Overview of The Achievement Level of Specific and Sensitive Indicators in The First 1000 Days of Life in Tegallalang District

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Abstract. Background and objectives: Many countries in the world experience multiple nutritional problems, and Indonesia is one of them. In the First 1000 Days of Life or in Indonesia called as *Hari Pertama Kehidupan* (HPK) program, it has been stated that to fight against the problem of stunting, specific and sensitive interventions are required. The purpose of this study was to describe the level of achievement of specific and sensitive indicators on 1000 Days of Life in Tegallalang District. Methods: This was a descriptive study with a cross-sectional approach . We performed a household survey within 30 clusters with a total sample of 300 respondents. Results: Regarding specific intervention, 41% of the toddlers were exposed to cigarette smoke. Regarding sensitive indicators, only 20% of the household had access to clean water. Conclusion: Access to clean water and exposure to cigarette smoke were still a problem in the First 1000 Days of Life. Further research is needed by adding or expanding other variables and developing research methods.

Keywords: specific intervention; sensitive intervention; 1000 days of life; toddlers; Tegallalang

1. Introduction

Many countries in the world experience multiple nutritional problems, including stunting, wasting and overweight in children under five. The nutrition problem is more severe in low and middle-income countries, including Indonesia. Based on the 2014 Global Nutrition Report, Indonesia is ranked 17th out of 117 countries that have complex nutritional problems of stunting, wasting, and overweight.(1) This is evidenced by the high prevalence of malnutrition problems (19.6%), stunting (37.2%), and the increasing problem of obesity in children under five (11.8%).(2),(3) The problem of malnutrition in children starts from the lack of nutrition during pregnancy and the first 1000 days of life of a child. Malnutrition in this critical period may result in low cognitive abilities, risk of stunting, and the risk of suffering from chronic disease in adults.(4) If left untreated, nutritional problems will contribute to the bigger problem, such as a decrease of work productivity and national income.(5)

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Stunting is a public health problem that can increase the risk of morbidity, death, and obstacles to mental or motor growth. Besides malnutrition in pregnant women and children under five years old, there are several other factors that need to be considered, as stunting is influenced by multi-dimensional factors. World Health Organization (WHO) has stated that it is necessary to pay attention to every aspect of the First 1,000 Days of Life as the most decisive intervention in reducing stunting. Indonesia through the Ministry of Health has adopted the policy to create various specific and sensitive interventions in 1000 *Hari Pertama Kehidupan* (HPK) program.(3)

Based on information from the Ministry of Health, there are various factors that can cause stunting, namely poor parenting practices and limited health services, including health services for mothers during pregnancy and high-quality early learning. The next factor is the lack of household or family access to healthy and nutritious food, lack of access to sanitation and clean water, infectious diseases, level of knowledge, socio-economic and cultural issues. Stunting is a serious health problem that requires prevention efforts to reduce stunting rates. Prevention efforts can be carried out with specific nutritional interventions and sensitive nutrition. Specific nutrition interventions are the programs that are associated with the health sectors, such as nutritional adequacy, exclusive breastfeeding, and the prevention of infection. Specific nutrition only contributes 30% to solve the problem of stunting. It is usually a short term program and the results were not recorded in long term. Sensitive interventions are the programs that are out of the authority of ministry of health, including access to sanitation and clean water and family socioconomic. Sensitive interventions accounts for the rest 70% of stunting prevention. (6)

To achieve this acceleration of nutrition improvement, a cross-sectoral support is needed. The contribution of the health sector only contributes 30%, while the non-health sector contributes 70% in tackling nutritional problems.(7) In the 1000 HPK movement, it has been explained that to overcome the problem of malnutrition, specific and sensitive interventions are needed.(8)

2. Method

This research was a descriptive study with a cross-sectional approach.We performed a household survey *within* 30 clusters with a total sample of 300 respondents in Tegallalang District, Gianyar Regency, Bali Province. The research population were families who have children aged 0 up to 24 months in Tegallalang District during January 2022-December 2022 which will be selected using the cluster method. Families were excluded if they refused to participate. There were 30 clusters included in this study.

3. Results and Discussion

3.1 Sample Characteristics

Table 1. Characteristics of The Research Sample

Toddler	N 300	% 100%
Age		
0-1 years	150	50%
1-2 years	150	50%
Gender		

Man	150	50%
Woman	150	50%
Birth		
Normal	112	37%
Cesarean Section	188	63%

Based on the data and cathartics above, it was found that for the group of children aged 0-1 years and 1-2 years, it was 50% each with a male gender of 50% and a female gender of 50%. Most of these toddlers were born by cesarean section by 63% with a normal weight of 96%.

3.2 Implementation of the First 1000 Days of Life

Table 2. Achievement Level of Specific Indicators during The First 1000 Days of Life

Indicator	n (%)
Expectant Mothers (n= 300)	
Secondhand smoke	124 (41%)
Not exposed to secondhand smoke	176 (59%)

Table 3. Achievement Level of Sensitive Indicators during The First 1000 Days of Life

Indicator (n=300)	n (%)
Access to clean water	60 (20%)
Proper sanitation:	
Possession of latrine	296 (99%)
Waste management	273 (91%)
Hand washing and clean and healthy lifestyle	257 (86%)

In this study, we highlighted the proportion of children aged 0-2 years old who were exposed to secondhand smoke. There were 41% of households exposed their children to secondhand smoke. This was in line with the report from the Ministry of Health which found that approximately 49% of children in Indonesia were exposed to secondhand smoke.(2) This number was quite high considering the danger of secondhand smoke to children. According to WHO, secondhand smoke exposure in children may increase the risk of acute respiratory tract infections. A recent meta-analysis revealed that exposure to secondhand smoke in children under five years old increases the risk of developing pneumonia by 2 times. Children who were sick will experience nutritional loss, either due to increased basal metabolic rate due to fever, impaired nutrition absorption in the intestine, direct nutritional loss in the gut, internal diversion for infection-related metabolic reactions, and increased nutritional needs to fight disease. On the other hand, their appetite will decrease so that the children do not want to eat. If the infection occurs repeatedly or became chronic, this will contribute to stunting, both through direct mechanisms from the disease itself and indirect mechanisms due to children not wanting to eat. The results or our study emphasizes the important of intervention toward secondhand smoke problem in

Tegallalang district. Parents should be educated regarding the danger of secondhand smoke. It is recommended that individuals should not smoke near the children or in the building with children inside, as the cigarette smoke may keep staying in the building even though the smoking has been finished.(9)

Besides the exposure to secondhand smoke, there are many other factors which need to be considered in specific nutrition intervention. Specific interventions are activities aimed directly or specifically at certain target groups such as toddlers, pregnant women, young women, and others. In general, this activity is carried out by the health sector. The targets of specific nutrition intervention in First 1000 Days of Life are households with pregnant women or with children aged 0-2 years old. The priority progam for specific nutrition intervention are giving additional food to pregnant women from poor groups and 90 tablets of iron supplement tablets for all pregnant women. It is also important to provide emphasis and supervision regarding the supplement, as some women may not consume the iron tablets routinely due to several factors including the side effect of nausea. In addition, breastfeeding mothers are given breastfeeding promotion and counseling.(7) Research showed that it is important to involve other family members such as the husband and grandparents of the baby in promoting exclusive breastfeeding.(10) When the baby reaches 6 months-23 months, infant and child feeding promotion and counseling can be given, for example how to provide complementary food which is adequate in nutrition and safe for the baby according to their age. Specific intervention also include the management of acute malnutrition, growth monitoring, and provision of recovery supplementary food for acutely malnourished children. The later were usually performed by pediatrician.(11)

Important programs in specific nutrition interventions of First 1000 Days of Life are providing calcium supplementation and pregnancy checks for pregnant women, giving vitamin A capsule supplementation to breastfeeding mothers and children 0-23 months, zinc supplementation for the treatment of diarrhea, immunization taburia supplementation, and integrated management of sick toddlers. In specific nutrition interventions, adolescents, women of childbearing age, and children aged 24-59 months are also important targets. The interventions for adolescents and women of childbearing age are giving iron supplementation tablets, while the interventions for children aged 24-59 months are routine growth monitoring in *Posyandu* and giving additional food for malnourished children. Children 24-59 months can be given taburia supplementation, integrated management for sick toddlers, and zinc supplementation for the treatment of diarrhea.(10)

In addition to interventions aimed at toddlers, interventions also need to be aimed at mothers because the one who takes care of the children is usually the mother. The implications of the intervention are in the form of women's empowerment and educational programs.(11) One of them is through learning classes for mothers, starting from the class for pregnant women. Pregnant women class is a group with a cap of 10 members for pregnant women with gestational ages ranging from 4 to 36 weeks. Pregnant women will learn about maternity and child health (MCH) in this session through group study, discussion, and sharing of personal experiences that may be done on a regular and continuing basis. Pregnant women classes led by midwives and other healthcare professionals using the Maternity Classes package, which includes manual handbooks, flip charts with various pictures related to pregnancy and labor, instructions for running the classes which were published by Indonesian Ministry of Health, manuals for class facilitators, and activity books for pregnant women. They can also perform gymnast or Yoga exercise for pregnant women. (12)

The nutrition sensitive interventions are the programs that are out of the authority of ministry of health. The nutrition sensitive intervention has various types of interventions, including increasing the supply of drinking water and sanitation through access to proper sanitation and access to safe drinking water. Interventions specific program are consist of increasing the access and quality of nutrition and health services through access to national health insurance (JKN), access to family planning services (KB), access to cash assistance for poor families (PKH). Interventions to increase awareness, commitment, and parenting and nutrition practices for mothers and children, namely through the provision of interpersonal behavior change counseling, dissemination of information through various media, provision of parenting counseling for parents, women empowerment and child protection, access to early childhood education and monitoring child growth and development, and provision of health and reproductive counseling for adolescents, interventions to increase access to nutritious food through access to non-cash food assistance for poor families, strengthening regulations regarding food labels and advertisements, access to fortification of main food ingredients, and access to activities in sustainable food housing areas. Through specific and sensitive nutrition interventions with various programs or activities carried out in it by involving various target groups, this can be an effort to accelerate the prevention of stunting cases in Indonesia. Of course, the need for assistance from various parties such as the government, the private sector, and other related parties to support the implementation of this intervention in creating a stunting-free Indonesia.(13)

Within the framework of UNICEF's concept of handling nutrition problems, among others, through poverty alleviation programs and economic growth, involvement of the business world, conflict management and environmental conservation.(14) These programs represent a huge potential to overcome malnutrition and hold the key to overcoming residual malnutrition. two thirds of the causes of stunting that cannot be solved by specific nutrition interventions. In practice, in dealing with nutritional problems, these specific and sensitive interventions should be combined so that the handling of the problem is carried out sustainably.(15)

Our study revealed that 99% of the household have latrine, but only 20% of the household has access to clean water. Previous research in Palembang revealed that only 35% of the household have latrine and only 40% of the household have access to clean water. The possession of latrine and access to clean water were significantly associated with the reduced risk of stunting.(16) Environmental sanitation has an indirect relationship to nutritional problems including stunting. There is some evidence of a link between access to sanitation and stunting.(17) One multi-country study showed that sanitation contributed to a reduction in the prevalence of nutritional intake deficits in urban children by 22–53% and in rural areas by 4–37%. Various studies have shown that poor sanitation increases a child's risk of stunting.(18) This is possible because of subclinical infections originating from exposure to a polluted environment, and nutrition can reduce the gut's ability to prevent disease-causing organisms from entering the body.(19) Without the availability of latrine in the households, family members will defecate in open area, such as in gardens, forests or rivers. Faeces are a medium of transmission of various diseases, especially diarrhea. Feces that are disposed of carelessly can become a place for flies to land on, and flies that have landed on feces can land on food, causing faecal-oral transmission. Diarrhea will cause a decrease in the absorption of food in the intestine, decrease appetite, and nausea and vomitting. If diarrhea happens frequently due to poor sanitation, it may reduce the nutritional status of a child. Access to clean water including drinking water, water for washing hands, water for bathing, and for toilets.

Lack of access to clean water may increase the risk of diarrhea and worm infection. Our findings emphasize the importance of providing clean water supply, as only one-fifth of households have clean water. The remaining households need to buy water at quite expensive prices. This expensive water will make them save water for activities such as washing hands. The clean water supply in this district can be provided by the government or the private sector (16)

4. Conclusion

Regarding specific nutrition intervention, 41% of the toddlers were exposed to secondhand smoke. Regarding sensitive nutrition indicators, only 20% of the household had access to clean water. These finding showed that the access to clean water and exposure to secondhand smoke were still a problem in the First 1000 Days of Life. Further research is needed by adding or expanding other variables and developing research methods.

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