

# Optimizing the Capacity of Health Cadres in Child Growth and Development Screening Through the Web-Based Tool E-DDTK ASIK (Early Detection of Ideal Healthy Child Growth)

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## Abstract

Early detection of growth and development disorders will provide an opportunity for earlier stimulation. Early detection of growth and development deviations needs to be done to detect early deviations in toddler growth and development, including following up on any complaints from parents about their child's growth and development problems. The absence of target data that must be detected causes low coverage of the SDIDTK program, because parents do not know that their children must be detected for growth and development. The existing system still cannot provide fast, precise and accurate early information on cases of growth and development disorders, so training is needed on accessibility of child growth and development examinations through the development of a website-based SDIDTK model. It is hoped that health cadres in Suranadi Village, Suranadi Health Center area, will be able to conduct early detection of child growth and development using the E-DDTKASIK web-based application. The Community Service Team coordinated with partners in implementing this community service, namely the Suranadi Health Center. The target of the activity is 45 cadres in the Suranadi Health Center work area, the first stage is a pretest then socialization of the delivery of child growth and development materials and e-DDTK ASIK, after that a demonstration of the use of e-DDTK ASIK and a redemonstration for the participants and ending with a posttest to evaluate the knowledge of the cadres. All socialization and demonstration program activities were carried out well and smoothly, the location was appropriate and the participants actively participated in the activities.

**Keywords:** Children, Growth and development, Stimulation of Early Detection and Intervention of Child Growth and Development

## A. INTRODUCTION

Child growth and development monitoring program is a strategic effort to detect growth disorders (Info DATIN, 2016). Early detection of growth and development disorders will provide an opportunity for earlier stimulation. Early detection of growth and development deviations needs to be done to be able to detect early deviations in toddler growth and development including following up on any complaints from parents regarding their child's growth and development problems. If deviations are found, early intervention of toddler growth and development deviations is carried out as a corrective action by utilizing the elasticity of the child's brain so that growth and development return to normal or the deviations do not become more severe. Comprehensive and coordinated stimulation, detection and early intervention activities of toddler growth and development deviations are carried out in the form of partnerships between families (parents, child caregivers and other family members), communities (cadres, community leaders, professional organizations, non-governmental organizations, and so on) with professional personnel (health, education and social), will improve the quality of early childhood growth and development (Ministry of Health, 2016).

Since 2007, the Ministry of Health in collaboration with the Indonesian Pediatrician Association (IDAI) has developed an instrument for stimulation, detection and early intervention of growth and development for children aged 0 to 6 years, which is described in the Guidelines for the Implementation of Stimulation, Detection and Early Intervention of Growth and Development (SDIDTK) for Children at the Primary Health Service Level. To support its implementation, in 2015 the guidelines were revised by combining the implementation guideline book and SDIDTK instrument to make it simpler and easier to provide services. Thus, it is expected that all toddlers and preschool children will receive SDIDTK services (Ministry of Health, 2016). West Nusa Tenggara Province (NTB) is one of the provinces committed to improving maternal and child health. This commitment is demonstrated by the launch of the NTB Golden Generation Program (NTB, 2017). Several programs have been initiated in realizing the Golden Generation of NTB (NTB, 2017) including programs that improve child care patterns in households, early childhood education in institutions, and protection of children's rights in the community need to be integrated to fulfill children's needs as a whole. One of the activities that needs to be improved is regular monitoring of children's growth and development (NTB, 2017).

Children's health issues in NTB are currently one of the main focuses for both central and regional governments. Based on the Health Profile of the West Nusa Tenggara Health Office, the coverage of toddlers who received health services in 2021 was 70.7%, down 15.8% from 2020 which was 86.4%. Toddlers in NTB in 2021 experienced stunting nutritional problems of 14.09% and wereting nutritional problems of 5.59%. Further efforts are needed to be able to reduce nutritional problems in mothers and toddlers to a lower point than that achieved in 2013 (NTB, 2017). Further efforts that need to be developed are optimization of continuous monitoring of growth and development. Further efforts that need to be developed are continuous monitoring of growth and development. According to WHO, an area is categorized as good if the prevalence of stunting is less than 20% and the prevalence of wasting toddlers is less than 5% and is said to have acute nutritional problems if stunted toddlers are less than 20% and wasting toddlers are 5% or more. In addition, a region is said to have chronic nutritional problems if the prevalence of stunting is 20% or more and the prevalence of thinness is less than 5%.

Monitoring of growth and development can be done at home using an Early Detection of Child Growth and Development (DDTK) examination tool that is quite easy to do at home. Every mother-father and caregiver of early childhood is expected to have a KMS growth and development or DDTK card to monitor the growth and development of their children.

However, people's awareness to check their children's growth and development at the Health Center is still very low. Parents tend to stop checking and weighing their children after the child has been immunized (Saurina, 2017). One solution to this problem is to optimize the capabilities of Health Cadres in the work area of the Health Center which was previously done manually and can now be done by utilizing a web application based on information technology. Community empowerment through health cadres who have been trained by health workers. The results of the study showed that the use of information technology in monitoring early detection of growth and development is very helpful for parents and health workers (Kaban, Roberto, Roy Sari, Milda Siregar, Petri Yusrina, Rica Yunita, 2018; Purwanto, 2017; Widodo D.W., Kusriani, Boedijanto, 2014). Previous studies suggested developing the growth and development examination application and the integration of the child growth and development monitoring system to realize e-health and make it easier for parents and health workers (Yuzistin, Dea, Dindon Fiqri Aji, 2016). Therefore, this study tries to develop a child growth and development examination application through a website called E-DDTK.

Based on the NTB Provincial Health Profile, the coverage of toddlers receiving services in West Lombok Regency has decreased from 2020-2021 and is one of the regencies experiencing acute and chronic nutritional problems. The results of monitoring in the Suranadi Health Center area show that the information system for monitoring child growth and development disorders has not been able to update target data that must be detected according to age, considering that children do not have to be detected for growth and development every month. The absence of target data that must be detected in the current month causes low coverage of the SDIDTK program, because parents do not know that their children must be detected for growth and development. The existing system still cannot provide fast, precise and accurate early information on cases of growth and development disorders, so it is necessary to conduct training on accessibility of child growth and development examinations through the development of a website-based SDIDTK model called "E-DDTKASIK" (Electronic Early Detection of Healthy Child Growth and Development, Family Dreams), namely a growth and development examination system for children aged 0 months to 72 months which is carried out by health cadres easily or comfortably in Suranadi Village, Suranadi Health Center, Narmada District, West Lombok Regency.

## **B. METHODS**

The target of the activity was carried out in the Suranadi Health Center working area with participants consisting of 45 cadres in Suranadi Village spread across 9 hamlets. In the preparation stage, the Community Service Team coordinated with related parties for permits and approval for the implementation of the activity, then signed a letter of agreement to become a Partner with the Suranadi Health Center. The Community Service Team worked with Partners to determine the training location including the facilities and infrastructure and health workers involved in it.

The implementation stage begins with a Pretest on child development screening, then the delivery of materials and socialization on Child Development and web-based application materials E-DDTK ASIK. Then conducting a Demonstration on child development screening using E-DDTK ASIK, after that continued with a Redemonstration on child development screening using E-DDTK ASIK. At this implementation stage, assistance is provided in the use of modules, web-based applications and the use of electronic devices as learning media such as Smartphones or Laptops as well as assistance in the use of ppt media and web applications starting from inputting child data to printing the results of the child development examination. Furthermore, the evaluation stage is a post-test on 45 participants to evaluate knowledge and skills with direct practice on targets.

## **C. RESULTS**

The Team Leader and Community Service Members coordinate with the relevant parties, namely the Head of the Suranadi Health Center and the Head of Suranadi Village. The Community Service Team explains the planned activities to be carried out and provides a proposal as a form of readiness of the community service team. The community service team then coordinates with the Institution to create a letter of assignment based on the implementation matrix that has been collected.

The First Day of Implementation The Community Service Team opened the activity by inviting participants and related parties. After the opening ceremony, the community service team gave a pre-test in the form of a questionnaire to the participants. Furthermore, they explained the theoretical concept related to tumbang and an overview of the Asik E-DDTK Web Application to the participants. The Second Day of Implementation was attended by 45 participants. The community service team explained the use of the Asik E-DDTK Web Application to the participants and ended with Role Play/Practice.

The Community Service Team evaluated the participants' knowledge (questionnaire)

and ability (application usage) in using the E-DDTK Asik di Masyarakat web application. There were still participants who used devices that were not supported and there were still some participants who needed to be given more understanding regarding the use of the web application. The participants were dominated by housewives.

Table 1. Pretest and Posttest Values of Health Cadres' Ability in Screening Child Growth and Development Through e-DDTK ASIK

| Score | Pretest | Posttest |
|-------|---------|----------|
| 0-8   | 30      | -        |
| 9-16  | 12      | -        |
| 17-24 | 3       | 45       |

#### D. CONCLUSION

This program improved the skills of 45 health cadres in early childhood growth and development screening using the E-DDTK ASIK web tool. Despite minor technical limitations, the training was effective in enhancing knowledge and practice. Continued support and system refinement are needed to expand program reach and accuracy in monitoring.

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