

‘My Plate’ For Coastal Region of Karnataka – A Healthy Eating Concept

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Abstract: Unhealthy food trends in fast-food consumption have been associated with increasing rates of various diseases among children and adolescents, and greater total energy intake and poorer nutrient intakes. In worldwide different plates (My plate) have been introduced like in U.S.A. “My plate”, in U.K. “Eatwell plate” and in Australia a plate guided by “Australian dietary guideline” has been introduced to help people to have a balanced diet. MyPlate helps in identifying the routine proportions for the fruits, vegetables, cereals, protein and dairy food groups. The Food Guide Pyramid became one of the most recognized, useful, and influential food guides in history, which is universally adopted as an icon and used by nutrition educators, in food industry and various nutrition programs in schools. The launch of MyPlate concept kicked off an innovative idea to help people to have healthy food. In India there are different regions, religions and beliefs so a universal My Plate concept is not feasible concept, hereby we attempt a MyPlate concept in coastal region of Karnataka after considering nutritional knowledge, food habits and economical reach.

I. Introduction

Today, food is not only a necessity, but also a science. It is a science which is moving at pace with amalgamation of habits, cultures and technology. People have become more aware about what they eat. The direct and indirect implications of food on the efficiency, longevity and vitality of the body are deeply studied.

Malnutrition is an underlying cause of death of 2.6 million children each year - a third of child deaths globally. (1) Under-nutrition is being under our attention from several years. However, the focus is now shifting towards Over-nutrition as well. It is not only developed nations, but developing countries also showing significantly higher number of obese cases in both children and adults. (2) The risk of non-communicable diseases like Hypertension, Coronary heart disease, Diabetes etc. is higher in obese people. (3, 4) The problem is not the availability of food, but accessibility to healthy food. The fast-paced lifestyles and modern day stresses have rendered us dependent excessively on highly processed and junk food. (5) Lack of healthy, preferably home cooked meals have taken a toll on our health and pushed us towards a new uncharted territory of non-communicable diseases.

Since, we have mentioned about the fast lifestyles. It is not practical to expect people investing a large amount of time in planning a healthy meal. For the convenience, a practical solution was thought by the United States - Department of Agriculture.

My plate is the current nutrition guide published by the United States Department of Agriculture. It is a food circle (Figure 1) depicting a plate dividing into 5 food groups. It helps in identifying the daily meal proportion for the fruits, vegetables, cereals, protein and dairy food groups. It is a reminder to find our healthy eating style and will act as framework for development of better eating habits for a better quality of life. (6)

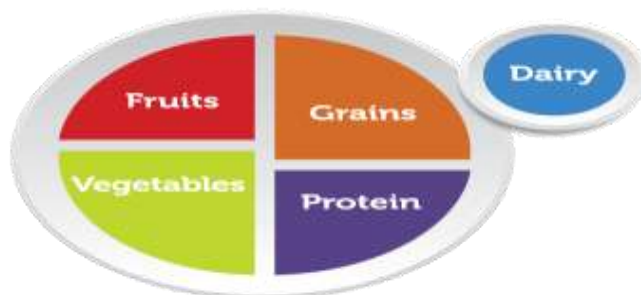


Figure 1 – My Plate concept by US Department of Agriculture

Aim

To deliver a My Plate design suitable for the population of coastal region of Karnataka State

The Adaptation

Karnataka is a state of India situated on the southwest region on the coastal line of Arabian Sea. The food plate of Karnataka includes lot of vegetarian and non-vegetarian cuisines. Kannada food plate is one of the oldest surviving cookery and many believe its origin from iron age as some of the food like *ragi* is mentioned in the history by *pampa maha kavi, susthra* etc. Cookery of Karnataka is not limited to the state but also influences the plate of its neighbour states like Andhra Pradesh, Maharashtra, Kerala, Tamil Nadu. We are grouping 5 food groups (Protein, Cereals, Pulses, Fruits and Vegetables and Dairy products) (Figure 2) that are building blocks for healthy diet of an average adult from Karnataka state. This is a special model designed to meet the dietary need of the local population. The total amount of calories required by an average adult is 2875 cal. In this adaptation, we included all necessary components for an individual recommended on a daily basis. Most easily and economically available ingredients were chosen for this plate. Food groups consisted of proteins, cereals and pulses, vegetables and fruits and dairy.

Table 1 - Macronutrients and food items of Karnataka region

Protein	5%	Fish 412cal/200gm/2fish OR Egg 155cal/2egg OR Chicken 478cal/200gm OR Mutton 478cal/200gm OR Soyabean 300cal/70gm
Cereals	61%	Cooked rice 1648cal/800gm and Ragi roti 372cal/2roti OR Wheat chapatti 456cal/4roti and Lentils 230cal/100gm
Pulses	5%	Bengal gram 120cal/50gm OR Chick peas 119cal/100gm
Dairy	21%	Curd 100cal/100ml OR Milk 300cal/150ml OR Butter milk 150cal/250ml
Fruits and Vegetables	8%	Banana 210cal/2pc OR tender coconut 92cal/2cup OR Green leafy vegetable 50cal/50gm

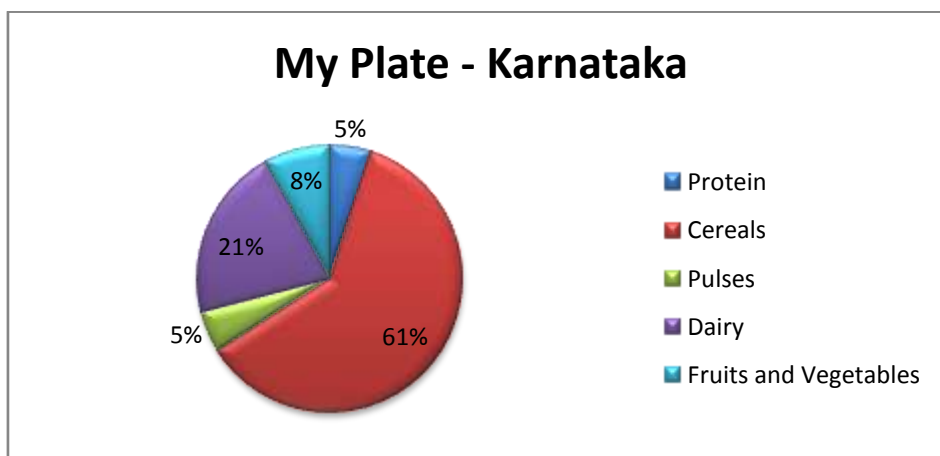


Figure 2 - Karnataka adaptation of My Plate

Table 2 - Micronutrients in every food group

Micronutrients in every food group			
Dairy products (Per 100 gm)	Cereals (Per 100 gm)	Protein (Per 100 gm)	Fruits & Vegetables (Per 100 gm)
Fat – 124%	Fat – 10%	Fat – 15gm	Fat – 0.2 gm
Cholesterol – 71%	Sodium – 4 mg	Cholesterol – 90 mg	Sodium – 35 mg
Sodium – 11 mg	Potassium – 508 mg	Sodium – 72 mg	Potassium – 169 mg
Potassium – 24 mg	Carbohydrate – 65 gm	Potassium – 318 mg	Carbohydrate – 13 gm
Carbohydrate – 0.1 gm	Protein – 14 gm	Vitamin D – 1%	Protein – 2.9 gm
Protein – 0.8 gm	Calcium – 15%	Calcium – 1%	Vitamin A – 85 %
Vitamin A – 49%	Vitamin C – 7%	Vitamin B12 – 43%	Calcium – 2%
Calcium – 2%	Iron – 42 %	Vitamin B6 – 20%	Vitamin C – 5%
Vitamin D – 15%	Vitamin B6 – 30%	Iron – 14%	Iron – 4%
Vitamin B12 – 3%	Magnesium – 62%	Magnesium – 5%	Vitamin B6 – 5%
		Minerals – 3.5 gm	Magnesium – 5%

II. Discussion

Around the world, there are several recommendations in different countries for dietary habits of people. Some of them are discussed here.

The **Eatwell Plate** is a pictorial summary of the main food groups and their recommended proportions for a healthy diet. It is the method for illustrating dietary advice by the Department of Health, issued officially by the government of the United Kingdom. (7) The Eatwell Plate was superseded by the Eatwell Guide published on 17th March 2016.

The **Australian Dietary Guidelines** give advice on eating for health and wellbeing. They are called dietary guidelines because it is your usual diet that influences your health. Based on the latest scientific evidence, they describe the best approach to eating for a long and healthy life. These guidelines are for use by health professionals, policy makers, educators, food manufacturers, food retailers and researchers, so they can find ways to help Australians eat healthy diets. They apply to all healthy Australians, as well as those with common health conditions such as being overweight. They do not apply to people who need special dietary advice for a medical condition, or to the frail elderly. (8)

According to a study by Wansink *et al*, My Plate is beneficial for those, who already know the nutrition pyramid and it is helpful among those who already have knowledge about nutrition. They also found that it is more beneficial for a vegetable lover as compared to fruit lover. (9)

In 2014, a communication survey found that 75% of dietitians were using this plate as a teaching guide for patients and 61% of patients were familiar to those symbols. They also found that My Plate status is rapidly growing in consumer as well as health professionals and gaining popularity amongst them. (10)

III. Conclusion

The dietary guidelines appear to have had a lesser effect on the population than traditional beliefs. Early MyPlate adopters found it clear and easy to use, perhaps owing to nutrition knowledge and cooking experience. Efforts to expand MyPlate to new user groups should explain its purpose and applications, build on familiarity with earlier concepts, and offer practical guidance for preparing vegetables. MyPlate, the brand new approach to healthy eating, based on years of research on consumer behavior certainly offers promise. By offering easy and practical visual cues for building your very own healthy plate, it will help people focus on healthy eating behaviors and improve diets.

The authors believe that MyPlate is a good concept which will be helpful in the Indian scenario. However, more surveys should be done to get more public opinion on foods, food habits, cultural and regional differences related to food, economical concerns, etc.

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