



## Early Weaning Between of Children Between 4 to 6 Month of Age And Its Effect on Growth At 12 Months of Age

### KEYWORDS

Development, Growth, Infant, Weaning,

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**ABSTRACT** *Weaning pertains to the process of substituting a newborn or infant's food with a milk formula instead of the traditional and often more recommended breast milk. One of the most relevant health-related issues when it comes to weaning is childhood obesity. Whether early weaning or late weaning actually contributes to the likelihood of a toddler becoming obese is still highly contested. The objective of this paper is to discuss the effects of early weaning at four to six months of age on growth and development.*

### Introduction

In recent years, a significant increase in the prevalence of obesity has been observed in many countries and across different age groups, including children. The increase in the prevalence of childhood obesity is worrying because of obese children's higher risk of becoming obese adults and because of the various morbid conditions associated with obesity.<sup>1</sup>

### Effects of Early Weaning

The general consensus however suggests that both early weaning and late weaning can in fact lead to a significant increase in the chances of a toddler becoming obese and other growth and development problems<sup>2,3,4</sup>. In most studies early weaning has been identified as a risk factor in childhood obesity and other growth and developmental problems.

It is important to note, however, that early weaning, if at all, can only be one out of the many possible factors that may contribute to the possibility that a child would be overweight or worse, obese. It has been long established that breast milk is still the best form of food for babies up to one to two years old. However, as social, economic, and other factors come into play, babies, at least the ones that are born in today's generation become less accustomed to breast milk consumption<sup>5</sup>, something, perhaps even a privilege which the previous generations of babies had experienced; nonetheless, comparing the childhood obesity rates between the previous and the current generation of babies might be a good starting point for a future research that aims to determine the effects of early weaning on childhood obesity rates.

According to Adams (2011)<sup>6</sup>, the best time to introduce weaning—that is, to have the baby start consuming solid and other types of food aside from the standard breast milk, is between four to six months. This would certainly come as a surprise as most parents, in practice at least, only attempt to introduce solid and other types of food to their babies a few months before they turn to one years old.

It has long been a practice for parents, to only start weaning their children once they reach their twelfth month or at one to two months before they become one year old. On the other side of the situation, there are parents who have been followers of the latest research trends when it comes to weaning, that suggests that weaning can be started as

early as the period between fourth to sixth month of age.

The objective of this research was to determine the impacts of early weaning, specifically on the growth and development of children by the time they reach one year old. Early weaning in the case of this study would pertain to weaning that would be initiated anytime between the baby's fourth to sixth month of age; late weaning on the other hand would be operationally defined as weaning initiated any time after the baby's twelfth month of age. The independent variable in this research was early weaning. The dependent factor used in the study was the development of childhood obesity among the subjects. Secondary sources were used in the study. Previously published academic journals and studies about early weaning and its effects on growth and development were collected and analyzed.

Being the dependent variable, childhood obesity was also the main outcome indicator used. Basically, that the researchers tried to prove was whether it is early weaning or late weaning that can contribute to the development of childhood obesity. Part of the respondent population in the academic journals collected were the parents of the children aged between four to six months. This is because it would be the parents who would be assigned to feed their babies and actually start the weaning process.

Also, in most studies reviewed, no weaning time or duration was provided for the parents because they would be the ones who would decide when to start the weaning process. During the subject recruitment process, the researchers' task was to recruit parents who have decided to do early weaning and parents who have decided to do late weaning. This was because the researchers did not want to affect the parent's choices when it comes to weaning their child just for the sake of the research. This was also done in order to prevent the creation of any ethical issue or dispute in the research.

Although the purpose of the research was to determine the impacts of early weaning between four to six months of age on children's growth and development, the researchers have made it a point to do so without violating any ethical standards. It is also worth noting that the academic journals collected and analyzed for the research was a combination of reviews, case studies, prospective studies, and controlled trials. Majority of the studies reviewed in the research paper support the initial hypothesis

that suggests that early weaning can have a significant effect on the growth and development of the children, especially during early childhood. One of the most common problems seen across the academic journals and studies reviewed was childhood obesity. Childhood obesity was found to be more frequent among children who have been weaned and fed with solid foods at an earlier timeframe than recommended.

According to a study published in British Medical Journal Open in 2012 about nutrition and metabolism, the weaning approach implemented has a significant impact on the food preferences and body mass index of a baby especially in early childhood<sup>7</sup>. There were two groups in the study, a spoon-fed group (i.e. early weaning group) and a baby-led group (i.e. control group). There were a total of 92 babies in the baby led group and 63 babies in the spoon-fed group (n=155). The main outcome indicator used in the study was the food preference and body mass index of the participants during early childhood (age range 20 to 78 months).

The results showed that the baby-led group demonstrated significantly increased liking for foods rich in carbohydrates; spoon-fed babies on the other hand showed significantly increased liking for sweet foods. In terms of growth and likelihood of being obese, results showed that being underweight was more common in the baby-led group<sup>5</sup>. Growth in the spoon-fed group was more prominent during early childhood. It is also worth noting that obesity was also common in the spoon fed group.

These data show that early weaning can indeed have a significant impact on the health, food preference, and growth of a child<sup>3</sup>. This has also been the same finding obtained in other previously published academic journals and studies about the effects of early weaning on children's health, and growth and development<sup>8,9,10,11,12,13</sup>

In an academic journal published in ActaPaediatrica in 2007, the authors examined the different maternal and infantile factors that may have played a role in early weaning, intention to breastfeed and the actual intention of the mothers to practice breastfeeding. Using a prospective cohort research design, the researchers interviewed a total of 1049 mothers after delivery at 1, 3, 6, 9, and 12 months after delivery.

Of the total number of subjects the researchers interviewed, 942 or some 89% of mothers said that they intended to breastfeed and follow the prescribed schedule and duration of breastfeeding and try to prevent early weaning as much as possible. The remaining 11% of the

sample population said that they would most likely wean their child off of breast feeding (i.e. breast milk) earlier than the generally prescribed duration of breast feeding. Some of the anti-breast feeding factors that the researchers were able to identify included negative attitudes towards breast feeding, tobacco use, admission to neonatal ward, prematurity and male gender<sup>14</sup>.

### Conclusions

In summary, it has been solidly established that early weaning between four to six months of age can indeed have a significant impact on the growth and development of a child or baby, as evidenced by the majority of the researchers that said so. It is also worth noting that among the growth and development problems that mothers who decided to wean their child early, one of the most common ones appeared to be childhood obesity. In this case, it would be recommended to follow the prescribed duration of breast feeding in order to avoid the risks that have been empirically associated with early weaning.

### REFERENCE

1. Troiano RP, Flegal KM, Kuzzarski RJ, Campbell SM, Johnson CL. Overweight prevalence and trends for children and adolescents- The National Health and Nutrition Examination Surveys, 1963 to 1991. *Arch Pediatr Adolesc Med.* 1995;149:1085-91. | 2. Owne C, Martin R, Whincup P, Smith G, Cook D. Effect of Infant Feeding on the Risk of Obesity Across the Life Course: A Quantitative Review of Published Evidence. *Pediatrics.* 2005;115(5):1367-77. | 3. Ong K, Emmett P, Noble S, Ness A, Dunger D. Dietary Energy Intake at the Age of 4 Months Predicts Postnatal Weight Gain and Childhood Body Mass Index. *Pediatrics* 2006; 117(3):e503-8. | 4. Li R, Fein S, Chen J, Grummer-Strawn L. Why mothers stop breastfeeding: Mothers' self-reported reasons for stopping during the first year. *Pediatrics* 2008 ;122 Suppl 2:S69-76. doi: 10.1542/peds.2008-1315i. | 5. Tabacchi G, Giammanco S, La Guardia M, Giammanco M. A Review of the Literature and a New Classification of the Early Determinants of Childhood Obesity: From Pregnancy to the First Years of Life. *Nutrition Research* 2007;10:587-604. | 6. Adams, S. (2011). Weaning too early or late could lead to childhood obesity. The Telegraph Media Group. | 7. Townsend E, Pitchford N. Baby Knows Best? The Impact of Weaning Style on Food Preferences and Body Mass Index in Early Childhood in a Case Controlled Sample. *BMJ Open* 2012; 2:e000298. doi:10.1136/bmjopen-2011-000298. | 8. Wijndaele K, Lakshamn R, landsbaugh J, Ong K, Ogilvie D. Determinants of early weaning and use of unmodified cow's milk in infants: a systematic review. *J Am Diet Assoc.* 2009;109(12):2017-28. | 9. Kuhn L, Aldrovandi G, Sinkala M, Kankasa C, Samrau K, Mwiya M, et al. Effects of early, abrupt weaning on HIV free survival of children in Zambia. *N Engl J Med.* 2008 10;359(2):130-41. | 10. Brown A, Lee M. Maternal Control of Child Feeding During the Weaning Period: Differences Between Mothers Following a Baby-led or Standard Weaning Approach. *Matern Child Health J.* 2011;15(8):1265-71 | 11. Kirchner L, Jeitler V, Waldhor T, Pollak A, Wald M. Long Hospitalization is the Most Important Risk Factor for early weaning from Breast Milk in Premature Babies. *Acta Paediatr.* 2009;98(6):981-4. | 12. Pincombe J, Baghurst P, Antoniou G, Peat B, Henderson A, Reddin E. Baby Friendly Hospital Initiative Practices and Breast Feeding Duration in a Cohort of First Time Mothers in Adelaide Australia. *Midwifery.* 2008;24(1):55-61. | 13. Lewallen L, Dick M, Flowers J, Powell W, Zickefoose K, Wall, Y, et al. Breastfeeding Support and Early Cessation. *J Obstet Gynecol Neonatal Nurs.* 2006;35(2):166-72. | 14. Ladomenou F, Kafatos A, Galanakis E. Risk Factors Related to Intention to Breastfeed, Early Weaning and Suboptimal Duration of Breastfeeding. *Acta Paediatr.* 2007;96(10):1441-4.