

## Annotated bibliography

F. Rauber, P.D.B. Campagnolo, D.J. Hoffman, M.R. Vitolo, Consumption of ultra-processed food products and its effects on children's lipid profiles: A longitudinal study, *Nutrition, Metabolism and Cardiovascular Diseases*, Volume 25, Issue 1, 2015, Pages 116-122, ISSN 0939-4753, <https://doi.org/10.1016/j.numecd.2014.08.001>.

This article touches on the issues of highly processed foods and their effects on children's lipid profiles. This article follows 345 children from the ages of 3 to 8 years old, although they are in Brazil, this information should be usable across different cultural backgrounds. The researchers documented the children's consumption of products like breads, savory snacks and sweets like cookies and candy by collecting 24 hour recall. With this, they used pictures and household measurements to get a more accurate image of portion size. To find the relationship between processed foods and the children's lipid profiles, the NOVA Classification System was used. This system views the extent and purpose of food processing based on three groups: unprocessed and minimally processed, processed culinary ingredients, and processed and ultra-processed products. They then did an objective blind blood test to measure lipid profiles. The results showed that the children in the school age group had lipid levels close to the upper limit in some categories like total cholesterol. Their research showed that there was a correlation between early consumption of highly processed foods and increased lipoprotein levels in children, mainly their total cholesterol and LDL. The article then continues to discuss that elevated cholesterol levels are associated with increased risk for cardiovascular disease, which is the leading cause of premature death around the world. Having elevated lipid levels earlier in life

can possibly lead to earlier signs and symptoms of cardiovascular disease showing up at a younger age in these children's life.

Roberts, M., Tolar-Peterson, T., Reynolds, A., Wall, C., Reeder, N., & Rico Mendez, G. (2022).

The Effects of Nutritional Interventions on the Cognitive Development of Preschool-Age Children: A Systematic Review. *Nutrients*, 14(3), 532.

<https://doi.org/10.3390/nu14030532>

This article is centered on the importance of cognitive development and its dependency on adequate nutrition amongst the pre-school age population. Children that receive inadequate nutrition have an increased risk of developing cognitive abnormalities that can affect growth and developmental milestones. In this article, a systematic review was done to examine nutritional interventions and how they affect cognition. Twelve randomized control trials were conducted on children ages 2-6 who were either well nourished or undernourished. Five out of the twelve studies were supplement-based interventions consisting of guava supplements, DHA tablets, iron supplements, B-vitamins and iodized salts. Three of the twelve trials consisted of multiple-micronutrient food fortification which was added to maize-porridge, rice, wheat, or provided as raw paste. Three of the twelve studies were food-based nutritional interventions that required participants to consume fatty fish with daily meals. The remaining study conducted a dietary intervention that combined the consumption of fortified milk powder and cognitive stimulation.

Findings in this review showed that nutritional interventions have a positive effect on cognitive development amongst undernourished pre-school age children. The nutrient-deficient children who participated in the study and received micro-nutrient supplementation had significantly consistent cognitive improvement. Adequately nourished children who consumed fatty fish with their daily meals had an improvement in cognitive ability.

Topic: Nutrition

Population: ages 4,5, 6-8

### Outline

- Introduction
  - Teach the children about the different food groups
    - Grains
    - Vegetables
    - Proteins
    - Dairy
    - Snacks
  - Try and teach the kids the things different foods have in common.
  - Teach the children about
- Activity 1: 4 and 5 year olds
  - [https://www.youtube.com/watch?v=-X-Tzlya06Y&list=PL\\_sxTJ9bj-VxavHu3JpDZ6sEfjWKOX9LW](https://www.youtube.com/watch?v=-X-Tzlya06Y&list=PL_sxTJ9bj-VxavHu3JpDZ6sEfjWKOX9LW)
  - Have children select which foods go in which food group.
  - Then have the children put the same foods in different sections on their “4 section plate”
- Activity 2: 6-8 year olds
  - <https://playtolearnpreschool.us/nutrition-unit/>
  - Use a board and have three different categories for the different types of food: really healthy, somewhat healthy, and not healthy at all. Attach the different types of foods to the different categories.
  - Name that fruit game; participants will be blind folded and given a fruit to taste and try to identify.
- Review with the kids the importance of eating healthy