Proceedings of the Nutrition Society (2021), **80 (OCE3)**, E80 doi:10.1017/S0029665121002032

Irish Section Conference, 22–24 June 2021, Nutrition, health and ageing — translating science into practice – Part A

Exploring best approaches for presenting dietary advice on food portion sizes for 1–5-year-old children in Ireland

M.F. Adams[1,2], B.O. Murphy[1,2], C.M. Donovan[1], C.B. O'Donovan[1], O.C. Lyons[1,2] and M.A.T. Flynn[1,2]

[1]*Food Safety Authority of Ireland, Dublin, Ireland and*

[2]*Nutrition Innovation Centre for Food and Health, Ulster University, Coleraine, UK*

Irish food-based dietary guidelines (FBDG) use Food Pyramid food groups where interchangeable adult food portion sizes help vary the diet. Research shows parents need advice on food portion sizes for young children[1]. The aim of this study is to develop food portion sizes for 1–5-year-olds and determine how best to present this advice.

Portion sizes for 157 foods used in 60 4-day meal patterns representing optimal nutritional intake for 1–5-year-olds[2] were extracted according to the Food Pyramid food groups[3] and sub-categorised by different food types (e.g. in dairy group - milk, yogurt and cheese). Portion sizes were collated using the modal value to describe average food portion sizes for 1–3 and 4–5-year-olds. Within the sub-categories, the numbers of food portions that were interchangeable were assessed and compared across all ages (i.e. the Food Pyramid approach). Some foods required additional small and/or large portion sizes. As an alternative to the Food Pyramid approach, generic meal patterns describing the range of foods and portion sizes, were developed for six age points between 1–5 years. The feasibility of the Food Pyramid and generic meal pattern approaches were compared. The energy provided by each meal and total daily snacks was assessed at each of these age points and compared by ANOVA using IBM SPSS (Version 25).

At age 1 year, only 25% of foods in the vegetables and salads sub-category were interchangeable (i.e. described by a single portion size). This increased to 67% at age 5 years. In the crackers and breads sub-category, the amount of foods with multiple portion sizes (≥3) decreased from 17% to 7% as age increased from 1 to 5 years. At age 3 years, the yogurt sub-category required five different portion sizes. The low number of interchangeable food portions indicates the Food Pyramid approach is not feasible. Total daily snacks made the greatest contribution to energy (≤35%). Breakfast provided significantly more energy at 1, 1.5 and 2 years vs. at 3 years ($P < 0.01$, $P < 0.001$, $P < 0.001$). The main meal provided significantly more energy at 4 and 5 years vs. at 1 year ($P < 0.015$, $P < 0.012$). The generic meal patterns proved a more feasible approach to presenting FBDG for this age group.

This study found very few interchangeable portion sizes within Food Pyramid food groups for 1–5 year olds. Food portions for snacks are generally smaller than for meals. Snacks make a significant contribution to dietary intakes of 1–5 year olds, explaining why interchangeable food portion sizes are not practical. Generic meal patterns outline foods and portion sizes at each eating occasion, representing a more feasible approach to FBDG for this age group.

References

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