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The description of development status of stunting toddlers

Diskripsi Status Balita Stunting

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ABSTRACT

The percentage of nutritional status of stunting toddlers (short and very short) in Indonesia in 2013 is 37.2%. One of stunting effects is the growth disorder that will have an impact on the decline in the quality of human resources in the future. Kulon Progo Regency is one of districts included in the 100 districts in stunting prevention. This study aims at recognizing the developmental status of stunting toddlers in the Working Areas of Pengasih II Health Center in Kulon Progo Regency. Cross sectional approach is used for this research. The populations were 90 stunting toddlers who lived in Karangsari Village. The data were taken from Public Health Office in Kulon Progo, and the measurement directly used KPSP from 5 to 17 January 2019. The resuly of this study describes that most toddlers are male in 55.6%, economical status < UMK in 77.8%, exclusive breadfeeding status of 94.4%, middle school's last education in 73.3%, mothers who did not work in 78.9%. The development status of the toddler is short, 53.3% of the development is appropriate, 36.7% is dubious and 1.1% is deviant. Toddlers are very short, 6.7% development is appropriate, 1.1% development is doubtful, and 1.1% development deviates. The conclusion of this study discovers that the developmental status of stunting toddlers in the Working Areas of Pengasih II Health Center in Kulon Progo Regency is appropriate if people pay attention on the other aspects such as giving exclusive breastfeeding, giving the stimulation by parents and participation in PAUD, and taking the last education for mothers.

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1. INTRODUCTION

The ending of MDGs in 2015 still left some works which should be completed in the period of Sustainable Development Goals/SDGs that is going to be implemented until 2030 to reach the targets which have not yet been achieved, and one of them is prevalence of stunting.[1] Stunting is chronic malnutrition based on body length index compared to age (PB/U) or height compared to age (TB/ U) with z-score limit of less than -2 SD and very short if the z-score value is less than -3 SD.2. [2]

The percentage of stunting toddler status (short and very short) in Indonesia in 2013 is 37.2%, and if it is compared to the condition in 2010 (35.6%) and in 2007 (36.8%), it does not show the significant improvement. The highest percentage in 2018 is East Nusa Tenggara Province (51.7%); meanwhile, the lowest percentage is in Riau Island Province (26.3%), DI Yogyakarta (27.2%), and DKI Jakarta (27.5%). Those can be said that the percentage in Indonesia is still high, and it becomes the health problems which shoul be overcome.[3] Bad effects caused by stunting in short period are the disruption of brain development, intelligence, impaired physical growth, and metabolic diorders in the body. Meanwhile, the long term impacts are decreased cognitive abilities and learning achievement, decreased immunity to ease pain, and the quality of work that is not competitive which results in low economic productivity. A number of studies throughout Asia and Africa have found that school children are short, and their develompent is slower than other children. Malnutrition accounts for one – fifth of the burden of the disease for children under five years and causes poor cognitive, socio – emotional function and lowers the level of education. [4] Stunting and the other mal nutrition issues can subract children to survive and inhibit optimal their health and development. It is also related to suboptimal brain development which can affect to the further cognitive ability, school performance and future income. This in turn affects the potential for developing nations. 5

Several studies discover that stunting does not give any impact to the development. These studies actually shwor that the condition of a child's nutritional status is not related to the condition of children's development. Research conducted in Bogor on children aged 2-5 years showed that the nutritional status of children (stunting) was not related to motoric development of children with a p value of 0.76.6 Research conducted in the District of Genuk Semarang in children 2-5 years also showed that nutritional status (TB / U) not related to the development of motor function of children with a p value of 0.496.[7]

Kulon Progo Regency is one of the districts included in the 100 districts in stunting control.8 The stunting case in Kulon Progo Regency from 2015 has increased until 2017. In 2015 there were 24 cases, 2016 became 29 cases, and in 2017 there were 34 cases. Of the 88 villages in Kulon Progo, 10 villages had the highest stunting prevalence which would later be observed. Karangsari village which is in the working area of Pengasih II Health Center is the village with the highest stunting rate. Karangsari Village is also one of the village empowerment models to increase the coverage of nutrition programs, especially decreasing stunting. So the researcher will use Karangsari Village as the working area of the Pengasih II Health Center as a place of research. [9]

2. RESEARCH METHOD

This is a descriptive observational research, and it uses cross sectional approach. It only observed once; therefore, the measurements were made on the subject variables at the time of the study. Population of this study is ninety stunting toddlers

found in Karangsari Village. The instrument used in this study is KPSP questionairre, format of data collection to gather all the data from the research variable.

At the data collection stage the researcher came to each hamlet of the village by appointment. Before the examination of growth and development, the researcher would explain the purpose and the object of this research. After an explanation was made, the researcher gave a sheet of informed consent. Parents who agreed were welcome to sign the consent sheet, if parents did not approve, parents were not allowed to sign the consent sheet. Researchers then distributed research questionnaires to be filled out by parents of toddlers while researchers conducted repeated height checks on toddlers. After measuring height, the researcher would match the results of height measurements using the z-score table to determine whether the toddler was still in the stunting nutritional status or not. After determining stunting, the researcher then asked for the date of birth of a toddler and calculated the age of the toddler in the month.

The researchers measured the toddler growth with KPSP according to the age of the toddler who had been calculated. They informed the toddlers'parents about the results after all questionnaires were answered. Toddlers who had appropriate growth were given compliment, and parents were asked to stimulate the toddlers. Toddlers who had dubious development were given praise, and parents were asked to stimulate the toddlers on the deficient stimulation more often. Therefore, for toddlers who had deviant development were asked to the Health Center to join the further examination. This research was conducted from 5 January to 17 January 2019. There were 90 stunting toddlers being measured in this study. The data analysis used univariat data analysis. This analysis aims to find the distribution of frequency and homogeneity variable. Variables of the research indlude stunting, gender, economical status of family, breastfeeding, the last education of the mother, mother's occupation, and developmental status.

3. RESULTS AND ANALYSIS

According to the research data, it finds out that there are ninety toddlers with the age range from 12 – 60-month-old.

Table 1. Distribution of Respondent Frequency According to The Characteristics

Characteristic	Frequency (f)	Percentage (%)
Height		
-3 SD sampai < -2 SD	8	8.9
-2 SD sampai 2 SD	82	91.1
Total	90	100
Gender		
Male	50	55.6
Female	40	44.4
Total	90	100
Economical Status		
< Rp. 1,493,250	70	77.8
≥ Rp. 1,493,250	20	22.2
Total	90	100
Breastfeeding Status		
Not Exclusive Breasfeeding	5	5.6
Exclusive Breasfeeding	85	94.4
Jumlah	90	100
Mother's Last Education		
Elementary (SD, MI, SMP, MTs)	18	20

Characteristic	Frequency (f)	Percentage (%)
Intermediate (SMA, MA, SMK, MAK)	66	73.3
Advance (Akademi, Politeknik, Sekolah Tinggi, Institut, Atau Universitas)	6	6.7
Total	90	100
Mother's Occupation		
Not working	71	78.9
Working	19	21.1
Total	90	100
Development		
Deviant (score <6)	2	2.2
Dubious (score 7-8)	34	37.8
Appropriate (score 9-10)	54	60
Total	90	100

Table 1 describes the majority of stunting toddlers are male, and they have low ecpnomical status less than Rp. 1,493,250, get exclusive breastfeeding, have mother with intermediate education, not working mother, and have appropriate development.

Table 2. Cross Table Characteristics with Toddler Development

No	Category	Development Status						Total	
		Deviant		Dubious		Appropriate			
		n	%	n	%	n	%	n	%
1	***Stunting***								
	Very Short	1	1.1	1	1.1	6	6.7	8	8.9
	Short	1	1.1	33	36.7	48	53.3	82	91.1
2	**Gender**								
	Male	1	1.1	22	24.4	27	30	50	55.6
	Female	1	1.1	12	22.2	27	30	40	44.4
3	**Economical Status**								
	< Rp 1,493,250	2	2.2	25	27.8	43	47.8	70	77.8
	≥ Rp 1,493,250	0	0	9	10	11	12.2	20	22.2
4	**Breastfeeding Status**								
	Not Exclusive Breasfeeding	0	0	4	4.4	1	1.1	5	5.6
	Exclusive Breastfeeding	2	2.2	30	33.3	53	58.9	85	94.4
5	**Mother's Last Education**								
	Elementary (SD, MI, SMP, MTs)	0	0	8	8,9	10	7,8	18	20

No	Category	Development Status						Total	
		Deviant		Dubious		Appropriate			
		n	%	n	%	n	%	n	%
	Intermediate (SMA, MA, SMK, MAK)	2	2.2	23	25.6	41	45.6	66	73.3
	Advance (Akademi, Politeknik, Sekolah Tinggi, Institut, Atau Universitas)	0	0	3	3.3	3	3.3	6	6.7
6	**Mother's Occupation**								
	Not Working	2	2.2	25	27.8	44	48.9	71	78.9
	Working	0	0	9	10	10	11.1	19	21.1

Table 2 describes that most stunting toddlers have appropriate growth. They are stunting toddlers in short category. Both male and female stunting toddlers have an equal development. According to economical family status, most stunting toddlers have appropriate development. Most of them are those whose family income less than < Rp 1,493,250. Based on breastfeeding status, most of stunting toodlres have appropriate development, and they have exclusive breastfeeding. Therefore, stunting toddlers having the most development are who come from mothers in intermediate last education. According to mother's occupation, most of toddlers are in appropriate development, and their mothers do not work.

Based on the research result, it finds that characteristics of stunting toodlers in working areas of Pengasih II Health Centre are male which is in 55.6%, economical status which is less than 77.8%, breastfeeding in 94.4%, the last education for middle mothers in 73.3%, and not working mothers in 78.9%.

Most of stunting toddlers have appropriate development in this study. There are fifty-four of ninety toddlers who have appropriate development. The growth and the development are two issues which cannot be separated since they jointly develop together in each individual. A child will have optimum development if he/she has optimum growth due to growth has impact to physical aspect which influence the optimization of individual function or organ.[10] This research is in line with the research by Suryaputri. It results that in the age of 2 – 5 years old, nutritional status of stunting toddlers does not relate to the development of children's motos with value p 0.76.[6] Research by Martha on 2 -5 year-old-toddlers finds that nutritional status (TB/U) does not relate to the motoric function of toddlers with value p 0.496. [7] Therefore, research from Peru discovers that there are no significant relationsip between linguistic development of toddlers if it is seen from the vocabulary assessment with nutritional status (TB/U) of toddlers who join the early childhood education programs. [11]

Male and female toddlers have appropriate development as same as the total of 27 toddlers. Male toddlers are more vulnerable to various types of diseases and disabilities compared to female ones because they have more aggressive behavior than female ones'. If parents do not pay attention to this issues, it will affect the susceptibility of diseases or disorders to toddler growth and development. [12] This study also discovers that male and female toodlers have balance appropriate development. It is also in line with research by Siti which mentions gender does not affect toddler's development since p-value > 0.05.[13]

Socio-economic status can affect children's growth and development. Children with family status with high socio-economic status fulfill their nutritional needs is very good compared to children with low economic status. Families that have less economic status usually have limitations in providing nutritious food, education, and fulfilling other primary needs for children.[14] This study is in line with research conducted by Moonik which mentions that family income does not have a significant relationship to the delay in child development where (p = 0.057) .[15] Another study conducted by Gladys said that there was no relationship between economic status and development (p = 0.336) .[16]

Children who are exclusively breastfed for up to 3 months have an IQ - 2.1 points higher than others (95% CI: 0.24 - 3.9). Children who were breastfed for 4 - 6 months were 2.6 points higher (95% CI: 0.87 - 4.27) and benefits for older breastfed children (> 6 months) increased by 3.8 points (95% CI: 2.11-5.45). The results of this study support the WHO expert recommendations on exclusive six-month breastfeeding although a shorter duration of exclusive breastfeeding at the beginning of childhood results in beneficial effects on children's cognitive development. IQ associated with breast milk observed until the age of 1 year-old continues until preschool and there are differences in IQ scores between children who get exclusive breastfeeding and those who do not.[17] This study is in line with the research conducted by Ni Made at the Karanganyar Health Center in 2010 that there were significant relationship between breastfeeding and infant development. [18]

Baby sitters have significant roles for the children development since they can interact and remember all things taught by their baby sitters. Their education is an important factor for children growth and development. The higher education of a person the better the knowledge. It is going to happen if a baby sitter has good education, and it means she can take care of children well in daily life.[10] This study is in line with the theory. Most mothers of those children studied until middle level of school. Marimbi tells that mothers who have good knowledge will monitor their toddles development, and they often stimulate them so that their children have optimum growth and development. [19] According to Baker and Lopez, mothers with knowldegde from educational institution will have higher knowledge than those who have low education. Hence, they have more ability to teach their children than mothers who have low education. Therefore, they have better understanding with materials as well as strategies, and they can apply what they know. [20]

Development requires stimulation / stimulation, especially in the family, for example the provision of toy tools, socialization of children, involvement of mothers and other family members in children's activities. The involvement of parents influences the provision of stimulation in children, education and the economic abilities of parents will influence the acceptance of stimulation in children.[21] Mothers who work have less quality time with children so that maternal attention to the development of toddlers becomes reduced. Mothers who work in heavy jobs will experience physical fatigue, so mothers will tend to choose to rest rather than take care of their children. In this study, most mothers did not work, and this result is in line with the theory. Jobs can affect the development of toddlers because parents can provide all the primary and secondary needs for children. Mothers do not work have more time in caring for children, so it is expected that there is no obstacle for children to grow and develop. Parents as caregivers are facilitators who have an impact on the development of children.[23] Interactions between children and parents are very beneficial for the overall process of child development because if there is an abnormality in the child's growth process, parents can quickly recognize it and provide action to the children' needs.[24] In this study, the development of children under five years old who experience stunting can be appropriate if they are given attention to other aspects such as exclusive

breastfeeding, parental stimulation and participation in Early Childhood Education Programs, the last education taken by the mother.

4. CONCLUSION

According to research finding and discussion, it can conclude that the description of development status of stunting toddlers in Working Area of Pengasuh II Public Health Center in Kulon Progo Regency is mostly appropriate. Characteristics of respondents are mostly short category and male, having a family with low economical status less than Rp. 1,493,250, given exclusive breastfeeding, having not-working working and middle education mother, and having appropriate development. Male and female toodlers have appropriate development. Toddlers with family who has less income less than Rp 1,493,250 have appropriate development. Toddlers with mothers who have middle last education and with exclusive breastfeeding have appropriate development.

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