

Action Research in Raknamo Village as a Strategy Method for Handling Stunting

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Abstract

Stunting in toddlers is a crisis for the world. The causes of stunting are very broad, meaning they involve many factors. The intervention using the action method used to reduce stunting is evaluating government program policies from actions one to eight as well as the intervention of providing stunting food packages to 45 children under five for 1 month.

This research method is a mixed method, namely an intervention method of providing nutritious meal packages to 45 children experiencing stunting and analysis of government policies that lead to convergence action through eight stages involving cross-program and sectoral issues. The main finding in this research is that the importance of each stage of convergence action has a significant effect on the level of stunting reduction and nutritional intervention programs. The findings highlight the economic status of families and basic health interventions that need to be followed up by government and community participation.

Keywords: Stunting; action research, Stunting Management strategy methods

Introduction

Stunting has become a global problem, it is also a problem in Indonesia. Basically, the problem of stunting is caused by three main factors, namely lack of food intake, development policies that are centered on collaboration of pro-people health policy elements, and health status 3-5 According to the Ministry of Health's Indonesian Nutritional Status Study report, the prevalence of stunting in Indonesia fell from 27.7% in 2019, 24.4% in 2021, to 21.6% in 2022 with the majority occurring in children aged 3-4 years. 6%. However, this figure is still not in accordance with WHO standards which targets less than 20%. For this reason, the government is trying to reduce the stunting rate to 17% in 2023 and 14% in 2024 (Rokom, 25 January 2023)^{1,2,3,4,5} Stunting is not only a health problem, but also has social and economic impacts. Stunted children experience physical and mental development disorders, low immunity, nutritional and health problems, low academic achievement, and have an impact on productivity and the economy in the long term^{6,7,8,9,10}. The aim of this action research is to contribute to solving problems in society Raknamo Village in preventing stunting and planning next goals. Thus, there is a double commitment in action research, namely: studying a system while collaborating system components to make changes in the same direction and intervention in providing nutrition so that children with stunting do not experience prolonged malnutrition which causes infectious diseases that inhibit growth and development child,^{6,7,8,9,10}.

Methods

Research design

The method used in the research is qualitative approach using a case study approach for each stage of action and a quantitative approach using a quasi-experimental method with a one-group quasi-experimental design without control. Nutrition package feeding. Data collection was carried out by interviews, document studies, and observations. This type of research is qualitative research with a case study approach. Data collection was carried out by interviews, document studies, and observations. The interview guide was created based on the theory used in this research, Policy Analysis Model Exploration Theory in the Policy Analysis Triangle Perspective, this theory explains each component in the policy

analysis framework. The sample for this research was 45 children who experienced stunting spread across 6 Posyandu in Raknamo Village. The sampling technique was that the selection of informants was carried out using a purposive sampling technique, where the researcher selected informants who were considered to be involved in implementing policies at the village, sub-district and cross-program levels and the beneficiaries of policy implementation in this case were the mothers of 45 stunted toddlers.

Study Participants

The study participants in this research were a total sampling of 45 parents of stunted toddlers and the policy makers were all stunting program implementers at the village, sub-district level, Kupang Regency family planning agency, Kupang Regency Health Service and Fatukanuti Community Health Center totaling 45 respondents. The inclusion criteria for this research are stunted toddlers, all toddlers who have been designated by the Community Health Center as stunted children with malnutrition.

Variables, instruments and data collection

This research variable is a) to measure nutrition and stunting are toddlers with nutritional status, age, height and weight. b). assessing the convergence action policy for handling stunting is the implementing officers for handling stunting in villages, sub-districts and districts and across programs and sectors who are willing to become respondents. This research is giving questionnaires to obtain data on intervention policies and direct interviews. Parents of toddlers were interviewed and measured their children's nutritional status both before and after providing nutritional food for a duration of 3 months to 45 children. The interviews focused on collecting demographic information and factors regarding the incidence of stunting, measuring stunted toddlers at 6 Posyandu, providing stunting nutrition packages to 45 children for 3 months. Apart from that, data was obtained from interviews with village government, Health Officers, posyandu cadres and parents of stunted toddlers, then data analysis was carried out with three activities, namely data reduction, data display and verification or drawing conclusions. Data was analyzed qualitatively and quantitatively using SPSS for Windows and descriptively. A research method based on observational analytics and intervention. This research was carried out from March 3 to June 30 2023 in Raknamo Village with a coverage of 6 Posyandu with 45 stunted toddlers who met the inclusion criteria, namely children with stunting status who had been measured by the Community Health Center and whose parents were willing to volunteer as research respondents.

Data analysis

The interview data were analyzed descriptively according to the stages of policy action, while the nutritional feeding intervention data was analyzed bivariately using the Spearman test and the Mann-Whitney test.

Ethical Clearance

The Health Polytechnic Research Ethics Committee of the Ministry of Health Kupang Section gave approval to this research. (LB No. 02.03/1/0090/2023, dated 05 May 2023) to ensure compliance with ethical standards.

Results and Discussion

After conducting research from March to July 2023, the researchers obtained the following results:

From the data in table 2 and table 3, it can be concluded that providing nutritional intervention for 3 months to stunted toddlers influences the increase in body weight and increase in upper arm circumference of stunted toddlers, whereas in table 1, it can be concluded that giving nutritional packages cannot increase height in toddlers stunting. Table 4 shows that the implementation of cross-program and cross-sectoral policy actions at stages 1-4 and stages 7-8 have a good level of coverage compared to the implementation of actions 5 – 6. This means the majority of regional have understood and implemented stunting convergence action well so to able to have good nutrition (60%). Action 1 is a stunting intervention is an activity to identify the distribution of stunting, program availability, and obstacles in implementing integrated nutrition interventions. In this action, information will be obtained regarding the prevalence of stunting according to Posyandu (stunting distribution data) and the determination of stunting priority loci or villages. This data will then be submitted to the highest data centers, namely health centers and districts. Regional officials can use data on stunting distribution and locus villages as a reference in planning and budgeting or changing the current year's budget for the sake of smooth convergence actions. This research found that the majority of 52.4% of village officials implemented (Table 4). Stunting convergence action well compared to achievements of implementing other action (p value = 0.000 < 0.05). Data shows that the majority (81.8%) of villages and community health centers that implemented the first stunting had good programs.

Table 4 also shows that poor/low intervention program coverage can be protected/avoided by implementing good and correct stunting convergence measures 1 (OR < 1 = 0.76). This is in accordance with the opinion of Picauly^{11,12,13,14} and who state that the implementation of action 1 must receive serious support from the regional government level from district to village together with all stakeholders (non-government/private). parties) which is still very limited. Apart from

that, assistance is needed to monitor all obstacles in the field and perfect situation analysis data to complete convergence data for subsequent actions.^{28,31,33}

Implementation of stunting convergence action 1 begins with a discussion of data or findings from the situation analysis process. Two important things that are the aim of discussing situation analysis : 1). Assist district/city governments in determining program/activity priority locus 2). Determine efforts to improve service management to increase household access in the First 1,000 Days of Life to intervention. Thus, the results of the situation analysis can help to understand the problems in integrating specific action^{28,31,32,33} basis for preparing recommendations for activities that must be carried out to increase the integration action the First 1,000 Days of Birth.^{28,31,33}

The preparation of the activity plan in action 2 is interpreted as a follow-up plan for the district/city in realizing the recommendations resulting from the situation analysis (Ansit). This research found that the majority of 61.9% of posyandu and Raknamo village and Fatukanutu Community Health Center implemented (2) actions well compared implementing other actions (Table 1). However, there are still 38.5% of Posyandu whose intervention is low. (pvalue = 0.036<0.05). good implementation of the second convergence action will have a 16-fold impact on increasing intervention (OR : 1,688). This data is in accordance with the results of research which found that the majority (61,5 %) of villages and community health center implementing stunting convergence action 2.

The stunting discussion (Action 3) is an important step that must be taken by the Kupang Regency interventions jointly between Village Officials, Community Health Centers, service stakeholders with the non-government/institutional sector and the community. will jointly confirm, synchronize and synergize the results of the situation analysis and preparation of sub-district and village Musrenbang activity plans in an effort to reduce stunting in the locus locations. This research found that the majority were 66.7% has significant effect (p =value : 0,000<0,05). Based on the odds ratio value, in know that implementing 3 good convergence measures will have a 3.744-fold effect on increasing intervention program coverage. It is stated that efforts to prevent stunting require the implementation of integrated nutritional interventions in priority locus target in the first 1000 days of birth. To achieve this integration, it is necessary to align planning, budgeting, implementation, monitoring and control of activities across sectors and between levels of government and society.. The Central Government has budgeted a fairly large Village Fund to be given to villages - to be used for development activities relevant to reducing stunting rates.

Actions 4 and 5 for stunting convergence are two interrelated things. The Regent's Regulation (Action referred to here is a regulation that explains the role and authority of the village which is used as a reference for the village government in planning and allocating budget from the Village Expenditure budget to carry out integrated stunting reduction intervention activities, at the village level. Providing guidance to villages to enpare the effectiveness of the mobilization of cadres who function as human development cadres who will assist villages in facilitating the integration of stunting reduction interventions at the village level. The integration of these two actions is in accordance with research results which found that both actions had the same effect (p-value of action 4: 0.000<0.05 and p-value of action 5: 0.024<0.05) on increasing the coverage of stunting intervention programs. This means that the Kupang Regent's Regulation must strengthen the village's position regarding the village's role in interventions to reduce stunting and guide village officials in their duties to ensure the effectiveness of cadre mobilization as human development cadres in the process the reducing in vilages level. The odss ratio value show that implementing convergance measures 4&5 can have an effect of 2.585 and 172 times on increasing coverage of nutrition intervention programs. The stunting reduction intervention data management system (Action 6) is a data management effort at the district/city level up to the village level which will be used to support the implementation of other integrated actions, as well as being used to help handle stunting in an integrated manner, reduction programs/activities. The data management system includes data on every indicator ranging from stunting data to coverage of specific and sensitive nutritional interventions. This research sh 11 that 61.5% have good intervention program coverage even though the data management aspect is poor (Action 6). The results of this research support this opinion, which states that a data management system must cover all activities from identifying data needs, data collection to data utilization, to ensure the availability of accurate and up-to- date information from the lowest level. village to district level. Thus, the objective of action 6 can be measured or achieved, namely helping to provide and facilitate access to data for the management of an integrated stunting reduction program starting from data: Action 1 (Situation Analysis), Action 2 (Preparation of Activity Plan), Action 3 (Rembuk Stunting), Action 5 (Developgent), and Action 8 (Performance Review), Measuring and publishing stunting rates (Action 7) is the government's effort to obtain the latest stunting prevalence data at the Puskesmas, Subdistrict and Village scale. This research hows that 76.2% have good intervention program coverage although it is still limited in terms publication. The results of statistical analysis show that there is a significant influence (pvalue: 0.033<0.05) on the coverage of sensitive nutrition intervention programs. The results of the odds ratio analysis also show that the implementation of 6 convergence actions can have an impact of 1.917 times on increasing intervention stunting programs.

This means that the better the measurement and publication process, the more it will be able to influence the achievement of intervention program coverage, including reducing the prevalence of stunting. The results of measuring and publishing stunting figures are used to strengthen the commitment of local governments and communities in the joint movement to

reduce stunting. Procedures for measuring stunting are still guided by Ministry of Health regulations or other applicable policies. The Annual Performance Review (Action 8) is a review carried out by the district/city government on the performance of implementing programs and activities related to stunting reduction over the past year. Implementing integrated stunting reduction interventions is a shared responsibility across sectors ^{25,26,20}

This research shows that 52.4% have good intervention program coverage, although many districts still have limited information regarding the realization of planned stunting reduction activities; realization of budget for stunting reduction programs/activities; factors inhibiting performance achievement and identification of alternative solutions; development achievement of results (stunting prevalence), and recommended factors for improvement. The results of statistical analysis show that there is a significant influence (pvalue: $0.047 < 0.05$) on the coverage of poor nutrition.. The results of the odds ratio analysis also show that implementing 8 convergence actions can have a 1,719, effect on increasing coverage of sensitive nutrition intervention programs. The means that the better the annual performance review process, the more influence it will have on achieving coverage of the intervention program, including reducing the prevalence of stunting. S stated that the State Civil Service's understanding of stunting and the function of convergence and implementation across stakeholders was still poor ^{25,12,31}

The recommendations given are to increase the understanding of the State Civil Apparatus regarding stunting and convergence, carry out simulations of convergence mechanisms and perfect situation analysis data for completeness of convergence data in subsequent actions. Therefore, efforts to reduce stunting need to be strengthened with the support of all parties, including the government, private sector, universities and the community, through specific and sensitive interventions ^{25,27,29}

From table 5 above, it can be concluded that there is a very strong relationship between family economic status and basic health intervention with the incidence of stunting $P > 100$. From the data above, it can be concluded that the family's economic status plays a very important role in the continuity of providing nutritional food intake in the first 1000 days of life ^{34,35}. Factors that support this are support for basic health services from the Government and agencies related to clean water and sanitation services, family latrines to prevent infection from tropical diseases which can reduce the incidence of sunstroke in children under five **5.9,11, 13,30, 32.33.34.35.30.**

CONCLUSION

The implementation of the Stunting Convergence intervention measures (1-8) had a significant impact reducing stunting at the Fatukanutu Community Health Center, Raknamo Village, Kupang Regency. Situation Analysis (Action 1) can be a protective factor solution for the good or bad coverage of the intervention program in Raknamo Village. Kupang Regency. The implementation of convergence interventions with the support of local governments will have a real impact on increasing intervention reducing stunting. There is a significant relationship between economic status and basic health on the incidence of stunting in Raknamo Village. Kupang Regency. The limitation of this research is that reducing stunting must be multi-action, while the research is viewed from policy interventions and short periodic interventions providing nutrition. Reducing stunting must be intervened in a convergent manner over a long period of time involving various elements including the government.

Contribution:

AA , Data Curation, Formal Analysis, Methodology, Validation, Visualization, Writing – Original Draft, Review & Editing; Conceptualization , Investigation, Methodology, Validation, and Writing TA – Original Draft, Review & Editing; Conceptualization , Methodology, Formal Analysis, Validation, and Writing of GA – Original Draft, Review & Editing.

Conflict of interest: The authors declare that there is no conflict of interest

Ethics approval and consent to participate: The research has received ethical approval from the Ethics Commission of the Kupang Health Polytechnic of the Ministry of Health based on ethical certificate number LB. 02.03/1/0090/2023, 05 May 2023. During the research, the researcher paid attention to the principles of information ethics that must be approved and respected human rights.

Patient consent for publication:

Written informed consent was obtained for anonymized patient information to be published in this article

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Availability of data and materials:

All data generated or analyzed during this research is included in this published article.

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Table 1. Results of providing nutritional package interventions on changes in nutritional status and height of stunted toddlers

Nutritional status of stunted toddlers based on height				P value
Pre-intervention nutritional status category	Amount	Categories of nutritional status post nutritional intervention	Amount	P>0.05 : There was no effect of nutritional intervention on changes in the height status of stunted toddlers
Malnutrition	10	Malnutrition	5	
Malnutrition	20	Malnutrition	20	
Good nutrition	15	Good nutrition	20	

Table 2. Results of providing nutritional package interventions on changes in weight status of stunted toddlers

Nutritional status of stunted toddlers based on body weight				P value
Pre-intervention nutritional status category	Amount	Categories of post-intervention nutritional status	Amount	P<0.05: There is an effect of nutritional intervention on changes in the weight status of stunted toddlers
Malnutrition	10	Malnutrition	0	
Malnutrition	20	Malnutrition	10	
Good nutrition	15	Good nutrition	35	

Table 3. Results of providing nutritional package interventions on changes in the upper arm circumference status of stunted toddlers

Nutritional status of stunting toddlers based on upper arm circumference				P value
Pre-intervention nutritional status category	Amount	Categories of post-intervention nutritional status nutritional package	Amount	P<0.05 : There is an influence of nutritional intervention on changes in the upper arm status of stunted toddlers
Malnutrition	10 (22%)	Malnutrition	0 (0%)	
Malnutrition	20 (44 %)	Malnutrition	10 (22%)	
Good nutrition	15 (33%)	Good nutrition	35 (77%)	

Table. 4. The influence of stunting convergence policy interventions stages 1 to 8 in efforts to reduce stunting interventions in Raknamo Village in 2023

Indicator		Coverage of Nutritional Interventions Sensitive				Amount		Analysis results			
		Good	%	Bad	%	N	%	P Mark	OR (95% CI)		
Implementation of Action I	Good	25	81.8	2	18.2	11	100	0,000	0.76 (0.967-2.535)		
	Enough	12	28.6	5	71.4	7	100				
	Bad	8	33.3	2	66.7	3	100				
	Good	28	61.5	5	38.5	13	100.0				
Implementation of Action II	Enough	11	50.0	1	50.0	2	100.0	0.036	1,688 (1,034-2,755)		
	Bad	6	50.0	3	50.0	6	100.0				
	Good	25	66.7	3	33.3	9	100.0			0,000	3,744 (2,285-6,136)
	Enough	13	60.0	2	40.0	5	100.0				
Bad	7	42.9	4	57.1	7	100.0					
Implementation of Action I V	Good	6	66.7	3		9		0,000	2,585		
	Good			4	33.3		100.0		(1,717-3,891)		
	Enough	12	66.7	2	33.3	6	100.0				
	Bad	11	33.3	4	66.7	6	100.0				
	Good	26	60.0	4	40.0	10	100.0			0.024	3,172 (1967-5116)
Enough	13	50.0	2	50.0	4	100.0					
Bad	6	62.5	3	37.5	8	100.0					
Implementation of Action VI	Good	22	50.0	2	50.0	4	100.0	0.042	1,917 (1,018-3,610)		
	Enough	12	50.0	2	50.0	4	100.0				
	Bad	11	61.5	5	38.5	13	100.0				
	Good	19	69.2	4	30.8	13	100.0			0.033	1,868 (1,430-2,550)
Implementation VII	Enough	11	33.3	2	66.7	3	100.0				
Bad	10	40.0	3	60.0	5	100.0					
Implementation of Action VIII	Good	17	63.6	4	36.4	11	100.0	0.047	1,719 (1,023-3,610)		
	Enough	12	40.0	3	60.0	5	100.0				
	Bad	16	60.0	2	40.0	5	100.0				