

CHILDREN AND WOMEN MALNUTRITION AMONG SCHEDULED TRIBES IN MARATHWADA (MAHARASHTRA)

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ABSTRACT: This paper presents nutritional and health status of women and children with an objectives to assess the effect of this on nutritional condition of children and causal correlation with them. The research study is based on a sample of 240 tribal women with their 316, 0-5 years old children to analyses the nutritional level. The malnutrition proportion of children has indicated a strong correlation with the mothers having low BMI and marriage age and positive association with mother education level. The study also found relationship between breastfeeding practices & nutrition level of tribal children.

KEYWORDS: Tribal Women, Children Malnutrition, Tribal Malnutrition.

INTRODUCTION

Over 104 million tribal people live in India spread across 705 tribes. They account for 8.6 percent of the county's population (Census 2011, GOI). Tribal's in Maharashtra constitute a sizeable population. According to the census 2011, out of the 11.24 crore of total population of the state, tribal population constitutes 105 crores (9.35 percent). There are 47 recognized Scheduled Tribes (STs) and three of them - Katkaris, Kolams and Madia Gonds have been notified as "Primitive Tribes" by Government of India.

The Bhils are the most populous tribe in Maharashtra with a population share / portion of 21.2 percent of the total ST population. Gond is the second largest tribe, with a population share of 18.1 percent. The next four populous tribes are: Mahadev Koli, Varli, Kokni and Thakar. These tribes constitute 73.3 percent of the total ST population of the state.

The tribals of Marathwada in Maharashtra State like other part of the country largely depend on forest produce for their food livelihood, but the civilization and development processes have gradually invaded the forest area, depriving tribal community of their means of substance. Thus, tribal are confronted with poverty, food insecurity, unemployment, poor health condition and nutritional conditions that result in severe malnutrition and deaths of children. There is a huge contrivance of child death due to malnutrition but the government departments disown the possibility of such deaths. Two out of three child deaths are due to malnutrition in India (ICMR, 2017).

There are food security program as like supplementary nutrition programme, PDS etc. but even then hundreds of children die due to malnutrition and diseases every year. Malnourishment paves the way for a number of diseases like fever, diarrhoea, malaria, measles, pneumonia, other infectious, etc. Under the ordinary situation these diseases are curable and not deadly but when a malnourished child is get with any such disease, it becomes, a death trap.

This article is based on a research study among tribal women and children in Marathwada in Maharashtra State. We have carried out three major populous district of STs like Nanded, Hingoli and Aurangabad. The study covered women from Thakar, Bhils, Gound and Andh Tribes. The study was based on a sample survey - sample of 240 women who have at least one child in the age group of six years to analyze the status and determinant of malnutrition and children death. This study assessed child malnutrition, women BMI and its causal analysis as well as reviews the ICDS scheme and PDS which aimed at the reduction of malnutrition in tribal areas.

1. Infant and Young Child Feeding practices

Infant and Young Child feeding (IYCF) practices play an important role in survival, physical or cognitive growth and development of children. It helps to reducing infant and child morbidity and mortality.

There are several factors like timely initiation of first milk of mother (colostrum), exclusive breastfeeding up to six months, timely initiation of complementary feeding etc., which are affected the nutrition and health condition of children (see table 1).

Table 1: Adoption of IYCF Practices by Tribal Women

<i>Sr No</i>	<i>Adoption of IYCF Practice</i>	<i>Percent</i>
1	Breastfeeding initiated within one hour after delivery	67
2	Exclusive breastfeeding up to six months	27.5
3	Duration of breastfeeding up to two years	42.2
4	Initiation of complementary feeding at six months	67.9

Source: Field Survey, 2016-17.

Early initiation of breastfeeding (colostrums) is considered as the best vaccine which protects against common childhood illness, diseases and infections. It may also have longer term benefits to increase resistance power and diverse allergies. Colostrums (early initiation of breastfeeding) is considered essential for better health and nutrition of a new boy child. According to guidelines of IYCF suggest, initiation of breastfeeding within an hour of the child's birth. About 67 percent women respondents breastfed to their children within one hour of their birth.

There is a need to further strengthen the IYCF practices by spreading the importance of early initiation of breastfeeding among the tribal areas.

According to the order of the ministry of women and child development, Government of India, exclusive breastfeeding for six months is being promoted nationwide through ICDS programme. About 27.5 percent women accepted to have exclusively breastfeeding their child for six months. This shows tribal women are not aware from signification of early initiation of breastfeeding. As far as the duration of breastfeeding is concerned, it was found that, 42.2 percent of women, continued breastfeeding up to a period of two years. The IYCF guidelines recommend for an extended breastfeeding period up to two years. This shows the fact that most of the tribal women are engaged as daily wagers or workers or agricultural workers, so they discontinued breastfeeding after one year or less.

According to the guidelines under ICDS programme, supplementary feeding should be initiated to the child early or late initiation of supplementary feeding causes disturbed growth of the child. It was found that about 68 percent of children were initiated with supplementary feeding on completion of six months of age.

2. Growth Monitoring and Promotion

Regular growth monitoring and promotion is a significant component of ICDS programme. It included recording of birth weight, date of birth, regular monthly weighting and plotting the growth charts as per the new World Health Organization (WHO) child growth standard (WHO, 2006). It is followed by necessary interventions like home visits, other counseling on their health and nutrition care education at the level of AWCS (Table No 2)

Table 2: Growth Monitoring /Promotion

<i>Sr No</i>	<i>Child Characteristics</i>	<i>Percent</i>
1	Low birth weight	26.1
2	Malnourished children as per AWC	34.7
3	Knowledge of mothers about current malnutrition status of child	41.7

Source: Field Survey, 2016-17.

The information on birth weight of 367 children of 240 sample respondents women shows that out of 367 children with birth weight, 26.1 percent babies had born less with less weight than the state average of 18 percent (NFHS-4-2015-16).

Birth weight is an important indicator while assessing a child's health for early exposure to childhood morbidity and mortality the higher prevalence of low birth weight babies indicates poor nutritional status of their mothers during pregnancy. About 34.7 percent children were malnourished as per AWC. Actually, we found 40 percent children underweight, 68 percent stunted and 14 percent wasted as per the actual weighting. The awareness of mother about malnutrition of their children is also a weak in tribal areas as mothers of only 41.7 percent malnourished children were found to be aware of malnutrition about in their child.

3. Nutrition and Health Status of Women Affecting Children

Poor nutrition and health conditions of mother have a direct connection with nutrition and health conditions of children. There is an association between malnutrition in women during adolescence and pregnancy on one hand and low birth weight babies and malnourished children on the other hand. The research paper presents nutrition and health status of women with an objective to assess the effect of this on nutritional status of children. In this mainly covers antenatal care and delivery services and practices as well as food intake and care during pregnancies which have a direct relation on survival and development of children.

Table 3: Nutritional and Health Status of Women Affecting Children

<i>Sr No</i>	<i>Body Mass Index (BMI) Level</i>	<i>Percent</i>
1	Low BMI (<18.5)	42.6
2	Health Complication during pregnancy	45.4
3	Institutional delivery	56.6
4	Home deliveries conducted by trainees hands	52.8
5	New blade used to cut placenta in home deliveries	80

Source: Field Survey, 2016-17.

Anthropometric tools were used during data collection in the field to record the weight and height of the sample respondents tribal women to calculate BMI of women. According to the guidelines women with BMI < 18.5 are considered underweight and categorized under low BMI. About 42.6 percent tribal women were found with low BMI (less than 18.5) which is higher than the figure of 23.5 percent for the whole Maharashtra & 31.7 percent of STs for the country as mentioned in the National Family Health Survey (NFHS-4, 2015-16).

Health complication during pregnancy have a significant relation to successful delivery and birth of a child. As a table no. 3 indicates 45.4 percent tribal women

faced some health complications during their pregnancy. The highest proportion of them (54.1 percent) suffered from sever fatigue during pregnancy. About 43.1 percent tribal women had swelling on body and face and 21.1 percent suffered from fever during pregnancy. Some of women had faced stomach pain, excessive emesis, giddiness or weakness and acolian etc.,

Promoting institutional delivery is a one of the prime focus areas under the National Rural Health Mission (NRHM) and ICDS programmes. Institutional deliveries helps for prevention of infant and maternal mortality and Janani Suraksha Yojana (JSY) under the NRHM is a one of the flagship programmes of health department. As the findings indicate, 56.6 percent deliveries were conducted by trained persons like dai or ASHA and ANM. This indicates that about half of deliveries in the tribal areas are still conducted by untrained hands which need urgent attention at the programme level. Moreover, new blades were used to cut placenta in the case of 80 percent of total home deliveries.

4. Role of ICDS in Reduction of Child Malnutrition

Mothers of normal children along with malnourished children were also covered to during this study. The primary data was collected from 19 Aanganwadi centre's of Marathwada. Apart from this, AWWs of all 15 AWCs were also interviewed to assess and analyze the implementation of ICDS, function of AWCs and malnutrition in the area.

Coverage of Supplementary Nutrition under ICDS: Under the ICDS programme, children of age group from six months to three years are provided bal ahar (take-home ration THR) to supplement their nutritional needs. Children of age-group three-six years are provided breakfast and lunch (hot-cooked meal) at AWCs. Hot-Cooked Meal is being prepared by Self-Help Groups (SHGs).

Table 4: Distribution of Supplementary Nutrition at AWCs

<i>Sr No</i>	<i>Supplementary Nutrition at AWCs</i>	<i>Percent</i>
1	Supplementary nutrition to children (6 months-3 years)	92.6
2	Supplementary nutrition to children (3 to 6 years)	96.5
3	Supplementary nutrition to pregnant women	87.1
4	Supplementary nutrition to lactating mothers	94.8

Source: Field Survey, 2016-17.

As stated above table, the coverage of THR provided to children (six months-three years) was found 92.6 percent in Marathwada. About 96.5 percent children covered received supplementary nutrition as hot cooked meal for 3-6 years children. High coverage of hot cooked meals was found in study area.

Pregnant and lactating mothers are provided THR under the ICDS programme. AS stated above table 4, on an average, 87.1 percent women and 94.8 percent lactating mothers were received supplementary nutrition provided at AWCs. Supplementary nutrition provided to pregnant and lactating mothers the additional requirement of nutrition of women during pregnancy and lactation.

Malnutrition and Child Deaths: We have also collected data from AWC record on child deaths occurred during the last years. The study reveals that, total 16 cases of child deaths were reported from 19 AWCs of the Marathwada during last year of study rear. AS per the records of AWCs, the highest proportion of child deaths was attributed to diarrhea, fever, malaria, and unknown causes.

Referral Services and Malnourished Child: NRCs have been established in every district in joint collaboration of the department of women and child development and department of health. ICDS functionaries mobilize malnourished children from village to NRC. The children are screened at NRC as per the criteria of severely acute malnourished (SAM) laid down by the department of health and UNICEF. only SAM children are admitted in NRC. There are three criteria for SAM children, namely, mid-upper arm circumference (AUAC) measurement < 11.5 cm, bilateral oedema and weight for height < .3SDZ score. Children satisfying any one of the three criteria are considered for NRC admission. Remains of the children would be sent back for care at the AWCs level.

This study reveals that, out of 19 AWCs, 94.3 percent AWCs were provided referral services to malnourished children, but the fact is 47.6 percent tribal respondent were not received any referral service from AWCs to their malnourished child. The above findings suggest that there is a need to increase the utilization of referral service through a clear policy and mobilization and sensitization of community about possible implications of malnutrition among children.

5. Causal Analysis of Child Malnutrition

The study was planned for 240 tribal women respondent who have at least one child under five years. The total number of children under age five were 316.

This section analyses malnutrition (underweight, stunted, wasted) in light of its association with several casual factors like low birth weight children, mother's first milk given to child, early initiation of breastfeeding exclusive breastfeeding, mother marriage age, education of mothers and low BMI of mothers etc.

(i) Nutrition Category of Children by Birth Weight**Table 5: Present Nutrition Category by Birth Weight**

<i>Sr No</i>	<i>Supplementary Nutrition at AWCs</i>	<i>Under weight</i>	<i>Stunted</i>	<i>Wasted</i>
		-2 SD + - 3SD	-2 SD + - 3SD	-2 SD + - 3SD
1	Children with low birth weight	50 (42)	62 (73.8)	16 (19.1)
2	Children with normal birth weight	37.4 (87)	156 (67.3)	28 (12)
	All Children	129 (40.8)	218 (69)	44(13.9)

Source: Field Survey, 2016-17.

Out of 316 children, 232 children were born with normal birth weight (>2.5 kg) and rest 84 children were born with low birth weight (<2.5 kg). As stated in table no. 5, among children with normal birth weight, 37.4 percent children were in underweight and severely underweight, 67.3 percent in stunted and severely stunted and 12 percent in wasted category. Among children with low birth weight. 50 percent children were in underweight category, 73.8% in stunted and only 19.1 percent children from wasted category. Overall, underweight, wasted and stunted children with low birth weight were found higher proportion against who children with normal birth weight. It is quite obvious from the analysis that low birth weight of children is an important factor contributing towards high malnutrition among children under the age of five years.

Nutrition Category by Children with First Milk of Mother (Colostrums):

Mothers first milk is considered as the first vaccination of child and its prevalence on health, nutrition and growth of children. The cross-tabulation shows a close correlation between present nutrition category of children (six months-five years) and mother's first milk administered to the child after birth.

Table 6: Present Nutrition Category by Children Given First Milk

<i>Sr No</i>	<i>Children Given First Milk</i>	<i>Under weight</i>	<i>Stunted</i>	<i>Wasted</i>
1	Children given first milk within an hour	81 (38.5)	145 (69)	23 (10.9)
2	Children given first milk after a day or more	48 (45.3)	73 (68.9)	21 (18.8)
	All Children	129 (40.8)	218 (68.9)	44 (13.9)

Source: Field Survey, 2016-17.

The study indicates that, about 38.5 percent of children given first milk were found in underweight and severely underweight category 69 percent in stunted and 11 percent in wasted against 45.3 percent of children first milk after a day or more days were suffered underweight, 69 in stunted and 19.8 percent in wasted category. It also shows that, nutrition level with children given first milk after a

day or more days is lower than children given first milk after an hour. This categorically states that, mother's first milk has a significant and long-lasting effect on nutritional status of children and its reduces the chances of malnutrition in children up to the age of five years.

Nutrition Category of Children by Exclusive Breastfeeding: Exclusive breastfeeding is important for health of child and their mother. Mother's breast milk includes all the nutrients that an infant needs in the first six months of life. Out of 16 children under five years, 14 children were given exclusive breastfeeding up to the age of six months and rest 66 children for one year and 124 children given exclusive breastfeeding more than two years and reaming 112 children were breastfed continuing at the time of field survey year.

Table 7: Present Nutrition Category of Children by Exclusive Breastfeeding

<i>Sr No</i>	<i>Exclusive Breastfeeding status</i>	<i>Under weight</i>	<i>Stunted</i>	<i>Wasted</i>
1	Children with exclusive breastfeeding for six months	7 (50)	11 (78.5)	2 (14.3)
2	1 years to > 2 years	82 (43.1)	136 (71.6)	24 (12.6)
3	Continuing	40 (35.7)	71 (63.4)	18 (16.1)
	All Children	129 (40.8)	218 (68.9)	44 (13.9)

Source: Field Survey, 2016-17.

The study shows that 50 percent of children exclusive breastfeed for six months were found in underweight category, 78.5% stunted and 14.3 percent children in wasted category where as 43.1 percent in underweight, 71.6 percent stunted and 12.6 percent in swatted who has given exclusive breastfeeding one year to more than two years. This clearly shows that exclusive breastfeeding up to six months of birth is better but not sufficient for the growth of child.

Nutrition Category of Children by BMI of Mothers: Out of 240 women covered under the sample, weight and height of women could be recorded in the field survey. Out of 240 tribal women, 134 women were in low BMI (severely & mildly thin) category and 174 with normal BMI of tribal women.

Table 8: Present Nutrition Category of Children by BMI of Mothers

<i>Sr No</i>	<i>Exclusive Breastfeeding status</i>	<i>Under weight</i>	<i>Stunted</i>	<i>Wasted</i>
1	Children with low BMI of mothers (<18.5)	64 (47.8)	93 (69.4)	35 (26.1)
2	Children with normal BMI of mothers (>18.5)	65 (37.3)	122 (70.1)	22 (12.6)

Source: Field Survey, 2016-17.

As the cross-tabulation results shows that (table no 8), 47.8 % of children of mothers with low BMI (<18.5) were found in underweight, 69.4 percent in stunted and 26.1 percent in wasted category. Whereas 37.3 percent of children of mothers of normal BMI were suffered from underweight category, 70 percent were stunted and 12.6 percent wasted. This clearly indicates a positive association between nutritional status of mother and children.

Nutrition Category of Child by Age of Mothers Marriage: Mother's age at marriage has a profound impact on child bearing because who marry early have on aware a longer period of exposure to pregnancy and a greater number of lifetime births. Mothers mother's age of marriage has a significant impact on the malnutrition level of the children.

Table 9: Present Nutrition Category of Children by Mothers Marriage Age

<i>Sr No</i>	<i>Mothers Marriage Age</i>	<i>Under weight</i>	<i>Stunted</i>	<i>Wasted</i>
1	Less than 15 Years	68 (42.8)	112 (70.4)	22 (13.2)
2	15-18 Years	54 (42.2)	90 (7.3)	20 (15.6)
3	18-21 or above	7 (24.1)	16 (55.2)	2 (6.8)
	All Children	129 (40.8)	218 (69)	44 (13.9)

Source: Field Survey, 2016-17.

The proportion of underweight was slightly higher (42.8) among the children whose mothers married at an early age i.e. below 15 years, 70.4 percent in stunted and 13.2 percent in wasted category. The proportion of underweight and stunted children gradually reduces with an increase in the age of mother's marriage (table no 9). These are clearly indicates a strong negative association between malnutrition among children and their mothers age at marriage. This is attributed to the fact that low age of marriage adversely affects the condition of women's health and her children health.

Nutrition Category of Children by Schooling of Their Mothers: The education of mother is largely impacting on the health and nutrition of their children. In the tribal area education attainment among girls on women has very low it's proved

Table 10: Present Nutrition Category of Children by Schooling of their Mothers

<i>Sr No</i>	<i>Schooling of Mothers</i>	<i>Under weight</i>	<i>Stunted</i>	<i>Wasted</i>
1	Illiterate	48 (44.8)	76 (71)	17 (15.9)
2	Primary Schooling	58 (43.3)	92 (68.6)	16 (11.9)
3	Secondary and secondary high schooling	23 (30.7)	49 (65.3)	11 (14.7)
	All Children	129 (40.8)	218 (69)	44 (13.9)

Source: Field Survey, 2016-17.

by the data of educational attainment among tribal mothers. Therefore, schooling of mothers was considered under cross-tabulation to understand its correlation with malnutrition of children.

As found in table 10, the malnutrition level (underweight, stunted, wasted) was found to be 44.8 percent, 71 percent and 15.9 percent for children with their mothers having no schooling or illiterate. But the malnutrition level reduces to 43.3 percent (underweight), 68.6 Percent (stunted) and 11.9 percent (wasted) for children with their mothers having some years of schooling like primary schooling. Moreover, the malnutrition proportion also reduces whose mothers having attained up to secondary higher schooling. There is clearly indicates positive correlation but not strongly association between them, but the significantly justifies the role of mother's education in reducing malnutrition among children.

Nutrition Category of Children by Their Birth Order: A birth interval as defined the length of time between two successive live births and it's indicate the pace of childbearing. The too short birth interval between two child it may adversely affect on mother's health as far as their child. The birth rate with low birth space in two births is a common phenomenon in the tribal community. The number of children and the family size in tribal areas is too higher than the other social groups. In the big family size, children have deprived from proper healthcare and nutrition.

Table 11: Present Nutrition Category of Children by their Birth Order

<i>Sr No</i>	<i>Birth order of Children</i>	<i>Under weight</i>	<i>Stunted</i>	<i>Wasted</i>
1	First order birth	45(38.5)	81(69.2)	20(17.1)
2	Second order birth	37(43)	54(62.8)	10(11.6)
3	Third order birth	25(38.5)	48(73.8)	10(15.4)
4	Fourth order birth	14(51.8)	21(77.7)	1(3.7)
5	Fifth order birth and above	8(38.1)	14(66.6)	3(14.3)
	All Children	129 (40.8)	218 (69)	44 (13.9)

Source: Field Survey, 2016-17.

The malnutrition level of 316 children covered under the study analyzed for different birth orders. We have seen a systematic increase in malnutrition level for higher order births. The malnutrition level are 38.5% underweight 69.2% stunted and 17.1% present wasted for first order births its gradually increased for fourth order births but also seen that, after the fourth births order malnutrition proportion was slightly decreased (table no. 11). Moreover, stunting proportion was high as compared underweight and wasting because of competition for food in the large family size. The wasting proportion as high in first order births compared other birth orders. This is clearly seen that, under nutrition and stunting level and birth orders has a strongly correlation with each other but wasting level and birth order

have no association. There is need to courage for small family norms in tribal group and its way to reduce malnutrition level among children.

FINDINGS & POLICY MEASURES

The education level of tribal is still below the overall education level of the state. Large scale of early marriages or child marriages in tribal group in study area which needs to urgent attention.

The practices of mothers giving first milk and early initiation of breastfeeding are important. But exclusive breastfeeding, duration of breastfeeding and initiation of supplementary nutrition is not adequate in the tribal areas. This is due to large number of tribal mothers work in agricultural fields having no time for proper care and attention of their children. There is need to increase awareness among tribal women about breastfeeding and colostrums.

The ICDS programme is a major intervention directed towards providing supplementary nutrition to children (06 months to 6 years), lactating and pregnant mothers and growth monitoring of children through AWCs for reduction malnutrition. Most of the beneficiary of supplementary nutrition was not consumed it because of poor quality of food. So this indicates that there is no significant results / impact of supplementary nutrition of ICDS in reduction of malnutrition. There was high proportion of malnourishment in study area observed under the study. Under ICDS, AWCs organises mother's counseling, meeting of nutrition and health issues but as tribal women work of field, they could not attend counseling meeting or health functionaries. In study area children also faced the major health problems like, fever, malaria, pneumonia and diarrhea etc.

The nutrition and health status of mother adversely affects the children health and nutrition. More than forty percent tribal mothers were found underweight or thin. The study also observed poor awareness about malnutrition and care during pregnancy. The malnutrition level has indicated a strong correlation with the marriage of mothers and birth order of children indicating the needs for encourage level age of marriage and small family size in tribal. Low birth weight of children and low BMI of tribal women had also seen strong correlation with child malnutrition. So there needs for more nutrition care of women in a way to reduction of child malnutrition.

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