Deliverables in functional foods: Concept to product in the Indian context

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The design and development of functional foods is a key issue, as well as a scientific challenge, which should rely on basic scientific knowledge relevant to target functions and their possible modulation by food components. Functional foods themselves are not universal and a food-based approach would have to be influenced by local considerations. In contrast, a science-based approach to functional food is universal. The function-driven approach has the science base as its foundation. Several foods in the traditional Indian cuisine have been used since ancient times for their medicinal value. Today, the bio actives present in them have been identified and recognized for various biological activities. Several herbs and spices of Indian origin are reported to have health benefits. In order to gain a broader understanding of the functional foods/ ingredients/ herbs in the Indian diet, my research group is exploring several aspects related to the development of functional foods employing a systematic approach viz., identify potential functional ingredients, study their techno functional properties, nutrient bioavailability and biological responses to functional foods/ ingredients. In addition, the effect of processing on their functional properties is also studied. Attempts have been made to understand the mechanism of action to facilitate its use in the functional food formulations. The selected food/ bioactive is then subjected to toxicity studies prior to undertaking clinical studies. Some such highlights are mentioned here - determinants of functionality in cereals and legumes were source of starch, cooking methods, food form and food composition. Use of mixed cereals/ pulses resulted in lowering the starch digestibility and glycemic responses in the traditional foods. Germination of legumes increased the glycemic responses, while addition of barley and cinnamon in bread, *chapathi* and *roti* lowered the glycemic responses in in type 2 diabetic subjects. It is important to develop effective synergies between science and functional foods for the benefit of the consumer.

Speaker Biography

Asna Urooj, obtained her MSc and PhD in Food science & Nutrition, from University of Mysore and she is a Professor and Chairperson at post-graduate Department of Studies in Food science & Nutrition, University of Mysore, India. Her areas of research are Diabetes, Starch digestibility & glycemic responses, Natural antioxidants, Anti-hyperglycemic and hypolipidemic effects of medicinal plants and Disease specific food formulations. She has completed 11 research projects funded by UGC, DST, MHRD, and BBSRC-UK. She has 176 research papers published in peer reviewed journals, with 2740 citations with h-index of 26.

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