


# The Effect of PrimaKu Application Education on Parents' Knowledge in Monitoring Children's Growth and Development in Dete Village, Lape District

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Article Info	ABSTRACT
<p><b>Keywords:</b> Education, Primaku application, Knowledge,</p>	<p>The growth and development of Indonesian children still requires serious attention because the rate of growth and developmental delays remains high. About 5-10% of children experience common developmental delays. Two out of 1,000 babies experience motor delays; three to six babies experience developmental delays and hearing problems; and one in 100 children experience intellectual and language delays. This study aimed to determine the effect of the PrimaKu educational application on parents' knowledge of monitoring their children's growth and development. The study employed a quasi-experimental pre-test post-test design with a control group. The study sample consisted of 160 respondents. The results revealed that the average pre-test knowledge score was 2.73, with a standard deviation of 0.571. The average post-test knowledge score was 1.34, with a standard deviation of 0.635. The mean difference between the pre-test and post-test was 1.381, with a standard deviation of 0.734. The statistical test results yielded a p-value of 0.000, indicating a significant difference in respondents' knowledge before and after receiving education. Therefore, it can be concluded that the PrimaKu application education significantly improves mothers' knowledge of monitoring their children's growth and development..</p>
<p>This is an open access article under the <a href="https://creativecommons.org/licenses/by-nc/4.0/">CC BY-NC</a> license</p> 	<p><b>Corresponding Author:</b> Herni Hasifah STIKES Griya Husada Sumbawa Jl. Lintas Kebayan-Sumbawa <a href="mailto:yenihhasifah@gmail.com">yenihhasifah@gmail.com</a></p>

## INTRODUCTION

Growth and development are two distinct yet inseparable processes. Every family expects their children to grow and develop optimally (Soetjningsih & Ranuh, 2016). Child growth and development are important factors. The success of each phase affects the child's ability in the next (Sulistyawati, 2014). The rapid growth and development of an infant establishes the foundation for future development and can influence the child's future. The first year is a critical period for physical growth, cognitive development, and the development of motor and social-emotional skills, all of which determine the child's future. Childhood is an important period in children's development and maturation, during which language, creativity, social awareness, and emotional and intellectual development occur quickly and form the basis for further development (Rosita and Norazizah, 2016).

The growth and development of Indonesian children still requires serious attention, as the rate of growth and developmental delays remains high. About 5-10% of children experience common developmental delays. Two in 1,000 infants experience motor delays; three to six infants experience developmental delays and hearing problems; and one in 100 children experience intellectual and language delays (Rosita & Norazizah, 2016). According to the WHO (2018), growth problems include malnutrition, stunting, and overnutrition. The prevalence of malnutrition is 7.3%, overnutrition is 5.9%, and stunting is 21.9%. Approximately 95% of children with developmental disorders reside in low- and middle-income countries (WHO, 2019). According to 2022 data, Indonesia's national under-five nutritional status consists of 3.9% malnourished children, 13.8% undernourished children, 79.2% well-nourished children, and 3.1% overnourished children (WHO, 2022). The results of Riskesdas (2013) show that 34.3% of parents do not monitor their children's growth and development. This figure is higher than the Riskesdas (2007) results of 25.5% and the 2010 Riskesdas results of 23.8%. These results indicate that a high number of children still have not had their growth and development monitored.

Monitoring children's growth and development requires family participation. Early detection by parents can identify 1-6% of children with growth and development disorders. One effective and efficient method for early detection is using internet-based applications (Bert, 2014). Smartphones are very helpful in providing health services and promoting health (Patrick K., 2009). Close monitoring by parents is necessary to maximize a child's growth and development and to detect growth disorders. The PrimaKu application, launched by the Indonesian Pediatric Association (IDAI), aims to help monitor the growth and health of children aged 0-18 years to promote a healthy generation. This application was developed in response to the poor health of Indonesian children (Anugerahwati D., 2024). Winarto (2021) recommends the PrimaKu application, which the Indonesian Pediatric Association (IDAI) developed to help parents of toddlers quickly and easily access information about child growth and health. The PrimaKu application can also serve as an alternative to the Maternal and Child Health (MCH) book for new mothers.

A preliminary study was conducted through interviews with seven mothers with toddlers in Dete Village. The results show that none of these mothers knew about or had ever heard of the PrimaKu application, which is useful for monitoring children's growth and development through cellphones. These mothers had also never received education about the PrimaKu application. Given these findings, researchers are interested in studying the impact of PrimaKu application education on mothers' ability to monitor their children's growth and development in Dete Village, Lape District.

## METHODS

This study used a quasi-experimental pre-test post-test design. The study aimed to educate parents on using the PrimaKu application to monitor their children's growth and development. The study population consisted of 268 parents with children under five years of age. The sample size was determined using the Slovin formula with a 5% margin of error, resulting in 160 respondents. Purposive sampling was used to select the respondents, and a t-

test was used for statistical analysis. The instrument used in this study was a questionnaire about maternal knowledge of the PrimaKu application. The research stage consists of three stages. 1) Stage includes searching for references and supporting literature related to the research. This stage also involves preparing instruments, such as questionnaires, that will be used to collect data in the field. 2) The data collection stage includes preparing questionnaires and duplicating research instruments. After the data collection process, the complete data is ready for analysis. 3) Data Analysis Stage: At this stage, the data will be processed and analyzed using SPSS version 17. 4) Reporting Stage: This is the final stage of the research.

## RESULTS AND DISCUSSION

**Table 1.** Distribution of Respondent Characteristics

Characteristics	Frequency	Percentage
Mother's age		
≤ 25	92	57,5
> 25	68	42,5
Total	160	100
Child's gender		
Male	64	40
Female	96	60
Total	160	100
Mother' aducation		
Low	98	61,3
High	62	38,7
Total	160	100
Mother's Job		
Not work	89	55,6
Work	71	44,4
Total	160	100

Based on the table above, the majority of respondents are between the ages of 18 and 25 (57.5%). Most of the children were female (60%). Most mothers had a low level of education (61.3%), and most did not work (55.6%).

**Table 2.** Pre Test Result Based on Respondent's Knowledge

Knowledge	Frequency	Percentage
Less	126	78,8
Enought	24	15,0
Good	10	6,3
Total	160	100

Based on the above table, it is evident that most respondents (78.8%) had little knowledge of the PrimaKu application before receiving education about it.

**Table 2.** Post Test Result Based on Respondent's Knowledge

Knowledge	Frequency	Percentage
Less	14	8,8
Enough	27	16,9
Good	119	74,4
Total	160	100

According to the table above, 74.4% of respondents had a good understanding of the PrimaKu application after receiving education about it.

**Table 3.** The Effect of PrimaKu Application Education on Mothers' Knowledge of Monitoring Their Children's Growth and Development in Dete Village, Lape Subdistrict

Knowlegde	Mean	SD	DE	t-test	N	P Value
Pre test	2,73	0,571	0,045	23,793	160	0,000
Post test	1,34	0,635	0,050			

Based on the table above, it is known that the average pre-test value of respondents' knowledge is 2.73 with a standard deviation of 0.571. In the post test results, the average knowledge of respondents was 1.34 with a standard deviation of 0.635. It can be seen that the mean value of the difference between the pre-test and post-test is 1, 381 with a standard deviation of 0.734. The statistical test results obtained a p value of 0, 000, which means that there is a significant influence between the average knowledge of respondents before and after being given education.

The results of the study show that the PrimaKu application has an effect on mothers' knowledge of how to monitor their children's growth and development. These results align with those of Anugerahwati (2024), who found that the PrimaKu application increases knowledge about child growth and development. Pre-test analysis results show that the 40 mothers in the PrimaKu group had an average pre-test knowledge score of 49.80. Meanwhile, the 40 mothers who were not given the application had an average pre-test knowledge score of 48.83. The T-test results indicate that there is no significant difference in pre-test knowledge between mothers who received the PrimaKu application and those who did not ( $p$ -value = 0.696). This study is also consistent with research by Modjo (2023) which found a meaningful and significant effect of education on maternal knowledge of the PrimaKu application in the Telaga Health Center working area. The results of the statistical tests on maternal knowledge of the PrimaKu application show a P-value of 0.000, an average difference of 47,000, and a standard deviation of 14.420. Modjo stated that this success rate was influenced by using the PrimaKu application to detect children's early growth and development. Using the application successfully increased mothers' knowledge of the PrimaKu application.

Knowledge is the result of knowing, which occurs when people perceive an object. People sense objects through the five senses—sight, hearing, smell, taste, and touch—until sensing produces knowledge. According to Notoadmodjo (2018), most human knowledge is

obtained through the eyes and ears. Knowledge can affect one's mindset and understanding of information. As a predisposing factor, knowledge facilitates and predisposes a person's behavior (Notoatmodjo, 2011). A person's knowledge of a health program encourages participation. In other words, the more knowledge a person has, the greater their awareness will be, which stimulates the growth and development of toddlers (Mubarak, 2012).

This is supported by Tibowo and Pusphandi's (2018) theory, which states that health education involves activities that provide or increase community knowledge of how to maintain and improve health. This shows that the health education intervention will significantly increase respondents' knowledge. Education will make it easier for respondents to understand the PrimaKu application, which may affect their knowledge of it.

Mobile phones not only function as a means of telecommunication, but they have also evolved into multifunctional gadgets. These types of phones are now known as smartphones and can assist with medical activities, such as diagnosis and therapy. Among various forms of information and communication technology, mobile phones are considered a suitable tool for advancing education in developing areas. Smartphones have become essential to the world of healthcare. They are very helpful in health services, health promotion, and improving health status (Padrick, 2009).

According to Notoatmodjo (2023), the media used to provide information can influence the quality of knowledge acquired. Health education media mobilizes as many senses as possible to facilitate perception of an object. Educational media allows a person to better understand complicated information or material. According to Permatasari (2013), using such media helps clarify information because it is more interesting and interactive and overcomes limitations of space, time, and human senses. In order for the information to be clearer and easier to understand, it must be packaged according to the characteristics of the media used. Using media can increase knowledge, and the effectiveness of its use is largely determined by the number of senses used.

## CONCLUSION

The results of the study show that the PrimaKu application education program has an effect on mothers' knowledge of how to monitor their children's growth and development in Dete Village, Lape District.

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