

Understanding Ultra-Processed Foods: Current Science, Classification Systems and Food Policy

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This presentation will provide an overview of the development and rationale of processing-based food classification systems, with particular attention to the NOVA classification and its current applications in nutrition research and public health. Current evidence on the relationship between UPF consumption and health outcomes will be critically examined, considering both its consistency and its substantial methodological limitations. Particular attention will be given to the heterogeneity in the definition and identification of UPFs across classification systems and studies, as well as the broad nutritional and technological heterogeneity of foods grouped within the UPF category. These issues raise questions about the reproducibility and applicability of processing-based classifications and about their ability to discriminate between foods with markedly different nutritional characteristics and potential health effects. The presentation will also address the challenge of disentangling the effects of processing per se from those related to nutrient composition, energy density, food matrix, dietary patterns, and other food characteristics that may partly explain the observed associations. Evidence emerging from analyses of individual UPF subgroups, which do not consistently show associations in the same direction, further highlights the limitations of considering UPFs as a homogeneous dietary exposure.

Against this evolving scientific background, the presentation will discuss the increasing consideration of UPFs in dietary guidelines and food policy. However, heterogeneity in UPF definitions and classification, together with the predominance of observational evidence, the limited number of controlled intervention studies, and persisting uncertainty regarding the mechanisms underlying the observed associations, raises the question of whether incorporation of UPF-based recommendations into food policy may be premature. Key research priorities therefore include greater harmonization and reproducibility of UPF classification, more controlled intervention studies, improved characterization of individual UPF categories, greater consideration of nutritional quality, and a clearer understanding of the mechanisms underlying observed health associations.

Overall, while current evidence warrants continued investigation of UPF consumption, the current evidence base and the lack of a sufficiently standardized and reproducible definition suggest caution in using degree of processing as an independent basis for dietary recommendations and food policy.

Food processing should instead be considered within the broader context of nutritional composition, food characteristics, and overall dietary patterns.

SHORT VERSIONS

This presentation will provide an overview of processing-based food classification systems, with particular attention to NOVA and its applications in nutrition research and public health. Current evidence linking UPF consumption to health outcomes will be critically examined, considering the methodological limitations of predominantly observational research, the heterogeneity of foods included within the UPF category, and challenges related to classification and exposure assessment. Particular attention will be given to the difficulty of unravelling the effects of processing per se from nutritional quality, energy density, food matrix, dietary patterns and other food characteristics, as well as to evidence from UPF subgroup analyses and the still limited number of controlled intervention studies.

Against this evolving scientific background, the presentation will also consider the increasing incorporation of UPFs into dietary guidelines and food policy. Key research priorities include improving the definition, reproducibility and measurement of UPF exposure, conducting more controlled intervention studies, better characterizing individual UPF categories, and clarifying the mechanisms underlying observed health associations. Overall, food processing should be considered within the broader context of nutritional composition, food characteristics and overall dietary patterns.