

The 10th NNEdPro International Summit on Nutrition and Health

A systemic review and meta-analysis of the effect of nutrition education to increase fruit and vegetable acceptability among children

Arunima Dhar¹ and Siddhartha Singha²

¹PhD Student, School of Agro and Rural Technology, Indian Institute of Technology
Guwahati

²Assistant professor, School of Agro and Rural Technology, Indian Institute of Technology,
Guwahati

Background: Fruits and vegetables are crucial for a nutritious diet, providing essential micro-nutrients while being low in calories. Insufficient intake is linked to approximately 2.7 million deaths (4.9%) annually and 26.7 million Disability-Adjusted Life Years, contributing to significant percentages of non-communicable diseases. Thus, low fruit and vegetable intake is recognized as an important global mortality risk factor, underscoring the importance of increasing fruit and vegetable consumption for public health. Since habit building is essential from an early age, this systematic review and meta-analysis investigate the effectiveness of various tools used in nutrition education to increase fruit acceptability among children.

Objective: The objective of the study was to investigate the tools and programs used for nutrition education among the children. The growing concern over insufficient fruit and vegetable intake in young populations necessitates innovative educational strategies that promote healthier eating habits.

Method: A systematic review was done from the sources like Pubmed, web of Science, Science direct, and Google Scholar with a total 8 keywords focusing on interventions such as digital applications, gamification, and repeated exposure techniques. Out of 201 articles found 25 articles were chosen for detailed study. After that, a meta-analysis was conducted on 10 selected studies.

Result: An analysis of 25 studies involving over 5,000 participants revealed effective strategies for increasing children's acceptance of fruits and vegetables. The "Mole's Veggie Adventures" app significantly improved preschoolers' acceptance of fruits and vegetables. Repeated exposure, multi-component interventions, and tangible rewards enhanced fruit and vegetable intake. Meta-analysis results indicate that repeated exposure to fruits and vegetables is a critical factor in enhancing acceptability, with evidence suggesting that 8-10 exposures can significantly increase intake rates.

Conclusion: The findings underscore the importance of utilizing diverse educational tools mainly digital platforms and structured exposure techniques to foster positive dietary behaviours in children. Future research should continue exploring these interventions' long-term impacts across different demographic groups.