



OVERVIEW OF WEIGHT GAIN IN BABIES AGED 3-6 MONTHS WHO HAVE BEEN EXCLUSIVELY BREASTFEEDED SINCE BIRTH

Ardirefi Muhammad Fadhil¹, Rahmini Shabariah^{2*}, Meita Dwi Utami², Fita Ferdiana³, Tri Ariguntar Wikanningtyas⁴, Farsida⁵

¹Medical Study Program, Faculty of Medicine and Health, Universitas Muhammadiyah Jakarta, Jl. KH. Ahmad Dahlan, Cireunde, Ciputat Timur, Tangerang Selatan, Banten 15419, Indonesia

²Department of Pediatrics, Faculty of Medicine and Health, Universitas Muhammadiyah Jakarta, Jl. KH. Ahmad Dahlan, Cireunde, Ciputat Timur, Tangerang Selatan, Banten 15419, Indonesia

³Department of Biomedical, Faculty of Medicine and Health, Universitas Muhammadiyah Jakarta, Jl. KH. Ahmad Dahlan, Cireunde, Ciputat Timur, Tangerang Selatan, Banten 15419, Indonesia

⁴Department of Clinical Pathology, Faculty of Medicine and Health, Universitas Muhammadiyah Jakarta, Jl. KH. Ahmad Dahlan, Cireunde, Ciputat Timur, Tangerang Selatan, Banten 15419, Indonesia

⁵Department of Community Medicine, Faculty of Medicine and Health, Universitas Muhammadiyah Jakarta, Jl. KH. Ahmad Dahlan, Cireunde, Ciputat Timur, Tangerang Selatan, Banten 15419, Indonesia

*rahmini@umj.ac.id

ABSTRACT

Exclusive breastfeeding is the gold standard for providing nutrition for newborns up to the first six months of life. The World Health Organization (WHO) and the Indonesian Pediatrician Association (IDAI) recommend exclusive breastfeeding because it provides significant benefits for babies growth, development, and health, including optimal weight gain. In Indonesia, the coverage of exclusive breastfeeding has not yet reached the national target (80%), despite extensive breastfeeding promotion programs. This study aimed to determine the weight gain of babies aged 3-6 months who were exclusively breastfed from birth. This descriptive cross-sectional study was conducted in December 2024 at the Kramat Jati Community Health Center, East Jakarta. The study included 30 babies aged 3–6 months who were exclusively breastfed from birth, selected using a total sampling technique. Data were collected through interviews with mothers, anthropometric measurements of infant weight and length, and medical records. Univariate analysis was performed to describe the distribution of study variables. The results showed that most babies experienced weight gain in accordance with WHO growth standards. The average weight gain of babies aged 3-6 months who were exclusively breastfed was within the normal range.

Keywords: baby growth; baby weight gain; exclusive breastfeeding

How to cite (in APA style)

Fadhil, A. M., Shabariah, R., Utami, M. D., Ferdiana, F., Wikanningtyas, T. A., & Farsida, F. (2026). Overview of Weight Gain in Babies Aged 3-6 Months Who have Been Exclusively Breastfed Since Birth. *Indonesian Journal of Global Health Research*, 8(1), 1127–1132. <https://doi.org/10.37287/ijghr.v8i1.1367>.

INTRODUCTION

Exclusive breastfeeding (ASI) for the first six months of a baby's life has been recognized as a crucial factor in supporting optimal growth and development. However, in Indonesia, the coverage of exclusive breastfeeding has yet to reach the expected target (Rahmi & Agustina Harahap, 2024). Infant growth and development are strongly influenced by breast milk intake, which contains energy and various essential nutrients. Breast milk alone, without any additional food, can meet a baby's growth needs up to 6 months of age (Astria & Afriani, 2022). Exclusive breastfeeding affects the quality of infant health. The fewer babies who receive exclusive breastfeeding, the worse the quality of infant and toddler health will be (Astria & Afriani, 2022). As stated in Government Regulation Number 33 of 2012 concerning exclusive breastfeeding, Breast milk is a fluid secreted by the mother's mammary glands. Babies get the best nutrition from breast milk, which provides the nutrients and antibodies needed for growth and fulfills their nutritional needs, that is why until the age of six months breast milk should be used exclusively for nutrition, Exclusive breastfeeding is a term to describe babies who are only given breast milk without other additional food and drinks in babies aged zero to six months (Sriwahyuningsih, 2024).

According to WHO data, Indonesia's exclusive breastfeeding coverage in 2022 was recorded at only 67.96%, down from 69.7% in 2021. The Health Development Policy Agency reported that in 2023, the national proportion of exclusive breastfeeding for infants aged 0-5 months was 68.6%. Research by Devriany & Sari (2020) found that exclusively breastfed infants experienced more significant growth than non-breastfed infants, and the average change in neonatal length increased more rapidly, reaching 3.00 cm on the fourteenth day (Mukaromah et al., 2023).

Breast milk, a fluid secreted by the mother's mammary glands, is the perfect natural food for infants, especially during the first months of life. Data show that the rate of exclusive breastfeeding worldwide remains very low (Devriany and Sari, 2020). According to research, insufficient breast milk causes 12.3% of children aged 6-35 months to experience stunting (Mukaromah et al., 2023). Breastfeeding rates in Indonesia have declined in recent years, prompting the Indonesian Pediatrician Association to evaluate breastfeeding success, including position, attachment, timing, and duration of each feeding (Sabrida et al., 2023). In 2021, according to UNICEF data, less than half (48.6%) of infants in Indonesia were breastfed within the first hour of life. This is down from 58.2% in 2018 (UNICEF, 2023).

A high level of awareness of the benefits of breastfeeding for infants is crucial to achieving national targets. Significant barriers remain in maintaining exclusive breastfeeding until six months of age and continuing breastfeeding until one year of age. This means many infants begin consuming complementary foods or drinks before six months and stop breastfeeding before one year of age, which contradicts the recommendations of the WHO and the Indonesian Pediatrician Association (Meek & Noble, 2022). This study aims to determine the picture of weight gain in babies aged 3-6 months who received exclusive breastfeeding from birth until the study was carried out.

METHOD

This descriptive study, using a cross-sectional design, aimed to describe the weight gain of babies aged 3–6 months who were exclusively breastfed from birth. The study was conducted at the Kramat Jati Community Health Center (Puskesmas), East Jakarta City, Special Capital Region of Jakarta, in December 2024.

The study population consisted of all exclusively breastfed babies, either directly or bottle-fed, at the Kramat Jati Community Health Center. A total sample of 30 babies was selected using a total sampling technique. Inclusion criteria were babies aged 3–6 months with complete birth and weight gain data on their Health Card and mothers willing to participate. Exclusion criteria included babies with congenital abnormalities and mothers who withdrew from the study.

Data were obtained primarily through direct interviews with mothers who exclusively breastfed, and anthropometric measurements of infant weight and length were taken using a baby scale and measuring tape. Additional data on infant sex, maternal age, maternal education level, and immunization history were obtained from medical records. Data analysis was performed univariately to describe the frequency and percentage distribution of each variable, and the results are presented in tabular form.

This research has obtained ethical approval from the Health Research Ethics Commission of the Faculty of Medicine and Health, Muhammadiyah University of Jakarta with number 223/PE/KE/FKK-UMJ/XI/2024.

RESULT

Based on Table 1, the majority of babies were male (63.3%) and aged 4 and 6 months (30.0% each). Nearly all infants had a birth weight of $\geq 2,500$ grams (96.7%), with a median weight of 3,000 grams and the most common weight being 2,800 grams. The majority were directly breastfed (73.3%), and all babies gained weight (100%).

Table 1.
Distribution of Respondent Characteristics (n=30)

Characteristics	f	%
Gender		
Boys	19	63.3
Girls	11	36.7
Age		
3 months	7	23.3
4 months	9	30.0
5 months	5	16.7
6 months	9	30.0
Birth Weight		
<2500 gram	1	3.3
≥2500 gram	29	96.7
Median	3000 gram	
Mode	2800 gram	
Exclusive Breastfeeding Method		
Direct breastfeeding	22	73.3
Bottle feeding	1	3.3
Direct and Bottle feeding	7	23.3
Last Weight		
Increased	30	100.0
Decreased	0	0.0

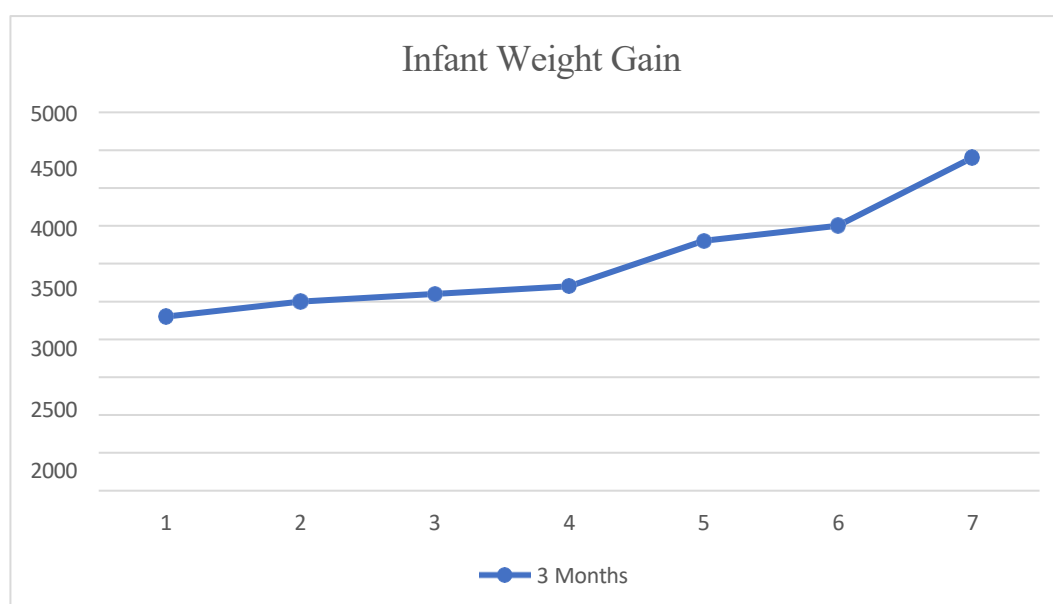


Figure 1. Range of Weight Gain in Exclusively Breastfed Babies Aged 3 Months (n = 7)

Figure 1 shows that babies weight gain at 3 months of age ranges from 2,300 to 4,400 grams. This indicates that at this age, exclusively breastfed babies experience significant weight gain. This increase is still within the normal range for infant growth according to WHO standards, demonstrating the effectiveness of exclusive breastfeeding in supporting optimal infant growth.

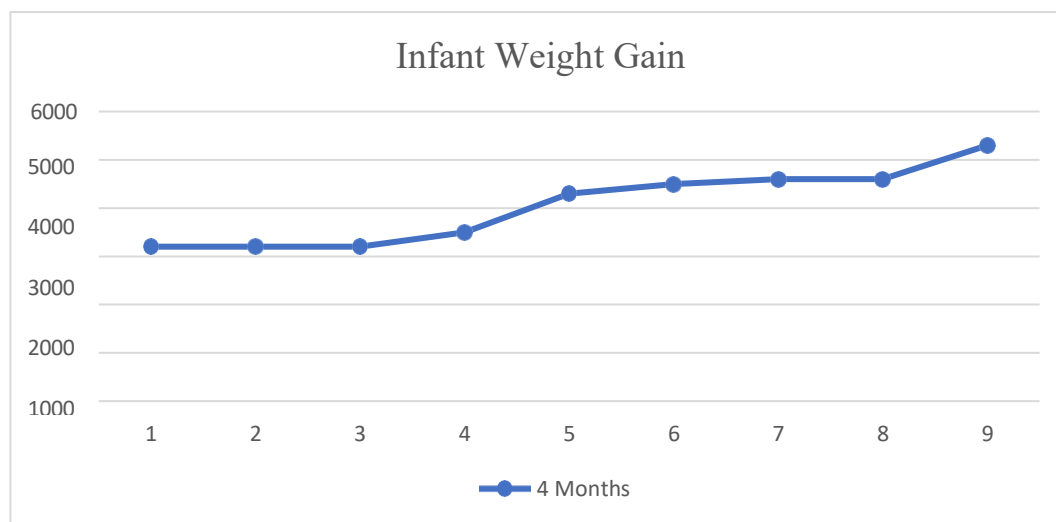


Figure 2. Range of Weight Gain in Exclusively Breastfed Babies Aged 4 Months (n = 9)

Figure 2 illustrates that 4-month-old babies who are exclusively breastfed gain weight in the range of 3,200 to 5,300 grams. Compared with previous ages, weight gain tends to be higher, indicating that this period is a period of rapid growth for babies who are exclusively breastfed.

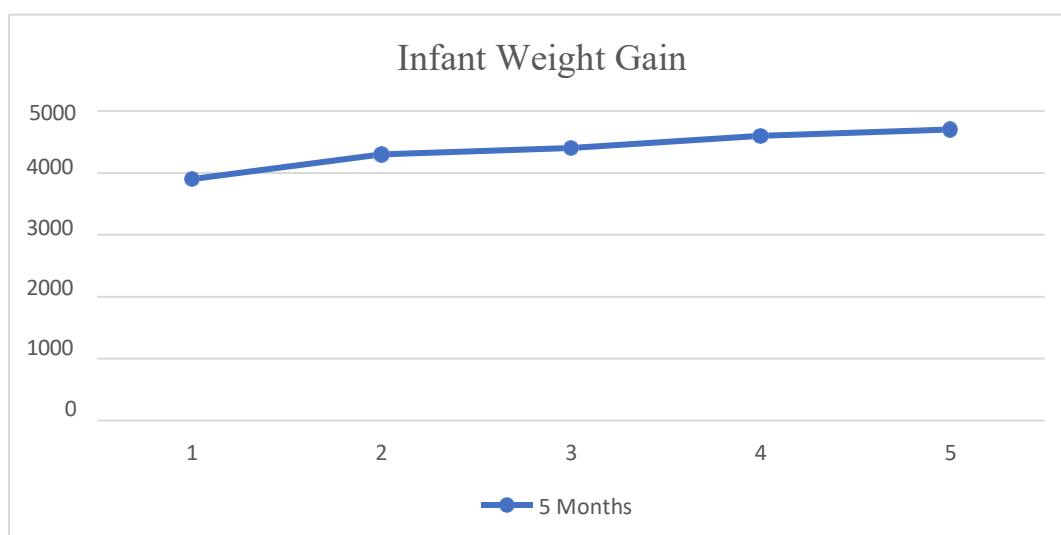


Figure 3. Range of Weight Gain in Exclusively Breastfed Babies Aged 5 Months (n = 5)

Figure 3 shows that at 5 months of age, the weight gain for exclusively breastfed babies ranges from 3,900 to 4,700 grams. This graph shows that although weight gain continues, the growth rate has slowed slightly compared to the previous month. This is in line with the typical infant growth pattern, which typically accelerates in the first few months and then stabilizes.

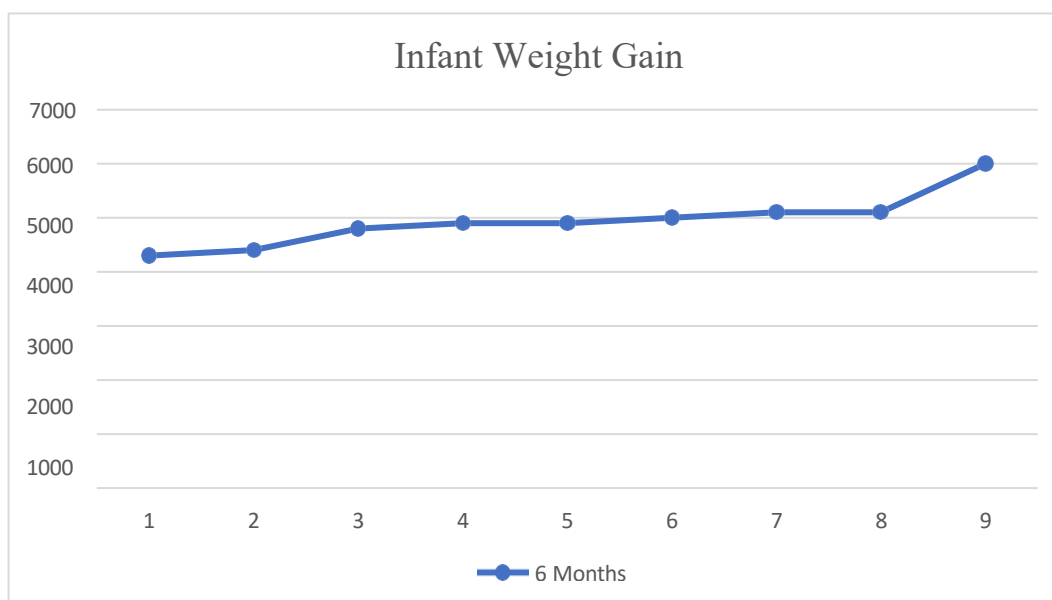


Figure 4. Range of Weight Gain in Exclusively Breastfed Babies Aged 6 Months (n = 9)

Figure 4 shows that at 6 months of age, exclusively breastfed babies experienced weight gain ranging from 4,300 to 6,000 grams. This increase is the result of optimal breastfeeding, which supports infants' nutritional needs until 6 months of age before introducing complementary foods (MPASI). This data also supports previous research suggesting that exclusive breastfeeding plays a significant role in maintaining infant growth within normal limits.

DISCUSSION

Based on the research results, babies who were exclusively breastfed from birth showed good weight gain throughout the study period. Even low-birth-weight babies experienced significant weight gain after consistently receiving exclusive breastfeeding. This demonstrates that exclusive breastfeeding can support optimal infant growth, even in babies with lower birth weights. The weight gain obtained aligns with research by Mukaromah et al. (2023), which found that exclusively breastfed babies experienced more significant growth than non-breastfed babies, and the average change in neonatal length increased more rapidly. The American Academy of Pediatrics (AAP) also emphasizes the importance of breastfeeding for infant health and development, both short- and long-term (Meek & Noble, 2022).

Most mothers breastfeed directly, but some encounter obstacles, primarily due to workload, lack of knowledge about the importance of breastfeeding, and improper attachment techniques. This is in line with research by Agustina, Prabandari, and Sudargo (2020), which explains that obstacles to breastfeeding can be experienced by various groups of mothers, both working and unemployed. The study also shows that the achievement of exclusive breastfeeding in Indonesia is still far from the target of 80%, one of the causes being the return of mothers to work. The type of employment and knowledge about the benefits of exclusive breastfeeding are also very influential, this statement is supported by research by Agyekum et al., (2022), which explains that the type of employment facilitates or hinders a mother's decision to exclusively breastfeed, and education about the benefits of exclusive breastfeeding creates awareness about the practice of exclusive breastfeeding.

Based on the data obtained, the most frequently occurring value (mode) for birth weight was 2800 grams. Babies born weighing 2800 grams and exclusively breastfed for 6 months had a final weight of 7900 grams. This is why newborns up to 6 months of age should be routinely exclusively breastfed, given the importance of breastfeeding in early life. The obtained values are directly proportional to research by Mukaromah et al. (2023) that babies who are exclusively breastfed experience more significant growth than babies who are not exclusively breastfed, and the average change in body length of newborns increases more rapidly.

Based on the description obtained the range of weight gain every month, it was found that the range of weight gain for babies at the age of 3 months ranged from 2300-4400 gr, the range of weight gain for babies aged 4 months ranged from 3200-5300 gr, the weight gain for babies aged 5 months was in the range of 3900-4700 gr, and the weight gain for babies aged 6 months was in the range of 4300-6000 gr. The data obtained is in line with the research of Rahmah et al., (2022) that when babies are 0-6 months old their weight increases every week by around 140-200 gr and there is a significant difference in the average weight of babies who are given exclusive breastfeeding. This statement is supported by the research of Andolina et al., (2023) where around 89% of respondents who were given exclusive breastfeeding experienced weight gain and there was an influence between giving exclusive breastfeeding on weight gain.

CONCLUSION

In general, exclusive breastfeeding is provided directly to babies aged 3-6 months. Babies who are exclusively breastfed from birth show good and consistent weight gain until six months of age. Exclusive breastfeeding has been proven to meet babies nutritional needs, including those with low birth weight, and thus supports optimal weight gain appropriate for their age.

REFERENCES

- Agustina, R., Prabandari, Y. S., & Sudargo, T. (2020). Hambatan pemberian ASI eksklusif pada ibu bekerja: teori ekologi sosial. *Jurnal Gizi Klinik Indonesia*, 17(2), 64–69. <https://doi.org/10.22146/ijcn.50155>
- Agyekum, M. W., Codjoe, S. N. A., Dake, F. A. A., & Abu, M. (2022). Enablers and inhibitors of exclusive breastfeeding: perspectives from mothers and health workers in Accra, Ghana. *International Breastfeeding Journal*, 17(1), 21. <https://doi.org/10.1186/s13006-022-00462-z>
- Astria, Y., & Afriani, R. (2022). Pemberian ASI Eksklusif dalam Menunjang Tumbuh Kembang Bayi. *Jurnal Kesehatan Masyarakat*, 10(1), 15–21.
- Devriany, A., & Sari, E. M. (2020). Hubungan Pemberian ASI Eksklusif terhadap Pertumbuhan Bayi 6 – 11 Bulan di Puskesmas Girimaya Pangkalpinang. *Ghidza : Jurnal Gizi Dan Kesehatan*, 4(1), 51–59. <https://doi.org/10.22487/ghidza.v4i1.110>
- Meek, J. Y., & Noble, L. (2022). Policy Statement: Breastfeeding and the Use of Human Milk. *Pediatrics*, 150(1), 1–15. <https://doi.org/10.1542/peds.2022-057988>
- Mukaromah, D. W., Souvriyanti, E., & Arifandi, F. (2023). Pengaruh pemberian ASI Eksklusif dan ASI Non Eksklusif terhadap Pertumbuhan Bayi 0-12 Bulan di RS Yarsi Jakarta dan Tinjauannya menurut Pandangan Islam. *Cerdika: Jurnal Ilmiah Indonesia*, 3(1), 84–92. <https://doi.org/10.59141/cerdika.v3i1.511>
- Nuari, A., Sibarani, A. A., & Purba, N. H. (2023). Pengaruh Pemberian ASI Eksklusif Terhadap Kenaikan Berat Badan Bayi. *Jurnal Promotif Preventif*, 6(3), 472–478. <https://doi.org/10.47650/jpp.v6i3.849>
- Rahmah, H., Apriani, S. S., & Suryani, Y. (2022). Difference in Body Weight of Babies With Versus Without Exclusive Breastfeeding. *The 4th International Seminar on Global Health, KnE Medicine*, 30–35. <https://doi.org/10.18502/kme.v2i2.11065>
- Rahmi, A. A., & Agustina Harahap, R. (2024). Analisis Implementasi Program Pemberian Asi Eksklusif Di Dinas Kesehatan Kabupaten Labuhanbatu. *Health Information : Jurnal Penelitian*, 16(1), 83–95. <https://doi.org/10.36990/hijp.v16i1.1369>
- Sabrida, O., Susanti, D., Winanda, M., Yusuf, N., Ramadhan, N., Marissa, N., Septivera, Y., Ramli, N., Phonna, S. S., Ariani, P., ZB, C. R., Aslinar, Fajri, N., & Ardilla, A. (2023). Evidence Based: Kupas Tuntas ASI dan Menyusui (Maharani (ed.)). CV. Media Sains Indonesia.
- Sriwahyuningsih, A. (2024). Perbandingan Status Gizi Bayi Umur 0-6 Bulan dengan pemberian ASI Eksklusif dan Susu Formula. *Madu Jurnal Kesehatan*, 12(2), 141–145. <https://doi.org/10.31314/mjk.12.2.141-145.2023>
- UNICEF. (2023). Angka menyusui di Indonesia turun: Ibu memerlukan dukungan yang lebih mapan. UNICEF. <https://www.unicef.org/indonesia/id/gizi/siaran-pers/angka-menyusui-di-indonesia-turun-ibu-memerlukan-duktungan-yang-lebih-mapan>