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Research Article

THE RELATIONSHIP BETWEEN MATERNAL PARENTING PATTERNS AND THE NUTRITIONAL STATUS IN TODDLERS OF FAMILIES WITH A HISTORY OF EARLY MARRIAGE IN PALU CITY

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ABSTRACT

Background: Parenting in the family plays an important role in the growth and development of toddlers, including their nutritional status. The age of the mother at the time of marriage also affects the parenting pattern provided, including the possibility of malnutrition. This study aims to determine the relationship between maternal parenting and the nutritional status of children under five in families who marry early in Palu City.
Methods: The approach in this study is quantitative. Type is an observational study, using a cross-sectional design with the free variable being the mother's parenting style, and the bound variable is the nutritional status of toddlers. This study was conducted over 2 months, from March to April 2019 with a sample consisting of 75 mothers who married early (<18 years) and had toddlers in Palu City. Data were collected through questionnaires as well as weight and height measurements with chi-square analysis and logistic regression with $p<0.05$.
Results: The results showed that 57.3% of mothers who married early implemented good parenting, and among them, 81.4% had children with normal nutritional status. There was a significant relationship ($p<0.05$) between the parenting style of mothers who married early and the nutritional status of children under five in Palu City (PR=2.5; CI95% 1.21-5.20). In the multivariate analysis, there was a significant relationship between maternal education, family income, and husband support ($p<0.05$), while maternal work and family size with nutritional status of toddlers were not significantly linked. Mothers who marry early with good parenting are more likely to have normal nutritious toddlers than those who are not good.
Conclusion: This study concludes that there is a relationship between maternal parenting and the quality of nutritional status of children under five in families who marry early.

Keywords: *Parenting, Early Marriage, Nutritional Status*

INTRODUCTION

In pursuit of developing highly skilled human resources, attention to the health of children under five, particularly those experiencing malnutrition or undernutrition, is a crucial step that must begin early. Children under five are a vulnerable age group prone to nutritional issues, and inadequate or poor nutrition can hinder their physical and cognitive development as well as their future productivity (1). Global data from the World Health Organization (WHO) in 2018 indicated that approximately 49 million children under five years old suffered from wasting (acute malnutrition or thinness), which serves as an indicator of undernutrition or malnutrition. In Asia, the prevalence of wasting reached approximately 9.7%. The Global Nutrition Report (2018) further emphasized that malnutrition and undernutrition among children under five remain global issues requiring an integrated approach to achieve the Sustainable Development Goals (SDGs), particularly in reducing the prevalence of wasting to below 5% by 2030.

As indicated by the data (4) in 2018 results, the prevalence of undernutrition among children under five (BB/ U <-2SD) showed a fluctuating trend, rising from 17.9% in 2010 to 19.6% in 2013 before declining to 17.7% in 2018. This figure consists of 3.9% categorized as severe malnutrition and 13.8% as undernutrition. The data indicate that the prevalence of undernutrition decreased by only 0.2% from 2013 to 2018. Meanwhile, the target outlined in the 2019 National Medium-Term Development Plan for undernutrition and severe malnutrition cases was set at 17% (4).

Data from the Ministry of Health of the Republic of Indonesia (1) indicated that in 2015, Central Sulawesi ranked first among provinces with the highest prevalence of severe malnutrition (7.00%) and undernutrition (20.30%), totaling 27.3%. This figure declined to 24.21% in 2016. However, in 2017, the prevalence increased again to 26.10%, reflecting a 1.89% rise in undernutrition cases. Based on statistical evidence from the Central Sulawesi Provincial Health Office Palu City, the capital of Central Sulawesi, ranked third among regions with the highest prevalence of malnutrition based on weight for age below -2 SD, with 54 cases of severe malnutrition and 875 cases of undernutrition (4).

In general, nutritional status issues are influenced by several direct and indirect factors. Direct causes are affected by children's food intake and infectious diseases, whereas indirect causes are influenced by parenting practices, household food security, healthcare services, environmental health, parental education level, income level, type of occupation, level of knowledge, family size, and socio cultural factors (5). Engle (1997) explained that caregiving behavior within families plays a crucial role in assessing the nutritional status of children under the age of five in determining the nutritional status of children under five. A study by Morowatisharifabad et al., (2017) emphasized that a balanced and responsive parenting approach can be a key factor in improving children's nutritional health. This research highlights important implications for parents and healthcare professionals in developing effective parenting strategies and nutritional interventions to support children's growth and development.

This issue is further compounded by the high prevalence of early marriage in Indonesia, which results in many young parents who are not yet mentally prepared

for parenthood, potentially leading to inadequate child-rearing practices. In Indonesia, 19.3% of women aged 20–24 reported having been married before the age of 18 (8). The prevalence of marriage among girls aged 15–19 was recorded at 10.5%, with a total of 700 cases. According to data from the (9) in 2016, Central Sulawesi ranked fifth among provinces with the highest number of early marriages involving individuals under 18 years old. Furthermore, Palu City remains one of the regions where the incidence of early marriage continues to rise annually, increasing from 103 cases in 2014 to 155 cases in 2017.

The mother's age at marriage also plays a significant role in shaping appropriate parenting practices (10). Children born to mothers with a history of early marriage have a lower chance of survival and are at greater risk of nutritional problems such as severe malnutrition, stunting, and wasting. A study by De Groot et al., (2018) stated that The negative impacts of early marriage extend across generations, particularly affecting children born to mothers who married at a young age are more likely to have higher mortality rates, Be born earlier than the standard gestational period, have low birth weight (LBW), and experience poor health and nutritional status.

Given the high prevalence of nutritional issues among toddlers related to parenting styles in families with early marriages in Indonesia, this study aims to examine the relationship between maternal parenting styles and the nutritional status of toddlers in families with early marriages in Palu City.

METHODS

Research design

The approach used in this study is quantitative. The type of research used is observational research with a cross-sectional design. This design collects data from a population or sample at a certain point in time, without manipulation or intervention, with the aim of describing the characteristics or prevalence of a phenomenon at that time.

Population and samples

This study was conducted in Palu City, focusing on the community, especially mothers who were married early (<18 years). The study was conducted for two months, from March to April 2019. The sample in this study consisted of 75 mothers who were married early, selected based on inclusion and exclusion criteria. The sampling technique used was consecutive sampling, which was to take all subjects who met the criteria during the study period until the number of samples was met.

Data source

The data collected in this study came from mothers who had a history of early marriage, who were used as respondents.

The variables used in this study consisted of:

a. Dependent variable: Toddler nutritional status
b. Independent variable: Mother's parenting pattern
c. External variables considered: Mother's education, mother's occupation, household income, number of family members, and husband's support.

Data analysis

Data analysis used in this study includes:

a. Bivariate analysis using the chi-square statistical test

b. Multivariate analysis using the logistic regression test. Both analyses were conducted with a 95% confidence level and a significance limit of p-value <0.05.

RESULTS

Table 1. Discriptive analysis

Variabel	n (75)	%
Toddlers Nutritional Status		
Thin	23	30,7
Normal	52	69,3
Maternal parenting practices		
Not Good	32	42,7
Well	43	57,3
Maternal education		
Low	42	56,0
Middle	33	44,0
Maternal occupation		
Doesn't Work	58	77,3
Work	17	22,7
Household Income		
Not Enough	41	54,7
Enough	34	45,4
Family Size		
Small	62	82,6
Large	13	17,4
Husband Support		
Support	47	62,7
Doesn't Support	28	37,3

Table 1 presents the analysis results, indicating that approximately 30.7% of children under five were classified as having undernutrition. Among mothers with a history of early marriage, 57.3% practiced good parenting. The majority of respondents were unemployed, with only 22.7% engaged in employment. Regarding education level, most respondents (56.0%) had a low level of education, and the majority (54.7%) reported insufficient household income. The majority of respondents (82.6%) belonged to small family households, and 66.6% of mothers who married early received support from their husbands in providing proper parenting for their children.

Relationship between Mother's Parenting Pattern, Mother's Occupation, Household Income, Family Size and Husband's Support with Nutrition Status of toddler.

Table 2. Relationship between Mother's Parenting Pattern, Mother's Occupation, Household Income, Family Size and Husband's Support with Nutrition Status of toddler.

Variabel	Nutritional Status				p-*value*	PR (CI 95%)
	Thin		Normal			
	n	%	n	%		
Maternal Parenting Practice						
Not Good	15	46,9	17	53,1	0,009	2,51 (1,21-5,20)
Well	8	18,6	35	81,4		1
Maternal education						
Low	19	45,3	23	54,7	0,002	3,73 (1,40-9,91)
Middle	4	12,2	29	87,8		1
Maternal occupation						
Doesn't Work	19	32,7	39	67,3	0,468	1,39 (0,54-3,53)
Work	4	23,5	13	76,5		1
Household Income						
Not Enough	20	48,7	21	51,3	0,000	5,52 (1,79-17,0)
Enough	3	8,8	31	91,2		1
Family Size						
Small	18	29,1	44	70,9	0,503	1
Large	5	48,4	8	61,6		0,75 (0,34-1,66)
Husband Support						
Support	15	53,5	13	46,5	0,001	3,14 (1,53-6,46)
Doesn't Support	39	82,9	8	17,1		1

The bivariate analysis results in Table 2 indicate a significant association between maternal parenting practices and the nutritional status of children under five (PR 2.5, 95% CI 1.21–5.20). Additionally, maternal education level (PR 3.73, 95% CI 1.40–9.91), household income (PR 5.52, 95% CI 1.79–17.0), and husband support (PR 3.14, 95% CI 1.53–6.46) demonstrated a

significant association with the nutritional status of children under five.

Multivariate Analysis

Variables incorporated into the multivariable analysis included the primary independent variables and external factors that exhibited statistical significance at p < 0.25 during the bivariate analysis. Additionally, variables deemed theoretically significant and potentially influential were included in the analysis to ensure a comprehensive assessment. Several models were constructed to examine the presence of a modifier effect or confounding in the correlation between independent and dependent variables.

The previous bivariate analysis revealed that among the independent and external variables, those with a p-value < 0.25 included maternal education, household income, and husband support. Since employment is theoretically significant and potentially associated with maternal parenting practices and child nutritional status, it was also included as a candidate variable for the multivariable analysis. Predictor variable selection was conducted using the forward selection method, in which variables were sequentially included based on the smallest p-value in relation to the outcome.

Table 3. Multivariate Analysis of the relationship

Variabel	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)	Model 5 OR (95% CI)
Maternal Parenting Practice					
Well	1	1	1	1	1
Not Good	3,860* [1,371-10,87]	4,410* [1,367-14,22]	5,738* [1,514-21,76]	5,346* [1,371-20,84]	5,162* [1,308-20,37]
Household Income					
Not Enough		1	1	1	1
Enough		10,85*** [2,678-43,97]	11,09** [2,461-50,02]	6,242* [1,231-31,65]	6,609* [1,254-34,82]
Husband Support					
Support			1	1	
Doesn't Support			7,48** [1,969-28,42]	8,382** [2,074-33,86]	8,622** [2,097-35,45]
Maternal Education					
Middle				1	1
Low				3,904 [0,839-18,18]	4,054 [0,854-19,25]
Maternal Occupation					
Work					1
Doesn't Work					0,717 [0,111-4,638]
N pseudo	75	75	75	75	75
R~q	0,075	0,238	0,347	0,382	0,383
AIC	89,55	76,45	68,37	67,16	69,04

Note: Statistical significance: * p < 0.05, ** p < 0.01, *** p < 0.001

The results of the multivariable analysis indicate that parenting practices, household income, husband support, maternal education, and maternal occupation are significantly associated with the nutritional status of children under five. In Table 4, Model 4 was identified as the optimal model, as it had the lowest Akaike Information Criterion (AIC) value of 67.16 compared to other models. Although the R^2 value for this model was 0.382-not the highest - its difference from Model 5 was minimal.

Based on Model 4, families with a history of early marriage and poor maternal parenting practices are 5.7 times more likely to have children with undernutrition than those where the mother demonstrates effective parenting practices. This association is particularly evident in households with insufficient income, lack of

husband support, and low maternal education.

DISCUSION

This study successfully demonstrated a relationship between the parenting styles of mothers who married early and the nutritional status of toddlers in Palu City. The results of the bivariate test showed that the likelihood of children having a malnourished status was 2.5 times higher in families where the mother married early and exhibited poor parenting styles compared to those with good parenting styles. This study aligns with Munarni (2021), who stated that there is a significant relationship between maternal parenting styles and the nutritional status of toddlers. Nevertheless, the majority of respondents had children with normal nutritional status, with a percentage of 69.3%. Most respondents, who were mothers that married early, had children with normal nutritional status. This is attributed to the fact that the majority of respondents had adopted good parenting practices. They acquired knowledge about these parenting practices from their parents and other sources of information, such as the internet. This is supported by the research of Sukesi and Tatarini Ika Pipitcahyani (2023), which stated that positive parenting, especially those involving balanced diets and sufficient physical activity, correlates with better nutritional status in toddlers.

Based on the research conducted on maternal parenting styles and the nutritional status of toddlers, it was found that there is a low correlation between parenting styles and the nutritional status of toddlers, where the multivariate analysis results showed that the parenting style variable contributed only 7%. Parenting refers to the methods and approaches parents (or caregivers) use to educate and nurture their children, shaped by various factors such as culture, religion, habits, beliefs, and the individual personalities of the parents. The parenting style applied to children is usually greatly influenced by the parenting style experienced by the parents during their childhood. Health and nutrition parenting during the initial year of life is crucial for the development of toddlers and improving the nutritional status of the community (14).

This study also demonstrated a relationship between the mother's education level and the nutritional status of toddlers. Children raised by mothers with low educational attainment were 3.7 times more likely to suffer from malnutrition compared to those raised by mothers with a medium level of education. This result indicates that supported by the findings of the study (15), which stated that there is a relationship between the mother's knowledge and education level and the nutritional status of toddlers. In this study, no respondents with a high level of education were found, indirectly reflecting that mothers who married early tend to have lower education levels. Nevertheless, some respondents obtained information about proper child-rearing practices from their surroundings. Higher education levels not only benefit women but also play a crucial role in improving the quality of the next generation. Toddlers raised by mothers with low knowledge levels are at a higher risk of nutritional problems compared to toddlers raised by mothers with a better understanding of parenting and child nutrition.

This study did not identify a statistically significant association between the mother's occupation and the nutritional status of toddlers, as evidenced by a p-value >0.05. This result is consistent with the

research conducted by (16), which also stated that the mother's occupation does not have a meaningful relationship with the nutritional status of toddlers. Nevertheless, the mother's occupation can still impact the nutritional status of children aged 0–60 months. Activities outside the home can reduce the intensity of the mother's interaction with the child, thereby limiting direct control over daily dietary patterns. However, field findings show that in some cases, the mother's role in child-rearing, including feeding, is often replaced by the grandmother or the mother's parents/in-laws. This ensures that the nutritional needs of the child are still properly addressed. Additionally, some grandmothers also play a role in taking toddlers to the health center for growth monitoring and immunization. On the other hand, the income level of non-working mothers tends to be lower compared to working mothers, even though they have more time to pay attention to their child's food intake. According to Supariasa et al., (2013), families with working mothers tend to have better economic conditions compared to families that rely solely on the income of the head of the household. More stable economic conditions allow families to provide more optimal attention to fulfilling the nutritional needs of toddlers.

This study demonstrated a statistically significant correlation between household income and the nutritional status of toddlers. This finding is consistent with (17), who stated that household income levels affect the nutritional status of toddlers. The analysis showed that the majority of children with normal nutritional status came from families with sufficient household income. However, in this study, most respondents, who were mothers that married early, had insufficient household income, with a percentage of 54.7%. Bivariate analysis also revealed that children from families with mothers who married early and had low household income had a 5.5 times greater likelihood of experiencing malnutrition compared to children from mothers with adequate household income. This study's findings are supported by (18) who stated that increased income affects the variety and quantity of food consumed. Income levels play an important role in determining food choices, especially when there are additional funds. The higher the family income, the greater the proportion allocated to purchasing nutritious foods, such as fruits, vegetables, and various other food items, which ultimately has a positive impact on the child's nutritional status.

This study demonstrated that there is no significant association between family Size and the nutritional status of toddlers. The analysis results indicated that the majority of children with normal nutritional status came from families with a relatively small number of members. This finding is consistent with the research conducted by (19), which stated that there is no significant relationship between family size and the nutritional status of toddlers ($p= 0.921$). This lack of relationship is due to the characteristics of the respondents in this study, where most were mothers who married early with fewer than four dependent children, thus still falling into the small family category. However, the prevalence of malnourished children was higher in families with a smaller number of members compared to larger families. This can be linked to economic conditions, where despite having relatively few dependents, most respondents had insufficient income. In low-income families, meeting food needs is easier when there are fewer family members to feed. With the economic limitations experienced by most respondents, the quality and quantity

of children's nutritional intake remain a major challenge, even though the number of family members is relatively small.

This study also indicated that there is a statistically significant relationship between husband support and the nutritional status of toddlers. This result contradicts the findings of (20), which stated that there is no relationship between husband support and the nutritional status of toddlers, where this difference may be due to the lack of nutritional levels behavior among mothers in their study. Bivariate analysis also showed that children in families with early marriages were 3.4 times more likely to experience malnutrition if their mothers did not receive husband support compared to those whose mothers did receive support. This finding aligns with the research of (21) which emphasized the importance of attention to mothers, including support from close individuals such as husbands and family members, in maintaining the nutritional status of toddlers. This is also related to the study by Dwyer et al., (2022), which found that in many cases, decisions related to child health are made jointly between husband and wife, although there are decision-making pathways where the wife only provides information while the husband makes the final decision.

Strong husband support in child health decision-making can be a crucial factor in ensuring adequate nutrition for toddlers. When health decisions are made jointly and the husband provides both financial and emotional support, the mother is likely to have better access to the resources needed to meet the child's nutritional needs. Conversely, a lack of support from the husband, especially in families with early marriages, can increase the risk of malnutrition in toddlers due to the mother's limited access to information, resources, and decisions that impact the child's health.

CONCLUTION

Therefore, from the above explanation, it is concluded that this study shows a significant relationship between the parenting style of mothers who marry early and the nutritional status of toddlers, where poor parenting increases the risk of undernutrition by up to 2.5 times. The majority of children still have normal nutritional status, supported by positive parenting from parents and other sources of information. Maternal education and household income factors also have an effect, with a higher risk of malnutrition in children of low-educated mothers and low-income families. Husband's support also plays a role, where children of mothers without husband's support have a 3.4 times greater risk of malnutrition. Meanwhile, the study did not find a significant relationship between maternal employment and the number of family members and the nutritional status of toddlers.

In determining the nutritional status of toddlers, women are advised to marry above the age of 21, as recommended by BKKBN, because at this age, biological and psychological readiness for building a household and raising children is more optimal, thereby minimizing the risk of malnutrition in toddlers. Efforts to prevent early marriage need to be supported by enhanced communication, information, and education (KIE) by health workers in schools, so that adolescents understand the negative impacts of early marriage on maternal and child health, including the nutritional status of toddlers. Moreover, additional research should be conducted to explore other factors influencing the

parenting styles of mothers who married early, utilizing a mixed-methods approach to develop a more holistic understanding of toddler nutrition issues.

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