Health and Nutrition Status of Warli Tribal Children in Thane District of Maharastra

N.S. Tekale

Abstract

Thane is homeland of four different tribal races that includes Katkaris, Koknas, Kolis and Warlis. Among these four ethnic races, the Warlis are more sensitive to nutrition and health issues because of their vegetarian diet, dependence on forest and forest produce. Prevalence of hunger and malnutrition among the children below age group five are always there in their hamlets for years together because of the forest habitats, extreme poverty and taboos. The child health and nutrition is a sensitive core issues for these neglected aborigin population segment. The seriousness of this issue and their shrinking population as per 2001 census motivated us to do this work and the study was conducted during 2002–2004 in the forest belt of Jowhar, Mokhada and Wada talukas and their borders with Gujarat state and Union territories of Dadra Nagar Haveli covering about 5,600 subjects.

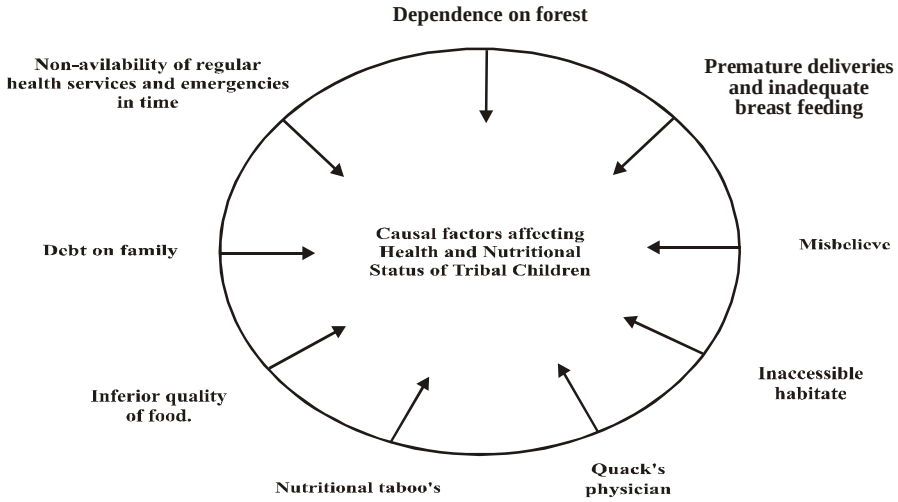
The main objectives of this work were to reduce the malnutrition and disease burden of warli tribal children (less than five years) who have high mortality rate. The study was conducted in 49 hamlets in three talukas. The study includes 5600 children aged zero to five years. A simple survey instrument was used for collecting information regarding their diet, height, weight, MAC, health checkup and family history. Information was recorded fortnightly during all three seasons.

The study shows that health and nutrition status of tribal children is very poor, it may be due to lack of nutritional awareness and non availability of health services and it was worst in remote inaccessible areas. Children aged 4 to 12 months were found more vulnerable.

Introduction

Malnutrition is a prevalent issue in all developing countries (Black et al 2003 and UNICEF 1993). In India this is further aggressive and critical because of 8% ethnic share in 70% of rural population as reported by NNMB (1978) taking unbalanced diet because of poverty stress. The 18% of Indian population constitutes 170 million children below age six years (Rao et al 2005) and one third of this bulk is malnourished. India has a high infant mortality rate of 90 per 1000 children. The IMR shows increasing trend in tribal dominant states.

Fig. 1: Factors affecting the health & nutritional status of tribal children



District Thane is a home land of four different tribal races which includes katkaris, Koknas, Kolis and Warlis. Among these four ethnic races, the Warlis are more sensitive to nutrition and health issues because of their vegetarian diet, dependence on forest, forest produce, traditional unproductive agricultural practices that too only in monsoon, unbalanced diet deficient in micronutrient's and non availability of modern health services resulting into burden of various diseases targeting specifically to preschool children below age five. Prevalence of hunger and malnutrition among the children are always there in their hamlets for years together because of their forest habitats, extreme poverty and nutritional taboos. Fig. 1 shows in detail the factors affecting health and nutritional status of these tribal children. The child health and nutrition is a sensitive core issues for this much neglected aborigine segment in this district population where malnutrition and disease burden are at their peaks almost in all three seasons. The seriousness of this issue and their negative population in 2001 census motivated us to do this work from mid of 2003 and 2004 for this tribal race distributed in forest belt of Jowhar, Mokhada and Wada talukas of Thane Districts and their borders with Gujarat state and Union territories of Dadra Nagar Haveli covering about 5,600 subjects.

The main objective of this work was to evaluate the malnutrition and disease burden on warli tribal children below age group five in which morbidity and mortality rate is very high for formulating the health planning and nutritional interventions.

Material and Methods

This was community based study covering the survey of 49 hamlets having strong tribal base. The hamlets were on hill slopes surrounded by forest and most of these were inaccessible by roads. The study population involves 5,600 children constituting 2751 boys and 2849 girls between age group of 12 and 60 months distributed amount 1732 families. A simple but specially designed form was used for health and nutritional survey

of each child covering height, weight, upper mid arm circumference (UMAC), Head circumference (HC) and diet intake along with family history and present status of health by involving team of specially trained health workers. The standard anthropometric techniques were used given by Ghosh and Tejaswini (1976), Rao and Singh (1970) and Jelliffe,(1966) for measurement of children comprising both sexes and on the basis of these measurements the children were grouped under different grades of malnutrition following Indian Academy of Pediatrics (IAP) classification taking into account the weight for age. However it was the major problem to find out the exact age of a child because of illiteracy in tribal mother and to overcome this, we have used Kanavati and Maclaren's classification.(1970). UMAC/HC index is most practical one for assessing the level of malnutrition taking 0.32 as cut off point for the normals.

Result and Discussion

Table 1 and Fig. 2 shows status of malnutrition in tribal children. The data shows normal healthy children below 1% in this remotely placed inaccessible habitat. Out of the 5600 subjects studied,10% babies were grade I malnourished followed by 29%, 37% and 18% as grade II, III and IV respectively. The grade IV (critical) malnourished children was 4% in which maximum mortality was due to diarrhoea. In entire study population we noticed 99% malnutrition below 5 year of age group in which female percent was 51 compared to 49% of males (P> 0.05). Under grade IV and grade IV critical male babies were on higher side than females (P> 0.05).

Fig. 2 : Status of malnutrition in tribal children

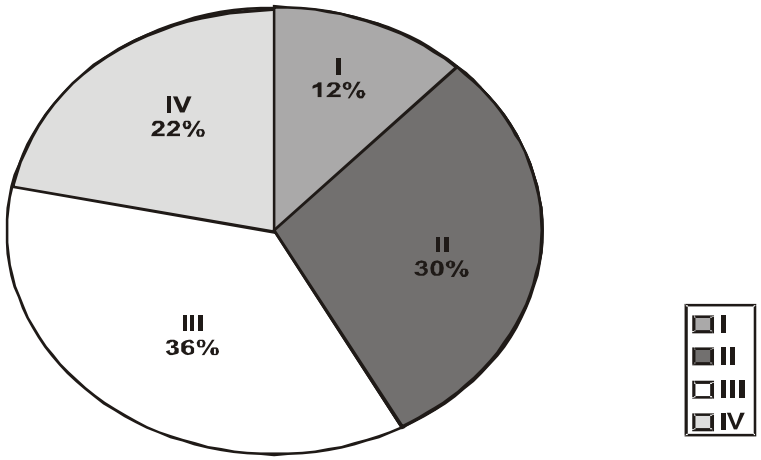


Table 2 shows 9% burden of skin infections specifically on scalp of grade I babies. The other infectious diseases noticed were around 5%. The skin infections were on higher side in onwards grades of malnutrition along with diarrhoea and upper respiratory tract infections (URI). Diarrhoea was observed maximum (37%) in grade IV babies followed by skin infections. All the babies in grade IV critical were showing consistent symptoms of diarrhoea. The intestinal worms were common in all malnourished babies suffering.

Table 1 : Assessment of the health and nutritional status of studied children between age group of 12 and 60 months

MUAC/HC	Malnutrion Grades	Normal						Malnourished					
		Boys		Girls		Total		Boys		Girls		Total	
		No	%	No	%	No	%	No	%	No	%	No	%
0.32	Normal	22	0.4	18	0.3	40	0.7	-	-	-	-	-	-
0.32-0.30	I	-	-	-	-	-	-	268	5	287	5	555	10
0.30-0.28	II	-	-	-	-	-	-	803	14	862	15	1665	29
0.28-0.26	III	-	-	-	-	-	-	1023	18	1078	19	2101	37
0.26-0.24	IV	-	-	-	-	-	-	519	9	502	9	1021	18
0.24-0.22	IV Critical	-	-	-	-	-	-	116	2	102	2	218	4

Table 2 : Disease burden on malnurished tribal children

Malnutrition. Grades	Infectious Diseases (%)		
	Skin Infections	Diarrhoea	URI
I	9.00	5.00	5.00
II	3.00	13.00	3.00
III	16.00	19.00	5.00
IV	18.00	37.00	17.00
IV Critical	+	89.00	+

Conclusion

Status of health and nutrition of tribal children in interior inaccessible regions of Thane District is very poor due to lack of nutritional awareness and non availability of health services. Malnutrition linked disease burden on children was up to 94% and mortality rate was 4% where maximum share was because of diarrhoea. Transport, drinking water and sanitation facilities were very poor. Though Govt. funds and nutritional schemes are available for tribal children still disease burden is increasing resulting in to negative

growth rate and to reduce this it is necessary to take positive steps to bring the Govt. and NGO's together to chhanelise the available funds for these nutritionally deprived children by giving door to door health services and nutritious diet. More focus should be given to female babies. Child welfare schemes need to be launched and medical infrastructure should be strengthen in tribal belt. It is imperative to gather region and community specific data from time to time for formulating the health planning and nutritional interventional programmes. If NGO and Govt. authorities works hand in hand under the leadership of scientists and researchers then desired goals can be achieved.

References

Black RE, Morris SS, Bryce J. 2003. Where and why are ten million children dying every year? Lancet.Vol. 361. pp.2226-34.

Ghosh SM, Tejaswini T. 1976. Quick nutritional screening by mid arm circumference or a bangle. Indian Pedat.Vol. 12. p.15.

Jelliffe DB. 1966. The assessment of the nutritional status of the community. WHO monograph series No. 56. Geneva : WHO.

Kanawati AA, McLaren DS. 1970. Assessment of marginal nutrition. Nature.Vol. 28. p.273.

National Nutrition Monitoring Bureau (NNMB). 1978. Dietary and Nutritional Status of Population in Different States. Report of the NNMB. Hyderabad : NIN.

Rao KV, Singh D. 1970. An evaluation of the relationship between nutritional status and anthropometric measurement . Am J. Clin Nutr .Vol. 16. p.83.

Rao VG, Yadav R, Dolla CK, Kumar S, Bhodeley MK, Ukey M. 2005. Undernutrition and Childhood morbidities among tribal preschool children. Indian J. Med. Res. Vol. 122. pp.43-47.

United Nation's Children Fund. 1993. Child malnutrition progress toward the world summit for children Goal. New York : UNICEF