

Child Deprivation and Link with Poverty: A Field Survey in Purulia

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Abstract

Child deprivation is a global problem that persists both in developed and less developed countries but in different forms. A child is counted as deprived in one or more domains depending on the number and type of deprivation experiences at different ages of the childhood period. Child deprivation is a multidimensional phenomenon that can be analysed from different points of view. Depriving children of access to basic health may adversely affects the socio-economic conditions which usually stunts their growth, makes them physically weak, exposes them to high level of mortality. Children living in poverty are unable to fulfil their basic need-education. Financial deprivation compels them to perform as child labour, involve them in activities, such as to collect fuel, fodder, water away from home that abducts their schooling opportunities. If quality education, skill and expertise through proper training are not imparted to them, then future human capital may not be adequate for the sustainability requirements of an economy. Because today's children are future performers as productive capital in diverse fields. Therefore, proper care of children should be taken to have their skilled contribution to a country's development.

Keywords: Educational deprivation, child labour, health Deprivation, Stunting, Wasting, Underweight.

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Introduction

Childhood and adolescence are critical stages in the formation of individual capacities and deprivation during these stages can send children into a life-long trajectory of low education levels, marginalization and reduced productivity, leaving them unable to realize their full potential and contribute to their communities and societies. Hence, the need arises for ensuring that children within a population receive sufficient wherewithal so that they can adequately contribute to an improved use of physical and natural capital. Consequently, depriving children of access to basic health and educational attainments can blight the progress of a nation to a sustainable society.

There is a high association between a child's physical growth and its determinants. In this paper, I have tried to measure the aspect of child's health deprivation in the age group of 0-14 years taking two villages from Purulia district of west Bengal. First part focuses on the retardation of children's physical growth in terms of stunting, wasting and underweight. Second part emphasises on the effect of poverty in variation of the problems.

Purulia District

Purulia district is an important district of western part of West Bengal. In few districts of jangalmahal, purulia is inhabited by the group of tribal people such as Santhals, Kurmi and Bhumij.

Purulia district has 21 blocks. Purulia-II is adjacent to the Purulia district town under Sadar subdivision. As per census 2011, only 6.9 percent population live in urban area and 93.1 percent live in rural side. Literacy rate of this block is 63.39%. Male literacy is 65.02 percent and female literacy is 42.08 percent. Gender inequality is the main problem of this district.

Dumdumi Village:

Dumdumi is a village in Chharra-Dumdumi Gram Panchayat (GP) under Purulia-II block. It is located 11.4 km away from the district and sub-division head quarter, Purulia town. Total geographical area of Dumdumi is 777 hectares. According to 2011 census, total population of the village is 3768, out of which male population is 1913 and female population is 1855. Population of children of 0-6 years is 587. The sex- ratio of the village is 970 a little higher than the state average (950). Child Sex Ratio of this village as per census, 2011 is 912, lower than state average of 956. Literacy rate of Dumdumi is 66.68 percent lower than the state average of 76.26 percent. While the male literacy is 81.94 and female literacy is 51.11percent. gender difference is quite prominent in literacy. According to last census this village has 27.36% SC population. 1031 out of 3768 total population belong to Schedule Caste (SC) community. Dumdumi has no tribal (ST) population. It appears from census data that people are mainly engaged in agriculture and allied economic activities in primary sector. Out of total workers (1402) only 723 are engaged as main workers (earning from present employment more than 6 months) and 679 are employed as marginal workers (earning from present employment less than 6 months), 163 workers are involved in agricultural activities of their own land and 97 are employed as agricultural labourers. The village has three primary schools, one upper primary school and one health centre. All households are covered with 100 percent supply of electricity and the sources of drinking water are well, tube well and hand pump.

Palanja Village:

Palanja village is located in Pindra Gram Panchayat (GP) under the Same block. The geographical area of Palanja is 339.1 hectares. According to 2011 census, the total population of the village is 3142 out of which 1618 is male and 1524 is female. It is located 5 km away from the district town, Purulia. Population of children of 0-6 years is 537 (17.09%). The sex- ratio of the village is 942 lowers than the state average (950). Child Sex Ratio of this village as per census, 2011 is 925, lower than state average of 956. Literacy rate of Palanja is 62.73 percent lower than the state average of 76.26

percent. While the male literacy is 73.94 and female literacy is 50.87 percent. gender difference is quite prominent in literacy. According to last census this village has 27.36% SC population. 242 out of 3142 total population belong to Schedule Caste (7.70%) community. Palanja has 236 tribal (10.69%) population. All households of this village belong to the Muslim communities. It appears from census data that people are mainly engaged in agriculture and allied economic activities in primary sector. Out of total workers (840) only 550 are engaged as main workers (earning from present employment more than 6 months, 685.48%) and 290 are employed as marginal workers (earning from present employment less than 6 months, 34.52%), 26 workers are involved in agricultural activities of their own land and 10 are employed as agricultural labourers. Now construction work activities are flourishing widely. A number of people of palanja are involved in Purulia town (5 km away from the village) as mason or contractor. The village has one primary school and no provision of health care centre. All households are covered with 100 percent supply of electricity and the sources of drinking water are well, tube well and hand pump. Poor drinking water supply leading people depending on ponds and thus increases the chances of getting infected of various diseases. One community water tank has been constructed for drinking water but it is not functional. Though all households of Palanja have been covered electricity facility but the supply interrupted frequently. Upper primary schools and higher education institutions are available in town or municipality area which is at least 5 km away from the village. This results in poor attendances of studying children. So, problem of drop out arises at upper primary and higher education level. Being Muslim dominant society and less literate families, the people of this village rely on jhar fuk (superstitious method) type of activities rather of hospitalisation in case of serious fever. Unfortunately, the village has no medical store nearby.

Table No.-1: Socio-Economic status of Dumdumi and Palanja

Name of Villages	Dumdumi		Palanja	
Name of GP	Chharra-Dumdumi GP		Pindra GP	
Name of Block	Purulia-II Block		Purulia-II Block	
Family surveyed	60		60	
No. of total children (Below 18 years)	137		114	
No. of BPL families	BPL-49	APL-11	BPL-29	APL-31
No. of families	Hindu-60		Hindu-Nil	Muslim-60
Father's occupation	Labour-40&Agri-15	Service-2	Labour-29&Agri-9	Service-10&Busi-9
Mother's occupation	Family work-60		Family work-60	
Father's education	PRY-27	UP-16 & HE-6	PRY-32	UP-19 & HE-5
Mother's education	PRY-23	UP-13 & HE-7	PRY-36	UP-13 & HE-2
No. of children(6-14yr)	102	Male-53 (51.96%); Female-49(48.04%)	91	Male-48 (52.72%); Female-43(47.28%)
School Enrolment	Govt. School	All	Govt. School-87	Private-4
Nature of attendance	Good-84(82.4%)	Poor-18(17.6%)	Good-67(73.6%)	Poor-24(26.4%)
Nature of attendance(sex)	Male-44(52.3%), Female-40(47.7%)	Male- 9 (50%), Female -9(50%)	Male-33(49.2%), Female-34 (50.8%)	Male-14(58.3%), Female-10(41.7%)
Health Deprived (0-14 years)- 102			Health Deprived (0-14 years)- 96	
Stunting	Male-19/51(37.2%)	Female-12/51(23.5%)	Male-20/56(35.7%)	Female-14/40(35%)
Wasting	Male-14/51(27.04%)	Female-10/51(19.6%)	Male-14/56(25%)	Female-13/40(32.5%)
Underweight	Male-21/51(41.1%)	Female-22/51(43.1%)	Male-19/56(33.9%)	Female-20/40(50%)
Full ANC of mother	Yes-14/60 (23.33%)	No-46/60 (76.66%)	Yes-18/60 (30%)	No-42/60 (70%)
Nutritional diet		ALL (102/102)	Yes-31/96(32.22%)	No-65/96(67.7%)
Anaemic during pregnancy	42 (70%)	18 (30%)	Yes-35/60(58.33%)	No-25/60(41.66%)
No. of disabled children	2/102 (1.96%)		6/91(6.5%)	
Nature of disability	Seeing-1/2	Speech-&Move-1/2	Mental-2/6	Spch-2/6 &Hear-2/6

Source: Primary Survey

From Table No-1, it is clear that financial condition of Dumdumi is awful than Palanja. Because 49 out of 60 families are living below poverty line. Most of the workers are employed as marginal workers. They are engaged in agricultural activities which is mainly seasonal in nature. Since the village has no proper irrigation facilities and no alternative job opportunities, the labourers are employed but in disguised and seasonally unemployed form. All children of (6-14 years) age group are enrolled at government primary and upper primary schools. Whereas in Palanja few students (4) are enrolled at private schools also. Financial capabilities of Palanja are comparatively better as the village has less BPL families. The main problem of both the villages is the children's health condition. Most of them are suffering from the problems of stunting, wasting and underweight.

Table-2: Health deprivation of two villages of Purulia district

Health Deprivation (0-14 Years)	Village-Dumdumi, GP, Purulia	Charra-Dumumi	Village-Palanja, Pindra GP, Purulia	
Stunting	Male- 19/51(37.2%)	Female- 12/51(23.5%)	Male- 20/56(35.7%)	Female- 14/40(35%)
Wasting	Male- 14/51(27.04%)	Female- 10/51(19.6%)	Male- 14/56(25%)	Female- 13/40(32.5%)
Underweight	Male- 21/51(41.1%)	Female- 22/51(43.1%)	Male- 19/56(33.9%)	Female- 20/40(50%)

Source: Author's own calculation from secondary data

Table-2 depicts the relative status of health deprivation of children of Dumdumi and Palanja. All the health indicators show the high intensity of the health problem. Dumdumi is basically a backward village of Purulia district. Most of the families (49 out of 60) are living below poverty line. Working people are mainly engaged in agricultural activities which are seasonal in nature. So, disguised unemployment is prominent. All mothers did not receive full ante natal care during pregnancy. Children are also deprived from balance nutritional diet, though all of them are ICDS

beneficiaries. Anaemic condition of mothers (42 out of 60) during pregnancy is also the factor of the health problem of dumdumi.

Palanja is another surveyed village but the financial condition is better than dumdumi (no of BPL families 29). All households belong to Muslim communities and they are employed in own business allied sector of construction other than agricultural activities. The village is adjacent to the district town, Purulia. Less than full ANC and anaemic condition of mothers during pregnancy are responsible for health deprivation of the children of Palanja village of Purulia districts.

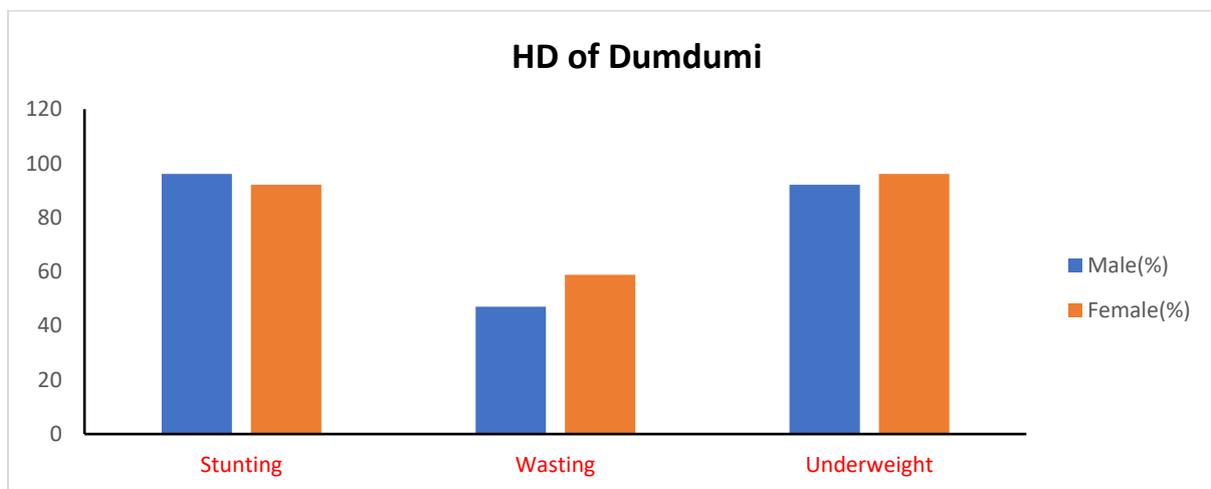


Fig.-1: Diagrammatic presentation of health problem of the village, Dumdumi, Purulia

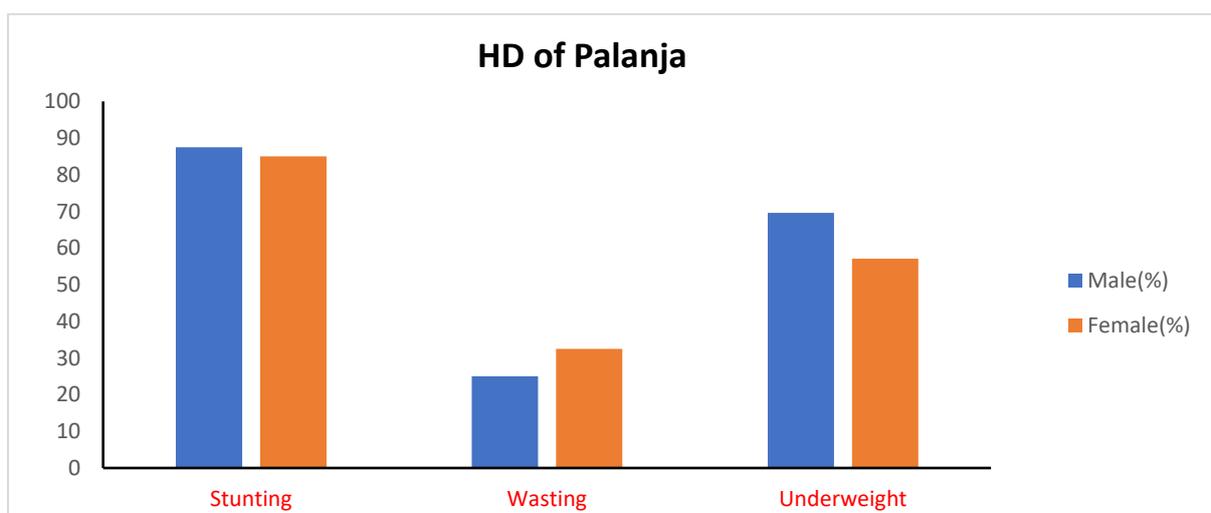


Fig.-2: Diagrammatic presentation of health problem of the village, Dumdumi, Purulia

Table No.-3: Prevalence of children's health deprivation of Dumdumi village, Purulia

Indicator	Prevalence values of deprivation	cut-off health	Health status of the village, Dumdumi, Purulia			
			Male (%)	Status	Female (%)	Status
Stunting	<20%: prevalence 20-29%: prevalence 30-39%: prevalence ≥40%: prevalence	Low Medium High Very high	37.2	High prevalence	23.5	Medium prevalence
Wasting	< 5%: Acceptable 5-9%: Poor 10-14%: Serious ≥15%: Critical		27.04	Critical	19.6	Critical
Underweight	<10%: prevalence 10-19%: prevalence 20-29%: prevalence ≥30%: prevalence	Low Medium High Very high	41.1	Very high prevalence	43.1	Very high prevalence

Reference: WHO, Global Database on Child Growth and Malnutrition, 1995

Source: Primary Survey

Table-3 shows high prevalence of stunting for male (37.2%) and underweight for both male (41.1%) and female (43.1%). The problem of wasting is at critical level both for male (27.4%) and female (19.6%).

Table-4: Prevalence of children's health deprivation of Palanja village, Purulia

Indicator	Prevalence cut-off values of health deprivation	Health status of the village, Palanja, Purulia			
		Male (%)	Status	Female (%)	Status
Stunting	<20%: Low prevalence 20-29%: Medium prevalence 30-39%: High prevalence ≥40%: Very high prevalence	35.7	High prevalence	35	High prevalence
Wasting	< 5%: Acceptable 5-9%: Poor 10-14%: Serious ≥15%: Critical	25	Critical	32.5	Critical
Underweight	<10%: Low prevalence 10-19%: Medium prevalence 20-29%: High prevalence ≥30%: Very high prevalence	33.9	Very high prevalence	50	Very high prevalence

Reference: WHO, Global Database on Child Growth and Malnutrition, 1995

Table-8 reveals high prevalence of stunting and underweight both for male and female. The problem of wasting is also at critical level. Though more than 50% households of Palanja are economically solvent, but due to their poor nutritional diet, low parental education, heavy dependence on traditional method of treatments, high prevalence of anaemia during pregnancy, less than full ANC of mothers, the children are suffering from the problems of stunting, wasting and underweight.

Method of data collection

The analysis of my study is entirely based on primary data which are collected through direct interview-method from four villages. Two villages namely Basai and Mollaber from Hooghly district, Dumdumi and Palanja

from Purulia district. For this purpose, I have prepared a questionnaire. The questionnaire has four parts-

First part is to know the socio-economic backgrounds of the respondents.

Second part captures the data relating to the aspect of the educational deprivation of their children with the correlated factors which determine their educational attainment directly and indirectly.

Third part captures the data on health deprivation of their children in terms of health indicators such as stunting (height as per age), wasting (weight as per height) and underweight and the correlated factors and

Last part collects data on the children with special needs on five categories (Hearing, Visual, Mental, Speech and locomotor impaired) and the associated factors.

I visited 60 families from each village. Collection of data regarding to the measurements of health and other socio-economic variables was really a difficult task during this pandemic situation. I had to rely on direct interview method of collecting information of the children from their parents, the knowledgeable Special Educators and Siksha Bandhu (SSM personnel) of the villages maintaining all COVID protocol. The reliability of the information given us by the parents regarding their children on different aspects of health and education had to verify with the child register maintained by the Siksha Bandhu and Special Educator.

To measure the health deprivation of the children, I have used three anthropometric indicators stunting, wasting and underweight. For this purpose, firstly I have collected primary data on children's height, weight and age in the age group (0-14 years) and then compare it with the standard reference on average height and weight of boys and girls at different ages prepared by I.C.M.R (Indian Council of Medical and Research) and approved by WHO (World Health Organization) on nutrient requirements for Indians. I got full cooperation from the households of the villages from both districts.

Interaction between the health problem and its determinants

In my study, the health problem of the children of the surveyed villages has been diagnosed. Now I have tried to explain the health problems of

stunting, wasting and underweight in terms of the financial capability of the family i.e. BPL status of the family. The effect of the factor in explaining either of the problems has been checked with chi-square test at 5 % level of significance and degree of association between the variables with phi-coefficient (θ).

Families Below Poverty Lines (BPL):

In capability approach, Amartya Sen has defined poverty not only in terms of income but also relating it to some basic functioning such as life expectancy, infant mortality, the ability to be well-nourished and well sheltered, basic health care as capabilities. Deprivation of such capabilities reflecting poverty may lead to the extreme forms of health and educational problems. Thus, as the percentage of families below poverty line rises, malnutrition (lack of vitamins and minerals), inadequate access to preventive and medical care with better hygiene facilities (such as immunization, open defecation free society, proper sanitisation) lead to increased probability of different health problems. Water, Sanitation and Hygiene (WASH) are basic facilities of good public health. Now it is a burning issue in India. Lack of financial capacity, lack of understanding and local motivation for proper sanitation practices among communities, ownership and empowerment are the root causes of the problem. It is affordable when the right technology is adopted. When a society has ability to access clean drinking water, basic sanitation facilities and proper habit of hygiene practices, then everyone has a better opportunity of availing good health, and being less vulnerable to diseases. Therefore, there is supposed to be a positive correlation between poverty and health deprivation.

Table-5: **Dumdumi village with BPL families**

Health deprivation	BPL	APL	TOTAL
Either of the problems	42	6	48

stunting, wasting and underweight			
No problems	7	5	12
Total	49	11	60

Source: primary survey

In the village Dumdumi, Purulia district 42 out of 60 surveyed families are of BPL. These families are incapable of providing balanced nutritional diet (body building, energy-giving and protective foods), proper health care to their children and mothers and ultimately it drives their children in either of the health deficiencies such as stunting, wasting and under-weight. To measure the effect of the variable, BPL in the variation of the health deprivation of the children of Dumdumi village, I have used the chi-square test at 5% level of significance. Here null hypothesis (H_0) indicates the variable BPL does not have any effect on either of the health problem, stunting, wasting and underweight of the children of the village. The alternative hypothesis (H_1) indicates the variable BPL has significant effect in explaining either of the health problem of the children of the village.

$$\text{Chi-square test } (x^2) = \frac{60(42 \times 5 - 7 \times 6)^2}{(42+6)(7+5)(42+7)(6+5)}$$

$$= 4.87$$

The calculated Chi-square value (4.87) is greater than the critical value (3.841) at 5% level of significance with $df=1$. This means that the null-hypothesis (no effect of independent variable, BPL on either of the problems) is rejected and the alternative hypothesis (the effect of independent variable, BPL on either of the problems) is accepted. Thus, we can say that the variable, BPL of Dumdumi village explains the variability of the health problems (stunting, wasting and under-weight) of the children of Dumdumi village of Purulia district. This chi-square test only signifies the relation between the variables. Now to measure the magnitude of the relationship

among variables, this χ^2 - test can be converted into phi-coefficient as:

$$\begin{aligned} \text{phi-coefficient } (\theta) &= \sqrt{\chi^2/N} \\ &= \sqrt{\frac{4.87}{60}} \\ &= 0.28 \end{aligned}$$

This $\theta=0.28$ represents the degree of association between the variable BPL and health problem of the children of Dumdumi village.

Table-6: **Palanja village with BPL**

Health deprivation	BPL	APL	Total
Either of the problems stunting, wasting and underweight	23	11	34
No problems	6	20	26
Total	29	31	60

Source: primary survey

In the village Palanja, Purulia district 23 out of 60 surveyed families are of BPL. These families are incapable of providing balanced nutritional diet (body building, energy-giving and protective foods), proper health care to their children and mothers and ultimately it drives their children in either of the health deficiencies such as stunting, wasting and under-weight. To measure the effect of the variable, BPL in the variation of the health deprivation of the children of Palanja village, similar process has been followed.

$$\begin{aligned}\text{Chi-square test } (\chi^2) &= \frac{60(23 \times 20 - 6 \times 11)^2}{(23+11)(6+20)(23+6)(11+20)} \\ &= 11.72\end{aligned}$$

The calculated Chi-square value (11.72) is greater than the critical value (3.841) at 5% level of significance with $df=1$. This means that the null-hypothesis (no effect of independent variable, BPL on either of the problems) is rejected and the alternative hypothesis (the effect of independent variable, BPL on either of the problems) is accepted. Thus, we can say that the variable, BPL of Palanja village explains the variability of the health problems (stunting, wasting and under-weight) of the children of Palanja village of Purulia district. This chi-square test only signifies the relation between the variables. Now to measure the magnitude of the relationship among variables, this χ^2 - test can be converted into phi-coefficient as:

$$\begin{aligned}\text{phi-coefficient } (\theta) &= \sqrt{\chi^2/N} \\ &= \sqrt{\frac{11.72}{60}} \\ &= 0.44\end{aligned}$$

This $\theta=0.4$ represents the degree of association between the variable BPL and health problem of the children of Palanja village.

Conclusion:

India has the largest child population in the world. It is enumerated that there are 43 crores of child population under the age group of (0-18) years, 2011 census. The NFHS-4 data shows that the problem of stunting under the age group of 5 years are 38.4%, wasting 21% and underweight 35.4%. This shows that every third child suffers from undernourishment. In Dumdumi workers are mainly employed in agriculture. They are basically unemployed in disguised form. Having on other alternatives job

opportunities, they are casually employed in nearby Purulia town and migrated in other states at low wage in brick industry, or as drivers, as mason, or as helper in construction industry. Similar results show in a case study on status of unemployment: Chhara-Dumdumi GP in rural Purulia by Patra and et al. (2019). The survey shows that 71.26 percent educated people are unemployed in this GP out of which 89.22 percent are casually employed less than 12 days per month and 10.78 percent worked more than 12 days per month. So, this massive unemployment leads to the families into perpetual poverty. Therefore, poverty is the main factor which results all forms of health deprivation of the children of Dumdumi.

In both Dumdumi and Palanja village of Purulia district, children are suffering from stunting at high and medium level, wasting and underweight are at serious, critical and very high level. Basically, about 50 percent of households are living below poverty line. Though per capita income of Palanja in Purulia are in a progressive state but this increase in income does not reflect in health status because the families are carrying their earlier poor diet habit, lack of balanced nutritional diet i.e., less consumption of fruits and milks, consumption of rice is more Chapatis or Rooti is less. Another habit has been noticed that some households have good income but less consumption and more savings. Even today some families are superstitious and heavily depend on earlier local medication. This is mainly due to the low-level parents' education.

No single intervention alone can solve this problem of health and nutritional deprivation of the children. Some community-based intervention for universal access of safe drinking water, sanitation, improved health and hygiene practices for ensuring open defecation free (ODF) environment through Swachh Bharat Abhiyan, mission for vaccination and immunization, full coverage and implementation of food security may be the ways out of this great challenge. Since large numbers of family are below poverty line, so it is beyond the capacity of the households to accommodate proper health care and nutrition for their children. In such situations, Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

for securing jobs for 100 days and creation of Self-Help Group (SHG) for empowering the women financially may enhance the capability of the households and thereby ensure the health and nutrition of their families. Since the families are not capable of ensuring health facilities of their members, they should develop their habit to have the health facilities of NHM (National Health Mission), POSHAN (Prime Minister's Overarching Scheme for Holistic Nutrition) through the primary health centre and nutritional support through ICDS and NNM (National Nutrition Mission) which are highly practised in the north-eastern state in India.

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