable. A nourished youth is the foundation of a stronger Somalia, and these interventions provide a pathway toward resilience, self-reliance, and a healthier future.

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