

A Study on Child Nutritional Status in Kerala

Elizabeth .V

MBA, Department of Management Studies
Bharath Institute of Science and Technology,
Selaiyur, Chennai, Tamil Nadu 600 073
Bharath Institute of Higher Education and Research

ABSTRACT

The nutritional status of both children and adolescents must have high priority in human development. The nutritional status of under five children is an important health indicator for assessing the health status of entire population and one of the major predictors of child survival. The present article aims to assess the nutritional status of under five children in Kerala based on anthropometric measures of physical growth. The study is based on secondary data. It was observed that malnutrition is the major concern in the child health in Kerala. The percentage of stunted (low height-for-age) children under five in Kerala has declined whereas; the percentage of wasted (low weight-for-height) children has risen. The percentage of underweight (low weight-for-age) children has almost remained the same. The problem of anaemia is also increasing in Kerala.

KEY WORDS: Malnutrition, Anthropometry, Underweight

1. INTRODUCTION

Nutritional status is a major determinant of health and wellbeing of children. Adequate nutrition is vital to child development. Improving child health and nutrition is not only a moral imperative, but also a rational long-term investment. Child malnutrition is a widespread public health problem having international consequences as it is the most neglected form of human deprivation. Child malnutrition is highly prevalent in developing countries due to the unavailability of nutritious diet. Inadequate or unbalanced diets and chronic illness are associated with poor nutrition among children. Nutritional deficiency among infants and children are a major public health concern.

Kerala enjoys a unique position in the health map of India. The overall health status as well as social status of Kerala is at par with that of the western world. Even though Kerala has achieved good strides in health care indicators; the prevalence of malnutrition is a threat in Kerala. This paper focuses on the nutritional status of children under the age of five in Kerala. It attempts to cover anthropometric assessments of the nutritional status of children less than the age of five years. The study is based on secondary data. The major sources of secondary data are NFHS-3, various issues of Economic Review (Govt. of Kerala), India Health Report- Nutrition 2015, Rapid Survey on Children 2014, Census 2011 etc.

Child health has been given much attention by health economists, public health experts, planners etc. Vinod K. Mishra et al (1999), Susmita Bharati et al (2001), Lily Yaa Appoh and Sturla Kreklind (2001) have studied nutritional status of children using anthropometric measures of physical growth. The above studies did not consider all the three anthropometric measures. So, the present study tries to assess the nutritional status of children in Kerala based on the three anthropometric measures.

THEORETICAL FRAMEWORK

There are various socio- economic theories on nutrition. The present study is based on Becker's Micro economic models of household production. Becker's 'nutrition production function' relates a child's nutritional status measured in terms of height-for-age or weight-for-age to a set of health inputs. The model is estimated at two level i.e., at the household level and at the child level. Child nutritional status is an indirect indicator of overall child health as well as a direct measure of access to adequate nutritious foods.

NUTRITIONAL STATUS OF CHILDREN UNDER THE AGE OF FIVE IN KERALA

Kerala has made remarkable strides in terms of reducing Infant Mortality (13.0), Birth rate (14.8), Death Rate (7.0), Maternal Mortality Rate (212) and increasing life expectancy at birth (63) as per 2011 census. But still children face serious malnourishment. The prevalence of Iron Deficiency Anaemia (IDA) and Vitamin A and iodine deficiencies are the serious nutritional deficiencies. Malnutrition is the major concern in health of children in Kerala. In Kerala about, 25 percentage of the children are underweight and 0.66 percentage are severely underweight. Also there has been an increase in the percentage of overweight children in Kerala who are at greater risk for non-communicable diseases like cardio vascular heart diseases and diabetes.

Nutritional status of children is measured by using the following three anthropometric indicators (NFHS-3).

1. Height-for-age
2. Weight-for-height
3. Weight-for-age

Height-for-age (Stunting) indicates chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height for age of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Weight-for-height (Wasting) index measure body mass in relation to body length which shows acute or short- term under nutrition. A wasted child's weight-for-height is below -2 standard deviations from the WHO Child Growth Standards, whereas, while a severely wasted child is below -3 standard deviations.

Weight-for-age (Underweight) is a composite indicator which circumscribes stunting and wasting. It takes into account both acute as well as chronic malnutrition. An underweight child's weight-for-age is below -2 standard deviations from the WHO Child Growth Standards, whereas; a severely underweight child is below -3 standard deviations.

The following Table 1 shows the nutritional status of children in Kerala based on the three anthropometric indices.

SELECTED PARAMETERS OF NUTRITIONAL STATUS IN KERALA

INDICATORS	NFHS-1 (1992-93)	NFHS-2 (1998-99)	NFHS-3 (2005-06)
% of Stunted children <5 years	32.8	28.0	24.5
% of wasted children <5 years	13.7	13.0	15.9
% of Underweight children <5 years	22.1	21.7	22.9
% of Low birth babies	17.2	16.4	24.7

Source: NFHS-1, NFHS-2, NFHS-3

TABLE NO 1

The above table explains the nutritional status of children under the age of five in Kerala. The percentage of stunted children under the age of five years has declined from 32.8 (NFHS-1) to 24.5 (NFHS-3). But the percentage of wasted children has increased from 13.7 (NFHS-1) to 15.9 (NFHS-2). The underweight children remains almost stable i.e. 22.1 (NFHS-1) to 22.9 (NFHS-2). The percentage of low birth babies has also risen from 17.2 (NFHS-1) to 24.7 (NFHS-2).

The Figure 1 given below shows the percentage of stunting among the children under five years in Kerala:

STUNTING AMONG UNDER FIVE CHILDREN IN KERALA

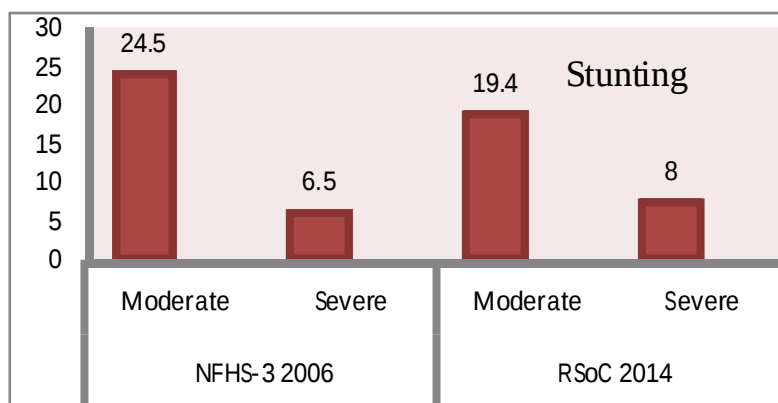


FIG NO 1

Figure-1 reveals that the percentage of moderate stunting in Kerala has declined from 24.5 in 2006 (NFHS-3) to 19.4 in 2014 (Rapid Survey on Children, 2014). But the severe stunting among children has risen to 8 percentage in 2014 from 6.5 percentage in 2006. The increase in stunting is the result of the failure to receive adequate nutrition and the recurrence of chronic illness. The state's share in the total number of stunted children in India is 1.01 percentages.

The below Figure 2 shows the percentage of wasting among the children under five years in Kerala:

WASTING AMONG UNDER FIVE CHILDREN IN KERALA

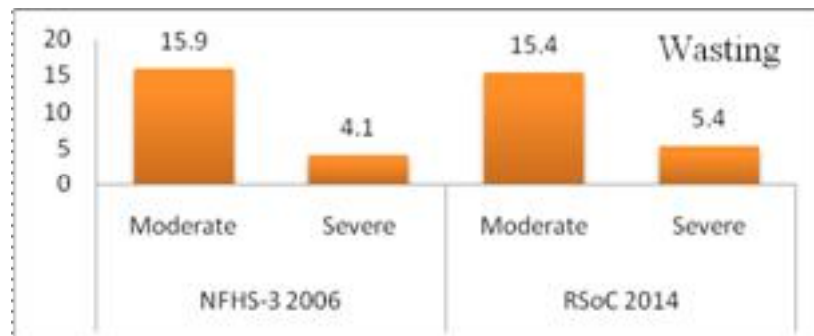


FIG NO 2

Figure-2 explains that even though moderate wasting among under five children remains almost same, the severe wasting has increased from 4.1 in 2006 (NFHS-3) to 5.4 in 2014 (Rapid Survey on Children, 2014). Kerala has 1.59 percentage of the total number of wasted children in India.

The below Figure-3 shows the percentage of underweight among the children under five years in Kerala:

UNDERWEIGHT AMONG UNDER FIVE CHILDREN IN KERALA

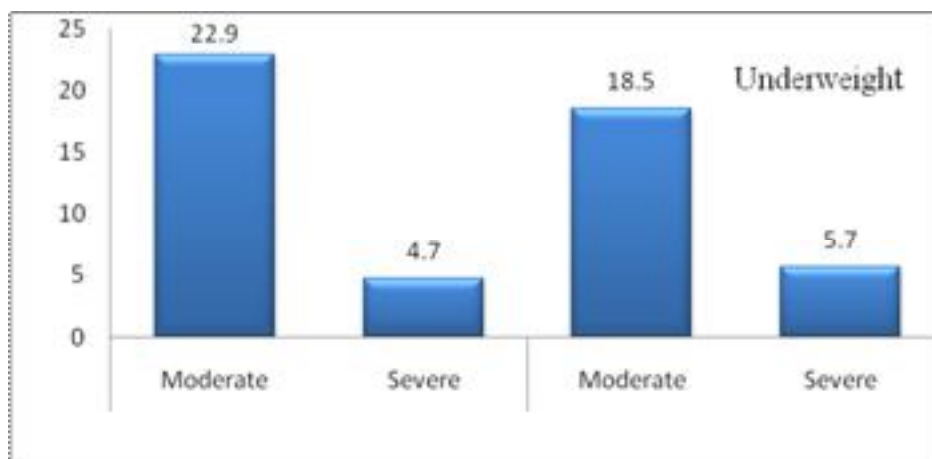


FIG NO 3

Figure-3 shows that the percentage of moderate underweight children has fallen from 22.9 to 18.5 in Kerala, whereas, there has been an increase in severely underweight children from 4.7 in 2006 to 5.7 in 2014. Kerala's share in the total number of underweight children in India is 1.07 percentage.

The following Table 2 shows the district wise percentage of under five children classified as malnourished according to three anthropometric measures in Kerala:

**PERCENTAGE OF UNDER FIVE CHILDREN CLASSIFIED AS MALNOURISHED
ACCORDING TO THREE ANTHROPOMETRIC INDICES, KERALA, 2012-13**

DISTRICTS	HEIGHT-FOR-AGE		WEIGHT-FOR-HEIGHT		WEIGHT-FOR-AGE	
	BELOW -3 SD	BELOW -2 SD	BELOW -3 SD	BELOW -2 SD	BELOW -3 SD	BELOW -2 SD
Kasargod	13.0	22.2	11.5	23.1	10.8	16.2
Kannur	4.5	25.4	2.1	8.3	5.9	19.6
Wayanad	14.6	34.1	7.1	21.4	28.6	42.9
Kozhikode	11.4	29.1	6.0	14.8	5.6	15.9
Malappuram	13.9	27.8	13.7	23.5	1.8	26.3
Palakkad	23.5	29.4	25.0	25.0	28.6	85.7
Thrissur	9.9	28.8	8.5	23.7	11.3	25.4
Ernakulam	8.5	13.7	15.7	26.5	6.3	21.9
Idukki	-	-	-	-	-	-
Kottayam	1.2	7.1	13.6	32.2	4.2	15.5
Alappuzha	5.4	17.8	10.4	26.4	5.9	21.6
Pathanamthitta	0.0	50.0	0.0	0.0	0.0	0.0
Kollam	12.2	26.7	11.5	29.5	5.8	23.6
Thiruvananthapuram	10.6	18.3	21.7	35.0	5.6	16.7

TABLE NO 2

The above given table reveals that Palakkad district has severe stunting(23.5%)wasting(25.0%) and moderate underweight (85.7%). Wayanad and Palakkad has the highest severely underweight(28.6%) children while Thiruvananthapuram district has moderate wasting (35.0%) among children.

ANAEMIA PREVALENCE

Anaemia or iron deficiency is a serious health problem caused by malnutrition. Anemia's characterized by a low level of hemoglobin in blood which is necessary for transporting oxygen from the lungs to all organs of the body. Anaemia in children causes impaired cognitive performance, behavioural and motor development, coordination, language development and scholastic achievements, as well as increased morbidity from infectious diseases. As per NFHS-3 23.5percentage of children are affected by mild anaemia, 20.5percentage are having moderate anaemia and 0.5 percentage of children are affected by severe anemia in Kerala.

The following Table 3 shows the percentage of children age (6-59 months) having iron deficiency in Kerala, in 2012-13:

ANAEMIA AMONG CHILDREN AGE (6-59 MONTHS) IN KERALA, 2012-13

SEX OF CHILD	ANAEMIA STATUS BY HEAMOGLOBIN LEVEL			
	MILD ANAEMIA (10.0-10.9 G/DL)	MODERATE ANAEMIA (7.0-9.9 G/DL)	SEVERE ANAEMIA (<7G/DL)	ANY ANAEMIA (<11.0 G/DL)
Male	20.6	23.9	3.5	48.0
Female	19.3	27.2	2.6	49.1
Total	23.5	20.5	0.5	44.5

TABLE NO 3

The above table shows that mild anaemia among male children is more than female children i.e, 20.6percentage and 19.3 percentage respectively. Moderate anaemia among female children 27.2 percentage, is higher compared to 23.9 percentage among male children in Kerala. Male children are having severe anaemia, 3.5 percentage than female children, 2.6 percentage.

FINDINGS

Nutritional status reflects the overall improvement of child health. The lowest rates of anaemia and underweight among children are recorded in Kerala. The study reveals that the percentage of stunted children has declines in Kerala, but the percentage of wasted children has increased. The Palakkad district shows the highest number of malnourished children in Kerala. Kerala is one of the states in India in which less than half of the children are anaemic. Anaemia creates long term impacts on productivity. Nutritional deficiency among children adversely affects children's overall health, educational attainment, physical and mental development.

2. CONCLUSION

Child malnutrition among children in Kerala can be reduced by providing better health services, care of children and nutritional status of women. The Government needs to spend more on quality nutritional programmes in order to improve the state of poverty and malnutrition. Parents should be given proper awareness about nutritious diet. Improvements in food availability and in women's education are the keys for the progress in child nutrition. Children reared in safe and nurturing families are likely to have better outcomes as adults.

3. REFERENCE

- [1] National Family Health Survey, India: Various issues <http://www.nfhsindia.org/>: International Institute for Population Sciences and ORC Macro, India, Mumbai
- [2] VipinChandran.K.P (2010): "Health and Nutritional Profile of Children in Rural Kerala: A Call For An Action", MPRA Paper No.27132
- [3] Economic Review, Government of Kerala: Various issues, State Planning Board
- [4] India Health Report: Nutrition 2015, Public Health Foundation of India
- [5] Rapid Survey on Children 2013-2014, Ministry of Women and Child Development, Government of India
- [6] Becker, G. (1965)," A Theory of the allocation of time", Economic Journal, Vol. 75, pp. 493 517.
- [7] Lily Yaa Appoh and Sturla Krekling (2001)," Maternal nutritional knowledge and Child nutritional status in the Volta Region of Ghana", Journal of Tropical Pediatrics, Vol. 47(6), pp.350-355.
- [8] Susmitha Bharati, Pal M, Bharati P(2001), "Determinants of Nutritional status of preschool children in India", Journal Biosocial Science, Vol. 40(6), pp.801-814.