

Review Article

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## MALNUTRITION HEALTH HAZARDS IN PEDIATRIC W.S.R. TO *PHAKKA ROGA* IN CHILDREN

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### Abstract

*Kaumarbhritya* is an important branch of ancient ayurveda which deals with health and diseases of children. This branch encompasses descriptions of various diseases and their treatment belongs to pediatric age group. The many diseases in childhood arise due to the nutritional insufficiency. Inappropriate supply of nutrition may lead both over and under nutrition health hazards. Ayurveda described disorders related to the nutritional deficiency under *Apatarpanajanya vyadhis* and Ayurveda philosopher explained many diseases related to the nutritional deficiency such as; *Phakka*, *Bala shosha* and *Parigarbhika*, etc. *Phakka roga* is one of the diseases of children described as nutritional disorder possesses symptoms of rickets as per the modern science. The disease characterized as inability of a child to stand up or walk on his/her feet. The bones of children become soft and weakened in this condition may be due to the deficiency of vitamin D in body. The *Phakka Roga* involves improper development of *Rasa*, *Mamsa*, *Meda* and *Asthidhatu* due to the malnourishment in growing children. *Phakka Roga* classified under *Kuposhanajanya Vyadhi* in which malnutrition, *Grahani Dosha* and *Agni Dosha*, etc. are play important role towards the pathogenesis of disease.

**Key-Words:** Ayurveda, *Phakka Roga*, Malnutrition, Rickets

## Introduction

*Kaumrabhritya* is stream of Ayurveda which deals with the health issues of children and focuses towards the maintenance of health of children. The theories of *Kaumabhritya* aimed for restoring optimum growth and development of growing children. This branch emphasizes importance of nutritional supply in childhood age and suggested many therapies for curing diseases of children. The nutritional deficiency leads many health ailments which arise due to the *Ruksha Annapana*, *Alpa Bhojana* and inappropriate intake of *Kashaya*, *Katu* and *Tikta Rasa*. *Alpashana*, *Pramitashana* and *Langhana*, etc. also causes disorders related to the malnutrition. Ayurveda *Acharyas* described various diseases related to the nutritional deficiency such as; *Phakka*, *Parigarbhika* and *Bala shosha*, etc [1-5].

*Phakka Roga* is a disease of children defined as inability to walk or stand up even after age of one year. *Kapha* vitiated breast milk, immediate conception of lactating mother, early cessation of breast milk, emaciation of the breast fed child and improper care, etc. are major etiological factors of *Phakka Roga*. The disease merely occurs due to the nutritional deprivation and classified under *Kuposhanajanya vyadhi*. Modern science described this condition as rickets which is associated with lack of adequate mineralization of growing bones [3-6].

*Phakka roga* affects bone development in children in which *Agni dosha* mainly involves in *Samprapti* of disease along with malnutrition. The etiological factors & malnutrition alter digestion and metabolism therefore tissue becomes nutrients deficient, the condition of *Ati drava mala pravrutti*, *Atimutrata* and depletion of *Ahara rasa* causes *Phakka roga*. The bones become soft and weak due to which bone deformities occurs along

with pain in bony tissue, poor growth and skeleton deformities. The prevalence of rickets is more in children belongs from six month to two year of age group. The children of poor socioeconomic condition are more susceptible due to the lack of nutrients. The lack of exposure of sunlight also increases incidents of such type of disease [5-7].

### **Features of *Phakka Roga*:**

*Asthi Vakrataa* (bone tenderness), delayed formation of teeth, muscle weakness, increases tendency for fracture, skeletal deformities (bowed legs), knock knees (*Genu Valgum*), spinal deformities and soft skull, etc.

### **Types of *Phakka Roga*:**

1. *Kshiraja Phakka*
2. *Garbhaja Phakka*
3. *Vyadhija Phakka*.

### ***Kshiraja Phakka*:**

*Kapha dosha* vitiates *Stanya* which results formation of *Phakka-dugdha*, this *Phakka-dugdha* obstruct *Rasa-Vaha-Strotasa* resulting nutritional deficiency which finally manifested as *Kshiraja Phakka roga*.

### ***Garbhaja Phakka*:**

When women conceive during lactation period then deficient milk secretion take places, this causes malnourishment and child become emaciated which finally results *Garbhaja Phakka*.

### ***Vyadhija Phakka*:**

Diseases condition for prolong period may cause emaciation with improper formation of metabolites like; *Meda, Rasa, Mamsa* and *Asthidhatu*. The deficiency of

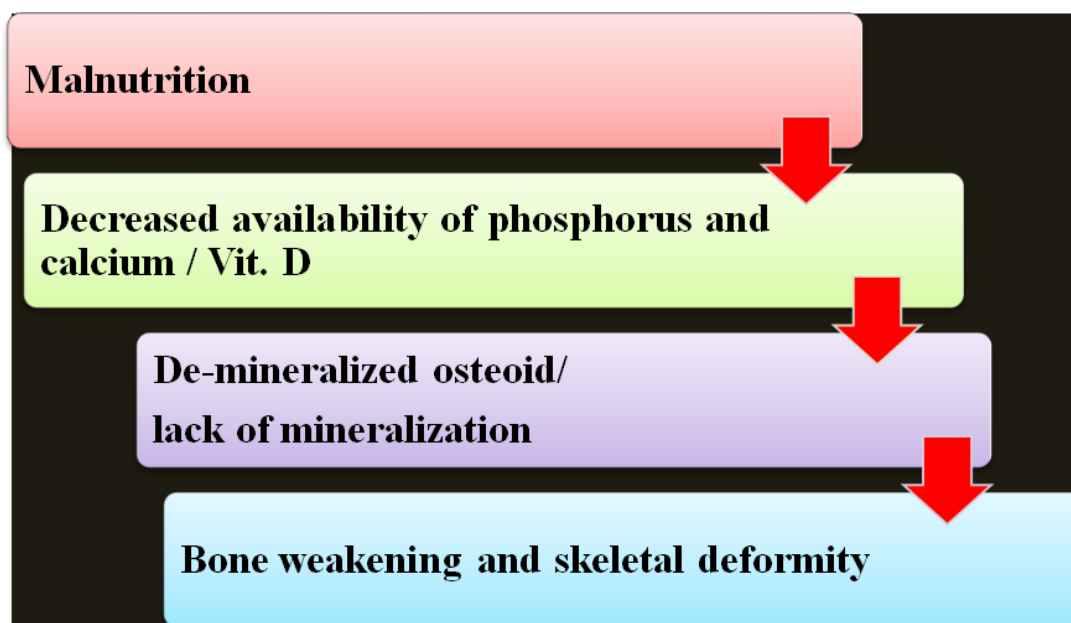
metabolites leads malnourishment which further may cause *Vyadhija Phakka* if pathological condition remain for prolong period [6-8].

### MODERN VIEW:

Iron, Iodine, Vitamin D and Calcium deficiency are common in children; rickets mainly arises due to the insufficient vitamin D and/or calcium intakes [9, 10]. The pathological sequence of disease depicted in **Figure 1**. The major etiological or disease triggering factors are as follows:

### Causes:

- ❖ Insufficient vitamin D and/or calcium intakes (common)
- ❖ Insufficient phosphorus intake (rare)
- ❖ Deficient sunlight exposure
- ❖ Celiac disease
- ❖ Liver disease
- ❖ Fanconi syndrome



**Figure 1: Pathological sequence of Rickets**

### **Principles of management of *Phakka roga*:**

*Nidana Parivarjana*, *Agnisthapana* by *Deepana-Pachana* drugs and *Samshamana* therapy with *Rasayana* drugs, etc. are major approaches advocated for the management of *Phakka roga*.

*Nidana Parivarjana* includes avoidance of *Ruksha Annapana*, *Alpa Bhojana*, *Vatika Annapana*, *Katu & Tikta Rasa Sevana* and *Ati Vyavaya*, etc. *Nidana Parivarjana* offers prophylactic benefits to prevent disease pathogenesis and also resist further progression of disease and chances of relapses.

*Agnisthapana* by *Deepana-Pachana* drugs comes under *Samshamana Chikitsa* in which functioning of *Agni* improves using *Aushadhis* and *Pathya Ahara*. The *Deepana-Pachana Aushadhis* prevent formation of *Ama* and improves nutritional supply thus resist consequences of malnourishment. *Pachana Dravyas* like *Shunti* offers immense benefits in such types of cases.

*Samshodhana* therapy also indicated but *Mridu Samshodhana* is most preferable in which *Taila Abhyanga* and *Snigdha Udwartana* indicated for improving functioning of tissue. *Brimhana Basti* posses *Snigdha* property thus considered useful for emaciated child.

*Rasayana* therapy is conservative treatment, drugs like *Aswgandha Churna*, *Karshyahara yoga*, *Vidarikanda*, *Shatavari*, *Atibala* and *Bala*, etc. offers *Balya*, *Brimhaniya* and *Jeevaniya*, etc. effects therefore nourishes whole body and maintain strength of tissue.

### **Management of *Kshiraja Phakka*:**

*Dhatri stanya* vitiated with *Kapha dosha* leads *Kshiraja Phakka*, Ayurveda Acharya advised treatment which helps in *Prakruta rasa nirmana* for this purpose *Mrudu shodhan*

and *Bruhana* therapy recommended along with *Deepana*, *Pachana* and *Balya* medicines. These drugs improve health of mother as well as child.

*Balaka snehana* with *Raja taila* and *Abhyantar snehana* with *Amruta ghrita*, *Kalyanaka ghrita*, *Bramhi ghrita* and *Shatpala ghrita*, etc. are advised internally for reliving bone deformities.

#### **Management of Garbhaj Phakka:**

*Agnidipan chikitsa* is ideal for such types of condition, the uses of *Dipan* and *Pachan dravya* along with nutritious food like honey, *Ghee*, *Siddha* with *Vidari*, *Godhum* and *Pippali*, etc. helps to cover nutritious and vitamin deficiency.

#### **Management of Vyadhija Phakka:**

*Vyadhija Phakka* treatment involves suppression of disease and causative factors that trigger *Phakka*, supply of nutritious food and strengthening of *Agni* using *Lehya dravya* and *Kalpas*. *Abhyanga* with *Taila* of *Earanda*, *Shaliparnni* and *Bilva* indicated for children suffering with *Phakka Roga*. *Dravyas* like *Sudhasatak* is helpful for nourishing *Asthidhatu*.

#### **Management of Rickets as per Modern Science:**

- Vitamin D administered orally
- Oral calcium supplement
- Exposure to sunlight
- Dietary intake of whole grains and beans
- Green leafy vegetables recommend in dietary intake
- Almond, Cashews and Walnuts, etc. is suggested for improving tissue strength
- Physiotherapy, etc.

## Conclusion

Nutritional insufficiency or malnutrition is major cause of childhood health ailments; Ayurveda described nutritional deficiency disorders under *Apatarpanajanya vyadhis*. *Phakka*, *Bala shosha* and *Parigarbhika*, etc. are some disease associated with malnutrition. *Phakka roga* is diseases of children come under heading of nutritional deficiency disorder which can be correlated with rickets as per the modern science. The inability of child to stand up or walk on his/her feet is main feature of *Phakka roga*. The deficiency of vitamin D and calcium causes softening of bone, improper development of *Rasa* and *Asthidhatu* is responsible for weakness of bony tissue. Ayurveda described concept of *Nidana Parivarjana*, uses of *Deepana-Pachana* drugs and *Rasayana* therapy, etc. for the management of *Phakka roga*.

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