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Synergy from Village, Integrated Healthcare Center, and Early Childhood Education in Stunting Prevention (Case Study)

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Abstract

BACKGROUND: Stunting is a growth faltering condition due to the accumulation of insufficient nutrition that lasts a long time, especially in the first 1000 days of life Basic health research (Riskedas) in 2013 stated that in Indonesia, there has been an increase in the prevalence of stunting in children from 36.8% in 2010 to 37.2% in 2013. Although the stunting rate based on Riskesdas 2018 fell to 30.8%, the challenge of accelerating stunting reduction still quite big. One of the causes is the problem of multisector convergence of planning, budgeting, actuation-implementation, monitoring, and control of programs that have not synergized with each other.

AIM: This research is intended to see the picture of the synergy between village, Integrated Health Center (IHC), and early childhood education (PAUD) in preventing stunting.

METHODS: This research is a case study took place s in Klaten and Boyolali areas. Research respondents are the officers of village, IHC, and PAUD. The research instrument used was questionnaire aimed at assessing the synergy between stunting prevention activities that had been carried out. This synergy includes knowledge, planning, budgeting, mobilization-implementation, monitoring, and evaluation carried out by the village, IHC and PAUD officials. Data were analyzed using one-way analysis of variance and Duncan test for further analysis (*post hoc*) . The test was carried out with a significance level of 5%.

RESULTS: Analysis of stunting prevention activities which include knowledge, planning, budgeting, actuation-implementation, monitoring, and evaluation has a relatively low average score in general. These results indicate that the synergy between village, IHC, and PAUD officials in preventing stunting is still not optimal. The achievement of the best efforts and synergies in the two areas can be seen in the implementation aspect. On the other hand, the less visible aspect is the funding aspect. The knowledge score of IHC officers is known to be lower than that of village officials and PAUD officers. Therefore, this multisector convergence problem requires a solution that is appropriate to the geographical conditions and local context.

CONCLUSION: Based on the results of research conducted in the two areas that were used as research locations, the synergy between the village apparatus, IHC, and PAUD in stunting prevention activities still needs to be optimized, especially in terms of the role of each agency and the coordination of the three.

Introduction

Stunting is a form of growth failure (growth faltering) due to the accumulation of nutritional inadequacy that lasts for a long time, starting from pregnancy until the age of 24 months [1], [2]. Stunting is one of the targets of the sustainable development goals (SDGs) which is included in the second SDG, namely, eliminate hunger and all forms of malnutrition by 2030 and achieve food security. Many factors cause the high incidence of stunting in toddlers. The direct causes of stunting are lack of food intake and the possibility of infectious diseases. Other factors are the lack of knowledge of mothers, wrong parenting patterns, poor hygiene and sanitation, and low health services [3], [4]. Conditions related to the prevalence of nutritional problems in toddlers in 2013 and 2018 are presented in Figure 1.The impact of stunting is an increased risk of illness and death with suboptimal brain development so that it will make motor development delayed and mental growth retarded [5]. Stunting is a problem that must receive serious treatment because children are the nation's future generation and are a reflection of Indonesia's future. Stunting in children under five is a consequence of several factors that are often associated with poverty, social and culture, food insecurity, and community access to health services [6]. The indicator used to identify stunting toddlers is the height for age (TB/U) index which refers to the WHO child growth standard if the z score for TB/U is <−2 standard deviation (SD) [7].

Stunting is caused by multidimensional factors: (1) Lack of access to nutritious food, clean water and sanitation, (2) limited health services, including postnatal antenatal care (ANC) and quality early

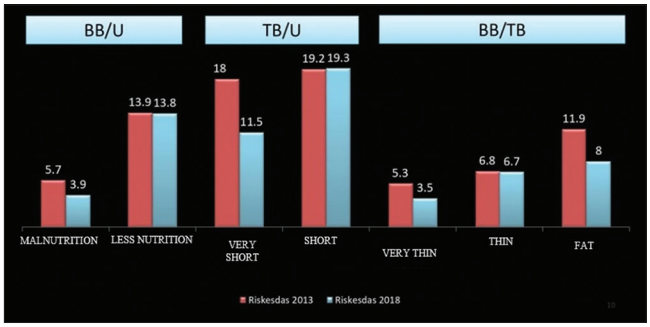

Figure 1: Prevalence of nutritional problems in toddlers in 2013 and 2018

learning, and (3) poor parenting. Referring to the various factors that cause stunting, multisectoral handling is needed by involving institutions in the community that are interrelated and support each other [8]. The focus of the nutrition improvement movement is on the first 1000 days of life group which at the global level is called scaling up nutrition and in Indonesia, it is called the national movement for nutrition awareness in the context of accelerating nutrition improvement in the first 1000 days of life (The First 1000 Days of Life Movement and abbreviated as 1000 HPK Movement). The principle of this movement is that everyone has the right to good food and nutrition. This is unique because it involves various different community groups where they collectively take collective action to improve nutrition [9]. The incidence of stunting is indirectly influenced by socioeconomic factors, such as education level, family income, and food availability [9]. Availability of food is the ability of families to meet food needs that are quite good in terms of quantity, quality, and safety. Poor conditions are also reflected in the difficulty of all access, including access to information [10]. This is where the role of the village apparatus is needed to identify family backgrounds whose economic level is middle to lower with various characters in the area. Through existing village funds, village officials can carry out economic empowerment through entrepreneurship education so that they can be economically independent.

Maternal health and nutrition conditions before and during pregnancy and after delivery affect fetal growth and the risk of stunting. Failure to provide exclusive breastfeeding and early weaning can be one of the factors for stunting. On the other hand, stunting can also be caused by inappropriate parenting and complementary feeding [10]. Limitations in health services include ANC (health services for mothers during pregnancy), Postnatal care and pregnant women who do not consume adequate iron supplements are also another factor that triggers stunting [1]. ANC is a health service provided by health workers for mothers during pregnancy. However, in reality, people's behavior, especially in Indonesia, there are still many who think that pregnancy is normal and natural the way it does. They feel that they do not need to have their pregnancy checked regularly to health services which ultimately causes the risk factors that may be experienced by the mother to be detected early. Integrated Healthcare Center as the first service in stunting prevention needs to revitalize class activities for pregnant women, such as for postnatal ANC services and quality early learning. Parenting is a factor that is closely related to the growth and development of children under the age of 5. Maternal parenting (feeding practices, psychosocial stimulation, hygiene/hygiene practices, environmental sanitation, and utilization of health services) is very influential on the incidence of stunting. Poor parenting will affect the growth and development of toddlers which is irreversible (cannot be recovered), so that at this time, toddlers need good quality parenting [11]. Poor parenting causes poor nutritional status of toddlers [12]. If this happens during the golden age, then the child's brain may not be able to develop optimally which will be very difficult to recover from this condition.

Government policies related to stunting prevention are stated in: Law No. 17 of 2007 concerning the National Long-Term Development Plan 2005-2025 which in its implementation includes multisectoral convergence in terms of planning, budgeting, mobilization-implementation, monitoring, and control programs that have not been synergized. Thus, this is a problem that must be immediately resolved. Many studies related to stunting have been carried out. The majority of these studies examined the relationship between intake of macro and micronutrients with the incidence of stunting. On the other hand, research related to the availability and fulfillment of nutritious food in the community requires a multisectoral approach in terms of food and nutrition development which includes production, processing, distribution, to food consumption, with sufficient, balanced, and guaranteed nutritional content [8]. Prevention of stunting needs to be focused on the poor, which in this case is certainly not the same condition when compared to urban and rural areas, so that efforts to overcome them must be adapted to the problems of the local community. In addition, national nutrition policies must ensure that gaps that occur can be addressed immediately by prioritizing nutrition in rural areas and the poorest groups in society [9]. The long-term goal of this research is to produce an empowerment model that can be a spatial intervention on the determinant factors in each region. This model is intended to determine interventions that are appropriate to the geographical conditions and local context of the local community.

Methods

This research is a case study conducted in Klaten and Boyolali areas. The aim is to analyze stunting prevention activities which include planning, budgeting, mobilization-implementation, monitoring, and evaluation carried out by village, Integrated Health Center (IHC), and Early Childhood Education (PAUD)

officials. Stake (2005) explained that the purpose of case study research is to reveal or describe individuals, groups, and communities so that important things that need attention or focus can be known as well as solutions. The research subjects or respondents in this study were village officials, IHC, and PAUD. The research instrument was in the form of a questionnaire, mainly used to assess the extent of the synergy between the village apparatus, IHC, and PAUD in stunting prevention activities that had been running so far. The data analysis technique used is one-way analysis of variance (ANOVA) and Duncan test for further analysis (*post hoc*). The test was carried out with a significance level of 5%.

Results and Discussion

Respondents who participated in each village were 25 people. The following is a description of the characteristics of respondents at the two research locations.

Differences in demographic characteristics between the two groups and differences in knowledge about stunting of the two groups of respondents are presented in Table 1.

Table 1: Description of respondents characteristics

Variable	Klaten	Boyolali	p
Age (Years)[1]	45.28 ± 9.03	43.00 ± 9.89	0.403
Sex[2]			
Male	5 (20.0)	4 (16.0)	0.713
Female	20 (80.0)	21 (84.0)	
Institution[2]			
Village Office	6 (24.0)	7 (28.0)	0.291
Community Health Center	9 (36.0)	13 (52.0)	
Early Childhood Education	10 (40,0)	5 (20.0)	
Work Length (Years)[1]	11.70 ± 8.89	13.89 ± 11.64	0.473
Education[2]			
Elementary School	0 (0.0)	1 (4.0)	0.353
Junior High School	0 (0.0)	1 (4.0)	
Senior High School	16 (64.0)	18 (72.0)	
College	9 (36.0)	5 (20.0)	
Knowledge about stunting (%)[1]	83.70 ± 9.74	78.20 ± 10.81	0.065
The score of knowledge test 1	84.80 ± 20.23	73.20 ± 15.74	0.028*
The score of knowledge test 2	82.60 ± 6.79	83.20 ± 10.79	0.815

[1]Description in mean ± SD, statistical difference test with independent sample t-test; [2]Description in n (%) statistical difference test with Chi square test:*p < 0.05.

Table 2 shows that there is a significant difference in the average score on the planning and funding aspects. On the other hand, no significant difference was found in the implementation aspect. However, in the monitoring aspect, differences were found, but only marginal. The best synergies achieved between village officials, IHC, and PAUD in this region were found in the aspects of implementation and monitoring. This is indicated by the average score that is almost perfect in the three agencies where there is no significant difference between the three. There is a lack of synergy in the aspects of planning and funding. The average scores of kelurahan officials and posyandu officers are actually very high in the planning aspect, but the average scores of PAUD officers are significantly lower. This shows that the coordination between the village and IHC is good, but with less involvement of PAUD officers. The lack of synergy in the funding aspect occurs between the three institutions, village, IHC, and PAUD. This indicates that the efforts made in terms of funding need to be improved. The average knowledge score of village officials and IHC officers was high with the same results. However, the average knowledge score of PAUD officers was significantly lower.

Table 2: Synergy analysis on stunting prevention activities in Klaten

Variable	Village	Community health center	Early childhood education	p
Planning, scale 0–10	9.00 ± 0.00[1]	9.00 ± 0.00[1]	7.50 ± 1.96[2]	0.026*
Funding, scale 0–10	7.00 ± 0.00[1]	7.00 ± 0.00[1]	5.50 ± 1.78[2]	0.014*
Implementation, scale 0–7	7.00 ± 0.00	7.00 ± 0.00	6.30 ± 1.25	0.125
Monitoring, scale 0–10	10.00 ± 0.00	10.00 ± 0.00	9.10 ± 1.45	0.081
Knowledge about stunting (%)	90.00 ± 0.00[1]	90.00 ± 0.00[1]	74.25 ± 9.36[2]	0.000*

Description in mean ± SD; Statistical difference test with one way analysis of variance.

Table 3 shows significant differences for the variables of planning, funding, implementation, monitoring in village officials, IHC, and PAUD in stunting prevention activities in this region. The average score in general is relatively low, indicating that the synergy between the three institutions is not optimal in preventing stunting. The achievement of optimal efforts and synergies is seen in the implementation aspect, while the non-optimal can be seen in the funding aspect. There was no significant difference in knowledge about stunting between the three agencies.

Table 3: Synergy analysis on stunting prevention activities in Boyolali

Variable	Village	Community health center	Early childhood education	p
Planning, scale 0–10	8.57 ± 1.51	7.62 ± 2.06	6.00 ± 4.58	0.260
Funding, scale 0–10	5.14 ± 2.54	3.23 ± 1.88	5.60 ± 1.67	0.053
Implementation, scale 0–7	5.57 ± 0.98	5.54 ± 1.33	5.00 ± 1.22	0.671
Monitoring, scale 0–10	8.29 ± 1.98	7.92 ± 2.75	5.40 ± 4.34	0.212
Knowledge about stunting (%)	80.00 ± 10.00	76.73 ± 12.22	79.50 ± 9.42	0.791

Description in mean ± SD; Statistical difference test with one way analysis of variance.

Comparison of the synergy between village, IHC, and PAUD officials in stunting prevention activities between the two research locations is presented in Figure 2. In general, the efforts made in the two regions still have problems in synergies between the three institutions.

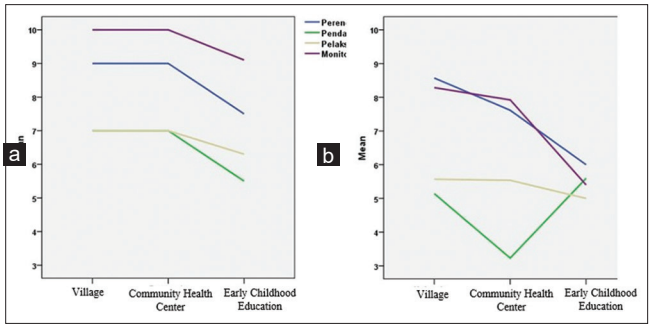

Figure 2: Line chart of average stunting prevention effort scores in (a) Klaten and (b) Boyolali

Conclusion

Based on the results of research conducted in the two areas that were used as research locations, it was found that the synergy of stunting prevention efforts between village officials, IHC, and PAUD was not optimal, especially in terms of the role of each agency and the coordination of the three. It was found that there was an indication that the knowledge of the apparatus and officers in the village, IHC, and PAUD had an effect on whether or not efforts were made in the area concerned.

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