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## Impact of Mothers self-esteem and attitude towards gender on the nutritional and health entitlements of primary school going children – A study in West Bengal

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### Abstract

In Indian context, mothers have the central role in household as regards to the basic nourishment and care of the child. In this regard mother's self-esteem and gender attitudes play a crucial role in governing the type of intra-household allocation of basic resources. In this perspective the present paper looks into the gender attitudes and self-esteem of 300 rural mothers from three districts of West Bengal. And draw a comparison of the same between the tribal (santhal) and non-tribal population. Secondly, the paper looks into the impact of the above on the nutrition and health security of 465 school going children at primary level, in the age group of 5 to 12 years, under the ICDS midday meal scheme, by applying Clinical Nutrition Survey Chart; 24-hr recall method and Food Frequency Questionnaire, health and immunization records and expenditure on education. Nutrient intake and consumption frequency of all the 6 food groups, like Meats & Protein, Grains, Fruits, Vegetables, Dairy, Fats & Oils, were collected for the afore-mentioned sample. In the above context the paper focused on the comparative study of food and nutrition security along with access to basic health and education facilities of the santhal and non-santhal population. In this SPSS-17 was used for the descriptive statistics, t-test,  $\chi^2$  for association and odd ratio calculation. It was seen that santhal mothers had better gender attitudes and self-esteem at 0.05% level of significance. Further, it was seen that the intra-household resource allocation was more egalitarian in case of santhal population with respect to the general population at 0.05% level of significance.

**Keywords:** Gender, Nutrition, Diet, Food Consumption, Health

### 1. Introduction

Food security is a complex sustainable development issue, linked directly to health through malnutrition and has far reaching consequences on the sustainable economic development especially for a developing country like India. Thus in its basic form food security is unswervingly linked to nutritional security which implies physical, economic and social access to balanced diet, clean drinking water, safe environment, and health care (preventive and curative) for every individual. Education and awareness are needed to utilise these services. Even after over 69 years of independence, India is still a country in developmental transition and continues to battle with infectious diseases and conditions related to under-nutrition [22]. Over 50% of preschool children and 30% adults are undernourished as judged by anthropometric indices and over 70% of women and children suffer from anaemia [9]. Added to this the Census of India 2011 [14], reveals that the child sex ratio (number of girls per 1,000 boys among children in the age group 0-6 years old) is at its lowest since when India gained her independence. One of the most alarming trends in India is that son preference or conversely daughter neglect, which can be a normal attribute for household which manifests as neglect through lack of medical care, improper nutrition and even death through infanticide and sex selective abortions. This is occurring even among the educated, affluent groups in India. Sen (1992, 2003) [13, 21] first recognized that millions of women in India and China are missing because of widespread neglect in nutrition, health care, and prenatal care. India and China are the only countries in the world in which female infant mortality rates are higher than that of males (United Nations, 2011) [11].

A number of studies show intra household resource allocation focus on differences in entitlements of either women or children. Awasti (1999, 2003) [1, 2] have shown the poor status of children as regards to nutrition. It also reveals the gender aspect where girls fare worse than

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boys. Studies of Kapil U (1999), Preja N (2014) <sup>[17, 20]</sup> focussed on the primary school going children and looked into the nutritional attainment of the same and found the girls intake to be significantly lower than that of the boys regarding micro nutrients. A similar study by Garg (1997) <sup>[8]</sup> focussed on the nutritional intake of slum children. Pande (2003, 2006, 2007) <sup>[15, 18, 19]</sup> have shown that the neglect of children was directly correlated to their gender and their order of birth and their likelihood of being immunised against disease or their likelihood of receiving a nutritious diet increased for boys than girls. Behram (1988) <sup>[4]</sup> studied the Indian households and how boys were favoured to girls through differential attitudes of the parents. Tisdell (2000) <sup>[23]</sup> in his study on rural Bengal on the intra household resource allocation reveal disparity in resource allocation as regards to gender. However the santhal families seem to perform well in comparison to the general population. Another study by Choudhary (2007) <sup>[5]</sup> dealt with the issue of work allocation within the family and looked into the role of gender. Studies by Falkner (1999) <sup>[6]</sup> have shown the impact of malnutrition on the health of the children in form of stunting and wasting. Felson (1989) <sup>[7]</sup> showed the impact of parental care on the self-esteem of the children. Some studies like by Bonds (2012) <sup>[10]</sup> Mehrotra *et al.* (2011) <sup>[12]</sup> looked specifically into the role of midday meal (MDM) on educational attainment and nutrition of primary school going children. One possible explanation of the discrepancy in child health or nutritional outcomes pertains to gender discrimination in the intra-household allocation of resources. Households are important decision-making units throughout the world. The dynamics and power play within the household has serious consequences on the well-being of not only the immediate members but also generations to come. The immediate consequence of gender dynamics within a household is perhaps best reflected towards the attitudes of the mothers who are the primary care giver towards their children. In this regard this study primarily concentrated on the gender attitudes of the mothers and their self-esteem and probed into the possible consequence of the same on variables like food intake, vaccination coverage, expenditure on education and access to formal health care facilities of the children belonging to santhal (a tribe of West Bengal) and non santhal families.

### Objectives

- To look into the gender attitudes and self-esteem of rural mothers of both santhal and non santhal households.
- To look into the impact of gender attitudes and self-esteem of rural mothers on the nutritional, health and educational entitlements of the children of both santhal and non santhal households.

### Material and Methods

#### Hypothesis

**H01:** There is no significant difference in gender attitudes of mothers belonging to santhal and non-santhal households.

**H02:** There is no significant difference in self-esteem of mothers belonging to santhal and non-santhal households.

**H03:** There is no significant difference in nutrient intake of male and female children belonging to santhal and non santhal families.

**H04:** There is no age wise association of for stunting for children belonging to santhal and Non santhal households.

**H05:** There is no age wise association for wasting for children belonging to Santhal and Non santhal households.

**H06:** There is no significant difference in basic immunisation coverage of male and female children belonging to santhal and

non santhal families.

**H07:** There is no significant difference in access to formal health care services of male and female children belonging to santhal and non santhal families.

**H08:** There is no significant difference in expenditure on education of male and female children belonging to santhal and non santhal families.

### Sample

The target population of this study was all the rural mothers in the age group 20 to 40 years having primary school going children under the purview of ICDS midday meal scheme in West Bengal. The sample was drawn randomly by two stage sampling technique. 100 households from 3 villages of three districts- Birbhum, Midnapore and Murshidabad were selected with mothers in the age group 20 to 40 years. From these households 465 primary school going children were interviewed, among them 242 were boys and 223 were girls.

### Tools

The tools used in the study were self-constructed gender attitude scales, having 15 questions which can be answered in yes and no, to measure the gender attitude of the mothers. The questions were validated through a pilot study. Rosenberg's (1965) <sup>[24]</sup> self-esteem scale was used to measure the self-esteem of the mothers. It, comprised of 10 items, all the items were translated into Bengali and checked by two experts. The internal consistency for RSES range from 0.77 to 0.88. Test-retest reliability for it range from 0.82 to 0.85 and the criteria for validity is 0.55.

To assess the nutritional health status of the children 24-hr recall method, Food frequency questionnaire was used. In 24-hr recall method, the actual food and drink consumed in the immediate past 24 hours is recorded. Sometimes, a longer period may be used. The recorded food consumed in the last 24 hours is then converted to the nutrients available in each food item used in preparing it and then compared with the RDA <sup>[16]</sup>. Food Frequency Questionnaire <sup>[3]</sup> was interviewer administered. A detailed questionnaire includes the list of foods and the subject answers as to how often and in what quantity each food is eaten per day, per week and per month. The collected information of the food consumed is then checked with the RDA. It gave an estimate of the amount and frequency of the various nutrients consumed by the individual. Further, follow-up's and cross checking were done with each household from which the child was coming. Anthropometric measures of children were collected regarding height and weight. Immunization records were verified and crosschecked from the mother who in most of the cases was the primary care giver. Further a rough estimate of the expenditure on the child (like schooling, tutors and stationaries etc.) were collected.

### Procedure

In this study, the method of two stage random sampling was used in collecting the data. The three villages were randomly selected from the cluster of villages having at least 15% of tribal population (santhals) from three districts of West Bengal. The villages thus selected were, Madhabpur village of Midnapore district, Tiorpara village of Birbhum district and Shaympur Natun Para of Murshidabad district. From each village 50 households with mothers in the age group of 20 to 40 years having at-least one primary school going child were selected randomly from Santhal and non-santhal families. Socio economic background was controlled for the sample as all the children belonged to lower to middle economic strata.

The exclusion principal was carried out with regards to below poverty line (BPL) families which were left out of the survey so as to get a clear picture on gender disparity as regards to nutritional and health outcomes if any of the afore mentioned sample. Also those mothers having children in the age higher

or lower age group were excluded from the survey. Further the mothers of the children who were the primary care givers were comprehensively interviewed to look into their perceived gender outlook.

**Table 1:** The sample.

	Total Households (families with small to medium land holdings with married females in the age group 20 to 40 years with primary school going children)	Household interviewed(Santhal 50+ Non santhal 50)	Children Interviewed						Total
			Boys			Girls			
			Santhal	Non santhal	total	Santhal	Non santhal	total	
Madhabpur	1200 (800)	100	48	50	98	45	30	75	173
Tiorpara	1225 (923)	100	42	38	80	40	41	81	161
Shyampur Natunpara	1000 (950)	100	34	30	64	37	30	67	131
	Total	300	124	118	242	122	101	223	465

**Results and discussion**

A pilot study of the women of the households was first undertaken in one village to look into the gender outlook of the women (mothers) in the santhal and non santhal families. To

access the mother’s position in the household her autonomy to take decisions and command over the resources were also questioned. This was then extended to the other two villages.

**Table 2:** Comparison between Santhal and Non-Santhal Women in two villages regarding their Gender Outlook (general)

Questions	Total			
	Santhal %		Non-Santhal %	
	Yes	No	Yes	No
1. Preference for male child	20	80	85	15
2. Girls are of lesser importance than boys	5	95	85	15
3. Son are important as they carry family name	5	95	98	02
4. Expenditure on girls wastage of money	2	98	80	20
5. Considering discrimination in basic nourishment just.	5	95	80	20
6. Considering discrimination in basic education or health just.	2	98	78	22
7. Position of importance in the family	60	40	20	80
8. Ownership of house	45	55	12	88
9. Time and choice of partner in marriage	80	20	5	95
10. Controlling birth order of the child.	70	30	20	80
11. Child-rearing responsibilities	85	15	100	00
12. Awareness of and access to government programs poverty-alleviation programs	5	95	20	80
13. Participation in SHG formation	Unaware		Mostly aware but do not participate	
14. Participation in community development programmes	Unaware		3	Mostly aware but do not participate
15. Autonomy to take decisions	80	20	10	90

As was seen gender discrimination was less visible in santhal families. Mothers in the santhal families did not consider girl child as a burden. As was seen allocation of food, health care and educational amenities was more just among boys and girls in santhal households. Further, women had relatively better position considering the decision making autonomy and command over resources. The mean age of the santhal women was 26.5±2.8(s.d) while that of the non santhal women was

29.5±3.8(s.d). The average monthly income of the Santhal families were Rs 12007.65± 2.01(s.d) while that of the non santhal families were Rs 20107.65± 1.51(s.d). As is evident the non santhal households are relatively better off than the santhal families.

Next the self-esteem scores were calculated using the Rosenbergs SES. In this scale higher scores indicate higher self-esteem.

**Table 3:** Self-esteem of rural mothers- Santhals and non-santhals

	Mean Scores	S.D	t <sub>cal</sub>	t <sub>tab</sub>	Conclusion
Santhal	26.8	1.2	94.34	1.6552*	t <sub>cal</sub> > t <sub>tab</sub> ; Null Hypothesis rejected
Non-Santhal	13.5	1.8			

Relatively higher self-esteem was seen among women in Santhal families. From the Table 3 it can be concluded that there is significant difference in the self-esteem scores of the santhal women hence the null hypothesis is rejected and alternative hypothesis accepted at 0.05% level of significance. Further it was found that that positive nondiscriminatory

gender attitudes were positively correlated to the self-esteem scores (r=+0.76) at p=0.05.

Next we try to look into the nutritional, health and educational entitlements of the primary school going children of the mothers discussed above using 24 hour recall method.

**Table 4:** Percentage distribution of children according to deficient nutrient intake within last 24 hours (Children 5-12 years)

Nutrients Groups	RDA	t test for mean difference between boys and girls at 5% level of significance (Santhals)		t test for difference in means between boys and girls at 5% level of significance (Non-Santhals)	
		t-value	Significance	t-value	Significance
Protein(g/day)	41	1.78*	NS	2.89*	S( $t_{cal} > t_{tab}$ )
Fat	25	1.06*	NS	1.05*	NS
Carbohydrates	390	0.87*	NS	0.98*	NS
Energy	1950	1.79*	NS	1.06*	NS
Calcium	400	1.23*	NS	3.08*	S( $t_{cal} > t_{tab}$ )
Iron	26	1.17*	NS	1.06*	NS

P = 0.05

From the above table it can be seen that with regard to the difference between the nutrient intakes in most of the cases there is no significant difference between each nutrient groups for both boys and girls, for both santhals and non-santhals. However for non-santhals, we can see that there lies a significant difference between boys and girls for protein and calcium intake. Reported discrimination was evident when particular food like fish, meat or milk were considered. The care givers were directly practicing discrimination regards to certain food groups. Also, it should be noted that in the above

sample no child reported of hunger as such especially carbohydrate intake was sufficient for all the children due to the provision of food in the schools through midday meal scheme. Only are the mothers practising discriminatory behaviour but also they consider it to be justifiable. Thus, a mere increase in income is not ensuring the well-being for a group of children. It most of the non santhal families the mother supplement the boys meal by providing milk or protein rich items like fish or poultry.

**Table 5:** Distribution of Stunting (Height for age)

Age (in years)	$\chi^2$ for age wise association for stunting (Non-Santhals)		$\chi^2$ for age wise association for stunting (Santhals)		$\chi^2$ for significant difference between boys and girls at 5% level (Non-Santhals)		$\chi^2$ for significant difference between boys and girls at 5% level (Santhals)	
	$\chi^2$ -value	Significance	$\chi^2$ -value	Significance	$\chi^2$ -value	Significance	$\chi^2$ -value	Significance
5 - 8	2.89*	NS	1.97*	NS	2.65*	NS	2.34*	NS
8 - 12	4.02*	S( $t_{cal} > t_{tab}$ )	1.67*	NS	5.86*	S( $t_{cal} > t_{tab}$ )	2.08*	NS

\*p=0.05

Data reveals that moderate to severe stunting exists in all age groups as well as for both the groups of children. However no significant association was found between the age groups and stunting for children aged 5-8years. When difference between

the boys and girls were seen it was observed that no statistically significant difference exist between them for the santhals. However, for the higher age group the difference is significant in case of non-santhal families.

**Table 6:** Distribution of wasting (weight for age)

Age (in years)	$\chi^2$ for age wise association for wasting (Non-Santhals)		$\chi^2$ for age wise association for wasting (Santhals)		$\chi^2$ for significant difference between boys and girls at 5% level (Non-Santhals)		$\chi^2$ for significant difference between boys and girls at 5% level (Santhals)	
	$\chi^2$ -value	Significance	$\chi^2$ -value	Significance	$\chi^2$ -value	Significance	$\chi^2$ -value	Significance
5 - 8	2.09*	NS	1.89*	NS	1.08*	NS	2.86*	NS
8-12	5.99*	S( $t_{cal} > t_{tab}$ )	2.02*	NS	8.43*	S( $t_{cal} > t_{tab}$ )	2.66*	NS

\*p=0.05

Data reveals that moderate to severe wasting exists in all age groups as well as for both the groups of children. However, no significant association was found between the age groups and stunting for the lower age group. When difference between the boys and girls were seen it was observed that no statistically significant difference exist between them for the santhals. The plausible explanation of such insignificant result is that the

effects of micronutrient deficiencies manifests itself in the teens and adolescent period. Which is manifested in the older age group in case of non santhal families where the difference between the girl and the boys are significant as regards to wasting.

Next we look into the basic health provisioning through looking into the immunization coverage of both the groups.

**Table 7:** Odd Ratio calculation for both sexes for immunization coverage at 95% level of significance {Vaccination Coverage (0-6months)}

Gender	Non Santhals	Santhals
Boys	0.35*	0.30*
Girls	0.58*	0.38*

\*p=0.05

In case of odd ratio calculation for vaccination coverage for 0 to 2 years we can see that both for santhals and non-santhals

the probability of getting vaccinated is high for both groups irrespective of gender.

**Table 8:** Odd Ratio calculation for both sexes for immunization coverage at 95% level of significance { Vaccination Coverage (Above 2 years and booster dosage)}

Gender	Non Santhals	Non Santhals
Boys	0.42*	0.96*
Girls	1.86*	0.98*

\*p=0.05

In case of odd ratio calculation for follow-up vaccination and booster dosage we can see that for santhals the probability of getting vaccinated is low for both groups irrespective of gender. This accrues to lack of awareness and education in general. However for non-santhals the probability of getting vaccinated increases if the child is a boy rather than a girl.

**Table 9:** Odd Ratio calculation for both sexes for hospitalization in case of fever or diarrhoea at 95% level of significance (0-12years)

Gender	Non Santhals	Non Santhals
Boys	0.42*	0.88*
Girls	1.96*	0.96*

\*p=0.05

In case of odd ratio calculation for hospital care or visiting doctors we can see that for santhals the probability of getting vaccinated is low for both groups irrespective of gender. However for non-santhals the probability of getting hospital care or visit to a doctor increases if the child is a boy rather than a girl.

**Table 10:** Expenditure on education

	t test for significant difference in means between boys and girls for expenditure on education at 5% level (Non-Santhals)		t test for significant difference in means between boys and girls for expenditure on education at 5% level (Santhals)		t test for significant difference in means between boys and girls for drop-out rates at 5% level (Non-Santhals)		t test for significant difference in means between boys and girls for drop-out rates at 5% level (Santhals)	
	t-value	Significance	t-value	Significance	t-value	Significance	t-value	Significance
Primary School goers	1.06*	NS	1.54*	NS	1.76*	NS	0.96*	NS

The expenditure on children were calculated from cumulative expenditure on tuitions, uniforms and others accessories. In case of primary school goers we find no significant difference between santhals and non-santhals for both boys and girls. However the difference becomes significant in-case of secondary school goers and even the drop-out rate for the girl's increases for the non-santhals. However, although the difference between the girls and the boys are insignificant for santhals yet it should be noted that the overall drop-out rate is high for santhals.

Thus, the above study shows that there are certainly some attitudinal differences between rural mothers having primary school going children of the santhal and the non santhal households regarding the gender. Also the santhal mothers have higher self-esteem than the non santhals. In the same group when the nutrition of the children, health entitlements and educational expenditures are seen it is found that the santhal mothers are more egalitarian in their intra household distribution than their non-santhal counterpart despite being relatively better off in terms of educational or income entitlements.

**Conclusion**

The study showed that

- Women are the primary care givers in the household irrespective of belonging to the santhal or non santhal families.
- There is significant differences in gender attitudes of santhal and non santhal families.
- There is significant difference in the self-esteem of the santhal and non santhals women.
- Due to gendered inequity and exclusion, health and nutrition of generations to come gets jeopardized and thus their children especially girls become more vulnerable than boys.
- The likelihood of being vaccinated, taken proper care of in case of diseases or getting basic requirement for primary education increases if the child is a boy for general population.

- Santhal mothers are more egalitarian than their non santhal counterpart as regards to household resource allocation and health care of the child.

**Shortcomings**

This study can be further extended across various class. Religion could also be included and ANNOVA could be performed to see the variances across the various groups.

**Recommendation**

While devising policies to tackle malnutrition, the outlook and attitudes of the people in question should be taken into account. Government intervention in case of primary vaccination have been successful in counter balancing the gendered skewness. Similarly for specific micro nutrient intervention in the diet of the primary school goer may have significant positive impact on the health of the child, and will reduce the gendered negativity, as practiced within the households.

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