

Evaluation of an initiative providing omega-3 rich snacks to preschool children in a deprived area of Edinburgh

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The benefits of the long-chain omega-3 polyunsaturated fatty acids (LC n-3 PUFA), eicosapentanoic acid (EPA) and docosahexanoic acid (DHA), are extensively documented, particularly in relation to optimizing childhood development and reducing the risk of cardiovascular disease.

Dietary sources of EPA and DHA are limited to very few, less frequently consumed foods, such as oily fish. According to the recent National Diet and Nutrition Survey (NDNS 2008/2009), average intakes of oily fish in children aged 3-5 years totalled just 24.5g per week, which is disproportionally lower than the Scientific Advisory Committee on Nutrition (2004) recommendation for adults of one portion per week (approx. 140g). Many factors, including the strong taste and smell, and preconceived ideas about acceptance, inhibit the introduction of oily fish into the diet at a young age; however overcoming these barriers increases the likelihood of adopting lifelong healthy eating behaviours.

In order to improve intakes of LC n-3 PUFA intakes in preschool children, an initiative was set up in Greengables Nursery in the Craigmillar area of Edinburgh to introduce a range of snack foods based on oily fish. The aim of the project was to evaluate this initiative, assessing the nutritional content, uptake and acceptability of the omega-3 rich snacks.

In comparison to a negligible intake of EPA and DHA from the regular snacks (mean intake 1mg per serving), the omega-3 rich snacks provided a mean intake of 248mg per serving. Ad-libitum uptake of the snacks was comparable, with mean intakes of 1.16 portions of the omega-3 rich snacks and 1.31 portions of the regular snacks being consumed. Acceptability, assessed using a pictorial Likert scale, was also comparable, with median acceptability score being 5 (range 1-5, higher with increased liking) for both the omega-3 rich and regular snacks.

Despite being relatively unfamiliar tastes, the children found the range of snacks both acceptable and enjoyable. The impact of such an initiative on the children's overall intake of LC n-3 PUFA, requires further evaluation, however the results from this study indicate the success of this initiative in introducing oily fish to preschool children.