

Research article

Difference in Body Weight of Babies With Versus Without Exclusive Breastfeeding

Hasni Rahmah*, Suci Saftari Apriani, and Yani Suryani

Difference in Body Weight of Babies With Versus Without Exclusive Breastfeeding

Abstract.

The weight of babies differs. When babies are aged 0-6 months, their weight increases every week by about 140-200 grams. The purpose of this study was to compare the weight of babies who received exclusive breastfeeding vs. those without exclusive breastfeeding. This was a descriptive cross-sectional study with a sample of 70 babies divided into two groups of 35 each. Weight data were collected from weighing records and Cards Towards Health, while categorization of exclusive or non-exclusive breastfeeding was determined based on interviews. Data analysis was carried out using the independent t-test. The results of the study found that the average weight of babies who were given exclusive breastfeeding was 7022.86 grams with a standard deviation of 1321.78 grams, while the average weight of infants fed formula was 5668.57 with a standard deviation of 1335.44 grams ($p < 0.05$). Therefore, there was a significant difference in the average weight of babies given exclusive breastfeeding compared with those without. So, it is recommended for every mother to provide exclusive breastfeeding, and for health workers to promote this. Future research should examine additional variables.

Keywords: exclusive breastfeeding, weight

Corresponding Author: Hasni Rahmah; email: hasnirahmah@gmail.com

Published: 3 June 2022

Publishing services provided by Knowledge E

© Hasni Rahmah et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the ISGH4 Conference Committee.

1. Introduction

Breastfed babies generally grow rapidly in the first 2-3 months of life, but are slower than babies who do not exclusively breastfeed. In the first week of life there is often a weight loss of 5% in infants who get formula and 7% in breast milked babies. If there is a problem in breastfeeding, weight loss of 7% can occur in the first 72 hours of life. [1]

Based on data in Indonesia, in 2020 achievement of exclusive breastfeeding for infants 0-6 months reached 66.1%, while the target to be achieved in exclusive breastfeeding was 90%, so it is necessary to continue efforts to increase the achievement of the target of exclusive breastfeeding because of exclusive breastfeeding. Exclusive breastfeeding can help to provide food according to the needs of the baby so that the baby will not experience stunting.

For children under one month of age the percentage is quite high, 67%. This figure was reduced to 55% in children aged 2-3 months, and plummeted again by only 38%

OPEN ACCESS

in children aged 4-5 months. This means that the figure of 52% is actually a pseudo-achievement because it has not described the percentage of babies who actually get breast milk only during the first 6 months of life, without other intakes such as formula milk (factory-made breast milk), bananas, tajin water, and other foods / drinks.[2]

The weight of each baby in general has a difference but there is a standardization to the ideal weight based on the ideal baby weight curve according to the age of the baby to reference growth. The average normal baby weight has a weight from the range of 2,500 grams to 4,500 grams. Factors that can affect the baby's weight are health, genetics, heredity, nutrients consumed by the mother during pregnancy.[3]

The ideal body weight of babies aged 0 - 3 months is 2,700 grams to 5,700 grams, age 4 - 6 months the ideal body weight is 5,000 grams to 7,400 grams. For the age of 0-6 months weight growth will increase every week about 140-200 grams and the weight will be twice the birth weight at the end of the 6th month.[4][3]

However, in Indonesia, only 1 in 2 infants under 6 months of age are exclusively breastfed, and only slightly more than 5 percent of children are still breastfed at 23 months of age. This means that almost half of all Indonesian children do not receive the nutrition they need during the first two years of life. More than 40 percent of infants are introduced to complementary foods too early, ie before they reach the age of 6 months, and the food provided often does not meet the nutritional needs of infants.

It also claims that breastfed babies are less likely to develop diabetes or become overweight as they grow older. Mothers also benefit by having stronger bonds with their children and having a lower risk of breast and ovarian cancer, osteoporosis, diabetes and cardiovascular disease. Who recommends that mothers breastfeed their babies for the first six months of life, after which they can start eating solid foods, while continuing with breastfeeding? In fact, who does not set a breastfeeding age limit, but encourages mothers to do so until their child is about two years old. [5] Mothers who give exclusive breastfeeding are better at dealing with infant malnutrition because the nutritional content in breast milk is good for fulfilling infant nutrition so that the baby's weight increases and is in accordance the baby's age so that they do not experience malnutrition or stunting

Breast milk is the first natural food for babies. Breast milk provides all the energy and nutrients a baby needs for the first months of life. Breastfeeding is an excellent way of providing ideal food for the growth and development of a healthy baby. In order to reduce infant pain and death, United Nations Children's Fund (UNICEF) and World Health Organization (WHO) recommend that infants be breastfed only for at least 6 months, and breastfeeding to continue until the baby is two years old. In order for mothers to maintain exclusive breast milk for 6 months, WHO recommends that breastfeeding

initiation within the first hour of life, babies only receive breast milk without additional food or drink, including water, breastfeeding on demand or as often as the baby wants, and not using bottles or pacifiers. [2]

When comparing babies who are given and if the baby is not given exclusive breastfeeding, it will be seen from the content of foods other than breast milk in infants aged 0-6 months because it is possible the content obtained from the addition of foods other than breast milk cannot meet the nutritional needs of infants, besides that it also can affect the protection of infection transmission for babies who are not given exclusive breastfeeding because breast milk has good antibodies in preventing babies from getting infections. In Noviani (2019) research, it showed that there was a difference in the average weight gain of babies who were exclusively breastfed with an average weight gain of 4260 grams, while the average weight gain of babies who were partially breastfed was 4580 grams. Meanwhile, [6] the results of research by Fani Ladomenou et al (2014) explaining the protective effect of exclusive breastfeeding against infection transmission showed that infants who were exclusively breastfed for 6 months were compared to their peers who were not exclusively breastfed or breastfed but with other food companions other than breast milk in protection against infectious diseases such as Respiratory Tract Infection, so that exclusive breastfeeding is important for mothers to give their babies at the age of the first 6 months. [7]

The purpose of this study was to see the difference in body weight of infants who were exclusively breastfed and those who were not exclusively breastfed in infants aged 0-6 months. [8]

2. Methods

2.1. Study design

This study design is a survey method with a cross-sectional approach. It was conducted at Hegarmana, Cianjur Regency on December 2020.

2.2. Sample

The population in this study amounted to 196 infants. The sample in this study infants who divided into two groups, namely the group that was given exclusive breastfeeding and the group that was not given exclusive breastfeeding based on the inclusion and exclusion criteria by using the Slovin sample formula to determine the sample size with random sampling technique

2.3. Instruments

The study was conducted in Cianjur Regency because the Cianjur area is one of the districts that is a priority for stunting which can be assisted by breastfeeding from the time the newborn is born at least until the first 6 months.

The instrument in this study was an interview sheet regarding exclusive breastfeeding to the mother to find out whether the mother gave exclusive breastfeeding or not to the baby. While the instrument used to determine the baby's weight is to use the data on examination of body weight.

2.4. Data collection procedure

In this study, the research process carried out through the stages of applying for a research permit at the place to be used, then after obtaining permission from the area where the research was conducted, informed consent was carried out on the respondents to be used as research samples, then after that they submitted a request for data on the weight of infants aged 0 – 6 months in December 2020 and was done. Data on exclusive breastfeeding was obtained through interviews using instruments to mothers who were breastfeeding and data on baby's weight was obtained from the results of data collection on the results of the examination of the baby's weight.

2.5. Data analysis

The data analyzed in this study was analyzed using univariate to determine the frequency distribution of respondents' characteristics, the data were normally distributed and analyzed using SPSS and Microsoft Excel. Bivariate data was analyzed using an independent T test presented with tables and narratives.

3. Result

3.1. Univariate analysis

Based on table 1, it can be seen that the characteristics of the two groups of respondents are not different in the two groups so that they are worthy of being compared by research respondents.

From the results of the study found that the average weight of babies who were given exclusive breast milk was 7022.86 grams with a standard deviation of 1321,783 grams, while the weight of infants fed formula was 5668.57 with a standard deviation of

TABLE 1: Characteristics of Respondents (N= 70).

No	Characteristics	Kelompok			
		Exclusive breast (n=35)	Without (n=35)	Exclusive	
1	Age 0– 1 month ≥ 1 – 6 month	3 (8,57 %)	32 (91,43 %)	6 (17,14%)	29 (82,86%)
2	Sex Male Female	12 (34,28%)	23 (65,72%)	19 (54,28%)	16 (45,72%)
3	Labor Vaginal Section Caesarea	32 (91,43%)	3 (8,57%)	34 (97,14%)	1 (2,86%)

TABLE 2: Averages the difference in a baby’s weight based on nutrition.

Nutrition	Mean	SD	P-Value	N
Exclusive breastfeeding	7022,86	1321,783	0,000	35
Formula Milk	5668,57	1335,438	0,000	35

1335,438 grams. The results of the statistical test obtained a value of $p = 0.000$ which means there is a significant difference on average - the average weight of babies given exclusive breast milk with infants given formula milk.

4. Discussion

The results of this study are in line with research presented by Syarif Hidayatullah State Islamic University Jakarta, 2014; Wulan Ambarwati stated that "Babies who get breast milk until more than 4 to 6 months of age are typically lighter than infants who get formula" babies.[8] The weight of babies who get breast milk is lighter than the weight of babies who get formula milk but when viewed from the KMS curve, babies who get breast milk have a weight in the normal weight range, while babies who get formula have weight in the obesity range because the protein content in formula milk is about 3 times more than AI, Fat in breast milk tends to be more easily digested and absorbed by babies compared to fat in formula milk. This is because the calorie content in breast milk is absorbed by the baby’s body in accordance with the needs needed by the baby. But the baby’s body will absorb all the calories contained in formula milk. Thus, babies who get exclusive breast milk are lighter than without exclusive breast milk.[9]

5. Conclusion

There is a difference in the weight of babies given exclusive breast milk with the weight of babies given formula. The weight of babies given exclusive breast milk

has an average weight greater than the average weight of babies given formula. add recommendation for future, including practical implication or future research implication from the results of this study can provide suggestions: health workers can improve the benefits and uses of exclusive breastfeeding and further researchers can increase the variables so that the results of further research are more in-depth and more tested

Acknowledgment

Thanks to all participants that part in the study and enabled this research to be possible.

References

- [1] Septira S, Angraini DI. Nutrisi bagi bayi berat badan lahir rendah (BBLR) untuk mengoptimalkan tumbuh kembang. *Majority*. 2016;5(3):151-5.
- [2] Lestari ED, Hasanah F, Nugroho NA. Correlation between non-exclusive breastfeeding and low birth weight to stunting in children. *Paediatrica Indonesiana*. 2018 Jun 8;58(3):123-7.
- [3] Marmi RK. *Asuhan neonatus, bayi, balita, dan anak prasekolah*. Yogyakarta: Pustaka Pelajar. 2012.
- [4] Prawiroharjo S. *Ilmu kebidanan*. Jakarta: PT Bina Pustaka; 2011.
- [5] Rahmawati MD. Faktor-faktor yang mempengaruhi pemberian ASI eksklusif pada ibu menyusui di kelurahan pedalangan kecamatan banyumanik kota Semarang. *Jurnal Kesehatan Kusuma Husada*. 2015;1(1):8-18
- [6] Elsira N. Perbedaan kenaikan berat badan pada bayi dengan pemberian asi eksklusif dan asi parsial di puskesmas kalidoni Palembang. *Jurnal Kesehatan dan Pembangunan*. 2019;9(18):60–68. <https://doi.org/10.52047/jkp.v9i18.44>
- [7] Ladomenou F, Moschandreas J, Kafatos A, Tselentis Y, Galanakis E. Protective effect of exclusive breastfeeding against infections during infancy: A prospective study. *Archives of Disease in Childhood*. 2010;95(12):1004–1008. <https://doi.org/10.1136/adc.2009.169912>
- [8] Lukman S, Wahyuningsih S, Rahmawati R, Sakriawati M. Perbedaan Pemberian ASI Eksklusif dengan PASI terhadap Tumbuh Kembang pada Anak Usia 0-12 Bulan. *Jurnal Keperawatan Profesional*. 2020 Nov 30;1(1):19-27.
- [9] Devriany A, Wardani Z, Yunihar Y. Perbedaan Status Pemberian ASI Eksklusif terhadap Perubahan Panjang Badan Bayi Neonatus. *Media Kesehatan Masyarakat Indonesia Universitas Hasanuddin*. 2018 Mar 20;14(1):44-51.