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Hubungan Pola Asuh dan Status Stunting dengan Perkembangan Anak Usia 12-36 Bulan di Wilayah Kerja Puskesmas Pauh Kota Padang

The Association of Parenting and Stunting Status with Children Development Age 12-36 Months in the Work Area of Pauh Health Centre, Padang City

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ABSTRAK

***Latar Belakang**: Prevalensi stunting cukup tinggi di Provinsi Sumatera Barat, termasuk Kota Padang. Faktor pola asuh dan status gizi berperan terhadap perkembangan anak.*
***Tujuan**: Penelitian ini bertujuan untuk menentukan hubungan antara pola asuh dan status stunting dengan perkembangan anak usia 12-36 bulan.*
***Metode**: Desain studi yang digunakan adalah cross sectional dengan populasi yaitu anak usia 12-36 bulan yang tinggal di Wilayah Kerja Puskesmas Pauh Kota Padang dengan total jumlah sampel sebesar 86 anak. Sampel penelitian diambil dengan cara simple random sampling. Data perkembangan anak dikumpulkan dengan menggunakan Kuesioner Praskrining Perkembangan (KPSP), data pola asuh dengan menggunakan kuesioner terstruktur dan data stunting dikumpulkan dengan mengukur tinggi badan anak. Data diolah dengan program SPSS dan ditampilkan data univariat, bivariat dan multivariat.*
***Hasil**: Hasil menunjukkan bahwa pola asuh, terutama pola makan dan status stunting berhubungan dengan perkembangan anak usia 12-36 bulan. Faktor yang paling berhubungan dengan perkembangan anak usia 12-36 bulan adalah status stunting anak (POR=4,368; 95%CI=1,781-10,711; nilai p=0,001)*
***Kesimpulan**: Perlu diperhatikan makanan yang seimbang sesuai dengan kebutuhan anak, memperbaiki pola asuh kesehatan, higiene dan psikososial terutama anak dengan kondisi stunting sehingga pertumbuhan fisik dan perkembangan anak normal.*

***Kata Kunci**: Pola Asuh, Stunting, Perkembangan, Anak Usia 12-36 Bulan*

ABSTRACT

Background: Stunting prevalence is quite high in West Sumatra Province, including Padang City. Parenting factors and nutritional status play a role in children's development.
Objective: This study aimed to determine the association between parenting and stunting status with the development of children aged 12-36 months.
Methods: Design study was cross sectional with the population being children aged 12-36 months who lived in the Pauh Public Health Center working area in Padang City with a total sample of 86 children. The sample was taken by using simple random sampling. Data on development of children were collected using KPSP, parenting data by a structured questionnaire, and stunting data through measuring child height. The data is processed by the SPSS program and displayed univariate, bivariate and multivariate data.
Results: The results showed that parenting, especially eating patterns and stunting status were related to the development of children aged 12-36 months. The factor most related to the development of children aged 12-36 months is the stunting status of the child (POR = 4.368; 95% CI = 1.781-10.711; p value = 0.001)
Conclusion: It should be noted that a balanced diet in accordance with the needs of children in addition to improving health, hygiene and psychosocial parenting mainly for stunting children so that the child's physical growth and development are normal.

Keywords: Parenting, Stunting, Development, Children Aged 12-36 Months

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INTRODUCTION

Development is not optimal during important periods, especially after the child is born until the age of 3 years will have an impact on the growth and development of children at the next age. The Centers for Disease Control and Prevention (CDC) in 2019 stated that the first year of a child's early life and even the first 8 years of a child's life is the foundation for subsequent development, namely in learning, health and a successful life in the next age period[1,2]. Then the condition of being vulnerable to health problems is a complex interaction between biological, genetic and environmental factors[3]. In general, biological and socioeconomic factors are associated with cognitive development in early life[4,5]. More specifically, fthe intake of foods that are not nutritious and not in accordance with the needs of children starting from pregnancy, exposure to toxins or the presence of infections and interactions of children with other people and their environment are factors that play a role in child development[1,2]. Problems in child development are more experienced by children living in low- and middle-income countries so that these children are at high risk of not reaching their developmental potential at a later age[4].

Poor nutritional status of children including stunting is one of the problems of malnutrition caused by inadequate food intake in the long term starting from the gestation period[6,7]. This condition will have an impact not only on growth but also on child development. The results of previous studies show that the prevalence of stunting which is quite high in developing countries including Indonesia also contributes to suboptimal child development[8,9]. Data for Basic Health Research (Riskesdas) in 2018 shows the stunting rate is still above 30%, including the category of severe problems based on categories from the World Health Organization (WHO)[10]. West Sumatra Province is one of the provinces that also experienced an increase in the incidence of stunting, from 25.5% in 2016 to 30.6% in 2017[11]. Specifically for the city of Padang, the prevalence of stunting in children is quite high at 22.6% and the area with the highest stunting rate is Pauh District with the distribution of short children at 12.6% and very short 19.3%[12].

Several studies have found that the highest percentage of stunting is in the 12-36 month age group[13]. This age is said to be a critical period of child development. Children experience a change in eating patterns from exclusive breast milk (ASI) from 0 to 6 months of age with complementary foods, then over the age of 12 months children are introduced to food like adults generally. Eating patterns that are not in accordance with what should be based on the child's age group will have an impact on the child's growth and development. In addition to diet, other parenting patterns such as health, hygiene and psychosocial parenting also play a role in children's growth and development.

Early detection of disorders in children can be done by assessing the child's physical growth and development[14]. Child development can be assessed through the Developmental Prescreening Questionnaire (KPSP) which was modified and translated by the Ministry of Health in 2005 from the prescreening developmental questionnaire or abbreviated as PDQ (development of the Denver Developmental Screening Test (DDST)[15]. The purpose of this study was to determine the relationship between parenting and stunting status with the development of children aged 12-36 months in the Pauh Health Center, Padang City.

METHODS

The type of research used was analytic observational with a cross sectional study design. The study was located in the Pauh Health Center Work Area, Padang City, West Sumatra Province which was carried out from July to September 2019. The study population was all children aged 12-23 months, then using the Lemeshow formula, a sample of 89 children was obtained which was taken by the technique, namely simple random sampling. Research respondents are mothers of children or caregivers of children.

Research data were collected using a structured questionnaire. Child development data were collected using a Developmental Pre-Screening Questionnaire (KPSP) to assess motor, language and personal social development. This questionnaire consists of 10 questions which are divided according to each age group with yes and no answer choices. If the number of yes answers was 6 or less, it was suspected that the child has a disorder and needs to be referred. If the number of yes answers was 7 or 8, it was necessary to re-examine 1 week. If the answer was 9 or 10 yes, then the child was considered not to have a disorder. In this study, child development was categorized into 2, namely appropriate (if the question score at least 9) and not appropriate (if the question score was less than 9).

The nutritional status of children was assessed using the anthropometric index of Height (TB) by Age (TB/U) through measuring height with a microtoice for children aged over 24 months and able to stand upright, while the lengthboard measuring instrument was used for children aged under 24 months. Then the nutritional status of children was grouped into 2 categories, namely stunting (z score < -2 SD) and not stunting or normal (z score -2 SD).

Parenting was defined as the ability of mothers or caregivers to take the time, provide attention and support to meet the physical, mental and social needs needed by children. Parenting pattern data was collected using a questionnaire containing questions regarding Eating Parenting Patterns (PAM), Health Parenting Patterns (PAK), Hygiene Parenting Patterns (PAH) and Psychosocial Parenting Patterns (PAP). The eating pattern questionnaire consisted of questions on the diet of children aged 12-23 months (16 questions) and the eating patterns of children aged 24-36 months (16 questions). Then the health parenting questionnaire includes hygiene and sanitation parenting (10 questions each). Meanwhile, the psychosocial parenting style questionnaire consists of questions regarding taste and word responses (11 questions), acceptance of children's behavior (8 questions), organizing the child's environment (6

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questions), the availability of children's toys (9 questions), the involvement of caregivers in children (6 questions) and opportunities for parenting variations in children (5 questions). Furthermore, validity and reliability tests were carried out on the questions contained in the parenting questionnaire to improve the quality of the data collected. Then the parenting pattern was grouped into 2 categories, namely the category of good parenting, if the score was greater than the mean value and the category of poor parenting if the score was less than the mean value. Validity and reliability tests were carried out on the questions contained in the parenting questionnaire to improve the quality of the data collected. Then the parenting pattern was grouped into 2 categories, namely the category of good parenting, if the score was greater than the mean value and the category of poor parenting if the score was less than the mean value. Validity and reliability tests were carried out on the questions contained in the parenting questionnaire to improve the quality of the data collected. Then the parenting pattern was grouped into 2 categories, namely the category of good parenting, if the score was greater than the mean value and the category of poor parenting if the score was less than the mean value.

Data were analyzed using the SPSS program and then presented with univariate, bivariate and multivariate data. The univariate data displayed are the mean, standard deviation and frequency distribution (percentage), while bivariate analysis with chi-square test was conducted to determine the frequency distribution of child development based on family characteristics, parenting patterns and child stunting status. Follow-up analysis in the form of multivariate analysis with multiple logistic regression was conducted to determine the factors most related to the development of children aged 12-36 months from the highest POR value. Meanwhile, the significance or significance of the test results was assessed from the p value <0.05 with a 95% confidence level.

Research can be carried out after obtaining approval from the Nutrition Science Study Program, Faculty of Public Health, Andalas University (Prodi Nutrition FKM Unand), Padang. Then the data collection was carried out after the respondents filled out their willingness as respondents and signed it on the informed consent form.

RESULTS AND DISCUSSION

The development of children in this study was assessed from the development of motoric, language and personal social. The results of the study found 39 children from 89 children aged 12-36 months were included in the category of inappropriate development (43.8%). In detail, it was obtained that the largest percentage of inappropriate development according to gender and age occurs in boys (47.8%) and ages 12-23 months (46.8%) compared to girls (39.5%). and 24-36 months (40.5%). The description of the frequency distribution can be seen in Table 1.

Table 1. Distribution of Child Development Frequency by Age and Gender

Variable	Child development	
	It is not in accordance with	In accordance
	n(%)	n(%)
Age (months)		
12-23	22 (46.8%)	25 (53.2%)
24-36	17 (40.5%)	25 (59.5%)
Gender		
Man	22 (47.8%)	24 (52.2%)
Woman	17 (39.5%)	26 (60.5%)

The development of children with inappropriate categories was found at the age of 12-23 months, possibly because the incidence of malnutrition, including stunting, mostly occurred in children in the 12–23-month age group. This was related to the poor quality of food provided during the weaning period, while at that age children need nutritious food intake to achieve optimal growth and development. In this study, information about inappropriate development occurred more in boys than girls. The factor of a girl's closeness to her mother in the early period of life was associated with cultural reasons so that having privileges or being prioritized when food shortages occur contributes to the risk of malnutrition in children by gender[16]. The results of the study by Hartono Gunardi, et al (2019) in Tanah Tinggi, Johar Baru Village, Central Jakarta also found results that were not much different, namely abnormal developments assessed by KPSP (score < 9) were greater in percentage in boys (52.6 %) aged 3-60 months compared to girls (47.4%)[17].

The description of the development of children aged 12-36 months based on family characteristics including caregivers, number of families, age of the mother giving birth, education level and mother's occupation as well as parenting patterns and stunting status can be seen in Table 2. In general, the results of the chi-square test found that the pattern of foster care and child stunting status were significantly related to the development of children aged 12-36 months. Based on the frequency distribution on family characteristics, it was known that the highest percentage of inappropriate development in children aged 12-36 months was found in children who are cared for other than their mothers (56.2%), the number of family members was 5 people (52.6%), the age of the mother was at risk (55.0%) and working (53.8%) compared to children who are cared for

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by their mothers (41.1%), having less than 5 family members (37.3%), mother's age was not at risk (40, 6%) and mothers do not work (42.1%). However, there was no statistically significant relationship between family characteristics and the development of children aged 12-36 months (p value > 0.05). This can be explained because mothers are emotionally closer to their children compared to other people who are given the task as caregivers, especially supported by the condition of mothers not working, the number of family members was small and mothers are relatively young so they can spend more time paying attention to the nutritional needs of toddlers and have physically stronger, including in providing stimulus to children related to gross and fine motor development[18,19].

In this study also conducted an analysis of the relationship between the variables of parenting eating, health, hygiene and psychosocial with child development. The data on parenting patterns, apart from analyzing their relationship to child development, were also analyzed for each eating pattern, health parenting pattern, hygiene parenting pattern and psychosocial parenting pattern with child development. The results of the analysis showed that eating parenting was significantly related to the development of children aged 12-36 months (p value = 0.033). Children with poor eating parenting (57.5%) have a large percentage of having inappropriate development compared to children with good eating parenting (32.7%). Children with health parenting poor hygiene and psychosocial, there was also a tendency that the percentage of children with poor health, hygiene and psychosocial care was more likely to experience inappropriate development, although statistically not significant (p value > 0.05). This can be explained through the mechanism of using drinking water, sanitation and hygiene, such as bad hand washing habits when there was interaction between mothers or caregivers with children, this condition was directly related to the risk of infectious diseases and inadequate intake and metabolism. Then this condition will then have an impact on the development of children who are not good This can be explained through the mechanism of using drinking water, sanitation and hygiene, such as bad hand washing habits when there was interaction between mothers or caregivers with children, this condition was directly related to the risk of infectious diseases and inadequate intake and metabolism. Then this condition will then have an impact on the development of children who are not good This can be explained through the mechanism of using drinking water, sanitation and hygiene, such as bad hand washing habits when there was interaction between mothers or caregivers with children, this condition was directly related to the risk of infectious diseases and inadequate intake and metabolism. Then this condition will then have an impact on the development of children who are not good[20]. Meanwhile, the presence of psychosocial stimuli related to child development was through the mechanism of increasing motor function.Teklu Gemechu Abessa (2019) found that interventions in the form of psychosocial stimuli given to children under 6 years of age who experienced severe malnutrition significantly increased gross and fine motor functions[21]. Therefore, the role of the mother in spending time for the child and the educational background of the caregiver are very important in the process of providing psychosocial stimuli to the child. From the results of this study obtained information, the percentage of child development that was not appropriate was more in children who are cared for by caregivers and in the group of working mothers.

The nutritional status of children determined based on the anthropometric index of TB/U (stunting and not stunting) was known to have a significant relationship between nutritional status and the development of children aged 12-36 months (p value < 0.002). The largest percentage of children with inappropriate development was in stunted children (61.4%) compared to non-stunted children (26.7%). More detailed information was known at the age of 12-14 months, stunted children are unable to lift their bodies to a standing position without assistance (gross motor skills), unable to imitate 2-3 words mentioned (language skills). In addition, stunting children aged 15-17 months still fall when walking (gross motor). The results of a study on the nutritional status of children, especially stunting with child development, are also known from the results of a study by Nur Latifah Hanum and Ali Khomsan (2012) in Sumur Batu Village, Bantar Gebang Bekasi. Specifically, this study using the correlation test found that the nutritional status of children using the TB/U index was significantly related to language development (p value < 0.05) but not significantly related to cognitive development of children under five (p value > 0.05). An overview of the results of the analysis of the relationship between family characteristics, parenting patterns and stunting status with child development can be seen in Table 2.

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Table 2. Distribution of Relationship between Family Characteristics, Parenting Patterns and Child Stunting Status with the Development of Children aged 12-36 months in the Pauh Health Center Work Area, Padang City in 2019

Variable	Development		p value
	It is not in accordance with	In accordance	
	n (%)	n (%)	
Nanny			
Apart from mother	9 (56.2%)	7 (43.8%)	0.408
Mother	30 (41.1%)	43 (58.9%)	
Number of Family			
5 people	20 (52.6%)	18 (47.4%)	0.196
< 5 people	19 (37.3%)	32 (62.7%)	
Age of the mother giving birth			
at risk	11 (55.0%)	9 (45.0%)	0.374
No risk	28 (40.6%)	41 (59.4%)	
Mother's Education			
Middle school and below	27 (42.2%)	37 (57.8%)	0.796
high school and above	12 (48.0%)	13 (52.0%)	
Mother's Job			
Work	7 (53.8%)	6 (46.2%)	0.627
Does not work	32 (42.1%)	44 (57.9%)	
Parenting			
Not good	23 (60.5%)	15 (39.5%)	0.012
Well	16 (31.4%)	35 (68.6%)	
Parenting eating			
Not good	23(57.5%)	17 (42.5%)	0.033
Well	16 (32.7%)	33 (67.3%)	
Health Parenting			
Not good	17 (56.7%)	13 (43.3%)	0.130
Well	22 (37.3%)	37 (62.7%)	
Hygiene Parenting			
Not good	13 (56.5%)	10 (43.5%)	0.237
Well	26 (39.4%)	40 (60.6%)	
Psychosocial Parenting			
Not good	16 (53.3%)	14 (46.7%)	0.287
Well	23 (39.0%)	36 (61.0%)	
Stunting status			
Yes	27 (61.4%)	17 (38.6%)	0.002
No	12 (26.7%)	33 (73.3%)	

Further analysis through the Multiple Logistics Regression Test with the enter method was carried out to determine the factors most related to the development of children aged 12-36 months. The factors that are linked include family characteristics, including child care, number of families, age of the mother giving birth, education and occupation of the mother. Meanwhile, parenting factors related to child development including eating, health, hygiene, psychosocial and stunting status were analyzed with child development. The results of the analysis showed that stunting was the factor most related to the development of children aged 12-36 months (POR = 4.368; 95% CI = 1.781-10.711; p value = 0.001). Stunting children have 4,368 chances of experiencing inappropriate development compared to non-stunted children (Table 3).

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Table 3. Multivariate analysis of child development

Multivariate analysis of child development	por	95% CI	p value
Early models			
Nanny	0.827	0.146-4.691	0.830
Number of family	2.168	0.758-6.202	0.149
Age of the mother giving birth	1,439	0.425-4.873	0.559
Mother's education	2,652	0.686-10.249	0.157
Mother's work	1.061	0.154-7,300	0.952
Parenting	1,130	0.122-10,499	0.914
Parenting pattern	1,761	0.557-5.573	0.336
Health parenting	1,657	0.368-7.466	0.511
Hygienic parenting	1.109	0.245-5.013	0.893
Psychosocial parenting	1.095	0.263-4.551	0.901
Stunting status	4,677	1,236-17,704	0.023
Final model			
Stunting status	4,368	1,781-10,711	0.001

Stunting conditions in children directly affect brain development and physical growth. Solihin's findings show that the decline in motor function in children*stunting* due to the influence oflow mechanical ability of muscles*triceps surae* so that the delay in the maturity of the muscle function causes motor skills in children *stunting* also hampered. The results of this study also found the same results as those of Hardiana Probosiwi, et al, namely the status factor*stunting* childhad a significant relationship with child development (OR 3.9; CI: 1.7-8.9). Based on these findings, it can be explained that children with*stunting* 3.9 times risk of experiencing a suspect development compared to normal development[22]. Findings related to stunting show that children with stunting have lower quality in memory (remembering numbers), spatial abilities (recognizing faces), general cognitive and attention when compared to normal children[8].

Based on the results of the study, it was found that stunting was the most important factor in child development, so efforts to improve children's nutritional status are needed to overcome this. Providing nutritious food according to the needs of the child, providing a stimulus in the form of good parenting was expected to be optimal during the child's growth and development period so that during the adult period they have normal nutritional status and give birth to offspring with normal nutritional status and have an impact on brain and social development. -emotional.

CONCLUSION

Stunting status contributes to inappropriate child development. Thus, it is necessary to improve the nutritional status of children through the intake of nutritious food in accordance with the needs of children and providing stimulus to children so that children's development can be better. In addition, early prevention efforts need to be carried out before pregnant women or before mothers give birth to children, namely mothers have good nutritional status and consume nutritious food during pregnancy so that they are expected to give birth to children with normal nutritional status.

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