

A Study of Nutrition Related Practices in a Rural Community

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ABSTRACT

Introduction: As people living in rural areas are increasingly exposed to urban lifestyles, the most commonly influenced area is diet. The nutrition transition in India is due to an increase in per capita availability of food accompanied by qualitative changes in the diet. This study was set to see if rural communities are consuming a balanced diet and following advised dietary goals and practices.

Material and methods: This descriptive study was done from August to November 2019 in Chinakakani village of Guntur District. After obtaining informed consent, an adult respondent available in 204 households were administered a pretested questionnaire looking at various aspects of nutrition. The data collected was entered in MS Excel, analysed and presented in tables. Findings were subjected to tests of significance like Chi Square at 5% Level of Significance.

Results: Good dietary practices are daily green leafy vegetables (34.8%), < 20 ml daily per capita oil use (40.7%), per capita salt use < 5 grams (3.4%), Iodised salt use (63.7%), daily intake of fruits (26.0%), unpolished rice (16.7%). Poor practices seen are consumption of cola drinks (53.9%), pre packaged foods (46.1%) and draining rice water (27.9%). Poor knowledge about food related diseases is seen in 89.7% families. In families with underfive children, 84.0% are consuming highly polished rice, daily intake of fruits is low (29.3%) and junk foods consumption in 49.3%. Comparing the socio-economic classes, there are no statistically significant differences. Various food fads were seen regarding vegetables like brinjal, potato, snake gourd, greens (spinach) etc.

Conclusion: Diets of rural communities, like that of their urban counterparts are also subject to unhealthy practices due to changing lifestyles. While knowledge continues to be poor, the proper balance of foods is fast disappearing. There is a need for practical nutrition education in rural communities.

Keywords: Nutrition, Dietary Practices, Per Capita Salt, Per Capita Oil, Iodised Salt

duration of leanness.²

When compared to urban areas, rural populations have a much greater risk of preventable death, illness and disability due to poorer social determinants (poverty, nutrition, lack of education, lack of access to safe drinking water and sanitation).³ Nutrition is a distinct part of the culture of a people. Food plays a role not only in personal identity but also power and social relations. However people's dietary patterns keep changing due to influences from all parts of the world. This is more evident with the rapid urbanisation of populations. When considering personalized nutrition, there is an active role between food and health.⁴

As people living in rural parts of the country are exposed more and more to urban lifestyles, they are adapting to newer ways of living. The most commonly affected area due to urban influence is diet and nutrition. While age old traditions in preparing and storing food are preserved in our villages, younger generations are bound to bring in change.

Food security is term to describe a situation where there is universal and continuous physical and economic availability of adequate, wholesome food in line with dietary needs and food choices which encourage a healthy life. Household food security is the application of this concept to individuals within households at the family level.⁵ In contrast, food insecurity is a result of low dietary intake due to poverty, low purchasing power, high prevalence of infection due to unsafe drinking water, poor sanitation, unavailability of health care and poor utilisation of available facilities due to low literacy and lack of awareness.

Since adequate nutrition is important for physical, mental and emotional development of an individual, it is necessary that sufficient emphasis be laid on planning of proper meals before they are cooked and served. Meal planning in an average family involves decision making regarding what to eat and how much to eat each day and each meal within the (limited) resources of the family. The objectives of meal planning are to provide the nutritional needs of the family members, keeping within the family food budget taking into account the food preferences of individual members,

INTRODUCTION

To sustain and maintain good health the body needs a complete diet which ensures physical growth and development and also improves immunity. Detrimental factors in nutrition related practices are poor selection of foods, religious and cultural taboos regarding food, food fads, habits and wrong beliefs. Poverty, national and international policies regarding food production and purchase, educational status, use of technology and transport facilities; all affect the individual and family's nutrition.¹ A balanced diet is defined as a diet which contains different types of food in such quantities and proportions so that the need for calories, proteins, minerals, vitamins and other nutrients is adequately met and a small provision is made for extra nutrients to withstand short

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tradition and culture and also considering family size and composition.

In recent years there has been a reduction in calorie requirement due to a more sedentary lifestyle among the rural residents. There has also been a diversification of the Indian diet to include a larger intake of fruits, vegetables, dairy products, sugar, oil and pulses, eggs, fish and meat products, thereby reducing the required intake of calories from cereals.⁶ There is clear evidence of a nutrition transition in India due to an increase in per capita availability of food accompanied by qualitative changes in the diet. The outcome of this is a substantial increase in chronic lifestyle diseases and obesity both in urban and rural areas. Data from the Food and Agriculture Organization (FAO) show that there have been large changes in consumption of animal products, sugars and fats.⁷

Rapid changes in diets and lifestyles due to industrialization, urbanization, economic development and market globalization are having a significant impact on the health and nutritional status of populations particularly in developing countries and countries in transition.⁸

Tripathy et al in their study found that no rural urban difference was found in dietary practices. They found a higher prevalence of overweight and obesity in rural areas. They also found that rural people almost always add salt to their food before eating. Fruit and vegetable consumption was lower. The rising morbidity and mortality due to non-communicable diseases in rural areas can be partly attributed to the urbanized lifestyle leading to unhealthy dietary practices and increasing physical levels of inactivity. Rapid urbanization of rural India might be responsible for the absence of a significant urban rural difference.⁹

Looking at diet and economics, nutritious diets are expensive when compared to rural wages. Nutritious diets are usually unaffordable for the rural poor as many poor households have significant numbers of dependents and substantial non-food expenditure requirements. Raghunathan K et al estimate that 45- 64% of the rural poor cannot afford a nutritious diet that meets India's national food-based dietary guidelines.¹⁰

A narrow food basket lacks diversity. Dietary diversity which involves adding a variety of foods to the diet such as fruit and vegetables, legumes, starch and animal products is a long-term strategy used to assist in combating micronutrient deficiencies.¹¹ Adverse dietary changes include shifts in the structure of the diet towards a higher energy density diet with a greater role for fat and added sugars in foods, greater saturated fat intake (mostly from animal sources),

reduced intake of complex carbohydrates and dietary fiber and reduced fruit and vegetable intakes.¹²

The student of nutrition and diet should therefore also be concerned about food availability, food habits, food preference, purchasing power of the family etc.¹³ This study was set to see if rural communities are consuming a balanced diet and following WHO advised dietary goals and to identify practices which lead to poor nutrition.

MATERIAL AND METHODS

This was a descriptive cross sectional study done over 4 months from August to November 2019 in Chinakakani village of Guntur District which is included in the field practice area of the NRI Medical College. The sample consisted of 204 families selected by systematic house wise random sampling from the 640 families in the village. After obtaining informed consent, an adult respondent available in each household was administered a pretested questionnaire looking at various aspects of nutrition like salt and oil intake, consumption of Green leafy vegetables, fruits, meat etc, amount spent on various types of foods, knowledge about nutrition and nutritional diseases etc. The data collected was entered in MS Excel, analysed and presented in tables. Findings were subjected to tests of significance like Chi Square and Z test at 5% Level of Significance.

RESULTS

The study included 204 families (total population 912 with 793 adults & 119 children). 75% of the respondents from the families were women. 81.3% of the respondents are between the ages of 20 to 59. Average family size is 4.5. Socio economic status according to the modified Kuppaswamy classification is Lower 6 (class 5) 2.9%, Upper lower 119 (Class 4)58.3%, Lower Mid 77 (Class 3) 37.7% and upper mid 2 (Class 2) 1.1%. There were no families in Class 1 i.e. Upper.¹⁴

Good dietary practices in families regarding intake of Green leafy vegetables, per capita salt and oil consumption, type of rice etc. are listed in Table 1. Poor dietary practices like intake of junk foods like colas and pre-packaged foods are given in Table 2. Percentage of household income spent on food and important nutritional items like fruits is also given. 75 families have children and the good and bad practices in these families are given in Table 3.

The data for SES classes were compared using Chi square test. However there were no statistically significant differences in good practice, bad practices and knowledge

S. No.	Dietary habits	No. of families (n=204)	%
1	Green leafy vegetables daily	71	34.8
2	Oil usage (<20 ml per capita)	83	40.7
3	Salt usage (<10gms per day per capita)	74	36.3
4	Iodised salt use	130	63.7
5	Fruits daily	53	26.0
6	Healthy rice (unpolished)	34	16.7
7	Milk (200ml per day per capita)	98	48

Table-1: Families with good Dietary Habits

S. No.	Poor Dietary habits and knowledge about foods	No. of families (n=204)	%
1	Coffee (regular use)	130	63.7
2	Cola drinks (regularly)	110	53.9
3	Pre-Packed foods (regularly)	94	46.1
4	Reheating foods	13	6.4
5	Draining rice water	57	27.9
6	Avoiding certain foods	44	21.6
7	Poor knowledge on food related diseases	183	89.7
8	> 50% of income on food	110	53.9
9	Money spent on fruits <150 Rs per capita monthly	154	75.5

Table-2: Families with poor Dietary Habits

S. No.	Dietary habits	No. of families (n=75)	%
1	Unpolished rice	12	16.0
2	Fruits daily	22	29.3
3	Milk >300ml per capita /day	14	18.7
4	Green leafy vegetables daily	25	33.3
5	Cola drinks	41	54.7
6	Pre packaged foods	37	49.3
7	Spending > 1000 Rs on food/month	8	10.7
8	Spending > 150 Rs on fruits/month	9	12.0

Table-3: Good dietary habits in families with children

levels between the Lower and Middle/Upper classes. 192 families (94.1%) said that they eat meat and eggs. However of them only 106 families (55.2%) eat meat or eggs weekly once or twice. Ground nut oil was being used by 38.2% of the families, 37.7% Palm oil and 24.0% Sunflower oil. There is no statistical significance according to SES. Diseases due to food listed were cholera, typhoid, other infections, vomiting, loose motions, skin allergies, fever and cold. Food fads seen in this village are the following. Brinjal consumption leads to diabetes, allergies and leg pains. It also has a religious taboo. Potato consumption leads to diabetes, joint pains and stomach ache. Snake gourd has a religious taboo, Greens (Spinach) cause stomach ache and cucumber causes cold.

DISCUSSION

Though prevalence of chronic energy deficiency has declined significantly in rural areas, overweight and obesity have increased which may be ascribed to sedentary lifestyles, increased consumption of fatty foods, sedentary lifestyles and improved socio-economic status. There is a need to educate the community about regular physical exercise, low intakes of fats and oils, and a balanced diet.¹⁵

The total dietary salt consumed is an important determinant of blood pressure levels and of hypertension risk. Salt reduction is a necessary preventive strategy to reduce blood pressure and cardiovascular disease. Salt intake in India is on an average 9 to 12 grams per capita daily which is extremely high compared to the World Health Organization (WHO) recommended level of 5 grams daily.¹⁶

Fruits and vegetables provide a range of tasty, vibrant, alternatives which while low in calories are also rich in vitamins and minerals.¹⁷ The general recommendation for intake is at least 400 grams per person per day (five servings of 80 g each day).¹⁸ Hall JN et al found that 75 percent of

people from low and middle-income countries consumed less than the minimum recommended five daily servings of fruits and vegetables.¹⁹ Green leafy vegetables which are a cheap source of iron are not being consumed regularly by many families. Fruits intake in rural communities is also not satisfactory. Age old practices like home pounded rice are becoming nonexistent. There is poor nutrition knowledge in the rural community.

Indian cooking involves stir-frying at high temperatures which not only destroys antioxidants like vitamin E and β -carotene but also produces toxic compounds that may potentially be mutagenic and atherogenic.²⁰ Refined sunflower oil has become the commonly used cooking oil and though its health benefits are claimed to be many, an equal number of studies counter this claim. Prasada Rao N et al suggest that oils rich in omega 6 fatty acids like sunflower oil increases body fat and may prove detrimental in heart health when compared with other animal fat and other traditional cooking oils used in India.²¹ Mani I et al suggest that the composition of a typical Indian diet has all the components that lead to a dangerous plasma lipid profile – high cholesterol, low fat in diets of the poor, low saturated fatty acids (SFA), high Linoleic Acid and low Poly Unsaturated Fatty Acids (PUFA).²²

Finally, a balanced diet with moderation in what one eats is the key to a healthy diet. Whole grains, legumes, vegetables, whole fruits, nuts and seeds are “good carbs” while refined cereals such as white bread, sugar-sweetened drinks or fruit juices, biscuits and baked items are “bad carbs”. Mohan V et al suggest that to make diets healthier and sustainable, there is a need to cut down the carbohydrate intake to around 50 per cent and add enough proteins from vegetable sources such as legumes and pulses (20 -25 percent) and the

remaining 20-30 per cent from healthy monounsaturated fats such as groundnut or mustard oil, nuts and seeds.²³ Data from India show that higher-income groups consumed a diet with 32% of the energy from fat while the lower-income groups consumed only 17% energy from fat.⁷

The entire population of India is at risk of Iodine deficiency disorders (IDD) due to paucity of iodine in the soil. Though salt is fortified with iodine, an estimated 350 million people do not consume adequately iodized salt. Currently it is reported that about 71 per cent of households in the country are consuming adequately iodized salt.²⁴ Karmakar N et al suggest that the gap in the utilization of adequately iodized salt in rural areas is due to non-availability, poverty, poor knowledge of iodine deficiency diseases, and faulty storage practices. As seen in this study, though knowledge and attitude toward iodized salt usage is poor, a majority are consuming iodized salt without knowing its benefits.²⁵

In India, fast foods have become very accepted due to taste, appearance and propaganda created by the media. Higher and early occurrence of lifestyle related diseases seen currently even in our villages may be due to increasing consumption of fast foods.²⁶ Bhattacharya S et al found in an urban slum population that taking processed foods is very common and almost all were not concerned about the salt levels on the food. Knowledge about daily recommended allowance of salt and the harmful effects of dietary salt was very low and was not associated with education, occupation and income of the residents.²⁷ The same seems to apply to the rural subjects in this study.

India is at the developmental crossroads, where diets are increasing and becoming more accessible and diversified; it is critical that a well-informed policy should be laid out before lessons that have painfully been learnt in the West are forgotten.²² An area of study which emphasizes the application of food and nutrition knowledge, policy and research to the improvement of health of populations is called public health nutrition. It is primarily concerned with improving nutrition and nutrition education for behaviour changes in population groups.²⁸

CONCLUSION

Though food availability has increased considerably even in rural areas, poor diets are being followed due urban influences, food fads and misconceptions. Recommended nutritional goals are not being practiced leading to increased burden of lifestyle related health issues. Intake of green leafy vegetables and fruits in rural communities is poor and age old practices like home pounded rice are becoming nonexistent. While knowledge continues to be poor, the proper balance of foods is not present. There is a need for practical nutrition education in rural communities.

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