

punjab geographer



A DOUBLE BLIND PEER REVIEWED JOURNAL OF APG AND KSS-ISPER INDIA

VOLUME 19

ISSN: 0973-3485

OCTOBER 2023



SOCIAL CONTEXT OF INEQUALITIES: A STUDY OF HEALTH AND EDUCATION AMONG CHILDREN IN HARYANA

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Abstract

Children are affected differently in varying socio-economic environments. The space, place and environment trilogy affect health, levels of nutrition and education of children in a cumulative manner in terms of neglect and support of their wellbeing. Studies indicate that the wellbeing of children in the age-groups of 0 to 3 years, 4 to 5 years and 6 to 11 years has been affected by global economic changes and hence needs to be studied with these realities. This study seeks to analyse the status of health, nutrition and education of young children (0-14 years) in Haryana. The analysis is based on secondary data obtained from National Sample Survey Organisation (NSSO) and educational and National Family Health Surveys (NFHS). Inequalities have been studied with reference to rural-urban, male-female, social and economic groups, considered in terms of caste hierarchy and Monthly Per Capita Consumer Expenditure (MPCE) groups. The findings suggest that health, nutrition and educational status of children have improved during the study period. The children from privileged social group are better placed as compared to scheduled caste children.

Keywords: MPCE groups, Social groups, Health, Education, Maternal characteristics.

Introduction

India is a home of 363 million children under 14 years of age, which constitute 26.61 per cent of India's total population and about 19 per cent of the total children of the world (World Bank, 2019). Children are the basic building blocks of societies, therefore understanding their lives does provide insight into the continuity and change in the world. Ansell (2019) has underlined the need to research on children not because they are numerous but because they are differently affected by various socio-economic processes and need engagement with the policy process. James (1990) has also noted that there is little research undertaken which critically examines the ways in which children's lives, experiences,

attitudes and opportunities are socially and spatially constructed. A limited number of studies have elaborated upon how children's lives have been affected and incorporated into global processes of economic change. Jeffrey (2013) has raised the issue that children's rights must be studied from the perspective of distributive justice. It has also been advocated that isolating children's rights from the issues of class, race and gender means avoiding direct engagement with political and economic realities of the emerging global economy (Fernando, 2001).

India has shown its awareness and written commitment for elimination of child labour through article 24 of the constitution. India has also shown its commitment to

children education through article 45 of the constitution and later with Right to Education Act, 2009. However, research focused on children's health and wellbeing came into existence with the initiation of NFHS conducted by International Institute for Population Sciences (IIPS), Mumbai. These large-scale surveys have drawn attention of researchers across various disciplines regarding poor and inequitable conditions of children in various anthropometric indicators, their nutrition and other related aspects. These researches have viewed children as passive objects and targets of policies and practices or as an indicator of the prevailing situation of a region or country. Due to these efforts, many nutrition enhancement programmes such as Integrated Child Development Services (ICDS) and mid-day meal etc. came into existence. Global South children suffer from hidden hunger and their survival and other rights are largely compromised (UNICEF, 2019). Studies have also concluded that poverty and exclusion are the greatest risk of all forms of malnutrition and the investment and success in health, nutrition and education support success in many dimensions of children lives (Radhakrishna and Ravi, 2004; Kanjilal, et al., 2010).

In 2019, the perspective on children's health has been reframed from the diets to the food environment in which they live and the ways in which our societies underpin the right to adequate nutrition through our values and political commitments. It is equally distressing to find that among Indian children, 38 per cent are stunted and 21 per cent are wasted which is higher than world's average (UNICEF, 2019). Such a high percentage of malnutrition among children needs to be studied from the total food environment perspective of their living including availability of water, sanitation,

education and social protection system. In this context, the present study investigates socio-economic home environment and status of education and health among children in Haryana.

Objectives of the Study

Major objectives of the study are:

- to analyse the mortality and nutritional status of children vis-à-vis socio-economic characteristics in Haryana and
- to examine the educational attainment of children vis-à-vis socio-economic inequalities in Haryana.

Study Area

Haryana, located in the north-western part of India lies between 27° 39' to 30° 55' N latitudes and 74° 27' to 77° 36' E longitudes (Fig. 1). Geographically, it is a small state accounting for only 1.34 per cent of the total area and 2.0 per cent of the total population of the country in 2011. It is one of the wealthiest states of India, with third highest per capita income in the country. Its economy is growing at the rate of 8.2 per cent per annum in terms of Gross State Domestic Product (GSDP) in 2019-20 (Govt. of Haryana, 2021). The built infrastructure of the state is also well developed. It is well connected through roads, communication, health facilities and services. In terms of household amenities, 95 per cent households have pucca houses, 99.5 per cent are electrified and 84 per cent have a toilet facility (NSSO, 2018).

Database and Methodology

The study is based on secondary data derived from National Family Health Survey NFHS-3 (2005-06), NFHS-4 (2015-16), NFHS-5 (2019-21), Unified District Informa-

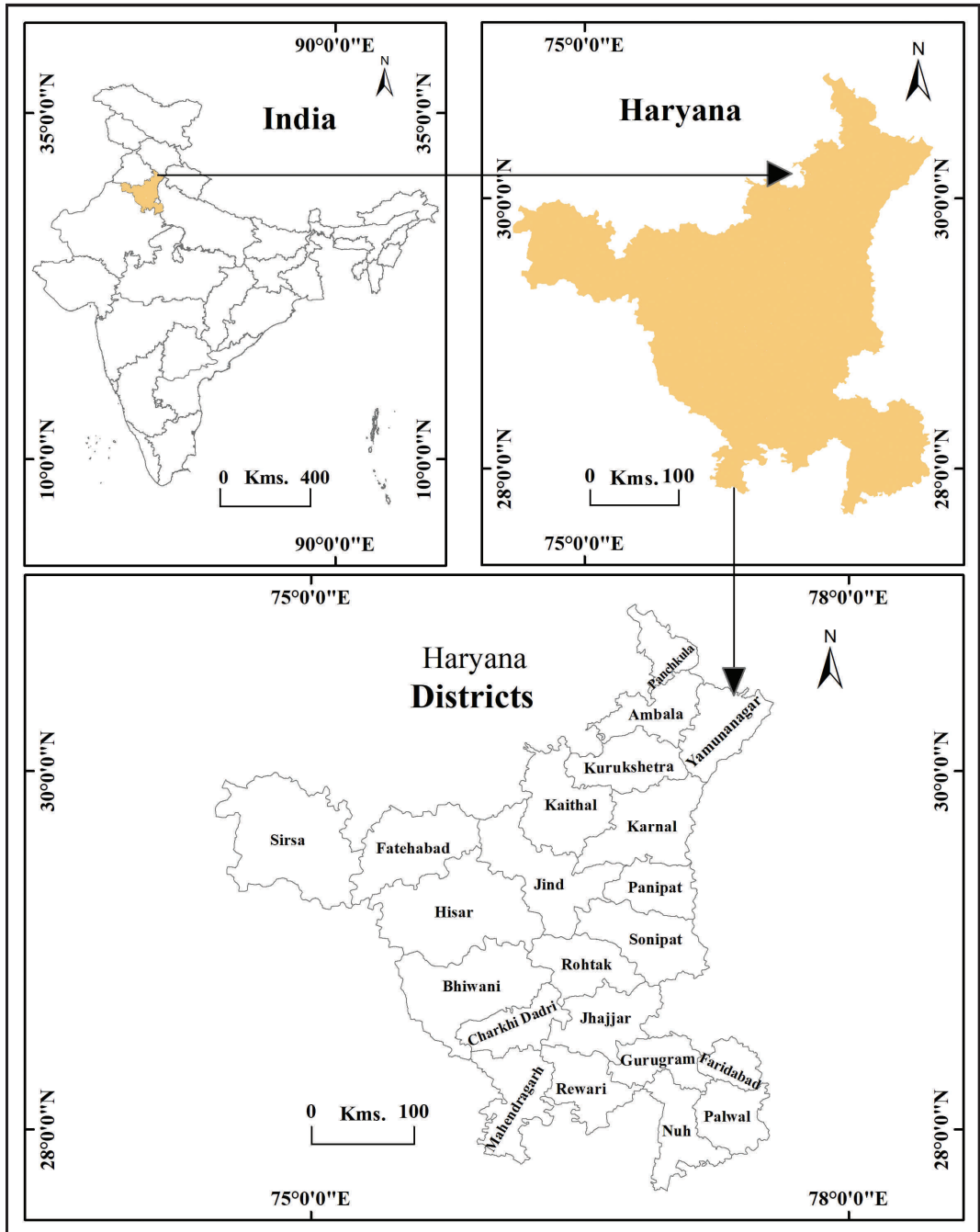


Fig. 1

tion System for Education (U-DISE, 2017-18) and 76th round of National Sample Survey Organization (NSSO, 2018). Educational status of children has been measured by taking into account; (i) net enrolment ratio at the elementary level and (ii) children (6 to 14 age group) not attending schools. Two broad indicators of health status have been taken; one is related to mortality and the other to nutrition. Mortality refers to the infant mortality rate and mortality of children under 5 years (U-5) of age. For nutritional levels, three anthropometric measures such as stunted, wasted and underweight for children (under 5 years) have been considered.

Social inequality has been captured at two levels. Firstly, through social structure which shows, prevalence of social hierarchies in terms of caste affiliations. The major social groups (based on caste affiliation) representing social hierarchies in the society are (i) Scheduled Tribes (STs), (ii) Scheduled Castes (SCs), (iii) Other Backward Castes (OBCs) and (iv) Others (Non-SCs and Non-OBCs). Scheduled castes being at the lowest level in social hierarchy, are subject to various social discriminations. The OBCs are relatively better placed in social structure, while the 'Others' remain at the top. However, due to negligible proportion of ST population in the state, the analysis relates to SCs, OBCs and 'Others' social groups. Economic inequality has been measured with a proxy indicator of monthly per capita consumer expenditure (MPCE). All households have been grouped into five classes on the basis of MPCE. The Q1 households represent the poorest in terms of monthly expenditure, whereas Q5 represent the upper 20 per cent households with highest expenditure among households. Binary logistic regression has also been carried out to find out the probabilities.

Results and Discussion

Inequalities in Health Status of Children (Under 5 Years)

The data of Haryana from 2005-06 to 2019-21 show a decline in Infant Mortality Rate (IMR) and under five mortality rates (U-5MR). The IMR has declined from 44 per thousand live births to 33 per thousand live births during 2005-06 to 2019-21. Similarly, U-5MR has also declined sharply from 59 per thousand live births to 39 per thousand live births during the same period (Table 1).

Table 1 reveals that IMR and U-5MR have declined both in rural and urban Haryana. In rural areas, IMR and U-5MR have declined from 49 to 35 per thousand live births and 64 to 40 per thousand live births respectively. In both parameters i.e., among infants and children, the decline has been sharp during 2005-06 to 2015-16 in rural areas. In urban Haryana, though the decline has been marginal, in IMR and U-5MR, yet one may find that urban areas have performed better as compared to rural areas. It may also be noted that the rural-urban gap has declined in U-5MR during 2015-16 to 2019-21 (Fig. 2). However, rural-urban gap in IMR has increased during 2015-16 to 2019-21 due to better performance of urban areas and poor performance of rural areas.

The gender variation in IMR and U-5MR has been presented in Fig. 3. It shows that male-female difference in IMR has not been sharp during the earlier period of time. In case of U-5MR, female mortality is higher indicating the inherent son preference prevalent in patriarchal society of Haryana. However, in the later period i.e., during 2015-16 to 2019-21, the decline in mortality for girl child is visible, which might be due to the consistent targeted programme of the state government to save girl child. Literature suggests that in patriarchal

Table 1
Haryana: Mortality among Children

Variables	Infant Mortality (‘000’ Live Births)			Under Five Mortality (‘000’ Live Births)		
	2005-06	2015-16	2019-21	2005-06	2015-16	2019-21
Location						
Rural	48.80	33.60	35.30	64.40	43.90	39.80
Urban	30.20	31.40	28.60	41.40	36.50	36.00
Gender						
Male	45.30	31.00	35.90	55.20	37.00	41.10
Female	43.00	34.80	30.50	63.00	46.00	36.10
Social Groups						
SCs	53.30	31.30	37.20	73.90	42.00	43.50
OBCs	52.10	35.90	33.20	62.30	43.00	40.00
Others	36.10	28.10	27.50	49.70	34.00	30.20
State Average	44.20	32.80	33.30	58.80	41.10	38.70
National Average	41.50	40.70	35.00	51.70	49.70	41.90

Source: Compiled by Authors.

north and central Indian states with high son preference, the female children often have higher mortality than males (Dyson and Moore, 1983; Arokiasamy, 2004; Pande and Astone, 2007; Patra, 2008).

Table 1 shows remarkable variation in both the parameters of IMR and U-5MR across

social groups indicating a better performance among others (Non-SCs and Non-OBCs). It has been found that IMR and U-5MR have declined significantly among SCs, but the children belonging to higher social group i.e., others still hold a better position in mortality parameters (Fig. 4 and 5). At all India level, the

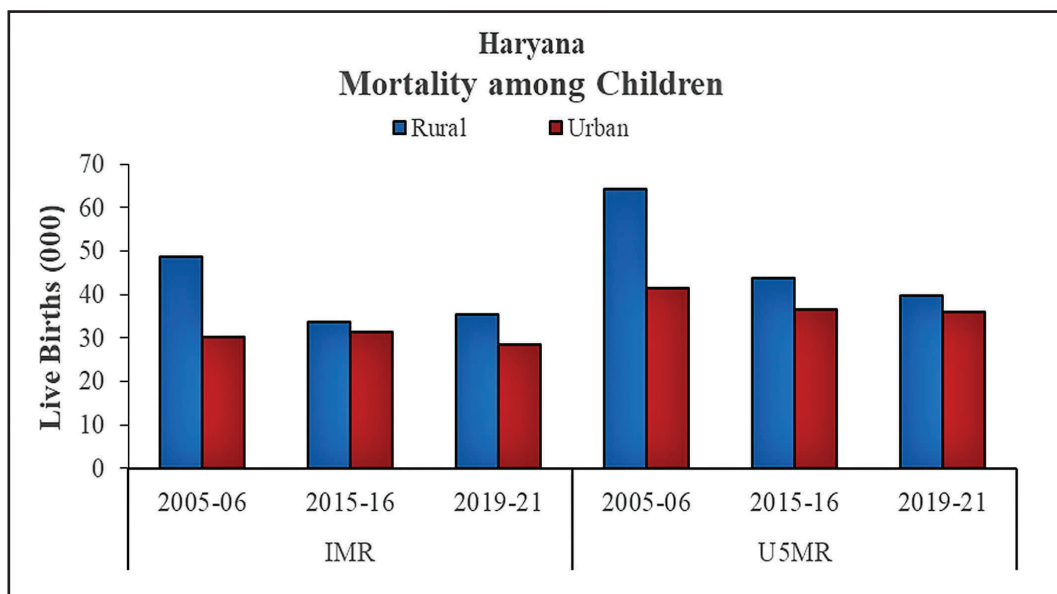


Fig. 2

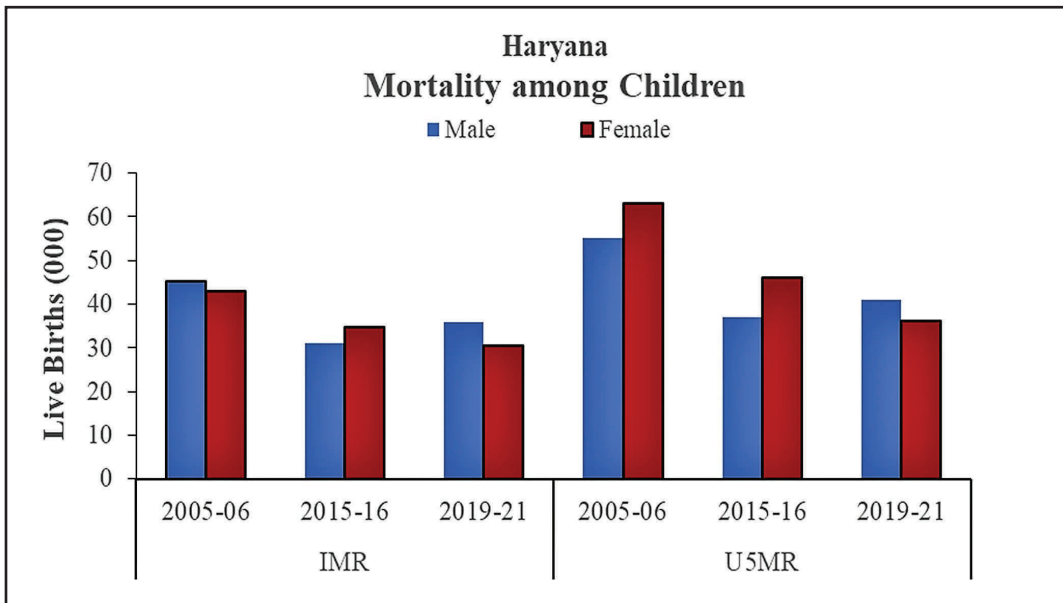


Fig. 3

studies reveal that there is a gap in IMR and U-5MR and among social groups. This gap is primarily attributed to great economic divide and gap in educational status of mothers (Ram

et al., 2016; Bora et.al, 2019).

Malnutrition is an important health concern among under-five children. It is the prime cause of infectious diseases which

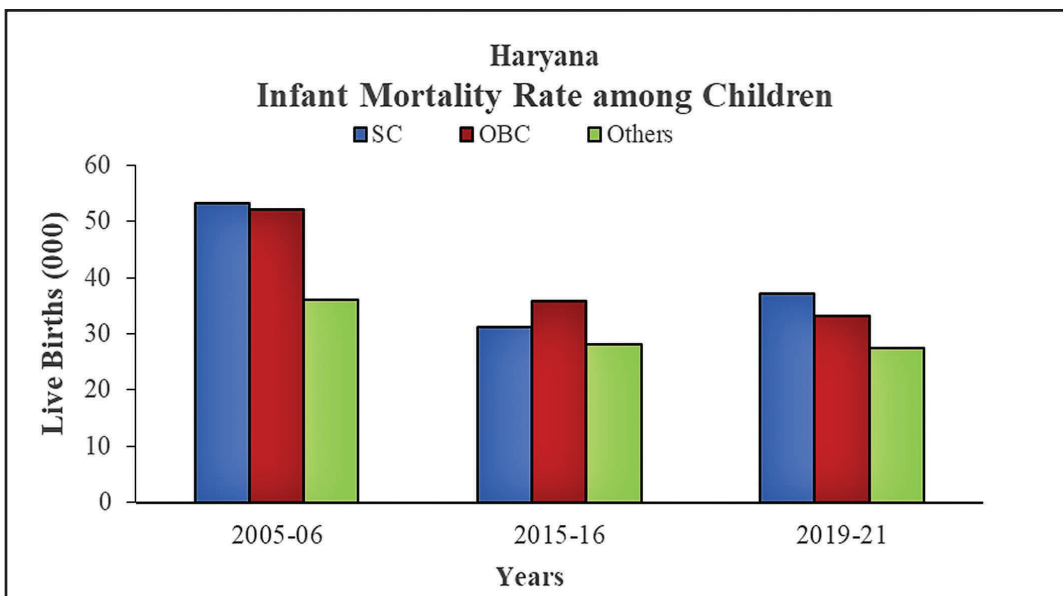


Fig. 4

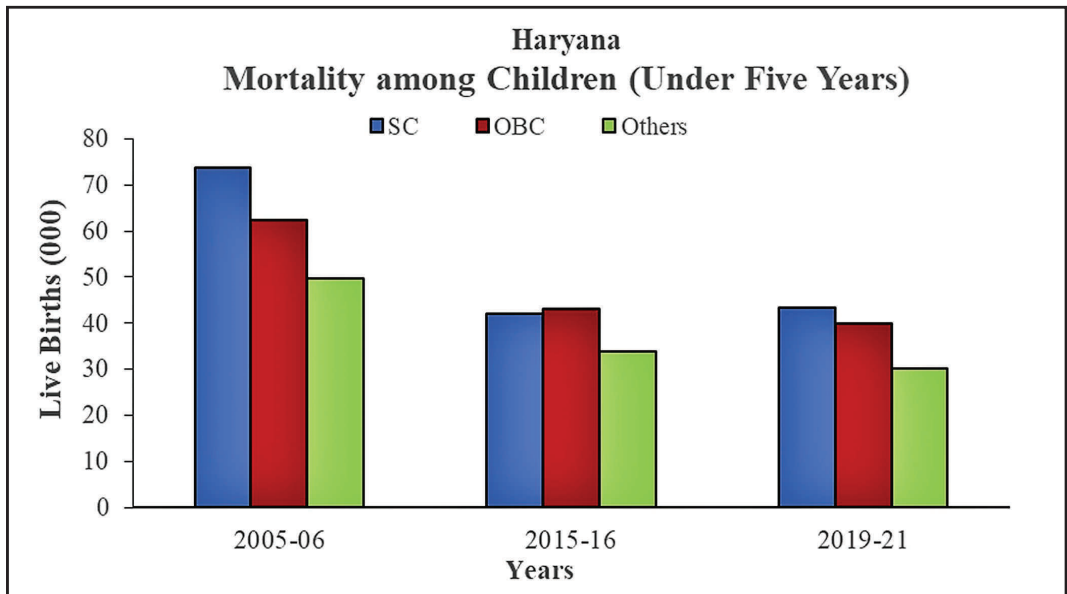


Fig. 5

hinder the physical and cognitive development of young children. The three anthropometric indicators of measuring acute and chronic nutritional deprivation among children are stunted, wasted and underweight. Stunting refers to low-height for age, wasting is about low-weight for height and underweight refers to low-weight for age. It has been observed that as compared to national average, Haryana has relatively low prevalence of stunting and underweight among children. However, in wasting, the proportion has been similar to that of all India average till 2015-16 and declined afterwards in 2019-2021 (Table 2). Malnutrition measured in all these three indicators recorded a decline from 2005-06 to 2019-2021 in Haryana. The proportion of stunted children declined from 45.70 per cent to 27.50 per cent, among underweight children from 39.60 to 21.50 per cent and among wasted children from 19.10 to 11.50 per cent during 2005-06 to 2019-21 (Table 2). This declining trend of malnutrition has been observed both in rural and

urban areas and rural-urban gap has narrowed during a span of 15 years. The gender-gap in levels of stunting, wasting and underweight which has been visible during 2005-06 has also declined during 2019-21 (Table 2).

There have been significant variations in all three parameters of nutrition across social groups. Table 2 shows that in all three indicators of nutrition i.e., stunting, wasting and underweight, the proportion of scheduled caste children is high across all social groups from 2005-06 to 2019-21. The analysis reveals that in 2005-06, the proportion of stunted children has been high among SCs and it has been 14 percentage points above than that of 'Others' which is socially a privileged class. Similarly, there has been a difference of 17 and 7 percentage points respectively in the level of underweight and wasted children of SCs and 'Others' during 2005-06 (Table 2). Although levels of stunting, wasting and underweight among children has declined across all social groups during 2005-06 to 2019-21, yet the gap

Table 2
Haryana: Malnutrition among Children (Under Five Years)

Variables	Stunted (per cent)			Underweight (per cent)			Wasted (per cent)		
	2005-06	2015-16	2019-21	2005-06	2015-16	2019-21	2005-06	2015-16	2019-21
Location									
Rural	48.10	34.30	28.00	41.30	29.90	21.80	19.70	21.30	11.80
Urban	38.30	33.40	26.10	34.60	28.50	20.50	17.30	21.00	10.80
Gender									
Male	46.80	35.60	28.00	40.30	30.40	21.30	20.30	21.70	12.10
Female	44.10	32.10	26.90	38.70	28.20	21.6	17.50	20.60	10.90
Social Groups									
SCs	53.40	37.00	33.90	49.40	35.70	27.10	22.90	24.00	14.10
OBCs	50.50	34.50	29.30	46.00	27.30	23.90	23.00	20.40	11.60
Others	39.70	28.90	19.90	32.40	25.00	13.90	16.10	19.10	9.00
State Average	45.70	34.00	27.50	39.60	29.40	21.50	19.10	21.20	11.50
National Average	48.00	38.40	35.50	42.50	35.70	32.10	19.10	21.10	19.30

Source: Compiled by Authors.

between social groups has not narrowed down much with time. In 2019-21, the proportion of stunted children has been high in SCs and the gap between SCs and 'Others' remained 14 percentage points as it has been in 2005-06. The study reveals that the proportion of underweight SC children has been two-times more as compared to 'Others' in 2019-21 and the gap between SCs and 'Others' has been of 13 percentage points (Table 2). Hence, this study shows that there has not been a major change in the caste-based disparities in malnutrition among children in Haryana during the study period.

Covariates of Mortality and Nutrition among Children

Taking NFHS-5 data, the covariates of IMR and U-5MR have been calculated and presented in Table 3. It has been found that IMR and U-5MR are very significantly associated with birth order, mother's age at birth and mother's year of schooling. Table 3 shows that with higher birth order, IMR and U-5MR increases. Similarly, the lower age of mother at birth is in correspondence with high

IMR and U-5MR. The education of mother also shows a high degree of correspondence with IMR and U-5MR. It indicates that IMR and U-5MR decline with more years of schooling among women.

Maternal malnutrition has also been one of the major causes of low-birth-weight babies, high infant mortality and poor child growth. High IMR prompts mothers to have more children, which in turn affects the childcare and feeding practices, which leads to more stunted, wasted and underweight babies. Thus, high birth order shows correspondence with high level of malnutrition among children (Table 4). Similarly, the risk of underweight and stunted children has been higher among children of illiterate mothers. This is based on the premise that educated mothers have greater knowledge of childcare and feeding practices which ultimately prevent child malnutrition. The studies conducted in other parts of India also suggest that low income, poor access to public health services, poor health of mother, mother's illiteracy, low weight at birth, inadequate dietary intake and unhealthy environment etc. significantly affect mortality and nutrition of

Table 3
Haryana: Child Mortality vis-a-vis Maternal Characteristics, 2019-21

Maternal Characteristics	IMR ('000' Live Births)	U5MR ('000' Live Births)
Birth Order		
0-1	33.20	36.80
2-3	32.20	35.90
4 or more	38.90	58.40
Mother's Age at Birth		
Less than 20 Years	52.10	53.40
20-29	32.60	37.80
30-39	27.70	36.30
Mother's Schooling		
No schooling	55.70	66.40
Less than 10 years complete	38.50	45.30
10 or more years complete	23.40	25.80

Source: Compiled by Authors.

children (Thorat and Sadana, 2009; Meshram et al., 2012; Mohan et al., 2016; Singh et al., 2020).

Educational Enrolment of Children (6-14 Years)

The study reveals that due to the

continuous efforts of compulsory enrolment at national level, 89 per cent children have been enrolled in schools at elementary level (I to VIII), with little gender variations in favour of girls. In case of Haryana, however, the enrolment ratio has been lower (87.26 per cent) than the national level with gender

Table 4
Haryana: Nutritional Status of Children (Under Five Years) vis-à-vis Maternal Characteristics, 2019-21

Maternal Characteristics	Stunted (per cent)	Wasted (per cent)	Underweight (per cent)
Birth Order			
0-1	23.60	11.50	18.60
2-3	28.00	11.40	21.80
4 or more	38.7	12.50	30.50
Mother's Nutritional Status			
Underweight (BMI < 18.5)	32.60	15.50	29.70
Normal (BMI 18.5-24.9)	30.10	12.70	23.20
Overweight (BMI ≥ 25)	20.20	07.40	13.90
Mother's Schooling			
No schooling	39.30	13.30	35.30
Less than 5 years complete	46.60	12.80	33.10
5-7	33.60	14.00	27.80
10-11	26.80	11.30	19.80
12 or more years complete	18.00	09.50	12.00

Source: Compiled by Authors.

Table 5
Haryana and India: Net Enrolment Ratio of Children at Elementary Level, 2017-2018

Educational Level	Gender	Net Enrolment Ratio	
		Haryana	India
Primary (I-V) (6-10 Years)	Boys	82.11	89.73
	Girls	80.66	90.41
	Total	81.46	90.05
Upper Primary (VI-VIII) (11-14 Years)	Boys	72.67	69.67
	Girls	72.08	71.44
	Total	72.41	70.52
Elementary (I-VIII) (6-14 Years)	Boys	87.78	88.47
	Girls	86.61	89.61
	Total	87.26	89.02

Source: Compiled by Authors.

variations where girls have been at lower position (Table 5). Similarly, at primary level (I to V), the ratio of enrolled children has been comparatively low (81.46 per cent) in Haryana than at the national level (90.05 per cent). The same trend has been detected in case of girls and boys enrolment ratio at primary level. In India, around 90 per cent boys and girls have been enrolled at primary level, whereas in Haryana only 82 per cent boys and 81 per cent girls have been enrolled. Again, enrolment ratio of girls has been less than boys in Haryana. The study reveals that the enrolment ratio has been less at upper primary level than at primary level, both in India as well as in Haryana. The enrolment ratio has been 90 per cent at primary level and 70 per cent at upper primary level (VI to VIII) in India, while in Haryana it has been 81 per cent at primary level and 72 per cent at upper primary level (Table 5). Thus, at primary level, India has recorded higher enrolment ratio than Haryana, but at upper primary level, Haryana has surpassed India. However, at elementary level (I to VIII) India has witnessed higher enrolment ratio than Haryana both in the case of boys as well as girls. On the whole, Haryana

has been at a lower position in the enrolment of students in the schools than India.

Educational Attainment and Socio-economic Characteristics of Households

In Haryana, about two per cent of children (6-14 years) in rural and urban areas are not attending schools despite no school fees and compulsory education. It is quite surprising to find that across social groups, the proportion of children not attending school is higher among the OBC children both in rural and urban areas (Table 6). Among the OBC children, gender variations among the students not attending schools are more prominent in rural areas as compared to urban areas. In urban Haryana, the educational deprivation shows that about two and three per cent children from 'Others' and OBCs caste groups are not attending schools (Table 6). The study further reveals that more boys are out of school than girls in both OBCs and 'Others' social group in urban areas. However, sometimes boys are more likely to leave schools without completing their schooling because of pressure to meet the economic needs of families as they are considered bread winner (Ames, 2013).

Table 6
Haryana: Children (6-14 Years) not Attending School, 2018

Variables	Rural			Urban		
	Boys (per cent)	Girls (per cent)	Total (per cent)	Boys (per cent)	Girls (per cent)	Total (per cent)
Social Groups						
SC	0.80	0.90	0.80	1.60	1.70	1.60
OBC	2.70	4.50	3.50	4.00	1.40	2.90
Others	0.50	0.00	0.30	2.70	0.70	1.90
Total	1.50	2.10	1.70	2.80	1.10	2.10
MPCE Classes						
0-20	0.00	5.60	2.80	4.30	1.20	3.00
21-40	1.70	1.90	1.80	3.40	1.60	2.60
41-60	0.70	2.00	1.20	1.70	2.10	1.90
61-80	2.60	2.30	2.50	1.40	0.00	0.80
81-100	1.80	0.00	1.00	1.90	0.00	1.10
Total	1.50	2.10	1.70	2.80	1.10	2.10

Source: Compiled by Authors.

Further, economic inequalities among children who are not attending schools have been studied by using monthly per capita consumer expenditure (MPCE). The proportion of children not attending school decreases with increasing income both in rural and urban Haryana. However, among the lower MPCE group (0-20), high proportion of girls living in rural areas are out of school, while in urban areas more boys are not going to school (Table 6). The study reveals that MPCE is statistically insignificant in children attending school for both rural and urban Haryana (Table 7 and 8).

As far as social groups and children enrolment is concerned, SC children are less likely to attend school as compared to 'Others' in rural Haryana. This is significant at 5 per cent level (Table 7).

Conclusions

The study highlights the impact of socio-economic inequalities regarding health and educational attainment of children in Haryana. Although IMR and U-5MR have declined during 2005-06 to 2019-21, yet both remained relatively high in rural areas than

Table 7
Rural Haryana: Binary Logistic Regression for Children not Attending School, 2018

Independent Variables		B	S.E.	df	Sig.	Exp (B)
Social Groups	Others (RC)	-	-	2	0.013	-
	OBCs	1.021	1.228	1	0.406	2.775
	SCs	-1.473	0.760	1	0.053	0.229
MPCE Classes	Top 20 Per cent (Rich) (RC)	-	-	2	0.661	-
	40-80 (Middle)	0.735	0.807	1	0.363	2.085
	0-40 (Poor)	0.172	0.523	1	0.741	1.188

Source: Compiled by Authors, RC: Reference Category.

Table 8
Urban Haryana: Binary Logistic Regression for Children not Attending School, 2018

Independent Variables		B	S.E.	df	Sig.	Exp (B)
Social Groups	Others (RC)	-	-	2	0.683	-
	OBCs	-0.143	0.809	1	0.859	0.867
	SCs	-0.594	0.845	1	0.482	0.552
MPCE Classes	Top 20 Per cent (Rich) (RC)	-	-	2	0.364	-
	40-80 (Middle)	1.001	1.055	1	0.343	2.722
	0-40 (Poor)	0.788	0.664	1	0.235	2.199

Source: Compiled by Authors, RC: Reference Category.

urban areas. The social group-wise analysis reveals that the children from the 'others' social group are better placed in both parameters of mortality. The mortality difference across social groups is high which clearly points towards social discrimination of SCs and incremental benefits which are more to higher social groups in society. The level of malnutrition among children has reported a declining trend both in rural and urban areas. The gender-gap which has been visible during 2005-06, diminished in all the three indicators of nutrition i.e., stunted, wasted and underweight in the later period of 2019-21. Across social groups, the deprivation in health is more among the SC children compared to the children of other social groups. It points out that caste-based disparities among children in malnutrition have not been reduced much with time.

The educational status of children reveals that net enrolment of children at primary level has been lower for the state (81.46 per cent) as compared to the national average (90 per cent). The study points out that about 2 per cent children are still deprived from free and compulsory education in Haryana. The children belonging to SCs in rural area are less likely to attend school than 'Others' children. In rural areas gender division is more

prominent where the proportion of girls attending school is lower than boys. A reverse pattern has been observed in urban areas where per cent share of girls attending school is higher than boys. In all MPCE classes, the proportion of children (6-14 age group) not attending school decreases with increasing income. It emerges that the children of lower income groups are not going to school due to poor socio-economic condition of their households. It may be concluded that though children's health and education status has improved with time, yet there are inequalities among social groups.

References

- Ames, P. 2013. Constructing new identities? The role of gender and education in rural girls' life aspirations in Peru. *Gender and Education*, 25 (3): 267-283.
- Ansell, N. 2019. Global south research in children's geographies: from useful illustration to conceptual challenge. In *Establishing Geographies of Children and Young People*, eds., Skelton, T. and Aitken, S.C., Springer Nature, Singapore: 51-67.
- Arokiasamy, P. 2004. Regional pattern of sex bias and excess female child mortality

- in India. *Population*, 59 (6): 833-63.
- Bora, J.K., Raushan, R. and Lutz, W. 2019. The persistent influence of caste on under five mortality: factors that explain the caste-based gap in high focus Indian states. *Public Library of Science One (PLOS ONE)*, 14 (8): 1-20.
- Dyson, T. and Moore, M. 1983. On kinship structure, female autonomy and demographic behavior in India. *Population and Development Review*, 9 (1): 35-60.
- Fernando, J. 2001. Children's rights: beyond the impasse. *Annals of the American Academy of Political and Social Science*, 575 (1): 8-24.
- Government of Haryana. 2021. *Economic Survey of Haryana: 2020-21*. Department of Economic and Statistical Analysis, Haryana, Publication No. 1256: 1-3.
- James, S. 1990. Is there a place for children in geography. *Area*, 22 (3): 278-283.
- Jeffrey, C. 2013. Geographies of children and youth III: alchemists of the revolution? *Progress in Human Geography*, 37 (1): 145-152.
- Kanjilal, B., Mazumdar, P.G., Mukherjee, M. and Rahman, M.H. 2010. Nutritional status of children in India: household socio-economic condition as the contextual determinant. *International Journal for Equity in Health*, 9 (19): 1-13.
- Meshram, I.I., Arlappa, N., Balakrishna, N., Rao, K.M., Laxmaiah, A. and Brahman, G.N.V. 2012. Trends in the prevalence of undernutrition, nutrient and food intake and predictors of undernutrition among under five-year tribal children in India. *Asia Pacific Journal of Clinical Nutrition*, 21 (4): 568-576.
- Mohan, P., Agarwal, K. and Jain, P. 2016. Child malnutrition in Rajasthan: study of tribal migrant communities. *Economic & Political Weekly*, 51 (33): 73-81.
- National Sample Survey Organisation (NSSO). 2018. *Drinking water, sanitation, hygiene and housing condition in India*. NSSO 76th Round, National Sample Survey Organisation, Government of India, New Delhi: 68-164.
- Pande, R.P. and Astone, N.M. 2007. Explaining son preference in rural India: the independent role of structural versus individual factors. *Population Research and Policy Review*, 26: 1-29.
- Patra, N. 2008. State-wise pattern of gender bias in child health in India. *International Journal of Child Health and Human Development*, 5 (3): 303-323.
- Radhakrishna, R. and Ravi, C. 2004. Malnutrition in India: trends and determinants. *Economic & Political Weekly*, 39 (7): 671-676.
- Ram, B., Singh, A. and Yadav, A. 2016. The persistent caste divides in India's infant mortality: a study of Dalits (untouchable), Adivasis (indigenous peoples), other backward classes, and forward castes. *Canadian Studies in Population*, 43 (3-4): 249-63.
- Singh, S.K., Srivastava, S. and Chauhan, S. 2020. Inequality in child undernutrition among urban population in India: a decomposition analysis. *BMC Public Health*, 20 (1852): 1-15.
- Thorat, S. and Sadana, N. 2009. Discrimination and children's nutritional status in India. *IDS Bulletin*, 40: 25-29.
- The United Nations International Children's

Fund (UNICEF). 2019. *The state of the world's children 2019. children, food, nutrition: growing well in changing world.*, United Nations, New York: 7-211.

World Bank. 2019. World Bank: Data. <https://data.worldbank.org>. Accessed on November 14, 2022.

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