

## THE IMPACT OF BABY- LED WEANNING (BLW) IN IRON ABSORPTION: REVIEW OF LITERATURE

---

***Laira de Souza Datore***

Student of medicine course– Universidade de Marília – UNIMAR – Marília/SP

***Ana Paula Bandiera Gonçalves***

Student of medicine course– Universidade de Marília – UNIMAR – Marília/SP

***Ana Raquel de Almeida Goto***

Student of medicine course– Universidade de Marília – UNIMAR – Marília/SP

***Ana Flavia de Jesus Alves***

Student of medicine course- Centro Universitário Católica Salesiano Auxilium- Araçatuba/ SP

***Beatriz Aranha Rudsit***

Student of medicine course – Universidade de Marília – UNIMAR- Marília/SP

***Giulia Grotto***

Student of medicine course - Faculdade de Medicina de São José do Rio Preto- FACERES- São José do Rio Preto/SP

***Isabele Martines Soler***

Student of medicine course - Universidade Cidade de São Paulo- UNICID- São Paulo/SP

***Maísa Rodrigues Takar Marinho***

Student of medicine course - Universidade Nove de Julho – UNINOVE

***Maria Fernanda Gonçalves***

Student of medicine course - Faculdade de Medicina de São José do Rio Preto- FACERES- São José do Rio Preto/SP

All content in this magazine is licensed under a Creative Commons Attribution License. Attribution-Non-Commercial-Non-Derivatives 4.0 International (CC BY-NC-ND 4.0).



***Vitoria Bonini Parsekian***

Student of medicine course– Universidade de Marília – UNIMAR – Marília/SP

***Arielle Servato Rossi***

Student of medicine course– Universidade de Marília – UNIMAR – Marília/SP

***Larissa Soares Leite***

Student of medicine course– Universidade de Marília – UNIMAR – Marília/SP

**Abstract: INTRODUCTION:** O Baby-Led Weaning (BLW) corresponds to a new method of introducing food, which recommends that babies have control over the feeding process. Recent studies highlight the importance of this method in child development, but there are still several gaps, especially iron intake. In view of this, it is necessary to carry out a literature review in order to elucidate the topic addressed. **OBJECTIVE:** To summarize recent discoveries in the literature on the relationship between the BLW method and serum iron absorption, compared with traditional dietary introduction. Furthermore, identify gaps in knowledge on the subject and direct future research in order to prevent nutritional deficiencies in childhood. **METHODOLOGY:** A literature review was carried out through the selection of studies in the MEDLINE-PubMed database (National Library of Medicine, National Institutes of Health) published between the years 2014 and 2024. 17 studies were found, of which 9 were selected by a critical analysis. This review included articles published in English and/or Portuguese that addressed the relationship between baby-led weaning (BLW) and iron deficiency, all available in full. The descriptors used were: (“baby-led feeding” OR “BLW” OR “led-weaning” OR “Baby-Led Introduction to Solids”) AND (“complementary feeding” OR “food intake” OR “nutrient intake”)” Through the analysis, articles that did not meet the inclusion criteria were excluded, such as animal studies and narrative reviews. Studies prove that BLW can offer a wide variety of benefits in motor and sensory development and reducing food selectivity. Furthermore, there were no significant differences in iron and ferritin levels between babies fed by BLW compared to those fed by the traditional method. There was also a precarious number of studies that could contribute to better results. **DISCUSSION:** BLW promotes babies’ eating

autonomy, increasing dietary diversity and acceptance of foods rich in iron, such as meat, fortified cereals and vegetables, in addition to developing motor skills and independence in eating. Additionally, modeling healthy eating behaviors during family meals is also crucial. **CONCLUSION:** Therefore, the BLW method shows some benefits, including: eating autonomy, decision-making capacity, motor development of hands and chewing and improved perception of textures. However, surveys on serum iron absorption still lack data. Although there is evidence that points to insignificant differences in iron levels between babies fed by BLW in relation to those who follow the traditional method, further studies are needed to broaden and deepen understanding of the subject.

**Keywords:** “BABY-GUIDED WEANNING” AND “FOOD INTRODUCTION” AND “IRON ABSORPTION”

## INTRODUCTION

Traditionally, the introduction of complementary foods from the sixth month of life is done through foods mashed with a fork (like porridge) and offered with a spoon by adults, due to the perception of immaturity in children's ability to chew and swallow solid foods.

However, parents are currently adopting a new method of feeding their babies: BLW (Baby-Led Weaning). This complementary feeding model encourages babies to consume food independently from the beginning of their introduction to food, allowing them to choose from a variety of foods offered by their parents. In this method, the baby continues to receive breast milk or formula on demand, ideally being exclusively breastfed until 6 months of age.<sup>1</sup>

This innovative feeding method proposes a series of benefits such as: lower risk of obesity, better energy self-regulation (ability

to adjust the amount ingested according to the consumer's physiological needs), better quality of the diet and better development of the child's motor skills.<sup>6</sup> However, despite increasing global interest in baby-led weaning (BLW), there are questions about nutrient intake, especially iron absorption in babies following approaches based on the BLW model.

In this sense, it is extremely important to pay attention to the absorption of iron in children's bodies through the consumption of foods using the BLW method. This is because this mineral plays an important role in the baby's cognitive and physical development and is essential for healthy growth and proper functioning of the nervous system, in addition to participating in the production of hemoglobin. At low levels, a lack of iron can lead to fatigue, weakness and other symptoms associated with anemia. Additionally, iron deficiency anemia can negatively affect cognitive development, with potential impacts on brain function.<sup>4</sup>

In view of the above, it is necessary to carry out a literature review in order to highlight the most current and relevant information about the relationship between the BLW method and iron absorption in childhood. Furthermore, highlighting the gaps in knowledge on the subject is important so that new research can be carried out with the aim of preventing nutritional deficiencies.

## GOAL

To summarize recent findings in the literature on the relationship between the BLW method and serum iron absorption, compared with traditional dietary introduction. Furthermore, identify knowledge gaps on the subject and direct future research in this area through comprehensive, up-to-date overview of the impact of Baby-Led Weaning (BLW) on iron absorption.

## METHODOLOGY

A literature review was carried out through the selection of studies in the MEDLINE-PubMed database (National Library of Medicine, National Institutes of Health) published between the years 2014 and 2024. 17 studies were found, of which 9 were selected by a critical analysis. This review included articles published in English and/or Portuguese that addressed the relationship between baby-led weaning (BLW) and iron deficiency, all available in full. The descriptors used were: (“baby-led feeding” OR “BLW” OR “led-weaning” OR “Baby-Led Introduction to Solids”) AND (“complementary feeding” OR “food intake” OR “nutrient intake”)” Through the analysis, articles that did not meet the inclusion criteria, such as animal studies and narrative reviews, were excluded.

## RESULTS

The studies revealed that the BLW model of food introduction has several benefits for child development, including: better quality of the diet. Therefore, BLW may increase acceptance of a wider variety of foods due to early exposure to different flavors and textures, although this relationship has not yet been formally investigated. Furthermore, it was evidenced that infants fed primarily by BLW were more likely to consume familiar foods at the start of complementary feeding, compared to those fed more traditionally with a spoon by their parents. However, the positive impact of family meals on a baby’s diet depends on the availability of healthy, baby-friendly foods in the family.<sup>5</sup>

Another important finding is the reduction in the risk of obesity.<sup>6</sup> BLW can promote better energy self-regulation, defined as the ability to adjust the amount ingested according to the child’s physiological needs, which in turn can reduce the risk of obesity. While the traditional spoon-feeding approach may involve tighter

parental control over the amount consumed, BLW encourages the baby to control their own intake, potentially supporting the response to internal cues of hunger and satiety. Studies suggest that better energy self-regulation is associated with a lower risk of obesity.

However, despite the benefits, studies have revealed that total iron intake may be lower among BLW babies, especially if they are not consuming a sufficient variety of iron-rich foods. Foods commonly introduced to children first, such as fruits and vegetables, are often low in iron. Although fortified children’s cereals are an important source of iron, children following BLW may have difficulty consuming them due to their liquid consistency. Foods rich in iron, such as red meat, can be served in ways that are easily absorbed, however, acceptance by babies is low.<sup>2</sup>

These findings highlight the complex interplay between the *Baby-Led Weaning* (BLW) and iron absorption in childhood, highlighting the need for new research to deepen knowledge about the nutritional levels caused by this model.

## DISCUSSION

Based on the analysis of the results, dietary autonomy encouraged by the Baby-Led Weaning (BLW) method can play a crucial role in the absorption of iron by babies, as this approach allows them to select the foods they want to consume from a pre-selection of healthy and nutritious options offered by their caregivers.<sup>3</sup>

However, the results of studies published to date differ on the issue of nutritional deficit in children fed using the BLW model. Furthermore, it is possible to observe a lack of research that addresses the topic, requiring further investigation in order to fill the existing gaps.

## CONCLUSION

Therefore, with the increasing popularity of BLW among parents and the interest of health professionals in providing evidence-based advice on the safe introduction of complementary foods, there is an urgent need for data on the possible benefits and risks of a consumer-led approach. This discussion is crucial to inform public health policies, nutritional guidelines, and clinical practices related to infant feeding.

Additionally, understanding the effects of BLW can help improve children's health and well-being, potentially reducing the risk of feeding and nutrition problems in the future. Therefore, it is essential to conduct more robust, long-term research to adequately assess the impacts of BLW on child health and provide clear guidance to parents and healthcare professionals.

## REFERENCES

Daniels L, Heath ALM, Williams SM, Cameron SL, Fleming EA, Taylor BJ, et al. Baby-Led Introduction to Solids (BLISS) study: a randomised controlled trial of a baby-led approach to complementary feeding. *BMC Pediatrics*. 2015 Nov 12;15(1).

Daniels L, Taylor RW, Williams SM, Gibson RS, Fleming EA, Wheeler BJ, et al. Impact of a modified version of baby-led weaning on iron intake and status: a randomised controlled trial. *BMJ Open*. 2018 Jun;8(6):e019036.

Morison BJ, Heath ALM, Haszard JJ, Hein K, Fleming EA, Daniels L, et al. Impact of a Modified Version of Baby-Led Weaning on Dietary Variety and Food Preferences in Infants. *Nutrients*. 2018 Aug 15;10(8):1092.

Daniels L, Taylor RW, Williams SM, Gibson RS, Fleming EA, Wheeler BJ, et al. Impact of a modified version of baby-led weaning on iron intake and status: a randomised controlled trial. *BMJ Open*. 2018 Jun;8(6):e019036.

Morison BJ, Heath ALM, Haszard JJ, Hein K, Fleming EA, Daniels L, et al. Impact of a Modified Version of Baby-Led Weaning on Dietary Variety and Food Preferences in Infants. *Nutrients*. 2018 Aug 15;10(8):1092.

Bergamini M, Simeone G, Verga MC, Doria M, Cuomo B, D'Antonio G, et al. Complementary Feeding Caregivers' Practices and Growth, Risk of Overweight/Obesity, and Other Non-Communicable Diseases: A Systematic Review and Meta-Analysis. *Nutrients*. 2022 Jun 26;14(13):2646.