

Malnutrition and its Homoeopathic Management

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Abstract:- An imbalance between dietary requirements and consumption that leads to cumulative shortages of energy, protein, or micronutrients that may adversely influence growth, development, and other pertinent outcomes is known as paediatric malnutrition (undernutrition).⁽¹⁾ A distinct branch of medicine known as homoeopathy emphasises the individuality and clinical similarity of each patient. It addresses a man's disease as a distinct entity.

Keywords:- Malnutrition, Homoeopathy.

I. INTRODUCTION

Anorexia is the primary cause of malnutrition, which is exacerbated in poorly managed diseases by malabsorption, protein-losing enteropathy, iron-deficiency anaemia, disaccharidase deficiency, and malabsorption of bile salts. Growth failure, postponed puberty, and delayed bone age are common outcomes of both malnourishment and steroids.⁽⁴⁾

The most common causes of malnutrition in children are social, political, and environmental problems that lead to an inadequate food supply. This condition is particularly common in low- and middle-income nations. Food insecurity in the home, poverty, low birth weight, low intrauterine growth restriction, poor nutrition for expectant mothers, inadequate supplemental feeding, frequent infectious diseases, poor water quality, poor hygiene, etc. are among the contributing causes. As a result, malnutrition is complex and primarily of social rather than biological origin.⁽⁵⁾

II. ETIOLOGY AND PATHOLOGY

Malnutrition can have two different aetiologies: it can be non-illness-related (induced by environmental or behavioural factors) or illness-related (secondary to one or more diseases or injuries), or both. Future studies should concentrate on the connection between inflammation and malnutrition brought on by illness. With a better understanding of the mechanisms that cause malnutrition and make treating it more difficult, we expect that the definition of the illness will change over time. A unified definition should provide the scientific foundation for evidence-based nutrition practices and enable future studies to concentrate on the effects of childhood malnutrition on functional outcomes.⁽¹⁾

➤ Epidemiology

Acute malnutrition accounts for over one-third of paediatric deaths under the age of five, and in those that do make it, it impairs intellectual or cognitive functioning. It is estimated that 101 million, or 16%, of children worldwide are underweight (weight-for-age Z score < -2). The World Health Assembly set a goal to reduce and maintain the incidence of acute and severe malnutrition at less than 5% by 2025, yet the prevalence among children under 5 is higher than that goal.⁽⁵⁾

➤ Pathophysiology

Several physiological adaptations, including growth limitation, loss of muscle, fat, and visceral mass, a decrease in basal metabolic rate, and a decrease in total energy expenditure, are brought on by inadequate energy intake. Acute malnutrition results in biochemical alterations related to glucoregulatory, hormonal, and metabolic processes. The primary hormones impacted are insulin, growth hormone (GH), and thyroid hormones. Triiodo thyroxine (T3),

insulin, and insulin-like growth factor-1 (IGF-1) levels are all decreased, but GH and cortisol levels are elevated. Initially, glucose levels are frequently low due to the depletion of glycogen reserves. Rapid gluconeogenesis and subsequent loss of skeletal muscle are the early phase's consequences of using amino acids, pyruvate, and lactate. The protein conservation phase follows, during which fat is mobilised and lipolysis and ketogenesis result. Significant abnormalities in electrolyte balance, such as intracellular potassium depletion and sodium retention, can be attributed to increased permeability of cell membranes in kwashiorkor and decreased action of the glycoside-sensitive energy-dependent sodium pump. Acute malnutrition causes varying degrees of impairment in organ systems. Thymus, lymph node, and tonsil atrophy all have an impact on cellular immunity. Diminished secretory immunoglobulin A, loss of delayed hypersensitivity, decreased phagocytosis, and diminished cluster of differentiation (CD) 4 with normal CD8-T cells are among the symptoms. As a result, there is a greater chance of developing invasive infections (gastrointestinal, urinary, septicemia, etc.).⁽⁵⁾

III. CLINICAL FEATURES

A collection of related conditions known as malnutrition comprises marasmus, kwashiorkor, and intermediate stages of marasmic kwashiorkor. Clinical symptoms are used to differentiate between them; oedema is the main factor that sets kwashiorkor apart from marasmus.⁽⁵⁾

➤ *Marasmus*

It results from consuming too little energy over several months to years. It is caused by a severe restriction in energy intake and is characterised by the wasting of body tissues, especially muscles and subcutaneous fat. It is the body's physiologic adaptive reaction to hunger in response to extreme deprivation of energy and all nutrients. Due to their higher calorie needs and heightened susceptibility to illnesses, children under five years old are the most frequently affected. These kids had bradycardia, hypotension, and hypothermia, along with an emaciated, feeble, and listless appearance. Due to the loss of subcutaneous fat, their skin is xerotic, wrinkled, and loose; yet they do not exhibit any dermatosis. The axilla and groin (grade I), thighs and buttocks (grade II), chest and belly (grade III), and lastly, the facial muscles (grade IV), which are less metabolically active, are where muscle loss frequently begins. In extreme situations, the child's face appears older due to the absence of buccal fat pads. Children who are severely impacted are frequently indifferent, but they can often get agitated and challenging to comfort.⁽⁵⁾

➤ *Kwashiorkor*

It is believed that eating too few calories, but not enough protein causes kwashiorkor. The first reports of it came from kids who were fed maize (known as "sugar babies" since their diets were usually heavy in carbohydrates but poor in protein). Kwashiorkor primarily affects older infants and young children and is common in poor nations. It mostly happens in places where there is hunger or a

shortage of food, especially in nations where the staple foods are corn, rice, and beans. Kwashiorkor is one example of a maladaptive hunger reaction. The distinctive feature of kwashiorkor, which is absent in marasmus, is oedema, which is typically brought on by a confluence of factors including low blood albumin, elevated cortisol, and an incapacity to trigger the antidiuretic hormone. Typically, hair is reddish yellow in colour, dry, sparse, brittle, and depigmented. Cutaneous signs are recognisable and develop over several days. They begin as dry, atrophic skin with patches of confluent hyperkeratosis and hyperpigmentation. When the skin is stretched, it cracks, exposing the underlying erythematous skin and causing erosion. Children with kwashiorkor can have a variety of skin abnormalities, including dark erythematous pigmented macules (48%), shiny, varnish-like skin (64%), xerotic crazy paving skin (28%), residual hypopigmentation (18%), and hyperpigmentation and erythema (11%).⁽⁵⁾

➤ *Marasmic Kwashiorkor*

The combination of marasmus and kwashiorkor traits is known as marasmic kwashiorkor. Children with marasmic kwashiorkor typically develop oedema and gross wasting at the same time. They typically have a palpably enlarged, fatty liver and moderate cutaneous and hair symptoms.

IV. ASSESSMENT

A thorough food history, physical examination, anthropometric measurements (including weight, length, and head circumference in younger children) using suitable reference standards, like the WHO standard growth charts, and, if feasible, basic laboratory indices are all part of an adequate nutritional assessment. Furthermore, measurements of the mid-upper-arm circumference (MUAC) and skinfold thickness offer a helpful way to assess body composition. Routine history gathering should include inquiries about mealtimes, food intake, and eating issues, as they might provide an immediate qualitative sense of nutritional intake. A thorough dietary history must be obtained by keeping a food journal or, less frequently, by weighing the food consumed to provide a more quantitative evaluation. Typically, a professional dietitian would assist with this. Dietary reference values offer estimates of the range of energy and nutrient requirements in groups of individuals, which can be used to determine if intakes are sufficient.⁽⁵⁾

If malnutrition is to be recognised, precise weight and height measurements and charting (length in youngsters < 85 cm, or unable to stand) are necessary. It has been established that clinical examinations performed without first drawing anthropometric measurements on growth charts are incredibly inaccurate. To get the "corrected" age for growth chart plotting, the number of weeks of premature births must be subtracted from the actual (or "chronological") age of premature newborns up to two years of age. Children under the age of two should have their head circumference measured and plotted on a regular basis. In children who are in school, head circumference is a good indicator of brain growth and nutritional health. It is also linked to academic success and intellectual capacity.⁽⁵⁾

Severe malnutrition at a young age can have long-term repercussions that include delayed head circumference growth, delayed brain development, and lower academic success and intellect. Examined were the connections between head size and IQ, learning, nutritional status, brain development, and parental head size in 96 right-handed healthy high school graduates (mean \pm SD age 18.0 \pm 0.9 years) born at term.⁽⁵⁾

The body mass index, or BMI, is a measure of weight adjusted for height that is computed by dividing weight in kilograms by height in metres squared. Children's BMI is compared to reference values based on their age and gender.⁽⁵⁾

Laboratory tests are crucial for guiding treatment in cases of secondary malnutrition and may be useful in the diagnosis of original acute malnutrition. It is essential to pay close attention to signs of macronutrient (protein) storage and micronutrient (vitamin or mineral) shortages since nutritional status is a separate predictor of outcome in a sick kid. Specific nutrient deficits usually have overlapping signs and symptoms, and several deficiencies frequently arise. Measuring serum proteins, most notably albumin, prealbumin (transthyretin), and retinol-binding protein, is a standard method of assessing visceral protein reserves. The therapeutic utility of total protein is limited since its interpretation is dependent on appropriate globulin levels. In general, repeated protein status assessments are more significant than single readings, and the frequency of evaluation will depend on our knowledge of biological half-lives. Their concentrations are sensitive to fluid shifts and changes in hydration status, which can happen quickly (e.g., enhanced vascular permeability in cases of trauma or infection). When measuring fat-soluble vitamins in patients with fat malabsorption, like those with cystic fibrosis or celiac disease, the underlying pathophysiology should be considered. Patients with diseased (Crohn's disease, small-bowel bacterial overgrowth syndrome) or non-existent (surgically removed) terminal ilea are a frequently disregarded subset of patients who are susceptible to malnutrition. Zinc, vitamin K, and vitamin B12 deficiencies are common in these people.⁽⁵⁾

Depending on the child population, different anthropometric measurements may not be valid. Therefore, the assessment of nutritional status should be guided by a mix of clinical characteristics and measurements taken by a skilled expert. To evaluate optimum growth during the illness, serial anthropometric measures are required.⁽⁵⁾

V. HOMOEOPATHIC MANAGEMENT

➤ *BARYTA CARBONICA*-

General weakness and unsteadiness, coupled with a tendency to collapse. Overall debility, both mental and physical, mimicking advanced age. simple cold, with a painful throat, stiff neck, and often diarrhoea. (2)

➤ *CALCAREA PHOSPHORICA*-

Helpful in malnutrition-related disorders, particularly in those who are prone to bone ailments. Children with poorly developed osseous tissue grow slowly, do not learn to walk quickly, are malnourished, and exhibit symptoms of indigestion, colic, green, mucous faeces, foul-smelling flatulence, etc. The general absence of heat is necessary. Overall calcarean signs, especially the exacerbation of moisture, sweating tendency, glandular enlargement, etc.; nevertheless, there is less abdominal expansion and possibly a less stubborn attitude; the youngster is very dim. generally helpful in fostering bone growth and repair. (2)

➤ *NATRUM MURATICUM*-

Wasting away. Extreme bodily and mental rest follows the least amount of effort. trembling—particularly at night. The morning after feels like a bruised, weak leg. pain that worsens with movement, particularly in the thighs and upper limbs, as though the skin were separating from the bones. air sensitivity; dislikes being outside in the cold. heartbeat throughout the entire body, even while at rest. Weakness when standing, particularly after eating or after walking, with a sensation of heaviness in the feet Nighttime pains are so severe that they practically seem to paralyse people. Bedtime is my biggest weakness in the morning. (2)

➤ *CALCAREA HYPOPHOSPHOROSA*-

Essential Losses. pale and feeble, drenched violently in sweat. Abrupt and severe emaciation or debility Scrofula. Peda trophy. agitated, uneasy, and unable to sleep. Ears that are sizzling or frying severe appetite, peaking two hours after eating; peaking only when the stomach is full. Anorexia: splenic throbbing that is sore. Diarrhoea. (3)

➤ *CALCAREA CARBONICA*

Intolerance to meat and cooked foods; insatiable desire for indigestible such as chalk, coal, and pencils; also, fondness for eggs, salt, and snacks. Milk is not convinced. acidic vomiting and eructation on a regular basis. dislikes being overweight. appetite loss due to overwork. Acid reflux and raucous belching. (7)

➤ *ICHTHYOLUM*

Extremely thirsty, disagreeable taste, and burning feeling; nausea. a stronger desire to eat. attitude towards squishy, formless stools. holding in the left hypogastric and umbilical regions. vomiting in the early morning. (7)

➤ *LAC CANINUM*

Weak, sinking sensation in the pit of my stomach when I get up in the morning. Burning in the area around the stomach, as well as a weight and stone-like pressure there. severe nausea and light-headedness in the stomach. weakness in strength and appetite; distaste for meals, particularly fried or fat foods. ⁽⁸⁾

➤ *LYCOPODIUM CLAVATUM*

Most distention occurs in the upper belly and hypochondria; it also extends to the chest, back, and ribs. Many gripping rumblings and gurgling's in the belly, particularly near the transverse colon. ⁽²⁾

➤ *ALFALFA*

Due to its sympathetic action, lucerne has a positive effect on nutrition. This is demonstrated by 'toning up' the appetite and digestion, which leads to a significant increase in both physical and mental vigour as well as weight gain. Malnutrition-related disorders, such as neurasthenia, splanchnic blues, nervousness, sleeplessness, nervous indigestion, etc., are mostly treated by it. Produce fat and eliminates tissue waste. inadequate nursing. ⁽⁷⁾

➤ *ABROTANUM*

A highly helpful treatment for marasmus, particularly affecting the lower extremities alone, that is also well-absorbed. abdominal lumps that are hard. Stretched out. ⁽⁷⁾

➤ *ALNUS RUBRA*

It works well for swollen glands, gastrointestinal issues, and other conditions because it promotes nourishment. Damaged throat and mouth mucous membranes. ⁽⁷⁾

➤ *OLEUM JECORIS ASELLI*

Internal nutrition combined with a pancreatic and hepatic treatment. Scrofulous illnesses, rheumatic symptoms, lassitude, and emaciation. Infant atrophy; emaciation with hot hands and a fever; nocturnal restlessness and fever discomfort in the liver area. tuberculosis at the start. ⁽⁷⁾

➤ *PINUS SILVESTRIS*

Has proven to be extremely helpful in treating youngsters with rachitic and scrofulous conditions who have weak ankles and delayed walking. Weakness in the lower limbs. ⁽⁷⁾

VI. CONCLUSION

To find the best drug for treating a range of conditions, homoeopathic doctors employ individualization and reportorial analysis. Susceptibility dictates the proper potency, according to the Organon of Medicine's Aphorism 270-Foot, Fifth, and Sixth Editions. ⁽⁶⁾

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