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Polyphenols in apple: The impact on prevention and public health

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Purpose: Phytochemicals in apples have been in the focus of *in vitro* research as well as nutritional studies. These components are potentially able to reduce the risk of certain diseases and improve health. The estimated benefits due to dietary intake of polyphenolic compounds depend on methodology of cultivation and consumption habits. The objective of the present study was to assess the general public knowledge about the value of bioactive components of apples, the customer preferences and identify the potential of natural polyphenols in apples commercially available for public.

Methodology: The questions of the survey focused on the key aspects of user experiences and preferences related to nutrition. The results were stratified by user profiles, age and health status. As part of the study we have investigated a selection of apples commercially available in supermarkets in Central Europe in order to score the biological potential calculated on each apple type based on analytical lab results of relevant components with proven biological effects.

Findings: Apples are considered as the most popular fruit in Hungary, as ranked on the top within 72% of responses, followed by oranges and pears. Considering the biological components of fruits the apples are followed by lemon, grapes, orange on the top list by the responders. The amount of total

polyphenols of apples varies in content and composition in subtypes. By the cumulative scores we applied, apples from Hungary and Poland ranked to top five out 15 types. Public understanding is rather superficial and mostly lack of scientific evidences even in countries where apple consumption is considered high and apple is the most accessible fruit.

Conclusion & Significance: Outcomes of the present investigation demonstrated the high preference on daily/weekly apple consumption within the population in Central Europe, proving the potential role of natural bioactive compounds in public health. Significance of apple consumption was already demonstrated in prevention of most frequent chronic diseases, such as cardiovascular, obesity, cancer, diabetes or pulmonary disorders; as well as highlighted the need for public education about the nutritional components of apple and the best effective way of intake.

Speaker Biography

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