INCIDENCE OF MALNUTRITION ISSUES AMONG CHILDREN IN ATTAPPADY

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The achievement and growth of Kerala in terms of health and education is well noticed. Among the Indian states, Kerala is accounting a low status in infant mortality and child mortality with higher life expectancy. Eventhogh Kerala has practiced an exceptional attainment in Health and education, the real benefits of this growth does not get to all sections of the community. The issues of severe hunger, malnutrition, micro nutrients deficiencies still endure among different marginalised communities, especially among the Tribal communities in Kerala. Malnutrition results from the imbalances between the needs of the body and the intake of nutrients. It includes a range of nutrient-related disorders, deficiencies and circumstances such as intrauterine growth retardation, protein energy malnutrition, iodine deficiency disorders, Vitamin A deficiency, iron deficiency anaemia, overweight/obesity and other diet related non communicable diseases. Malnutrion is the circumstances of any disorder of nutrition, whether it is owing to dietary deficiency, called under nutrition, or due to surplus diet, called over nutrition. Malnutrition continues to be a mounting dilemma in most developing countries. Poor nutrition during childhood is one significant factor impeding the physical and mental growth of children, which eventually propagates the vicious cycle of intergenerational malnutrition. The issue of child malnutrition is decisive since its effects are not inadequate to the boundary of childhood but rather continue into adulthood. It silently destroys the future productivity of nations. Malnutrition increases the economic load of a society because it leads to bigger hazard of death from communicable diseases, more ruthless infections, and higher case fatalities, creating an additional psycho-social burden. Although stunting has declined from 47% in 1980 to 29% in 1995, incidence are still extremely high, chiefly in South Central Asia, which alone accounts for about half of the worldwide dilemma. Studying stunting is vital since it reflects the increasing effects of socio-economic, health and dietary problems. Stunting is also a predicator of risk as it reflects the general level of growth measured by poverty, low socio-economic status, and the occurrence of chronic diseases.

Tribal women and malnutrition

From infancy to adulthood, gender nutrition is very prevalent in India. There are many reasons accredited to this process. According to social and biological reasons, women in reproductive ages are among the most susceptible to malnutrition. Most of the women owing to their ill health and lack of nutritional potentiality will not reach to their needed goals in their life. Malnutrition in women is associated to poverty, lack of development, lack of consciousness and illiteracy. There are many studies conducted on this issue which clearly says that there are many factors related with the malnutrition issues of the women. These includes socio economic (e.g, occupation, educational background and the standard of living, cultural (religion and caste), demographic (e.g., age and marital status) and dietary features. In India more than one third (36 percent) of women has BMI below 18.5, indicating a high occurrence of nutritional deficiency and 44 percent are moderately or severely thin.

In Kerala about 18 percent of women in the age group of 15 to 49 years are malnourished and more than one quarter of women (28) percent are overweight or obese. In the case of scheduled tribes, 42.6 percent are lacking in nutrition and 51.9 percent are distress from anaemia (NFHS-3).

In earlier times, tribes used to get an impartial diet form hunting and gathering of fruits, vegetables and agricultural practices. They used to eat more lot of wild tubers, herbs and crabs. So their diet was rich. But now they lost all their rights and privileges and income they earned from small agricultural practices and other works were not competent to congregate their demands for food and diet. In this situation majority of the Tribals will face starvation and malnutrition. The cause for the change in dietary habits could be due to the fast flagging forest cover and the extreme draw on pesticides and herbicides during cultivation. Furthermore they are less aware of their dietary pattern. Majority of tribe are illiterate and poor. Lower income levels could also be forcing them to consume less healthy food compared to their non-Tribal counterpart. In Tribal households, the women serve their whole food to their husband and sons and they themselves and their daughters will eat only if they get any food. There may be sometimes inadequate food left over for the females of the Tribal households. This restricted food results in poor health status among women. Harsh malnutrition leads to many diseases for the Tribal women. This leads to low weight babies and still weight babies in the Tribal communities. The root cause of their poverty is their illiteracy. So they are not able to access any information as they have no access to education. In India, the status of nutrition in some areas of population does not portrays a rosy picture, particularly among marginalised groups. According to NHFS-3, in Kerala one quarter of children less than five are stunted, 16 percent are wasted and 23 percent are underweight.

Classification of malnutrition based on BMI of children

Body mass index (BMI) is a measure of weight adjusted for height, calculated as weight in kilograms divided by the square of height in meters (kg/m2). Although BMI is often considered as an indicator of body fatness, it is a surrogate measure of body fat because it measures excess weight rather than excess fat. Despite this fact, studies have shown that BMI is correlated to more direct process of body fat, such as underwater weighing and dual energy x-ray absorptiometry. Eventhogh this value does not measure body fat directly, it is related with more straight measure of body fat symphony. BMI is also related with various metabolic diseases and thus, can be used as method of categorizing a person's weight status and screening them for risk of health problems related with overweight or underweight status. The overall improvement in Health is also reflected in the nutritional status of women and children. The BMI is an attempt to quantify the amount of soft tissue mass (muscle plus fat) in an individual and then categorize that person as underweight or obese based on value. Body Mass Index is the important measuring tool to assess the Nutritional problems of the Adults. The food intake pattern is closely related to the Body Mass Index of Adults. Tribal women in Kerala with poor health and nutrition are more likely to give birth to low weight infants. The Tribal women suffer from high levels of morbidity and mortality; they do not generally seek medical aid from facilities such as health centres. As per WHO criterion, the percentage occurrence of Chronic Energy Deficiency (CED) among Tribal women fall in the category of very high and the situation is critical and alarming. It is suggested that intervention programme is necessary to combat the malnourishment in the form of low BMI among Tribal women in Kerala.

Table 1 : Value of BMI for undernutrition in children

Severe:	BMI<16
Moderate:	16<=BMI<17
Mild :	17<=BMI<18.5

Source: Nutrition Survey

It is very indispensable to identify the BMI of children for the measurement of undernutrition. In the calculation undernutrition is severe if BMI<16, it is moderate if 16<=BMI<17 and mild degree denotes in 17<=BMI<18.5

Table 2 : Classification of malnutrition

Classification	Frequency	Percentage
Moderate	85	85%
Severe	9	9%
Mild	6	6%

Source: Primary Data

Measurement of under nutrition

The following are the commonly used indicators of under nutrition that are based on anthropometric data.

i)   Weight-for-age: A child of a given age (in months) and sex is said to be moderately undernourished when his or her weight (in kgs) falls below two standard deviations of the median in the reference population, and severely undernourished, when his or her weight falls below three standard deviations of the median.

ii)   Height-for-age: Similarly, moderate and severe undernutrition can be ascertained for a given age and sex by comparing the recorded observation on height (in cms) with that of the median for the reference population.

iii)   Weight-for-height: Gender specific and age independent norms are available on median weights for given heights. If the recorded weight for a given height is less than standard deviations (or 80%) of the median weight value of the reference population, the child is identified as moderately undernourished.

Table 3 : Classification of malnutrition- Weight for age

Age in months	Normal (-2 to+2)	Moderate (-3 to-2)	Severe (<-3)
0-12 months	15(15%)	2(2%)	0
13-24 months	9(9%)	0	0
25-36 months	28(28%)	2(2%)	0
37-48 months	25(25%)	0	0
49-60 months	12(12%)	2(2%)	0
61-72 months	4(4%)	1(1%)	0

Source : Primary Data

Table no 3 shows the classification of malnutrition according to weight for age. For 0-12 months malnutrition normal malnutrition are 15 percent (-2<z-score<+2). Moderate malnutrition are 2 percent (3<z-score<-2) and there are no severe under nutrition level in this age group. For 13-24 months 9 percent are normal, no one are moderately affected and no one is severely affected by malnutrition. The children in the age group of   25- 36 months 28 percent are normal, 2 percent are moderate and no one is severe in malnutrition. In the age group of 37-48 months, 25 percent are normal, no one is moderate and no one is severe. In 49-60 months of age groups 12 percent are normal, 2 percent are moderate and no one is severe. Finally in the category of 61-72 months 4 percent are

normal, 1 percent is moderate and no one is severely affected by malnutrition. The highest level of malnutrition in moderate level is found in the age group of 25-36 months.

Table 4 shows the classification of malnutrition based on height for age. The classification is calculated as on age in months. In the age group of 0-12 months 16 percent are normal ($-2 < z\text{-score} < +2$). Moderate malnutrition are 1 percent ($3 < z\text{-score} < -2$) and there are no severe under nutrition level in this age group. 8 percent are normal for 13-24 months, 1 percent is moderate and no one is severely affected by malnutrition. 28 percent are normal for the children in the age group of 25- 36 months, 2 percent are moderate and no one is severe in malnutrition, 23 percent are normal in the age group of 37-48 months, 2 percent is moderate and no one is severe. 13 percent are normal in 49-60 months of age groups, 1 percent is moderate and no one is severe. Finally in the category of 61-72 months 5 percent are normal, no one is moderate and no one is severely affected by malnutrition.

Table 4: Height for age (stunting)

Age in months	Normal (-2 to+2)	Moderate (-3 to-2)	Severe (<-3)
0-12 months	16(16%)	1(1%)	0
13-24 months	8(8%)	1(1%)	0
25-36 months	28(28%)	2(2%)	0

Nutritional awareness of mothers is given in Table 5. In this 70 percent of mothers are aware that immunization programmes are in practice. 30 percent does not aware of this. 67 percent are aware that nutritious food is essential for their child's growth. But the remaining 33 percent have no awareness on this. Another one of the critical issue is that that continuous birth interval is adversely affecting child's overall health. 45 percent are aware of this and the remaining people have no idea about it.

About the underweight problem of children, 51 percent are aware of this issue. 49 percent have no idea about it. About the mothers noticed and realised the underweight in the case of children 24 percent are aware of this, 76 percent are not aware of this issue in their child. 58 percent of mothers will wash their hands before feeding the child and the remaining 42 percent have no idea about the fact. 57 percent ensure their child to wash hands before having food. 43 percent have no idea about the issue. 88 percent mentioned that they have the habit of smoking at home and 12 percent have no idea about it. 89 percent will drink alcohol and 11 percent does not have anybody at home. 98 percent are ICDS beneficiaries.

Table 5.: Nutritional awareness of Mothers

Nutritional awareness	Yes	No
Do you feel that immunization programmes are in practice	70%	30%
Do you feel that nutritious food is essential for your child's growth	67%	33%
Do you feel that continuous birth interval is adversely affect child's overall health	45%	55%
Do you have any idea about underweight problem of children	51%	49%

Have you noticed underweight in the case of your children	76%	24%
Are you washing hands before feeding the child	58%	42%
Do you ensure your child wash hands before having food	57%	43%
Does anybody has the habit of smoking at home	88%	12%
Does anybody has the habit of drinking alcohol	89%	11%
Are you an ICDS beneficiary	98%	2%

Source : Primary Data

Conclusion

In earlier times, tribes used to get an impartial diet form hunting and gathering of fruits, vegetables and agricultural practices. They used to eat more lot of wild tubers, herbs and crabs. So their diet was rich. But now they lost all their rights and privileges and income they earned from small agricultural practices and other works were not competent to congregate their demands for food and diet. In this situation majority of the Tribals will face starvation and malnutrition. The cause for the change in dietary habits could be due to the fast flagging forest cover and the extreme draw on pesticides and herbicides during cultivation. Furthermore they are less aware of their dietary pattern. Majority of tribe are illiterate and poor. Lower income levels could also be forcing them to consume less healthy food compared to their non-Tribal counterpart. In Tribal households, the women serve their whole food to their husband and sons and they themselves and their daughters will eat only if they get any food. There may be sometimes inadequate food left over for the females of the Tribal households. This restricted food results in poor health status among women. Harsh malnutrition leads to many diseases for the Tribal women. This leads to low weight babies and still weight babies in the Tribal communities. The root cause of their poverty is their illiteracy. So they are not able to access any information as they have no access to education.