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Correlation of Exclusive Breastfeeding and Complementary Feeding History with Stunting in Children 24-47 Months

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ABSTRACT

Stunting is a kind of condition where toddlers have less length or height than their age. The percentage of stunting in Indonesia is still high and becomes a health problem. Stunting occurs due to several factors. One of which is lack of nutritional intake for infants. The purpose of this study was to analyze the correlation between a history of exclusive breastfeeding and complementary feeding with stunting in children aged 24-47 months. The type of this research was observational analytic with cross-sectional design. Data were collected by filling out a questionnaire by the respondents and analyzed using the chi-square test. The results of this study showed that there was no correlation between the history of exclusive breastfeeding and complementary feeding with stunting. However, there are other factors that influence the occurrence of stunting, consisting of expenditure on food consumption (p=0.007), birth weight (p=0.035), and birth length (p=0.004).

Keywords: exclusive breastfeeding; complementary feeding; stunting; toddler

INTRODUCTION

As many as 45% of deaths that occur in a toddler in the world are caused by various malnutrition conditions. Stunting is a malnutrition condition that contributes significantly. Reducing stunting or short stature is an international target for 2025[(1)]. Stunting is a kind of condition where toddlers have less length or height than their age. This condition is measured by length or height of >-2 standard deviations from the child growth from WHOs' median standard deviation. Stunting on toddlers is a chronic nutritional problem caused by various factors such as socioeconomic conditions, maternal nutrition during pregnancy, infant morbidity, and lack of nutritional intake for infants. Stunting on toddlers in the future and will have difficulty in achieving optimal physical and cognitive development[(2)].

The impact of stunting on toddlers can be seen in the short and long term. The short-term impact is developing deadly infectious diseases higher, while the long-term impact is increasing the risk of chronic diseases such as cardiovascular disease in the future[(1)]. On the other hand, stunting will cause long-term impacts, such as physical disruption, mental, intellectual, and cognitive development. Children who are stunted until the age of 5 years will be difficult to improve so that it will continue into adulthood and increase the risk of children with low birth weight [(3)]. Nutrition and nurturing during the first years of life are both important to lifelong health and well-being. In infancy, there is no greater reward than breastfeeding, however, nearly one in three toddlers are exclusively breastfed during the first six months of life. Infant and child nutrition is the foundation of childhood development attention. Worldwide, around 30% of a toddler are stunted due to malnutrition and repeated infections. Improved feeding practices can lead to increased energy and nutrient intake and lead to better nutritional status [(4)].

The prevalence of stunting nationally in 2013 was 37.2%, which means it is an improvement compared to 2010 (35.6%) and 2007 (36.8%). The prevalence of stunting was 37.2 percent, consisting of 18.0 percent very short and 19.2% short. Public health problems are considered serious if the prevalence of stunting is 30-39 percent and serious if the prevalence of stunting is 40%. On the other hand, it also happens in the East Java region, where the stunting rate in 2013 was a critical category because it was at >35% [(6)].

Based on the results of the Nutrition Status Monitoring (PSG) 2017, the prevalence of stunting in toddlers in East Java has decreased compared to 2013 so that it is not included in the critical category, 26.7%. This figure is slightly lower than the national figure of 27.5% [(7)]. However, East Java is still an area with stunting problems because it has a 20% boundary. There are several regencies where the prevalence of stunting is quite high, one

of which is the Pamekasan Regency. Based on secondary data collected from the Pamekasan District Health Office, the prevalence of stunting in 2017 was 42.5%. This figure has increased compared to previous years, 33.2% in 2016 and 34.2% in 2015. This problem happens due to the lack of public awareness of nutritional fulfillment in the first 1000 days of a child's life. Therefore, this study was conducted to find out whether there is a correlation between exclusive breastfeeding and complementary breastfeeding history with stunting.

METHODS

This research was conducted in Pamaroh Village, Kadur District, Pamekasan Regency. This study was carried out in April 2019. The type of this research was observational analytic with cross-sectional design, where risk factors and their impact are observed at the same time. The population of this study was children aged 24-47 months as many as 98 people. The sample size was calculated using the Slovin formula as 50 samples. The sampling technique used in this study was a simple random sampling method and the sample selection used a lottery technique. On the other hand, the research respondents were mothers of children who were used as samples of this study.

Research variables are family characteristics, child characteristics, history of exclusive breastfeeding, and history of complementary feeding. Data were collected by filling out a questionnaire by respondents and analyzed using the chi-square test. The determination of the z-score value used the 2005 WHO-MGRS standard. The results of the study are displayed in the form of a frequency distribution table for each research variable. Besides, the correlation analysis was performed using the Chi-Square test. The results of the analysis are supposed to be significant if the $p<0.05$.

RESULTS

The results of this study showed that the toddler proportion who previously did not receive exclusive breastfeeding and were given complimentary foods earlier was (98%), whereas, for the frequency, texture, nutritional completeness, and processing cleanliness, most of them were following WHO recommendations, but it was found that there was no correlation between the history of exclusive breastfeeding and complementary feeding with the prevalence of stunting. However, there are other factors that influence the occurrence of stunting, consisting of expenditure on food consumption ($p=0.007$), birth weight ($p=0.035$), and birth length ($p=0.004$).

Table 1. The correlation between family characteristics with stunting

Variable	Stunting n (%)	Non stunting n (%)	p
Father's education			
Basic education	13 (38.2)	21 (61.8)	0.466
Middle school and above	3 (18.7)	13 (81.3)	
Mother's education			
Basic education	15 (39.5)	23 (60.5)	0.179
Middle school and above	1 (08.3)	11 (91.7)	
Mother's knowledge			
Less	12 (40.0)	18 (60.0)	0.137
Good	4 (20.0)	16 (80.0)	
Family income			
Below UMK	15 (37.5)	25 (62.5)	
Above UMK	1 (10.0)	9 (90.0)	0.095
Food Expenditure			
High	15 (44.1)	19 (55.9)	
Low	1 (63.0)	15 (93.7)	0.007
Number of families			
>4	16 (80.0)	4 (20.0)	0.450
4 or <4	18 (60.0)	12 (40.0)	

Based on table 1, one of the family characteristics is food expenditure, which has a significant correlation with stunting because the $p<0.05$. Meanwhile, parental education, mother's knowledge, family income, and number of family members have no correlation with stunting.

Based on table 2, the characteristics of toddlers are birth weight and birth length, which has a significant correlation with stunting because the $p<0.05$. Meanwhile, the age and gender of toddlers have no correlation with stunting.

Based on table 3, it has no correlation between exclusive breastfeeding history with stunting because $p>0.05$.

Based on table 4, there is a correlation between the history of complementary feeding both in terms of age at first complementary feeding, frequency, texture, nutritional completeness, cleanliness of processing, and giving complementary feeding with stunting because $p>0.05$.

Table 2. The correlation between toddler characteristics with stunting

Variable	Stunting n (%)	Non stunting n (%)	p
Age			
2-3 years	11 (60.7)	17 (39.3)	0.213
3-4 years	5 (77.3)	17 (22.7)	
Gender			
Male	9 (30.0)	21 (70.0)	0.710
Female	7 (35.0)	13 (65.0)	
Birth Weight			
Low	2 (100)	0 (0.00)	0.035
Normal	14 (29.2)	34 (70.8)	
Birth length			
Short	6 (75.0)	2 (25.0)	0.004
Normal	10 (23.8)	32 (76.2)	

Table 3. The correlation of exclusive breastfeeding historys with stunting

Variable	Stunting n (%)	Non stunting n (%)	p
Exclusive Breastfeeding History			
Non Exclusive Breastfeeding	16 (32.7)	33 (67.3)	0.488
Exclusive Breastfeeding	0 (0.00)	1 (100)	

Table 4. The correlation of complementary feeding history with stunting

Variable	Stunting n (%)	Non stunting n (%)	p
Age of first complementary feeding			
<6 months	16 (32.7)	33 (67.3)	
6 months	0 (0.00)	1 (100)	0.488
Frequency of complementary feeding at the age of 6-8 months			
>3 times/day	0 (0.00)	2 (100)	0.322
2 - 3 times/day	16 (33.3)	32 (68.0)	
Frequency of complementary feeding at the age of 9-24 months			
2 - 3 times/day	10 (50.0)	10 (50.0)	0.062
>3 times/day	6 (20.0)	24 (80.0)	
The texture of complementary feeding at the age of 6-8 months			
Soft or full	7 (38.9)	11 (61.1)	0.418
Smooth	9 (35.3)	23 (64.7)	
The texture of complementary feeding at the age of 9-11 months			
Smooth or full	7 (58.3)	5 (41.7)	0.462
Soft	27 (71.1)	11 (28.9)	
The texture of complementary feeding at the age of 12-24 months			
Smooth or soft	4 (30.8)	9 (69.2)	0.912
Full	12 (32.4)	25 (67.6)	
Completeness of the nutritional content of complementary feeding			
Partial	1 (50.0)	1 (50.0)	0.578
Complete	15 (31.3)	33 (68.7)	
Cleanliness of processing and giving complementary feeding			
Uncertain	1 (100)	0 (0.00)	0.141
Clean	15 (30.6)	34 (69.4)	

DISCUSSION

The Correlation Between Family Characteristics with Stunting

Parents with good education can provide more opportunities to get the information relating to caring for and maintaining children's health and educating good children (Soetjiningsih, 2014). Mothers and families need to have nutritionally conscious family behavior (kadarzi) so that toddlers get varied and appropriate ingredients and food menus according to their needs [8]. The results of this study show, there is no significant correlation between parental education and the prevalence of stunting, however, parents with basic education tend to have children with stunting nutritional status because the percentage of toddlers stunting in parents with basic education is greater than parents with upper secondary education.

Another study conducted by Nasikhah (2012) in East Semarang found that the father's education was a risk factor in toddlers' stunting. It shows the father's education level contributes to the child's growth. A high level of education will make it easier for someone including fathers to absorb information, however, if it is not implemented it will have an impact on the children's nutritional status [9]. Ibrahim's research (2014) in Makassar also found that there was a significant correlation between mother's education and the prevalence of stunting in toddler [10]. It happens because in daily life the role of the mother is the largest in the children's eating habits development. After all, the mother who prepares food begins to arrange the menu, shop, cook, serve food, and distribute food [11].

The knowledge about food and nutrition can be obtained through various sources such as books, printed media, and electronic media, into health services such as integrated service post and health centers. The results of this study show, there is no significant correlation between maternal knowledge and the prevalence of stunting. However, mothers with less knowledge are more likely to have toddlers with stunting nutritional status because the percentage of stunting toddlers is greater in toddlers with mothers who have less knowledge than mothers who have sufficient knowledge.

Based on the study conducted by Ibrahim (2014) in Makassar, showed that there was a significant correlation between a mother's knowledge and the prevalence of stunting in toddlers. Whereas, the prevalence of stunting in toddlers is more common in mothers who have less knowledge[10]. Inadequate knowledge of nutrition, lack of good eating habits understanding, and lack of nutritional contribution understanding of various types of food will cause nutritional problems [12].

Family purchasing power for nutritious food is influenced by family income because determining the kind of food to be purchased depends on the income level [13]. Income represents the level of people's ability to consume both in quality and quantity. The greater the income made, the level of ability to meet several basic and non-basic needs increases and otherwise [14]. The results of this study show, there is no significant correlation between family income and the prevalence of stunting. However, families with low incomes tend to have toddlers with stunting because the percentage of children with stunting nutritional status is greater in families with low incomes than families with high incomes. Another study conducted by Rufaida (2020) in Jember showed that there was a correlation between family income and the prevalence of stunting. Low family income gives a tendency of 2,344 times to have toddlers who experience stunting [15].

When income increases, there will be a change in spending something, a decrease in the income spent portion on food, and an increase in the income spent portion on non-food [16]. The results of this study show, there is a correlation between spending on food consumption and stunting. Another study conducted by Ni'mah (2015) also stated, there was a significant correlation between the proportion of food expenditure and stunting. Most parents of toddlers have a high level of spending on food. It happens due to the low income they receive each month so that they have limitations to meet their family's food needs [17].

Children in families with many family members are usually shorter than children in families with few family members. It can be caused by children in families with many family members who tend to receive minimal individual attention and care [18]. The results of this study show, there is no significant correlation between the number of family members and the prevalence of stunting.

In another study conducted by Candra (2013) in Semarang, showed that the number of children > 2 or family members > 4 people is a risk factor for stunting. The availability of family food is influenced by the number of members in the family. The chances of children experiencing malnutrition are greater in families with low economic status who have many family members or children [19]. Although the results of the study showed that the number of family members is not related to the prevalence of stunting in toddlers, however, the number of family members and the number of toddlers in the family will affect the level of food consumption, specifically the amount and distribution of food in the household. The smaller the number of family members, the ability to provide a variety of food is also greater because it does not require a large enough cost to buy a variety of foods when compared to the number of medium or large family members [10].

The Correlation Between Toddler Characteristics with Stunting

Children aged 24 months-60 months experienced the most stunting because, at the age of 24 months, children began the weaning phase and a period of high activity in exploring the surrounding environment. In

addition, toddler's offensive motor skills grow and develop rapidly. At this stage, some toddlers will face several possibilities that cause nutritional deficiencies, like decreased appetite for children, low nutritional intake, decreased sleep hours, susceptibility to infection when mothers/caregivers pay less attention to hygiene and sanitation [20]. The results of this study show, there is no significant correlation between the number of family members and the prevalence of stunting. However, toddlers aged 24-35 months tend to be at risk of stunting because the percentage of toddlers who experience stunting is greater in toddlers aged 24-35 months than toddlers aged 36-47 months. Another study conducted by Cahniago (2020) stated the age of the child was significantly related to the prevalence of stunting [21].

Males tend to have larger body proportions and heavier activity models than girls, therefore their nutritional needs are also higher. Males need more energy and protein so they are more at risk for malnutrition if their needs are not met [22]. The results of this study show, there is no significant correlation between gender and the prevalence of stunting. Another study also conducted by Rufaida (2020) in Sumberbaru Health Center Jember found a significant correlation between the male gender toddlers and the prevalence of stunting in toddlers in three villages of the Sumberbaru Health Center Jember and had the possibility of experiencing stunting by 0.456 times compared to female gender toddlers [15]. In the first year of life, males are more likely to have a nutritional problem than girls, because males are larger in body size and therefore require greater energy intake. If food intake is not met and this condition occurs for a long time, it will interfere with the growth [9].

The theory states birth weight is closely related to the long-term growth and development of toddlers. Babies with low birth weight will experience obstacles in their growth and development as well as the possibility of dissolution in intellectual function and more susceptible to infection and hypothermia [23]. The results of this study show, there is a significant correlation between birth weight and the prevalence of stunting. It can happen due to malnutrition during pregnancy which can cause babies born with low birth weight. This study is following the research conducted by Candra et al (2011) in Semarang which states that birth weight is a risk factor for stunting and infants with low birth weight are 11.88 times greater in risk than toddlers with normal birth weight [19].

The length of the baby's body at birth describes the linear growth of the baby during the uterus. A low linear measure usually indicates an undernourished state due to a lack of energy and protein suffered in the past that was preceded by a strike or retardation of fetal growth [24]. Inadequate maternal nutritional intake before pregnancy causes growth disorders in the fetus so that it can cause babies to be born with short birth lengths [25].

The results of this study show, there is a significant correlation between birth length and the prevalence of stunting. These results are according to research conducted by Paulina (2019) in Sentolo I Health Center Kulon Progo which showed that birth length was a risk factor for stunting. From the results of this study, there were 23.8% of toddlers with normal birth length at birth but were stunted. It is due to insufficient intake of nutrients in normal toddlers which causes more severe growth faltering in normal toddlers [26].

The Correlation Between Exclusive Breastfeeding History with Stunting

WHO and Unicef recommend four things to achieve optimal growth in children, like breastfeeding after 30 minutes of the baby being born, exclusive breastfeeding, complementary breastfeeding at the age of 6-24 months, breastfeeding until the age of 24 months [27]. Some research results show, exclusive breastfeeding can increase childrens' growth under 2 (two) years old, such as Rahmad's research (2016), stating that exclusive breastfeeding can increase growth in children by 4.2 times compared to non-exclusive breastfeeding [28].

The results of this study show, there is no significant correlation between exclusive breastfeeding and the prevalence of stunting. It happened because the toddler who was the sample of the study who was given exclusive breastfeeding was only 1 person so it could not show a correlation between exclusive breastfeeding and the prevalence of stunting.

In another study conducted by Dwitama (2018) in Jatinangor sub-district which stated, there was a correlation between exclusive breastfeeding and stunting [29]. The effect of exclusive breastfeeding on stunting status changes is caused by the function of breastfeeding as an anti-infective. Insufficient breastfeeding or formula feeding too early can increase the risk of stunting because babies tend to be more susceptible to infectious diseases such as diarrhea and respiratory diseases [19].

The Correlation Between Complementary Feeding History with Stunting

Inappropriate baby feeding habits, such as feeding too early or too late, are not giving enough food and having less frequency on the baby's growth [30]. Giving complementary feeding/formula too early can increase the risk of stunting because babies tend to be more susceptible to infectious diseases such as diarrhea [8]. The results of this study show, there is no significant correlation between the age at first giving complementary feeding and the prevalence of stunting. It happened because the research sample that gave complementary feeding on time was only 1 person, thus it was less likely to be used as a comparison in finding the correlation

between the first age of giving complementary feeding and stunting. In another study conducted by Hanum (2019) in the Maron Health Center where the results of the research proved, there was a correlation between giving complementary feeding history and stunting status in toddlers. Toddlers who are given complementary feeding correctly according to age have 1.568 times the chance to grow not stunted than toddlers who are given complementary feeding incorrectly [(31)].

The frequency of complementary breastfeeding according to the child's age can provide sufficient energy in the form of carbohydrates, protein, fat, vitamins, and minerals needed for growth, development, and nutritional status according to the child's age. Giving the right complementary feeding frequency can also overcome various nutritional problems experienced by children as they get older, such as the problem of energy gaps and the lack of energy contained in food [(32)].

The results of this study show, there is no significant correlation between the frequency of complementary feeding and the prevalence of stunting. Although not significantly related, toddlers with a frequency of eating <3 times a day are more likely to experience stunting than toddlers who have a frequency of eating >3 times a day. It happens because based on the results of the study it was found that at the age of 6-8 months, toddlers whose eating frequency was <3 times 100% had stunting nutritional status. Another study conducted by Widyaswari (2011) stated, there was a correlation between the frequency of complementary breastfeeding and nutritional status/stunting. With the frequency of giving complementary feeding frequently, the nutritional intake received by toddlers will be stronger and will improve the nutritional status of toddlers [(33)].

At the age of 6 months, babies begin to be introduced to other foods, first in the form of mashed, soft foods, and then switch to family foods when the baby is 1 year old. The terms of complementary feeding are given in stages and vary and are adjusted to the age of the baby or child, starting from vegetables, fruits, side dishes from vegetable and animal protein sources, and calories to meet their need [(34)].

The results of this study show, there is no significant correlation between the type of complementary breastfeeding given and the prevalence of stunting. Another study conducted by Virginia (2020) showed that there was a significant correlation between the texture or type of complementary feeding given to the prevalence of stunting in children aged 6-24 months. The type of complementary feeding given that was not according to the standard had a 3.3 times greater risk of experiencing stunting compared to the type of complementary feeding that was given according to the standard. If the child is given food with a denser texture than it should be, it takes more time to chew into smaller particles to be swallowed because of the lack of skills to chew and teeth that have not grown. As a result of these problems, the child will eat in smaller quantities (long chewing) so that the food intake will be less [(35)].

The first complementary feeding that is commonly given to toddlers in Indonesia is banana and rice flour mixed with breastmilk milk [(36)]. However, it is necessary to add other complementary feeding to meet iron needs such as spinach, chicken liver, or beef. In addition, introducing a variety of foods gradually will make a baby taste all kinds of flavors. The terms of complementary feeding that are not following the balanced nutritional status will affect the toddlers' growth. The results of this study show, there is no significant correlation between the completeness of the nutritional content of complementary feeding and the prevalence of stunting. It happened because the sample given complementary feeding with nutrition was not only two toddlers but one toddler was stunted and one toddler had normal nutritional status so that no significant correlation was found between the completeness of the nutritional content of complementary feeding and the prevalence of stunting.

To ensure the cleanliness and safety of food consumed by children, it is possible to get used to washing hands before eating, using clean and sterile cutlery, cooking food properly, avoiding mixing raw food with cooked food, washing vegetables and fruit before eating, using a source of clean water, and store food in a safety place [(4)]. The results of this study show, there is no significant correlation between processing hygiene and the term of complementary feeding with the prevalence of stunting. It happens because the sample is uncertain relating to the cleanliness of processing and giving complementary feeding to toddlers is only 1 person so it cannot be used as a benchmark to see the correlation between the cleanliness of processing and giving complementary feeding with the prevalence of stunting.

CONCLUSION

Based on this study, it was indicated that there was no correlation between the history of exclusive breastfeeding and complementary feeding with the prevalence of stunting in children aged 24-47 month in Pamaroh, Pamekasan. However, there are other factors that influence the occurrence of stunting, consisting of expenditure on food consumption, birth weight and birth length. Therefore, it must be paid attention to the fulfillment of nutrition womb because it affects birth weight and length as one of the factors for stunting.

REFERENCES

1. Oot L, Sethuraman K, Ross J, Sommerfelt AE. The Effect of Chronic Malnutrition (Stunting) on Learning Ability, a Measure of Human Capital: A Model in Profiles for Country-Level-Advocacy. United States: Food and Nutrition technical Assistance; 2016. p 1-8.
2. Kemenkes RI. Situasi Balita Pendek (Stunting) di Indonesia. Jakarta: Kemenkes RI; 2018.

3. Kusudaryati DPD. Kekurangan Asupan Besi dan Seng Sebagai Faktor Penyebab Stunting pada Anak. J Profesi. 2014;10(1).
4. WHO. Infant and young child feeding. Geneva: WHO; 2018.
5. Kemenkes RI. Profil Kesehatan Indonesia Tahun 2015. Jakarta; Kemenkes RI; 2015.
6. Kemenkes RI. Riset Kesehatan Dasar (Riskesdas 2013). Jakarta: Kemenkes RI; 2013.
7. Kemenkes RI. Buku Saku Pemantauan Status Gizi (PSG) Tahun 2017. Jakarta: Kemenkes RI; 2017.
8. Rahayu A, Khairiyati L. Risiko pendidikan ibu terhadap kejadian stunting pada anak 6-23 bulan. Penel Gizi Makan. 2014. J Nutrition and Food Research. 2014;37(2):129-136.
9. Nasikhah R, Margawati A. Faktor risiko kejadian stunting pada balita usia 24-36 bulan di Kecamatan Semarang Timur. J Nutrition College. 2012;1(1):176-184.
10. Ibrahim IA, Faramita A. Hubungan Faktor Sosial Ekonomi Keluarga dengan Kejadian Stunting Anak Usia 24-59 Bulan di Wilayah Kerja Puskesmas Barombong Kota Makassar Tahun 2014. J Al-Sihah: Public Health Science. 2014;4(2).
11. Trisyani K, Fara YD, Mayasari AT, Abdullah. Hubungan Faktor Ibu dengan Kejadian Stunting. J Maternitas Aisyah. 2020;1(3).
12. Wulandari, Yettik, Dewi I. Prinsip-Prinsip Dasar Ahli Gizi. Jakarta: Dunia Cerdas; 2013.
13. Adriani M, Wirjatmadi. Peranan Gizi Dalam Siklus Kehidupan. Jakarta: Kencana Prenada Media Group; 2012.
14. Vidiawan, Tisnawati. Analisis Pengaruh Pendapatan, Jumlah Anggota Keluarga Dan Pendidikan Terhadap Jumlah Konsumsi Rumah Tangga Miskin Di Desa Batu Kandik Kecamatan Nusa Penida Kabupaten Klungkung. J EP Unud. 2015;4(4):243-257.
15. Rufaida FD, Raharjo AM, Handoko A. Hubungan Faktor Keluarga dan Rumah Tangga dengan Kejadian Stunting pada Balita di Tiga Desa Wilayah Kerja Puskesmas Sumberbaru Jember. J Agromedicine and Medical Sciences. 2020;6(1).
16. BPS. Pengeluaran Konsumsi Penduduk Indonesia 2011. Jakarta: BPS; 2011.
17. Ni'mah K, Muniroh L. Hubungan Tingkat Pendidikan, Tingkat Pengetahuan dan Pola Asuh Ibu dengan Wasting dan Stunting Pada Balita Keluarga Miskin. J. Media Gizi Indonesia. 2015;10(1).
18. Proverawati, Atikah, Wati EK. Ilmu Gizi Untuk Keperawatan dan Gizi Kesehatan. Yogyakarta: Nuha Medika; 2011.
19. Candra A, Puruhita N, Susanto JC. Risk factor of stunting among 1 – 2 years old children in Semarang city. J Media medika Indonesiana. 2011;45:206-12.
20. Setyawati VAV. Kajian Stunting Berdasarkan Umur Dan Jenis Kelamin Di Kota Semarang. J University Research Colloqium. 2018;834-838.
21. Cahniago SRR. Hubungan Riwayat Pemberian ASI Eksklusif dan MP-ASI Dini dengan Kejadian Stunting pada Batita di Wilayah Kerja Puskesmas Kecamatan Gunungsitoli Utara. Fakultas Kesehatan Masyarakat Universitas Sumatera Utara; 2020.
22. Bahmat, D. Hubungan Asupan Seng, Vitamin A, Zat Besi pada Balita (24–59 Bulan) dan Kejadian Stunting di Kepulauan Nusa Tenggara. Universitas Esa Unggul; 2015.
23. Direktorat Jenderal Bina Gizi dan KIA. Modul Manajemen Bayi Berat Lahir Rendah (BBLR) Untuk Bidan Di Desa. Jakarta: Kemenkes RI; 2011.
24. Supriasa ID, Bakri B. Fajar I. Penilaian Status Gizi. Jakarta: EGC; 2012.
25. Kemenkes RI. Standar Antropometri Penilaian Status Gizi Anak. Jakarta: Kemenkes RI; 2011.
26. Paulina N. Hubungan Panjang Badan Lahir dengan Kejadian Stunting Pada Balita di Puskesmas Sentolo I Kulon Progo. Poltekkes Kemenkes Yogyakarta; 2019.
27. Rahmad AHA. Pemberian ASI dan MP-ASI Terhadap Pertumbuhan Bayi Usia 6 –24 Bulan. J Kedokteran Syiah Kuala. 2017;17(1).
28. RahmaD AHA. Malnutrisi pada Balita Pedesaan dengan Perkotaan berdasarkan Karakteristik Keluarga: Data PSG 2015. J Idea Nurs. 2016;7(3):43–52.
29. Dwitama SY, Zuhairini Y, Djais J. Hubungan pemberian ASI eksklusif dan makanan pendamping ASI terhadap balita pendek usia 2 sampai 5 tahun di Kecamatan Jatinangor. J Sistem Kesehatan. 2018;3(3).
30. Sakti RE. Hubungan Pola Pemberian MP-ASI dengan Status Gizi Anak Usia 6-23 Bulan Di Wilayah Pesisir Kecamatan Tallo Kota Makassar. J MKMI. 2013;1–12.
31. Hanum NH. Hubungan Tinggi Badan Ibu dan Riwayat Pemberian MP-ASI dengan Kejadian Stunting pada Balita Usia 24-59 Bulan. J Amerta Nutrition. 2019;78-84.
32. Fikawati S, Syafiq A, Karima K. Gizi Ibu dan Bayi. Jakarta: PT Raja Grafindo Persada; 2015.
33. Widyaswari R. Hubungan Waktu Pengenalan Makanan Pendamping ASI dengan Status Gizi pada Bayi usia 6-24 bulan di Kecamatan Banjarsari Surakarta. Fakultas Kedokteran Universitas Sebelas Maret Surakarta; 2011.
34. Kemenkes RI. Situasi dan Analisis ASI Eksklusif. Jakarta: Kemenkes RI; 2014.
35. Virginia A. The Correlation Between Complementary Feeding and First Complementary Feeding Time with Stunting in Children of 6-24 Months in Leyangan Village, East Ungaran, Semarang Regency. J Gizi dan Kesehatan. 2020;12(27).
36. IDAI. Rekomendasi Praktik Pemberian Makan Berbasis Bukti pada Bayi dan Batita di Indonesia untuk Mencegah Malnutrisi. Jakarta: IDAI; 2015.