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Protein energy malnutrition the plight of under 5 children & combating through homoeopathy

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Abstract

Protein energy malnutrition (PEM) is a form of malnutrition due to insufficient intake of food in both quantity and quality. The main goals for management are to minimize weight loss, to maintain body mass and to encourage material body repletion or growth. Homeopathic approach for the treatment of the various manifestation of PEM is through correcting the constitutional defect by prescribing constitutional remedies and miasmatic remedies. This protein energy malnutrition article reviews about classification, clinical features, general management, reportorial index and its homeopathic management.

Keywords: PEM, kwashiorkor, marasmus, reportorial index, homeopathic approach

Introduction

According to the United Nations Children's Fund (UNICEF), PEM is an invisible crisis much like the does not even scratch the surface, where its deadly consequences are hidden from view. About 20% of children younger than 5 years in 2005 in low-to-middle income countries were estimated to be underweight (weight for age z-score <2) [9].

WHO defined the term PEM as a range of pathological conditions arising from coincidental deficiency in varying amount of calories and Protein, commonly associated with infection and occurring most frequently in infants and young children?

Protein energy malnutrition can be defined as an insufficient intake of food (food gap) both in quality and quantity. Lack of protein -energy can be in both micronutrients and macronutrients. It is an important cause of childhood morbidity and mortality, but it is also permanent impairment of physical and possibly, of mental growth of those who survive.

Epidemiology [15]

As per the latest report by the Telangana State Development Planning Society (TSDPS), planning department, of 18.7 lakh children in the state, Severely malnourished children account for 2.89% of the number of children in the state of the malnourished children, 34.18% were severely malnourished and 65.82% moderately malnourished.

"The share of malnourished children is highest in Mulugu at 12.51% and lowest in Khammam at 5.46%," the report said. Mulugu is followed by Mahabubabad and Vikarabad with 12% each.

Classification [11]

WHO classification of malnutrition based on BMI

BMI <17.0: Emaciation.

BMI < 18.5: Underweight.

BMI < 18.5 - 24.9: Normal weight.

BMI >_ 25.0: Overweight.

Indicators [1]

Indicant of PEM

Stunting - low Length for age - Chronic malnutrition.

Wasting - Low weight for Height - Acute malnutrition.

Under weight - Low weight for Age - Combination of both acute and chronic malnutrition

Types

PEM can be of kwashiorkor and Marasmus. They are the two various forms of PEM.

The main cause of embodiment of malnutrition is insufficient protein intake and minimal amount of essential amino acids [2].

Kwashiorkor - Serious condition of malnourishment, In which individuals develops low protein/energy ratio in their diet [2].

Marasmus - Which is caused by insufficient intake of both energy and protein [2].

Clinical Features [9]

Criteria	Marasmus	Kwashiorkor
Physical characteristics	Monkey facies with characteristic loss of baccalaureate fat pads which can appeared as wrinkled and age look "Baggy pants" is the loose skin of the buttocks hanging down Axillary fat pad may also reduce	Child may have a fat sugar baby appearance, Mooning of face, Major sign is pitting edema which first starting in the legs and feet and in advanced cases, it spread to the hands and face [1]
age-group	Infants and childhood	1-4 years [1]
Prevalence	Common	rare
Wasting	Severe muscle and fat wasting [1]	Mild
Oedema	Little or no oedema	Mild to gross [1]
State of mind	Usually Changes	Grumpy
Appetite	Moderate	Diminished
changes in hair	None/moderate	Normally pigmented hair and alternate bands of hypopigmentation, which is known as flag sign ¹
changes in skin	Fragile skin	Increased pigmentation, desquamation, dyspigmentation resembling individual enamel spots and flaky paint. childish and angular stomatitis with Smooth tongue, are common -in mucous membrane lesions [1]
Infections	Less infected	More infected
Recovery	Early to recover	It takes long time to recover

Preventive measures

Government provide Anganwadi Centers [14]

Anganwadis are government-funded child and mother care development centres in India. Integrated Child Development Services (ICDS), they were started as a part of the government's flagship to improve the nutritious status of pregnant women, nursing mothers and children in the age group of 0-6. They provide food to children.

Available lunch and snack options in Anganwadi centres include wheat porridge, khichdi, sweet rice, pulses curry, etc. Additionally, Laapsi (Broken wheat), puffed rice laddoo, and varieties of boiled peas or beans are provided. [12]" ICDs introduced weaning food to provide improved supplementary nutrition to children between 7months to 3 years which is named s "Balamurutham". They were prepared by wheat, chana dal, milk powder, oil and sugar. Balamurutham serves as part of Supervised feeding for malnourished children and not but also as a caloric dense food to reduce malnutrition.

Table 1: Composition per 100 g of Balamurutham (fortified with vitamins & minerals) [12]

Ingredients	Parts (g)	Energy (kcal)	Protein (g)
Bengal gram	5	18.0	1.0
Skimmed milk powder	10	35.7	3.6
Oil	10	90	0
Sugar	20	80	0
Roasted wheat	55	190.3	6.4
Total	100	414.0	11.0

There is a solution which is not a simple to solve the difficulties of PEM. Various actions are necessary [1]. For the prevention of PEM in the community the following measure are adapted from the 8THFAO/WHO committee on Nutrition:

(a) Health promotion [2]

1. Distribution of supplement and education for Lactating and Pregnant women.
2. Promotion of Nursing.
3. Low cost weaning foods must provide. In frequent intervals food should be made to eat by the child.
4. Estimate to improve family diet.
5. Nutrition education Promotion of correct feeding practices.
6. Home Management.
7. Spacing of births and Family planning.
8. Family atmosphere.

(b) Specific protection [2]

1. Food which contains protein and energy rich Which Should be included in child's diet. Milk, leafy vegetables, eggs, fruits, vegetable, should be provide if possible;
2. Inoculation; and
3. Food fortification.

(c) Early diagnosis and treatment [2]

1. Periodic examination:
2. Any slow growth in children, infections and diarrhoea must diagnosis earlier and treated;
3. During epidemics, supplementary feeding programmes should be developed.
4. De-worming of heavily infested children.

(d) Rehabilitation [2]

1. Nutritional recover services:
2. Medication; and
3. Follow-up care.

General management [11]

- Daily minimum intake of 150 kcal/kg/day.

- Adequate and regular intervals of feeding.
- Protein intake of 3 g/kg/day.
- Diet must include Dairy products like milk, butter, ghee and Green leafy, Vegetables.

Approach through Homoeopathy ^[16]

^[9] Homoeopathy proponents that if there is no balance in Nutrients demand and it's supply, then nutrients which are deficient must be taken in proper quantity through our food, only if our body has capacity to absorb the nutrients.

^[9] In Malnutrition cases, it is not only because of nutrients deficiencies but also our body has incapacity to absorb the available nutrients. In such Cases, it is the error in system of their constitution and it's correction through constitutional homoeopathic Treatment is required.

As per Samuel Hahnemann advice in treating such Chronic Diseases

According to §4 He says that a physician is also a “Health Preserver” and he must know about the things that dear ranges the health and which cause disease, and method to remove them from that person.

According to §94 he says that while enquiring the chronic disease of the patient, we must also investigate about the occupational history, mode living and food habits of the patient which may be the exciting or maintaining cause of the disease.

According to § 261 He explains about the diet and regimen

while administering the homoeopathic medicine in chronic diseases which sometimes will be the obstacles to cure and advised physical activities in open air, good and ethical recreation activities and importance of taking appropriate nutritious, unmedicated food and drinks.

According to H. A. Robert ^[8]

- Pale faced, Emaciated appeared children are most likely to be Syphilitic in nature.
- The stigma of Syphilitic person not only has tissue destruction, but they also have absorption difficulties from the food they take.
- They have abnormal cravings for Acids, Sweets, Lime, Chalks, Pencils and other indigestible things.
- A child who inherit the mixed stigmatic background they have tuberculosis tendencies.
- This type of children usually be problematic in school with slow learning and impaired understanding capabilities, they have detached thoughts, Antisocial, Introverts, gloomy and I'll tempered.
- These children can be treated through our Holistic, Individually based Homoeopathic treatment by selecting the ant syphilitic and antipsoric remedies which makes them better child and good citizens for society.

Homoeopathic levels of prevention in PEM ^[10]

Prevention Levels	First level of prevention	Second level of prevention	Third level of prevention
Homoeopathic mode of intervention	1. Miasmatic treatment 2. Constitutional treatment 3. Homoeopathic Specific remedy (Genus Epidemicus)	1. Symptomatic treatment 2. Bio-chemic remedies 3. Constitutional treatment 4. Intercurrent miasmatic treatment	1. Specific remedies 2. Pathological prescription 3. Palliative treat
Miasm	Anti-Psoric remedies	Psora, Sycosis, or syphilitic miasm	All the three miasms
Rubrics with Remedies (2)	Generalities; GROWTH affected, disorders of (81): generalities; EMACIATION; worm complaints, in (8): generalities; EMACIATION; appetite; good, with; children, in (22): clinical; CACHEXIA, emaciation; dentition agg. (3): 3Kreos., nux-v., op. generalities; HEREDITARY diseases (63): 3Sulph., 4SYPH., 3Teucr., 4TUB. clinical; TUBERCULOSIS; hereditary (18), 4TUB clinical; DEFICIENCIES, genetic (1): ol-j. clinical; INFLUENZA; prophylactic (4): 2 ars., ars-i., influ., nux-v clinical; TUBERCULOSIS; prophylaxis for (5): bac., dros., form-ac., sulph., tub. generalities; WORM complaints; children, in (48) generalities; WORM complaints; lumbricoides, roundworms (60) generalities; WORM complaints; taeniae, tapeworms (80)	Clinical; CACHEXIA, emaciation; cough, with (9) generalities; EMACIATION; diarrhea; with (44): generalities; SWELLING; glands, liver, spleen etc.; emaciation, with (28): generalities; EMACIATION; clinical; extending; downward (8): calc., cench., gaert., 3 Lyc., 2 nat-m., psor., 2sanic., sars. generalities; EMACIATION; extending; upward (4): 3Abrot., am-m., arg-n., nat-m. BERI-BERI (39): 4BOERH clinical; CACHEXIA, emaciation; fever; after bilious or intermittent (12): 3 Aran., 3 Ars., canth., 3 Chin., 2 cory., 3 Eup-per., 3Ferr., 3 Lach., 3Lyc., 3Nat-m., 3 Puls., 3Sep. stomach; APPETITE; ravenous, canine, excessive; marasmus, in (23): Generalities; GROWTH affected, disorders of (81) generalities; BONES; malnutrition, from (2):3 Sil	Generalities; EMACIATION; diet and medicines, in spite of (1): generalities; EMACIATION; progressive (54) generalities; EMACIATION; rapid (27): generalities; EMACIATION; shriveled or wilted appearance (13) generalities; EMACIATION; skeleton, like (10): generalities; EMACIATION; syphilitic (10): clinical; TERMINAL diseases (22):

Repertorial index

(Repertories, Rubrics, Medicines)

Murphy –homoeopathic medical repertory ^[17]

MARASMUS, children, (see Emaciation) - abrot, acet-ac., AETH, alf., ant-c., apis, arg-n, arx, bac. bar-c., bell, CALC., calc-p., caps, cham, coca, con., ferr-m., hydr, fod, kreos, lac-d, lyc, mag-c., med., NAT-M., nux-m., nux-v., olj, op, petr pin-s., podo, sars, SII, sulph, thyr., tub. EMACIATION, children, (see Marasmus) - abreg, ACET-

AC, AETH., alum., ant-c., apis, args, am, ARS, ARS-L, ars-s-f, ARUM-T, aur b bar-c., bar-i, bell, bor., CALC., CALC-Po sil, carb-v., caust., cham., chin, cina, coca, coff, con., ferr., hecla., hep., hydr., IOD., kali-c., kali kreos., lyc., mag-c., med, morg., NAT-M., nix-a nux-v., ol-j, op, petr. phos., plb., podo., psor, puli sanic, sars, sel, sep., SIL., staph., sul-i, sulph, syph., ther., thyr., tub ANOREXIA, nervosa - ARS., calc., carc., CHIN., ign., lach., levo., merc., nat-m., perh., puls., rhus-t., staph.,

SULPH., tarent., verat. Development, klayed or arrested-arth. agar, bac. BAR-C. bor, bufo, CALC., CALCE CARC. cmst, chin, cic, cupr, des ac, kreos, lod, med, nat-m, nats, phos, sil, sulfa, sulph, thyr., vip

Kent- Repertory of the Homoeopathic Materia medica [4]

Generalities: Emanciation - children (Marasmus): Abral, alum, ant-c., arg-n, Ars, Ars-i., har-c., Calc., Calc P. carb-t, caust., chin, cina, hydr., Iod., kali-c., kreos., mag-c., Nat-m, nux-m. - пиз. пр. petr., phar., pl., psor. puls., sars, p., Sil., miph.

Homoeopathic management

Abrotanum

It is one of the good remedies for Marasmus. They have emanciation especially in lower extremities which ascends upwards to face. Children are marasmatic due to defective assimilation even though they have good appetite. In marasmatic child they have weak head which can't hold up.

Calcarea phosphorica

These children have weak lower limbs that cannot bear their body's weight even to stand. They have delayed milestones. They are Anaemic, thin, slender by contrast of being fat. Growing pains at nights in fast growing children.

Iodium

Metabolism is rapid. Emanciated inspite of good appetite. Least exertion causes much perspiration. Craves cold air. Scrofulous children. Ravenous hunger. Complaints better by eating and while movement.

Natrum muriaticum

Impaired Nutrition due to uncontrollable intake of salt. Great debilitation with much feebleness felt in morning. Emanciated Neck. Children has loss of flesh while in fine form. Descending type of emanciation.

Calcarea carb [5]

It has it's chief action on Impaired Nutrition. In conditions of Scrofulous and Rachitic. Children inclined for fat deposition with distended abdomen. Muscles emaciated. Emanciated around Neck and from there downwards [6] Extremities crooked, Deformed, Bone irregularly developed. Disease from defective assimilation.

Silica [5]

Imperfect assimilation leads to defective Nutrition which leads to Neurasthenic. Lack of Vital heat. Rickets Children. Children are grey faced with much weakness and flabby muscles. Children with big head and open fontanelles. Impaired Nutrition not because of not taking adequate food but due to imperfect absorption. Profuse perspiration around head. Delayed learning and walking. Intolerance to any kind of milk and food which causes them diarrhoea and vomitings.

Conclusion

PEM is a global issue, especially its serious concern in India. By conducting numerous programs which brings apprehension about children's health. Reassurance about their nutritious diet and regimen to the mother and child is required for prevention of any further complications. Proper guidance by expanding the awareness about health schemes and policies which are upgraded by the government about the nutritious diet of children. Homoeopathy furnish an holistic method of treatment for PEM by giving

constitutional based treatment to the child who have difficulties in assimilation of food even though adequate quantity of food has been supplied their by enhancing the quality of health of children.

Conflict of Interest

Not available

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