Gender Inequality in Terms of Health and Nutrition in India: Evidence from National Family Health Survey-3

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Gender inequality is one of the major problems faced by the human society. It refers to unequal and biased treatment towards female. Fortunately, over a period of time, things have slowly changed. However, this is still a very serious and widespread problem in society. National Family Health Survey -3 (NFHS-3) was released recently by the Indian Ministry of Health and Family Welfare published by International Institute for Population Sciences (IIPS). The report provides information on health and nutrition for both children and adults. In this paper an attempt has been made to analyze the gender inequality on the basis of gender parity index with respect of health and nutrition. The findings show a significant gender bias against female (both children and adults) in most states of India. The author has also estimated the Equally Distributed Life Expectancy Index for the major states of India.

Keywords: Gender inequality, women, health, nutrition etc.

Introduction

Inequality is lack of equal distribution and Gender inequality is unequal and biased treatment between male and female. Gender inequality exists in most part of the world, from Japan to Morocco and from Uzbekistan to United States of America. However, inequality between women and men can take many different forms. As soon as child is born society begins the process of gendering. The birth of son is celebrated and they get love, better food and proper health care. Boys are encouraged to be strong and outgoing and girls are encouraged to be home bounded and shy.

In India discrimination against girls begins before birth and spans the entire life. In 1901, the country had a female to male sex ratio of 972 girls to every 1000 boys. In the 2001 census, it was 933 to 1000. This adds up to around 20 millions missing females. Punjab and Haryana, the two richest states in terms of per capita incomes, have among the lowest female to male sex ratio: 861 girls to 1000 boys in Haryana and 874 girls to every 1000 boys in Punjab. Sen (2001), in his treatise on seven faces of gender inequality, highlighted several domains where men and women have received unequal opportunities, viz. in terms of mortality, natality, basic facility, special opportunities, professional, ownership and household.

National Family Health Survey (2005-06) highlights the gender differentials in relation to health status. The survey documents low level of nutrition among girls compared to boys. Anemia in girl child and women are high. Similarly child mortality statistics clearly show higher mortality among girls and women are more likely to be malnourished than men in most of the states. The National Family Health Survey (1998-99) also documented a similar picture of poor health statistics.

A large number of studies have been done to study preferences for sons over daughters and the effect of gender inequality in education, employment and health (Arnold et al 1998, Desai 1994, D'Souza & Chen 1980, Miller 1981 etc.). Studies in India have found that boys are much more likely than girls to be taken to health facility at the time of sick (Govindaswamy and Ramesh 2006, Kishore 1993). Das Gupta (1987) found that while boys and girls had roughly similar calories intake, girls were given more cereal, while boys were given more milk and fat with their cereal. Duration of breastfeeding for infant girls was also found to be shorter compared to boys (NFHS-2 & 3, Das Gupta 1987). Sharma (2005) examined the patterns of gender differences for children in the north state of India in Haryana for health outcomes. Arokiasamy and Pradhan (2006) have approached to study gender bias with respect to school attendance, use of preventive and curative health care services and child nutrition. Lakshmana (2006) tried to understand the demographic changes and gender inequality in the states of Madhya Pradesh and Karnataka.

National Family Health Survey -3 provides information on health and nutrition for both children and adults. The Objective of this paper is to see the gender inequality with respect to adult nutrition, adult food consumption, child

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mortality, Child Vaccinations Coverage and child nutrition. For this study author has taken fourteen major states of India.

The United Nations Development Programme (UNDP) introduced Gender Development Index (GDI) in 1995 to measure the inequalities between men and women in following areas: long and healthy life, education and income. It is the unweighted average of the three equally distributed indices: equally distributed Life Expectancy Index, equally distributed Education Index and equally distributed Income Index. This paper also estimated Equally Distributed Life Expectancy Index in order to find out the relationship between this index and inequality in different indicators of health and nutrition.

Data and Methodology:

Since the mid –1990s, the Ministry of Health and Family Welfare has been relying increasingly on the country's National Family Health Surveys (NFHS) to monitor and evaluate the success of its family planning and reproductive and child health programmes, both nationwide and in individual states. The NFHS provides information on fertility, child mortality and health indicators. It also collects the data on body mass index, food consumption, child vaccinations coverage, etc. The extent of gender bias against women has been examined based on all sex differences.

Method of Calculating Sex differences in Health and Nutrition:

Following Five indicators have been used to evaluate the gender bias in health and nutrition.

1. Adult Nutrition
2. Adult Food Consumption
3. Child Mortality
4. Child Vaccinations Coverage
5. Child Nutrition

Gender Bias Index for Adult Nutrition:

Gender parity index (GPI) of normal body mass index (BMI), GPI_1= Percentage of women with normal BMI / Percentage of men with normal BMI

GPI for undernourished, GPI_2= Percentage of men with BMI < 18.5 / Percentage of women with BMI < 18.5

Index of gender bias in Adult Nutrition (GPI_{AN}) = (GPI_1+ GPI_2)/2

Gender Bias Index for Adult Food Consumption (AFC):

GPI for Consumption of Milk, GPI_3= Percentage of women consuming milk at least once in a week / Percentage of men consuming milk at least once a week.

GPI for Consumption of Pulses, GPI_4= Percentage of women consuming pulses once at least in a week / Percentage of men consuming pulses at least once in a week.

GPI for Consumption of Fruits, GPI_5= Percentage of women consuming fruits once at least in a week / Percentage of men consuming fruit once at least in a week.

GPI for Consumption of Fish/Chicken/Meet, GPI_6 = Percentage of women consuming fruit at least once a week / Percentage of men consuming fruit at least once a week.

Index of gender bias in Adult Food Consumptions (GPI_{AFC}) = (GPI_3+ GPI_4 + GPI_5+ GPI_6)/4

Gender Bias Index for Child Mortality (CM):

GPI for Infant Mortality Rate (IMR), GPI_7= IMR for female / IMR for male

GPI for Under-five Mortality Rate (UMR), GPI_8= Under-five mortality rate for female / Under-five mortality rate for male

Index of gender bias in Child Mortality (GPI_{CM}) = (GPI_7+ GPI_8) / 2

Gender Bias Index for Child Vaccinations Coverage (CVC):

GPI for Children with all Basic Vaccinations, GPI_9= Percentage of female child with all basic vaccinations / Percentage of male child with all basic vaccinations.

GPI for Children having vaccination card, GPI_{10} = Percentage of girls having vaccination card / Percentage of boys having vaccination card.

Index of gender bias in Child Vaccinations Coverage (GPI_{CVC}) = (GPI_9+ GPI_{10})/2

Gender Bias Index for Child Nutrition:

GPI for Prevalence of Malnutrition, GPI_{11} = Percentage of male child below the threshold – 2 standard deviation of the median of weight-for-age / Percentage of female child below the threshold – 2 standard deviation of the median of weight-for-age

GPI_{12} = Percentage of male child below the threshold – 2 standard deviation of the median of height- for-age / Percentage of female child below the threshold – 2 standard deviation of the median of height- for-age

GPI_{13}= Percentage of male child below the threshold – 2 standard deviation of the median of weight- for-height / Percentage of female child below the threshold – 2 standard deviation of the median of weight-for-height

GPI for Breastfeeding Duration, GPI_{14} = Median duration of any breastfeeding in a month for girls / Median duration of any breastfeeding in a month for boys.

Index of gender bias in child nutrition (GPI_{CN}) = (GPI_{11} + GPI_{12} + GPI_{13} + GPI_{14})/4

Composite Index for Gender Bias in Adult = (GPI_{AN} + GPI_{AFC})/2

Composite Index for Gender Bias in Children = (GPI_{CM} +

GPI$_{CVC}$ + GPI$_{CN}$)/3

Composite Index for Gender Bias = (GPI$_{AN}$ + GPI$_{AFC}$ + GPI$_{CM}$ + GPI$_{CVC}$ + GPI$_{CN}$)/5

Equally Distributed Health Development Index:

As earlier mentioned GDI is the average of three equally distributed indices: Equally distributed health development index, equally distributed education development index and equally distributed income development index.

Here, equally distributed health development index (EDHDI) will be taken into account to measure its relationship with gender bias for different indicators. For Calculating the EDHDI we estimate the male and female health development index. United Nations uses a different standard formula for estimating EDHDI assuming that it is natural that women would live about 5 years longer than men. Same formula has been used for this study.

Equally Distributed Health Development Index =

$$\left(\frac{\text{Female share of population}}{\text{Female health development index}} + \frac{\text{Male share of population}}{\text{Male health development index}} \right)^{-1}$$

Where,

Male health development index = (Male life expectancy at birth – 22.5) / (82.5 – 22.5)

Female health development index = (Female life expectancy at birth – 27.5) / (87.5 – 27.5)

Results and Discussion:

Table 1 shows the gender bias in adult nutrition in terms of body mass index. The difference between percentage of male and female with normal BMI is more than 5 in West Bengal, Bihar, Tamil Nadu, Kerala, Karnataka and Orissa which coincides with all India figure. But percentage of thin women (BMI < 18.5) is less than men in the states of Kerala, Rajasthan, Uttar Pradesh and Punjab. The gender parity index for nutrition indicates deprivation of female with differences among the states. A high level of deprivation is found for the states of Bihar, Orissa and West Bengal. Level of deprivation found same for Maharashtra, Andhra Pradesh and Karnataka. GPI indicates no evidence of gender inequality in the states of Rajasthan, Kerala, Uttar Pradesh and Punjab in respect of adult nutrition.

Results in Table-2 show the sex differential in adult food consumptions. A very high level of female deprivation is indicated in most of the states like, Orissa, Madhya Pradesh, Uttar Pradesh, West Bengal, Haryana, Punjab, and Andhra Pradesh. Some states have gender inequality in consumption of pluses also. Similar to the consumption of milk, a very high level of gender gap is found in the consumption of fruits in all states except Bihar and Gujarat. The consumption of non-vegetarians (Fish/Chicken/ Meet) in female is very less in Northern states. Gender bias is more in terms of overall food consumption in states, Punjab, Haryana, Rajasthan, Madhya Pradesh, Uttar Pradesh, Orissa etc. And there is no evidence of gender bias in Gujrat in terms of Food consumption.

The ratios presented in table 3, indicate clear evidence of gender bias in child mortality in most of the states. This table shows the gender bias in neo-natal mortality (Probability of dying in the first month of the life), infant mortality (Probability of dying before the first birthday) and under five mortality rates (Probability of dying before the fifth birthday). The column 5th and 6th of the table-3 show the growth in gender bias between neo-natal and IMR, IMR and UMR. The GPI in Neonatal mortality rate indicate no evidence of gender bias, but gender bias is more in Infant mortality rate and ranges from 0.84 in Bihar to 1.51 in West Bengal. For the measurement of gender bias in terms of mortality author has considered unweighted average of GPI in IMR and UMR. The gender disparity in terms of child mortality varied from 0.80 to 1.43. These ratios indicate female advantage in the states of West Bengal, Kerala, Andhra Pradesh, Karnataka, Maharashtra and Orissa. Table 2 indicates the high level of gender inequality in the states of Bihar, Uttar Pradesh, and Rajasthan etc.

Two indicators are taken for the index of coverage of vaccinations. The Female/Male ratio presented in table 4 shows a clear evidence of gender bias in the coverage of vaccination in most of the states. The GPI of the children who had received all basic vaccinations varied from 0.70 for Bihar to 1.13 in Orissa. The ratios indicate more gender bias in the states of Bihar, Andhra Pradesh, Madhya Pradesh, Punjab, Uttar Pradesh, Gujarat etc. The ratios show no evidence of bias in Haryana, Rajasthan, Orissa, West Bengal, Karnataka, Kerala and Tamil Nadu.

Holding vaccination cards may be taken as an indication of interest shown by parents in respect of the health of children. The Female/Male ratios of children having the vaccination card vary from 0.75 to 1.13 and it is surprising that the ratio in Andhra Pradesh shows high level of gender inequality in terms of keeping vaccination card. Only few states like Karnataka, West Bengal, Orissa, Tamil Nadu and Haryana are not having evidence of gender bias in terms of vaccination card; even GPI for keeping vaccination card indicates little gender bias in Kerala.

The gender parity index in terms of coverage of vaccination varied from 0.73 to 1.09. This index shows the high level of gender bias in Bihar, Andhra Pradesh, Madhya Pradesh, Uttar Pradesh, Punjab etc. States where female children were in good position in respect of coverage of vaccination are Orissa, West Bengal, Karnataka, Haryana, Tamil Nadu and Kerala.

There are three standard indices of physical growth that describe the nutritional status of children (Height for age, weight for height and weight for age). Children whose height for age (Z-score) is below minus 2 standard deviation from the median of the reference population are considered chronically

malnourished. Children whose weight for height Z score below minus two standard deviation from the median of the reference population are considered thin for their height and are actually malnourished. Weight for age takes into consideration of both acute and chronic malnutrition. Children whose weight for age is below minus two standards deviation from the median of the reference population are classified as underweight.

The table 5 presents the four indicators taken for the index of child nutrition. Results show that gender differences in nutrition in terms of underweight, stunt, waste and median duration of breastfeeding. The GPI in nutritional status indicates low level of gender bias. Only few states like Madhya Pradesh, Uttar Pradesh, Bihar and Orissa are having gender bias in terms of height for age. There is no evidence of gender bias in any states with respect of weight for height. Female/Male ratios in terms of median duration of breastfeeding in table 5 show clear evidence of gender difference in each of the states except Karnataka. The index gender bias in child nutrition has obtained in the states of Uttar Pradesh, Bihar, Orissa, Andhra Pradesh and India.

A composite index of gender inequality against female has been computed by aggregating all sub indices of gender bias. Composite index presented in table 7 shows a significant degree of gender bias against female in most of states in India. Kerala, Karnataka, and West Bengal are showing favorable conditions for females.

Table 7 shows the state wise equally distributed life expectancy index. Author has computed correlation coefficient between this index and gender bias in different indicators of health and nutrition and found that there is significant correlation for gender bias in child mortality, child nutrition and composite index for gender bias. This shows that gender bias in health and nutrition may affect the inequality in life of expectancy.

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Table 1: Gender bias in Adult Nutrition

States	Percentage with Normal BMI		Female/Male (I)	Percentage with BMI < 18.5		Male/ Female (II)	Average of (I & II)
	Male	Female		Male	Female		
India	56.3	51.8	0.92	34.2	35.6	0.96	0.94
Haryana	58.3	51.2	0.88	30.9	31.3	0.99	0.94
Punjab	57.2	51.2	0.90	20.6	18.9	1.09	1.00
Rajasthan	53.3	54.4	1.02	40.5	36.7	1.10	1.06
Madhya Pradesh	54.1	50.8	0.94	41.6	41.7	1.00	0.97
Uttar Pradesh	54.4	54.8	1.01	38.3	36.0	1.06	1.04
Bihar	58.5	50.4	0.86	35.3	45.1	0.78	0.82
Orissa	58.3	52.0	0.89	35.7	41.3	0.86	0.88
West Bengal	59.4	49.6	0.84	35.2	39.1	0.90	0.87
Gujarat	52.6	47.0	0.89	36.1	36.3	0.99	0.94
Maharashtra	54.6	49.3	0.90	33.5	36.2	0.93	0.92
Andhra Pradesh	55.6	50.9	0.92	30.8	33.5	0.92	0.92
Karnataka	55.1	49.2	0.89	33.9	35.5	0.95	0.92
Kerala	60.6	53.9	0.89	21.5	18.0	1.19	1.04
Tamil Nadu	58.4	50.6	0.87	27.1	28.4	0.95	0.91

Table 2: Gender bias in Food Consumption in Adults.

States	Milk		Female/Male (I)	Pulses		Female/Male (II)	Fruits		Female/Male (III)	Fish/Chicken/Meet		Female/Male (IV)	Average of (I, II, III, IV)
	Male	Female		Male	Female		Male	Female		Male	Female		
India	67.2	55.4	0.82	90.7	89.5	0.99	47.4	39.8	0.84	40.9	35.4	0.87	0.88
Haryana	87.8	71.5	0.81	97.6	93.5	0.96	63.2	33.3	0.53	5.5	1.5	0.27	0.64
Punjab	85.7	70.7	0.82	98.6	85.0	0.86	71.5	37.6	0.53	20.1	4.3	0.21	0.61
Rajasthan	81.2	68.7	0.85	87.1	85.0	0.98	31.0	22.9	0.74	11.0	4.3	0.39	0.74
Madhya Pradesh	71.2	48.0	0.67	94.3	93.2	0.99	38.2	35.0	0.92	16.4	9.5	0.58	0.79
Uttar Pradesh	70.1	52.0	0.74	93.7	94.5	1.01	38.4	24.1	0.63	14.7	11.3	0.77	0.79
Bihar	66.4	57.8	0.87	95.9	95.9	1.00	30.8	34.1	1.11	27.6	18.3	0.66	0.91
Orissa	39.2	25.6	0.65	94.7	91.8	0.97	16.6	12.6	0.76	58.7	53.2	0.91	0.82
West Bengal	37.5	30.7	0.82	90.7	87.4	0.96	27.4	26.6	0.97	84.3	86.9	1.03	0.95
Gujarat	82.1	74.1	0.90	95.8	95.8	1.00	48.4	49.6	1.02	12.4	14.9	1.20	1.03
Maharashtra	63.6	53.4	0.84	95.7	92.6	0.97	59.7	55.9	0.94	48.4	33.1	0.68	0.86
Andhra Pradesh	83.9	69.0	0.82	95.7	96.5	1.01	56.0	47.6	0.85	69.5	67.4	0.97	0.91
Karnataka	90.4	87.4	0.97	98.8	98.4	1.00	74.9	70.4	0.94	45.9	38.2	0.83	0.93
Kerala	60.9	61.6	1.01	73.5	73.1	0.99	79.6	65.7	0.83	89.6	87.2	0.97	0.95
Tamil Nadu	77.7	65.8	0.85	56.9	57.9	1.02	78.8	59.6	0.76	66.1	58.9	0.89	0.88

Note: Percentage of person of age 15-49 consuming specific food at least once a week.

Table 3: Gender bias in Child Mortality.

States	Neonatal Mortality		Male/Female	IMR		Male/Female (I)	Under five Mortality (UMR)		Male/Female (II)	Growth in inequality			Average (1 & II)
	Male	Female		Male	Female		Male	Female		Neonatal to IMR (%)	IMR to UMR (%)	Neonatal to UMR (%)	
India	40	36.8	1.09	56.3	57.7	0.98	69.7	79.2	0.88	10.09	19.27	10.20	0.93
Haryana	26	23.4	1.11	45.3	43.0	1.05	55.2	63.0	0.88	5.41	20.72	16.19	0.96
Punjab	32.9	26.0	1.27	45.6	44.0	1.04	51.3	58.9	0.87	18.11	31.50	16.35	0.95
Rajasthan	47.7	49.4	0.97	70.5	75.2	0.94	87.7	99.4	0.88	3.09	9.28	6.38	0.91
Madhya Pradesh	52.7	50.1	1.05	80.9	82.8	0.98	103.6	112.7	0.92	6.67	12.38	6.12	0.95
Uttar Pradesh	56.3	53.2	1.06	80.9	85.2	0.95	100.9	124.7	0.81	10.38	23.58	14.74	0.88
Bihar	43.1	41.0	1.05	59.7	70.8	0.84	82.7	108.3	0.76	20.00	27.62	9.52	0.80
Orissa	53.3	38.5	1.38	21.6	20.9	1.03	103.7	84.4	1.23	25.36	10.87	-19.42	1.13
West Bengal	50.8	24.9	2.04	62.4	41.4	1.51	74.8	55.7	1.34	25.98	34.31	11.26	1.43
Gujarat	47.8	41.8	1.14	63.1	62.5	1.01	72.2	82.5	0.88	11.40	22.81	12.87	0.94
Maharashtra	37.9	33.1	1.15	48.3	42.0	1.15	55.8	50.7	1.10	0.00	4.35	4.35	1.13
Andhra Pradesh	56.7	47.2	1.20	77.1	58.7	1.31	85.6	71.1	1.20	-9.17	0.00	8.40	1.26
Karnataka	40.9	34.7	1.18	57.5	48.1	1.20	71.4	60.6	1.18	-1.69	0.00	1.67	1.19
Kerala	16.5	12.4	1.33	21.0	14.3	1.47	22.3	16.6	1.34	-10.53	-0.75	8.84	1.41
Tamil Nadu	29.7	22.7	1.31	37.6	37.8	0.99	43.3	47.9	0.90	24.43	31.30	9.09	0.95

Table 4: Gender bias in Child Vaccinations Coverage

States	Percentage with all basic vaccinations		Female/ Male (I)	Percentage of holding vaccination card		Female/ Male (II)	Average of (I & II)
	Male	Female		Male	Female		
India	45.3	41.5	0.92	38.8	36.1	0.93	0.92
Haryana	63.3	67.6	1.07	26.6	27.3	1.03	1.05
Punjab	64.7	53.7	0.83	41.8	33.8	0.81	0.82
Rajasthan	26.3	26.7	1.02	21.7	19.8	0.91	0.96
Madhya Pradesh	44.3	35.9	0.81	27.9	22.7	0.81	0.81
Uttar Pradesh	24.9	20.7	0.83	22.4	17.8	0.79	0.81
Bihar	38.0	26.6	0.70	38.5	29.5	0.77	0.73
Orissa	48.8	55.0	1.13	53.4	55.7	1.04	1.09
West Bengal	61.4	66.9	1.09	68.7	74.8	1.09	1.09
Gujarat	48.5	41.8	0.86	37.6	35.1	0.93	0.90
Maharashtra	60.7	56.2	0.93	48.9	42.4	0.87	0.90
Andhra Pradesh	52.7	38.9	0.74	42.5	31.7	0.75	0.74
Karnataka	54.5	55.5	1.02	49.7	56.3	1.13	1.08
Kerala	74.0	76.6	1.04	75.8	74.7	0.99	1.01
Tamil Nadu	80.7	81.2	1.01	36.3	37.9	1.04	1.03

Table 5: Gender bias in Child Nutrition

States	Height for age below -2SD		Male/Female (I)	Weight for height below -2SD		Male/Female (II)	Weight for age below-2SD		Male/Female (III)	Any breastfeeding duration (Median)		Female/Male (IV)	Average of I, II, III & IV
	Male	Female		Male	Female		Male	Female		Male	Female		
India	48.1	48.0	1.00	20.5	19.1	1.07	41.9	43.1	0.97	25.4	23.6	0.93	0.99
Haryana	46.8	44.1	1.06	20.3	17.5	1.16	40.3	38.7	1.04	26.6	23.8	0.89	1.04
Punjab	36.8	36.4	1.01	9.6	8.6	1.12	23.9	26.3	0.91	22.1	21.3	0.96	1.00
Rajasthan	44.3	43.1	1.03	20.8	20.1	1.03	40.3	39.5	1.02	23.9	23.3	0.97	1.01
Madhya Pradesh	49.2	50.7	0.97	36.8	33.2	1.11	59.5	60.6	0.98	24.3	22.5	0.93	1.00
Uttar Pradesh	56.2	57.5	0.98	15.0	14.6	1.03	41.2	43.7	0.94	27.2	23.9	0.88	0.96
Bihar	54.3	57.1	0.95	28.8	25.2	1.14	54.3	57.8	0.94	32.6	23.9	0.73	0.94
Orissa	43.6	46.4	0.94	20.6	18.5	1.11	39.4	41.9	0.94	36.0	32.6	0.91	0.98
West Bengal	45.0	44.1	1.02	17.8	16.0	1.11	37.4	40.0	0.94	36.0	33.2	0.92	1.00
Gujarat	51.6	51.8	1.00	19.0	18.3	1.04	46.4	42.4	1.09	23.9	21.5	0.90	1.01
Maharashtra	47.3	45.1	1.05	17.5	15.4	1.14	36.7	37.3	0.98	23.7	20.8	0.88	1.01
Andhra Pradesh	42.8	42.6	1.00	11.9	12.7	0.94	31.7	33.4	0.95	23.8	22.5	0.95	0.96
Karnataka	44.9	42.5	1.06	18.1	17.0	1.06	38.7	36.3	1.07	20.2	20.7	1.02	1.05
Kerala	25.8	23.1	1.12	16.3	15.5	1.05	24.0	21.8	1.10	26.0	24.1	0.93	1.05
Tamil Nadu	32.7	29.0	1.13	24.3	19.8	1.23	31.5	28.0	1.13	16.1	13.9	0.86	1.09

Table 6: State Wise Equally Distributed Life Expectancy Index in India

States	Life of Expectancy (2001)		Life Expectancy Index		Population Share		Equally Distributed Index
	Male	Female	Male	Female	Male	Female	
India					0.517	0.483	0.61
	60.8	62.5	0.64	0.58			
Haryana					0.537	0.463	0.66
	64.1	65.0	0.69	0.63			
Punjab					0.534	0.466	0.72
	66.9	69.1	0.74	0.69			
Rajasthan					0.520	0.480	0.58
	58.8	60.9	0.61	0.56			
Madhya Pradesh					0.521	0.479	0.52
	56.5	56.2	0.57	0.48			
Uttar Pradesh					0.527	0.473	0.55
	58.9	57.7	0.61	0.50			
Bihar					0.521	0.479	0.58
	60.7	58.9	0.64	0.52			
Orissa					0.507	0.493	0.54
	57.6	57.8	0.59	0.51			
West Bengal					0.517	0.483	0.64
	62.8	64.3	0.67	0.61			
Gujarat					0.521	0.479	0.63
	61.9	63.7	0.66	0.60			
Maharashtra					0.520	0.480	0.68
	64.5	67.0	0.70	0.66			
Andhra Pradesh					0.506	0.494	0.63
	61.6	64.1	0.65	0.61			
Karnataka					0.509	0.491	0.65
	62.4	65.5	0.67	0.63			
Kerala					0.486	0.514	0.81
	70.6	76.1	0.80	0.81			
Tamil Nadu					0.503	0.497	0.66
	63.7	65.7	0.69	0.64			

Table 7: State Wise Composite index of Gender bias. (Aggregates of Adult Nutrition, Adult Food Consumption, Child Mortality, Child Vaccination and Child Nutrition).

States	GPI_{AN}	GPI_{AFC}	GPI_{CM}	GPI_{CV}	GPI_{CN}	Gender bias in Adult	Gender bias in Children	Composite index of Gender Bias
India	0.94	0.88	0.93	0.92	0.99	0.91	0.95	0.93
Haryana	0.94	0.64	0.96	1.05	1.04	0.79	1.02	0.93
Punjab	1.00	0.61	0.95	0.82	1.00	0.81	0.92	0.88
Rajasthan	1.06	0.74	0.91	0.96	1.01	0.90	0.96	0.94
Madhya Pradesh	0.97	0.79	0.95	0.81	1.00	0.88	0.92	0.90
Uttar Pradesh	1.04	0.79	0.88	0.81	0.96	0.92	0.88	0.90
Bihar	0.82	0.91	0.80	0.73	0.94	0.87	0.82	0.84
Orissa	0.88	0.82	1.13	1.09	0.98	0.85	1.07	0.98
West Bengal	0.87	0.95	1.43	1.09	1.00	0.91	1.17	1.07
Gujarat	0.94	1.03	0.94	0.90	1.01	0.99	0.95	0.96
Maharashtra	0.92	0.86	1.13	0.90	1.01	0.89	1.01	0.96
Andhra Pradesh	0.92	0.91	1.26	0.74	0.96	0.92	0.99	0.96
Karnataka	0.92	0.93	1.19	1.08	1.05	0.93	1.11	1.03
Kerala	1.04	0.95	1.41	1.01	1.05	1.00	1.16	1.09
Tamil Nadu	0.91	0.88	0.95	1.03	1.09	0.90	1.02	0.97
Correlation Coefficient between EDHDI & Gender bias in different indicators of health and nutrition	**0.21**	**0.084**	**0.50***	**0.24**	**0.54***	**0.23**	**0.50***	**0.50***

*Shows the correlation is significant at the 0.05 significance level