

## THE RELATIONSHIP OF MOTHER'S EDUCATION AND OCCUPATION TO THE EVENTS OF UNDERWEIGHT IN TODDLERS

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### Abstract

*Based on the 2019 SSGBI report, it was stated that the prevalence of underweight in toddlers, especially in Aceh province was 21.9%, West Aceh district was 24.5%. The high prevalence of underweight in Aceh Barat is certainly a public health problem that must be addressed so as not to adversely affect the quality of the nation's generation. Objective: to determine the relationship between education and mother's occupation on the incidence of underweight in toddlers in Kaway XVI sub-district. Methods: The design of this study was cross-sectional analytic. The population is mothers and toddlers aged 0-60 months in Kaway XVI sub-district. The number of respondents as many as 114 mothers and toddlers. The sample was selected using a purposive sampling technique. Data were collected using questionnaires and anthropometric measurements (BB/U) according to WHO standards. The data that has been collected were analyzed using univariate and bivariate analysis (chi-square test). Results: The results of the chi-square test showed that there was no significant relationship between mother's education (p-value: 0.486; PR: 1.46; 95%CI: 0.492-4.433) and mother's occupation (p-value: 0.388; PR: 1.47; 95%CI : 0.561-4.396) to the incidence of underweight in toddlers.*

**Keywords: Toddlers, Mother's Education, Mother's Occupation, Underweight.**

### 1. INTRODUCTION

Underweight in general can be interpreted as a low body weight. Underweight is a lack of nutritional status which is characterized by the condition of body weight that is not in accordance with age (BB/U) (FKM UI Depok, 2010). Underweight arises because of an imbalance that occurs due to the nutritional status needed does not match the needs (Thamaria, 2017). According to the Indonesian Health Profile (2015), nutritional status problems can occur in any age group, but what must be considered is the group of infants and toddlers.

The prevalence of underweight is still a nutritional problem that must be faced globally, especially in poor and developing countries. This can be proven based on World Health Organization (WHO) data in 2019 globally the prevalence of underweight was 13% where the highest prevalence came from Southeast Asia at 35% followed by Africa at 16.6%, Eastern Mediterranean at 12.3%, Pacific West by 2.4% and America by 1.6%. In Indonesia, according to the final report of the 2019 Indonesian Toddler Nutritional Status Study (SSGBI), it shows that the national underweight prevalence in toddlers (0-59 months old) based on body weight is 16.1%.

Furthermore, the prevalence of underweight in toddlers, especially in the province of Aceh, is greater than the national figure of 21.9% and for the district of West Aceh, the prevalence of underweight in toddlers is greater than the provincial figure of 24.5% SSGBI Final Research Report, 2

19). So, because the prevalence of underweight in Aceh, especially West Aceh, is quite high, it is a public health problem that must be addressed because if left alone it will certainly have a negative impact, especially on the quality of toddlers who are the next generation of the nation.

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The bad impact caused by being underweight is causing physical and health problems for toddlers (Yanti, 2015). According to Yunitasari et al. 2020, states that the bad impact of underweight on toddlers is a decrease in brain, physical, mental development and has an impact on cognitive function disorders, decreased immunity, increases the risk of metabolic diseases as adults and increases morbidity and mortality in toddlers.

The cause of underweight in toddlers can be influenced by various factors, but in general it can be divided into 2 factors, namely direct and indirect factors. Direct factors can be in the form of food consumption that is not in accordance with the needs and infectious diseases suffered. Meanwhile, indirect factors can be in the form of inadequate food security in the family, wrong parenting patterns and inappropriate health environmental conditions. There are several other factors that can affect the nutritional status of toddlers, namely socioeconomic conditions, such as the mother's education level, mother's employment status, number of children, knowledge, parenting patterns and the overall economic condition of parents (Putri et al., 2015). This statement is in line with the research results of Damanik et al. (2010), Budiana et al. (2019), and Zogara et al. (2021), which states that maternal education factors affect the nutritional status of toddlers. But on the other hand there are several studies, such as that conducted by Setyowati et al. (2016), Yuliarsih et al. (2020) and Lestari (2016), state that there is no significant relationship between maternal education and the incidence of underweight in toddlers.

Then the work status of the mother is also one of the factors that can indirectly affect the nutritional status of toddlers. Working mothers tend to be busy in their work so that the parenting provided to their children will not be optimal and cause underweight. According to Willis (2014), the person who plays the most role in raising children is the mother, therefore working mothers will tend to have less time to supervise the development of their children.

Kaway XVI is one of the sub-districts in West Aceh Regency with a sub-district area of 510.18 Km<sup>2</sup> which has 3 Mukim, 44 villages (gampong) and a population of 22,977 people (BPS Kabupaten Aceh Barat, 2020). Based on the initial survey data, the general population in Kaway XVI is traders and farmers. While the average level of education of the population is high school graduates. The high prevalence of underweight and the absence of research on the incidence of underweight nutritional status problems in the Aceh Barat region, especially in Kaway XVI sub-districts, made researchers very interested in conducting research that focuses on the education and occupation factors of mothers on the incidence of underweight in toddlers in Kaway XVI sub-district which is specially located in 4 villages namely: Tanjong Bungong, Puuk, Pungkie and Keude Tanjong.

It is my great hope that this research can provide a study of information about underweight and also the factors that influence underweight in an effort to reduce the incidence of underweight in the Aceh region, especially West Aceh. Therefore, this study aims to determine the relationship between education and mother's occupation on the incidence of underweight in toddlers in Kaway XVI sub-district.

## 2. IMPLEMENTATION METHOD

This type of research is quantitative using a Cross Sectional Analytic design, namely research that emphasizes the measurement time of the dependent and independent variables which are assessed at one time, according to the circumstances at the time of observation (Igiyanto, 2011). The population in this study were mothers who had toddler saged 0-59 months in Kaway XVI sub-

district. Then the number of samples in this study were 114 mothers and toddlers. Data collection activities were carried out from September to October 2021.

Samples were taken from 4 villages, namely Keude Tanjong, Tanjong Bungong, Puuk, and Pungkie with inclusion criteria: 1) Mothers who have toddlers aged 0-59 months and 2) Mothers who are willing to participate in this study. While the exclusion criteria are: 1) Toddlers who are sick on the day of data collection and may not attend the posyandu, 2) Mothers who are unwilling or not present when collecting data. The sampling technique is purposive sampling, according to Sugiyono (2016) purposive sampling is a sampling technique for data sources based on certain considerations.

The research procedure in measuring the independent variables: education and mother's occupation by direct interview method using a questionnaire. Mother's education is defined as the level of education of a mother in caring for her child, being: (1) Low: high school graduation and below and (2) High: University and above. Mother's occupation is (1) Working and (2) Not working (Housewife/IRT). While the dependent variable: underweight is done by anthropometric measurements (BB/U). Underweight is defined as: (1) underweight if you are severely underweight (severely underweight) for age, z-score  $< -3$  SD and underweight (underweight) for age, z-score between  $-3$  SD and  $< -2$  SD and (2) Normal body weight according to age, z-score between  $-2$  SD and  $+1$  SD (Permenkes RI, 2020).

The data obtained will be analyzed which consists of univariate and bivariate analysis using the IBM SPSS Statistics 25 application. Univariate analysis is used to analyze one variable independently and bivariate analysis is used to determine the relationship between two variables, namely education and mother's occupation on the incidence of stunting using Chi-square test with a significance degree of  $p < 0.005$ .

### 3. RESULTS AND DISCUSSION

#### 3.1 Results

**Table 1** Frequency Distribution of Research Variables

Research variable	Frequency(n)	Percentage(%)
<b>Mother's Education Level</b>		
High	36	31.6
Low	78	68.4
<b>Total</b>	<b>114</b>	<b>100</b>
<b>Mother's occupation</b>		
Working	31	27.2
Not Working	83	72.8
<b>Total</b>	<b>114</b>	<b>100</b>
<b>Toddlers Gender</b>		
Boys	51	44.7
Girls	63	55.3
<b>Total</b>	<b>114</b>	<b>100</b>
<b>Toddlers Age</b>		
0-24 months	49	43
25-59 months	65	57
<b>Total</b>	<b>114</b>	<b>100</b>

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### Toddlers Nutritional Status

Underweight	20	17.5
Normal	94	82.5
<b>Total</b>	<b>114</b>	<b>100</b>

**Table 2** The Relationship Between Mother's Education And The Incidence of Underweight

Mother's Education	Underweight						PR (95%CI)	P- value
	Underweight		Normal		Total			
	F	%	F	%	F	%		
Low	15	75	63	67	78	68,4	1,46	0.486
High	5	25	31	33	36	31,6	(0,4924,433)	
<b>Total</b>	<b>20</b>	<b>100</b>	<b>94</b>	<b>100</b>	<b>114</b>	<b>100</b>		

**Table 3** The Relationship Between Mother's Occupation And The Incidence of Underweight

Mother's occupation	Underweight						PR (95%CI)	P- value
	Underweight		Normal		Total			
	F	%	F	%	F	%		
Working	7	35	24	25,5	31	27,2	1,47	0.388
Not Working	13	65	70	74,5	83	72,8	(0,561-4,396)	
<b>Total</b>	<b>20</b>	<b>100</b>	<b>94</b>	<b>100</b>	<b>114</b>	<b>100</b>		

### 3.2 Discussion

#### 1. Characteristics Of Respondents

Based on table 1 shows that most of the mother's education level is low as much as 78 (68.4%) compared to high maternal education as much as 36 (31.6%), while the majority of mothers' occupations as much as 83 (72.8%) are in the category of not working compared to working as many as 31 (27.2%). Toddlers who became respondents in this study were also mostly female as many as 63 (55.3%) compared to toddlers who were male as many as 51 (44.7%). Then the majority of 65 (57%) toddlers were in the age of 25-59 months and for incidence of underweight in toddlers there were 20 (17.5%).

#### 2. The Relationship Between Mother's Education And The Incidence Of Underweight

Based on table 2, it can be seen that the incidence of underweight toddlers is more common in mothers who have a low level of education and have underweight toddlers as much as 15 (75%) compared to mothers who have low levels of education and have underweight toddlers as much as 5 (25%). Statistical analysis test with Chi-square showed p-value > 0.005 (0.486), so it can be concluded that there is no significant relationship between maternal education and the incidence of underweight in toddlers. The value of this prevalence ratio (PR) is that mothers with low education are 1.46 (95%CI: 0.492-4.433) times greater in the incidence of underweight in toddlers than mothers with higher education. The results of this study are in line with the research conducted by Charmarbaglawa et al. (2010), Setyowati et al. (2016), Lestari (2016), and Yuliarsih et al. (2020), state that maternal education has no effect on the incidence of underweight in toddlers. In this study, there was no significant relationship between mother's education and the incidence of underweight because the number of toddlers who experienced underweight was not so large that there were no related results. However, from these results, it is clear that mothers with low education tend to be at risk for the occurrence of underweight in children, especially toddlers. According to Adriani and Wirjatmadi (2012), the higher the level of education, the easier it is to receive information about good food preparation. Furthermore, according to Marmi (2013), states that parents who have a high level of education will

understand better in providing food intake and choosing good food for their children. This is related to his role in raising children the most, such as arranging food menus, shopping for groceries, cooking, preparing food and distributing the food. However, this does not mean that mothers with low levels of education cannot prevent the occurrence of underweight, even though mothers' education is low, but if they have high curiosity, they can influence mothers in obtaining information related to good nutritional status for children (Nuris and Binar, 2014). Information about nutritional status can be obtained through informal education such as from health workers at posyandu, puskesmas and hospitals which provide information that is easy to understand and understood by the community without having to have higher education.

### 3. The Relationship Between Mother's Occupation And The Incidence Of Underweight

Table 3 shows that the incidence of underweight mostly occurs in mothers who do not work and have toddlers as much as 13 (65%) compared to mothers who work and have toddlers as much as 7 (35%). Statistical analysis test with Chi-square obtained p-value  $> 0.005$  (0.388), so it can be concluded that there is no significant relationship between mother's work and the incidence of underweight in toddlers. The value of the prevalence ratio (PR) is that mothers who do not work are 1.47 (95%CI: 0.561-4.396) times greater in the incidence of underweight in toddlers compared to working mothers. The results of this study are in line with research conducted by Hutagalung (2016), in the District of East Medan, Labada et al. (2016), in Manado, Woldeamanuel and Tesfasye (2019), in Ethiopia, and Zogara et al (2021), in Kupang Regency which stated that there was no significant relationship between maternal work and the incidence of underweight in toddlers. Mothers have a very important role in raising children, but if mothers have busy work, of course the parenting provided will not be optimal, resulting in the risk of underweight in toddlers. Vice versa, if the mother does not work or only as a housewife (IRT), of course the parenting given to the child will be more optimal so that it can prevent the risk of being underweight. However, in this study, there was no significant relationship between the mother's occupation and the incidence of underweight in toddlers. This means that working mothers and mothers who do not work are still at risk of developing underweight in toddlers. The cause of the condition of this study is that it only focuses on the work of mothers, while working mothers are less than mothers who do not work, and the prevalence of underweight is also more common in mothers who do not work. According to Suhardjo (2002) work is an important factor in determining the quality and quantity of food, this is because work is related to income. In this study, it was not investigated whether the mother's occupation also affects family income, which is one aspect of fulfilling the nutritional status of toddlers. So because of this, there is no significant relationship between mother's work and the incidence of underweight in toddlers.

## 4. CONCLUSION

The results of this study conclude that there is no significant relationship between education and mother's occupation on the incidence of underweight in toddlers. This is because there are not so many toddlers who experience underweight events, so there are no related results. As for the factor of mother's work, the majority of mothers do not work more than those who work, and there are more toddlers who are underweight in mothers who do not work. However, the prevalence of underweight in this region is still a problem that must be addressed and needs to be considered by health workers even though the prevalence rate is not too high.

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One of the efforts that can be done to prevent underweight and improve health status is that health workers must provide promotions to the community, especially mothers. Providing education and motivation regarding the maintenance and fulfillment of nutritional status needs is a form of effort that can be made so that changes in family behavior occur towards families who are willing, aware and able to prevent underweight.

**REFERENCES**

- Adriani, M., & Wirjatmadi, B. (2012). *Peranan Gizi Dalam Siklus Kehidupan*. Jakarta: Kencana.
- Budiana, T. A., & Supriadi, D. (2021). *Hubungan Banyaknya Anggota Keluarga, Pendidikan Orang Tua Dan Kepesertaan Jaminan Kesehatan Anak Dengan Kejadian Berat Badan Kurang Pada Balita 24-59 Bulan Di Wilayah Kerja Puskesmas Cimahi Selatan Tahun 2019*. JIKBHK: Jurnal Ilmu Kesehatan Bhakti Husada. 12(1). ISSN: 2252-9462. <https://doi.org/10.34305/jikbh.v12i1.256>
- Badan Pusat Statistik Kabupaten Aceh Barat. (2020). *Kecamatan Kaway XVI Dalam Angka 2020*. BPS Kabupaten Aceh Barat.
- Charmarbaglawa, R., Ranger, M., Waddington H., & White H. (2010). *The Determination Of Child Health And Nutrition: A Meta Analysis*. Department of Economic, University of Maryland and operation evaluation department, world bank.
- Damanik, M. R., Ekayanti, I., Hariyadi, D., *Analisis Pengaruh Pendidikan Ibu Terhadap Status Gizi Balita Di Provinsi Kalimantan Barat*. Jurnal Gizi dan Pangan. 5(2): 69-77. ISSN: 1978-1059. <https://doi.org/10.25182/jgp.2010.5.2.69-77>
- FKM UI Depok. (2010). *Gizi dan Kesehatan Masyarakat*. Depok: Pt. RajaGrafindo Persada.
- Hutagalung, N. T. (2016). *Faktor-Faktor Yang Mempengaruhi Kejadian Gizi Kurang Pada Anak Balita Di Wilayah Kerja Puskesmas Glugur Darat Kecamatan Medan Timur Tahun 2016*. Medan: Universitas Sumatra Utara.
- Igiyanto., & Nourmatania. (2011). *Tehnik Pengambilan Sampel Pada Penelitian Non Eksperimental*. Mitra Cendekia.
- Labada, A., Ismanto, A., & Kundre, R. (2016). *Hubungan Karakteristik Ibu Dengan Status Gizi Balita Yang Berkunjung Di Puskesmas Bahu Manado*. JKP: Jurnal Keperawatan. 4(1). E-ISSN:2808-2672. <https://doi.org/10.35790/jkp.v4i1.11899>
- Lestari, N. D. (2016). *Analisis Determinan Gizi Kurang Pada Balita Di Kulon Progo, Yogyakarta*. IJNP: Indonesian Journal Of Nursing Practice. 1(1). ISSN: 2548-4249. <https://doi.org/10.18196/ijnp.v1i1.2682>
- Marmi. (2013). *Gizi Dalam Kesehatan Reproduksi*. Yogyakarta: Pustaka Pelajar.
- Nuris, Z. R., & Binar, P. (2014). *Hubungan Pengetahuan Dan Sikap Ibu Dengan Perilaku Ibu Dalam Pemberian Makanan Anak Usia 12-24 Bulan*. Semarang: Universitas Diponegoro.
- Peraturan Menteri Kesehatan Republik Indonesia. (2020). *Standar Antropometri Anak*. Jakarta.
- Putri, R. F., Delmi, S., Sulastri., & Yuniar, L. (2015). *Faktor-Faktor Yang Berhubungan Dengan Status Gizi Anak Balita Di Wilayah Kerja Puskesmas Nanggalo Padang*. JKA: Jurnal Kesehatan Andalas. 4(1). ISSN: 2301-7406. <https://doi.org/10.25077/jka.v4i1.231>
- Rahim, F. K. (2014). *Faktor Risiko Underweight Balita Umur 7-59*. KEMAS: Jurnal Kesehatan Masyarakat. 9(2): 115-21. ISSN: 1858-1196. <https://doi.org/10.15294/kemas.v9i2.2838>
- Setyowati, A., Sunarto., & Mintarsih, S. N. (2016). *Faktor-Faktor Yang Berhubungan Dengan Kejadian Underweight Pada Balita Di Wilayah Pedesaan Kabupaten Demak*. Jurnal Riset Gizi. 4(1). ISSN: 2338-154X. <https://doi.org/10.31983/jrg.v4i1.4285>

- Sudikno, et al. (2019). *Laporan Akhir Penelitian Studi Status Gizi Balita Di Indonesia Tahun 2019*. Pusat Litbang Upaya Kesehatan Masyarakat Badan Penelitian dan Pengembangan Kesehatan. Kementerian Kesehatan RI. Jakarta.
- Sugiyono. (2016). *Metode Penelitian Kuantitatif Kualitatif Dan R&D*. Bandung: Alfabeta.
- Suhardjo. (2002). *Perencanaan Pangan Dan Gizi*. Jakarta: Bumi Aksara.
- Thamaria, N. (2017). *Penilaian Status Gizi*. Pusat Pendidikan Sumber Daya Manusia Kesehatan, Badan Pengembangan dan Pemberdayaan Sumber Daya Manusia Kesehatan Edisi 2017.
- WHO. Global and regional trends by WHO Regions, 1990-2030 (Underweight:1990-2019). Diakses dari URL: <https://apps.who.int/gho/data/view.main.NUTWHOUNDERWEIGHTv?lang=en;2020>
- Willis, Sofyan. S. (2014). *Family Counselling*. Bandung: Alfabeta.
- Woldeamanuel, B. T., & Tesfasye, T. T. (2019). *Risk Factors Associated With Under-Five Stunting, Wasting, And Underweight Based On Ethiopian Demographic Health Survey Datasets In Tigray Region, Ethiopia*. Journal Of Nutrition And Metabolism. ISSN: 2090-0724. <https://doi.org/10.1155/2019/6967170>
- Yanti, K. D. (2015). *Faktor-faktor yang berhubungan dengan status gizi buruk pada balita di desa Kute kecamatan Pujut Kabupaten Lombok Tengah Nusa Tenggara Barat*.
- Yuliarsih L., Muhaimin T., & Anwar S. (2020). *Pengaruh Pola Pemberian Makan Terhadap Status Gizi Balitadiwilayah Kerjapuskesmas Astanajapurakabupaten Cirebon Tahun 2019*. Syntax Literate; Jurnal Ilmiah Indonesia. 5(4). ISSN: 2541-0849. <http://dx.doi.org/10.36418/syntax-literate.v5i4.1071>
- Yunitasari, A. R., Sartika, R. A. D., Setiarini, A., & Irwan, R. B. (2020). *Household Factors Associated With Underweight In Children 24-59 Month In Urban And Rural In Indonesia*. MKMI: Jurnal Media Kesehatan Masyarakat Indonesia. 16(1), 140-151. ISSN: 0216-2482. <http://dx.doi.org/10.30597/mkmi.v16i1.9105>
- Zogara, A.U., Loaloka, M.S., & Pantaleon, M.G. (2021). *Faktor Ibu Dan Waktu Pemberian MPASI Berhubungan Dengan Status Gizi Balita Di Kabupaten Kupang*. JNC: Journal of Nutrition College. 10(1), 55-61. ISSN: 2337-6236. <https://doi.org/10.14710/jnc.v10i1.30246>.

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