Analysis of the Relationship between Maternal Parenting, Father's Role, and the Incidence of Stunting on the Development of Children Aged 24-59 Months in Palembang City

Nadia Sara Anggraini[1] , Amrina Rosyada[1]
[1]Faculty of Public Health, Universitas Sriwijaya

Email corespondence : amrinarosyada@unsri.ac.id

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Abstract

The golden period is very important to optimize the various potentials of children's intelligence so that children can be in the appropriate growth and development as a determinant of their quality of life. The golden period is the most important period of growth and development in a child's life that occurs in the first 5 years of life. This study aims to analyze the relationship between maternal parenting, father's role, and the incidence of stunting on the development of children aged 24-59 months in Palembang City. This study used a cross-sectional design with a sample of families who had children under five years of age 24-59 months which is located at the research site. The location of this research was carried out in Sukarami District, Ilir Barat 1 District, Kemuning District and Alang-alang Lebar District of Palembang City. The research began on June 16 and ended on July 10, 2023. This research uses a quantitative approach The results showed that there was a significant. relationship between maternal parenting and child development aged 24-59 months (p-value = 0.000) PR: 2.543, there was a significant relationship between father's role and child development aged 24-59 months (p-value = 0.005) PR: 1.773 and there was no significant relationship between the incidence of stunting and child development aged 24-59 months (p-value = 0.262). The conclusion of this study shows that there is a relationship between maternal parenting and a father's role on the development of children aged 24-59 months in Palembang City, and there is no relationship between the incidence of stunting and the development of children aged 24-59 months in Palembang City. The researcher suggested that Parents should actively work together to monitor their children's development and that health workers should create a public health program by involving the father's contribution in parenting.

Keywords : Child development, Father's role, Maternal parenting, Stunting

INTRODUCTION

The golden period occurs in the first 5 years of a child's life (Oktaviani et al., 2021). The golden period is very important to optimize various intelligence potentials so that children can have the appropriate growth and development as a determinant of their quality of life (Trenggonowati & Kulsum, 2018). The incidence of stunting among children under five years of age is still quite high. According to the latest data available from the World Health Organization (WHO), by 2020 it is estimated that around 149 million children under five years of age worldwide will be stunted. The global prevalence of stunting in children under the age of five is around 21.3%. WHO stipulates that the minimum threshold for a country to have stunting cases is 20%, while the percentage of stunted children in Indonesia is 27.67% (Kemenkes RI, 2023). The percentage of under-fives is 24.4% (Kemenkes RI, 2023). Seberang

Ulu sub-district is one of the locations in Palembang city with the highest percentage of stunted toddlers, in 2021 the number of stunted toddlers was 231 toddlers. This nutritional status can directly or indirectly affect the development of a child (Kemenkes RI, 2018).

Factors that can influence developmental delays include the role of parents and nutritional status. Nutritional deficiencies, or what is commonly called malnutrition in children, will have an impact on the limitations of children's growth and development. Malnutrition or nutritional intake when not fulfilled and balanced will have a negative impact on individual development, especially a children (Rahmi, 2020). Families make a very influential contribution to the development of toddlers. In this phase, mothers and fathers determine the success of toddler development, both physical and mental development possessed by children (Apriloka & Fitri, 2021). The realization of good child development, as expected is highly dependent on the role of the family, especially parental support in maximum care and the selection of appropriate parenting, especially during important periods of child development (Maulina & Budiono, 2021; Manalu et al., 2023).

If the maternal parenting is fully given properly, the child will grow and develop according to their age. The results of Pangesti & Agussafutri (2017) explain that the mother's role is positively related to the child's self-concept at KB / TK Sinar Kasih Nusukan Surakarta, this is evident from the correlation value of 0.644 with a significance of 0.000 < 0.05. The correlation result is positive, this means that the better the mother's role, the better the child's self-concept. Carrying out proper care for children and paying attention to children's nutritional conditions can be used as an effort to reduce the incidence of child malnutrition. Nutritional status is a benchmark that can determine the successful development of a child (Kusuma, 2019). Child development is not only influenced by the parenting provided by the mother but is also maximized by the role of the father (Apriloka & Fitri, 2021). The role of a father is also very important because, without the balance of the roles of mother and father, it is feared that the child will not grow as expected Nisa' et al., (2022) Several previous studies in Indonesia have discussed the relationship between the role of mothers and child development. However, some of the research that has been done has not discussed in detail about maternal parenting in relation to several categories of child development. Research that discusses the relationship between the father's role and child development is still very minimal. The data that will be used in the research process is primary data that will be obtained from the field. The results of this study are expected to be a reference material regarding the contribution and influence of

maternal parenting and the role of fathers in preventing child stunting and its relation to optimizing child development.

METHODS

This research uses a quantitative approach. This study used a cross-sectional approach. The data collection method used Simple Random Sampling. By using data collected simultaneously, this approach was used to find the relationship between the independent variables (maternal parenting, paternal parenting, and stunting) and the dependent variable (child development). This research was conducted in Sukarami sub-district, Ilir Barat 1 sub-district, Kemuning sub-district and Alang-alang Lebar sub-district of Palembang city. The research started on June 16 and ended on July 10, 2023**.** The population of infants under the age of five in Palembang in 2022 is 115.432 children (Badan Pusat Statistik Kota Palembang, 2023). The population in this study were families who had children under five years of age 24-59 months and lived in Sukarami Subdistrict, Ilir Barat 1 Subdistrict, Kemuning Subdistrict, and Alang-alang Lebar Subdistrict of Palembang City who met the criteria such as having a toddler aged 24-59 months, the mother and toddler are in good health and are not currently infected with a disease, and the family is willing to become a respondent.

This research has been approved by the ethics commission the faculty of public health, Sriwijaya University with number 359/UN9.FKM/TU.KKE/2023. The questionnaires used in this study used a developmental pre-screening questionnaire for measuring child development and a validated mother's parenting and father's role questionnaire that has been validated. Based on the Sample calculation with two proportions difference hypothesis test using sample size software shows that the minimum sample calculation for this study, there were 58 toddlers, but because the design uses a cluster it must be multiplied again by a deff value of 2, so that the total minimum required of 116 toddlers plus 10% to accommodate incomplete data amounted to 128 toddlers aged 24-59 months.

RESULTS

1. Univariate Analysis

Tabel 1. Univariate (Categorical)

Variable	Frequency	Percentage (%)
Father's Education		
Elementary School	3	2,3
Junior High School	19	14,8
High School	70	54,7
College	36	28,1
Father's Occupation		
PNS/TNI/POLRI	21	16,4
Self-employed	40	31,3
BUMN	6	4,7
Private	28	21,9
Labour	33	25,8
Father Involvement		
Simply	64	50,0
Less	64	50,0
Mother's Education		
Elementary School	5	3,9
Junior High School	19	14,8
High School	69	53,9
College	35	27,3
Mother's Occupation		
Working	49	38,3
Not Working	79	61,7
Parenting		
Simply	66	51,6
Less	62	48,4
Child Gender		
Male	65	50,8
Female	63	49,2
Weight/Age (W/A)		
Severely Underweight	3	2,3
Underweight	15	11,7
Normal Weight	88	68,8
Risk of Overweight	22	17,2
Height/Age (H/A)		
Very Short	20	15,6
Short	13	10,2
Normal	88	68,8
High	7	5,5
Stunting Status		
Stunting	33	25,8
Not Stunting	95	74,2
Toddler development		
As per	67	52,3
Doubtful	31	24,2
Deviations	30	23,4
Total	**128**	**100,0**

The data in the table shows that the highest category of father's education is high school graduates, with as many as 70 people (54.7%). The largest category of father's occupation was self-employed, with as many as 40 people (31.3%). The highest category of maternal education was high school, with as many as 69 people (53.9%). The majority of mothers did not work. Mothers with working status were 49 (383.%), and mothers with non-working status were 79 (61.7%). There were 65 child respondents (50.8%) who were male and 63 respondents who were female. The average child respondent was 41 months old. The youngest child's age was 24 months, and the oldest child's age was 59 months. There are a total of 66 respondents (51.6%) with parenting patterns that fall into the sufficient category, and there are 62 respondents (48.4%) with parenting patterns that fall into the less category. A total of 64 people (50%) of fathers have sufficient involvement, and 64 people (50%) of fathers have less involvement.

Tabel 1. Univariate Analysis (Numeric)

Variables	Mean	Standard Deviation	Median	Min	Max
Father's age (years)	34,57	7,206	33,50	21	58
Father's Income (IDR)	3.829.687,50	1.747590,439	3.500.000	1.000.000	10.000.000
Mother's age (years)	32,12	6,405	31	20	50
Mother's Income (IDR)	989.453,13	1.775.418,907	0	0	12.000.000
Child's age (month)	41,53	9,304	43	24	59
Child Height (cm)	96,41	10,638	96,50	75	120

The data in the table shows that the average age of fathers is 34 years old. The youngest father was 21 years old, and the oldest father was 58 years old. The average income generated by fathers is Rp. 3,829,687. The average age of mothers is 32 years old. The youngest mother's age is 20 years, and the oldest mother's age is 50 years. The average income of respondents was IDR 989,453.13. The average child's height was 96.41. The height data obtained showed that the shortest child's height was 75 cm, and the tallest child's height was 120 cm.

2. Bivariate Analysis

Tabel 1. Bivariate Frequency Distribution of the Relationship between Maternal Parenting and Child Development Aged 24 to 59 Months

Parenting	Toddler development				Total		*p-value*	PR (95%CI)
	Doubtful/ Deviate		As per					
	n	%	n	%	n	%		
Less	43	69,4%	19	30,6%	62	100%	0,000	2,543(1,659 -3,899)
Good	18	27,3%	48	72,7%	66	100%		

Based on the results of the bivariate analysis, it is known that good maternal parenting has toddlers with appropriate development 2.543 times greater than those with less parenting (95% CI: 1.659-3.899). This means that the better the parenting pattern applied by the mother, the more appropriate the child's development will be. Hail is supported by the results of the Chi-Square test showing a p-value = 0.00 (p-value <0.05), so the hypothesis is accepted or there is a significant relationship between maternal parenting and child development aged 24 to 59 months.

Tabel 2. Frequency Distribution of the Relationship between Father's Role and Child Development 24 to 59 Months of Age

Father's Role	Toddler development				Total		*p-value*	PR(95%CI)
	Doubtful/ Deviate		As per					
	n	%	n	%	n	%		
Less	39	60,9%	25	39,1%	64	100%	0,005	1,773(1,199-2,622)
Good	22	34,4%	42	65,6%	64	100%		

Based on the results of bivariate analysis, it is known that a good father's role has toddlers with appropriate development 2.543 times greater than with less parenting (95% CI: 1,199–2,622). This means that the better the father's role, the more appropriate the child's development will be. This is supported by the results of the Chi-Square test showing a p-value = 0.005 (p-value <0.05), so the hypothesis is accepted or there is a significant relationship between parenting and the development of children aged 24 to 59 months.

Tabel 3. Frequency distribution of the relationship between stunting and child development aged 24 to 59 months

Incidence of Stunting	Toddler development				Total		*p-value*	PR(95%CI)
	Doubtful/ Deviate		As per					
	n	%	n	%	n	%		
Stunting	19	57,6%	14	42,4%	33	100%	0,262	1,302 (0,900-1,885)
Not stunting	42	43,8%	53	56,3%	95	100%		

The results of the Chi-Square test analysis showed a p-value = 0.262 (Sig>0.05), so the hypothesis cannot be accepted or there is no significant relationship between the incidence of stunting and the development of children aged 24 to 59 months.

DISCUSSION

The chi-square test results from this study show a significant association between preoperative anxiety levels and postoperative pain intensity among patients with femoral fractures. The test result yielded a significance value of 0.023, which is smaller than the predetermined significance level (0.05). This result is consistent with the gate control theory of pain Melzack & Wall (1965), where psychological mechanisms such as anxiety can influence an individual's pain perception. High anxiety can trigger the activation of neurobiological mechanisms that increase sensitivity to painful stimuli, thereby increasing the perceived intensity of pain. Other studies supporting this finding include research by Smith (2020), which found a relationship between anxiety levels and pain intensity in patients with chronic conditions.

The mechanism of pain perception involves the interaction between sensory and emotional aspects, where anxiety can enhance pain perception. This finding is also consistent with recent studies conducted by Sullivan & Rabbitts (2021), which highlight the importance of comprehensive pain management involving the evaluation and management of psychological factors. Research by Edwards (2020) also suggests that the neurobiological mechanisms involved in pain perception are often influenced by psychological factors such as anxiety. In this context, the measurement and management of anxiety can be an important component of effective pain management. Additionally, a recent study by Johnson (2019) highlights the complex role of serotonin neurotransmitters in modulating pain and emotional responses, providing additional insight into the correlation between pain and anxiety.

The findings from the research conducted by Ginting & others (2020) on the correlation between preoperative anxiety severity and postoperative pain and anxiety among patients

undergoing cesarean section with spinal anesthesia indicated a notable association between anxiety scores and postoperative pain intensity, with a statistically significant p-value of 0.001. The correlation value was +0.787, indicating a relationship between anxiety scores (APAIS) and pain intensity (VAS-A). Another study conducted by Apriansyah (2015) stated that patients with anxiety disorders show differences in the concentration of hormone balance in the body. When experiencing anxiety, several hormones will undergo changes, and these hormonal changes will affect the hypothalamic function, thus activating neurotransmitter activity towards the complications experienced by respondents post operatively due to physiological effects that disrupt the body's balance, resulting in the emergence of stress impacts that ultimately exacerbate respondents' perceptions of pain (Mardiah et al., 2023).

In a study conducted by Navarro-García (2011), utilizing the Hospital Anxiety and Depression Scale (HADS) to assess preoperative anxiety and depression, a notable relationship was discovered between preoperative anxiety and postoperative pain.

Rostiodertina Girsang conducted a quantitative study with a correlation study design to determine the relationship between pain intensity and post operative anxiety at Grand Medistra Lubuk Pakam Hospital in 2016. This study involved 61 respondents selected by consecutive sampling. The results of the study showed a significant relationship between pain intensity and post operative anxiety with a p-value of 0.000 ($p < 0.05$) and a correlation value of 0.7 indicating a strong relationship (Girsang, 2018).

Nurul Hidayah undertook a quantitative research endeavor employing a correlation study design to evaluate the correlation between pre operative anxiety levels and post operative pain intensity among elective surgery patients at Dr. Zainoel Abidin Regional General Hospital in Banda Aceh. This study showed a strong and positive relationship between pre operative anxiety levels and post operative pain intensity with a correlation value of 0.83 ($p < 0.05$) (Hidayah & Nurul, 2019).

Thus, this study provides a deeper understanding of the complexity of the interaction between pre operative anxiety and post operative pain intensity in femoral fracture patients. The implications of this research include the need for a holistic and evidence-based management approach to optimize post operative recovery processes in this population.

CONCLUSIONS

The statistical analysis results indicate a significant association between preoperative anxiety levels and postoperative pain intensity ($p=0.023$) in patients with Femoral Fracture at Prof. Dr. R. Soeharso Orthopedic Hospital in Surakarta. Evaluating preoperative anxiety levels

and postoperative pain intensity is crucial for improving patient care and recovery management for femoral fracture patients, including pain management strategies and psychological interventions. For future researchers, it is recommended to expand the scope of the study using more comprehensive methods, collect more extensive data, conduct deeper analyses, and consider both influencing and influenced factors. Additionally, developing more effective interventions is also essential.

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