Consumer health and environmental sustainability: Barilla Center for Food and Nutrition. Double Pyramid Model

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According to a research carried out by the Organization for Economic Cooperation and Development, in the most European countries (included Italy) overweight or obese people have doubled during the last two decades. Alongside the healthy aspect of food, comes the environmental issue: it has been assessed that food consumption account for about 20-30% of the total ecological impacts in the Western World and represents an environmentally significant behavior because of the greenhouse gas emissions, water and land usage and excess wastage related to the production of food from its agricultural phase to its consumption and disposal.

The Double Pyramid model (DP) created by the Barilla Center for Food and Nutrition is a tool that is made to address two main objectives regarding food consumption: consumer health and environment protection. The first Pyramid, based on the Mediterranean Diet pattern, comes from the Food Pyramid elaborated by the United States Department of Agriculture in 1992 and it has been updated and modified accordingly to the latest nutritional findings. At the base are represented healthy foods that should be consumed often, like fruit and vegetables (F&V) and grains, while going up to the tip there are shown foods that should be eaten less often and with moderation, like red meat or sweets. In the Environmental Pyramid (placed upside-down next to the first one) the classification of foods is made according to their environmental impacts and it shows in good measure the same succession of foods proposed in the Food Pyramid. That is, foods that should be consumed with moderation, like red meat, are also those that have greater environmental impacts compared to those that should be eaten at every meal (like F&V). The method used to build BCFN Environmental Pyramid was the Life Cycle Assessment, which analyses the overall environmental impact of a product throughout its life cycle. The key performance indicators that have been selected are: the Carbon, Water and Ecological Footprint.

Up to now there are no studies that, according to the DP model, have focused their analysis on F&V intake, meat consumption and related to consumer health and environmental impacts of food.
Based on the DP framework, we focus on a segmentation analyses of Italian population based on the level of F&V intake and meat consumption. From these analyses it emerges the main objective of our study that is to examine behavior of Italian population regarding daily recommendations for F&V and meat consumption, in order to identify socio-demographic, lifestyle factors and attitudinal and behavioral variables associated with a healthier lifestyle. Another important goal of our study is to explore and assess whether and to what extent more concerned people towards environmental conditions and environmental impact of food are also people who follow a healthier life-style.

Data used for our analyses refers to the 2011 wave of the sample survey "Aspect of Daily Life" carried out by the National Statistical Institute (ISTAT) collecting data on individual and household daily life. The sample was composed by 47,609 of individuals representative of Italian population and questions regarding F&V meat consumption were focused on individuals aged 3 or more.

Primary results show that, besides socio-demographic factors which confirmed to be important predictors of consumption of F&V, the estimated models suggests a positive relationship between frequency of sport activities and a healthier life style in terms of consumption of F&V.
We believe that this preliminary results together with the dissemination of DP model and in particular the positive relation between PA and F&V consumption, could be an important result for the improvement of consumer health and wellbeing, decreasing at the same time the related environmental impacts.