

Analysis Of The Knowledge Level Of Posyandu Cadres In Using The Anthropometric Measurement Kit To Prevent Stunting Risks In The Working Area Of Wonokromo Community Health Center

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ABSTRACT

The level of knowledge of Posyandu cadres in assessing stunting includes anthropometric measurements kit such as height (TB) and weight (BB). The anthropometric kit is one of the key components in assessing nutritional status in children and adults. Assessing the nutritional status of infants to predict long-term health complications requires anthropometric kit examinations nutritional status. This study aims to determine the level of most of them are skilled and knowledge is mostly inadequate of Posyandu cadres in anthropometric kit measurements to prevent stunting in the working area of Wonokromo Community Health Center, Surabaya. The method used is descriptive survey, with a sample of 30 Posyandu cadres involved in anthropometric kit measurements. The results of the study show that before training, most Posyandu cadres were not skilled, but after training, most became skilled. The majority of cadres showed inadequate knowledge prior to training before training but improved significantly afterward. It is recommended for health centers to provide repeated training and evaluate Posyandu cadres by imparting knowledge and skills on proper measurement techniques, especially for stunted children, and accompany them during anthropometric kit measurements to ensure better understanding.

Keywords : Anthropometric Measurement Kit, Level of Knowledge, Posyandu Cadres, Stunting

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INTRODUCTION

The improvement program for basic health services, especially for mothers and children, involves the role of healthcare professionals assisted by health cadres in providing health services to the community, particularly for mothers and children. One type of activity to expand the reach and enhance the quality of health services is the integrated health post (Posyandu). Posyandu is known as a center for basic health services, especially for toddlers. Posyandu should now be capable of providing comprehensive health information to serve as a hub for community health operations. The presence of Posyandu is significant in the community; besides being a platform for community empowerment, Posyandu also serves as a model for basic health services, especially related to the reduction of child mortality rates (Saepudin et al., 2017). Conducting training on anthropometric measurements based on established procedures can help improve the skills of health cadres in measuring anthropometry (Hardiyanti et al., 2018).

In addressing stunting, health cadres have received socialization and basic training, as well as refreshers in activities at the integrated health post (Posyandu) through conventional methods. Conventional training involves discussions led by mentors and question-answer

sessions. The selection of training methods for health cadres should be based on the problems, conditions, and situations they are trained for. This effort is one of the ways to achieve competent and skilled health cadres in anthropometric measurements. A key component in researching the nutritional status of both children and adults is anthropometry. Anthropometry is a method used to assess the size, proportions, and composition of the human body (Ministry of Health, Indonesia, 2020). Anthropometric measurements serve as a basis for evaluating the development and growth of the baby in the womb. Abnormal anthropometric measurements are considered signs of fetal failure to achieve optimal growth and development. Poor/poor nutritional conditions and stunting in toddlers can hamper children's development, with negative impacts that will continue in later life such as intellectual decline, susceptibility to disease, decreased productivity, leading to poverty and the risk of giving birth to babies with low birth weight (WHO, 2010)

The improvement of a cadre's skills should be carried out regularly. Enhancing the skills within a healthcare framework aims to improve the quality of healthcare services. This includes the weighing stage, where healthcare workers often measure weight without following anthropometric measurement procedures, resulting in less accurate results. Anthropometric measurements performed by a cadre typically involve measuring the weight and height of infants and toddlers.

This is also reinforced by the findings of the Basic Health Research (Riskesdas) in 2018 which stated that the stunting rate was 30.8%, wasting 10.2%, and obesity rate 8%. UNICEF reports that this figure has the potential to increase due to the Covid-19 pandemic. Without proper action and timely handling, the number of malnourished children is predicted to increase by 15% or 7 million people worldwide. This is because every 1% decrease in global GDP has an impact on increasing the number of stunted children by 0.7 million worldwide.

The high incidence of abnormal anthropometric measurements in newborns will impact the quality of future generations/human resources in Indonesia. Anthropometric parameters in newborns can provide valuable references and aid in diagnosing fetal growth impediments, predicting early postnatal complications, assessing postnatal growth (as seen from Growth Monitoring Chart graphs), predicting long-term complications, including metabolic syndromes. These parameters can also serve as a basis for early nutritional improvement, especially during the golden age (the first 1000 days of life). The results of these parameters can be used as references to prevent fetal growth during pregnancy, which can impact the physical, mental, health, and intelligence growth of the baby into the future. Stunting is characterized by delayed growth or chronic nutritional problems caused by insufficient nutritional intake over an extended period, generally due to inadequate dietary intake. There is a gap in knowledge that is less specific among Posyandu cadres even though training has often been carried out by the health center. This is the basis for researchers wanting to analyze the level of knowledge and skills in helping to handle stunting risk factors in the Wonokromo area.

This research aims to determine the level of knowledge among integrated health post (Posyandu) cadres regarding anthropometric measurements to prevent stunting in the working area of the Wonokromo Health Center in Surabaya.

METHODS

This study used a descriptive survey method with the aim of providing an overview of the level of knowledge of Posyandu cadres about anthropometric measurements to prevent stunting in the Wonokromo Health Center Surabaya work area. The sampling technique used probability sampling. The study was conducted at the Posyandu location in the Wonokromo Health Center Surabaya work area. The population of this study was all Posyandu cadres who carried out anthropometric measurements in the Wonokromo Health Center work area. The sample of this study was 30 Posyandu cadres who carried out anthropometric measurements in

the Wonokromo Health Center work area, with the criteria of cadres who handled toddlers, had received training and were in the Wonokromo Health Center area. Data collection was carried out using questionnaires and direct interviews. The questionnaire contained 4 questions and the questionnaire about skills contained 7 questions with a composite reliability of 0.85%. The training provided was measuring weight, height, middle upper arm circumference, stadiometer measurement, Infantometer Measurement Board, weighing babies with digital and adults.

Statistical Test

Statistical data analysis involves examining the mean, median, mode, highest and lowest values, and standard deviation before and after the study. Meanwhile, to determine the significance of the differences in each nutritional indicator, the paired t-test statistical method is utilized.

RESULTS

Table 1. Classification of Age for Integrated Health Post (Posyandu) Cadres

Age Categories	N	%
30-40	10	33,3
41-50	17	56,7
51-60	3	10,0
Total	30	100

Level of Education	N	%
Elementary School	0	0
Junior High School	0	0
high school	27	90,0
Collage	3	10,0
Total	30	100

Table 2. Education Level of Integrated Health Post (Posyandu) Cadres

The age of most integrated health post (Posyandu) cadres is predominantly (56.7%) in the 41-50 years category. Meanwhile, the educational level of most Posyandu cadres is primarily (90.0%) high school (SMA).

Variable	correct		deficient	
	N	%	N	%
Knowledge				
Pre test				
- Signs of Stunting	8	47,1	22	21,4
- Balanced Nutrition	4	23,5	26	25,2
- Nutritional Status	2	11,8	28	27,2
Measurement				
- Lactation Management	3	17,6	27	26,2
Post Test				
- Signs of Stunting	30	31,9	0	0
- Balanced Nutrition	21	22,3	9	42,9
- Nutritional Status	15	16	10	47,6
Measurement				
- Lactation Management	28	29,8	2	9,5

Table 3. Knowledge Level of Integrated Health Post (Posyandu) Cadres

It is known that the knowledge of integrated health post (Posyandu) cadres before training (pre-test) is mostly in the category of insufficient, while after training, it is mostly in the category of good.

Table 4. Skills of Integrated Health Post (Posyandu) Cadres

Variable	skilled		unskilled	
	N	%	N	%
Pre test				
- Weight Measurement	30	25,6	0	0
- Height Measurement	30	25,6	0	0
- Mid-Upper Arm Circumference Measurement	9	7,8	21	22,5
- Stadiometer Measurement	0	0	30	32,3
- Infantometer Board Measure-ment	0	0	30	32,3
- Digital Baby Weighing	18	15,4	12	12,9
- Adult Weighing	30	25,6	0	0
Post Test				
- Weight Measurement	30	16,2	0	0
- Height Measurement	30	16,2	0	0
- Mid-Upper Arm Circumference Measurement	30	16,2	0	0
- Stadiometer Measurement	18	9,7	2	40
- Infantometer Board Measure-ment	17	9,3	3	60
- Digital Baby Weighing	30	16,2	0	0
- Adult Weighing	30	16,2	0	0

Table 5. Difference Test of Knowledge and Skills of Integrated Health Post (Posyandu) Cadres

Knowledge	N	Mean	Median	SD	Sign.
Pre-Test					
- Signs of Stunting	30	4,8	5	1,02	0,00
- Balanced Nutrition	30	4,6	5	1,29	0,00
- Nutritional Status Measurement	30	4,5	4	1,0	0,00
- Lactation Management	30	4,4	4	0,99	0,00
Post Test					
- Signs of Stunting	30	8,2	8	1,33	0,00
- Balanced Nutrition	30	7,8	8	1,48	0,00
- Nutritional Status Measurement	30	8,2	9	1,39	0,00
- Lactation Management	30	8,2	8	1,26	0,00
Skills					
Pre-Test					
- Weight Measurement	30	6,3	7	0,96	0,00
- Height Measurement	30	6,3	7	0,96	0,00
- Mid-Upper Arm Circumference Measurement	30	4,7	5	1,35	0,00
- Stadiometer Measurement	30	3	3	0,73	0,00
- Infantometer Board Measure-ment	30	0	0	0,00	0,00
- Digital Baby Weighing	30	4,6	5	0,65	0,00
- Adult Weighing	30	6,3	7	0,96	0,00
Post-Test					
- Weight Measurement	30	6,3	7	0,96	0,00

-	Height Measurement		30	6,3	7	0,96	0,00
-	Mid-Upper Arm Circumference Measurement		30	6,8	7	1,22	0,00
-	Stadiometer Measurement		30	4,7	5	0,59	0,00
-	Infantometer Board Measurement		30	3,7	5	2,21	0,00
-	Digital Baby Weighing		30	11,6	13	2,12	0,00
-	Adult Weighing		30	6,3	7	0,96	0,00

Bivariate analysis consists of the results of the difference test of the skills of integrated health post (Posyandu) cadres before and after training, the difference in knowledge of Posyandu cadres before and after training, as well as the difference in knowledge of Posyandu participants before and after Posyandu cadre training. There is significance in all skill components. Based on the table, it is known that most Posyandu cadres were not skilled before the training, except for height (TB) measurement, weight (BB), and adult weighing. Meanwhile, after the training, most Posyandu cadres became skilled, except for height (TB) measurement, weight (BB), and adult weighing, where they were already skilled before the training. This is because these measurements are commonly performed by health cadres during Posyandu sessions.

DISCUSSION

In this study, most of the integrated health post (Posyandu) cadres fall within the age group of 41-50 years, accounting for 56.7%. This age category corresponds to adulthood, a phase characterized by commitment and responsibilities. Adults are generally more adept at socializing compared to adolescents. Therefore, it is expected that cadres in this age group possess a high social spirit, leading Posyandu sessions responsibly, and disseminating health information to the community. Additionally, individuals in the adult age group tend to be more confident within their communities compared to younger individuals. Based on the research findings, the majority of cadres have completed high school education, accounting for 90%. Education level is associated with the ability to comprehend health information, whether disseminated through mass media or healthcare professionals to the community (Puba, S.J, et al., 2019).

The higher the level of education, the easier it is to receive information that can enhance knowledge about the overview of Posyandu. This aligns with Ngaisyah's research (2018), stating that training can effectively help improve the skills and capacities of Posyandu cadres, especially in balanced nutrition education and the assessment and monitoring of nutritional status. Through additional education, cadres will have a broader perspective compared to those without additional education, especially related to their duties. Knowledge of Posyandu among cadres is crucial because good knowledge tends to enhance the quality of their work.

From the results of this research, the ability of Posyandu cadres to measure weight, height, Mid-Upper Arm Circumference (LILA), stadiometer, infantometer board, digital baby weighing, and adult weighing improved after receiving training (Table 4). Additionally, the knowledge of cadres about signs of stunting, balanced nutrition, nutritional status measurement, lactation management in stunting prevention also improved (Table 3), and these differences are statistically significant (Table 5). In general, these cadres have gained a better understanding.

CONCLUSION

In this study, most of the posyandu cadres were in the 41-50 year age group, which was 56.7%. This age group is an adult age group, which is a period marked by commitment and responsibility. Adult cadres are generally better at socializing than teenagers. Therefore, it is expected that cadres in this age group have a high social spirit, lead posyandu activities with full responsibility, and are able to disseminate health information to the community. In addition, individuals in the adult age group tend to be more confident in interacting with the community compared to younger individuals. Based on the results of the study, most cadres have completed high school education, which is 90%. The level of education is related to the ability to understand health information, both that disseminated through mass media and health workers to the community (Puba, S.J, et al., 2019). The higher the level of education, the easier it is to obtain information that can increase knowledge about the general picture of posyandu. This is in line with Ngaisyah's research (2018) which states that training can effectively help improve the skills and capacity of Posyandu cadres, especially in balanced nutrition education and nutritional status assessment and monitoring. Through additional education, cadres will have broader insights compared to those who do not have additional education, especially related to their duties. Knowledge about Posyandu among cadres is very important because good knowledge tends to improve the quality of their work.

From the results of this study, the ability of Posyandu cadres in measuring weight, height, Upper Arm Circumference (LILA), stadiometer, infantometer board, digital baby weighing, and adult weighing increased after receiving training (Table 4). In addition, cadres' knowledge of signs of stunting, balanced nutrition, measuring nutritional status, lactation management in preventing stunting also increased (Table 3), and this difference was statistically significant (Table 5). In general, these cadres have gained a better understanding. At the previous level of knowledge, there was only an increase in knowledge but not accompanied by skills because only education or increased knowledge was given, not accompanied by skills provision so that previously there were still many mistakes.

Posyandu is an abbreviation of Integrated Service Post which includes the definition, objectives, targets, and activities carried out in Posyandu. Posyandu cadres who have good knowledge tend to have higher self-confidence compared to cadres who have less knowledge. Therefore, it is expected that cadres can provide effective services during Posyandu activities. Improving cadre knowledge through training is very important so that cadres are able to manage and carry out Posyandu activities, especially in providing education and counseling to Posyandu participants according to their abilities. Knowledge and cognition are crucial areas in shaping individual actions (Rahman et al., 2019). The cause of children/toddlers experiencing stunting is not solely due to lack of nutritional intake over a long period of time. Anthropometric errors can also affect the accuracy, precision, and validity of measurements. Measurement errors can have a major impact because inaccurate measurements can lead to incorrect data and interpretations which can lead to misdiagnosis. This in turn can lead to errors in the classification of stunted and non-stunted toddlers. This was proven in the research of Fitri & Restusari (2017). This shows that the level of skill, accuracy, and precision of data collected by Posyandu cadres is still very low. Around 90.3% of Posyandu cadres made mistakes in weighing, especially in using the scale queue. The results of the study also showed that 100% of the cadres selected as samples did not know how to weigh correctly, measure height correctly, and weigh with adult scales correctly. However, this knowledge has not yet reached 100%, so that information about the nutritional status of toddlers is inaccurate, meaning that good nutrition can be misinterpreted as poor or inadequate nutrition, and vice versa. This was proven in the study of Husniyawati, Y.R., & Wulandari, R.D. (2016). Although the results of observations of weight measurements were quite good, there were still some cadres who forgot to remove the attributes worn by the child during weighing and did not repeat

the measurement three times. One of the factors that influences the low level of knowledge is the lack of experience and knowledge in conducting anthropometric measurements. This is where support and evaluation are needed, as well as continuous assistance to improve the knowledge, skills and experience of cadre.

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