



Research Paper

Food and Nutrition with Gender Inequality in Mahamaya Nagar District

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ABSTRACT:- The present paper attempts to study the Food and Nutritional condition of Male and Female of Mahamaya nagar district. For this work, field survey of fourteen villages was conducted in district to explore the correlation between food intake and nutrition deficiency within male and female. That is supported by the survey data and the Household Food Consumption Survey Method (as recommended by FAO, 1957 and Sukhatme, 1962) by resorting to an empirical survey from door-to-door in the sampled household of the villages. The survey has revealed that the existing food habits in the villages under study lead to an imbalance of food intake, both quantity-wise and quality-wise, which results in the occurrence of certain diseases of male and female. This is analyzing the Gender differential of Nutritional deficiency from RDA. Females record more deficiency of Fat, Vitamin A, Vitamin D, Folic acid, Calcium and Iron. It is slightly greater than that of the males.

Keywords:- Nutritional status, Nutritional deficiency, Protein, Vitamins, Minerals, Diseases.

I. INTRODUCTION

Food and Nutrition are closely related terms. Food is a composite mixture of various substances while nutrition signifies a dynamic process of which the food consumed is utilized for nourishing the body. Nutritional requirements and recommended dietary allowances for Indians have been estimated by ICMR (1992). There is a direct correlation between the level of food intake and nutritional status of male and female as well as the health status of it. Gender inequality is a major factor in perpetuating a hunger-poverty cycle. Women throughout the world are the primary food and care providers for their families. The intra-households food distribution seems to follow the rule that children get the first priority especially male child, then Adult men and then the women. The probability of going without enough food on a given day was as high as 40-50 per cent for the women. Women general health needs do not get the necessary attention. The women of the household eat least, last and leftovers.

The nutritional status of each members of the household depends on several conditions being met: the food available to the household must be shared according to individual needs. The food must be of sufficient variety, quality and safety, and each family member must have balanced diet for good health. More consumption of an adequate number of calories may not ensure sufficient intake of other nutrients, such as proteins, calcium and so on.

The present study attempts to examine variations in the nutritional status of male and female on the basis of consumption of food that is Cereals, Pulses, Vegetables, Milk and Meat. These food classified by nutritive values with Chemical composition like- Protein, Fat, Carbohydrate, Calcium, Iron, Phosphorus and Vitamins etc. All the above mentioned food consumed by male and female to help access the nutritional and health status of population in Mahamaya Nagar District.

II. OBJECTIVES

The main objective of this study is to:

- 1- Examine the Nutrients available in food items.
- 2- Analyses the village wise food consumption by nutritive values.
- 3- To examine the nutritional deficiency disease of male and female.

III. DATA AND METHOD

The present study is based on primary and secondary source of data. Data has been collected from intensive diet surveys conducted during 2010. The data were obtained with the help of random sampling method, covering 30 household in each of the 14 selected villages. These villages were uniformly distributed over the blocks therefore they were treated to be the full representative of the blocks. About 420 families have been interviewed in all selected villages and data obtained are presented in the tables, converted into nutritive values of foodstuffs based on Gopalan et al.(1980). The level of nutrient intake is given in gm, micro gram, mg, IU per kg.

The nutrient content of each food eaten was calculated from food table as:

(Portion size × Nutrient content)

Qualitative and quantitative aspects of nutritional intake have been analyzed in this paper. The qualitative food measure the values of different nutrients in foodstuff available in the diet. The quantitative food i.e. the energy content, has been measured in terms of proximate principle values of essential nutrients. The results of the analysis are presented in tables and diagram generated by using various techniques and methods of analysis.

IV. STUDY AREA

Mahamaya Nagar (erstwhile Hathras) district situated in south western semi-arid eco-system (zone-iv) of Uttar Pradesh. It is located at Latitude of 27°-29.11° North and Longitude of 77.29°-78.26° East and is about 179.8 meter above mean sea level. It is surrounded by Aligarh in North, Agra in South, Kanishram Nagar in East and in West by Mathura. The district has been divided into four tehsils namely, Hathras, Sadabad, Sikandra Rao and Sasni. These tehsils are further sub divided into seven blocks. They are Sasni, Hathras, Mursan, Sadabad, Sehpau, Sikandra Rao and Hasayan. (Fig.1)

The district lies in the central part of the Ganga-Yamuna Doab. It is a fertile district of gentle slope from the North-West to South East. Significant area of district is alkaline also. Economically under the British supremacy, Hathras was an important Industrial Hub. At present the prime industries are of Desi Ghee and Asafoetida. Economy depends much on Agriculture and Industries. Sugar and grain are the main articles of trade. The market of the district is distinguished for Chemicals, Readymade garments, Carpet, Art ware, Edible oils, Indian beverages and Medicine. Jowar, Bajra, Maize, Cotton, Paddy, Arhar and Moong are major crops during Kharif, while Wheat, Mustard field pea and Potato are commonly grown in Rabi season. Cotton and Sugarcane (with small area) are major cash crops of the district.

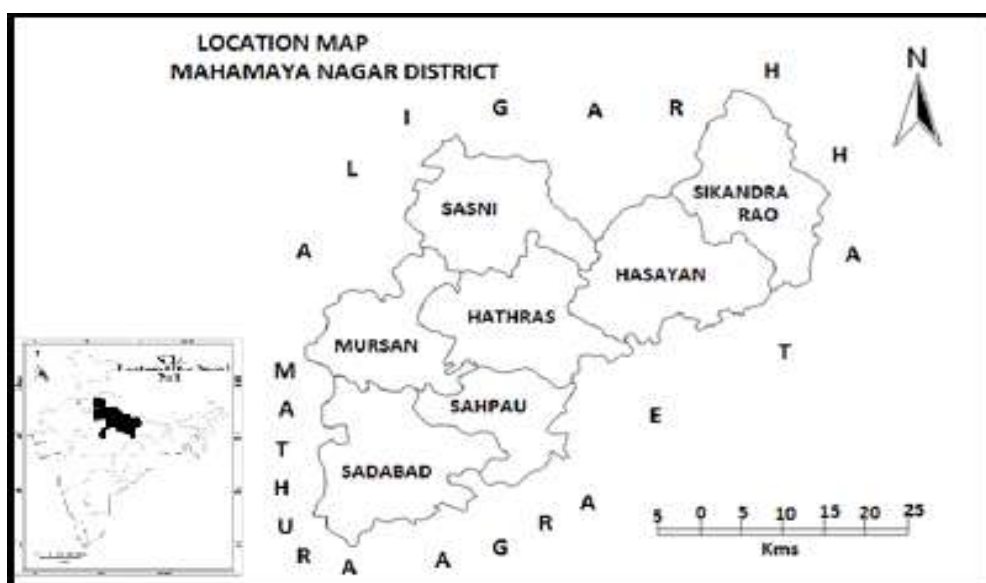


Fig.1

Food Group wise Availability of Nutrients

As per cereals provide about 75.86 per cent of Net energy to the population, followed by Pulses (7.59 per cent), Vegetable (7.74 percent), Milk (6.24 percent) and Meat (2.54 percent). Total Net energy available from cereals is 3013675 gm in all selected villages people: (Table.1) because of Wheat and

Rice are commonly found in this district. Maize and Bajra in addition to the cereal crops that provide extra energy to population in these villages. The Nutrients supplied by pulses to the population is same i.e. 301648 gm Net energy; 19376 gm Protein; 1925 gm Fat; 51723 gm Carbohydrate; 8304 µg Vitamin-A; 5323 mg Vitamin-c; 381 mg Thiamine; 159 mg Riboflavin; 212 mg Niacin; 479 mg Pyridoxine; 83618 µg Folic Acid; 108336 mg Calcium; 4338 mg Iron and 284170 mg Phosphorus respectively in all villages. These nutrients are available from the Eight varieties of pulses. The availability of nutrients from Pulses is less in Bilara, Kanjuli, Fatehpur bajhera and Pipal gawan.

Table-1: Food GroupWise Availability of Nutrients: Sampled Villages of Mahamaya Nagar District
(All Values are in Gms, micro gram, mg, IU per kg)

Food Gr.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C	301367	9041	2410	6061	5166	0	0	3014	1464	3099	490	2370	2217	4046	2453
PL	301648	1937	1925	5172	8304	0	5323	381	160	2120	479	83618	1083	4338	2841
V	307850	8065	1478	3444	6434	0	2102	188	339	2093	0	1483	3213	2758	2653
MI	248115	1547	2901	2446	1196	1517	5838	117	263	496	0	15003	6877	4729	4501
ME	101028	8544	7147	0	9603	1988	0	75	145	1854	0	2256	5642	1236	9941

C= cereal, PL= pulses, V= vegetables, MI= Milk, ME= Meat

1-Net Energy, 2-Protein, 3-Fat, 4-Carbohydrate, 5-Vitamin A, 6-Vitamin D, 7- Vitamin C, 8-Thiamine, 9-Riboflavin, 10-Niacin, 11-Pyridoxine, 12-Folic acid, 13-Calcium, 14-Iron, 15-Phosphorus

Source: Based on Field Work.

The nutrients availability of Vegetable and Milk is same throughout the study villages providing 307850 and 24115 gm Net energy; 8065&15470 gm Protein; 1477&29014 gm Fat; 34448&24461 gm Carbohydrates; 643406&11967 µg Vitamin-a; 151788 IU vitamin D in Milk; 210261&5838 mg Vitamin C; 187&116 mg Thiamine; 338&262 mg Riboflavin; 2093&496 mg Niacin; 148383&15003 µg Folic Acid; 321303&687716 mg Calcium; 2758&4728 mg Iron and 265366&450109 mg Phosphorus. The nutrients are available from the seventeen varieties of vegetable and three of milk. The availability of nutrients from Meat providing 101027 gm Net energy; 8544 gm Protein; 7147 gm Fat; 9602 µg Vitamin A; 19883 IU Vitamin D; 75 mg Thiamine; 145 mg Riboflavin; 1853 mg Niacin; 22569 µg Folic Acid; 56424 mg Calcium; 1235 mg Iron; 99415 mg Phosphorus respectively. About 88.7 percent of vitamin A is obtained from vegetables. A which is about cereal 7.12 per cent, pulses 1.14 percent, milk 1.65 percent and meat 1.32 percent vitamin-A respectively. Vitamin D only obtained from milk 88.41 percent and meat 11.58 percent remaining in cereal. Vitamin C highly obtained from vegetable 94.95 percent. Thiamine obtained from cereal 79.66 percent. Largest proportion of Riboflavin also found in cereal 61.53 percent. Folic acid is supplied by cereal, pulses, vegetable, milk and meat, its proportion being 46.78, 16.50, 29.28, 2.96 and 4.45 respectively. Calcium highly obtained from milk 49.28 percent, in cereal 15.88 percent, pulses 7.76 percent, vegetable 23.02 percent and only 4.04 percent in meat. 75.58 percent of Iron is obtained from cereal, 8.10 percent in pulses, 5.15 percent in vegetable, 8.83 percent in milk and 2.3 percent in meat.

Table-2: Gender wise Nutritional Intake of Sampled Villages, Mahamaya Nagar District

Nutrition	Male	Total male	Female	Total female	male	female
	RDA	consumption	RDA	consumption	deviation	deviation
Protein gm.	51.05	82.2	40.16	82.03	,31.15	,41.87
Fat gm.	116.6	33.29	70	32.99	-83.31	-37.01
Carbohydrate gm.	118.3	383.38	118.3	382.88	,265.08	,264.58
Vitamin A mcg.	744.3	398.04	611	392.97	-346.29	-218.03
Vitamin D IU	626.7	87.45	626.6	85.54	-539.21	-541.06
Vitamin C mg.	67.66	123.58	58.33	122.08	,55.92	,63.75
Vitamin B1 mg.	1	2.08	0.9	2.08	,1.08	,1.18
Riboflavin B2 mg.	1	1.28	0.9	1.28	,0.28	,0.38
Vita B3 niacin mg	13.53	19.89	12.2	19.91	,6.36	,7.71
Pyridoxine B6 mg	1.23	2.911	1.13	2.91	,1.681	,1.78
Folic acid B9 mg	338.6	307.88	338.6	307.38	-30.72	-31.22
Calcium mg.	1067	778.39	1100	767.17	-288.21	-332.83
Iron mg	8.43	30.53	11.1	30.46	,22.1	,19.36
Phosphorus mg	773	1916.15	773.33	1911.14	,1143.15	,1137.81

Based on Diet Survey.

The table-2 reveal that the Gender wise Nutritional intake of sampled villages of Mahmaya nagar district. The intake of both male and female is deficient in Fat, Vitamin A, Vitamin D, Folic Acid and Calcium while it is sufficient in Protein, Carbohydrate, Vitamin C, Thiamine, Riboflavin, Niacin, Pyridoxine, Iron and Phosphorus.

The deficiency of Vitamin C, Folic acid and Calcium is higher among females as compared to the males. The deficiency of vitamin D is higher among female (-541.06 percent) then males (-539.21 percent). The deficiency of Calcium is 44.62 percent higher among females then males.

V. CONCLUSION

Our observation reveals that the spatial disparities exist in the patterns of food consumption based on food groups. Mostly population of sampled villages depends on cereal based diet. Cereal like Wheat, Rice, Maize and Bajra provide about 75.86 percent of the Net energy to the population. Remaining Net energy supplied by other food groups. Gender wise deficiency of Vitamin C, Folic Acid and Calcium is higher among females as compared to males. The teeth and gums diseases along with some deformities in bones are reported which result from the deficiency of Vitamin C. blood deficiency that is Anemia is directly related to the Iron imbalance in diet. The food consumption is over all rich in iron content but it is hardly available to the women during their pregnancy phase and female child. The intake of iron was found to be more than the RDA because the major share of iron was contributed by cereal and pulses. As a family custom and tradition, food is first consumed by children, followed by males first and then females. As a result, the females have to eat the remaining insufficient food. Deficiency of specific nutrients has been recorded among both the males and females, but overall deficiency is higher among the females than the males in the sampled villages of Mahamaya Nagar District.

VI. SUGGESTIONS

In order to reduce the nutritional deficiencies a balanced diet should be consumed safe and sufficient in daily especially girl child and females. The intake of green leafy vegetables along with fresh seasonal fruits should be augmented to reduce the proportion of vitamin C and iron deficiency. More consumption of milk will help increase availability of Calcium to the population. Change the family custom and tradition by female to have eat the food is last and least.

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