Public health and nutrition are interdependent. Poor nutrition compromises the immune system and opens vulnerability to infectious diseases; conversely, frequent illness often weakens nutritional status, which is critical to life-long health and development. By harnessing the power of this synergistic relationship, we can improve the overall nutrition of vulnerable populations by delivering public health interventions—like access to health, water, and sanitation services, and disease control and prevention—with nutrition elements like micronutrient supplementation and promotion of optimal infant and young child feeding.

Poor nutrition increases vulnerability to infectious diseases

Nutrition has a significant impact on rates and severity of disease. Inadequate dietary intake can lead to micronutrient deficiencies that depress the immune system, increasing the risk of morbidity and mortality, including maternal mortality and low birthweights. Pneumonia and diarrhoea, diseases of poverty, are the biggest killers of children under 5 years of age in the Asia region. Yet, child deaths from pneumonia and diarrhoea are largely preventable through adequate nutrition, hand washing with soap, safe drinking water and basic sanitation, vaccinations, and other measures.

Diseases have a cyclical relationship with nutrition. Undernutrition exacerbates diarrhoea and results in increased mortality rates. Conversely, diarrhoeal disease, especially in children less than 5 years, can perpetuate undernutrition, as those suffering are more likely to also suffer from other forms of malnutrition and have less appetite.

We know what works: Integrating nutrition with public health initiatives maximises impact and supports life-long health

#1: Direct nutrition

- **Breastfeeding and complementary feeding practices** include early initiation within the first hour of life, exclusive breastfeeding for the first 6 months of life (without water), and the introduction of appropriate complementary foods and feeding practices from 6 to 24 months along with continued breastfeeding. Early and exclusive breastfeeding are the most effective interventions for preventing child deaths worldwide, saving 1.4 million children’s lives under the age of 5 every year globally. Complementary feeding strategies could reduce stunting by 17 percent in countries with the highest burden of undernutrition.
**Health sector interventions** include delivering direct nutrition services through the public health system and integrating good nutrition counseling within existing health services, including:

- *Training antenatal care providers*, skilled birth attendants, and infant and young child care providers on how to counsel pregnant women on adequate weight gain, rest, and nutrition and optimal IYCF practices.

- *Collaborating with reproductive health and family planning services*, which play a role in preventing short birth intervals. Pregnancy intervals of two years or less have been associated with neonatal, infant, and under 5 mortality and low birthweight.5

- *Training skilled birth attendants* on delayed cord clamping, which has been shown to reduce the risk of anaemia after birth by 80 percent, and at 2 to 4 months by 47 percent.6

**Micronutrient interventions** ensure at-risk populations have access to micronutrient supplements and to foods containing micronutrients that are critical to growth and development, including:

- *Delivery of micronutrient supplements through antenatal care services*: This can reduce maternal deaths and improve birth outcomes. Iron-folate or multiple micronutrient supplementation during pregnancy reduces anaemia and low birthweight. Calcium supplementation in pregnancy can prevent gestational hypertensive disorders like pre-eclampsia, a leading cause of maternal death.7

- *Fortification of staple foods and condiments*: Adding vitamins and minerals like iron, zinc, vitamin A, and folic acid to staple foods, complementary foods, and condiments, as well as salt iodisation, are cost-effective ways to improve the vitamin and mineral intake of the population.8

- *Home-based food fortification with multiple micronutrient powders*: Directly adding multiple micronutrient powders, which are encapsulated micronutrients in powder form, to food consumed by the child 6-24 months helps boost vitamin and mineral intake among children.9

**Integrated management of acute malnutrition** provides caregivers with an opportunity for counseling and support on infant and young child nutrition. Examples include:

- *Integrated management of acute malnutrition (IMAM)*: On-going community screenings help identify children suffering from severe acute malnutrition (SAM) without medical complications early enough, and enables treatment from home, which includes ready to use therapeutic foods. IMAM also includes establishing a small number of inpatient units to accommodate children with severe wasting and medical complications.10

- *Supplementary food for pregnant women and young children*: In food-insecure areas, providing pregnant women with food supplements comprising a balanced mix of energy and protein has been shown to produce modest increases in maternal weight gain and in mean birthweight, reducing the risk for small for gestational age (SGA) births.1,11

**#2: Disease control and prevention**

- *Presumptive treatment for malaria* and bed net use for pregnant women leads to improved maternal and infant protection from malaria. This results in higher birthweights, decreased risk of low birthweight, and a reduction in maternal anaemia.3

- *Deworming in pregnant women and children* under age 5 is recommended for regions with high prevalence of helminthic infestation.
Deworming interventions have shown improved haemoglobin status, reductions in anaemia in children, and increases in foetal growth and maternal weight gain during pregnancy.¹

- **Integrated management of common illnesses (IMCI)** in public health facilities includes improving the case-management skills of health staff through the development and promotion of locally-adapted IMCI guidelines, building the capacity of the health system to support effective management of childhood illness, and addressing family and community practices.

- **Zinc supplementation for management of diarrhoea** is effective to reduce the duration of diarrhoea and reoccurrence of subsequent episodes.¹

### #3: Improved hygiene and sanitation environment

- **Water, Sanitation, and Hygiene (WASH) programmes** that incorporate proper hand washing practices help protect a child’s nutritional status by reducing the amount of faecal-oral pathogens that are ingested and cause infections. Proper hand washing with soap at critical times, and especially before preparing food and feeding a child, is one of the most effective and cost-efficient ways to prevent pneumonia and diarrhoea.
  
  - Constant exposure to bacteria, viruses, and parasites may be undermining attempts to end malnutrition. Improvements in sanitation, especially the elimination of open defecation, are associated with a decrease in stunting of 4 to 37 percent (rural) and 20 to 46 percent (urban).¹²
  
  - Studies show hand washing with soap can result in a 42 percent reduction in diarrhoea incidence.¹³,¹⁴

### #4: Integrated nutrition outcomes within the design, monitoring, and reporting system of Ministry of Health

- The Ministry of Health should lead initiatives to integrate nutrition in public health programmes:
  
  - **Incorporate nutrition indicators in health programmes** along the continuum of care (e.g. ANC, PNC, family planning, immunisation).
  
  - **Design robust monitoring systems** on nutrition interventions from the beginning of each programme. Integrate key nutrition indicators in health management information systems.

- Regional and district health offices should align outcomes with the Ministry of Health and the Ministry responsible for water supply:
  
  - **Strengthen public health programmes and infrastructure** for water and sanitation systems and regulate water providers to meet quality and equity standards.
  
  - **Train and build capacity** among health staff at the district, sub-district, and regional levels in delivering nutrition messages and services, including IYCF counseling in difficult circumstances, such as HIV and during emergencies.
  
  - **Integrate promotion of child care practices**, including proper hygiene, breastfeeding, complementary feeding, and deworming practices into the primary, secondary, and tertiary healthcare systems.
  
  - **Strengthen supply chains** to ensure access to supplements and nutritional products to treat and prevent micronutrient deficiencies and severe acute malnutrition.
Public health policy- and decision-makers can take immediate action to address undernutrition and improve public health outcomes:

- **Make optimal nutrition a public health goal**: Integrate nutrition-sensitive activities into health programmes, national strategies, planning documents, and WASH programmes, ensuring multi-sectoral inputs.

- **Integrate nutrition into WASH programmes**: WASH programmes should highlight the importance of washing hands before preparing food and feeding a child. Hand washing messages with soap at critical times need to be linked with illnesses, such as pneumonia and diarrhoea, which contribute to undernutrition.

- **Enhance public health staff training**: Integrate public health nutrition in medical and nursing curricula. Expand coverage to rural and marginalised areas with high levels of undernutrition.

- **Support collaboration across agencies**: Planning should include explicit roles and responsibilities for departments with reciprocal resources so that nutrition is addressed along the continuum of care and across different platforms (health facilities, outreach services, and community care). Work with other sectors, like agriculture, food security, and social welfare, to develop an effective multi-sectoral plan to address undernutrition.

**WE MUST ACT NOW**

By integrating public health and nutrition efforts, we can leverage existing resources to maximise impact. Better nutrition and health for all is within our reach. Policy- and decision-makers must take action now to make it a reality.

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**Sources**


