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The Effect of Training on Improving the Knowledge of Cadres in Using E-Posyandu

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ABSTRACT
East Java is one of the provinces in Indonesia that reached the Maternal Mortality Rate (MMR) of 89.81/100,000 live births in 2019. This number is still above the SDG's target of 70/100,000 KH. Jember Regency is included in the top 5 regions with the highest MMR (133.4/100,000 live births). The Infant Mortality Rate (IMR) in East Java also tended t o stagnate in 2018 and 2019 (23/1,000 KH) and was above the SDG's target (12/1,000 KH). The maternal and infant h ealth data at Electronic Posyandu *(E-Posyandu)* can be used as information for early detection of risk factors for mater nal and infant mortality. This research aimed to analyze the effect of training on improving the competence of cadres i n the use of *E-Posyandu*. There were 10 cadres in Posyandu Manggis 15, 15A, and 18, Kemuning Lor Village, Jember Regency as respondents. The research was conducted in August 2021 and the sample was set at 10 cadres. The results showed that the average score of the posttest reached > 60 points. It showed that most cadres had good knowledge and competence in using *E-posyandu.* The training could improve the participants' knowledge and attitudes. This means th at they could receive the message that the resource person wanted to convey.

Keywords: *E-Posyandu, Knowledge, Maternal Mortality Rate, Training*

1. INTRODUCTION

COVID-19 cases in Indonesia are still the highest in ASEAN until April 2021 [1]. National authorities recognize the fact that the virus spreads through the air, and recommend that adequate control measures be implemented to prevent further spread. Many countries have implemented emergency response procedures, and travel bans have been put in place even lockdown procedures restricting the movement of people within administrative zones [2]. Social distancing and hand washing are the main actions recommended by World Health Organization (WHO) to prevent COVID-19 [2]. Several agencies implement work from home', including Posyandu cadres. Based on one of the programs of Posyandu that encourages the Sustainable Development Goals (SDGs) is improving the health status of mothers and babies.

The Maternal Mortality Rate (MMR) in East Java, one of the provinces in Indonesia, was 89.81/100,000 live births in 2019. This figure decreased compared to 2018 which reached 91.45 per 100,000 live births. Although MMR in East Java had met the Strategic Plan of East Java Health Office targets, it must keep trying to go down to fulfill the Sustainable Development Goals (SDGs) target (70/100,000 KH) [3].

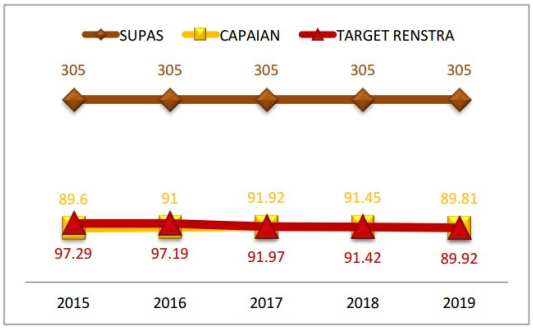


Figure 1. Maternal Mortality Rate (MMR) Per 100,000 Live Births East Java Province 2015 – 2019

Infant Mortality Rate in East Java also tended to stagnate in 2018 and 2019 (23/1,000 KH) and was above the SDG's target (12/1,000 KH). Likewise, stunting in East Java reached 32.81% and was far above the ministry of health strategic plan 2020-2024 target of 19% [4]. Efforts to reduce stunting are not only the task of the health sector because the causes are multidimensional, but must go through multisectoral action. Specific interventions are carried out by the health sector, while sensitive interventions are carried out by all stakeholders.

Stunting is a condition where toddlers have a length or height that is less than their age. Stunting is associated with a lack of energy and protein over a long period of time. This condition is measured by a length or height that is more than -2SD median child growth standard from World Health Organization (WHO) [5]. Data of recording and reporting of mothers and infants' health status at the Posyandu can be used as information for early detection of risk factors that can lead to MMR, IMR, and stunting in. For example, if a toddler has a long or short height examination, he has the potential to suffer from stunting [6].

Stunting in Jember reached 1,825 cases and Arjasa District contributed the highest number of under-fives with malnutrition as many as 87 under-fives [7]. Kemuning Lor, Arjasa district is a partner of Politeknik Negeri Jember which has stunting health problems, it is shown that 25% of children were at risk of stunting and 37.5% were indicated for stunting in 2019. Prevention of stunting is effective since the first 1000 days of life because the factors that cause stunting are influenced by the health status of the baby since in the womb [8].

Posyandu is a form of Community Based Health Effort carried out by, from, and with the community, to obtain health services for mothers, infants, and toddlers. Posyandu in Arjasa District (Manggis 15, Manggis 15A, and 18) are currently still experiencing many obstacles in the implementation of the information process. Moreover, the processing data about Posyandu activities around pregnant women and immunization activities for toddlers are still manual so that the processing of activity report data takes longer, a lot of scattered data, and frequent loss of data. Posyandu activities [9].

Information system development is needed to improve service efficiency and effectiveness [10]. E-Posyandu is an information technology-based that is used by cadres to record the health status of pregnant women and babies. It can facilitate early detection of risks of maternal, infant, and stunting mortality by cadres. End-user training is one of the most important steps for successful system implementation. Previous researches showed that education and training of information systems had effects on user satisfaction. Training is defined as a systematic effort to master skills, rules, concepts, or ways of behaving that have an impact on improving performance [11]. So, this research aimed to analyze the effect of training on improving the knowledge of cadres in using E-Posyandu.

2. METHOD

This is a quasi-experimental (quasi-experimental) research with a non-randomized pre-test-post-test design. This research aimed to measure knowledge and actions of cadres before and after the intervention with the following design:

P1 -------> T1 --------> P2

P1 = Initial measurement of the subject (pre-test) about knowledge of cadres and cadres' actions in using E-Posyandu.

T1 = Intervention in the form of training Posyandu cadres with materials about E-Posyandu for 2 hours.

P2 = Subjects' final measurement (post-test) about knowledge of cadres and cadres' actions in using E-Posyandu.

This research was conducted in three areas of Posyandu Kemuning Lor Village, Jember, named Manggis 15, 15A, and 18. The research sample was set at 10 cadres and selected purposively with the consideration that these cadres were active in Posyandu activities in the last 6 months. The intervention carried out was cadre training by providing a material about the benefits of monitoring the growth of pregnant women and toddlers which was carried out regularly every month. Moreover, the material on how to monitor the growth of toddlers and reading or interpreting the weighing results in the E-Posyandu is given through lecture methods and exercises or demonstrations. Cadres were also given material on how to operate E-Posyandu and how to do early detection of risk factors for maternal, infant mortality, and stunting using E-Posyandu.

The knowledge of cadres in terms of using E-Posyandu was measured twice per test and post-test by filling out a questionnaire with 10 multiple choice questions. The data were collected by using google form (https://forms.gle/dXDq1V5vsXvf6TVB7). The correct answer was given a score of 10 and the wrong answer was given a value of 0. Based on the total score, knowledge is classified into 2 categories [12]: Good if the respondent answered correctly ≥ 60 % or score ≥ 60 points and Bad if the respondent answered correctly <60% or score <60 points.

3. RESULTS AND DISCUSSION

Based on the results of the pre-test and post-test, cadres' knowledge before and after the training about the benefits of monitoring the growth of pregnant women and toddlers and how to do that; how to monitor the growth of toddlers and read the interpreting of weighing results in the E-Posyandu could be seen. Cadres were also given the material on how to operate E-Posyandu and how to do early detection of risk factors for maternal, infant mortality, and stunting using E-Posyandu.

Fig.1 is an illustration of the distribution of cadres participating in the training.

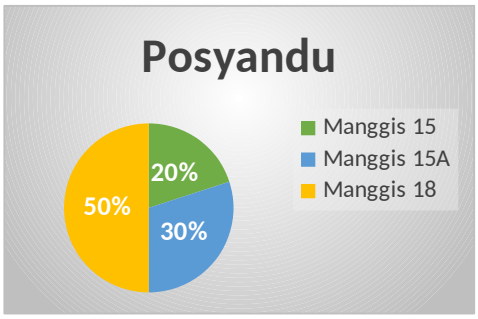
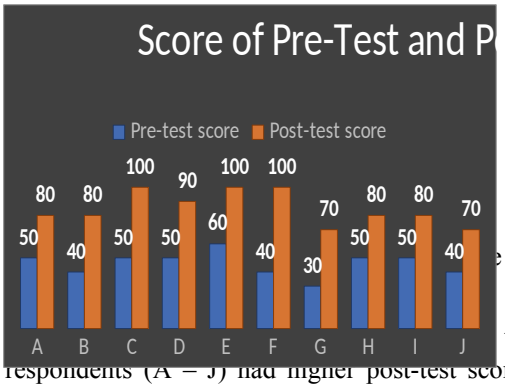


Figure 1. Distribution of cadres participating in the training based on the Posyandu.

Based on the picture above, it can be seen that most of the cadres were from Manggis 18 (50%) and the least of the cadres were from Manggis 15 (20%). This is related to the respondent criteria determined by the researcher that the cadres who were taken as respondents were to have involvement in Posyandu for at least 6 months. Thus, most of the cadres in the Manggis 18 Posyandu have worked at the Posyandu for more than 6 months. If the employee met the criteria, he/she could be involved as a respondent, if not he/she was dismissed. Moreover, this study assumed that six-month working is enough for employees to experience burnout syndrome [13]. Fig. 2 shows the pre-test and post-test scores of the cadres.



e cadres' that 10 respondents (A – J) had higher post-test scores than those of the pre-test i.e., respondent A had a pre-test score of 50 and a post-test of 80 (up 30 points). At the time of pre-test, only 1 out of the 10 respondents (10%) had a score ≥60. Meanwhile, after being given training materials, as many as 10 respondents (100%) had scores ≥ 60. Based on the interview, 100% of cadres had a minimum education of senior high school. There was also 1 cadre

ducation affects understanding or someone's knowledge of various things. Education is a foundation for forming, preparing, building and developing resources. A good education will be directly proportional with good knowledge, that is, with a relatively high level of education then the knowledge possessed will also tend to be higher and the provision of information will be easier to understand. When you look at the cadres' education in this study, they are senior high school graduates and some even have undergraduate education. So, the training given can be easily understood by them [12].

The knowledge enhancement is because there is new information conveyed to cadres through training, where the new information obtained is a substitute for the knowledge that has been acquired before or is a refinement from previous information [12]. The findings of this study were also in line with the research conducted by [14] that indicated there was an increase in the knowledge of cadres to educate the elderly about obesity and hypertension. The existence of information or knowledge frequently and repeatedly can increase the retention of one's knowledge and skills [14].

The results were also in line with the findings of [15] that statistical tests show the differences in the level of knowledge and ability in maintaining dental and oral health before and after counselling and training with audio-visual media and edutainment methods. Increased knowledge of a person can change or strengthen his attitude towards something. In addition, it is necessary to create fun and excitement, and this atmosphere can create a positive attitude towards learning objectives

4. CONCLUSION

It could be concluded that the training of E-Posyandu information system was highly influential to knowledge improvement in the cadres of Posyandu. So, they have the ability to detect risk factors or maternal and infant mortality even stunting by using available information systems. This invention is predicted to help cadres in improving their knowledge and service quality in Posyandu.

AUTHORS' CONTRIBUTIONS

MWS carried out the research and participated in the sequence alignment and drafted the manuscript. MY carried out the system design and instrument for collecting the data. ER performed the statistical analysis. AD helped to draft the manuscript. All authors read and approved the final manuscript.

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