
**THE RELATIONSHIP OF MOTHER'S KNOWLEDGE WITH EARLY
DETECTION OF DEVELOPMENT OF CHILDREN AGED 1 -3 YEARS AT
POSYANDU PELANGI BATU AJI PUSKESMAS WORKING AREA
BATAM CITY IN 2024**

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Abstract

Currently, developmental delays are still a serious problem in developed and developing countries. Indonesia's 2020 health profile shows that around 56.4% of children under five years old in Indonesia experience growth and development disorders. If detection of growth and development is late, it can result in deviations in children that are difficult to correct. One of the factors that influences the success of a child's development is parental knowledge. This study aims to determine the relationship between maternal knowledge and early detection of the development of children aged 1 - 3 years at Posyandu Pelangi in the working area of the Batu Aji Community Health Center, Batam City. The design of this research is quantitative with a cross-sectional approach, the sample size is 42 respondents with a sampling technique using consecutive sampling. The research results show that there is a relationship between maternal knowledge and early detection of development in children aged 1-3 years with a p-value of 0.001. The conclusion of the research is that good maternal understanding can influence the development of children aged 1 - 3 years. Suggestions are expected from the Pelangi Posyandu in Batam City to provide comprehensive and regular education regarding the growth and development of toddlers.

Keywords: Mother's Knowledge, Early Detection of Development of Children Aged 1-3 Years

INTRODUCTION

Development is a continuous process that every child must go through because every child must be able to go through stages of development and development before reaching the next stage (Wijayanto, 2022). Development is the increasing structure and function of the body which is more complex in the ability of gross movement, fine movement, speech, and language as well as the socialization of independence (Ministry of Health RI.2022). Developmental problems commonly experienced by children include speech and language disorders, cerebral palsy, Down syndrome, short stature, autism, mental retardation, attention deficit disorder, and hyperactivity.

Children who experience developmental disorders will have an impact on the child's development and subsequent development. If the child experiences developmental problems, the child will experience difficulties in further development, this will also enable the child to experience disabilities. Early detection of children's development is very necessary to determine the impacts that may arise in the future if the child experiences developmental disorders (Rambe, 2020).

So detection as early as possible before the child is 3 years old needs to be done. One of the successes in preventing delays in child development is influenced by a good level of basic knowledge for mothers about child growth and development, especially for children aged 1-3 years, by getting important information and getting counseling so that mothers can know if there are problems with their child's development. Children's growth and development must be detected as early as possible, especially before the child is 3 years old, so that there are no deviations in the child's development because at this time

the development of brain cells in children develops twice as fast as brain cells in adults. Delays in detection will cause delays in handling, resulting in deviations that are difficult to correct. Efforts to help children develop optimally by early detection of deviations need to be implemented from the family level, health workers, and all levels of health services. The mother's skills in detecting early child development play an important role because this is related to the mother's knowledge of the actions or steps that must be taken so that it is not too late to deal with deviations in the child's development. Parents need to master basic knowledge regarding child development, especially mothers who spend time with their children. If this knowledge is strong, it will be very easy to identify deviations and actions that must be taken (Kuswanti, et al, 2022).

A mother's knowledge regarding developmental stimulation can be influenced by her level of education, whereas the level of education a mother has can influence knowledge of developmental stimulation. Therefore, with good education, mothers can more easily receive information from outside about providing stimulation so that more knowledge can be obtained. Obtained and owned by a mother can influence her behavior to carry out good stimulating behavior (Afrizal, et., 2023).

Based on the results of a preliminary study conducted at Posyandu Pelangi in the working area of the Batu Aji Health Center, Batam City, data was obtained on 58 toddlers aged 1-3 years. 35 children were experiencing the development of gross movement, 15 people with fine movement, and 20 people with speech and language. Those who had children aged 1-3 years and who were interviewed by researchers were eight respondents at Posyandu Pelangi in the

working area of the Batu Aji Community Health Center, Batam City on May 14 2024. As many as six respondents (75%) did not know about early detection of development in children aged 1 - 3 years. Based on the description above, researchers are interested in researching "the relationship between maternal knowledge and early detection of the development of children aged 1 - 3 years at Posyandu Pelangi in the work area of the Batu Aji Community Health Center, Batam City, Riau Islands Province in 2024."

MATERIALS AND METHODS

This research was carried out at the Pelangi Posyandu in the working area of the Batu Aji Community Health Center, Batam City in 2024 using the Consecutive Sampling method. The respondents for this research were 42 mothers at Posyandu Pelangi in the working area of Batu Aji Community Health Center, Batam City. The research was conducted in June 2024. The data collection tool used a questionnaire filled out by respondents, with data analysis using univariate analysis to determine the frequency distribution of independent or dependent variables and bivariate analysis to see the relationship between independent and dependent variable.

RESULTS AND DISCUSSION

1. Research Results

Based on the results of research entitled "The relationship between maternal knowledge and early detection of the development of children aged 1 - 3 years at Posyandu Pelangi in the working area of the Batu Aji Community Health Center, Batam City in 2024." Respondent frequency distribution data was obtained based on research results, as follows:

a. Univariate Analysis

In this study, there were two characteristics of respondents, namely maternal knowledge and maternal knowledge, as shown in the following table:

Table 1 Frequency Distribution Based on knowledge Mother's Pelangi Posyandu, Batu Aji Community Health Center Working Area Batam City N=42

<i>Mother's Knowledge</i>	<i>Frequency</i>	<i>%</i>
<i>Good</i>	<i>14</i>	<i>33.3</i>
<i>Enough</i>	<i>17</i>	<i>40.5</i>
<i>Not enough</i>	<i>11</i>	<i>26.2</i>
Total	42	100.0

Based on table 1, it shows that of the 42 respondents studied, the frequency of respondents with good knowledge was 14 respondents (33.3%), the frequency of respondents with sufficient knowledge was 17 respondents (40.5%), while the frequency of respondents with poor knowledge was 11 respondents (26.2%).

Table 2 Frequency Distribution Based on early detection of development of children aged 1 - 3 years at Posyandu Pelangi in the Puskesmas Working Area Batu Aji Batam City N=42

Early Detection of Development of Children Aged 1 - 3 Years	Frequency	%
In accordance	19	45.2
Doubtful	14	33.3
Deviation	9	21.4
Total	42	100.0

Based on table 2, it shows that of the 42 respondents studied, the frequency of development of children aged 1 - 3 years was appropriate as many as 19 respondents (45.2%), the frequency

of development of children aged 1 - 3 years was doubtful as many as 14 respondents (33.3%), Meanwhile, 9 respondents (21.4%) experienced deviations in the development of children aged 1 - 3 years.

b. Bivariate Analysis

Bivariate analysis is an analysis carried out to determine the relationship between 2 variables. In this analysis, two measurements are taken for each observation. In bivariate analysis, the samples used can be paired or independent according to the treatment. Bivariate analysis is a type of analysis that is used according to the condition of many variables. This seemingly simple analysis can produce very useful tests. The bivariate analysis in this study aims to determine the relationship between maternal knowledge and early detection of the development of children aged 1 - 3 years at Posyandu Pelangi in the working area of the Batu Aji Community Health Center, Batam City in 2024. The statistical test used is the chi-square test.

Table 3 The relationship between maternal knowledge and early detection of the development of children aged 1-3 years at Posyandu Pelangi in the working area of the Community Health Center Batu Aji, Batam City

<i>Early Detection of Development in Children Aged 1-3 Years</i>									
Mother's Knowledge	In accordance		Doubtful		Deviation		Total		p-value
	F	%	F	%	F	%	F	%	
Good	11	26.2	0	-	3	7.1	14	33.3	0.001
Enough	2	3.8	13	32.9	2	3.8	17	40.5	
Not enough	6	15.2	1	0.4	4	10.6	11	26.2	
Total	19	45.2	14	33.3	9	21.4	42	100.0	

Based on table 3, it shows that of the 42 respondents studied, the frequency

of good knowledge and appropriate child development was 11 respondents (26.2), there were no respondents with doubts, there were 3 respondents with deviations (7.1%). Meanwhile, sufficient knowledge with appropriate child development was 2 respondents (3.8), doubtful as many as 13 respondents (32.9), deviations as many as 2 respondents (3.8%). Meanwhile, there were 6 respondents (15.2) lacking knowledge regarding appropriate child development, 1 respondent had doubts (0.4), 4 respondents had deviations (10.6%).

The test results using chi-square showed a p value = 0.001. Because the significance value is $0.001 < (0.05)$, H_0 is accepted, which means that there is a relationship between maternal knowledge and early detection of the development of children aged 1-3 years at Posyandu Pelangi in the Batu Aji Community Health Center Working Area, Batam City.

DISCUSSION

a. Mother's Knowledge

Knowledge is defined by the word "know" and this occurs after people sense a certain object, from knowledge that occurs through the five human senses, namely: the senses of sight, hearing, smell, taste, and touch. Most knowledge is obtained through the eyes and ears. A process that is based on knowledge, awareness, and a positive attitude, then this behavior will be lasting. On the other hand, if this behavior is not based on knowledge and understanding, it will not last long. (Notoatmodjo, 2020).

The research results showed that of the 42 respondents studied, the frequency of respondents with good knowledge was 14 respondents (33.3%), the level of good knowledge is the level of knowledge where someone can know, understand, apply, analyze, synthesize, and evaluate. The level of knowledge can be said to be good if someone has 6 – 100% knowledge (Notoadmodjo, 2016). The frequency of respondents with sufficient knowledge was 17 respondents (40.5%), the level of adequate knowledge is the level of knowledge where someone still lacks application, analysis, and evaluation. Medium level of knowledge if someone has 56 – 75% knowledge (Notoadmodjo, 2016). while respondents with insufficient knowledge were 11 respondents (26.2%) The level of inadequate knowledge is the level of knowledge where a person is less able to know, understand, apply, analyze, synthesize, and evaluate. The level of knowledge can be said to be lacking if someone has <56% knowledge (Notoadmodjo, 2016).

The results of this research are in line with Kuntum (2015), and Sulaeman, et al (2021). The respondent's level of knowledge can be seen from the respondent's education. So that mothers can receive the information their children need so they can develop well. This information includes how to properly care for children, maintain children's health, and stimulate children's development.

b. Early Detection of Development of Children Aged 1 - 3 Years

DDTK can be carried out on children aged 0–6 years in various places, such as pusyandu, puskesmas, PAUD, RA,

and kindergarten. The DDTK examination is carried out by measuring body weight, height, head circumference and upper arm circumference. From the results of these measurements, the doctor will make conclusions about the child's nutritional status based on WHO growth standards (Hendrawati, et al. 2018).

The results of the research showed that of the 42 respondents studied, the frequency of development of children aged 1 - 3 years was appropriate as many as 19 respondents (45.2%), the frequency of development of children aged 1 - 3 years was doubtful as many as 14 respondents (33.3%), while There were 9 respondents (21.4%) in the development of children aged 1 - 3 years.

The research results are in line with Zahra, Z. A., Argarini, D., & Widiastuti, S. (2022). Febriani, N., Iqbal, M., & Desreza, N. (2022). Lismayanti, D., & Adiyanti, I. D. (2024). that, there were 53 respondents (86.9%) whose development was appropriate, 3 respondents (4.9%) doubted it, and 3 respondents (4.9%) had deviations. A child's development includes gross motor skills, fine motor skills, language, creativity, social, emotional and intellectual awareness as well as behavioral development which runs very quickly. In the process of development, a child's nervous system becomes easier to perceive information and more sensitive to changes that occur in the environment. Therefore, a child should receive full support and attention at the beginning of his life. If this is ignored the impact will be delays in child development which will affect the level of

intelligence of a nation's young generation.

c. The Relationship between Mother's Knowledge and Early Detection of Development in Children Aged 1-3 Years

Conducted by (Ramadia et. all 2021), parents' knowledge regarding stimulating children's development is related to the child's growth and development stages, of the 84 respondents, the majority of parents' knowledge was good, namely 54 people (64.3%). Parents with good knowledge had children with appropriate growth and development 52 children (61.9%) and parents with good knowledge also had 2 children (2.4%) who had doubtful child development, while parents with poor knowledge had children with a development of 29 children (34.5%) had doubts and 1 child (1.2%) had deviant growth and development.

The results of the research showed that of the 42 respondents, it was found that the frequency of good knowledge and appropriate child development was 11 respondents (26.2), there were no respondents with doubts, and there were 3 respondents (7.1%) with deviations. Meanwhile, sufficient knowledge with appropriate child development was 2 respondents (3.8), doubtful as many as 13 respondents (32.9), and deviations as many as 2 respondents (3.8%). Meanwhile, there were 6 respondents (15.2) lacking knowledge regarding appropriate child development, 1 respondent had doubts (0.4), and 4 respondents had deviations (10.6%). Based on the results of statistical tests, it is known that H_0 is rejected, meaning that H_a is accepted, which means that there is a relationship

between the mother's knowledge and early detection of the development of children aged 1-3 years at Posyandu Pelangi in the Batu Aji Community Health Center Working Area, Batam City in 2024 with p -value = 0.001. Good knowledge will influence the development of children aged 1-3 years so that developmental deviations do not occur in children. Knowledge about growth and development is the basis of a mother's ability to pay attention to the child's growth and development process. Mothers have a big role in the progress of their child's growth and development by stimulating and caring for the child appropriately, as well as by arranging a balanced nutritional intake pattern for their child. The mother's lack of knowledge about growth and development causes the quality of stimulation or the child's growth and development process so that children are susceptible to experiencing growth and development disorders. The deviations encountered by Posyandu Pelangi were deviations in terms of language where the child was late in speaking and the next deviation was rough movement where the child could not yet walk at his age when it was time for him to be able to walk.

The results of this research are in line with (Brahmani, et al. 2023). The results of the data analysis obtained a p -value of 0.000 and a correlation value of 0.645. This means there is a positive and significant relationship regarding maternal knowledge about growth and development with the development of children aged 1-2 years. Judging from the strength and weakness of the relationship obtained from the results of data processing, the

value (r) = 0.645 shows that the variable of maternal knowledge about growth and development with the development of children aged 1-2 years has a moderate degree of relationship.

CONCLUSIONS AND RECOMMENDATIONS

1. Conclusion Based on the results of research conducted regarding "The relationship between maternal knowledge and early detection of the development of children aged 1 - 3 years at Posyandu Pelangi in the working area of the Batu Aji Community Health Center, Batam City in 2024" it can be concluded that:

- a. Univariate results showed that the frequency distribution of respondents with sufficient knowledge was 17 respondents (40.5%).
- b. The univariate results showed that the frequency distribution of the development of children aged 1-3 years was appropriate for 19 children (45.2%).
- c. Bivariate results showed that there was a relationship between maternal knowledge and early detection of the development of children aged 1-3 years at Posyandu Pelangi in the Batu Aji Community Health Center Working Area, Batam City. with a p-value of $0.001 < 0.05$.

2. Recommendations

- a. For Batu Aji City Health Center - Pelangi Posyandu
It is hoped that they will be able to provide comprehensive and regular counseling about the growth and development of toddlers.
- b. For Mother

It is hoped that it will be able to increase mothers' knowledge and attitudes towards bringing toddlers to posyandu so that the growth and development of toddlers can be known every month.

c. For further research

This research can be used as reference material for future researchers regarding the relationship between maternal knowledge and early detection of development in children aged 1-3 years.

d. For Uniba

It is hoped that the results of this research can be used as information and reference material in the teaching and learning process in the field of nursing, especially regarding early detection of development in children aged 1-3 years.

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