

Mapping the Role of Navajatan Scheme in Reducing Child Mortality in Chhattisgarh

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Introduction

Under nutrition affects all population groups but infants and young children are the most vulnerable because of their high nutritional requirements for growth and development. India is the second most populous country in the world but ranks 67 out of 112 countries in the hunger index (von Grebmer et al, 2019) whereas, in 2012, India ranked 65 out of 79 countries (International Food Policy Research Institute, 2012). India has also been ranked at 112 among the 141 nations in terms of the Child Development Index (CDI) (Save the Children, 2012).

Children in India continue to suffer due to lack of health care accessibility, under nutrition, poor hygiene, illiteracy, and exploitation. Under nourished people may not contribute to national progress and may become a burden to the economy and the society. Under nutrition among children is one of the important contributing factors to high child mortality (Development Initiatives, 2018). According to the World Bank, India has one of the world's highest demographics of children suffering from under nutrition; 44 per cent of children under five years of age are underweight while 72 per cent infants have anaemia (Parker, 2012). It is estimated that around 200 million children below five years of age in the country are underweight at any given time out of which more than six million suffer from the worst form of under nutrition - severe acute malnutrition. It is estimated that under nutrition constitutes over 22 per cent of India's disease burden, making under nutrition one of the nation's most significant health threats. (Malnourished Millions: Malnutrition in India, 2010). Under nutrition affects the child the most during pregnancy and during early childhood or during the first 1000 days of life. Hungry children have weaker immune system and, therefore, are more susceptible to infections and illnesses. Long-term insufficient nutrient intake and frequent infections can cause stunting leading to delayed motor and cognitive development which are generally irreversible. Acute under nutrition or wasting in children may be the result of either extreme food shortage or high prevalence of common childhood illnesses such as diarrhoea and pneumonia or both. If left unaddressed,

acute under nutrition or wasting can quickly lead to the death of the child (Veneman, 2007).

The consequences of stunting on education are also dramatic. Various studies have shown that child stunting is likely to impact brain development and impair motor skills. According to Unicef, stunting in early years of life is linked to 0.7-grade loss in schooling, a 7-month delay in starting school and between 22 and 45 per cent reduction in lifetime earnings (Unicef, 2017). More than one third of the children under five years of age in East and South Asia are stunted. They are short for their age because of long-term insufficient nutrient intake and frequent infections. The physical and mental damage caused by stunting is irreversible mainly after two years of age. Weak fetal and young child growth negatively impacts a child throughout the life resulting in poorer academic achievement, reduced earnings, and increased risk of disease (Unicef, *no date*).

Under nutrition among children below five years of age is a key concern for the health authorities in India. Tackling under nutrition requires strategies to tackle hunger among under-five children in India (Sahu et al, 2015). In Chhattisgarh, the latest survey conducted by the state government has revealed that almost 7 lakh children in the state are underweight, with tribal districts like Bastar, Dantewada, Kondagaon, and Narayanpur having a comparatively higher prevalence of under nutrition as compared to other districts. The prevalence of underweight in the state as a whole is 33 per cent, in these tribal districts, the prevalence is almost 42 per cent.

The Government of Chhattisgarh has launched the Navjatan Yojna to address the problem of under nutrition in children below five years of age that is so rampant in the state with the objective of achieving the Millennium Development Goal of halving the proportion of children who are underweight for their age. Reduction in the proportion of underweight children also contributes to the reduction in child mortality which remains above average in the state.

The present study aims at understanding the nutritional status of children below five years of age in Koni village in Chhattisgarh in the context of the role played by the Navajatan Yojana in reducing the level of under nutrition in children. The study also attempts to analyse the contribution of the interventions under the Integrated Child Development Services to address the challenge of under nutrition in children below five years of age.

Review of literature

Many factors contribute to child under nutrition. These range from political instability and slow economic growth, to the burden of infectious diseases and lack of education, especially in females. The relative importance of these factors vary across societies. A cross-country analysis has found that the determinants of stunting or low height-for-age in pre-school children varied considerably between nations, and among provinces within a nation (Black et al, 2013). Under nutrition at the early stages of life can increase the risk of infections, morbidity, and mortality and may hamper mental and cognitive development thereby affecting labour productivity and increasing the risk of chronic illnesses in the later period (Endris, Asefa and Dube, 2017).

Undernutrition represents the single most important giant killer of children below five years of age. It is estimated to be responsible for about 3.1 million deaths of children below five years of age every year accounting for about 45 per cent of total under five years' deaths. In 2013, 52 million children below five years of age were wasted, while other 165 million children were short for their age, or stunted, (Kaur et al, 2018). Major health problems of the 21st century include nutritional deficiencies and dietary changes in both rural and urban settings (Johns and Eyzaguirre, 2000).

More than 40 per cent of India's children are moderately or severely underweight, compared to less than 5 per cent in China. On the other hand, the under-five mortality rate in India exceeds 60 for every 1,000 live births whereas the under-five mortality rate in China is below 20 (Cobham, Molina, Garde, 2012). At the same time, more than one-fifth of the Indian population, or approximately 240 million Indians, suffer from chronic hunger (Pangariya, 2013).

In Chhattisgarh, nearly two-fifth (38 per cent) children below five years of age are stunted; 23 per cent are wasted; and close to two-fifth (38 per cent). Even during the first six months of life, when almost all children are breastfed, 32 per cent are stunted; 35 per cent are underweight; and 30 per cent wasted. The nutritional status of children in the state has, however, improved in recent years. Data available from the National Family Health Survey indicates that the prevalence of stunting decreased from 53 per cent to 38 per cent during the ten years between 2005-06 and 2015-16 whereas the prevalence of underweight dropped from 47 per cent to 38 per cent. However, the prevalence of wasting increased slightly from 20 to 23 per cent. Despite these gains, child under nutrition remains a major development challenge in Chhattisgarh.

Methodology

The study is based on a primary survey of selected households carried out in Koni village in sub-district Masturi of district Bilaspur of the Chhattisgarh state in India. According to the 2011 population census, there were 375 households in the village and the population of the village was 1844 which means an average household size of around 4.9 persons per household. At the 2011 population census, the literacy rate in the village was 63.9 per cent - 78.1 per cent for males and 49.2 per cent for females which indicates substantial gender gap in the level of education. Main occupation of the villages population was labour, either in construction or in agriculture. The female work participation rate was around 40 per cent compared to the male participation rate of more than 61 per cent.

For the present study, 40 households in the village Koni were selected for the survey. The selection of the households for the survey was based on the children registered in the Aanganwadi centre of the village. At the time of the visit to the village, it was found that 40 children were registered in the Aanganwadi centre of the village. Therefore, the sample for the survey was 40 households which is more than 10 per cent of the total households in the village listed at the time of the 2011 population census.

A semi-structured interview schedule was developed for collecting the data. The data were collected from the mother of the child and, if the mother was not available,

from either the father of the child or the head of the household. Direct, face to face interview approach was adopted to collect the data. In addition, the Aanganwadi worker posted at Aanganwadi centre was interviewed at length. The analysis of the collected data involved simple crosstabulation and analysis of the frequency distribution.

Results and Discussion

Table 2 presents basic characteristics of children below five years of age surveyed. The female children surveyed outnumbered the male children surveyed. All but two children belonged to Hindu religion. There was no child who belonged to Christian and other religions. The occupation of the parents of the majority of children was manual labour, although a substantial proportion of children's parents was engaged in other productive activities. Agricultural labour was not the preferred occupation of the parents of the children surveyed. Most of the children belonged to low or lower-middle income households. In all households, at least one of the member was working outside the village and therefore was a migrant worker.

Among the children below five years of age surveyed, around one-third were underweight; around 46 per cent were stunted; and around 17 per cent were wasted which suggests that chronic under nutrition was quite prevalent in the surveyed children. On the other hand, no child was found to be overweight. Mother's literacy level was found to be having an impact on the nutritional status of children as the proportion of under nourished children was found to be lower in children of literate mothers as compared to children of illiterate mothers. The prevalence of under nutrition was found to be higher in children with history of diarrhoea, fever, and cough.

Interaction with the mother of the children surveyed revealed that only 55 per cent of them received nutrition supplement (take-home ration) for their child from the Aanganwadi centre. Mothers of only around 10 per cent of children could not be interviewed and the discussions were carried out either with the father of the child or other members of the household.

The nutritional status of those children whose parents were working out of the village or were an out-migrant worker, was found to be relatively better than the nutritional status of those children whose parents were working in the village or not working at all. It appears that migrant workers, particularly those working in the city, were able to feed their children properly and were aware of hunger. Children of the migrant workers were also found to be consuming dairy products bought by their parents from the city but not available in the village.

The nutritional status of children of the working mothers has been found to be poorer than the nutritional status of children of the non-working mothers in the study village. It was observed that working mothers leave their children at home with other siblings in the house and they rarely got the time to take care of their children and feed them properly on time. Therefore, children of the working mothers in the village were found to be at a higher risk of being under-nourished. On the other hand, the non-working mothers were found to have ample time to properly take care of their children and feed time on time which has an impact on the nutritional status.

It was also observed during the study that about 80 per cent of the children surveyed were found to be in good health condition. The access of the children of the village to a health care facility was relatively good as the village was located near the Bilaspur town and, therefore, it was easier to access the health care facilities available in the nearby town.

More than 40 per cent children surveyed were found to be going to school and whereas almost 60 per cent children were found to be attending the Aanganwadi centre located in the village. At the school, mid-day meal was provided to children whereas, at the Aanganwadi centre, vaccination against the preventable diseases is done. The survey revealed that more than 96 per cent of the children surveyed received appropriate and on-time immunisation.

In order to assess the awareness about the Navjatan Yojna, group discussions were organised in the village. It appeared that only about half of the people in the village knew about the Navajatan Yojana. However, it appears that nearly one third of the households did not receive the advantage of the scheme as the children of these households were going to school and Baalmandir whereas parents of some of the children had no knowledge about the scheme.

Breastfeeding is found to be nearly universal in the village and is prolonged. Almost 95 per cent of the women surveyed reported that they did not discard the first milk but gave it to the child and that breastfeeding was started within one hour of the birth of the child. The Aanganwadi worker of the village has been found to be having good relationship with the women surveyed as regards breastfeeding and care of children. However, only about half of the children surveyed were found to be exclusively breastfed in the first six months of their life.

Conclusions

The Navajatan Yojna was launched by the Government of Chhattisgarh to provide food supplementation to children below five years of age so as to address the problem of under nutrition that is so rampant in the state as revealed through various national level surveys and the survey carried out by the Chhattisgarh government itself. This study, although small in scale and covering only one village, suggests that the implementation of the Navajatan Yojana in the Koni village of district Bilaspur has been impressive and had a positive impact on the nutritional status of children, especially children who are moderately under nourished. The improvement in the nutritional status of children also appears to have resulted in a reduction in morbidity among children below five years of age and hence better health status.

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Table 1
Calorie norms for children and pregnant women

| SN | Category | Pr-revised | | Revised | |
|----|--|---------------------|----------------|---------------------|----------------|
| | | Calories (K Cal) | Protein (g) | Calories (K Cal) | Protein (g) |
| 1 | Children (6-72 months) | 300 | 8-10 | 500 | 12-15 |
| 2 | Severely malnourished children (6-72 months) | 600 | 20 | 800 | 20-25 |
| 3 | Pregnant women and nursing mothers | 500 | 15-20 | 600 | 18-20 |

Table 2
 Distribution of children below five years of age by their background characteristics

| Background characteristics | Respondents | |
|---|-------------|----------|
| | Number | Per cent |
| Age of the child | | |
| 0-1 year | 6 | 15.0 |
| 1-3 year | 14 | 35.0 |
| 3-4 year | 8 | 20.0 |
| 4 years and above | 12 | 30.0 |
| Gender of the child | | |
| Male | 16 | 40.0 |
| Female | 24 | 60.0 |
| Religion of the family | | |
| Hindu | 38 | 95.0 |
| Muslim | 2 | 5.0 |
| Christian | 0 | 0.0 |
| Other | 0 | 0.0 |
| Occupational status of parents | | |
| Labourer | 23 | 57.5 |
| Agricultural labourer | 1 | 2.5 |
| Government job | 2 | 5.0 |
| Others | 14 | 35.0 |
| Monthly income of parents | | |
| Less than 5000 | 13 | 32.5 |
| 5000 -10000 | 25 | 62.5 |
| 10000 -20000 | 1 | 2.5 |
| 20000 and above | 1 | 2.5 |
| Family size | | |
| 2-3 | 14 | 35.0 |
| 5-7 | 26 | 60.0 |
| Number of family members engaged in economic activity | | |
| 1 member | 29 | 72.5 |
| 2 members | 11 | 27.5 |
| 3 members | 0 | 0.0 |
| 3 members | 0 | 0.0 |
| N | 40 | 100.0 |

Source: Authors' calculations