



BENEFITS OF ADOPTING THE RIGHT COOKING METHODS FOR SAVING MACRO AND MICRO NUTRIENTS AT HOUSEHOLD LEVEL

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Abstract

Rural women and rural men each have different and complementary roles in guaranteeing food security at the household and community levels. Women often play a greater role in ensuring nutrition, food safety and quality. In much of the developing world, women produce most of the food that is consumed in their homes, and are generally responsible for processing and preparing food for their households. Women tend to spend a considerable part of the cash income that they generate from marketing activities on household food requirements. Recognizing women's and men's distinct roles in family nutrition is a key to improving food security at the household level. To tackle this issue, FAO bases its approach to nutrition on the economic and cultural context of the area concerned, and considers that food security depends not only on the availability of food, but also on access to food, as well as on food adequacy and acceptability to consumers. Other underlying causes of malnutrition must also be addressed. These include dietary intake and diversity, health and disease, and maternal and child care - areas in which women play decisive roles.

Key words : Role, women, household, macro and micro nutrients.

Introduction

Nutrition literacy and leadership at all levels is needed to understand the right amount and quality of food needed to live a healthy life at all stages of life. The three macronutrients namely, protein, fat and carbohydrates all perform essential roles in the human body. Macronutrients are the main components of our diet. Our bodies require other nutrients as well, such as vitamins and minerals. However, these are needed in much smaller quantities, and thus are referred to as micronutrients. All three macronutrients are needed in the diet, as each perform vital functions in the body. After 69 years of independence, India has among the highest incidence of under-nutrition in the world. Almost 50 per cent of children under 5 are under weight (weight for age) and stunted (height for age). Over 30 per cent of adults are also undernourished. Besides deficiency of calories and protein, deficiency of micronutrients (vitamins and minerals) is also quite commonly seen in Indian population. Micro-nutrients deficiency is referred to as the hidden hunger since often times it is not an obvious

killer orcripler, but extracts heavy human and economic cost. Though anthropometric deficits are attributed to protein calorie malnutrition, micronutrients deficiencies contribute significantly, because they are needed for utilisation of proteins and calories and to fight infections from a young age.

Food, through preparation, transportation or cooking methods, ends up losing their nutrients and being less nutritious when it comes to us eating them. There are some basic methods of cooking that are widely used. These commonly used basic cooking methods are divided into two general groups. The groups are: Dry heat cookery methods and moist heat cookery methods. The methods of cooking are divided into these two groups because of the way food is cooked and the type of heat that is used. In dry heat cooking methods, the food being cooked does not use water to cook the food. The food is left dry and heat is applied to cook the food. Such methods of cooking are: baking, steaming, grilling, and roasting. When heat is applied to the food, the food cooks in its own juice or the water added to the food during its preparation evaporates during the heating process and this cooks the food. Heat

is applied directly to the food by way of convection thus making the food to get cooked. In moist heat cookery methods, liquid is used as a medium to cook the food. Such medium could be water, coconut cream or oil. These liquids are added to the food before heat is applied to it or sometimes heat is applied to the liquid before the food is added into the cooking utensils to be cooked. The moist heat cookery methods include: boiling, stewing, shallow frying, deep frying, barbequing and basting.

We all should consume a balanced diet to stay fit. Balanced diet includes plenty of nuts, whole grains and green leafy vegetables. We should eat plenty of colourful fruits and vegetables, like red cherries, purple grapes, yellow bananas and orange carrots. The more colourful the diet, the better it is. It is easy to include more fruits and vegetables in the diet. It is better to eat fruit salads for dessert instead of sweets. The homemaker should prepare homemade soups and salads and include two or more vegetable side dishes with each meal.

Research methodology

The study was conducted in Kanpur district of Uttar Pradesh State. Out of a total of 110 wards of total six zones in Kanpur district 6 wards namely Nawabganj, Vishnupuri, Sarvodaya Nagar, Kakadev, Swaroop Nagar and Rawatpur were randomly selected for the study purpose. From these 6 wards, 20 women were selected from each ward to get a total of 120 women as the required sample size of respondents for this study. Dependent variables such as age, education, occupation, type of family, monthly income and independent variables such as awareness, knowledge, adoption, functions, etc. were selected. The statistical tools such as percentage, weighted mean, rank, etc. were applied where necessary.

Objectives

1. To assess the adoption of right cooking methods to secure nutrients.
2. To assess the importance of macro and micro nutrients in daily diet and benefits to human health.

Results

Women are typically household food managers, a role that uniquely ties them to food-insecurity dilemmas. Past research suggests that women sometimes deprive themselves to feed others, especially children and establish food intake patterns that alternate between restriction in times of scarcity and binging when food is plentiful, with a resultant gain in weight. Given these role dynamics, we expect the association between food insecurity and body weight to be larger among women than men and

particularly women without spouses or partners to provide economic and social support. Divorced men are more likely than never-married men to live in a household with very low food security.

Table 1: Awareness of respondents about various macro and micronutrients

Macro Nutrients	Yes	No	Mean Scores	Rank
Carbohydrates	80(66.7)	40(33.3)	1.67	II
Fats	48(40.0)	72(60.0)	1.40	III
Proteins	95(79.2)	25(20.8)	1.79	I
Others	12(10.0)	108(90.0)	1.10	VI
Micro Nutrients				
Vitamins	45(37.5)	75(62.5)	1.37	IV
Minerals	15(12.5)	105(87.5)	1.12	V
Others	8(6.7)	112(93.3)	1.07	VII

(Figures in parentheses denotes the percentage of respective value)

The perusal of Table 1 reveals the knowledge level of women respondents about macro and micronutrients. 79.2 per cent of the women had knowledge about protein with rank I and mean scores 1.79 whereas, 66.7 per cent of the respondents knew about carbohydrate with rank II and mean scores 1.67. 40.0 per cent of the respondents knew about fats with rank III and mean scores 1.40, followed by only 10.0 per cent who knew about other nutrients. 37.5 per cent of the women respondents knew about vitamins with rank IV and mean scores 1.37, while 12.5 per cent of the respondents knew very well about minerals with rank V and scores 1.12.

Table 2: Distribution of respondents according to number of meals cooked per day.

Meals	Frequency	Per cent
2 Meals	20	16.7
3 Meals	95	79.2
4 Meals	5	4.1
Total	120	100.0

The perusal of Table 2 reveals the distribution of respondents according to the number of meals cooked per day. 79.2 per cent of respondents cooked 3 meals per day, followed by 16.7 per cent of women who cooked 2 meals per day, while only 4.1 per cent of the respondents cooked 4 meals per day. Traditionally Indians who can afford to eat four meals a day: two main meals, generally breakfast or lunch and dinner and two supplementary meals; breakfast and a light afternoon meal of snacks, sometimes called tea or tiffin. Lunch and dinner are generally very similar. The timing and nature of these meals reflects such variables as income, location and the

schedule of family members. For rural people, the main meal is a hearty breakfast or early lunch to prepare for the day’s labour; dinner is much lighter. In towns and cities in North and central India, most people start the day with a light breakfast, followed by a large lunch taken either at home or at the office or school, a light afternoon tea when family members return home and a dinner in the evening. In south India, breakfast is the main meal of the day. The type of meal served or eaten at any given time varies by custom and location.

Table 3: Adoption of different cooking methods by respondents

Adoption	Yes	No	Mean Scores	Rank
Boiling	120(100.0)	-	2.00	I
Baking	14(11.7)	106(88.3)	1.12	II
Frying	120(100.0)	-	2.00	I
Pressure Cooking	120(100.0)	-	2.00	I
Any other	7(5.8)	113(94.2)	1.06	III

(Figures in parentheses denotes the percentage of respective value)

not be used for old age persons as it is difficult to digest oily food. Excess frying also causes nutrient loss and degrades the structure and colour of food. In India, whether it is rural or urban areas, pressure cooking is one method that has reached every door step. It is one of the best cooking methods as it does not cause any loss to nutrients and saves lot of time and energy of the homemaker. It is a cost effective way of cooking and hence it is adopted by all the respondents.

Conclusion

A person’s body must be in good physical condition in order to properly utilize the food and its micronutrients efficiently for optimum health. Utilization requires not only an adequate diet, but also a healthy physical environment, including safe drinking water, better knowledge of nutritional needs for women and children, improved infant feeding practices, fair intra-household distribution of food, adequate sanitation and hygiene, decreased burden of infectious disease and the knowledge and understanding of proper care for oneself for food preparation and safety.



Electric Steamer



Common Steaming Method



Roasting

The data in Table 3 shows that 100 per cent of the women respondents were using boiling, frying and pressure cooking methods to prepare meals with rank I and mean scores 2.00, while 11.7 per cent of the respondents adopted baking with rank II and mean scores 1.12. 5.8 per cent of the women respondents adopted other methods like microwaving, grilling and deep frying. Generally, women prefer boiling method in day to day use such as in boiling potato, rice and mostly for cooking vegetables for old people as it causes less loss to nutrients. Indian women adopt frying method especially on special occasions and family functions in which it is compulsory to cook puries, kachauries etc. It is also observed that frying technique is mostly used in rainy or winter season as the human body needs more energy so it demands more oily and fat filled stuff. But, frying technique should

By giving communities the tools and knowledge to make choices, a resilient food and nutrition system can be developed that ensures environmental integrity, economic self-reliance and social wellbeing. Innovative strategies need to be developed and tested not only to improve knowledge and attitudes but practices as well. Behavioural modification modules are needed. Nutrition education policy is nonexistent. Awareness among school children, teachers, consumers and women has to be enhanced. Women empowerment is essential to improve diets and health. Nutrition component of medical and agriculture curricula needs to be strengthened.

Recommendations

Here are suggested some simple ways to retain nutrients while cooking:

- ◆ **The bigger the better when chopping vegetables-** Because fewer vitamins are destroyed because less of the vegetable's surface area is exposed to air.
- ◆ **Use as little water as possible-** Let's put it this way, water-soluble vitamins are easily dissolved and washed away by water. Therefore, the less you use, the more you will preserve the nutrients. The best way to destroy vitamins is by cooking in an uncovered pot of boiling water. Instead, try microwaving or steaming vegetables instead of simmering/boiling.
- ◆ **Consider the time and temperature-** Put simply, the longer the cooking time and the higher the temperature, the more nutrients are lost because of the fact that many vitamins are sensitive to heat and air exposure (specifically vitamin C, the B vitamins and folate).
- ◆ **Love that cover-** While cooking always cover the pot to hold in the steam and heat to help reduce cooking time. Don't let that heat get away by leaving your pot uncovered.

References

- Elizabeth, Karmel (2016). *Cooking Class: Grilling. Essential Grilling Guide*. <http://www.cookinglight.com/cooking-101/techniques/cooking-class-grilling>.
- Food Dictionary(2016). *Eat Right Ontario Article: "Cooking foods with dry heat is healthy"* <https://www.eatrightontario.ca/en/Articles/Cooking-Food-Preparation/Food-Dictionary—Cooking-Foods-with-Dry-Heat-Methods.aspx>.
- Mayo Clinic (2015). *Healthy Lifestyle. Nutrition and healthy eating. Healthy cooking techniques: Boost flavor and cut calories*. <http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/healthy-cooking/art-20049346>.
- Siegel, Kathryn (2013). *Book on the Healthiest Cooking Methods Explained*. www.healthland.time.com.