

Introduction

The current study investigates the feasibility of a plant-based (PB) lifestyle on the development of children from birth to four years of age. Additionally, it discusses the implications of a plant-based diet during early childhood on the profession of physical therapy. This study aims to 1) determine if a plant-based diet provides sufficient nutrition, 2) evaluate the anthropometrics of this population and 3) see the developmental milestones of this population and integrate this knowledge into the practice of physical therapy.

Physical Therapy Implications

The prevalence of plant-based diets in the US is increasing which in turn increases the likelihood of encountering this population in practice. Physical therapy is the entry point into the healthcare system for many patients. Additionally, physical therapists receive extensive education in pediatric care which provides them a unique opportunity to monitor the growth of this population.

In an effort to connect this research to physical therapy, developmental outcome measures and anthropometric evaluations were included. These are noninvasive measurements used to monitor growth and can be performed by physical therapists.

The Influence of a Plant-Based Diet from Birth to Early Childhood on Anthropometric Measures, Developmental Milestones, and Micronutrient Levels: A Systematic Review

Johanna Matsko, SPT, Madison Swartout, SPT, Amy Tremback-ball, PhD, PT



Plant-based type diets are categorized based on the animal products excluded from consumption. There are several variations – vegetarian and vegan among the most common.¹

Results

The results of the 11 studies included in this review are summarized in three subgroups:

- **Micronutrients:** Vitamin B12 and folate are sufficient when supplementation is implemented in PB groups.^{14,15,16, 17} Choline levels are not affected by maternal diet type. Iodine levels are greatest in OM groups but are below recommended values across all groups.¹⁹ Fatty acid and cholesterol screen is favorable to PB groups.^{17, 18, 19, 23}
- **Anthropometrics:** On study exhibits significant relationship between stunting and unhealthy plant-based diet.^{14-16, 21-24}
- **Development:** Two out of three studies showed PB children with B12 supplementation performed better in developmental tests.^{15, 16, 21}

Conclusion

Plant-based diets can be sustainable for infants and children up to age four if implemented properly. Insufficiencies in micronutrient levels can occur in this target population, though there were little to no delays in development or growth based on pediatric outcome measures and anthropometric analyses. Any micronutrient insufficiencies can be remedied with proper supplementation, though guidance is recommended in this area as hypervitaminosis may occur.

