

Health Status of Muslim Women Across States in India: A Comparative Analysis

Shama Firdaush and Pinaki Das*

Department of Economics, Vidyasagar University, Medinipur, West Bengal, India

*Corresponding author: pdignou@yahoo.com

Abstract

The present paper attempts to analyse the health status of Muslim women compared to Hindu women across states in India and it also assesses the change in their health status over time. In India 74 per cent of Hindu women and 75 per cent of Muslim women have better health facility. The states like Kerala, Uttarakhand, Jammu and Kashmir had the higher proportion of Hindu women whereas Assam, Jammu and Kashmir, Rajasthan had the higher percentage of Muslim women having better health facilities. In contrary, the states like Andhra Pradesh and Jharkhand had the worst health status of Muslim as well as Hindu women.

Keywords: Women, Health, Nutrition, India, Indicator

Women are the builder of the family. In spite of their devotion and dedication towards their family and society they are considered as the second grade citizen in this cruel world. Thought they are worshipped as goddess but in reality they are also the major victim of violence, ill treatment, humiliation, ignorance, abuse protocol, stereotype and many more. The society fails to recognize that better health of women is very much crucial for a healthy society as because a healthy mother can give rise to a healthy infant as well as it is very much necessary to reduce infant mortality rate. Possessing such a vital role in the society their better health is mandatory.

Kamalapur and Reddy (2013) analysed the nutrition and women health in India using the NFHS data. Kesarwani (2011) focused on how women health can be improved through women empowerment. According to her, Women empowerment is both a cause and effect of long-term health status and disparity outcomes. Srivastava and Bhattacharyya

(2014) tried to trace the extension in the concern for the maternal health and also classify the quality related issues for further improvement in it. Gokhle *et al.* (2002) used the NFHS 1992 and micro level data on rural mother to scrutinize the influence of female literacy in reducing infant mortality with the help of Maternal and Child health (MCH) services and resolved that providing free education to girl will produce long-term benefits related to health. Srivastava *et al.* (2014) did a chronicle analysis to trace the progress in the concern for better quality for maternal health in the context of health system of development in India after Independent to the present. They suggested the areas which need to be improved in this regard and concluded that there is an earnestness to increase funding, matching rising demand with quality services and enhancing functioning of quality assurance system. Arriola *et al.* (2007) provided a contemporary explanation of the prevalence of disease and behavioural risk among black woman i.e. African descent living within the US in five areas namely HIV/AIDS,

breast cancer, violence and abuse, mental illness and obesity and sedentary behaviour.

In this brief background it was found that the existing research works are mainly confined to the aggregate level data and hardly any work was found that analysed the health status of Muslim women and that of Hindu women separately. However any comparative study based on religion was also rarely found. Thus in this paper to overcome the short comes mentioned above the comparative health status of the women are assessed across states and religion of India. The overtime change in their health status is also observed. For fulfilling this objective some indicators are considered from the NFHS data of the 3rd and 4th round. The indicators are considered on the basis of availability and convenience. Moreover, we have considered 21 states having relatively higher population and state domestic product and have also considered two religions namely, Hindu and Muslim because of their higher improvement in their growth rate.

NUTRITIONAL STATUS AMONG WOMEN

(a) Women who’s BMI is below normal

In India 23 percent of women age 15-49 are thin, 21 percent are obese or overweight and 56 percent have Body Mass Index (BMI) at a normal range. The proportion of thin women age 15-49 declined from 36 percent in 2005-06 to 23 percent in 2015-16. In case of Hindu women, the proportion of thin women declined by 12.8 percent point whereas for Muslim women it declined by 13.6 percent point.

In states like Jharkhand and Bihar more than 30 percent of women age 15-49 were thin whereas Kerala was the only state where less than 10 percent of the women were thin in 2015-16. While a decade ago the states remained the same in case of having the maximum or minimum percentage of thin women but the percentage of women were higher than now. This was valid in case of women irrespective of religion.

Forming a relationship between Hindu and Muslim women whose BMI was below normal in 2015-16 we observe that in Odisha the proportion of thin women was higher among Hindu women than Muslim women followed by Chhattisgarh, Tamil

Nadu and others whereas Tripura was the state where the proportion of thin women was higher among the Muslim women than Hindu women followed by Haryana and others.

Table 1: Percentage of women who’s BMI was below normal in the years 2005-06 and 2015-16

States/Religion	2005-06			2015-16		
	Hindu	Muslim	All	Hindu	Muslim	All
Jammu & Kashmir	32.1	21.1	24.6	15.1	11.2	12.1
Assam	33.1	46	36.5	24.6	28	25.7
West Bengal	37.9	42.7	39.1	21.3	21.1	21.3
Kerala	19.9	15.6	18	10.9	8.5	9.7
Uttarakhand	30.1	30.1	30	18.2	20.8	25.3
Bihar	44.2	49.6	45.1	30.2	31.4	30.5
Jharkhand	41.6	47.4	43	31.5	29.7	31.6
Uttar Pradesh	36.1	36.4	36	25.3	25.5	18.4
Karnataka	36.7	26.9	35.5	21.6	17	20.8
Maharashtra	37.8	23.8	36.2	24.2	19.9	23.5
Gujarat	36.3	37	36.3	27.6	22	27.2
Andhra Pradesh	34.3	27.6	33.5	17.5	16.4	17.6
Rajasthan	36.9	36.1	36.7	27.6	22.8	27
Tripura	36.5	48.4	36.9	18.8	30.1	19
Haryana	31.3	48.8	31.3	15.4	22.6	15.8
Madhya Pradesh	42.4	37.4	41.7	28.9	23	28.4
Tamil Nadu	29.2	20.7	28.4	15.1	8.6	14.6
Himachal Pradesh	30.2	21.1	29.9	16.2	20.4	16.2
Odisha	41.2	63.3	41.4	26.7	14.5	26.5
Chhattisgarh	44	29.6	43.4	27	17.5	26.7
Punjab	21.4	22.4	18.9	10.8	12	11.7
India	36.4	35.1	35.6	23.6	21.5	22.9

Source: NFHS 3 and NFHS 4 Report. <http://rchiips.org/nfhs/>

The percentage of women suffering from under nutrition has declined across every state over a decade. In Tripura, the highest decline was observed in regards to Hindu women by 17.7 percent point followed by Chhattisgarh, Jammu and Kashmir and others while the least was observed in Assam and Gujarat where the decline was by 8.5 percent point. Taking into account the condition of Muslim women we observe that Odisha showed the highest decline followed by Haryana, West Bengal and others while the least was observed in Himachal Pradesh where the decline was by only 0.7 percent point.

For both the years 2005-06 and 2015-16, the t-test result shows that there is no significant difference between Muslim and Hindu women whose BMI was below normal though difference exists between them (Appendix A1). Over years there has been improvement in the percent of Muslim, Hindu and women in general and was found to be statistically significant (Appendix A2).

(b) Women who are overweight or obese

The proportion of overweight and obese women in India has increased over decade. Bearing in mind the two main religion of India we observe that among the Hindu women the proportion has increased by 8 percent point whereas for Muslim women it increased by 9.5 percent point who were overweight or obsessed.

The percentage of obese or overweight Hindu women, Muslim women and women in general was more than 30 percent in 2015-16 in states like Andhra Pradesh, Kerala, Punjab and Tamil Nadu while Chhattisgarh, Bihar and Jharkhand, Assam and others registered less than 12 percent of overweight or obese women.

In this regard, comparing between the two main religions of India i.e. Hindu and Muslim for the year 2015-16 we observe that in Haryana, Tripura, West Bengal and others the proportion of Hindu women was more than the Muslim women who were obese or overweight while the contrary situation was observed in states like Chhattisgarh, Tamil Nadu, Karnataka, Madhya Pradesh and others.

Table 2: Percentage of women who are overweight or obese in the period 2005-06 and 2015-16

States/ Religion	2005-06			2015-16		
	Hindu	Muslim	All	Hindu	Muslim	All
Jammu & Kashmir	17.1	15.6	16.7	28.7	28.8	29.1
Assam	9	5.5	7.8	14.2	11.5	13.2
West Bengal	12.9	6.8	11.4	20	19.6	19.9
Kerala	24.9	32.3	28.1	30	35.8	32.4
Uttarakhand	11.8	15.4	12.8	19.5	24.4	16.5
Bihar	4.9	2.6	4.6	11.6	11.8	11.7
Jharkhand	5.8	5.2	5.4	10.2	15.4	10.3
Uttar Pradesh	8.8	10.6	9.2	15.7	19.4	20.5
Karnataka	13.6	27.4	15.3	22	30.4	23.3

Maharashtra	13.4	22.9	14.5	22.2	31.4	23.4
Gujarat	16.7	17.2	16.7	23.1	29.9	23.8
Andhra Pradesh	14.6	22.2	15.6	32.7	39	33.2
Rajasthan	8.2	12.6	8.9	13.4	17.3	14.1
Tripura	7.9	0.4	7.1	16.3	11.5	16
Haryana	17.1	3.2	17.4	21.3	11.7	21
Madhya Pradesh	6.4	18.3	7.6	12.7	24.3	13.6
Tamil Nadu	20.1	40.1	20.9	29.7	46.4	30.9
Himachal Pradesh	13.5	19	13.5	28.3	25.8	28.7
Odisha	6.6	2.3	6.6	16.4	29	16.5
Chhattisgarh	5.2	15.2	5.6	11.2	33.2	11.9
Punjab	27.4	26	29.9	31.3	27.3	31.3
India	11.8	14.1	12.6	19.8	23.6	20.7

Source: As in Table 1.

In every state of India, the over nourished women have increased over the last 10 years. The highest increment in the proportion of obese Hindu women and women in general was observed in Andhra Pradesh, Himachal Pradesh and others whereas for Muslim women the states were Odisha, Chhattisgarh, Andhra Pradesh and others. On the other hand the percentage of obese women irrespective of religion was least in Punjab.

For the year 2005-06 the t-test shows that there is no significant difference between Hindu and Muslim women but for the year 2015-16 the t-test result shows that there was a significant difference between Muslim and Hindu women who were overweight or obese which implies that the condition of Hindu women was significantly better than that of Muslim women (Appendix A1). Over the decade the condition of Muslim, Hindu and women in general has improved but according to the t-test result it is statistically significant only for Hindu and women in general but not for Muslims women (Appendix A2).

ANAEMIA AMONG WOMEN

Anaemia continues to haunt children as well as women in India and it has barely changed over years. Government of India is taking a lot of health measures to improve the condition but it is far from satisfactory. In India 53 percent of women age 15-49 were anaemic where as 54 percent of Hindu women and 50 percent of Muslim women were anaemic in

2015-16. Anaemic prevalence has hardly changed in the 10 years decreasing from 55 percent in 2005-06 to 53 percent in 2015-16. There has also been a least decline among the Hindu and Muslim women too.

By comparing the proportion of Hindu and Muslim women who were anaemic we observe that in 2015-16 Odisha showed the highest difference where Hindu women outnumbered the Muslim women. Similar situation was observed in Jharkhand, Chhattisgarh and others. There are few states like Uttarakhand, Jammu & Kashmir, Uttar Pradesh and others where the proportion of Muslim women who were anaemic outnumbered Hindu women.

Over a decade it has been observed that anaemia among women irrespective of religion age 15-49 has turned down for most of the states like Assam, Jammu & Kashmir, Tripura, Chhattisgarh and other while Punjab, Kerala and others showed an increase in the percent of women who were anaemic over these 10 years. To note Punjab showed the highest increase whereas Assam showed the highest turn down in the proportion of anaemic women irrespective of religion.

For 2015-16, the t-test result is found to be statistically significant implying that the percent of Muslim women was significantly lesser than that of Hindu women who were anaemic which for 2005-06 it showed an insignificant result (Appendix A1). There has been reduction in the percent of women irrespective of religion who were anaemic but this reduction is found to be statistically significant only in the case of Muslim and Hindu women of age 15-49 and not for women in general (Appendix A2).

Table 3: Percentage of women age 15-49 who were anaemic in the year 2005-06 and 2015-16

States/ Religion	2005-06			2015-16		
	Hindu	Muslim	All	Hindu	Muslim	All
Jammu & Kashmir	60.5	48	52.1	37.6	41.4	40.6
Assam	71.6	59.2	69.5	48.2	41.1	46
West Bengal	63.8	61.3	63.2	64.8	56.2	62.5
Kerala	32.9	37.9	32.8	34.2	37.1	34.2
Uttarakhand	54.3	64.6	55.2	40.3	48.2	45.2
Bihar	67.3	68.1	67.4	60.9	57.1	60.3
Jharkhand	68.2	61.8	69.5	65.7	54.4	65.2

Uttar Pradesh	49.7	51.5	49.9	52.4	52.6	52.4
Karnataka	51.5	52.2	51.5	45.4	42.1	44.8
Maharashtra	48.9	43	48.4	47.6	47.6	48
Gujarat	55.1	56.5	55.3	55.1	53.5	54.9
Andhra Pradesh	63.1	58.1	62.9	60.3	56	60
Rajasthan	52.7	56.3	53.1	47.3	43.8	46.8
Tripura	66.4	49.7	65.1	55.9	46.2	54.5
Haryana	55.7	63.4	56.1	62.6	64.6	62.7
Madhya Pradesh	57.2	47.7	56	52.8	48.5	52.5
Tamil Nadu	54	54.2	53.2	55	54.2	55
Himachal Pradesh	42.9	49.7	43.3	53.4	50.8	53.5
Odisha	61	57.6	61.2	51.1	36.2	51
Chhattisgarh	58	48.1	57.5	47.4	36.8	47
Punjab	39.7	42.4	38	54.3	50.9	53.5
India	55.9	54.7	55.3	53.7	50.1	53

Source: As in Table 1.

For 2015-16, the t-test result is found to be statistically significant implying that the percent of Muslim women was significantly lesser than that of Hindu women who were anaemic which for 2005-06 it showed an insignificant result (Appendix A1). There has been reduction in the percent of women irrespective of religion who were anaemic but this reduction is found to be statistically significant only in the case of Muslim and Hindu women of age 15-49 and not for women in general (Appendix A2).

HIGH RANDOM BLOOD SUGAR LEVEL AMONG WOMEN

Random blood glucose is the measurement of blood glucose at any time without the necessity of fasting before the test. An individual is classified as having high blood glucose if he/she has a random blood glucose level higher than 140 mg/dl.

5.8 percent of the women, 5.7 percent of Hindu women and 6 percent of Muslim women age 15-49 in India had high blood glucose level in 2015-16.

The proportion of women irrespective of religion having high blood glucose level was high in states like Kerala, Andhra Pradesh, Tripura, West Bengal and others while the reverse situation was observed in Rajasthan where the proportion was the least.

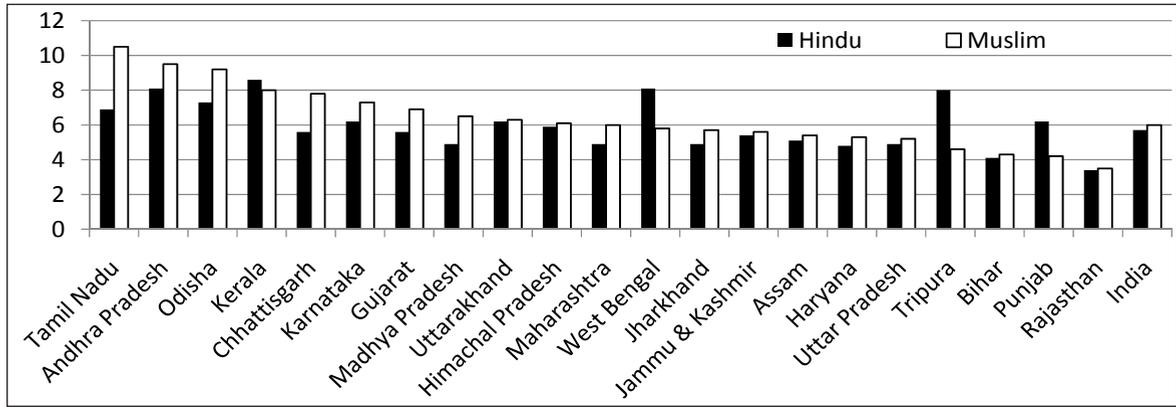


Fig. 1: Percentage of women who have high Random Blood Sugar Level in the period 2015-16

Source: As in Table 1.

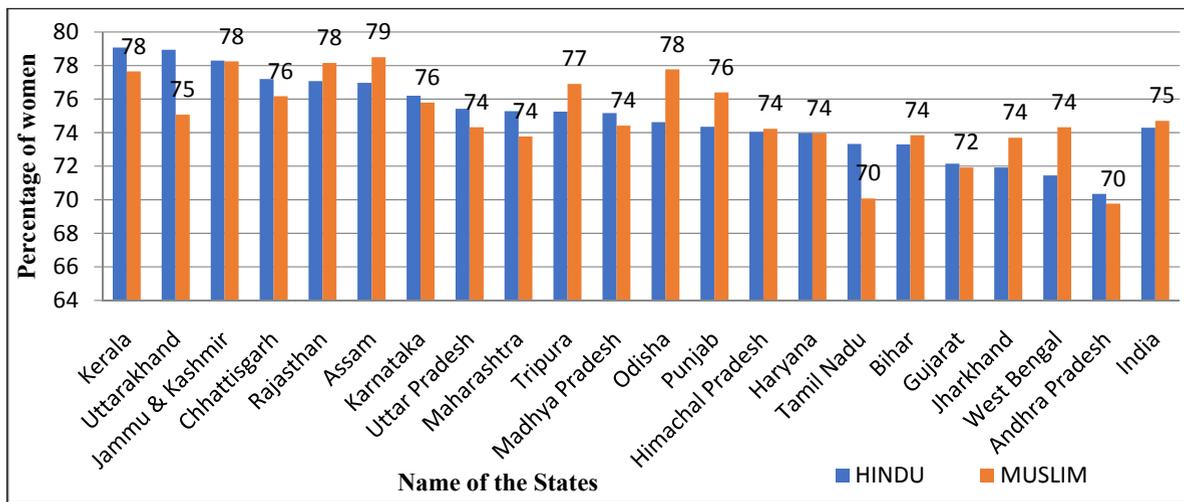


Fig. 2: Overall health statuses of Hindu and Muslim women, 2015-16

Source: Authors calculation.

In states like Tripura, West Bengal, Punjab, Kerala and others the proportion of Hindu women outstripped Muslim women having high blood glucose level in 2015-16. Apart from these 4 states the opposites scenario prevailed where Muslim women outstripped Hindu women. We can say that in most of the states the condition of Hindu women was better than the Muslim women in this regard in 2015-16 (Appendix A3).

The result of the t-test shows that there is no significant difference between the percent of Hindu and Muslim women who had high Blood Sugar level, for the year 2015-16 though the difference persists (Appendix A1).

OVERALL HEALTH STATUS OF MUSLIM WOMEN

In the above sections we got the glimpse of the

condition of health status of Muslim as well as Hindu women across states of India in respect of a single indicator. But truly it fails to give the aggregate picture of each state regarding the health status of women. Thus, in this section we did the simple average of the indicators considered like BMI below normal, BMI above normal, Anaemic Women and High Blood Sugar Level to get the glimpse of the overall health status of Hindu and Muslim women across states in India. Though we have considered the negative indicators in this paper but in this section we have converted these indicators into their positive counterpart and have assessed the overall health status of the Hindu and Muslim women. Bearing in mind these indicators, we observe that 74 per cent of Hindu women and 75 per cent of Muslim women in India have better health facility. Looking at the condition of the states individually we find that states like Kerala,

Uttarakhand Jammu and Kashmir had the higher proportion of Hindu women whereas Assam, Jammu and Kashmir, Rajasthan had the higher percentage of Muslim women having better health facilities. In contrary are the states like Andhra Pradesh, Jharkhand and others where the health status of Hindu as well as Muslim women is worse than others.

CONCLUSION

The main purpose of this study was to assess the health status of Muslim and Hindu women across states of India. To fulfil this motive we considered some selected indicators related to health from the NFHS 3rd and 4th round data. The indicators considered were BMI below normal, BMI above normal (Obese), Women having Anaemia and Women having high blood sugar. The facts we were able to draw was that there was a reduction of 13 percentage point in the percentage of women whose body mass index was below normal in India irrespective of religion in 2015-16 were Kerala registered the least and Bihar registered the highest percentage of Muslim women whose body mass index was below normal. In almost 13 states the percentage of Muslim women was lower than that of Hindu women. Prevalence of anaemia has hardly changed in the last ten years. In Odisha the least percentage of the Muslim women were anaemic while in Haryana the reverse situation prevailed. Around 6 percentages of the women in India had high Random Blood Sugar level in 2015-16. Tamil Nadu had the highest percentage of Muslim women who had high Random Blood Sugar level where Rajasthan had the least. In 17 states the percentages of Muslim women was less than the percentage of

Hindu women who had high Blood Sugar level. The overall health status of women indicates that 74 per cent of Hindu women and 75 per cent of Muslim women in India have better health facility. Looking at the condition of the states individually we find that states like Kerala, Uttarakhand Jammu and Kashmir had the higher proportion of Hindu women whereas Assam, Jammu and Kashmir, Rajasthan had the higher percentage of Muslim women having better health facilities. In contrary are the states like Andhra Pradesh, Jharkhand and others where the health status of Hindu as well as Muslim women is worse than others.

REFERENCES

- Arriola Kimiberly, Borba Chritrens and Thampson wilifred 2007. The health status of Black woman: Breaking through the glass ceiling. *University of Relations Press*, 1(2). www.jstor.org.
- Gokhle Medha, Rao, Shobha and Gorile Varsha 2002. Infant Mortality in India: use of Maternal and child health service in Relation to literacy status. *Journal of Health ,Population and Nutrition*, 20(2).
- Kesarwani Archana 2011. Women Empowerment and Women's Health Related Outcome.
- Kamalapur Sunilkumar and Reddy Somanath 2013. Women Health in India: An Analysis", *International Research Journal of Social Sciences*, 2. www.isca.nr
- Srivastava Aradhana, Bhattacharya Sanghita 2014. Evolution of quality in maternal health in India: Lessons and priorities, *International journal of Medicine and Public Health*, 4. www.ijmedph.org
- Srivastava Aredhana, Battacharyya Sangita, Clan Christina and Avan Bilal 2004. Evolution priorities. *International journal of Medicine and Public Health*, 4(1).
- NFHS 3 and NFHS 4 Report. <http://rchiips.org/nfhs/>

Appendix

Table A1: t- Test Result of health-related Indicators of Women across religion

Indicator	Year	μ_1	μ_2	$\mu_1 - \mu_2$	t -Value
BMI below normal	2005-06	34.85714	34.91429	-0.05714	-0.02
	2015-16	20.14286	21.64286	-1.5	-0.74
BMI above normal	2005-06	15.28	12.66	2.61	0.96
	2015-16	24.95	20.50	4.45	1.68**
Anaemic Women	2005-06	53.87	55.93	-2.06	-0.75
	2015-16	48.54	52.01	-3.48	-1.4
High Blood Sugar Level	2015-16	6.37	5.96	0.41	0.81

Sources: Author's Calculation; Note: μ_1 = Mean of Muslim Women and μ_2 = Mean of Hindu Women.

Table A2: t- Test Result of health related Indicators of Women over time

Indicator	Religion	μ_1	μ_2	$\mu_1 - \mu_2$	t -Value
BMI below normal	Hindu	21.64	34.91	-13.27	-6.69***
	Muslim	20.14	34.86	-14.71	-4.73***
	All	21.41	34.40	-12.99	-6.02***
BMI above normal	Hindu	20.50	12.66	7.84	3.73***
	Muslim	24.95	15.28	9.67	3.06***
	All	21.01	13.12	7.89	3.51***
Anaemic Women	Hindu	52.01	55.93	-3.91	-1.39
	Muslim	48.54	53.87	-5.33	-2.22
	All	51.93	55.30	-3.36	-1.24

Sources: Author's Calculation.; Note: μ_1 = Mean of Women as on 2015-16 and μ_2 = Mean of Women as on 2005-06.

Table A3: Percentage of women who have high Random Blood Sugar Level in the period 2015-16

States/Religion	2015-16		
	Hindu	Muslim	All
Jammu & Kashmir	5.4	5.6	5.7
Assam	5.1	5.4	5.2
West Bengal	8.1	5.8	7.4
Kerala	8.6	8	8.7
Uttarakhand	6.2	6.3	6.2
Bihar	4.1	4.3	4.1
Jharkhand	4.9	5.7	4.9
Uttar Pradesh	4.9	5.2	4.9
Karnataka	6.2	7.3	6.4
Maharashtra	4.9	6	5.1
Gujarat	5.6	6.9	5.8
Andhra Pradesh	8.1	9.5	8.2
Rajasthan	3.4	3.5	3.4
Tripura	8	4.6	7.7
Haryana	4.8	5.3	4.8
Madhya Pradesh	4.9	6.5	5.1
Tamil Nadu	6.9	10.5	7.1
Himachal Pradesh	5.9	6.1	5.9
Odisha	7.3	9.2	7.3
Chhattisgarh	5.6	7.8	5.7
Punjab	6.2	4.2	6
India	5.7	6	5.8

Source: As in Table 2.1.

