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## The need for dietary guidelines in Pakistan

Romaina Iqbal, Saman Tahir, Naveera Ghulamhussain

### Abstract

Diet is one of the most important contributors to health and disease. Developing countries such as Pakistan are facing a growing epidemic of under nutrition resulting in stunting, wasting and micronutrient deficiencies in the population. This severe situation of under nutrition in the country is coupled with rising tide of non-communicable diseases (NCD) posing the double burden of disease on the country. These burden of NCD, along with over and under nutrition poses a huge burden on the already over-utilized multi-tiered health care system in Pakistan. In this alarming situation, nutrition education in the form of food based dietary guidelines (FBDGs) naturally becomes the most essential tool for promoting a health culture within the country and eventually changing behaviour.

**Keywords:** Under nutrition, Over nutrition, Food based dietary guidelines, Dietary change, Behaviour change.

### Introduction

Diet is one of the most important contributors to health and disease. Developing countries such as Pakistan are facing a growing epidemic of under nutrition resulting in stunting, wasting and micronutrient deficiencies in the population.<sup>1</sup> The results of the National Nutrition Survey (NNS) 2001 found that rates of malnutrition in children under five were as follows: wasting 13%, underweight 38% and stunting 37% and these figures showed little or no improvement in the NNS 2011. Moreover in the same survey, 13% of non-pregnant and 16% of pregnant women were undernourished.<sup>1</sup>

This severe situation of under nutrition in the country is coupled with rising tide of non-communicable diseases (NCD) posing the double burden of disease on the country. Demographic transition to rapid unplanned urbanization and increasing globalization has led to changes in lifestyle, food availability and consumption in the population. High-energy expenditure in the form of energy dense low nutrient value foods is significantly increasing the prevalence of overweight and obesity in the population.

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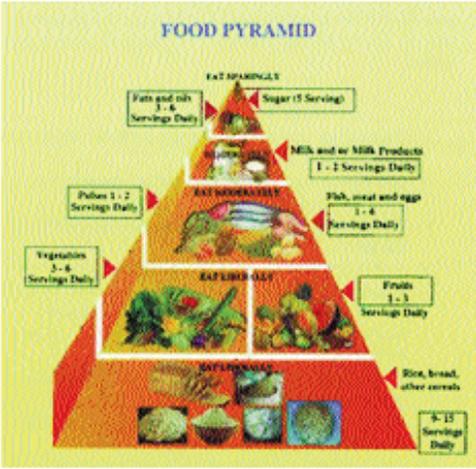
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Surveys have shown that an estimated 40 million individuals in Pakistan suffer from high blood pressure, 32 million from heart disease, 24 million from obesity, 18 million from high cholesterol and 8 million from diabetes.<sup>2</sup> These results can be attributed to a combination of dietary deficiencies, poor maternal and child nutrition, food insecurity and high illiteracy rates. Even though many of these diseases with strong links to nutrition may take years to develop, it is imperative that optimal nutrition throughout all phases of life is implemented. The burden of NCD, along with over and under nutrition poses a huge burden on the already over-utilized multi-tiered health care system in Pakistan. In this alarming situation, nutrition education naturally becomes the most essential tool for promoting a health culture within the country and eventually changing behaviour.

Many countries have adopted nutrition education as a prime component of their public policy and have been successful in achieving dietary changes at the population level.<sup>3</sup> Nutrition education can be targeted by different strategies, in different settings accompanied by environmental support to influence consumer awareness, attitudes, skills, preferences and behaviour around food, diet and nutrition. One of the tools used for nutrition education are food-based dietary guidelines (FBDGs).<sup>4</sup> FBDGs are short, science-based, positive messages on healthy eating and lifestyle aimed at preventing malnutrition. These are educational tools that translate nutrient recommendations into simple information using text and pictorial representation which makes it easy for varied populations groups to follow and therefore would be relevant for Pakistan's population where literacy rates are also very low.<sup>4</sup>

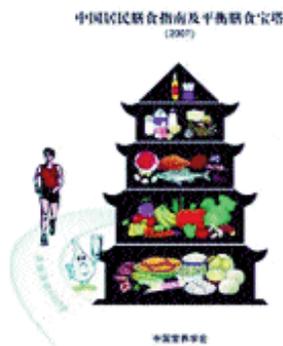
FBDGs can serve as the nation's primary source for nutrition advice and refer to a combination of all food groups and beverages in optimal number of servings to be eaten everyday rather than focusing on individual nutrients or foods in isolation. Information is also provided on a range of dietary patterns that need to be adopted to ensure optimal health in different physiological states and age groups.<sup>4</sup> The suggested diets are based on locally available and culturally acceptable foods, which are accessible and available to the population. FBDGs can be an important source of disseminating consistent information about a healthy diet and lifestyle keeping into

**Table-1:** Attributes of country specific dietary guidelines.

*Country	Title	Salient Features	Picture and Link	Culturally Tailored Messages
India	The Indian Food Pyramid	Dietary Guidelines targeted to the healthy adult	 <p><a href="http://www.fao.org/nutrition/education/food-based-dietary-guidelines/regions/countries/india/en/7">http://www.fao.org/nutrition/education/food-based-dietary-guidelines/regions/countries/india/en/7</a></p>	<ol style="list-style-type: none"> <li>1. Moderate use of edible oils and animal foods</li> <li>2. Minimum use of ghee/butter/banaspati</li> <li>3. Restrict salt intake to a minimum</li> </ol>
Bangladesh	The Bangladesh Food Pyramid	Dietary guidelines targeted to the healthy adult Appropriate feeding for children under 2 years of age also included	 <p><a href="http://www.fao.org/3/a-as880e.pdf#8">http://www.fao.org/3/a-as880e.pdf#8</a></p>	<ol style="list-style-type: none"> <li>1. Limit salt intake and condiments and use only iodized salt.</li> <li>2. Consume less sugar, sweets or sweetened drinks.</li> </ol>
Japan	Japanese Food Guide Spinning Top	Dietary guidelines (including moderate consumption of highly processed snacks) and physical activity targeted to the healthy adult	 <p><a href="http://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/Japan/en/9">http://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/Japan/en/9</a></p>	<ol style="list-style-type: none"> <li>1. Eat enough grains such as rice and other cereals.</li> <li>2. Take advantage of your dietary culture and local food products, while incorporating new and different dishes.</li> <li>3. Reduce leftovers and waste through proper cooking and storage methods.</li> </ol>

*Cont. on next page...*

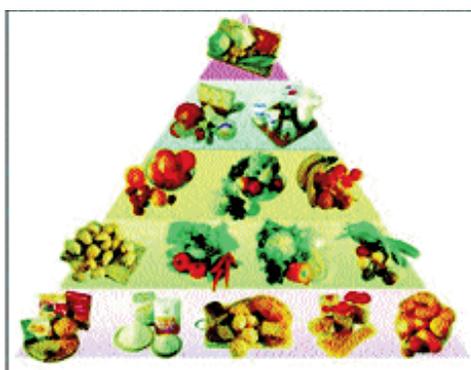
China Food Guide Pagoda Dietary and physical activity guidelines for populations with special needs: infants, pre-school children, school children, adolescents, pregnant women, lactating women and the elderly.



<http://www.fao.org/nutrition/education/food-based-dietary-guidelines/regions/countries/china/en/10>

1. Variety of foods, mainly cereals, including appropriate amounts of whole grains.
2. Plenty of vegetables, fruits and tubers.
3. Milk, beans, or dairy or soybean products consumption every day

Poland Pyramid of Healthy Nutrition Dietary and physical activity guidelines for adults, school aged children and adolescents



<http://www.eufic.org/article/en/expid/food-based-dietary-guidelines-in-europe/4>

1. Beware of weight gain and obesity; don't forget about physical activity every day.
2. Cereal products should be your principal source of calories.
3. Drink at least two glasses of milk a day. Yoghurt, kefir and some cheese could substitute milk.

France French Food Based Dietary Guidelines Dietary and physical activity guidelines targeted to the general public, pregnant and lactating women, parents of children 0-3 years, parents of children 3-18 years, teenagers, people older than 55 years and caregivers of the elderly.



<http://www.eufic.org/article/en/expid/food-based-dietary-guidelines-in-europe/4>

1. Increase the consumption of fruits and vegetables, regardless of their forms (raw, cooked, natural, prepared, fresh, frozen or canned), to achieve at least 5 servings of fruits and vegetables per day
2. Limit the consumption of total fat and particularly of saturated fat; these are provided by certain foods which are best consumed in moderation (pastries, meats, butter, sauces and certain cheeses)

\*Adapted from Food and Agricultural Organization of the United Nations. Food-based dietary guidelines<sup>3</sup>.

consideration the nutrient needs of the specific population, public policies and the local food economy.

In general FBDGs should be simple to understand, and easy to follow. There can be general or specific messages such as "eat a variety of foods each day", or "eat five portions of vegetables and fruit a day".<sup>5</sup> Messages can specify type of foods such as 'eat low fat dairy products' or be meal specific

such as 'never skip breakfast'. One of the most well known examples of FBDGs is the food guide pyramid used in several countries. The idea of the food guide pyramid is to visually represent suggested proportions of food groups to be eaten every day. Countries such as China, Poland and France have given their own cultural twist while designing their FBDGs.<sup>4</sup> For example China's food pagoda advocates a varied diet that's high in sweet potatoes, legumes, and soy beans and is

made in their own traditional design. France's food stairs is one of the few charts that encourages physical activity.<sup>4</sup> Recommended daily servings are above the food in each step, and the magnifying glass on the side displays of miniature servings of sweets, salt, oil, and sodas. The Polish food pyramid takes a photographic approach to encourage a large consumption of grains followed by vegetables, fruit, dairy, and finally small amounts of fish and meat<sup>4</sup> (Table-1).

Many countries have also adapted dietary guidelines considering the burden of disease in a country, prevailing lifestyles and socioeconomic patterns of the population. In South Africa, where child malnutrition was a major public health concern, FBDGs were developed with a specific set of guidelines for mothers and caregivers of children, based on existing paediatric nutrition health issues and local dietary habits.<sup>6</sup> Moreover the guidelines were used to educate and empower mothers, caregivers, school children adolescents and adults to create a healthy food environment so that they could combat both over nutrition and under nutrition.<sup>6</sup> Similarly India and Bangladesh have taken the first basic step towards translating nutrition population goals into FBDGs at a national level by developing their own FBDGs in 1998 and 2000.

In Pakistan low literacy levels, poverty and lack of standardization and regulation when it comes to provision of nutrition education has left the population in a perplexed state. The already existing lack of awareness encompassed by lack of guidelines has led to little or no improvement in the health status of the population over decades. Though various factors interplay on determining the nutrition status of the population, nutrition education communicated through a simple pictorial tool such as FBDGs can assist in overcoming malnutrition in Pakistan. Nutrition education in this form can be used as a means for devising alternative strategies to improve dietary practices by motivating behaviour change to make sustainable long-term lifestyle changes. Research has shown that simply providing nutrition education is not sufficient to promote dietary change without providing enablers and motivators in the environment.<sup>5</sup> In this regard FBDGs can be used as a universal tool for the formation and implementation of federal nutrition policies, food assistance programmes to be used by consumers, industry, nutrition educators and health professionals. These guidelines will also open avenues for agricultural planners to diversify food crops and decline policies of food import and export. The first step of assessing the nutrition status of the target population before initiating the process of formulating FBDGs has already been done

through the NNS. FBDGs can only be developed successfully with synergistic performance of a working group of experts from agriculture, health, food science, nutrition, consumers, food industry, communication, anthropology etc. Representation from various sectors and public consultation during the development phase will ensure likelihood of success in addressing national health problems, greater awareness and acceptance of these guidelines among varied groups and use of FBDGs.<sup>4</sup> Fortunately, Pakistan has taken a step in the right direction by joining the "Scaling Up Nutrition Movement" in 2013 to show its' commitment in eradicating malnutrition amongst the vulnerable and marginalized groups. The SUN network has been launched from the platform of the Ministry of Planning and Development and is one avenue where the agenda for developing culturally tailored dietary guidelines can be parked.

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