Food Consumption Patterns of Adult Population in Rural and Urban Areas of Faizabad District of Uttar Pradesh, India

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Abstract: _Background_: _Poor dietary habit is widely recognized as an important risk factor in development of non- communicable disease (NCDs). This study was to provide a data on food consumption pattern existing among the adult population of Faizabad district, which has either negative or positive implication for nutritional deficiencies and NCDs._ _Methods_: _This study was a cross – sectional descriptive survey carried out in rural and urban area of Faizabad District. Total 400 respondents aged above 18 years were selected by simple random sampling. Two eligible participants of both sexes in each of the selected household were interviewed with a modified version of WHO stepwise questionnaires to obtain information on demographic and socioeconomic characteristics as well as food consumption patterns._ _Results_: _The mean age of the respondents were 35 years. Majority of urban populations (28.5%)were businessman, while the participants from rural areas were predominantly farmers (47.5). 78.5% and 60% of both rural and urban respondents were belonging to vegetarian category respectively. Cereals consumption in rural and urban areas was quite similer in a month, it included mainly wheat and rice only, While the consumption of coarse grains was very low (2-3 days in a month).Consumption of pulses included red gram and green gram dhal had taking by rural population by 15-20 days in a month, while in urban population it was 10-15 days in a month. Only seasonal and low cost fruits were consumed by rural population while all type of fruits was consumed by urban population, but it was below 5 serving in a day. Consumption of leafy vegetables was 5-10 days in a month for both urban and rural population. The study revealed that low cost, easily available and staple foods was frequently consumed by rural population. Mustard oil was the commonest type of oil used in cooking food in rural area, while refined oil and soybean oil was frequently consumed by urban population. On other hand consumption of foods considered as less healthy such as fast foods/pastries, sweets, chocolates, soft-drinks were frequently consumed by urban population._ _Conclusions_: _Clearly focused nutrition education efforts should aimed to strengthening the positive trends and combating the negative ones can go a long way in improving the dietary intake, lifestyles and nutritional status of the population._

Keywords: Food consumption patterns, Adult population, Dietary habits, Faizabad District

1. Introduction

India is a vast and varied subcontinent, with 2.4% of its global landmass supporting over one-sixth of the world's population. At the time of independence the country had high poverty and under nutrition rates. Realizing the importance of rapidly improving the situation, the country invested in multi-sectoral, multi-pronged strategies and programs to improve nutritional status of the population. Nutrition scientists have utilized the data from ongoing nutrition surveys to assess trends in dietary intake and nutritional status and monitor progress and impact of ongoing nutrition and health interventions. Non communicable diseases are increasingly recognized as a major cause of morbidity and mortality worldwide.

Food consumed by an individual has a lot to do with the nutritional and health status of that individual.one major risk factor for NCDs is poor dietary intake, in addition to alcohol, tobacco and physical activity. Poor diet is reported to contribute 87% of high blood pressure in sub –saharian Africa.

A WHO/FAO report indicated that low in energy dense food and abundant in fruits ,vegetables together with an active life style are among the key measure to combat chronic diseases similarly evidence shows that if the population adopts

recommendations dietary behavior ,reduction in morbidity and mortality from diet related disease can be achieved.

The aim of study is to provide data on food consumption pattern existing among the adult population, which has either positive or negative implications for the NCDs. Findings revealed by the study will help to develop strategies that ensure healthy eating habits and ultimately the well being of the population.

There has been a decline in the proportion of expenditure on food items in last three decades in both urban and rural areas. The proportion of expenditure on non-food items has increased from 24% to 37.7%. However, the expenditure on food remained higher in rural areas as compared to urban areas .Between 1972-73 and 2004-05, the share of food in total consumer expenditure has fallen from 73% to 55% in rural areas and from 64% to 42% in urban areas. The share of cereals has fallen from 41% of consumer expenditure to 18% in rural India and from 23% to 10% in urban India over the same period. The decline in consumption expenditure on food items has mainly due to low cost of cereals; in addition there has been a decline in cereal consumption especially among the middle and high-income group. Over years diet has become more diverse especially in the middle and upper income groups. In urban areas expenditure on vegetables, oil and sugar has decreased after 50th round whereas in rural areas expenditure on vegetables had increased and

expenditure on beverages has almost doubled. The percentage of households reporting milk consumption has grown in both rural and urban areas between 1993-94 and 2004-05 by 5 percentage points – 66% to 71% in rural areas and 80% to 85% in urban areas. Per capita consumption of edible oil has risen over the eleven years following 1993-94 (50th round) by as much as 30% in rural India and about 18% in urban India. Over the same period the expenditure on beverages has nearly doubled from 2.4 % to 4.5 % in rural areas. The growing oil consumption is a matter of concern in view of the increasing over nutrition, diabetes and CVD risks factors. If the expenditure on beverages and tobacco are used for purchase of vegetables and fruits, there can be substantial benefit in terms of micronutrient intake. Dietary diversification and an increase in vegetable intake is the only sustainable method of improving micro nutrient status of the population. One of the major factors responsible for the low consumption of vegetables is the non-availability of vegetables; especially green leafy vegetables through out the year at an affordable cost both in urban and rural areas. Data from NNMB also shows that over this period there has not been any significant increase in the intake of vegetables and micro nutrients (vitamin – A, iron and folic acid). The Tenth Plan envisaged a paradigm shift from food security to nutrition security to meet the needs of macro, micro and phyto nutrients through dietary diversification. In order to ensure sustained increase in vegetable consumption, it is important to improve availability, affordability, access and awareness about the need for increased vegetable intake. Focus on cultivation of low cost vegetables at home and in wasteland areas can go a long way in meeting vegetable needs of rural poor. Horticulture products provide higher yield per hectare and are economically viable options for small farmers especially when backed up by appropriate storage, processing and transportation facilities. If sustained, it would also improve access to vegetables at an affordable cost throughout the year in urban and rural areas. A small increase in expenditure on vegetable and phytonutrient may ensure that there is increased vegetable consumption to meet the nutritional needs of the population.

In India, NSSO computes consumption pattern of foodstuffs at national, state and household level from the data on expenditure on food and local cost of food. Data on consumption pattern of foodstuffs in the most recent quinquennial survey is presented here below.

In 2004-05, cereals formed the largest component of the diet. Consumption of pulses was very low; this is may be due to increasing prices of pulses. Consumption of milk, fruits and vegetables, and animal food continue to be quite low. Consumption of all foodstuffs increases with increasing income. This is especially true for sugar, oil, milk and animal products. Data from NNMB also indicate that energy consumption in highest income group is higher than the lower income groups. The higher energy intake combined with lower energy expenditure in these income groups' accounts for the observed increase in overweight and obesity especially in affluent segments of population.

2. Methods and Material

The study was based on simple random sampling and a part of village and town wise survey of food consumption patterns in Faizabad district of Uttar Pradesh. Twovillages in rural areas named Sarai-Dhanethi and Anjrauli, two towns in urban areas named Kaushalpuri colony, Shivpuri colony was selected for the study.

The study population was consisted of adults, 18 years to 49 years. Who resided in the selected places at the time of survey.200 from rural area and 200 from urban area was recruited by simple random sampling. Last stage in collection of data was the selection of two eligible respondents of both sexes from every household within the selected enumeration area.

Data was collected from the pretested and predesigned questionnaire. Information obtained included demographic and socio-economic characteristics as well as a 7 days dietary recall where participants were asked how often they consumed specific foods. Frequencies, percentage, means were analyzed.

3. Results

Table 1: Demographic characteristics of respondents

Variable		Rural		Urban		Total	%
		Male	female	Male	female	Male	female
Age	18-29 years	36	40	37	32	38.21	34.44
	30-39 years	39	41	37	33	39.79	35.40
	40-49 years	20	24	22	39	21.98	30.14
Sex	Male	95	-	96	-	47.75	-
	Female	105	-	104	-	-	52.25
Education	Primary	55	28	10	19	34.03	47.47
	Secondary	64	22	18	34	33.50	26.79
	Graduate	20	5	45	28	34.03	15.78
	Post graduate	5	1	28	18	17.21	9.0
Family income/m	Below 10,000/-	74		-		18.5	
	10000-30,000/-	89		79		42	
	30000-50,000/-	25		91		29	
	Above 50,000/-	12		30		10.5	
Occupation	Farmer	95	-	-	-	23.75	
	Teacher	-	5	12	8	6.28	6.22
	Businessman	30	-	36	-	34.55	-

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	Other	75	100	48	96	64.39	93.77
Physical activity	Sedentary	15	26	65	92	41.88	56.45
	Moderate	22	42	28	-	26.17	20.09
	Heavy	58	37	7	13	34.03	23.92
Food habits	Vegetarian	75	82	55	65	68.06	70.33
	Non-vegetarian	15	15	36	30	26.17	21.53
	Ovotarian	5	8	5	10	5.23	4.78
Body mass index	>40	-	-	-	11	-	5.26
	30-40	-	6	12	32	6.28	18.18
	25-29.9	15	67	11	46	13.61	54.06
	< 25	80	32	73	17	80.10	23.44

Table 2: Average days of consumption of food groups in a month

Food groups	Rural	Urban	Average
Cereals			
Wheat	30	30	30
Rice	28	26	27
Barley	1	3	2
Pearl millet	nil	nil	
Maize	6	4	5
Other	nil	2	2
Pulses			
Red gram	24	20	22
Green gram	3	4	3.5
Horse gram	4	4	4
Lentil	1	2	1.5
Other	3	8	5.5
Vegetable A (in season)			
Leafy vegetables	17	21	19
Other	22	26	24
Vegetable B (in season)			
Potato	24	12	18
Onion	26	26	26
peas	14	18	16
carrot	2	8	5
other	10	17	13.5
Fruits (in season)			
Guava	3	2	2.5
Banana	1	4	2.5
Mango	20	25	22.5
Apple	-	3	1.5
Other	4	10	7
Milk & milk product			
Milk	22	26	24
Butter milk	5	4	4.5
Curd	3	6	4.5
Cheese	-	1	1
Fats & Oils			
Mustard oil	30	28	29.5
Soya bean oil	-	-	-
Refined oil	1	2	1.5
Ghee /butter	4	2	3
Egg			
Flesh food			
Chicken	1	3	2
Fish	1	3	2
Mutton	-	1	1

Table 3: Patterns of consumption of protein, carbohydrate and fat rich diet

Food type	Protein rich food									
	Cereals		Pulses		Animal product				Nuts	
					Milk		Flesh food			
	Rural	urban	Rural	urban	Rural	urban	Rural	urban	Rural	urban
Always	200	200	150	120	110	95	-	-	-	-
Often	-	-	50	60	36	38	9	25	-	10
Sometimes	-	-	-	20	24	22	8	30	25	175
Rarely	-	-	-	-	7	15	21	10	100	15
Never	-	-	-	-	23	30	157	120	75	-

CHO rich diet

Food type	Potato		Sugar		Roots & tubers		Fruits & other veg.	
	Rural	urban	Rural	urban	Rural	urban	Rural	urban
Always	-	-	78	110	58	65	25	64
Often	176	147	91	65	104	110	145	132
Sometimes	15	35	24	25	38	25	30	13
Rarely	3	5	-	-	-	-	-	-
Never	6	13	7	14	-	-	-	-

Fat rich diet

Food type	Mustard oil		soybean oil		Ghee		Nuts & oil seeds	
	Rural	urban	rural	urban	Rural	urban	Rural	urban
Always	200	158	-	68	25	11	-	-
Often	-	27	-	26	33	31	-	44
Sometimes	-	15	13	19	71	110	25	22
Rarely	-	-	8	17	45	11	69	110
Never	-	-	179	70	26	37	106	24

Table 4: Dietary change made by respondents in last one year

Variable	Rural	Urban	Total
Eat less sugar	15	55	70(17.5%)
Eat less salt	10	42	52(13%)
Eat more fruits	17	32	49(12.25%)
Eat more fibrous vegetables	9	55	64(16%)
Eat weight reducing diet	-	42	42(10.5%)
Do more exercise	5	33	38(9.5%)

4. Discussion

The mean age of the respondents was 35 years in both rural and urban areas. Majority of both male and female had secondary education. The respondents mainly were occupation farmers in rural and businessman in urban areas.78.5% and 60% of both rural and urban respondents were belonging to vegetarian category respectively. A large number of urban females were suffering from obesity in comparison to women of rural areas, as they are more physically active in comparison to women of urban areas.

Cereal consumption in both rural and urban areas was equal but the consumption of coarse cereals in urban areas is higher, although it was low in both areas.

In pulses consumption red gram dhal was very commonest among all in both areas while other pulses is frequently used 3-5 days in a month.it includes horse gram, green gram and moong dhal.

Consumption of leafy vegetables is higher in rural population as it not so costly and easily available, but in urban population people are attracted toward increasing the consumption of green leafy vegetables because it is very helpful in preventing non-communicable diseases.

Consumption of vegetables B group onion and potato consumption was higher in both areas; it was frequently consumed in low income group with frequency of 28 days in a month.

Fruits consumption in both areas was very low, because of their high cost but consumption of seasonal fruits like guava and mango was high in rural areas.

Fats and oils consumption includes ghee and mustard oil was highly consumed by rural population in comparison to urban population whereas the consumption of refined oil and soybean oil is higher in urban areas.

On the other hand the consumption of foods considered as less healthy such as fast foods/pastries, sweets, chocolates and soft drinks was higher in urban areas. Both populations were depending on staple foods which are not so costly and easily available. About 40% of total populations from rural and urban were taking inappropriate diet, their diet are insufficient in meeting all important macro and micronutrients.

5. Conclusion

Clearly focused nutrition education efforts should aimed to strengthening the positive trends and combating the negative ones can go a long way in improving the dietary intake, lifestyles and nutritional status of the population.

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