Gender Inequality in Child Care in India: Is it narrowing down

By

Ravendra Kumar Sharma[1], Manju Rani[2] & Sandeep Kumar Sharma[3]

[1]Scientist 'C'
Regional Medical Research Centre for Tribals (ICMR)
PO –Garha, Nagpur Road
Jabalpur – 482003 (M. P.), INDIA
E-mail: ravendra_s@yahoo.com

[2]Lecturer (Sr. Scale)
Dept. of Economics
Ch. Charan Singh Government Degree College
Chhaprauli, Baghpat (U.P.), INDIA
E-mail: ranimanju@gmail.com

[3]Senior Research Fellow
Indian Agriculture Research Institute (IARI),
New Delhi, INDIA
E-mail: sharma_k_sandeep@yahoo.com

ABSTRACT

The paper assesses disparities in child care practices in India and its major states. Attempts are also made to investigate whether the discrimination has declined over the time or not. For this data are taken from three rounds of National Family Health Surveys (NFHS) conducted in year 1992-93, 1998-99 and 2005-06 respectively. The indicators of child-care considered in this study are: duration of breastfeeding, health care of sick children, nutritional status, immunization of children, mortality of children in different ages, and their educational attainment. Sopher's (1974) methodology is used to compute a gender disparity index for each indicator, and finally a composite overall disparity index is computed. Results of the study illustrate that gender disparity is declining in some aspects of child care and vice-versa. For instance, differences in the proportion of male and female children who received full immunization increased between first and third round NFHS.

BACKGROUND

The United Nations Millennium Declaration which was adopted by all 189 Member States of the United Nations on 8 September 2000 embodies a large number of specific commitments aimed at improving the lot of humanity in the new century. The third goal and many others targets précised under different goals stressed on gender equality. In developing countries gender discrimination against females is a well documented phenomena. Females are more disadvantaged than males in terms of seven types of inequalities (Sen, 2001). Within the households, gender discrimination exists in terms of calories intake, sedentary activities, etc. A number of studies have found higher female mortality than males in many of the developing countries. Hill and Upchurch (1995) studied data from a large number of countries and compared their sex differentials in mortality decline with North-West Europe. They concluded that girls in the developing countries have a higher risk of mortality than boys for a given level of mortality. Female disadvantage is maximum for girls in age group 1-4 years, where care is more important than genetic factors in determining mortality risks. Evidences from India have shows an adverse status of women which has worsened in recent decades. Female disadvantage is evident in India from the constantly declining sex ratio, lower literacy rate of females than males and lower participation of women than men in the work force, e.g. the sex ratio (females per 1000 males) declined from 972 in 1901 to 933 in 2001. During the last four decades sex ratio of child population (0-6 years) has declined by almost 50 points. The male literacy rate for 2001 was 76 percent compared with 54 percent for females. In the same year the work participation rates for males and females were 52 and 26 percent, respectively (Nangia & Roy, 2007). According to the National Family Health Survey -3 of India, under-five mortality for males and females is 69.7 and 79.2 respectively 2005-06. Higher female mortality in childhood may be either because of certain specific causes, which affect the fairer sex more or due to gender

discrimination in nutrition and health care. According to Hill and Upchurch (1995) female mortality disadvantage is not related to nutritional status (anthropometric measures) and sickness rates, rather it shows a positive association with relative lack of immunization coverage for girls and a negative relationship with female disadvantage in treatment of diarrhoea. The prevalence of malnutrition in children in India is one of the highest in the world and over the years, there has been only a marginal improvement in the nutritional status of children. Relatively more female children are malnourished in comparison of male children in India. A study in Punjab revealed that although both sexes receive the same number of calories, girls are given more cereals, while boys receive more high valued food items like milk and fat (Das Gupta, 1987).

OBJECTIVES

In this paper attempts are made to find out the existence of gender disparity in child care, child nutritional and education in India and to study trend in child discrimination during three rounds of the NFHS survey.

DATA AND METHODOLOGY

The data for the present analysis has been taken from three rounds of National Family Health Survey (NFHS), conducted in 1992-93 (IIPS, 1995), 1998-99 (IIPS, 2000) and 2005-06 (IIPS, 2007) respectively. However the state level NFHS-3 reports are not available so far, thus state level analyses is restricted to NFHS-2 only.

Most commonly used tools to measures the gap/disparity are a) measuring the arithmetic difference between the two percentages, b) the ratio of one to the other, and c) scanning the two sets of data for pattern of variation, i.e. visually comparing the two mapped patterns, etc. But these

techniques are not statistically valid and the imperceptive use of them can lead to erroneous conclusion. Keeping this view in mind, present study used index of disparity which was first time proposed by Sopher in 1974. According to this measure of disparity between two groups in their possession of a particular property (here it is child care indicators) is measured by the logarithm of the odds ratio of the odds that any member of one group has the property to the odds that any member of other group does (Sopher, 1974). Mathematically it can be stated as:

$$D_i = \left[\log\left(\frac{X_1}{X_2}\right) + \log\left(\frac{K - X_2}{K - X_1}\right) \right] \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where $X_1 > X_2$, K is a constant, when value of indicators are in percentages, we took K as 100, but in case of rate, like child mortality, we have assumed K as 1000.

To get a composite index, the average of all D_i are taken as a final index as:

$$Z = \frac{1}{n}\sum_{i=1}^{n} D_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2),$$

where D_i is the value of disparity index for i^{th} indicator and n is the number of disparity indices (i = *1 .....n*) and Z is the final composite index. It has a number of useful properties, such as a) It ranges from minus infinity to plus infinity and each of these extremes can occur when one of the groups lacks the property altogether or when all members of one group have the property; b) The 0 (zero) value indicates no disparity; c) The sign is reversed when the disparity is measured in the reverse direction.

RESULTS & DISCUSSION

To study the gender disparity in child care in India, four different indices were computed including different aspects of child care and raring. These four indices are viz. (a) Disparity in child care, (b) Disparity in child nutrition status, (c) Disparity in child mortality and (d) Disparity in child education.

(a) Disparity in child care:

The growth of children depends on the care they receive in early years of their childhood. The examine the disparity in male vs. female child in India a Child care disparity index was computed including four components, viz. children received all vaccination, median duration of breastfeeding, treatment seeking for acute respiratory infections (ARI) and diarrhoea.

To reduce the incidence of child morbidity and mortality, Government of India has made arrangements for free vaccination services of the required doses of BCG, DPT, polio and measles vaccines to protect children against tuberculosis; diphtheria, pertussis (whooping cough), tetanus; polio and measles respectively. Table 1 shows that about 40-50 percent children are still not vaccinated for all preventable diseases. Mother's milk provides important nutrients to infants and young children and protects them against certain infections, and the initial growth of a child depends upon the duration and frequency of breastfeeding. The results show that the median duration of breastfeeding for male children is nearly two months longer than female children. Apart from discrimination in immunization coverage, females also receive less health care than males when they fall sick. Table 1 also shows the proportion of male and female children who did not receive any treatment when they suffered from Acute Respiratory Infection (ARI) and Diarrhoea. The female disadvantage over male children is higher for treatment in ARI or diarrhoea.

As discussed in methodology section, a child care disparity index (CDI) is prepared to find

out gender disparity in health care of children in terms of receiving vaccinations, duration of breastfeeding and treatment during sickness. The CDI value for India shows that overall the gender discrimination is not that prevalent in child care as we usly believe. The child care disparity index values were 0.073 in NFHS-1, 0.053 in NFHS-2 and 0.064 in NFHS-3, which is almost equal to no gender discrimination.

Table 1: Child care indicators and child care disparity index (CDI)

Round of Survey	Percent of children (12-23 months) received all vaccinations			Median duration of breastfeeding			Percent of children who were taken to health facilities when child was sick						Child Care Disparity Index (CDI)
							In Case of ARI			In case of diarrhoea			
	Male	Female	Index	Male	Female	Index	Male	Female	Index	Male	Female	Index	
NFHS-1 (1992-93)	36.7	34.1	0.049	25.3	23.6	0.040	82.2	78.0	0.115	82.2	79.0	0.089	0.073
NFHS-2 (1998-99)	43.1	40.9	0.039	26.4	24.6	0.041	66.5	60.8	0.107	73.2	72.0	0.026	0.053
NFHS-3 (2005-06)	45.3	41.5	0.067	25.4	23.6	0.042	71.7	65.8	0.120	74.4	73.2	0.027	0.064

(b) Disparity in child nutrition status:

The dietary intake of children also effects the physical growth of children. Balanced diets of child not only effect the growth of child but all provide protection from various infections and diseases. To examine the gender disparity in nutrition intake in India, a child nutrition disparity index was computed including four components, viz. proportion of children underweight, stunted and proportion of children wasted.

The measures used in the NFHS for assessing the nutritional status of children (below three years) are weight-for-age (underweight), height-for-age (stunted) and weight-for-height (wasted). Less than half of children in India are undernourished (underweight or stunted) as reflected by their

weight and height for age, with hardly any inequality by gender (Table 2). Similarly the proportion of male and female children who are wasted is almost the same (15 to 20 percent). During NFHS-1 and NFHS-3 nutritional status of children has improved in India and the proportion of undernourished children has declined, but in NFHS-3 the proportion of wasted has gone up slightly.

Table 2: Child nutritional indicators and child nutrition disparity index (NDI)

Round of Survey	Underweight			Stunted			Wasted			Child Nutritional Disparity Index (NDI)
	Male	Female	Index	Male	Female	Index	Male	Female	Index	
NFHS-1 (1992-93)	53.3	53.4	0.00	52.3	51.7	0.01	18.8	16.1	0.08	0.03
NFHS-2 (1998-99)	45.3	48.9	-0.06	44.1	47.0	-0.05	15.7	15.2	0.02	-0.03
NFHS-3 (2005-06)	41.9	43.1	-0.02	48.1	48.0	0.00	20.5	19.1	0.04	0.01

(c) Disparity in child mortality

Many studies carried out through out the developing world have shown that gender discrimination leads to higher female mortality than males. In India, child mortality is still very high, 39 babies per 1000 live births die in neonatal period, 57 die during infancy and 74 before reaching age five (IIPS, 2007). Dyson and Moore (1983) have observed a greater sex differential in child mortality in northern than in southern states. Table 3 shows that males have a much higher mortality rate than females during the neonatal period (40.9 compared to 36.8). These differences narrow down during infancy (56.3 compared to 57.7). But in the early childhood (below 5 years) female mortality rate (79.2) becomes higher than male mortality rate (69.7).

A mortality disparity index (MDI) is prepared by taking three mortality rates (neonatal, infant and under five mortality). Under five child mortality is selected because despite high sex ratio at birth (favourable to males) higher male mortality during first five years balances the child sex ratio (0-6

years). Similar to NDI index, the values of MDI is also very low, or in other words, there is no significant differentiation in chid mortality by sex of child.

Table 3: Child mortality indicators and child mortality disparity index (CMI)

Round of Survey	Neonatal Mortality			Infant mortality			Under-five mortality			Child Mortality Disparity Index (MDI)
	Male	Female	Index	Male	Female	Index	Male	Female	Index	
NFHS-1 (1992-93)	57.0	48.1	0.08	88.6	83.9	0.03	115.4	122.4	-0.03	0.02
NFHS-2 (1998-99)	50.7	44.6	0.06	74.8	71.1	0.02	97.9	105.2	-0.03	0.02
NFHS-3 (2005-06)	40.9	36.8	0.05	56.3	57.7	-0.01	69.7	79.2	-0.06	-0.01

(d) Disparity in child education

The UN Millennium Development Goals 2 focuses on Universal Primary Education, which ensures that all boys and girls should complete a full course of primary schooling. Goal 3 is also cite for elimination of gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015 (Sharma & Rani, 2008).

Table 4 shows the discrimination in the education of female and male child in India. It is observable that the proportion of literate children has improved during NFHS-1 and NFHS-3 surveys irrespective the sex of child, and the gap between male and female literate children has gone down to 0.25 in NFHS-3 from 0.41 in NFHS-1. There was not difference in the proportion of children (10-14 years) completed primary education in NFHS-1 & NFHS-2 surveys, however this proportion has declined in NFHS-3 for both male and female children. Similar to literacy, the proportion of children attending school has improved over the period and the gap between male and female children have been narrowed down.

An educational disparity index (EDI) is created by taking an average of the sum of disparity index for literate, completed primary education and children attending school. The EDI value has declined from 0.25 in NFHS-1 to 0.16 in NFHS-3.

Table 4: Child mortality indicators and child mortality disparity index (CMI)

Round of Survey	Percent of children (10-14 yrs) who						Percent attending school (6-14 yrs)			Child Educational Disparity Index (EDI)
	Are literate			completed primary education						
	Male	Female	Index	Male	Female	Index	Male	Female	Index	
NFHS-1 (1992-93)	82.1	64.1	0.41	46.0	46.1	0.00	75.5	58.9	0.33	0.25
NFHS-2 (1998-99)	87.0	76.1	0.32	46.3	46.1	0.00	83.1	73.7	0.24	0.19
NFHS-3 (2005-06)	92.3	87.1	0.25	44.5	41.2	0.06	82.6	76.4	0.17	0.16

Gender discrimination in major states of India

To study the inter-state variation in gender discrimination, all four indices discussed above are also computed for all major states. As the NFHS-3 reports are not available for all states, the NFHS-2 data is used. Table 5 shows that there is no discernible gender discrimination in child care, except in Assam, Himachal Pradesh states. The value of child care disparity index (CDI) was 0.22 and 0.12 in Assam and Himachal Pradesh respectively. As observed at national level, no prejudice is observed in child nutrition status in any states. As far the discrimination in child mortality is concerned, except few states, most of the states do not show any substantial variation in child mortality. However, the male mortality as compared to female mortality was higher in Kerala (0.20), Delhi (0.14), Karnataka (0.13), and Himachal Pradesh (0.12), on the other hand female mortality was excess to male mortality in Punjab (-0.13) and Haryana (-0.11). Among all kind of disparity, the educational disparity is most prominent. This may be because of very strong son

preference in India. The educational disparity index (EDI) shows that in all states, except Kerala, the female children are at disadvantaged stage. In Kerala state, relatively less male children are attending school as compared to female children. The value of EDI varies from high 0.46 in Rajasthan to 0.10 in Karnataka. The female children are educationally at more disadvantaged stage in state like Rajasthan, Jammu & Kashmir, Uttar Pradesh, Bihar, Himachal Pradesh, Orissa states.

Table 5: Values of different disparity indices by state, NFHS-2

States	Child Care Disparity Index (CDI)	Child Nutrition Disparity Index (NDI)	Child Mortality Disparity Index (MDI)	Child Educational Disparity Index (EDI)
Andhra Pradesh	0.03	-0.04	0.07	0.19
Assam	0.22	0.03	0.10	0.12
Bihar	0.07	-0.02	0.00	0.22
Gujarat	0.06	-0.13	0.06	0.19
Haryana	-0.01	-0.03	-0.11	0.19
Himachal Pradesh	0.12	0.08	0.12	0.21
Karnataka	0.06	-0.01	0.13	0.10
Kerala	0.07	0.04	0.20	-0.18
Madhya Pradesh	0.01	-0.05	0.05	0.20
Maharashtra	-0.05	-0.04	0.01	0.11
Orissa	0.04	0.01	0.09	0.20
Punjab	0.01	0.03	-0.13	0.12
Rajasthan	0.01	-0.04	0.00	0.46
Tamil Nadu	0.09	0.01	-0.02	0.14
Uttar Prasdesh	0.07	-0.04	-0.02	0.26
West Bengal	0.07	-0.07	0.08	0.11
Delhi	-0.03	0.04	0.14	0.11
Jammu & Kashmir	0.10	0.07	0.02	0.30

CONCLUSION

Results of the study illustrate that gender disparity in declining in some aspects of child

care. For instance, differences in the proportion of male and female children who received full immunization increased between first and third round NFHS. The male-female difference in the median duration of breast-feeding almost remained unchanged during three rounds of NFHS surveys. Similarly gaps between male and female children in nutrition status also by and large remain constant. Though the differences in neonatal mortality have reduced over the period, but differences in infant and under-five mortality are almost at NFHS-1 levels. The differences in proportion of male and female children aged 6-14 attending school has also declined.

REFERENCES

1. Dasgupta Monica. 1987. Selective discrimination against female children in rural Punjab, India. Population and Development Review, Vol.13, No.1, March. pp. 77-100.
2. Hill K, Upchurch DM. 1995. Gender differences in child health: evidence from the demographic and health surveys". Population and Development Review, Vol.21, No.1, March. pp. 127-151.
3. International Institute for Population Sciences (IIPS). 1995. National Family Health Survey 1992-93, India. Bombay : IIPS.
4. International Institute for Population Sciences and ORC Macro. 2000. National Family Health Survey (NFHS-2), India 1998-99. Mumbai: IIPS.
5. International Institute for Population Sciences and ORC Macro. 2007. National Family Health Survey (NFHS-3), India 2005-06. Mumbai: IIPS.
6. Kumar KSB, Behera SM, Pradhan J. 2008. Gender differentials in child nutrition among various socioeconomic groups in EAG states. In Ranjan A (et al) Population and Health India 2007. pp191-218.
7. Nangia P & Roy TK. 2007. Gender disparity in child care in India: Findings from two National Family Health Surveys. Paper presented in Seminar on Gender Issues and Empowerment of Women, 1-2 February 2007, held at Indian Statistical Institute, Kolkatta.
8. Sen A. 2001. Many Faces of gender inequality. Frontline, 18 (22).
9. Sharma SK & Rani M. 2008 Elementary Education in Uttarakhand State. Paper present at National Seminar on Population, Environment and Development in Uttarakhand, during 17th -19th March 2008 at Dehradun, organized by International Institute for Population Sciences (IIPS), Mumbai.