



Determinants of Toddler Motor Development: The Role of Maternal Knowledge, Husband Support, Parity, and Socio-Cultural Factors in a Cross-Sectional Study in Makassar, Indonesia

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Article Info	ABSTRACT
<p>Article History Received: Dec 09, 2025 Revised: May 07, 2026 Accepted: May 23, 2026</p> <hr/> <p>Keywords: Exclusive Breastfeeding; Motor Development; Husband's Support; Socio-Cultural; Cross-Sectoral Study; Indonesia</p>	<p>Exclusive breastfeeding has benefits for the development and growth of babies. This study aimed to analyze the relationship between maternal knowledge, husband's support, parity, and socio-cultural factors on motor development in toddlers. This research was conducted at the Rappokalling Community Health Center from August to November 2025. This research method was an analytical observational survey with a cross-sectional study approach. The sample in this study consisted of 65 toddlers. The sampling technique used was purposive sampling, a sampling technique based on certain considerations. Data analysis was carried out using the SPSS program, utilizing the Chi-square test. The results of this study indicate that husband's support and socio-cultural factors influence toddler motor development, with a p-value of 0.000, which is less than $\alpha = 0.05$. Meanwhile, there was no significant relationship between maternal knowledge and maternal parity. The findings highlight the importance of the role of the family, especially the husband and the social environment, in supporting the success of exclusive breastfeeding and motor development in toddlers. Husband and family support are key determinants of successful exclusive breastfeeding practices. The husband's active involvement in seeking lactation information, along with family support in infant stimulation and navigating social norms, significantly impacts parenting patterns and toddler motor development. Therefore, health interventions need to focus on strengthening the family support system to improve the quality of child growth and development.</p>

INTRODUCTION

Exclusive breastfeeding (ASI) is the provision of only breast milk without any additional food or drink, including water, during the first six months of a baby's life. Breast milk contains complete nutrients, antibodies, and bioactive components that play a vital role in boosting the immune system and supporting optimal infant development (Kalhor et al., 2025).

Breast milk (ASI) is the best natural food for newborns because it fulfills the energy and nutritional needs of children during the first six months of life. The first thousand days of life is a period of one thousand days starting from conception until the child reaches two years of age (Saraswati & Muwakhidah, 2018). Child health should be maintained from an early age, namely

during the golden period of child growth, which begins when the child is still in the womb and continues until the child reaches two years of age, known as "The Golden Age" (Thamrin & Azrida M, 2022).

Exclusive breastfeeding has benefits for the growth and development of infants. In addition, it is also beneficial for the mental and emotional development of children. The zinc content in breast milk is needed for growth and development, including gross motor skills, fine motor skills, speech and language skills, as well as socialization and independence skills. These skills are reflected in behaviors involving the movement of large muscles in the arms, legs, and trunk, such as lifting the head and sitting (Behram, R.E., Kliegman, R.M., Arvin, 2000). The growth and development of infants are greatly influenced by the amount of breast milk consumed, including the energy and other nutrients contained in the breast milk (M et al., 2020).

Globally, the World Health Organization (WHO) reports that exclusive breastfeeding coverage remains around 44% and has not yet reached the global target of 80% (Organization, 2021). In Indonesia, the coverage of exclusive breastfeeding continues to fluctuate and is unevenly distributed across regions, indicating disparities in breastfeeding practices within society (Pratiwi et al., 2024). Nationally, exclusive breastfeeding coverage increased from 37.3% according to the 2018 Basic Health Research (Riskesdas). This figure rose to approximately 52.5% in the 2022 National Health Survey (SSGI) (K. RI, 2022). The coverage of exclusive breastfeeding in South Sulawesi Province has not yet reached the national target and, based on the results of the 2024 Indonesian Nutritional Status Survey, was recorded at 59.7% among infants aged 0–5 months (Sulselprov, 2025).

Motor development refers to the maturation and control of body movements in toddlers, who undergo progressive development in motor, verbal, and social skills. During child development, there is a critical period, namely the under-five years of age period. During the first five years of life, the process of child growth and development occurs very rapidly and optimally, and children require adequate stimulation that is beneficial for their development (Nurjana Muhammad¹, Yusriani², 2020).

The population structure of the child age group in Indonesia in 2013 accounted for 37.66% of the total population, or approximately 89.5 million individuals. Based on age groups, the number of children aged 0–4 years was 22.7 million (9.54%) (K. K. RI, 2021). It is estimated that more than 200 million children in developing countries fail to reach their optimal developmental potential due to poverty, malnutrition, and unsupportive environments, thereby affecting their cognitive, motor, emotional, and social development (K. RI, 2012).

Factors influencing child development, according to the Ministry of Health of the Republic of Indonesia, include internal factors such as race, family, age, sex, genetics, and chromosomal abnormalities. External factors include prenatal factors (nutrition, mechanical factors, toxins, endocrine factors, radiation, infections, immunological abnormalities, embryonic anoxia, and maternal psychological conditions), childbirth factors, and postnatal factors (nutrition, chronic diseases/congenital abnormalities, physical and chemical environments, psychological factors, endocrine factors, socioeconomic conditions, parenting environment, stimulation, and medication). According to Gunarsa, developmental aspects include gross and fine motor development, cognitive development (thinking), speech and

language development, emotional development, and social development (Azriful et al., 2018). Breastfeeding assistance and counseling influence mothers' knowledge, motivation, and breastfeeding behavior (Mariani et al., 2019). The level of knowledge is an important factor in supporting the successful implementation of exclusive breastfeeding (Azrida M et al., 2023).

Based on an initial survey conducted at Masyita Hospital, 65 infants and toddlers aged 7–24 months visited for immunization within a three-month period. Based on a preliminary survey conducted by the researchers, interviews with eight infants who received exclusive breastfeeding revealed that two infants started walking at the age of 10 months, three infants started walking at the age of 14 months, one infant started walking at the age of 19 months, and two infants began crawling at the age of 8 months.

The purpose of this study was to determine the characteristics of mothers regarding exclusive breastfeeding; to assess knowledge, husband's support, parity, and socio-cultural factors related to exclusive breastfeeding; and to analyze the relationship between knowledge, husband's support, parity, and socio-cultural factors and motor development in toddlers.

METHODS

This study employed an analytical observational survey with a cross-sectional design. The research was conducted at the Rappokalling Community Health Center and Masyita Women and Children Hospital. The study population consisted of mothers and their infants aged 6–24 months. A total of 65 toddlers were included in the study sample. The sampling technique used was purposive sampling, whereby participants were selected based on predetermined inclusion and exclusion criteria. The inclusion criteria were mothers with infants aged 6–24 months who received exclusive breastfeeding. The exclusion criteria included infants who did not receive exclusive breastfeeding and mothers with mental health problems or communication disorders that could interfere with the data collection process.

Data were collected using a structured questionnaire that had undergone validity and reliability testing to assess the study variables. Children's motor development was evaluated using the Pre-Screening Development Questionnaire (Kuesioner Pra Skrining Perkembangan/KPSP), a standardized instrument widely used for developmental screening in children.

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS). Univariate analysis was conducted to describe the characteristics and distribution of each study variable. Bivariate analysis was performed to examine the relationship between independent and dependent variables. The Chi-square test was used to determine the association between variables, with statistical significance assessed at a 95% confidence level ($p < 0.05$).

RESULTS

Characteristics of Respondents

Table 1. Shows that the characteristics of respondents based on the age of the baby, the majority are 19–24 months, namely 35 respondents (53.8%), the majority are male, namely 35 respondents (53.8%), the mother's education is junior high school for 20 respondents (30.8%)

and there are also 20 respondents (30.8%), the occupation is housewife for 35 respondents (53.8%).

Table 1. Respondent Distribution Based on Mothers' Characteristics in Makassar City

Variable		n	%
Baby's Age	7-12 months	9	13,8
	13-18 months	21	32,3
	19-24 months	35	53,8
Baby's Gender	Male	35	53,8
	Female	30	46,2
Mother's Age	19-26 years	20	30,8
	27-35 years	45	69,2
Educational Level	Junior High School	20	30,8
	Senior High School/Vocational High School	18	27,7
	Diploma (D3)	7	10,8
	Bachelor's Degree (S1)	20	30,8
Occupation	Housewife	35	53,8
	Private Employee	30	46,2
Total		65	100,0

Source: Primary data, 2025

Table 2. Distribution of Knowledge, Husband's Support, Socio-Cultural, Paritas and Motor Development

Variable		n	%
Knowledge	Good	40	61,5
	Adequate	25	38,5
Husband's Support	Support	57	87,7
	No Support	8	12,3
Socio-Cultural Factors	Supportive	55	84,6
	Not Supportive	10	15,4
Parity	Primiparous	25	38,5
	Multiparous	40	61,5
Motor Development	Normal	57	87,7
	Suspected Developmental Delay	8	12,3
Total		65	100,0

Source: Primary data, 2025

Table 2. Shows that the dominant maternal knowledge variable is in the good category, namely 40 respondents (61.5%), the husband's support who chose to support was 57 respondents (87.7%), the socio-cultural support was 55 respondents (84.6%), the multiparous parity was 40 respondents (61.5), and motor development was dominant in the normal category, namely 57 respondents (87.7%).

Table 3. Distribution of Test Variables on Toddler Motor Development

Variabel		Motor Development				p-value
		Normal		Suspected Development Delay		
		n	%	n	%	
Knowledge	Good	34	59,6	6	75,0	0,471
	Adequate	23	40,4	2	25,0	
Husband's Support	Support	55	96,5	2	25,0	0,000
	No Support	2	3,5	6	75,0	
Socio-Cultural Factors	Supportive	53	93,0	2	84,6	0,000
	Not Supportive	4	7,0	6	15,4	
Parity	Primiparous	21	36,8	4	38,5	0,367
	Multiparous	36	63,2	4	61,5	
Total		57	100,0	8	100,0	

Source: Primary data (Processed), 2025

Table 3. shows the results of the Chi-Square Test showing that knowledge obtained a p-value of 0.471 where there is no significant influence between maternal knowledge and toddler motor development, the husband's support variable obtained a p-value of 0.000 meaning there is a significant relationship between husband's support and toddler motor development, on the socio-cultural variable obtained a p-value of 0.000 meaning there is a significant relationship between socio-culture and toddler motor development, and on the parity variable obtained a p-value of 0.367 where there is no significant influence between maternal parity and toddler motor development.

DISCUSSION

The Relationship between Knowledge and Toddler Motor Development

The results of this study showed that there was no significant relationship between maternal knowledge and toddler motor development, with a p-value of 0.471, which was greater than $\alpha = 0.05$. This was because 34 (59.6%) mothers had good knowledge of normal motor development, while 23 (40.4%) had sufficient knowledge. Knowledge, or cognitive skills, is crucial for shaping a person's actions. However, high levels of knowledge do not always translate into positive behavior. This is because behavior is influenced not only by knowledge but also by values, beliefs, and other contributing factors. Parents' nutritional knowledge significantly influences their food choices for their children. Mothers with high levels of knowledge are more likely to actively seek information to improve their skills and parenting practices.

Research by Lina Rosalina et al. reported a p-value of 0.00 ($p < 0.05$), indicating a significant relationship between maternal knowledge and the gross motor skills of children aged 1-5 years in Benda Village, Sukamulya District. The analysis also obtained an OR value of 0.337 for maternal knowledge, indicating that mothers with lower levels of knowledge were at

greater risk of having children with poorer gross motor development compared to mothers with good knowledge (Rosalina et al., 2025).

Although this study did not find a significant relationship between knowledge and toddler motor development, it was evident that there was no lack of knowledge among the participants, and the proportion of mothers with good knowledge was higher than that of mothers with sufficient knowledge. Furthermore, the child development outcomes in this study were predominantly normal, indicating that children developed appropriately for their age. A child's motor skills during the developmental period are closely related to the learning process and daily experiences. Furthermore, this study involved infants who had received exclusive breastfeeding. Exclusive breastfeeding during the first six months of life can support infant growth and development. Research by Dahlia et al. found a significant relationship between exclusive breastfeeding and the motor development of infants aged >6–24 months during the first 1,000 days of life (Dahliansyah et al., 2018).

Furthermore, international research also supports the importance of early knowledge and stimulation for children's motor development. This study showed that mothers with good knowledge of early stimulation had a higher proportion of children with age-appropriate motor development than mothers with less knowledge. The study found a significant relationship between maternal knowledge and motor development in children aged 0–24 months ($p = 0.031$). These results reinforce the idea that maternal knowledge can be a protective factor in supporting optimal motor development in children (Dwi et al., 2025).

Thus, the predominance of normal motor development in this study is likely influenced not only by the mother's level of knowledge but also by the practice of exclusive breastfeeding and other stimulation factors that support optimal child growth and development.

The Relationship between Husband's Support and Toddler's Motor Development

The results of this study found a significant relationship between husband's support and toddler motor development, with a p-value of 0.000. The husband's support variable showed that 55 respondents (96.5%) provided support for normal motor development, while only 2 respondents (3.5%) did not provide support.

Although most literature discusses the impact of husband's support on the success of exclusive breastfeeding, it does not directly address toddler motor development. This suggests that when a husband supports a mother in providing exclusive breastfeeding, the baby receives optimal nutrition, which can help stimulate and develop the child's nervous and muscular systems, thereby maximizing development. Therefore, husband's support is crucial for the success of exclusive breastfeeding and may contribute to optimal motor development in children.

This study is in line with the findings of Puspita Maulina et al., which showed a significant relationship between appraisal support and the provision of exclusive breastfeeding, based on a p-value of 0.001 (<0.05). The OR calculation yielded a value of 4.313, indicating that mothers with babies aged 6–24 months who received appraisal support from their husbands were four times more likely to provide exclusive breastfeeding than mothers who did not receive instrumental support (Maulina et al., 2022). Other studies have also reported that husband's support should be a major concern because when husbands provide high levels of support, the

likelihood of mothers deciding to provide exclusive breastfeeding increases by 1.750 times (Shohipatul Mawaddah et al., 2018).

Other research also suggests that fathers' roles in breastfeeding are often characterized by a dilemma: they want to provide support but sometimes feel marginalized, as “the third wheel.” Paternal support has been shown to increase breastfeeding duration; however, more inclusive education for men from health professionals is needed (Sihota et al., 2019).

The period after childbirth is a critical phase for breastfeeding because various breastfeeding-related problems may arise. Providing breastfeeding counseling can help mothers increase their self-confidence and ability to deal with breastfeeding challenges. The husband's involvement in accompanying the mother during breastfeeding not only helps reduce physical fatigue and psychological burden but also creates a supportive family environment for the child's growth and development. The presence of a partner can enhance the mother's comfort, happiness, and emotional stability, thereby optimizing the parenting process. Thus, husband's support not only influences the success of exclusive breastfeeding but also indirectly contributes to optimizing toddler motor development.

Socio-Cultural Relationships to Toddler Motor Development

The results of this study found a significant relationship between socio-cultural factors and toddler motor development, with a p-value of 0.000. This was because the socio-cultural support variable showed that 53 respondents (93%) supported normal motor development, while 4 respondents (7%) did not. This study is in line with the research of Trie Ulfa et al., which found a significant relationship between breastfeeding beliefs and family support for exclusive breastfeeding (Ulfa et al., 2020).

In this study, socio-cultural factors influenced support for exclusive breastfeeding and affected motor development in toddlers. Family support, especially from parents and partners, is the main socio-cultural pillar determining the success of toddler care and development. Psychologically, emotional support from family members provides confidence for mothers in providing exclusive breastfeeding and carrying out motor stimulation consistently. Sihota et al. emphasized that father involvement is not merely passive support but a determining factor in creating a microenvironment conducive to child growth and development (Sihota et al., 2019). When fathers have a positive perspective on breastfeeding, the mother's psychological burden is reduced, allowing greater focus on child motor stimulation. In addition, culture and social norms, including parental and family support, beliefs in traditional breastfeeding practices, infant stimulation practices, and prevailing social norms, can influence breastfeeding patterns and infant care.

The Relationship between Parity and Toddler Motor Development

The results of this study showed no significant relationship between maternal parity and toddler motor development, with a p-value of 0.367, which was greater than $\alpha = 0.05$. This was because both primiparous mothers (36.8%) and multiparous mothers (63.2%) had children with normal motor development. Although this study did not find a significant relationship, it was evident that the majority of respondents were multiparous, and most children in this group exhibited normal motor development. This suggests that exclusive breastfeeding and prior childcare experience may better support motor development due to previous experience.

Research on the relationship between parity and low rates of exclusive breastfeeding in Pantai Cermin Village, Tapung District, Kampar Regency, showed a significant association between parity and exclusive breastfeeding, with a p-value of 0.000 (<0.05). With a Prevalence Odds Ratio (POR) of 19.714 (95% CI = 3.532–110.039), primiparous mothers were 19 times more likely not to provide exclusive breastfeeding than multiparous mothers (Harviana et al., 2024). Multiparous mothers generally have more experience in childcare, including breastfeeding techniques and providing motor stimulation. Through experience, mothers can increase their confidence and skills in caring for their babies. However, the non-significant results in this study indicate that experience with childbirth and childcare does not always guarantee optimal motor development in children. Other factors, such as husband and family support and the surrounding environment, may have a greater influence on child development.

Theoretically, multiparous mothers have higher self-efficacy due to their practical experience with breastfeeding techniques and motor stimulation. However, the non-significant findings of this study suggest that the number of births (parity) is not the sole determinant of child development quality. International literature by Sihota et al. supports this finding, stating that maternal experience must be supported by an inclusive psychosocial environment. In their review, the involvement and emotional support of husbands/fathers were identified as crucial factors that can compensate for the lack of experience among primiparous mothers (Sihota et al., 2019). Thus, toddler motor development depends not only on whether a mother has previously given birth but also on how family and environmental support can strengthen a mother's confidence in providing appropriate care and stimulation.

Study Limitations

Time constraints in this study resulted in a limited sample size. The screening tool used only provides an initial indication and not a definitive diagnosis of developmental delays. The results may change following further clinical assessment by a developmental specialist. In addition, the data were obtained based on respondents' answers, which may introduce response bias.

CONCLUSION

This study found that husband and family support are significant determinants of successful exclusive breastfeeding. The husband's active role in initiating lactation literacy, as well as family involvement in providing psychosocial stimulation, are crucial factors influencing breastfeeding activity. Furthermore, the integration of social norms, traditional beliefs, and appropriate parenting practices has been shown to directly contribute to optimizing toddler motor development. However, the screening tool used only provides an initial indication, not a definitive diagnosis, of developmental delays. The results may change with further clinical assessment by a developmental specialist. Therefore, further, more in-depth research on motor development is needed.

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