



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health, Nutrition & Indigenous Medicine

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Vol. 49 No. 52

24th – 30th Dec 2022

Food scarcity; impact on communicable diseases

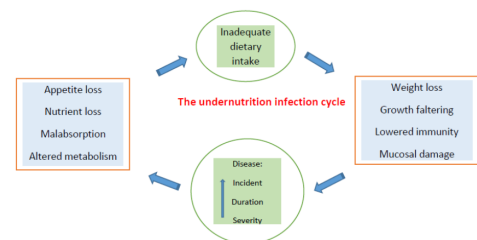
The year 2022 is claimed as the “year of unprecedented hunger” by the World Food Program as the world is facing a food crisis. As food scarcity increases, the resulting state of malnutrition is going hand in hand with emerging diseases especially communicable diseases due to the depleted immune state to fight against diseases which will further challenge the control of the worldwide magnitude of enormous parasite infections.

Association of nutrition and communicable diseases

Nutrition is a basic human need and a prerequisite for a healthy life. Nutrition plays an important role in preventing illness and reducing morbidity and mortality of any disease. Malnutrition includes both undernutrition (wasting, stunting, underweight, and mineral- and vitamin-related malnutrition) and overnutrition (overweight, obesity, and diet-related non-communicable diseases). Malnourished persons are more susceptible to infection, and infections themselves contribute to malnutrition, which makes a vicious cycle. The average nutritional requirements of a person depend on characteristics such as age, sex, height, weight, degree of activity, and rate of growth over the life course. An inadequate dietary intake of nutrients leads to weight loss, lowered immunity, mucosal damage, invasion by pathogens, and impaired growth and development in children and even in adults. A diseased person's nutrition is depleted by poor/loss of appetite, malabsorption, diversion of nutrients for the immune response, and urinary nitrogen loss, which in turn, cause reduced dietary intake. In addition, fever increases the demand for both energy and micronutrient requirements by increasing metabolic needs. Finally, lead to nutrient losses and further damage to defence mechanisms. For example, Malaria and influenza, have mortality rates proportionate to the degree of malnutrition.

The primary cause of immunodeficiency worldwide is undernutrition. Undernourished means that the caloric intake is below the minimum energy requirement. Vulnerable groups such as infants, children, adolescents, and the elderly are the most affected. Micronutrient deficiencies

can cause poor growth, impaired intellect, and increased mortality and susceptibility to infection. Both undernutrition and micronutrient deficiencies increase the morbidity and mortality from communicable diseases, the relationship is considered synergistic; undernutrition compromises natural immunity in humans leading to increased susceptibility to infection causing more frequent and severe episodes of CDs. Further severe acute malnutrition may mask symptoms and signs of infectious diseases making early clinical diagnosis and treatment difficulties which may cause severe impact.



The Global Burden of malnutrition and communicable diseases

It is estimated that 8.9% of the world population or 663 million people are undernourished. The World Health Organization (WHO) estimates an additional 250,000 deaths per year globally from malnourishment, infectious disease, and increasing heat by 2050. Undernutrition is common among children under 5, particularly in the poorest regions of the world, such as South Asia and Sub-Saharan Africa where 1 in every 3 children is undernourished. WHO claims that around 45% of deaths among children under 5 years of age are linked to undernutrition. These mostly occur in low- and middle-income countries. Undernourished children are more susceptible to getting sick, and their disease course is more likely to be severe or even fatal. A study of Bangladeshi children found that severely undernourished children had a nearly eight-fold increased risk of death from diarrhoea than those who were not severely undernourished. In the case of pneumonia, those who are undernourished are at a 15-times higher risk of death. Hence undernutrition is a major underlying

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cause of death due to diarrhoea, pneumonia, and other infections such as measles and malaria.

Recent increases in food commodity prices have pushed more people into poverty, putting basic nutritional requirements out of reach which has increased the gravity of the crisis. Hence the association of communicable diseases (CDs) and malnutrition concerns a major public health problem, particularly among infants and children with current food insecurity with the worldwide economic crisis. Severe food shortages are often associated with factors that increase the risk of CDs, such as population displacement, lack of safe food and water, poor sanitation, overcrowding, the collapse of preventive public health measures such as immunization and vector control, and lack of access to basic health services.

The burden of malnutrition in Sri Lanka

With the current economic downturn in Sri Lanka, there is an impending nutrition downturn as well due to many factors including availability, affordability, and food habits. According to a rapid analysis conducted by the world food program, the average price of a nutritious meal has increased by 156%, as of August 2022. This has very adversely affected affordability and accessibility to nutritious food. Accordingly, 6.3 million people, or over 30 per cent of Sri Lanka's population including 2.3 million children, are "food insecure". Of these, around 5.3 million people are either reducing meals or skipping meals, and at least 65,600 people are severely food insecure. Sri Lanka is among the top ten countries with the highest number of malnourished children and the numbers are expected to rise further.

According to the FHB Sri Lanka September 2022 nutrition month data, it was observed that 42.9% of the children under 5 years reported having some form of undernutrition (growth faltering, underweight, wasting, and stunting) which has increased compared to 2021. The trend is seen in all categories (infants, 1-2years, and 2-5years) in all 3 sectors of urban, rural, and estate. The highest percentage of undernutrition was reported in the Ampara district with 59.4% followed by Anuradhapura and Matara districts. Number-wise, the highest number of children with undernutrition was reported in the district of Kurunegala which was 47,982. This implies the impending threat of the emergence of an increase in morbidity and mortality towards communicable diseases which warrants immediate action.

Prevention of imminent threat of morbidity and mortality of CDs due to malnutrition in Sri Lanka

WHO recommended that Nutritional and CD interventions must be integrated to address the overall impact of malnutrition on morbidity and mortality from CDs effectively. The preventive health sector of the Ministry of Health has implemented many strategies to address emerging issues in collaboration with the curative sector.

The prevention should be addressed at primary, secondary, and tertiary levels. Primary prevention can reduce morbidity and mortality from CDs in undernourished populations significantly. Measures include support to improve access to safe and adequate food/water/sanitation. The "Emergency Nutrition Plan 2022-2024" was developed to prevent further deterioration of the nutritional status of the Sri Lankans under the main themes of "knowing your nutritional status, finding low-cost alternatives, growing, and sharing". It was implemented to assess and manage the risk of the food crisis. Emergency nutrition Strategic plan was developed for Risk Communication and Community Engagement.

Proper immunization is a measure addressed by the Ministry of Health through the Epidemiology unit as required and routinely through the National Immunization Program. The interactions of childhood diarrhoea, pneumonia, and malnutrition contribute to a vicious cycle of poor health and delayed growth and development. Immunization, as an effective measure to protect against some of the main diseases of childhood, can help to

interrupt this cycle.

To identify emerging disease outbreaks, event base disease surveillance and immediate control measures including vector control measures are conducted in the field. Further, health education and promotion on hygiene/hand-washing and preventive measures towards emerging diseases are communicated via the Health Promotion Bureau of Sri Lanka as necessary. The assessment of nutritional status and identification of high-risk individuals and referral for necessary interventions are conducted in the field. The appropriate infant and young child feeding practices and optimizing the nutritional status of pregnant mothers are regularly implemented and monitored by the Family Health Bureau of Sri Lanka.

Secondary preventive activities that followed are early diagnosis and appropriate case management of CDs which could limit mortality. Through the National Communicable disease surveillance program disease trends are closely monitored and allow early warning of outbreaks. The appropriate case definitions are developed and defined according to the level of the epidemiological state of the CDs. The treatment protocols are adapted accordingly. The control measures are implemented through the well-established public health system through the grass root level health worker/ Public Health Inspector together with MOH and staff trained in CDs control activities at the field. Nutrition counselling, education, and provision of nutrient-rich food supplements, school meal provision, community kitchen program and food aids when necessary is being done. To prevent severe and moderate acute malnutrition case management through a combination of therapeutic diets and medical care are some tertiary preventive strategies. All the preventive strategies taken at the multi-stakeholder level will expect to prevent further deterioration of the nutritional status of the Sri Lankans which will invariably minimize the impact on communicable disease-related morbidity and mortality.

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Table 1: Selected notifiable diseases reported by Medical Officers of Health 17th- 23rd Dec 2022 (51st Week)

RDHS	Dengue Fever		Dysentery		Encephaliti		Enteric Fever		Food Poi-		Leptospirosis		Typhus		Viral Hepa-		Human		Chickenpox		Meningitis		Leishmania-		WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	20	12869	0	9	0	4	0	1	0	9	1	288	0	1	0	5	0	2	4	68	0	14	0	5	18	98
Gampaha	11	9312	0	6	0	3	0	2	0	13	8	369	0	1	2	15	0	5	1	81	3	50	0	43	5	89
Kalutara	64	4224	1	44	0	1	0	2	0	6	5	550	0	4	0	9	0	5	7	154	1	38	0	4	3	7
Kandy	64	5422	0	30	0	1	0	5	0	13	4	213	1	37	0	10	0	0	2	98	0	17	0	53	14	99
Matale	27	1350	0	12	0	0	0	0	0	0	1	139	0	8	0	9	0	1	0	54	0	1	2	339	22	100
NuwareEliya	4	232	1	32	0	4	0	4	0	7	2	96	0	28	0	7	0	0	2	49	1	13	0	1	30	94
Galle	28	3488	1	17	0	1	0	1	0	1	16	608	1	47	0	8	0	0	2	109	0	31	0	0	16	100
Hambantota	9	1572	0	35	0	1	0	0	0	3	11	324	1	61	0	8	0	0	2	62	2	21	7	567	20	100
Matara	34	1747	1	18	0	2	0	1	0	9	12	354	0	19	0	3	0	0	2	77	1	12	2	249	37	100
Jaffna	13	3810	4	154	0	4	0	74	0	75	0	28	61	683	0	8	0	5	5	145	2	20	0	2	70	93
Kilinochchi	1	134	2	13	0	0	0	3	0	35	3	15	2	14	0	0	0	0	0	6	0	5	0	2	22	100
Mannar	10	287	0	7	0	0	0	1	0	0	2	43	2	10	0	2	0	0	0	7	0	19	0	0	15	96
Vavuniya	0	91	0	5	0	1	0	2	0	2	2	28	0	3	0	0	0	0	0	31	0	0	0	4	3	98
Mullaitivu	1	70	0	12	0	0	0	2	0	6	0	43	0	6	0	0	0	0	1	12	0	4	0	4	19	96
Batticaloa	10	1262	3	116	1	14	0	1	0	32	1	75	0	0	0	1	0	1	1	54	3	42	0	2	40	99
Ampara	4	183	1	19	0	3	0	0	0	22	0	138	0	1	0	2	0	0	1	53	0	44	0	15	11	99
Trincomalee	21	1184	0	26	0	0	0	1	0	2	0	41	0	3	0	4	0	0	0	54	0	11	0	8	14	97
Kurunegala	66	2758	0	32	2	6	0	1	4	9	7	346	3	42	0	7	0	3	2	138	2	55	5	501	12	99
Puttalam	90	2900	0	7	0	1	0	1	0	0	0	71	0	9	0	1	0	0	0	36	1	38	0	8	17	91
Anuradhapur	5	492	1	17	0	4	0	1	0	8	3	284	0	32	1	6	0	2	2	90	0	62	5	508	10	98
Polonnaruwa	9	172	0	9	0	2	0	0	0	2	12	176	0	1	0	5	0	0	4	37	0	7	12	529	17	99
Badulla	41	1425	0	34	0	3	0	1	0	14	4	272	0	67	0	161	0	0	6	83	0	21	1	33	24	100
Monaragala	9	528	2	14	0	2	0	4	0	22	12	355	0	39	0	64	0	0	0	75	5	85	3	176	13	99
Ratnapura	35	2979	2	58	1	9	0	3	0	43	18	1129	0	26	0	34	0	1	5	110	6	95	7	235	15	100
Kegalle	43	3105	0	18	0	9	1	5	0	8	8	700	0	26	0	15	0	0	4	136	0	56	2	33	11	99
Kalmune	19	1813	1	35	0	1	0	3	0	6	1	34	0	1	0	1	0	0	1	92	1	44	0	0	29	100
SRI LANKA	12	63409	20	779	4	76	1	119	4	347	13	6719	71	116	3	385	0	25	5	1911	28	805	46	3321	20	97

Source: Weekly Returns of Communicable Diseases (esurveillance.epid.gov.lk). T=Timeliness refers to returns received on or before 23rd Dec, 2022 Total number of reporting units 357 Number of reporting units data provided for the current week273 C**=Completeness

Table 2: Vaccine-Preventable Diseases & AFP

17th– 23rd Dec 2022 (51st Week)

Disease	No. of Cases by Province									Number of cases during current week in 2022	Number of cases during same week in 2021	Total number of cases to date in 2022	Total number of cases to date in 2021	Difference between the number of cases to date in 2022 & 2021
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	01	00	00	00	01	00	00	00	02	01	84	70	20 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	01	00	00	00	00	00	00	00	00	01	01	99	70	41.4 %
Measles	00	00	00	00	00	00	00	00	00	00	00	37	13	184.6 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	05	05	0 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	00	01	04	- 75 %
Whooping Cough	01	00	00	00	00	00	00	00	00	01	00	03	00	0 %
Tuberculosis	00	00	29	16	09	13	00	06	00	73	134	6348	5002	26.9 %

Key to Table 1 & 2

Provinces: W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.
 RDHS Divisions: CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matale, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS** =Congenital Rubella Syndrome

NA = Not Available

Number of Malaria Cases Up to End of December 2022,

01

All are Imported!!!

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ON STATE SERVICE

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