

# UTILIZATION OF THE GROWTH CHART MODULE IN INCREASING MOTHER'S KNOWLEDGE TO MONITOR THE GROW UP OF TODDLERS

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## ABSTRACT

The lack of knowledge of mothers under five in using and reading the Growth Chart affects the low community participation and visits by mothers to Integrated Healthcare Center and monitoring toddlers' growth. Poor knowledge from mothers allows toddlers not to be monitored for nutritional status. The purpose of the study was to increase the knowledge of mothers of toddlers about monitoring the grow up of toddlers. The study used a quasi-experimental design conducted on 50 mothers of children under five in the Banda Aceh City District. The study was conducted from August – September 2020. Data collection was interviewed using a questionnaire related to identity and knowledge using strict health procedures. The training is conducted online (zoom media) and offline. The data is processed in stages: editing, coding, tabulating, and cleaning—statistical analysis using T-test at 95% CI. The study results show that the growth module training for toddlers affects increasing knowledge by 15.0% or has a mean difference of 3,5 (95% CI: 1,17 – 4,19 with a p-value = 0,002 ( $p < 0,05$ )). In conclusion, the growth chart module increases mothers of toddlers' knowledge about monitoring their toddlers' growth. In addition, training on the use of the growth chart module has proven effective in increasing mother knowledge to monitor toddlers' growth.

Keywords: Growth chart, grow up, knowledge, mother of a toddler

## INTRODUCTION

In the National Medium-Term Development Plan (in Indonesia called RPJMN) 2020-2025, several main targets are to improve the community's nutritional status, namely reducing the prevalence of malnutrition in children under five from 19.6% to 17.0% and the prevalence of

stunting. short) in children under two years old (under two years) from 32.9% to 28.0%. In addition, the prevalence of children under five decreased from 12% to 9.5%, and the prevalence of infants with low birth weight (LBW) decreased from 10.2% to 8.0% (Bappenas, 2011).

The nutritional situation of children under five in Indonesia,

based on the Basic Health Research (Riskesdas) that Indonesia in 2018 was still having problems with underweight, stunting, and wasting. The research results showed that the prevalence of underweight children under five was 17.7%, consisting of 5.7% of malnutrition and 13.9% of underweight. Likewise, the prevalence of stunting nationally in 2018 was 30.8%. Furthermore, under five with wasting, Indonesia in 2018 had a prevalence of 10.2% (Balitbangkes, 2018). Although there has been a decrease in the prevalence of nutritional problems from 2013, this figure is not yet significant. Although there has been a decrease in the prevalence of nutritional problems from 2013 to 2018, this figure has not been significant for changes in the prevalence of nutritional problems (Al Rahmad et al., 2020).

One of the government's efforts to overcome malnutrition is to restore the function of the Integrated Service Post (Indonesian as Posyandu) and increase the participation of the community and

families in monitoring the growth of children under five (Anatarini & Nugroho, 2018). It can identify and overcome children with growth and development disorders from an early age through weighing activities at the Integrated Service Post (Anatarini & Nugroho, 2018).

Growth monitoring is one of the main activities of the nutrition improvement program, which focuses on preventing and improving the nutritional status of children under five (Roos et al., 2019). according to Al-Rahmad & Fadillah (2016), growth monitoring is a series of activities consisting of; assessing the growth of toddlers regularly through weighing every month, filling out and assessing the weighing results based on the Growth Chart, follow-up for each case of growth disorders in the form of counseling and referrals, follow-up in the form of policies and programs at the community level, as well as increasing motivation to empower families.

Aceh Province has prepared a Long Term Development Plan

(Indonesian as RPJP) in the health sector for 2010-2025, which gives priority to eight main focuses, namely: (1) investment in human resources from an early age, (2) health efforts on public health problems, (3) reform of health services, (4) provision of health resources both in quality and quantity, (5) development of a health perspective, (6) improvement of health management, (7) disaster management and health emergencies and (8) community involvement (Dinkes Aceh, 2019). Several possible focuses include improving human resources, solving community-based health problems, and reforming health services. According to Indrayani et al. (2019), early detection is essential in identifying growth disorders. If this has been found, then the determination of intervention is essential to prevent permanent disability.

Herliani et al. (2018) reported in their research that the empowerment of mothers under

five is a necessary means to increase knowledge and mothers. Skilled mothers of toddlers will significantly assist the implementation of early detection of nutritional problems. Its very good in reducing the prevalence of nutrition, incredibly underweight. The results of another study concluded that the common understanding of the community, especially mothers of toddlers in viewing the Growth Chart, including in monitoring the growth of their toddlers, had an impact on low visits or community participation (Reihana & Duarsa, 2012). This condition is supported by data stating that community participation coverage in Integrated Service Post (D/S) is only 70%. That shows that if mothers of children under five have a poor understanding of monitoring the growth of children under five, it will affect their visits to Integrated Service Post. Their nutritional status is not monitored (Fatimah et al., 2020). This study uses a module that reviews the growth monitoring

of children under five and determines the nutritional status of toddlers based on indicators of WFA, HFA and WFH. This module has been adapted from the Minister of Health Regulation No. 2 of 2020 (PMK No. 2 of 2020) regarding child anthropometry standards. This module also reviews how mothers can measure their height and weight properly and correctly. This module is used because it has been adapted to PMK no 2 of 2020 and KMS, so it is possible for mothers to more easily monitor the growth and development of toddlers. Approach at the family level is very important to reduce nutritional problems such as underweight and stunting.

Knowledge is an impression in the human mind due to his five senses, which is very different from his beliefs and false explanations. The purpose of knowledge is to obtain certainty, eliminate prejudice due to uncertainty, and know and understand something more deeply (Mark & Burgin, 2016). The lack of mothers' knowledge about the importance of monitoring the

growth of children under five impacts visits and low from Integrated Service Post a coverage (Jannah et al., 2019). Andriani et al. (2016) has reported that health knowledge aims to increase everyone's awareness, willingness, and ability to realize the highest degree of public health. Based on the problems that have been reviewed, this study aims to increase the knowledge of mothers of toddlers about monitoring the grow up of toddlers.

## METHOD

Quantitative research uses a *Quasi-Experimental* design with a *non-equivalent group pretest-posttest design*. The study was carried out in Banda Aceh District in August – September 2020. The research sample was housewives who were randomly selected from the results of the sample size calculation using the sample size formula to test the two-sided hypothesis of two population averages so that the sample size was 50 people. (25 treatments and 25

controls) that met the assumption of sample homogeneities, such as the same age, education, and marriage period. The research has obtained an Ethical Clearance (EC) letter from the Health Research Ethics Commission (KEPK) of the Faculty of Nursing, University of Sumatera Utara, No. 2205/VIII/SP/2020.

Data collection includes primary data (subject identity, knowledge, and measuring mother) obtained through interviews and observations. Secondary data include the cadre's work area, location demographics, and supporting data obtained through document studies. Collecting data using questionnaires and conducted by interview both before being given training and after being given training. The pretest questionnaire consists of 30 questions related to the growth and development of toddlers. If the respondent answers correctly, it is given a score of 1, and incorrectly it is given a score of 0.

The training stages of the Growth Chart companion module

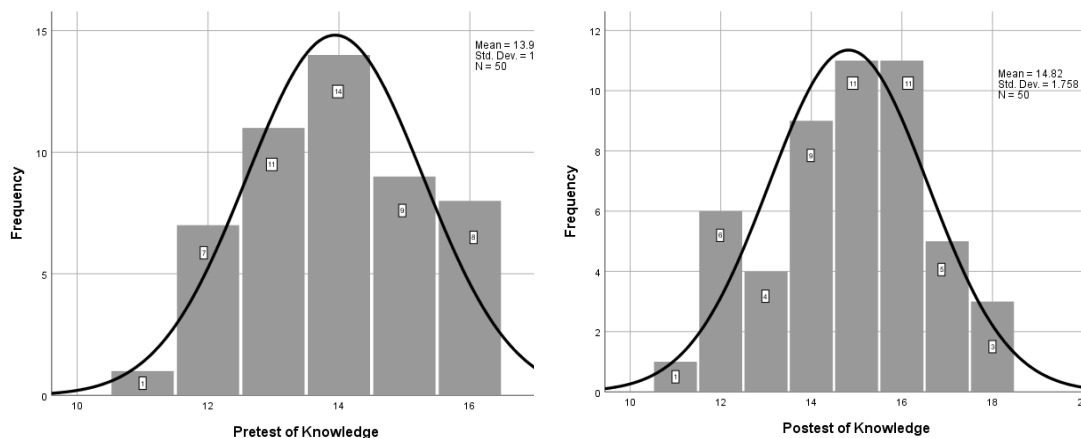
were carried out in Banda Aceh City, divided into two intervention groups. The first intervention used the Growth Chart companion media/module and the control group without a companion module. After three training days, an evaluation was carried out in interviews using a questionnaire to measure knowledge after the training. The post-test questionnaire consisted of 30 questions related to the growth and development of toddlers. If the respondent answered correctly, he was given a score of 1, and incorrect was given a score of 0. The minimum score was 0, and the maximum score was 30. The training was carried out by researchers and assisted by nutritionists at the Public Health Center and several enumerators.

Data processing is computerized by going through editing, coding, entry, and cleaning data entry stages. Data analysis used statistical application R (R- Cmdr). Statistical tests are Dependent t-test, with a significance level of 95%.

**RESULT AND DISCUSSION**

Knowledge in monitoring growth with the Growth Chart module, as presented in Figure 1, can be explained that before, the training had a mean of 13.94 with a deviation of 1.346. Before being given training on growth monitoring, these mothers were only able to know about the growth of their toddlers by 60.5%, or

their knowledge was still low. Meanwhile, after being given training on monitoring the growth of children under five, it turned out that the knowledge of mothers increased by an average of 14.82 and a deviation of 1.758 or in other words, the knowledge of mothers increased to 74.5% or mother's knowledge was better than before.



**Figure 1. Average knowledge of mothers about infant growth between before with after training**

The results of this study (Figure 1) provide meaning that mothers' knowledge in monitoring the growth of toddlers before the training has a level of knowledge is not good (60.5%). The reasonable

considering that mothers have not been exposed to information about growth monitoring. The possibility of this happening is that there are still many mothers with low education, namely junior and senior high

school. Besides, work factors are also thought to be the trigger for their shared knowledge. Furthermore, after being given training for 2 (two) days and also assisted by cadres, the mother's knowledge can be slightly improved for the better (74.5%). The training provided and the cadre's support factor in guiding mothers in

Banda Aceh turned out to change their patterns and understanding in monitoring toddlers' growth. The module was also good at supporting knowledge change. Maybe they consider it essential and care more for toddlers to see them grow up of their children.

**Table 1. The effect of training on the use of Growth Chart in increasing mother's knowledge about grow up of toddlers**

	Mean $\pm$ SD	$\Delta$ Mean $\pm$ SD	SEE	95% CI	p-value
Mother's knowledge score					
Before training	13.94 $\pm$ 1.346	0.9 $\pm$ 1.757	0.248	0.38 – 1.37	0.001*
After training	14.82 $\pm$ 1.758				

\* Significant at 95% CI (*p-value* < 0.05)

The effect of training with the Growth Chart companion module on increasing the ability/knowledge of mothers under five about growth monitoring is presented in Table 1. The results of the evaluation carried out after providing training on community service activities, namely mothers in Banda Aceh District, it is described that mother's knowledge between before given training after being given training with the Growth Chart module it

turned out to have a mean difference of 0.9 with a deviation of 1.757. Statistical results showed a significant difference between the knowledge of cadres before training and after training with *p-value*= 0.001 (*p* < 0.05). Therefore, it can be concluded that the training on the use of the Growth Chart companion module turned out to be statistically significant in increasing the knowledge of mothers under five in terms of monitoring the growth of

their toddlers in Banda Aceh District.

In line with Herliani et al. (2018) research, mother class training can increase knowledge in monitoring competency-based growth and development. Other studies also suggested that health education through modules has been proven to have a significant effect in improving mothers' knowledge in feeding (Agiwahyunto et al., 2021). Further research is also supported by AL Rahmad et al. (2013). There is a significant difference in knowledge and behavior of nutritionists in the treatment group, which shows that training with the media module can increase knowledge significantly.

In this study, changes in the mother's knowledge were seen specifically from knowledge items such as the importance of knowing the child's growth through weighing every month at the Posyandu. The function of the Growth Chart in helping the interpretation of growth results, malnourished children need to always get special attention in growth and development, and thin children, children who have a

problem, need to be referred. These items are very dominant in increasing mothers' knowledge between before and after being given training (Anatarini & Nugroho, 2018). Furthermore, the use of media allows for increased knowledge and positive understanding of mothers regarding nutritional information that they consider essential for the health of their families (Nugrahaeni, 2018).

Increased knowledge through information. Information can come from various forms, including formal and non-formal education, which is converted into knowledge. Knowledge is a significant domain for forming one's actions (Nurmansyah & Kilic, 2017). Knowledge is the result of knowledge, and this occurs after people perform sensing to a particular object, namely the senses of sight, hearing, smell, taste, and touch. Most knowledge or cognitive is an essential domain in shaping one's actions (Kotseruba & Tsotsos, 2020). According to Arifudin et al. (2017), training is closely associated



with education, when viewed from various abilities who wish to be returned, then obviously also means education training. Training is the right solution to meet knowledge needs.

Education and training are essential in a health institution, considering that achieving its goals requires a qualified and skilled workforce (Matt et al., 2020). Education and training of workers, especially in the health sector, increase knowledge, attitudes, and skills towards new things and a method of refreshment (Li et al., 2020). In the end, this problem will be one of the success factors in achieving institutional goals. Training is a process that includes a series of efforts that are carried out intentionally (Numonjonov, 2020), in the form of providing assistance carried out by professionals to increase the workability of participants in certain fields of work to increase effectiveness and productivity within an organization (Vaishnavi et al., 2019).

## **CONCLUSION**

Training using the Growth Chart module can improve the knowledge of mothers under five for the better, which is related to monitoring growth and development. Mothers of toddlers who participate in the training have the information and knowledge to implement the Growth Chart module to monitor grow up independently in toddlers. It is hoped that it can reduce the prevalence of nutrition such as malnutrition, stunting underweight in toddlers in the future.

Cross-sectoral actions are highly expected in efforts to overcome malnutrition, both in the form of specific and sensitive interventions and an acceleration of the 1000 HPK program, namely that nutrition improvement is prioritized at the age of toddlers. The first thousand days of life, i.e., 270 days during pregnancy and 730 days in the baby's first life. For nutritionists in Banda Aceh City, they can provide follow-up actions such as

health counseling and continuous training in increasing the rate of monitoring the growth and development of mothers. That can be carried out intensively, involving professional extension workers from universities and the health office.

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