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Child Malnutrition and its Association with Socio-Demographic Determinants: A Case Study of Baruipur Block, South 24 Parganas, West Bengal

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Abstract: Health is one of the most important indicators of human development and a strong pillar of the overall development of any country. While healthy children are key to future development, child health in developing countries is unsatisfactory and largely neglected. With this in mind, the paper opts to scrutinise the issue of the nutrition status of children in rural areas of Baruipur block of South 24 Parganas district of West Bengal. The main objectives of this study are to assess the nutritional status of children below six years of age in this area and, secondly, to identify the determinants of this status. The study was conducted on 100 children below six years based on simple random and purposive sampling. The Z-score method has been used to assess anthropometric measurements such as stunting, wasting, and underweight. In addition, Chi-square tests analyse the relationship of anthropometric measurements with various socio-demographic and maternal and child health indicators. This study reveals that the state of child nutrition in the area is unacceptable. It is also clear that various socio-demographic and maternal and child health indicators significantly affect child nutrition.

Keywords: Stunting, Wasting, Underweight, Nutritional status

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Introduction

Health is one of the most important indicators of human development and an important strong pillar of the overall development of any country. Healthy children are the potential assets of any country. However, the state of child health in developing countries is unsatisfactory and remains neglected. Childhood malnutrition is a major burning issue in developing and underdeveloped countries. Developing countries, like India, are also plagued by this problem. Childhood malnutrition adversely affects the child's normal growth and increases the tendency for mortality and morbidity. It also often acts as a barrier to children's normal physical and mental growth and development later in life (Alderman et al., 2003). Malnutrition during childhood is one of the leading determinant factors of infant mortality in low and middle-income countries. According to Park (2005), about 70 per cent of all child deaths in India are due to various infections, diarrhoea and malnutrition. The risk factor of malnutrition is highest among children living in tribal and rural areas of India. Improper nutritional conditions, sanitation problems, low hygienic practices etc., play an important role (Meshram et al., 2016). The three most commonly used internationally recommended anthropometric indicators are stunting (low height-for-age), underweight (low weight-for-age) and wasting (low weight-for-height). According to the NFHS-4 report (2015-16), the proportion of stunting, wasting and underweight in India is 38, 21 and 36 per cent, respectively. On the other hand, the percentage of stunting, wasting and underweight in West Bengal is 32, 20 and 32 per cent, respectively. Also, at South 24 Parganas, it is 27, 20 and 28 per cent, respectively. The rates of stunting, wasting and being underweight in

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West Bengal are 34, 20 and 32 per cent, respectively (NFHS 5, 2019-2021). The stunting rate of children has increased by 2% from 2015-16 (NFHS 4) to 2019-21 (NFHS 5), but the rate of wasting and underweight remains the same since NFHS 4. Similarly, in South 24 Parganas, these rates are 36.7, 21.2 and 32.2 per cent, respectively. As per the NFHS 5 report, the rate of child malnutrition in South 24 Parganas has increased compared to previous years. Stunting, wasting, and being underweight in this district increased by 9.7, 1.2 and 4.2 per cent, respectively, over the previous year (2015-16). According to the reports (NFHS), the graph of children's malnutrition in India and West Bengal is declining, but it is still a crucial issue in Indian society.

Objectives

The objectives of this paper are as follows:

1. To assess the nutritional status of children below six years in the rural areas of Baruipur Block.
2. To identify the socioeconomic and demographic determinants of the nutrition status of children below six years in the study area.

Study Area

West Bengal is a state of Eastern India along the Bay of Bengal. The state lies between 85°50' to 89°50' East longitude and 21°25' to 27°13' North latitude. It is the fourth largest state in terms of population and 14th in terms of area. The climate of the country and the state is 'Tropical Monsoon' in nature. Although the southern part of the state bears a Tropical Savana climate, the northern part supports Humid Subtropical. The state's main river is the Ganges, but the numerous rivers originated from the hilly areas in the north, and the plateaus in the west have enriched the state with water resources. Favourable climatic conditions, fertile riverine soil, the abundance of water resources etc., have helped the state to become known as one of the major agrarian states in the country. Agricultural activities comprise about 63 per cent of the total geographical area of the state (Maji and Sharma, 2017). Currently, the state ranks first in the country in producing paddy, jute and vegetables. It also ranks second in potato production (Department of Agriculture, West Bengal, 2022). The entire state exhibits six Agro-Climatic regions depending on the variation of soil and climate.

Agriculture is mainly affected by monsoonal rainfall. Due to the uncertainty of monsoon rains, many state districts face natural disasters like drought and floods almost yearly. Howrah, Hooghly, West Midnapore, Burdwan, North and South 24 Parganas districts are prone to floods. On the other hand, the drought situation is very typical in Purulia and Bankura districts. The variability in monsoonal rainfall is the primary reason for drought and flooding in this region. The effects of the cyclone are also widespread in the state. Multiple cyclones that form in the Bay of Bengal during the summer each year cause extensive damage to the coastal states of India, including West Bengal. Cyclone ‘Yaas', which struck on May 26, 2021, has profoundly affected West Bengal and South 24 Parganas (22°31'48"N, 88°19'48"E). South 24 Parganas is a district of the southern part of West Bengal along the Bay of Bengal. It is the largest district of the state in terms of area and the second largest by population. Several districts, including South 24 Parganas, were inundated, severely damaging agricultural production. Many other issues, such as low per capita land area, increase in the use of excess chemical fertilisers, the salinity of land due to excess irrigation and ingress of saline ocean water into the land, intensive and conventional farming methods, poor food storage facilities etc., are hindering the improvement of agriculture in the state as well as the district South 24 Parganas.

Baruipur block is a critical Community Development Block of the Baruipur Sub-division of South 24 Parganas district, West Bengal, India. This Block lies between 22°21'56"N and 88°25'57"E with an average elevation of 9 meters or 30 ft. This Block is surrounded by the Sonarpur C.D block in the north, the Canning I C.D. block in the east, the Jaynagar I C.D. block in the south, the Magrahal II and Bishnupur I C.D. block in the west. It is a rural-urban fringe area. The total area of this Block is 226.16 sq. km. This Block contains one panchayat samiti, 19-gram panchayats, 138 mouzas and 122

inhabited villages (District Statistical Hand Book, South 24 Parganas, 2014). According to the 2011 census of India, the total population of this Block is 4,33,199, which is about 5% of the total district population, 51% male and the remaining 49% female. The population density and sex ratio of this Block are 1900/sq km and 958, respectively. The total literacy rate is 67.27%, of which male literacy is 55% and female literacy rate is 45%. There are 12 children in the age group 0-6 in the Block's population. The working and non-working population percentages are 36% and 64%, respectively. This Block possesses one block primary health centre, two primary health centres, 48 sub-centres and one family welfare centre. Table 1 shows some important health parameters.

Table 1: Block at a glance in terms of health parameters

Doctor-Population Ratio	1:19687
Population served per Sub-Centre	9023
Population served per Primary Health Centre	216560
Number of Beds per 1000 Population	0.28
Number of Primary Health centres per 100 sq km.	0.88
Number of Sub-Centre per 100 sq km.	21

Source: District Census Handbook, 2011

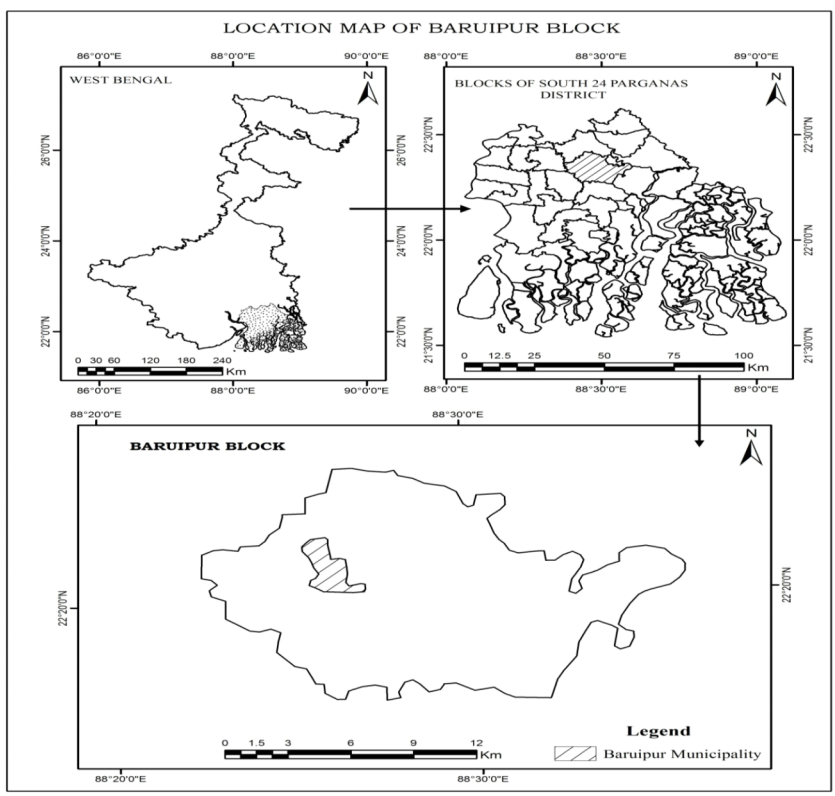


Figure 1: Location Map

Source: Computed by Authors, 2021

Methodology and Database

A cross-sectional study was conducted to assess the nutritional status of 0-6 years old children in the Baruipur block through a questionnaire survey in August 2021. Based on the distribution of different socio-demographic criteria, e.g., literacy rate, percentage of scheduled caste and scheduled tribe, population, number of child population etc., out of 19 Gram Panchayats in Baruipur block, six have been selected for data collection. The respondents collected samples from selected Gram Panchayats using the Simple Random Sampling method. In this case, the mothers whose children are under six years of age comprised the sample population. 100 mother and child pairs were selected as samples from the survey area. Some socio-demographic and child health-related data were collected through a questionnaire survey. Children's height and weight are also measured to create an anthropometric profile. The children's heights were measured with the help of measurement tape, and the weight was measured with the help of a digital weight machine. In addition, birth certificates and polio cards have also been used to collect information about the birth characteristics and immunisation status of children. The surveyed data has been analysed through various statistical techniques and hypothesis testing methods. Here are some descriptive statistics, Z score and Chi-square data analysis methods. The Z score method was used to determine the nutritional status of children, like height/length-for-age Z score (H.A.Z.), weight-for-age Z score (W.A.Z.) and weight-for-height Z score (W.H.Z.). The WHO standard reference determined the nutritional status of children, such as moderately and severely stunted, wasted and underweight.

According to WHO, if the children's height-for-age z-score is below -2 S.D., they are considered moderately stunted, and if the z-score value is below -3 S.D., then they are considered severely stunted. In this same way, WHO has classified underweight and wasting (Table 2). Conversely, the chi-square test was used to show the association of anthropometric measurements with different socio-demographic and child health indicators. The software 'IBM-SPSS Statistics 26' treated the data statistically.

Table 2: Classification of stunting, wasting and underweight according to WHO, 2005

Z-Score Range	**Stunting (Height-For-Age)**	**Underweight (Weight-For-Age)**	**Wasting (Weight-For-Height)**
Up to -2 S.D.	Normal	Normal	Normal
< -2 SD to -3 S.D.	Moderate Stunted	Moderate Underweight	Moderate Wasted
< -3 S.D.	Severely Stunted	Severely Underweight	Severely Wasted

Source: World Health Organization Standard, 2005

Results and Discussion

This part comprises some segments. The first three segments describe the respondents' socioeconomic, demographic and birth characteristics. The fourth segment depicts the present nutritional state of 0-6 years old children in the study area, and the last segment depicts the association between anthropometric measurements and respondents' characteristics.

Socio-demographic and economic characteristics of respondents

Among 100 mothers, 39% belong to less than 25 years of age, 33% are in the 25-29 years age group, 22% belong to the 30-34 years of age group, and the remaining 6% are under above 35 years of age (Table 3). The mean age of mothers is 26.28 years ± SD 4.55 (Table 4). In the matter of religion,

there are 52% Muslim, 44% Hindu and 4% Christian population in the study area. On the other hand, 64% of respondents belong to the General category, 28% are to the S.C. category, and 8% to the O.B.C. category. Parents' education level is divided into four subgroups, namely primary level, middle school level, high school and above level of education and illiterate. Table 3 shows that 70% of mothers have a middle school level, 13% have a high school and above the level of education, and 8% belong to the primary level. It is also observed that 9% of the mothers do not have any education. Apart from this, 24% of fathers have primary, 52% have middle school level, and 15% have high school and above the level of education. Also, 9% of illiteracy is present among fathers (Table 3).

Table 3: Percentage-wise distribution of socio-demographic characteristics of respondents

Factors	Category	Percentage
Age group of mothers	<25	39
	25-29	33
	30-34	22
	35-39	6
	>40	0
Religion	Hindu	44
	Muslim	52
	Christian	4
Caste	General	64
	S.C.	28
	O.B.C.	8
Mother's education	Primary Level	8
	Middle school Level	70
	High School and Above the H.S. level of education	13
	Illiterates	9
Father's education	Primary Level	24
	Middle school Level	52
	High School and Above the H.S. level of education	15
	Illiterates	9
Mother's occupation	Working Women	5
	Home Makers	95

Factors	Category	Percentage
Type of family	Joint	33
	Nuclear	67
House Type	Kutcha	29
	Semi-Pucca/Kutcha	31
	Pucca	40
Source of Drinking Water	Tube wells	83
	Piped water	6
	Bottled water	11

Source: Field Survey and Computed by Authors, 2021

In the study area, it turns out that most mothers are housewives to 95%, and only 5% are found to be working. Father's occupational status is divided into four sectors. Of the total 100 respondents, 55% are labourers, 20% are people in business, and 13% are cultivators and service holders, respectively. Regarding the family type, 33% of the total family is joint, and the remaining proportions are nuclear (67%). Most children belong to the nuclear family background (Table 3). The average monthly family income is Rupees 8185 ± SD 6063.00, and C.V. is 74.04. The study revealed a higher heterogeneity in the respondents' family income. One of the striking features of the respondents is the range of their family income, i.e., Rupees 42000. The variability of respondents' occupations is one of the main reasons for the wide variation in their income levels. About 28% of the respondents have a family income of 5000 rupees or less, while the family income of 3% is more than 20,000 (Table 4).

Table 4: Descriptive statistics on socio-demographic characteristics of respondents

Category	N	Range	Mini-mum	Maxi-mum	Mean	Standard Deviation	Coefficient Of Variation
Mother's Age	100	22	17	39	26.28	4.55	17.31
Mother's Education	100	17	0	17	7.79	4.16	53.45
Father's Education	100	17	0	17	6.91	4.22	61.12
Family Income	100	42000	3000	45000	8185	6063.07	74.07
Family Expenditure	100	8500	1500	10000	5715	2282.18	39.93

Source: Field Survey and Computed by Authors, 2021

Demographic profile of children

In the study, children from 0-6 years comprise the sample population. Of 100 children, 45 are male, and 55 are female (Table 5). In the case of child age, the mean age is 38.34 months ± SD 22.41. Among the age, height and weight of children, the coefficient of variation of age distribution is the

highest, more than 58%, which means a higher variability. The variability increases due to the selection of samples from one month to 72 months of children. In the matter of siblings, the CV is more than 100. Therefore, the variability or heterogeneity is much higher in this factor. Because some of them do not have any siblings, and some have more than four siblings (Table 6).

Table 5: Percentage-wise distribution of demographic characteristics of children

Factors	Category	Percentage
Sex of the child	Male	45
	Female	55
Age group of the children (month)	0-19	30
	20-39	15
	40-59	32
	>60	23
No. of siblings	0	50
	1-2	30
	>2	20
Present height of the children(cm)	0-49	1
	50-100	76
	>100	23
Present weight of the children (kg)	0-10	32
	10-20	62
	>20	6

Source: Field Survey and Computed by Authors, 2021

Table 6: Descriptive statistics on demographic characteristics of children

Category	N	Range	Mini-mum	Maxi-mum	Mean	Standard Deviation	Coefficient Of Variation
Present age of Children(month)	100	71	01	72	38.34	22.41	58.45
Height(cm)	100	79	46	125	86.73	17.58	20.26
Weight(kg)	100	22.7	02	24.7	12.23	4.28	34.91
No. of Siblings	100	4	0	4	01	1.02	100.46

Source: Field Survey and Computed by Authors, 2021

Birth characteristics of children

Out of the total children (100), 50% have first order of birth. It is also clear that 30% of children have birth order two, and only 10% have birth order three and above. The average birth weight of the children is 2.88 kg. Out of the total sample, about 65 babies had a birth weight of 2-

3kgs, 31 had a birth weight above 3 kg, and only 4% had less than 2 kg. Due to the availability of free services in governmental hospitals, most rural women choose hospitals for childbirth. In the study area, 88% of women delivered their babies at Baruipur Sub-divisional Hospital.

On the other hand, 6% each had a home and nursing home deliveries. Normal delivery (73%) is also more common than cesarean (27%). Regarding breastfeeding status, 88% of the infants have taken breast milk as their primary food, although 12% could not have this opportunity due to various maternal problems. (Table 7)

Table 7: Percentage-wise distribution of birth characteristics of children

Category	Category	Percentage
Birth order of the children	01	50
	02	30
	>2	20
Birth weight of the children(kg)	<2	4
	2-3	65
	>3	31
Term of delivery	Normal	73
	Cesarean	27
Place of birth	Hospital	88
	Nursing Home	6
	Home	6
Breastfeeding status	Yes	88
	No	12

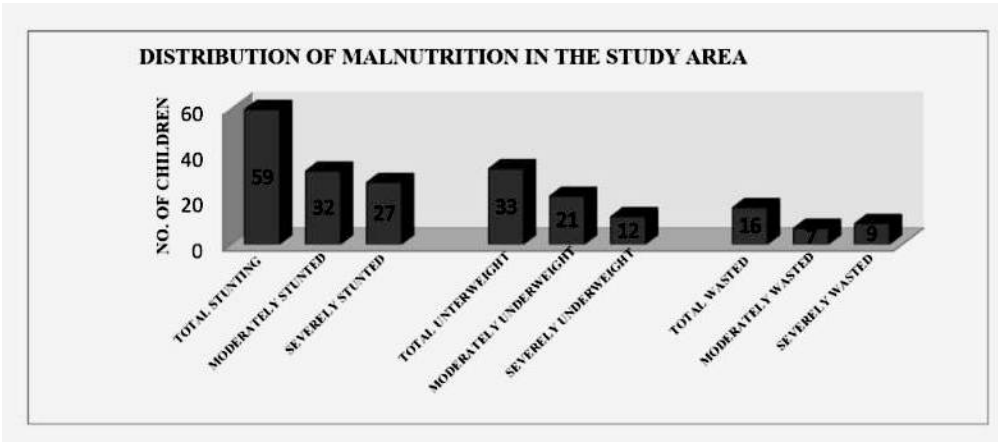
Source: Field Survey and Computed by Authors, 2021

Nutritional status of children in the study area

Malnutrition is either undernutrition or overnutrition. Undernutrition usually combines stunting, wasting, being underweight, and inadequate micronutrients. Conversely, overnutrition means obesity and overweight. With the help of anthropometric measurements, it is easy to know whether children's growth is going well. The most well-known and widely used anthropometric measurements are stunting, wasting and underweight. When the child's height is shorter than his/her age is considered stunting. On the other hand, if a child's weight is not coherent with his age is known

as underweight. Similarly, wasting refers to low weight for height. The WHO standard reference has been determined to measure these issues (Table 2). Among 100 under-six children (45 boys and 55 girls) selected in this study, 59% (59) were stunted. Of the total stunted, 54% (32) are moderate, and 46% (27) are severe malnutrition. Regarding underweight, 33% of the total sample children were underweight, of which 64% (21) are moderate, and 36% (12) are severely underweight. In the same way, out of the total child population, 16% (16) were wasted, 44% (07) belonged to the moderate category, and the rest, 56% (09), were in the severe category of wasting. In that case, it is easy to say that the nutritional status condition is unsatisfactory. A significant proportion of children suffer from malnutrition (Figure 2).

Figure 2: Distribution of malnutrition in Baruipur Block



Source: Computed by Authors, 2021

The association between anthropometric measurements and respondent's characteristics

The effects of malnutrition are multifaceted. The nutrition status of children under five years of age is influenced by various factors (Ansuya et al., 2018, p. 5). Table 8 shows the association between nutrition status and the socio-demographic characteristics of respondents. The chi-square method was used to show this association. This study revealed that religion, parents' educational status, house type, breastfeeding status, term of delivery, and birth interval are important factors affecting a child's nutrition status.

In the matter of stunting, it has a significant association with religion, breastfeeding status and colostrum given to children at 0.05 and 0.01 levels of significance. If we look at the religion-wise distribution, we see that the number of stunted children is the highest, almost 67% in the Muslim community and about 48% of stunted children in Hindu communities. The present study reveals that the number of children deprived of breast milk is higher in the Muslim community. Of the total deprived children, 75% belong to the Muslim community. Awareness of child health among mothers is also low due to the high illiteracy and primarily educated parents. As a result, the number of malnourished children is higher in this community. Breastfeeding status is also significantly associated with stunting at a 99 % significance level. Breast milk is an essential element in child growth. The duration of breastfeeding greatly influences stunting (Kikafunda et al., 1998, p. 5). That is why breastfeeding status is one of the most important factors in determining the nutritional level of infants and children. It is found that the rate of stunting is highest among the children who are deprived of breast milk, found to be 83%.

On the other hand, children who get this opportunity are less prone to stunting. This result is similar to the studies from Bangladesh (Fuchs et al., 2014, p. 3), Uganda (Kikafunda et al., 1998, p. 5), India (Mishra et al., 2013, p. 3), Nepal (Pravana et al., 2017, p. 5) etc. Colostrum given to children is also significantly associated with stunting (p = < 0.05). The current study reveals that the stunting rate is comparatively higher in children deprived of colostrum at birth (77%). On the other hand, this tendency (stunting) is somewhat lower in children who have received colostrum properly at the right time. The concept of colostrum is unclear to most mothers in the study area, and many deprived their children of it as it is considered harmful to the baby.

Usually, wasting means low weight for height. It is a major sub-group of malnutrition. It is seen that (Table 8) there is a statistically significant association of wasting with various socio-demographic indicators, such as the educational status of parents, term of delivery, house type, mother's age of marriage and birth interval. It can be seen that the number of wasted children is comparatively higher in the Hindu community. Adequate parental education is an important regulator in determining child health. The present study revealed that maternal literacy has a statistically significant association with wasting at a 0.05 level of significance. The prevalence of wasting is relatively low in children whose parents are both educated.

On the other hand, this tendency is more noticeable in children whose one parent is literate or both are uneducated. The current study reveals that the proportion of wasting is the highest among illiterate mothers, at 44%. On the other hand, mothers who belong to high school and above educational level do not have wasted children at all. Father's education is also statistically associated with wasting (p= <0.01). Usually, the father is the main earning member and decision maker. As a result, the father's education is the most important key to the development of the whole family, and similarly, their level of education helps to ensure the proper health and nutritional status of children (Nahar et al., 2010, p. 479).

Table 8: Association between anthropometric measurements and respondents' characteristics

Influential factors	Category	% of stunting	'P' Value	% of wasting	'P' value	% of underweight	'P' value
Religion	Muslim	67.3	**0.012**	13.46	**0.037**	40.38	0.507
	Hindu	47.7		18.2		22.72	
Caste	General	64.06	0.088	14.06	0.727	35.93	0.868
	S.C.	50		21.42		25	
	O.B.C.	50		12.5		37.5	
Mother's educational status	Primary	62.5	0.359	12.5	**0.003**	12.5	0.244
	Middle school	59		15.71		35.71	
	High school & above	69		00		15.4	
	Illiterate	44.4		44.4		55.55	
Father's educational status	Primary	67	0.742	17	**0.007**	37.5	0.092
	Middle school	54		13.46		33	
	High school & above	60		6.66		13	
	Illiterate	67		44.44		56	
Mother's occupation	Working women	80	0.354	20	0.734	80	0.979

Influential factors	Category	% of stunting	'P' Value	% of wasting	'P' value	% of underweight	'P' value
Type of family	Homemakers	58	0.265	16	0.799	31	0.091
	Joint	52		15		39	
	Nuclear	63		16		30	
House type	Kutcha	59	0.479	21	0.071	52	**0.011**
	Semi-pucca	59		16.12		16.12	
	Pucca	42		12.5		32.5	
Source of drinking water	Tube well	57	0.939	17	0.432	32.5	0.887
	Bottled water	67		17		33.33	
	Piped water	73		09		36.36	
Treating water before drinking	Yes	54	0.222	08	0.355	19.23	0.072
	No	61		19		38	
Family Income	<10,000	61.42	0.200	17	0.532	33	0.357
	10,000-20,000	50		14		36	
	>20,000	100		00		00	
Mother's age of marriage	<18	67	0.439	20.89	**0.016**	41	0.262
	>18	44		6.06		17.64	
Age of childbirth	<20	62	0.484	21	0.397	55	0.421
	>20	58		14		24	
Place of birth	Hospital	57	0.661	16	0.178	33	0.532
	Nursing home	83		33		33	
	Home	67		00		33	
Term of delivery	Normal	62	0.671	20.54	**0.005**	42.5	**0.005**
	Cesarean	52		04		07.40	
Breastfeeding status	Yes	55	**0.000**	100	0.285	34	0.641
	No	91		00		27	
Sex of the child	Male	62	0.738	24	0.104	33	0.565
	Female	56		09		33	
Birth Interval	<2	65	0.433	8	**0.040**	31.25	0.462
	2-4	50		22		39	
	>4	56		24		32	
Colostrums Given	Yes	54	**0.044**	17	0.442	31	0.432
	No	77		14		41	

Source: Field survey and computed by authors, 2021

The present study reveals that the number of wasted children is the highest among illiterate and primarily educated fathers, almost 44% and 17%, respectively. The number of wasted children is the lowest among fathers with higher educational qualifications. The same finding has been found in many other studies (Ansuya et al. 2018, p. 5; Nahar et al. 2010, p. 479). The significant relationship between the child's nutritional status and the mother's marriage age has also been noticed here (p=

0.016). It was found that women 18 or younger at the time of marriage had more wasting in their children than those who were married over 18. The reason behind that is that, due to getting married at an early age, most of them were also under the age of 20 to give birth to their first child, and they also have, on average more than two children. Due to the number of children and their financial instability, they are also prone to malnutrition. It has also been shown that wasting is more prevalent in children with normal delivery (about 21%) than in caesarian (only 4%). Many other studies have seen a significant association between birth interval and children's nutritional status (Pravana et al., 2017, p. 5; Rahman et al., 2016, p.10). The present study shows that the relationship between wasting and birth interval is proportional, i.e., the number of wasting increases as the birth interval increases. For example, in this case, the amount of wasting is the highest in children with a birth interval of more than four years (24%).

Children with low weight-for-age are known as underweight. In the case of underweight, it has been seen that house type and term of delivery significantly affect children underweight. House type is an important social determinant of children's underweight (Ramalho et al., 2016, p. 05; Senthilkumar et al., 2018, p. 2843). Here it turns out that, out of 29 respondents living in Kutcha houses, 15 children (52%) belong to the underweight category of malnutrition. This amount is comparatively less among the children living in Semi-Pucca and Pucca houses. Victora et al. (1986) described in their study that house type strongly correlated with stunting and being underweight. According to them, children living in semi-pucca or pucca houses are less likely to be underweight; conversely, it is more common in children living in shacks. Another important determinant factor of malnutrition is the term delivery. According to surveyed data, 43% of total normal delivery babies and 4% of total cesarean children are underweight.

Conclusion

In developing countries like India, child malnutrition is an egregious issue. According to NFHS reports, the graph of this issue in India is declining, although child malnutrition is still one of the most important causes of the social backwardness of our country. This problem is very evident in terms of regional differences. It can be seen that this problem is comparatively more prevalent among rural children.

This present study has been completed to determine the nutritional status of children and infants aged 0-6 years in rural areas of the Baruipur block. The study revealed that more than half of children are stunted (59%), 36% are underweight, and 22% belong to the wasted category of malnutrition. The stunting rate of children in this region is much higher than in India (36%), West Bengal (34%), and South 24 Parganas (37%). On the other hand, the underweight rate of children is less than 1% higher than in India (32.2%), West Bengal (32.2%), and South 24 Parganas (32.2%). In contrast, the rate of wasting in the study area is much lower than in India (19.3%), the state (20.3%), and the district (21.2%). Overall, the nutritional condition of children is not at all satisfactory condition. A major part of them is suffering from malnutrition. This study also revealed that the educational status of parents, house type, term of delivery, breastfeeding status etc., are the important influencers on children's nutritional status.

In order to reduce the risk of malnutrition in children aged 0-6, the following issues can be emphasised: increase health education or nutritional knowledge among the parents through various training, mothers need to be made aware of the benefits of colostrum and breast milk through various awareness programs, ensuring the availability of nutritious supplementary foods to the children, monitor child growth periodically, take appropriate child health measures, improve sanitation facility and personal hygiene practice. In the end, it can be said that the development of child health infrastructure and people's awareness will be able to solve this problem in developing countries forever.

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