

Malnutrition Among Under-five Children in India: Trends and Determinants

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Abstract:

An imbalance in the dietary intake by persons or children is considered as malnutrition. Malnutrition is prevalent in Indian society, especially among the section of children with the age group of less than five years where 14 lakh children have been identified as the victim of malnutrition. This research paper study aims to figure out the trends and determinations that are responsible for malnutrition among the children of India under the age of five years group. The percentage of malnutrition in rural areas is 152.3 per cent and its percentage is 53.21 per cent in urban areas. This research paper analysis has been carried out with the help of secondary qualitative data and it has been analysed with the help of thematic analysis. The results of this research article have revealed that in the current scenario, the problem of malnutrition is pervasive although the poverty rate in the country has been reduced. Around 13.5 crores population in India is under poverty rate. The reasons behind the higher level of malnutrition in the country are due to improper cultural practices, gender discrimination, and high poverty. The Indian Government has launched some measures for the wellness and development of the malnourished population of India which include “ICDS, NHM, MMS, and NNP”.

Keywords: Malnutrition, Children, Country, Health, Determinants, Stunted growth

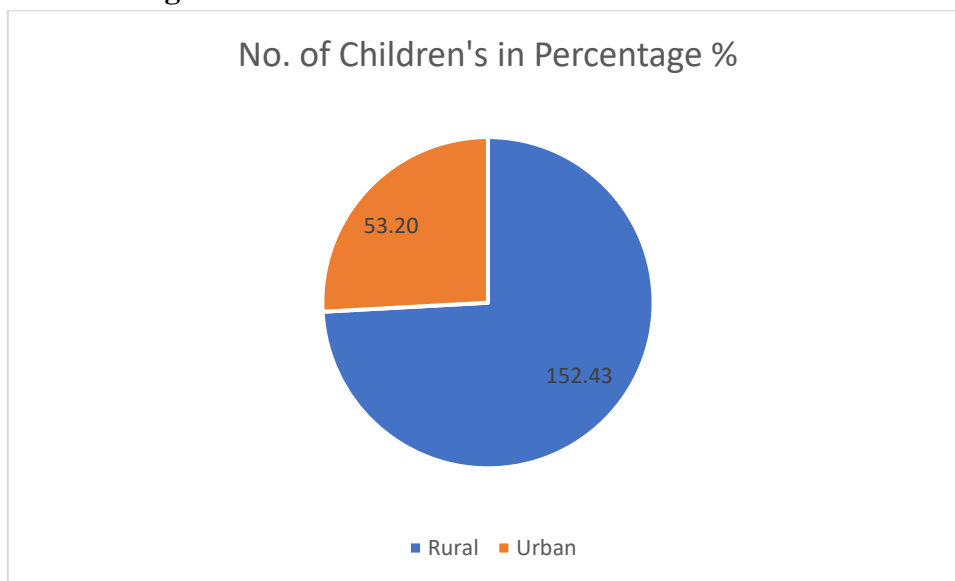
1. Introduction

Malnutrition can be defined as a deficiency of the children's essential nutrients, resulting in numerous diseases. Under-nutrition or malnutrition is generally defined in four different types: wasting, stunting, micronutrient deficiencies, and underweight problems. The problem of malnutrition has been prevalent in India ever since it got its independence and this is pretty much evident by its recent statistics. In the Global Hunger Index (GHI) 2019 ranking India had secured 102nd out of 117 nations. In India, Malnutrition is defined with the help of some indicators like children under the age of five. As per the ICMR, in the year 2017, malnutrition was a prevailing risk factor that was responsible for the death of younger children in India.

Some reasons are directly or indirectly responsible for the prevalence of malnutrition in India. These include the poverty rate in India, changing food patterns in India, migration of people across India, gender imbalance in India, and lack of sanitation. The Government Poshan tracker has revealed that around 14 lakh children in India have been severely malnourished. The malnourished children are divided in India into three parts which include stunting, underweight, and wasting. In 2023, the MoWCD said that the number of malnourished children out of 5.6 crore was around 14, 56000, around 2.6 per cent of the sample.

To understand malnutrition better in different parts of India, Statista carried out a survey from the year 2019 to the year 2021, and for this survey around 636,699 households were surveyed (Minhas, 2023). The results of the survey have revealed that the malnutrition percentage was a whopping 152.3 per cent in the rural region of India while the malnutrition percentage in urban areas includes 53.21 per cent (WHO 2022). From these statistics about India, it can be said that the situation in the rural areas is detrimental when it comes to malnutrition in the country. This research article aims to figure out the malnutrition situation in India especially those under the age of five with its trend and discriminate analysis.

Figure 1: Malnutrition in Rural and Urban statics in India



(Source: WHO 2022)

Objectives

- To discuss the current rate of malnutrition among children in India
- To identify the core reasons behind malnutrition among under-five children in India
- To determine the impact on malnutrition on economic growth

2. Materials methods

The methods have been explained here by explaining the data collection procedure and the data analysis methodology. For carrying out this research study the data has been collected from secondary sources and the nature of the data is qualitative and it is a common practice. The data have been collected from some sources including NFHS-4 and NFHS-5 Factsheet, (Government of India), PIB, WHO, UNICEF, Ministry of Women and Child Development (GOI), World Bank and the websites of the Government of India. The data analysis method that has been selected here is thematic analysis and this will be carried out in four different themes and it is a useful or easy form. Thematic analysis has been chosen here due to its allowance of exploring new arenas, understanding the different perspectives, and identifying new commonalities and differences among the participants. Due to these advantages, the thematic analysis has been chosen for this research study and it will be further described in the findings part.

3. Results

3.1 Current situations and trends of malnutrition in India

The Global Hunger Index report of the year 2023 has shown that India ranks at 111th spot out of 125 nations across the world. As per the report of NFHS-5 from the year 2019 to 2021 the nutritional requirements have been improved. The percentage of stunting has been reduced from “38.4 per cent to 35.5 per cent”, while the wasting percentage has reduced from 21 per cent to 19.3 per cent in the same year. (PIB, 2022) The prevalence of underweight has also reduced in India society from “35.8 per cent to 32.1 per cent” in the year 2022 (PIB, 2022). The malnutrition extension on the overall population of India could be understood with the help of analyzing their BMI. BMI is ratio of the mass of a person to the square of their height (PIB, 2022). BMI is considered as good with its value being lower than 18.5 (PIB, 2022). The BMI of India women aged between 15 to 49 years was 22.9 (NFHS-4) which was below the normal level (PIB, 2022). In the NFHS-5 the stats have changed a bit and it has reached the mark of 18.7 kg per meter square.

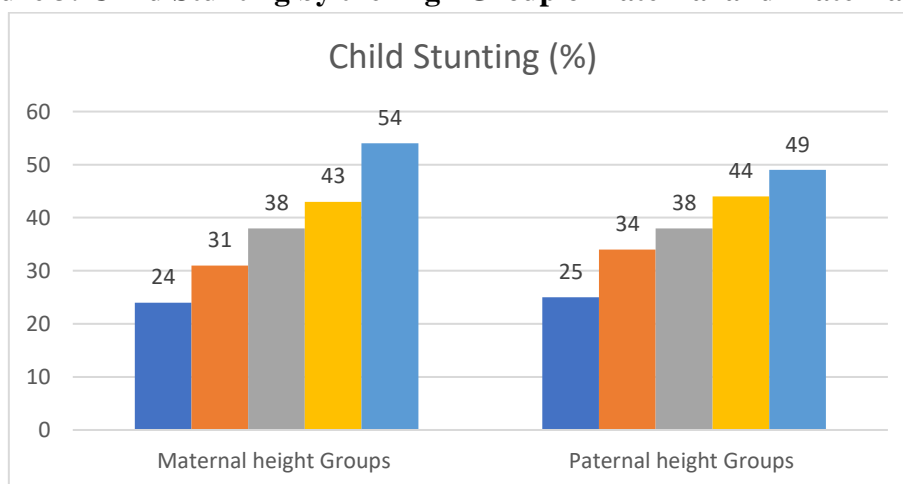
Figure 2: Women BMI Rates in Percentage.

Women aged 15-49 years with Body Mass Index (BMI) below normal (BMI<18.5kg/m ²)	
NFHS-4 (2015-16)	NFHS-5 (2019-21)
22.9	18.7

(Source: PIB, 2022)

As per the NFHS-4 factsheet the height of Indian adults is short and the reason behind this is malnutrition during their childhood. Recent data have shown that the stunting in India has fallen from 48 per cent to 38 per cent from the year 2016. The percentage share of material of very short height which was less than or equal to 147 where the percentage is 54 per cent. (NFHS-4 Factsheet) The percentage share for material in very tall categories as per the given graph is around 24 per cent (Gupta *et al.* 2022). The paternal height group's short height percentage has been given as less than or equal to 157 and the child's stunting percentage due to paternal height is around 49 per cent (NFHS-4).

Figure 3: Child Stunting by the High Group of Paternal and Maternal (%)



(Source: National Family Health Survey-4, Government of India)

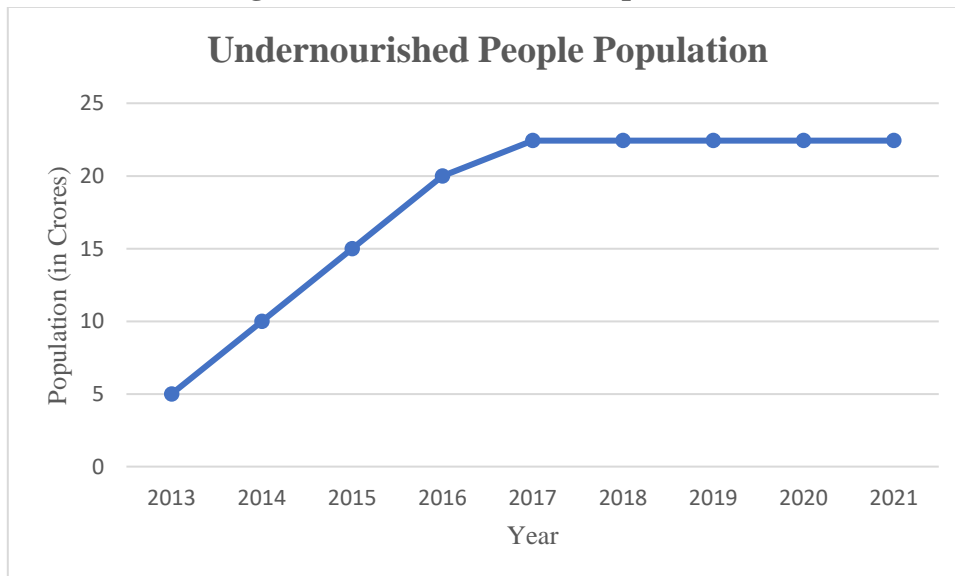
Figure 4: Child Stunting by the High Group of Maternal and Paternal (in cm)

Maternal Height Groups (in cm)	Paternal Height Groups (in cm)
24 (Very Tall >156.0)	25 (Very Tall > 169.0)
31 (Tall 153.1-156.0)	34 (Tall 165.1-165.0)
38 (Average 150.1-156.0)	38 (Average 161.1-165.0)
43 (Short 147.1-150.0)	44 (Short 157.1-161.0)
54 (Very Short >147.0)	49 (Very Short >157.0)

(Source: National Family Health Survey-4, Government of India)

The World Bank Group raised the data on undernourishment in India from the year 2014 to the year 2018 (World Bank). In the year 2014, the population of total undernourished people in India was around slightly less than 20 crores. Figures of the undernourishment had remained the same in the year 2015 but had reduced in the year 2016 (World Bank). Up to the year 2018, the population of the undernourished people has reduced but things changed rapidly in the year 2019 when it reached the mark of 20 crore (Scroll, 2023). The situation was even worse in the year 2020 when the COVID pandemic started and India went under lockdown. As per the graph below the undernourished population in India has reached a mark of 22.43 crores.

Figure 4: Undernourished Population in India



(Source: World Bank and CNES-Infosphere 2013-2021)

3.2 Reason behind the Malnutrition problem in India especially among children aged less than five

Several reasons are directly or indirectly responsible for the malnutrition situation in India and these include monocultural agricultural practices, food patterns, the poverty rate in India, migration across the country, and gender injustice in the country.

Agricultural practices

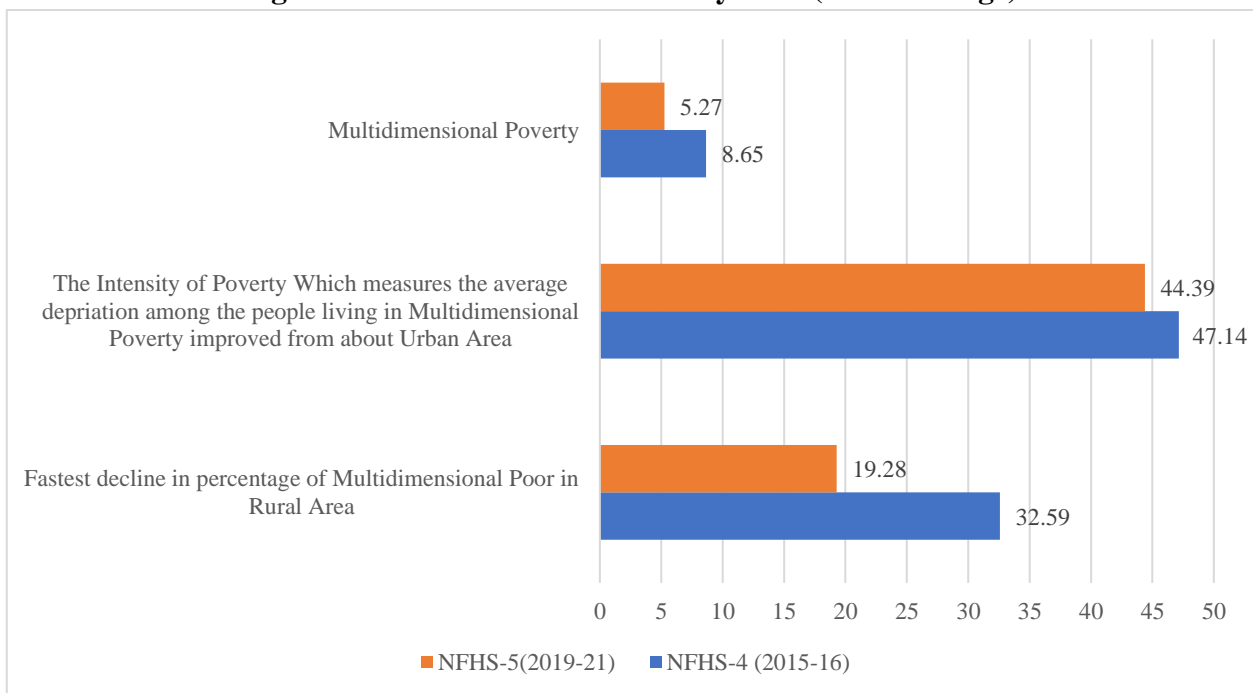
As per various estimations, it has been found that the agricultural production in India has jumped by five times ever since the country became independent. This jump has not been able to meet the nutritional

requirements of the existing population of the country (Rege & Lee, 2022). The primary reason behind this is increasing the production of staple crops like wheat and rice. Due to this, the soil loses its fertility and it needs to be fertilized with the help of organic or inorganic processes. Production of indigenous food production also reduces due to excessive focus on staple crops. Due to the extensive monoculture practices in agriculture, food security arises along with the losses of water from the soil, and the quality of soil is also deprived.

Poverty rate

The Poverty rate is not directly responsible for malnutrition in India however it affects and shows the nutritional requirements in the country. As per the Multidimensional Poverty Index Report 2023, the total population of people under the poverty line is around 13.5 crores (NITI AYOOG, 2023). The states of India with the highest poverty rate include UP, Bihar, Odisha, Rajasthan, and the MP (NITI AYOOG, 2023). The poverty rate in India has been reducing as in the year 2015-16 the poverty rate was 8.65 per cent in urban areas. In the year 2019-2021, the urban poverty percentage has reduced to 5.27 per cent and it is expected to reduce further (NITI AYOOG, 2023).

Figure 5: Multidimensional Poverty Rate (in Percentage)



(Source: National Multidimensional Poverty Index-2023, NITI AYOOG)

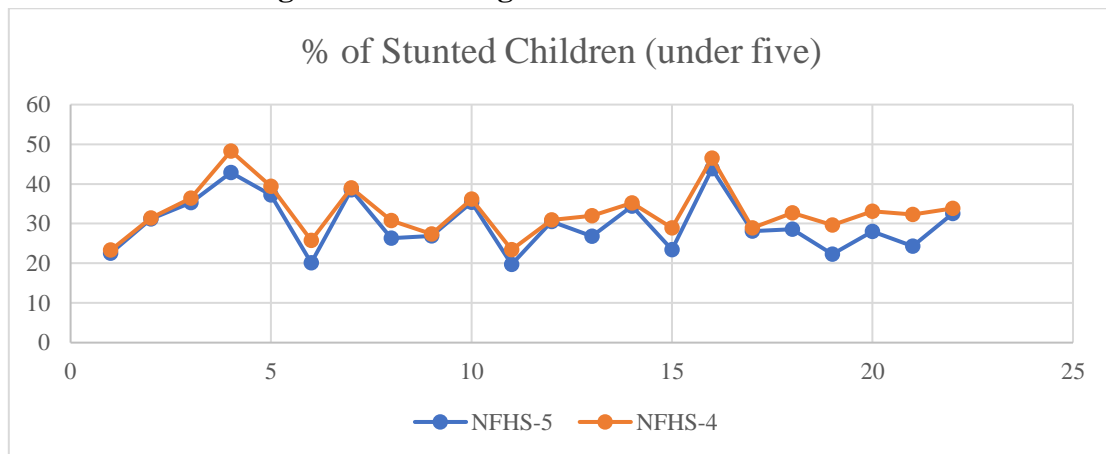
Gender injustice

As per various studies it has been proven that there is a correlation between gender-based discrimination and poor nutrition. For example, if a girl child was malnourished due to being a girl she would probably become an adolescent and then an adult. After becoming an adult she will marry and now if she gives birth to a child there is a huge probability that the infant whom she has given birth to will be malnourished (UNICEF 2024). As per the business standards, gender-based discrimination is one of the key reasons that are responsible for malnutrition.

3.3 Impact of Child Malnutrition in India and its Economic Growth

India in the past few years has shown tremendous economic growth and progress but despite this economic growth and progress, India’s malnutrition numbers are rising especially in children. In India, the malnutrition situation is divided into two categories which include under nutrition and over nutrition. Due to Under-nutrition, the problem of stunting arises among the young children of India which is detrimental to the prospects of India. Malnutrition among children generally leads to physical damage and irreversible mental damage which can even be transmitted from one generation to the other. The problem of malnutrition can be better understood with the help of an example. 33.33 per cent of the population of stunted children comes from India only (The Wire, 2021). This will hurt the GDP of the country and as per some estimations, India could lose 4 per cent of its annual GDP.

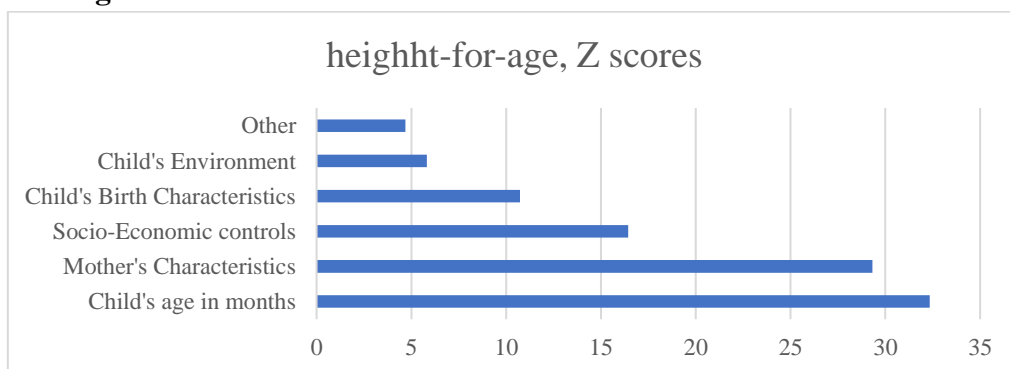
Figure 6: Stunted growth of Children in India



(Source: NFHS-5 and NFHS-4, Government of India)

If the percentage of stunted children is shown, the scenarios of Bihar, Meghalaya, and Daman & Diu are concerning. The percentage of stunted growth of Kerala, Goa, and Sikkim are the best. As per the NFHS-4 and NFHS-5 analysis of data, it was found that due to a reduction in the budget allocation for child health development has been reduced due to the slower economic growth of the country. Five different factors are responsible for child malnutrition in India and those include the percentage share of age of child in months, characteristics of mothers, socioeconomic controls, the child’s birth characteristics, and the child’s environment.

Figure 7: Contribution of the Determinants of Child Malnutrition



(Source: Ministry of Women and Child Development, Government of India)

From the overall analysis, it has been recommended by many economists that the rise of malnutrition in the country will slow down economic projection and growth. Child malnutrition is a major issue or challenge for a country (MoWCD, GOI). In case the youth of India are not properly nourished they won't be able to contribute towards the economic development of India (The Wire, 2021). Human resource is the most important asset for every nation and every nation wants to use this asset for the development of their nation. Children of a nation are not well nourished they are suffering from problems like stunting partial physical development won't be able to contribute towards development of the country. This situation will hurt India's Human resource assets and economic growth.

3.4 Steps Taken by the Government of India to Reduce Malnutrition

Integrated Child Development Services (ICDS)

The ICDS was the scheme brought up by the Indira Gandhi on the 2nd of October, 1975 (Ministry of WCD, 2015). ICDS is also known as “Integrated Child Development Services”. The scheme was launched to make special interventions towards the vulnerable section of the Indian society especially the children under the age group of six and women of the society. The scheme was implemented by the Ministry of Women and Child Development. The scheme has provided six different packages for the above-mentioned vulnerable section of society which include immunization, health check-ups, supplementary nutrition, pre-schooling, and offering non-formal education (Ministry of WCD, 2015).

National Health Mission (NHM)

The NHM was launched by the government of India in the year 2013 and this initiative of the government was subsumed with the NUHM. The initiative was further extended in the year 2018 and it is continuing till date (National Health Mission, 2024). The components of this mission include care for communicable diseases and non-communicable diseases, reproductive maternal care for the mother and the child, and providing health benefits to adolescent health.

Mid-day Meal Scheme (MMS)

The MMS was the flagship scheme brought up by Indian Government in the year 1995 and this was launched by the education ministry of India (Ministry of Education, 2024). MMS is also known as “Mid-day meal scheme”. This scheme aimed for providing a hot cooked food meal for all the children studying in government schools from class 1 to class 8 free of cost (Ministry of Education, 2024). The motive behind this program was to meet the nutritional requirements of the children along with educational requirements.

Indira Gandhi Matritva Sahyog Yojana (IGMSY)

IGMSY was launched in the year 2010 by the government of India for providing maternity benefits (Government of Madhya Pradesh, 2023). IGMSY is also known as “Indira Gandhi Matritva Sahyog Yojana”. The main benefits of this Yojna were to promote the benefits of the appropriate practice, safe delivery of the child, and meeting all the nourishment requirements of women during pregnancy. This initiative made sure the nutritional requirements of both the mother and the infants must be met by the government.

National Nutrition Policy (NNP) 1993

The MCD was launched in 1993 by the government of India (Ministry of WCD, 1993). NNP is known as “National Nutrition Policy”. The objective behind this policy was to improve the health status and nutritional requirements of the children especially those who belong to the age below 6 years. The policy was launched in 1993 to fight the under nutrition situation in the country but the current scenario is not appropriate as the requirements of the country have increased (Ministry of WCD, 1993).

PM POSHAN

PM Poshan Abhiyan was launched by PM Modi in the year 2018 and the purpose of this initiative was to meet nutrition related requirements among the children in India (Ministry of Education, 2024). It aims to encourage poor children to concentrate on education and be less concerned about their daily meal requirements. The scheme has aimed to provide nutritional support for the children of those regions that are affected by natural disasters, floods, and drought-affected areas.

4. Discussion

Malnutrition is one of the biggest problems that are dealt with by both the government of India and the people of India. India got its independence in 1947 and ever since several governments have changed and each of the governments has come up with their sort of policy dealing with the problems of malnutrition in India. If the current scenario is an analysis of malnutrition, the situation in India is not good at all. India’s rank in the GHI ranking of the year 2023 was 111 which do not appear grateful. NFHS data has also revealed some of the dark realities about the malnutrition situation in the country with the help of BMI percentage. In the NFHS-4 the BMI among Indian women was around 22 per cent while it had just reached 18.7 per cent in the NFHS-5. As per the World Bank's estimation, the total population of the undernourished population in the country was around 22 crores in the year 2020-2021.

Numerous reasons are directly responsible for malnutrition in India and some of the most common problems include monoculture agriculture, higher poverty rate in India, and gender-based discrimination, especially against women. Due to these common reasons, malnutrition situation is still prevalent in Indian society among children less than 5 years. Malnutrition affects these children in three different ways which include stunting, disproportionate in weight, and disproportion in height. Stunting among children less than age of five years has the worst impact on any country as in the future they will not be able to give their full potential to the country. This will hamper the economic progress of India in the future even if it has been growing at a phenomenal pace.

As malnutrition is a decadal problem, different governments have brought different schemes for the development, wellness, and development of the existing population. Some of the steps include the introduction of “National Health Mission, PM Poshan, National Nutrition Policy, Mid-day Meal Scheme, and others”. The current government is also working towards funding all these existing schemes and taking initiatives to launch new schemes in the future. Hence, from the above discussion, malnutrition is prevalent among those children who are less than five years old. Situations are improving but will require huge effort and money towards mitigation of the problem dealing with malnutrition in India.

5. Conclusion

Malnutrition regarded as a global phenomenon and it is prevalent in those nations which are developing or emerging economies. This research aims to understand the malnutrition situation in India, its trends, and its determinants. Later on, all the useful findings of the thematic data analysis have been analysed in the discussion part. Finally, the whole discussion has been concluded with the help of the conclusion part. Necessary initiatives such as NHM, MMS, NNP have been identified as useful for facing these challenges.

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