UNDERSTANDING PEM IN AYURVEDA WITH MANAGEMENT

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ABSTRACT

PEM (protein energy malnutrition) is one of the diseases related to annavahasrotas. It is a type of malnutrition resulting from deficiency of proteins and calories in food over a long period of time. It is very common among young children (usually below 5 years). India ranked 2nd after Bangladesh in world in malnutrition of children. Being a developing country, occurrence of different types of infection is very common which increases the demand of protein and other nutrients while decreasing their absorption and utilization. It is a vicious cycle. Infection contributing to malnutrition and malnutrition contributing to recurrent infection. PEM is not only important cause of childhood morbidity and mortality but also leads to permanent impairment of physical and possibly of mental growth of those who survive. PEM has been identified as a major health and nutrition problem in India. Ayurveda due to its holistic approach can do very much in this field. Management can be done by Santarpana chikitsa. Santarpana chikitsa implies on 2 things- correction of agni and nourishment of dhatu. Ayurvedic management of disease not only includes drug preparation but also include dietary preparation.

Keywords- gastro intestinal, malnutrition, santarpana.

INTRODUCTION

The World Health Organization (WHO) defines malnutrition as "the cellular imbalance between the supply of nutrients and energy and the body's demand for them to ensure growth, maintenance, and specific functions." The term protein-energy malnutrition (PEM) applies to a group of related disorders that include marasmus and kwashiorkor. It is a major public health problem in India. It affects particularly the preschool children (<6 years) with its dire consequences ranging from physical to cognitive growth and susceptibility to infection. This affects the child at the most crucial period of time of development which
can lead to permanent impairment in later life. PEM is measured in terms of underweight (low weight for age), stunting (low height for age) and wasting (low weight for height). The prevalence of stunting among under five is 48% (moderate and severe) and wasting is 20% (moderate and severe) and with an underweight prevalence of 43% (moderate and severe), it is the highest in the world.

Under nutrition makes the child susceptible to infection and complements its effect in contributing to child mortality. This accounts for 22% of the burden of disease in India and adversely affects the economic growth of the country with an estimated adult productivity loss of 1.4% of gross domestic product (GDP). Although protein-energy malnutrition affects virtually every organ system, this article primarily focuses on its cutaneous manifestations. Patients with protein-energy malnutrition may also have deficiencies of vitamins, essential fatty acids, and trace elements.

AIMS AND OBJECTIVES-
To study protein energy malnutrition under Ayurvedic aspect.
To study the Classical similarity of protein energy malnutrition with literature.
Management of protein energy malnutrition in Ayurveda.

AYURVEDIC VIEW-
Lower socio-economic condition, higher birth order, lower birth interval and faulty feeding habits are root cause of malnutrition in children. Infant and child nutrition especially in the first few years of life is crucial. India evidences major concern regarding childhood malnutrition despite enormous efforts. It causes more than half of the nearly 11 million deaths each year among children under age five.

Ayurveda emphasizes good nutrition at every stage of life season, as well as daily routine, in order to preserve health of mother and offspring. Nutritional aspects of Ayurveda are care of pregnant lady, infant nutrition, breast feeding, complementary foods and proper weaning with due applied aspects. Ancient Acharyas explained diseases related to nutritional deficiency such as Phakka, Parigarbhika, Balashosha etc in different samhitas. Malnutrition is such a condition where children fail to maintain natural body capacities such as growth, resisting power to infections as well as recovering from disease, learning and physical activities. Malnutrition is viewed under Apatarpanajanya vyadhis in Ayurveda. Based on severity and aetiology they may be considered as Karshya, Phakka, Parigarbhika and Balashosha. Ayurvedic nutritional principles suitable to the current era are essential for management of malnutrition in children.

ETIOLOGY OF MALNUTRITION IN AYURVEDA
In Ayurveda it is mentioned that ruksha annapana (food which causes dryness), excessive intake of Kashaya (Astringent), Katu (spicy) and Tikta (Bitter) Rasa, alpabhojana (inadequate food), pramitashana (intake of nutritionally deficient food), anashana (absolute no food intake), langhana (Fasting), ativyayam (excessive exercise), malamutradinigraha (Suppression of natural urges), vatasevana (excessive exposure to wind), atapasevana (Excessive exposure to sunlight), atibhargamana ,atichinta (worry),
atikrodha (anger), and atibhaya (fear) can be causative factor for malnutrition.

MALNUTRITION DESCRIPTION IN AYURVEDA-

In different samhitas of Ayurveda these 4 diseases are described that are near to malnutrition as mentioned in modern medicine.

1. Balshosha: The causes of Balshosha are Shlaishmika annasevana (Excessive energy dense food), Shitambu (cold liquid items) and diva swapna (excessive day sleep). These factors can create impairment of Agni.
   Clinical features of Balshosha are Arochaka (reduced digestive capacity), Pratishyaya (Running nose), Jwara (fever) and Kasa (Cough); and at last baby may lead to Shosha (Emaciation).

2. Phakkaroga: In Phakkaroga, Ksheerajphakka, Garbhajphakka, and vyadhijaPhakka are described. Ksheerajphakka is due to intake of Shlaishmika dughdha.
   VyadhijaPhakka is malnutrition condition resultant of any diseases as Graharoga etc. Garbhajphakka is due to feeding of baby by pregnant lady.
   Clinical features of Phakkaroga are wasting of buttocks, upper limbs and thighs, Pot belly abdomen, head appears big due to relatively wasting in body parts and baby is unable to walk.

3. Karshya: Karshya is under nutrition condition due to reduced food intake of baby resulting from less intake, if mother use vatavardhakahara-vihara and baby take vatadushitstanya. Ultimately, baby become malnourished.

4. Parigarbhika: If any baby is on breast milk of pregnant women then parigarbhika roga can occur and that milk have poor nutrients.
   Clinical features of Parigarbhika roga are cough, impaired digestive capacity, vomiting, fever and anorexia.

Diagnostic Criteria-
The diagnosis is mainly based on Indian Academy of Pediatrics (IAP) classification of malnutrition.

<table>
<thead>
<tr>
<th>Weight for age (%)</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-80%</td>
<td>normal nutritional status</td>
</tr>
<tr>
<td>79-70%</td>
<td>grade 1, mild malnutrition</td>
</tr>
<tr>
<td>69-60%</td>
<td>grade 2, moderate malnutrition</td>
</tr>
<tr>
<td>59-50%</td>
<td>grade 3, severe malnutrition</td>
</tr>
<tr>
<td>&lt;50%</td>
<td>grade 4, very severe malnutrition</td>
</tr>
</tbody>
</table>

Weight for age is an indicator of total malnutrition /underweight.

Weight for age (%) = \( \frac{\text{current weight of the child (in kg)} \times 100}{\text{Expected weight of the child for that age}} \)

AYURVEDIC MANAGEMENT-
Ayurveda can do very much in this field due to its holistic approach. Management principles can be classified in two categories i.e. Santarpana and Aptarpana. PEM is a deficiency disease and it could be managed by
**Santarpana.** Principle of santarpana chikitsa is based on two factors, correction of Agni (digestive power) and nourishment of Dhatu.

**Balshosha (marasmus, PEM)** – nutritional intervention to mother, panchakarma- abhyanga with oil.

Drug intervention- improves appetite, snehapan to improve weight and strength, symptomatic management, wholesome nutritive food.

**Parigarbhika (kwashiorkar)-**
Drug intervention- improve the appetite, wholesome nutritive food.

**Phakkaroga (osteomalacia)** – Shodhana of mother, snehana for a week followed by virechana, oil massage (abhyanga).

Drug intervention- medicated milk and ghee along with wholesome nutritive food.

Supportive therapy- practice of walking with the help of tricycle (tripaadratha chakra).

**DISCUSSION**

The above article emphasizes on the Ayurvedic dealing of the disease what so ever is the cause. Ayurveda not only deals with the malnutrition in child, in fact it provides a description of healthy daily regimen of child bearing mothers, which can be very effective in preventing malnutrition in child in the womb as well as after birth.

People with low socio economic status can also follow these easy and not so costly regimen as Ayurveda is science of herbs and most of them are easily accessible to common population.

**CONCLUSION**

Management principles can be classified in two categories i.e. Santarpana and Aptarpana. In other words, bodily humors which are increased in their amount should be decreased and which are decreased in amount, should be increased. PEM is a deficiency disease and it could be managed by Santarpana Manth 10, which fulfill both the factors of correction of Agni and nourishment of Dhatu. Ayurvedic management of diseases is not only by including drug preparation but including dietary preparation also.

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