THINK INDIA JOURNAL

ISSN:0971-1260
Vol-22- Issue-14-December-2019

State Of Health In Rural Durg District, Chhattisgarh

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Good health is a state of complete physical fitness, mental development alertness along with freedom from anxiety, social and psychological tensions. Health is man's natural condition one's birth right. Health is a state of one's physical; mental and social well being.

Objective: The main Objectives of this study are as follows:

1) To highlight the state of health in terms of height and weight.

2) To highlight the change in height during last 30 years.

Methodology: The study is based on primary data. A survey was conducted in 5(out of 77) randomly selected villages of Durg district, Chhattisgarh. To elicit information about state of health of rural inhabitant's total 908 households of different landholding categories were interviewed by using schedule. For measuring the height and weight weighing machine and measurement tape were used and all the family member s present during the survey period was measured. Persons belong to the age group between 20-55 years were taken under consideration. Height and weight of an individual were compared with Indian standard height weight chart as recommended by ICMR .

Findings: The main findings are as follows:

1) In this region the average height of male population is 161.5 cm and average height of female population is 147.5 cm.

2) Average height of male population has increased from 156.5 cm to 161.6 cm during last 30 years. Among female population the net increase in average height during the same period is 3.5 cm.

3) Percent of underweight population is higher among female population (56.2%) than male population (47.5%)

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Keywords: Growth rate, Health, Height, Population, Social well being, under weight.

Introduction- The term health is defined as the state in which mental and physical activities of the body are adjusted satisfactorily to the environment. "Health is the quality of life that enables the individuals to live most and serve best". (William, J.F, 1991,P-1) Health is man's natural condition, his birth right. It is the result of living in accordance with the natural laws pertaining to the body, mind and environment. These laws relate to fresh air, sunlight, diet, rest, relaxation sleep, cleanliness, right attitude of mind, good habits and above all life style. Good health is a state of complete physical fitness, mental development, alertness all with freedom from anxiety, social and psychological tensions. It involves-

1. Free from any type of infection.

2. Free from any type of physical deformity.

3. No diet imbalance.

4. A state of complete physical fitness.

5. A state of full mental development.

6. Freedom from anxiety.

7. Free from psychological and social tensions.

Objective:

The main objectives of this study are to highlight the change in height during last 30 years and also to highlight the state of health in terms of height and weight.

Study Area: Chhattisgarh is situated at the heart of India. Durg district is one of the important district of Chhattisgarh. It is bounded by Rajnandgaon district in the West, Bemetara district in north, Balod district in the south and Raipur and Dhamtari districts in the east. Its total rural population is about 2,059,107 out of which males and females are 1,026,152 and 1,032,955 respectively showing density of 258 per persons per sq.km (2011 Census). Sex ratio of rural Durg district is 1007 female per 1000 males.

Methodology: The study is based on primary data. A survey was conducted in 6 randomly selected villages of Durg block. To elicit information about state of health of rural

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inhabitant's total 908 households of different landholding categories were interviewed by using schedule. Sample households belonging to different landholding categories are as follows- (landless dependent on labor work) -34 percent, Marginal farmer (<5 acre land) – 39 percent, small farmer (5-10 acre land) – 18 percent, large farmer (>10 acre land) 9 percent.

Table – 1

Landholding wise distributions of the sample household

Name of Village	**Landless**	**Marginal**	**Small**	**Large**	**Total Household**	**Total Population**
Dhaba	34	33	26	11	104	453
Ganiyari	42	62	20	15	139	674
Dandesara	89	71	31	17	208	1462
Nikum	70	82	47	22	221	1784
Sirsakhurd	74	106	39	17	236	1942
All villages	309	354	163	82	908	6315

Source: Based on field survey, 2008-2010

Measurements of height and weight are the best indicators to denote the state of health. For this propose the weighing machine and measurement tape were used and all the family members who were present during survey period were measured. For the measurements of height and weight person belongs to the age group between 20-55 years were taken under consideration. During the survey attention had been given on the following points-

1. To measure the height, measuring scale was fixed to the wall.

2. Weight of the individual was taken with normal clothing and it was recorded in Kilogram.

3. Height and weight of an individual were compared with Indian standard height weight chart recommended by ICMR (India Council of Medical Research).

4. Attention has been also given to record the age of the individuals correctly for proper interpretation of height and weight.

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Discussion and Result:

1. **Average Height of Persons in sample Population-**

"Nutrition influences growth and development before as well as after birth. In fact retardation of growth rate is an indication of malnutrition. When the diet is improved the child begins to grow in height and weight" (Park.J.E., 1983, P-465). Persons have shown a general trend of increase in the average height with each succeeding generation. Better socio economic condition and better nutrition are responsible for this "…no other environmental factor acts upon man so despotically, or leaves so deep a mark as the factor of nutrition" (Castro.J.D., 1952,P-50). Improved cooking methods availability of sufficient food are some of the reasons that improving the health conditions in general. "Nutrients originally thought of as required solely to prevent such diseases as beriberi, scurvy now are appreciated as being necessary because of their relationship to buoyant health, vitality and longevity. When they are well fed, today's children are taller and sturdier and reach maturity at an earlier age than children of previous generation" (Chaney, S.Margaret and Margaret.L.Russ, 1979, P-1). There is a positive relationship between age and height. The height of a person increases up to 20 years of age. So it is better to say that height of every person increases with his age up to maturity. "The extent of height deficit in relation to age is regarded as a measure of the duration of malnutrition" (Castro, J.D. 1952, P-508).

Dietary pattern is directly related with landholding categories which finally reflect in health standard. " Factors such as caste, occupation and educational level of the parent do not have much influence on the food practices of the children, income appears to have a decisive influence"(Whyte,R.O.1972, P-123). The average height in both male and female population is more among large farmer than landless labors.

Table-2

Average Height of Persons in Different Landholding Categories.

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Landholding Categories	Male		Female	
	Total male above 20 year	Average height in cm	Total female above 20 year	Average height in cm
Landless Labors	826	157.2	889	143.5
Marginal Farmer	985	161.3	1123	147.4
Small Farmer	512	161.5	664	148.5
Large farmer	342	162.3	386	149.3
All categories	2665	161.5	3062	147.0

Source: Based on field survey, 2008-2010.

Table -2 shows that the average height of a person increases from landless laborers to large farmer group. The average height of landless male labor is 157.2 cm which has increases up to 162.3 cm among large farmer group. So there is a net difference of 5.1 cm in height. Sufficient food intake and better economy are the major factors for this net increase in height. Among the landless laborers group most of the male population are daily rated workers. In the rural area wages are cheaper than urban area. Males earn less than Rs. 120 per day while in the cases of female population it ranges between Rs. 60 to 80/- per day. The poor people are therefore unable to take food in sufficient quality. Basi (Balance of dinner rice kept in water during night) with onion and chilly are the common food for landless laborers. They take it at breakfast as well as in lunch. So there is a regular deficiency in protein and vitamins which finally reflects in their health standard.

Among female population of landless labors category the average height has been calculated to 143.5 cm which increases up to 149.3 cm among the females belongs to large farmer category. So there is a net difference of 5.8 cm in average height. In the Indian society women are still neglected, starvation and hunger are the part of their life. Women of landless labor group engaged in supplementary work to increase the family income and therefore take little care of their health. On the other hand women of large farmer's family in general do not go out to work in domestic work. Similarly women of small farmer group are working in the field on an average only for 100-120 days in a year and take more food than laborers group which finally reflects in their state of health.

2. Trend of height increase in last 30 years:

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"The Chinese and Japanese may be considered in human ponies their height and weight reduced by chronic malnutrition. It cannot be denied that individuals of these races emigrating, to the U.S.A. take only two generations to produce descendant with a significant, increase of several inches in height"(Park.J.E.,1983,p.465).

Table – 3

Decadal change in Average Height among different landholding categories

(Height in cm)

Period	**Male**			**Female**		
Landholding Category	1980-1990	1990-2000	2000-2010	1980-1990	1990-2000	2000-2010
Landless	154.5	158.7	161.6	144.2	145.8	148.3
Marginal	155.6	158.2	162.1	144.9	146.1	149.1
Small	155.8	160.6	161.3	145.1	147.4	149.6
Large	158.4	162.0	163.4	146.8	149.6	150.1
All Category	156.5	160.0	161.6	145.1	146.8	148.5

Source: Based on field survey, 2008-2010

The above table shows that among male population the average height of all categories during 1980-1990 was calculated to be 156.5 cm. this was recorded as 160.0 cm during 1990-2000 which means that decadal growth in average height is 3.5 am which during 2010 the average height is recorded as 161.6 cm. so the net gain in average height from 1990-2000 to 2000-2010 is 1.6 cm. on an average among male population the net average gain in height in the last thirty years is 5.1 cm. Among landless labor group the net average growth in height is recorded as 7.1 cm while it is 5 cm among large farmer male population category. This result indicates that the socioeconomic condition of laborer group has become improved in last 30 years which reflect in their health status (Table- 4).

Table – 4

Trend of Height Increase in last 30 years

Period	**Male (cm)**			**Female (cm)**		
Landholding Category	**1980**	**2010**	**Net Increase**	**1972**	**2002**	**Net Increase**
Landless	154.5	161.6	7.1	144.2	148.3	4.1
Marginal	155.6	162.1	6.5	144.9	149.1	4.2
Small	155.8	162.3	6.5	145.1	149.6	4.5
Large	158.4	163.4	5.0	146.8	150.1	3.3
All Category	156.5	161.6	5.1	145.0	148.5	3.5

Source: Based on field survey, 2008-2010

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Among females category during the last thirty years the net average increase of height is 3.5 cm. It is important to mention that the net increase in average height is 4.1 cm among landless women while it is 3.3 cm among the women folk of large farmer group. This result also indicates the improvement of women's status in our society during last 30 years. "The trend of increase in average height among males and females of different condoling categories has been tested by using student's't' test. The result ('t'=8.5) reveals that trend of increasing height among male is significant at .001 level and among females ('t'=4.2) it is significant at .05 level.

3. State of health of people in term of weight:

"Not only by acting on his body degrading him in size, withering his fresh, growing at his viscera and opening wounds in his skin does hanger destroy the human being it also acts on his spirit, on his mental structure and in social conduct" (Castro J.D. P-509).

Table – 5

Average weight status of sample Adult population.

Total population	Under weight	Normal weight	Over weight
5727	3001	1775	951
Percent	52.4	31.0	16.6

Source: Based on field survey, 2008-2010.

In the study area on an average percentage of underweight population is 52.4 percent. Only 31.0 percent population has normal weight and percentage of overweight population is 16.6. (Table - 5)

Chhattisgarh plain is a rice growing area, therefore Bhat (Boiled rice) constitutes the main item of food of the rural in habitants. More than 80 percent calories and protein are obtained from rice. The protein content in rice is only 6.8 percent. Though the protein content in rice is less than wheat (11.7 percent), this deficiency could be compensated by supplementing the diet with pulses. In this content it is to be mentioned that due to poor economy maximum percentage of population does not take pulses regularly in their daily diet. On the other hand people are not taking food in sufficient quantity. This not only affects their weight but also decreases their working efficiency and causes frustration among them.

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Table – 6

Sex Wises Weight status of sample population

Sex	Population	Underweight	Normal weight	Over weight
Male	2665	47.5	33.2	19.3
Female	3026	56.2	29.0	14.8

Source: Based on Personal survey, 2008-2010.

On an average among male population percentage of underweight is 47.5 while it is 56.2 percent among female population. In this area large percentage of women works in the field. Male population work in field at least 300 days in a year while women work only 100-130 days on an average in a year. But women folk are engaged themselves in domestic work and therefore, percentage of underweight population is high among female population than male population. There is a general tendency among women to take care as much as possible to their family members. Extensive labor and inadequate food intake are mainly responsible for their poor health condition.

4. State of health among different landholding categories:

The percentage of underweight population is high among landless laborer which is 59.2 percent. Among male population percentage of underweight is 59.2 while it is 68.8 percent among female population. Among large farmer category percentage of overweight and normal weight population are higher than landless laborers. Agricultural landless laborers are mainly hard worker and they work throughout the year while people of small and medium farmer's categories mainly work in the field during rainy season. Members of small farmer's category are also engaged in additional work if available. Landless laborers work in the field of large farmers and therefore manual energy of large farmer's population is saved. Consequently intake of nutritional food brings improvement in health states and therefore percentage of underweight population of both male and female is low among large farmer category.

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Table – 7

State of health of adult population among different landholding categories

(In Percent)

Landholding categories	Total population		Underweight		Normal weight		Over weight	
	M	F	M	F	M	F	M	F
Landless	826	889	59.2	68.8	39.3	23.0	1.5	8.2
Marginal	985	1123	47.5	58.1	28.0	32.7	24.5	14.9
Small	512	664	40.2	42.4	32.0	30.4	27.8	27.2
Large	342	386	41.0	38.9	35.3	29.5	23.7	31.6
All categories	2665	3062	47.5	56.2	33.2	29.0	19.3	14.8

Source: Based on field survey, 2008-2010.

Among small farmers category percentage of underweight population is 40.2 and 42.4 among male and female population respectively. Among marginal farmers category percentage of underweight population is comparatively higher than small farmer category which are 47.5 percent among male and 58.1 among female population.

The state of health in general is showing improvement from lower to higher level (table-8). Percentage of population with normal weight increases from landless labors (30.9%) to large farmers (32.3%) while percentage of large farmers (32.3%) while percentage of underweight population decreases from landless labor (64.2%) to large farmers (39.8%). There is a significant correlation between weight status of population and different landholding categories.

Table – 8

Weight status of adult population among different landholding categories.

(In percent)

Landholding categories	Total sample	Under weight	Normal weight	Over weight
Landless	1715	64.2	30.9	4.9
Marginal	2108	50.6	32.9	16.3
Small	1176	45.6	29.3	24.1
Large	728	39.8	32.3	27.9
All categories	5727	52.4	31.0	16.6

Source: Based on field survey, 2008-2010.

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5. State of health and diseases:

Water born diseases are predominant in rural area. Environmental diseases like bronchitis communicable discuses like tuberculosis, leprosy, and malaria have not been noticed in significant percentage. Few malaria patients are found in Dhaba, Indmara and Daragaon villages. Total 38(0.66%) persons were suffering from Malaria. Out of 5727 sample population only 26 (0.45%) patients were suffered from bronchitis.

Suggestions to improve the state of health:

This region is rice eater area. Rice is inferior than wheat in terms of protein. So people should develop a habit to eat wheat. It will give them much strength, maintain their body, and also reduce their medical bill. Wheat is also cheaper than rice so economically it is also helpful for poor people.

Conclusion:

Nutritional deficiency is one of the major problems of this area. On an average 52.4 percents population are underweight. Nutrition influences growth and development before as well as after birth. When the diet is improved the child begins to grow in height and weight. Health standard is considered as one of the best indicator for nutritional assessment. In present days there are plenty of food items of all verities in the market. But very few have purchasing capacity for procuring them in sufficient quantity. In the surveyed area majority of the population are unable to intake nutritious foods in sufficient quantities which finally reflect in their health standard. So Government should take proper initiatives to solve this problem.

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