

Empowerment of Posyandu Cadres in Early Detection of Child Growth Problems: Optimization of KIA Books

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Abstract

Posyandu (integrated health center) as a health information center for the community is expected to be the spearhead of early detection of developmental disorders in children under five. Posyandu activities are driven by cadres. Cadres monitor the growth of children under five through anthropometric measurements: body weight, height, head circumference and development milestones. Knowing how to measure anthropometric parameters, data plotting on a growth chart in the Maternal and Child Health (Kesehatan Ibu dan Anak=KIA) book, and interpret the results are very important. Cadres with good understanding and skills will greatly assist in monitoring child growth and development. This activity is expected to increase the knowledge and skills of cadres in monitoring child development. This activity was carried out through counseling, training, case study, and discussion. Pre-tests and post-tests were conducted to evaluate this activity. The mean pre-test was 40.00 ± 11.69 , with the lowest value being 10.00 and the highest value being 60.00. The mean post-test was 54.10 ± 12.08 , the lowest value was 30.00 and the highest was 90.00. The Wilcoxon test found $p=000$, where 20.5% participants' knowledge did not change while 69.23% had better knowledge compared to before the activity. Conclusion: This training can significantly improve cadres' knowledge and skills about the use of the KIA book.

1. INTRODUCTION

Children are the future generation who determine a nation's future. The good quality of children is a step in creating a bright future for a nation (Depkes, 2008; Kosim, Santosa, & Sudarmanto, 2009; Santosa *et al.*, 2019). Experts on child development agree that the first two years of a child's is the golden period or critical period (Iswarawanti, 2010). At the age of five, the size of a child's brain is 90% of an adult's (Soedjatmiko *et al.*, 2017). This is the period where children undergo rapid growth and development in which their brains are highly susceptible to stimuli from their surrounding

environment (Diana, 2010; Susanto, 2018; Hairunis, Salimo, & Dewi, 2018).

Yamin and Sabri (2013) stated that toddlers' brains during the first five years are susceptible to many stimuli, both positive and negative. Therefore, this period must be utilized to give guidance and positive values as well as adequate nutritional intake for the children (Susanto, 2018; Hairunis, Salimo, & Dewi, 2018). In addition, good stimulation and healthcare service must be provided for the children during this period (Soetjningsih, 2012). Due to the first five years being a relatively short period which can only happen once in the children's lifetime, everyone, including the

parents, caregivers, tutors, and healthcare personnel, including *posyandu* (integrated health center = IHC) cadres, must utilize this short period especially during the first two years of the children's lives, to reinforce the children.

The effort of forming strong and excellent future generations can be done by observing and making sure that each period of a child's growth goes well (Moersintowati, 2000). The quality of a child can be determined by their growth. The assessment of the child's growth begins at an early stage when the child is born. Early detection of growth problems is done to find growth problems in toddlers at an early stage and determining their risk factors. Stimulation, intervention, healing, and recovery can be done at an early stage with a clear indication, and in accordance with their age if the growth problem was also found at an early stage (Depkes, 2012). If the child's growth problem is discovered late during development, it will be much harder to interfere thus affecting the child's growth in the future (Depkes, 2008).

The detection of growth problems on children can be done by any part on any level of healthcare system, from the family, primary health center (*posyandu*/health cadres), midwife, doctors, and medical specialists. As a form of community participation under the Department of Health, *posyandu* is an implementation of basic health screening and observation. The liveliness of *posyandu* is determined by its cadres. Thus, the cadres hold important roles in the children's growth and development (Depkes, 2012).

One of the *posyandus* which are active in providing health service is a *posyandu* in Rempoah Village, Baturaden Sub-district, Banyumas District. The *posyandu* activity in Rempoah Village includes providing food supplements, anthropometric measurements, body weight measurement, height measurements, head circumference measurement, and measurement recording. Anthropometric measurement should not only be recorded in books but should also be plotted on the corresponding graph (body weight according to age, height according to age, body weight according to length, and head circumference graph) (Iswarawanti, 2010). Those graphs are available in Maternal and Child Health (*Kesehatan Ibu dan Anak* = KIA) book. Therefore, *posyandu* cadres must be able to comprehend and retain how to measure anthropometric parameters correctly, how to plot the data on the growth graph found in KIA, and interpret the data in the plot (Iswarawanti, 2010). Competent *posyandu* cadres will be helpful in observing the growth and development of children.

2. PROBLEM

Based on the previous observation, it is known that the problems found in *posyandu* in Desa Rempoah, is the

sub-optimal utilization of KIA book as a means of early detection of child growth defect. The anthropometric data based on the childrens' body weight, height, and head circumference has not been plotted into growth graph in KIA book thus the growth trend cannot be interpreted. In addition, the observation of growth aspect has not been conducted. Such problems also occurred in many *posyandu* in Banyumas (Zaki, Farida & Sari, 2018).

3. METHOD

3.1. Method, location, time, and duration of problem-solving activity

This activity was held in Rempoah Village, Baturaden Sub-district, Banyumas District. The participants are the cadres of *Posyandu* Bina Kasih I-XI. The problem in this *posyandu* is the sub-optimal utilization of KIA book to detect child growth problems in their early stage. The effort to solve the problem can be done through education and training for the cadres (Muntafiah *et al.*, 2018). The method uses to convey the materials are socialization, training, case exposure, and discussion. The socialization method was to convey the materials on the children's growth and development and how to detect growth problems at early stages. Training was done using the practice of measuring body weight, height, and head circumference properly and plotting the result in a normal growth graph included in *Kartu Menuju Sehat* (KMS) or Health Orientation Card and KIA book. Each participant was given a KIA book and as well as guidance on how to fill them. After data plotting, the participants were trained to interpret the result. The examples of cases also provided to ease the understanding of participants on the material.

3.2. Data collection and analysis

The participants' knowledge was assessed using pre-test and post-test. The pre-test was done to know the initial knowledge of the participants before the activity. On the other hand, a post-test was done to measure participants' knowledge after the activity. Data analysis was done through a statistical test using SPSS 22 for Windows.

4. RESULT AND DISCUSSION

This activity was attended by the community engagement team, government officials of Rempoah Village, midwives, and cadres of *Posyandu* Bina Kasih I-XI Rempoah (Figure 1, Figure 2). The *posyandu* cadres held a special role in this activity due to them being the community members who have the strategic role as the primary driving force of the whole activity in *posyandu* (Megawati & Wiramihardja, 2019). *Posyandu* cadres participate and work under the Department of Health as a basic means to observe the community's health.

The fundamental problem found in *posyandu* was the lack of knowledge by the cadres from an academic and technical standpoint. Therefore, improvement of their knowledge and skill was needed to hold the *posyandu* activity according to the norm, standard, and procedure and deliver optimum service. Regarding child growth, the cadres had to be equipped with the proper skills on measuring children's body weight, height, head circumference, as well as observing the toddlers' development (Kemenkes, 2012; Kemenkes, 2015; Megawati & Wiramihardja, 2019).



Figure 1. Community engagement team alongside the government representatives of Rempoah Village, housewife (Mrs. Munikmah, Amd.), and leader of posyandu cadres of Posyandu Bina Kasih (Mrs. Ratna Dewi Kristiani)



Figure 2. The team from Department of Health Unsoed alongside training participants

The activity began by registering the participants and distributing the questionnaire. Based on the questionnaire, the characteristic of the *posyandu* cadres in Desa Rempoah can be concluded. According to age, 42% of cadres are between the age of 27 to 40 years old; 40% of them are between 41 to 50 years old and 16% of them are above 51 years old. Most of the cadres (59.5%) had been cadres for ± 1 to 3 years; 11.9% of them had been cadres for 3 to 10 years, and 28.6% had been cadres for more than 10 years. The majority of the cadres (90.5%) were housewives and the rest of them (9.5%) were vendors. The *posyandu* cadres in Rempoah Village were active cadres. The 85.8% of the cadres always attended the training sessions from the local primary health clinic. Based on that data, it was known that housewives had a crucial role as the main forces in creating a healthy community. The housewives in

Rempoah Village not only acted as the target for health programs but also performers of programs who worked voluntarily for their country. Every month, the cadres who were housewives have to conduct a health check-up on the toddlers and senior citizens and compile the health data in their village (Wicaksono, 2016).

The main activity of this event is the training and socialization on children's growth by the speaker, Dr. dr. Qodri Santosa, M.Si. Med, Sp.A (Figure 3) assisted by the community engagement team as the facilitator. In this activity, the participants were given the KIA book by the facilitator. The speaker guided the cadres on how to fill the growth graph in the KIA books. Thus, the trend of a child's growth (increasing or not increasing) can be observed by plotting the anthropometric measures to the graph and connecting the dots in each month to make a growth line (Kemenkes, 2017).

The KIA books also facilitate the detection of growth problems at an early stage by looking at their signs and symptoms. The speaker explained the importance of surveillance on child growth by filling the checklist on the development abilities a child should have at their age, from the age of 0—3 months, 3—6 months, 6—12 months, and forward (1—6 years). The speaker explained that a child must be stimulated and trained if they have not acquired a milestone in the assessment list according to their age. If the child is unable to perform a developmental milestone after stimulation and training, the child must be brought to a health facility for further evaluation and treatment. Regarding the observation of a child's growth, in this activity, the participants were given training on the parameter on growth measurement including the measurement of body weight, height, and head circumference (Depkes, 2012). The measurement must result in valid data. The validity of the data measured by the cadres is crucial as they determine the children's growth, thus the next step can be decided.



Figure 3. Lecture on early detection of children's growth problems by speaker (Dr. dr. Qodri Santosa, M.Si. Med, Sp.A)

Aside from socialization, training for recording data in KIA books, and measuring body weight, height, and head circumference, the speaker also gave case

illustrations as examples in order for the participants understand better how to plot and connect the previous measurements as well as interpret the test result. In addition, the speaker stated that the plotting of premature babies has to be corrected. For instance, for a prematurely born infant who was born on the 36th week of pregnancy, plotting of KMS data and other growth graphs cannot be conducted. The better option is to plot according to the estimated date of delivery.

The participants' understanding before and after the activity were measured using pre-test and post-test. The pre-test was done to measure the participants' initial knowledge before the activity. On the other hand, post-test was done to measure the participants' knowledge after the activity. The cadres' knowledge data can be seen in [Table 1](#).

Table 1. Analysis result of cadres' knowledge before and after training

Variable	N	Medium (minimum- maximum)	Average ± SD	<i>p</i>
Knowledge before training	39	40 (10—60)	40,00 ± 11,69	0,000
Knowledge after training	39	50 (30—90)	54,10 ± 12,08	

Based on the Wilcoxon test result, it was known that 8 participants maintained the same level of knowledge, while the other 27 have increased their understanding compared to before being trained. The Wilcoxon test provided the significance $p=0,000$, thus it can be concluded that there is a significant difference in the participants' understanding before and after the activity.

5. CONCLUSION

Activities that will increase the knowledge and skills of posyandu cadres are important in order to support their role in the community. Inadequate use of the MCH Handbook as a tool for early detection of disorders of child growth and development problem can be solved by various methods, including lectures, training, case illustrations, and discussions. The success of this activity is measured by pre-test and post-test. Based on the results of the activity, it can be concluded that there are significant differences in participant's knowledge between before and after participating in the activity. The next activity plan that will be carried out by the service team is direct assistance and monitoring of the implementation of posyandu activities for early detection of child development disorders.

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