IJFANS INTERNATIONAL JOURNAL OF FOOD AND NUTRITIONAL SCIENCES
ISSN PRINT 2319 1775 Online 2320 7876
Research Paper **© 2012 IJFANS. All Rights Reserved**, Journal Volume 11, Iss 07, 2022

Causes of Malnutrition in Tribal Areas of Dang District, South Gujarat: Child Health and Maternal Marriage and Age at First Childbirth

Pawar Kalpana A (Research Scholar)
Dr. Vipul Soma (Guide)

Abstract

Malnutrition is an international problem. According to the National Family Health Survey (NFHS-5), almost half of children aged 0 to 6 years in India are malnourished. Gujarat is also not exempt from this situation and the situation of tribal children is more serious. The tribal population is an educationally, economically and socially deprived class. The causes of malnutrition shown in various researches are directly related to the diet of the tribal society, their traditional customs, practices, changes in the ecosystem, nutritional status. Age at marriage, dietary habits, education, income and age at first intercourse along with cultural aspects are the main reasons. (Chamber and Medinza 2014, Patil 1989, Mandal 2002, Somani 2014, Alian Chowdhury 2011, Gogai 2015, Patel. 2010, Somani and Pawar, 2020).

Taking into account the causes of malnutrition given in the previous research, the present study was conducted by the researchers to get information about the causes of malnutrition from the malnourished children of Dang district of South Gujarat and their mothers.

Key words: South Gujarat, Dang district, Inter national problem, Malnutrition, Tribal, Causes

Introduction:

The prevalence of malnutrition among Indian children in general and tribal children in particular is a matter of concern for the society and the government. Various researches have suggested different causes for malnutrition. The government has taken steps to curb the menace of malnutrition by implementing a number of schemes under the umbrella of the Integrated Women and Child Development Schemes.

Despite drastic measures, there has been no significant reduction in undernourished children in India. For some time now, although many efforts have been made by the government to reduce malnutrition and anaemia among Indian children and their mothers, there has been no significant change.

Malnutrition is the leading cause of child mortality according to the World Health Organization. 2.2 million children die each year due to low birth weight and intrauterine growth restriction (WHO). Another 1.4 million die from poor or absent breastfeeding at birth. Malnutrition is a very serious problem in India. Various attempts have been made to overcome this problem. But there has been no significant change in the rate of malnutrition, which is increasing the burden of diseases in the country. Malnutrition is widespread among Indian women and children. Malnutrition occurs in the form of anaemia or other diseases due to protein, calorie and vitamin deficiency. Malnutrition not only causes diseases and defects but also affects

ISSN PRINT 2319 1775 Online 2320 7876
Research Paper © 2012 IJFANS. All Rights Reserved, Journal Volume 11, Iss 07, 2022

the physical and mental development of the child. Malnutrition is a leading cause of death due to infection (Gogai, 2015).

Malnutrition was the leading risk factor for death among children under 5 years of age in every state in India in 2017. India is home to more than one-third of the world's malnourished children. 40 million children are STUNTING, 17 million WASTING, half the children of the total population are UNDER WEIGHT and a third of the rich children are OVER WEIGHT. (Swami Nathan and others, 2019).

The Global Hunger Index (2018) report published by the International Food Policy Research Institute (IFPRI) and the Germany-based Welt Hunger Hilfe shows that India fell to 102 in 2019, from 95 in 2010. Among 117 countries, children in India had the highest rate of WASTING at 20.8%. Although India is one of the fastest growing countries in the world with an annual GDP growth rate of 7.1, it lags behind its poorer counterparts on social indicators, especially nutrition. Malnutrition and obesity are two of its problems seriously affecting the economic and social goals of the country, especially STUNTING, WASTING, ANEMIA among child-bearing women and children. (Kaur, Chakraborty, Shrestha, Jain, Farida, Ghosh 2019).

Severely malnourished children in India were 48% in NFHS-3, 2005-06. It has increased to 38% in NFHS-4, 2015-16 and 36% in NFHS-5, 2019-20, which shows that the measures taken to prevent malnutrition are still not as successful as they should be, because the prevalence of malnutrition has reduced by only 10% in a period of 10 years. Only 2% of malnutrition has been reduced during the last five years. In which underweight children were 42.5%, it has decreased to 35.7%. Anaemia has come down from 69.5% to 58.5% (Food and Nutrition Security Analysis India, 2019) Malnutrition accounts for 69% of under-five deaths in India. There is no significant improvement in that either.

The proportion of STUNTING in Gujarat has improved in the last 15 years. But in 2005-06 the proportion of STUNTING decreased from 52% to 38.5% in 2015-16 i.e. 15% improvement in STUNTING was seen in five years but this improvement could not be sustained. 0.5% increase is seen instead of improvement. Similarly, there is an increase of 0.7% in the proportion of UNDER WEIGHT. With this becoming a matter of concern, there is also an increase in anaemia in children aged 0 to 5 years. It decreased from 74% in 2005-06 to 62.6% in 2015-16 and increased to 81% in 2019-20, i.e. a direct increase of 20% shows that the condition of children is very serious.

According to the report of NFHS-4 compared to other communities, malnutrition rates are higher in tribal communities such as, 1) Scheduled Tribe (ST) 44%, 2) Scheduled Caste (SC) 43%, 3) OBC 39% and 4) General 31% of malnutrition. Proportion of tribal population in Gujarat According to the 2011 census, about 14.6% of the total population of Gujarat is concentrated in 9 districts of Gujarat. Dang (94.6%), Tapi (84.2%), Narmada (81.6%), Dahod (74.3%), Valsad (52.9%), Navsari (48.1%) and Bharuch (31.50%). 90% of its population lives in rural areas. The information of five districts of South Gujarat is shown below, which has the highest proportion of STUNTING, WASTING AND UNDERWEIGHT among the 33 districts.

ISSN PRINT 2319 1775 Online 2320 7876
Research Paper © 2012 IJFANS. All Rights Reserved, Journal Volume 11, Iss 07, 2022

Districts	STUNTING		WASTING		UNDERWEIGHT	
	NFHS-4	NFHS-5	NFHS-4	NFHS-5	NFHS-4	NFHS-5
Dang	48.1%.	48.5%	43%	43.2%	60%	60.9%
Tapi	35.9%	36.4%	35.8%	37.5%	42.4%	44.7%
Navsari	38.9%	36.6%	26.8%	29%	37.4%	43.6%
Valsad	43.3%	51.9%	30.3%	29%	41.9%	48%
Narmada	47.4%	47.2%	35.8%	23.0%	53.6%	52.8%

(Source: NFHS-4 and NFHS-5)

From the information shown in the above table, it is understood that the proportion of STUNTING, WASTING AND UNDERWEIGHT has increased instead of decreasing. In which the proportion of UNDERWEIGHT has increased to NFHS-5 (2019-20) as compared to NFHS-4 (2015-16), which can be a worrying situation for the future. Among these five districts, the highest proportion is found in Dang district. STUNTINGNFHS-4 (48.1%) NFHS-5 (48.5%), WASTING NFHS-4 (43%) NFHS-5 (43.2%), UNDER WEIGHT NFHS-4 (60%) NFHS-5 (60.9%).Percent of malnutrition in the district It becomes very important to check the causes of the growing problem. The present study was therefore undertaken to investigate the causes of malnutrition among forest dwellers of Dang district.

Research Methodology:

The present study was conducted in Dang district. There are three talukas in Dang district. 1) Waghai, 2) Ahwa, 3) Subir. These three talukas were selected for the research. In which 96 villages are located in Waghai taluka, 92 villages are located in Subir and 123 villages are located in Ahwa. In which the three talukas were selected after visiting the Child Protection Office Ahwa during 2014 and getting information about the malnutrition status of the three talukas. This Research This primary research was conducted in 2014-15 by 9 sisters of NRM group studying in MRS. Groups of 3 sisters were formed in each taluka. In which one local sister and two sisters from other areas were allocated by the guidance teacher. So that there is no problem of accommodation and local dialect due to which it is easy to get information.

Village Selection:

Out of 311 villages of Dang district, the researchers selected two types of villages. 1) Near the road and 2) Inland area in which 62 villages out of total 311 villages of all three taluks were selected. This village is close to the sister village so that it is easy to come and go. As 50 respondents of a sister were to be included in the study, the Anganwadi of the village was visited and the list of malnourished children from the Anganwadi was obtained. But only 2 to 3 children were shown to be malnourished by the Anganwadi worker sisters. The study also covered children who appeared to be malnourished by measuring the MUAC of children whose names were in the yellow grade when the researchers observed the children coming to the Anganwadi. Thus, after visiting the Anganwadis of different villages, 50 respondents from each sister were completed, and the research work was completed there. Thus, 450 respondents of 9 sisters i.e. 50 of each sister were selected. Thus 62 villages were selected for the study. These villages are

ISSN PRINT 2319 1775 Online 2320 7876
Research Paper © 2012 IJFANS. All Rights Reserved, Journal Volume 11, Iss 07, 2022

close to the local sister village so that it is easy to come and go and then the respondents were selected after visiting the village and meeting the Anganwadi worker sisters, meeting the children and their mothers who come to the Anganwadi and getting information about the benefits provided by the Anganwadi.

Selection of Respondents:

After visiting the selected village, getting a list of malnourished children from the Anganwadi worker sister, with her help, interviewing the mother of each child, first informing them about malnutrition, after realizing that their child is malnourished, choosing the mother as a respondent to know their views on malnutrition. The number of malnourished children in the Anganwadi registers which fall in the red grade shows only 2 or 3 and during the primary research the researcher observed other children coming to the Anganwadi are also malnourished. It was observed that children who were undernourished were also selected by measuring MUAC. A questionnaire was prepared after the literature review of previous researches to get information, then the researchers met the mothers of malnourished children face to face, i.e. the researcher had to ask the questions and write the answers by himself, so it was used as an interview schedule. The visit schedule included economic and social information of the respondent, information about children's vaccines, a table showing family information, information on agriculture, personal hygiene, anganwadi workers, information on adolescent girls, etc. In particular, the age of the mother at the time of marriage, age at first delivery, weight, height, distance between two children, mother's weight during pregnancy, height, birth weight of the child were obtained from the register of Anganwadi worker sisters. The researchers used their own weighing forks and measuring tapes to measure the children's and mothers' age, weight, and height at the 2014 visit. The MUAC of the children was measured by obtaining a strip from the Anganwadi Sisters. For this survey information was obtained by going to each village. The survey was conducted until each research had 50 respondents and the survey was completed when 450 respondents were completed. Then a single sheet was created and the data was analyzed using SPSS software.

Analysis of Data:

Taking into account the classification of Chronic Energy Deficiency (CED) based on BMI shown in the year 1995 by the World Health Organization (WHO), according to Table-1 and Table-2, the weight of the children covered in the study and the classification of malnourished children by the World Health Organization (WHO).

Table: 1: Classification of CED

No.	Grade (CED)	BMI
1	3	Less than 16
2	2	16 to 16.9
3	1	17 to 18.4
4	Normal	18.5 to 24.9
5	More	25 or more

ISSN PRINT 2319 1775 Online 2320 7876
Research Paper © 2012 IJFANS. All Rights Reserved, Journal Volume 11, Iss 07, 2022

Based on the information of age, weight and height of children, BMI (Body Mass Index) of children was calculated for malnourished children of the year 2015. The above information was classified on the basis of WHO (1995) CED as shown in Table No.-2 BMI–year 2015 data WHO recommends the following method for assessing the status of undernourished children in the population in 1995. Accordingly, if the population has 5 to 9% children with a BMI of less than 18.5, the prevalence of malnutrition is low. If it is 10 to 19%, moderate if it is 20 to 49%, then more and more than 50% if the BMI of children is less than 18.5, it can be said that there is a highly malnourished society.

Table: 2: BMI of Children and Mothers in the Study Area

No.	Grade(CED)	2015 Children's BMI	2015 Mother's BMI
1	3	143 (57.2%)	10(4%)
2	2	34 (13.6%)	39(15.6%)
3	1	40 (16%)	120 (48%)
4	Normal	29 (11.6%)	81(32.4%)
5	More	4 (1.6%)	00
	Total	250 (100%)	250 (100%)

(Source – Field Study)

According to the information shown in the above Table-2, there were 143 (57.2%) children in Grade-3 in 2015. 10(4%) mothers were observed in grade-3. 34 (13.6%) children were observed in Grade-2 in 2015. 39 (15.6%) mothers were observed in grade-2. There were 40(16%) children in Grade-1. 120 (48%) mothers were observed in grade-1 and 2015 29 (11.6%) children with normal BMI, mothers were observed 81 (32.4%). Taking into account the World Health Organization (WHO) classification of Chronic Energy Deficiency (CED) based on BMI in 1995, it can be said that the malnutrition condition of Dang district is very serious because there are 217 (86.8%) children with BMI were less than 18.5 in 2015, while 169(67.6%) mothers whose mothers BMI was less than 18.5 also had low BMI. This suggests that if the mother's BMI is low at the time of birth, the children are more likely to have a low BMI. So the main cause of child malnutrition is mother's health. This situation is a matter of concern in the future.

Table: 3: Mother's Age at Time of Marriage

No.	Particulars	No. of Respondents	Percentage
1	18 or less than it	196	78.4%
2	19 years	26	10.4%
3	More than 20	28	11.2%
	Total	250	100%

ISSN PRINT 2319 1775 Online 2320 7876
Research Paper © 2012 IJFANS. All Rights Reserved, Journal Volume 11, Iss 07, 2022

(Source – Field Study)

This research shows that among the total respondents, 196 (78.4%) mothers were married at the age of 18 or below, 26 (10.4%) were married at the age of 19 and only 28 (11.2%) were at the age of 20 or above. The respondents are found to be married. This can lead to a very serious situation because if the mother is married off before development, the future child is more likely to be weak or the child may be born weak. (Lisasi, 2000) Research statistics show that most women are married at the age of 18 or younger in tribal areas. It is a matter of concern.

Table: 4: Mother's age at first delivery

No.	Particulars	No. of Respondents	Percentage
1	18 or less than it	126	50.4%
2	19 years	66	26.4%
3	More than 20	58	23.2%
	Total	250	100%

(Source – Field Study)

Considering the information given in Table-4 of the research, 196 (78.4%) mothers are found to be married at the age of 18 years or less and 126 (50.4%) of the same mothers may have been pregnant within the first year, as shown in the table. According to the data, there were 126 (50.4%) women with a maternal age of 18 or younger at first delivery. That is, if the marriage takes place at a young age and the first delivery takes place at a young age, the child is more likely to be weak, because the foundation of children's development is planted in the mother's womb. If the baby remains weak during pregnancy, it is born malnourished. For that first the development of the mother is necessary, if the mother is healthy then the child will be healthy.

Table: 5 Table showing Information on Migration

Particulars	Migration	Migration with Family
Yes	244 (97.6%)	239 (95.6%)
No	06 (2.4%)	08 (4%)
Total	250 (100%)	250 (100%)

(Source – Field Study)

According to the research, as shown in Table-5, 244 (97.6%) respondents migrate for labor in Dang district. Out of which 239 (95.6%) respondents migrate with family. As Dang district is a dry farming area, where most of the work is available during monsoons, one has to migrate for work in other seasons. Most of them go to Maharashtra and Gujarat for 3 to 4 months. Drinking water, accommodation facilities at the place of migration can affect the mother and the child and if the mother is pregnant, her work can also hinder the development of the child.

ISSN PRINT 2319 1775 Online 2320 7876
Research Paper © 2012 IJFANS. All Rights Reserved, Journal Volume 11, Iss 07, 2022

Conclusions:

Maternal early marriage, age at first delivery, maternal BMI and migration during pregnancy are found to directly affect child health.

Recommendations:

Long-term measures:

If a woman who is going to be a mother in future is taken care of, than a malnourished child. Their health, age of marriage, age of delivery, if guidance is given in school, college, or if their health is taken care of, there are chances that their future child will be born healthy. The government is trying to raise the marriageable age of women to 21 years as per the law, which is 18 years. If attention is given to the implementation of these new laws along with the formulation of these laws, there are possibilities that the proportion of malnutrition can be improved. Along with the efforts of the government, if every person in the society is made aware of the society and responsibility regarding the health of their child, there is a possibility of getting out of this situation quickly.

Short term measures:

Utilization of benefits provided by Anganwadi, providing nutritional supplements to malnourished children, pregnant women, pregnant women.

References:

1. V. J. Somani (2015) "Effect of Maternal Education, and Income on Preschool Children and Their Tribal Mothers in South Gujarat, India"
2. V. J. Somani (2015) "Nutrition Status of Preschool Tribal Children of South Gujarat"
3. Dr. Beauty Gogai December (2015) "Indira Gandhi National Open University, New Delhi, India"
4. Sayma Ali, Tahir Chowdhary (2011) "Effect of Maternal Literacy on Child Health (Myth or Reality)"
5. Patel Jigisha B (2010) "Study on Health and Malnutrition of Women and Children in Tribal Areas of South Gujarat" Mahatma Gandhi Gram Abhyas Bhavan, Surat
6. C. J. Soneval – A Study of "Factors Affecting Nutritional Health of Tribal Children in Maharashtra"
7. NFHS-1 (1993-94) National Family Health Survey
8. NFHS-2 (1998-99) National Family Health Survey
9. NFHS-3 (2005-06) National Family Health Survey:
10. NFHS-4 (2015-16) National Family Health Survey
11. NFHS-5(2019-20) National Family Health Survey
12. Pawar Kalpana, V. J. Somani (2020) "Effectiveness of Measures Taken to Prevent Malnutrition in Tribal Children of Dang District, Gujarat"
13. V. J. Somani (2014) "Prevalence of sanitation and malnutrition among pre-school tribal children and their perceptions in the context of South Gujarat India"

ISSN PRINT 2319 1775 Online 2320 7876
Research Paper **© 2012 IJFANS. All Rights Reserved**, Journal Volume 11, Iss 07, 2022

14. Pawar Kalpana (2015) "Study of Malnutrition Status in Dang District of South Gujarat" Mahatma Gandhi Village Study Bhavan, V. N. S. G. U., Surat"