

## **An Analysis History Pregnancy to Incident Stunting in Sungai Pinang Public Health Centre**

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### **ABSTRACT**

Stunting is a condition of failure to grow in children that can be a benchmark for the low level of human resources in a nation. Basic Health Research in 2018 showed the prevalence of stunting in Indonesia, including health problems in the severe category with a percentage of 30.8%. Pregnancy history such as SEZ and anemia have an important role in the process of fetal growth and development until the time of birth so it is necessary to analyze the relationship with stunting events. To analyze the pregnancy history of stunting events at the Sungai Pinang Health Center. This study is of the analytical observational type with a quantitative design and cross-sectional approach. The research sample consisted of 46 respondents selected by purposive sampling technique. The statistical test used in this study was chi square. Most mothers had no history of SEZ (53.3%), no history of anemia (74.8%) and most children were not stunted (62.9%). The results of the chi square test showed that there was a relationship between the history of SEZ and the incidence of stunting ( $P = 0.000$ ) and there was a relationship between the history of anemia and the incidence of stunting ( $P = 0.000$ ). Mothers who do not have a history of SEZ pregnancy and anemia tend to have children who are not stunted at the Sungai Pinang Health Center.

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### **INTRODUCTION**

Stunting is a condition of growth failure in children under five years old (toddlers) due to chronic malnutrition which results in children being too short for their age. This malnutrition usually occurs during pregnancy since the baby is still in the womb and in the early period after the baby is born. However, stunting conditions are only seen after the child is 2 years old [1]. According to data from WHO in 2018 on the prevalence of stunting toddlers, Indonesia, which is included in the Southeast Asian region, is in the third position with the highest average prevalence of stunting toddlers after India, where the average prevalence of stunting toddlers from 2005 to 2017 in Indonesia was 36.4% [2].

Data from the Ministry of Health of the Republic of Indonesia shows that the percentage of stunting in Indonesia in 2019 reached 27.67% and was classified as medium level according to WHO in 1997; while the national target is expected to be only 19% stunting percentage by 2024 so that a decrease of 3% is needed every year. Pregnancy history plays an important role in the growth and development of the fetus until birth, it is very clear that malnourished pregnant women greatly affect the fulfillment of fetal nutrition in the womb. Therefore, the consumption of nutrients when pregnant women are needed by the mother and the fetus that will be born. The problems of stunting and malnutrition during pregnant women and after giving birth are interconnected with each other. This is because stunting in toddlers or children is an impact of malnutrition during the First 1,000 Days of Life [3].

According to research conducted by Azis et al [4] in the Journal of Public Health regarding the risk factors of mothers and children under five to stunting in the work area of the Sangurara Health Center, it is stated that the nutritional intake of pregnant women affects the development and growth of the fetus while in the womb. If the mother when pregnant suffers from malnutrition, then when the baby is born it has the opportunity to cause various risks such as LBW and the child is likely to be stunted.

## MATERIAL AND METHOD

### Material

Data collection was carried out based on the type of data is secondary data . The result of data collection entered in table created for make it easy in clarify and identify object under study.

### Method

The research method used in study this is method observational Analytic with design *cross sectional* . This research was conducted at Sungai Puskesmas Pinang in March to April 2022. Samples were taken by *total sampling* with take secondary data in the form of data recap Public health center Sungai Pinang related history KEK, Anemia, and incident stunting on 159 toddler which visit in month January- February 2022. Data analysis was carried out with univariate analysis techniques and bivariate analysis use test *chi* statistics *square*.

## RESULT AND DISCUSSION

The result of characteristics respondent could be seen in the following table :

<b>Table 1 : Characteristics of Respondents</b>		
Characteristics	Amount (n)	Percentage (%)
<b>Age Mother</b>		
No risk	133	83.6
At risk	26	16.4
<b>Age Child</b>		
< 1 year	118	74.2
1 year	32	20.1
2 years	9	5.7
<b>Gender of Child</b>		
Woman	93	58.5
Man	66	41.5
<b>Nutritional status Child</b>		
Very less weight	8	5
Underweight	22	13.8
Normal weight	104	65.4
Overweight	25	15.7
<b>Total</b>	<b>159</b>	<b>100</b>

The analysis results univariate in study this could be seen in the following table:

<b>Table 2. Univariate Analysis</b>		
Category	Amount (n)	Percentage (%)
<b>History KEK</b>		
No SEZ	135	84.9
KEK	24	15.1
<b>History Anemia</b>		
Not anemic	119	74.8
Anemia	40	25.2

Incident stunt		
Not stunted	100	62,9
stunt	59	37,1
<b>Total</b>	<b>159</b>	<b>100</b>

The analysis results bivariate in study this could be seen in the following table:

**Table 3 . Bivariate Analysis**  
Incident stunt

History of Pregnancy with KEK	Incident stunt		<b>Total</b>
	Not stunt	stunt	
No SEZ	95 (59.7%)	40 (25.2%)	<b>135</b> <b>(84.9%)</b>
KEK	5 (3.1%)	19 (11.9%)	<b>24</b> <b>(15.1%)</b>
<b>Total</b>	<b>100</b> <b>(62.9%)</b>	<b>59</b> <b>(37.1%)</b>	<b>159</b> <b>(100%)</b>
<b>P- value = 0.000</b>			
History of pregnancy with anemia	Incident stunt		<b>Total</b>
	Not stunt	stunt	
Not anemic	93 (58.5%)	26 (16.4%)	<b>119</b> <b>(74.8%)</b>
Anemia	7 (4.4%)	33 (20.8%)	<b>40</b> <b>(25.2%)</b>
<b>Total</b>	<b>100</b> <b>(62.9%)</b>	<b>59</b> <b>(37.1%)</b>	<b>159</b> <b>(100%)</b>
<b>P- value = 0.000</b>			

Research results that describe characteristics mother and child at Sungai Pinang Community Health Center succeed identify that part big mother including in category age no risky with total 133 mothers of 159 respondents (83.6%). Age youngest mother is 16 years old and the oldest is 46 year with average age mother respondent is 26-27 years old . According to Wulandari *et al .*, [5], age reproduction in women divided into 2 categories that is age no at risk (20-35 years ) and age at risk (<20 years or >35 years ). Though part big respondent in study this including age no risky , no close reality that still there were 26 respondents (16.4%) included age divided risk being 16 mothers >35 years old (61.5%) and 10 mother aged <20 year (38.5%). Oktaviani *et al .*, [6] stated , a mother aged > 35 years tends to be 2.74 times more risky give birth to stunted children compared mother which aged 20-35 year because at the age of > 35 years a number of function body start down , p this could impact on intake nutrition for growth and development fetus.

According to Dwiyo [7], child which born from mother which aged teenager tend deficiency resulting nutrition on the disturbance growth and development child since in content, this occur because aged mother teenager still have a high ego and yet have knowledge as well as enough experience. Study earlier by Wanimbo and Wartiningsih [8] prove exists connection Among age mother with stunting in children with *p-value* of 0.003. With so, necessary cooperation from various party for more promote family programs Planning (KB) and maturity age marriage.

Research results related characteristics age child show that part big child in study this aged < 1 year with a total of 118 children of 159 respondents (74.2%). Research results this show exists phenomenon

*babyboom*. this strengthened with journal earlier by Melinda, *et al.*, [9] who found exists enhancement labor at home during the pandemic. According to Fajrin, *et al.*, [10] the Covid-19 pandemic changed all aspect life where has estimated will there is 47 million woman in a world that doesn't could access tool contraception temporary activity *work from home* will increase potency happening pregnancy which no wanted because time spent together husband will far more many compared moment *work from office*. Pregnancy that is not planned in part mother who doesn't have readiness physical, mental and financial will result in negligence maintenance pregnancy which could cause disturbance grow flower fetus as well as increase risk *post partum blues*.

Research results related characteristics type sex child in study this show that part big child manifold sex woman with amount 93 out of 159 respondents (58.5%) consisting out of 65 children (40.9%) were not stunted and 28 children (17.6%) were stunted. So that could concluded that child woman tend grow with more healthy without experience stunting incident. Study previously by Febriani *et al.*, [11] found that there is connection Among type sex with stunting incident with *p value* of 0.043 because child woman have needs different nutrition with child man. According to Martony, *et al.*, [12] child man need intake more carbs and protein many compared child girl. this occur because pattern activity play child man more active and inclined drain energy in a manner physique compared activity play on children girl. otherwise offset with intake adequate nutrition, then growth child will disturbed. Child who doesn't get sufficient nutrition tend thinner or more short compared children his age in kind same gender.

Research results related characteristics of nutritional status child in study this show that part big child have nutritional status included in category normal weight with amount

104 child from 159 respondent (65.4%). Helmyati *et al.*, [13] mentioned, lack intake nutrition will make growth child Becomes not optimal. The more normal the nutritional status child, risk suffer disturbance growth, development and risk attacked disease will the less. this proven by research earlier by Wardita *et al.* [14] who found that nutritional status child take effect in a manner significant to stunting incident with *p-value* of 0.000. With Thus, weighing and measuring height is very important for monitored for could Fulfill intake nutrition and achieve normal nutritional status for children spared from stunting symptoms.

Research results show that part big mother no once experience CED in pregnancy previously with number 135 of 159 respondents (84.9%). According to Nurbaety [14], KEK conditions in mothers pregnant could endanger mother and fetus because lack of intake nutrition for the mother pregnant with SEZ get hinder growth fetus so that born baby risky have heavy baby born low birth weight (LBW). this strengthened study earlier by Fatimah and Yuliani [15] who found exists connection Among history of CED in the mother pregnant with LBW events.

Research results show that part big mother no once experience anemia in pregnancy previously with number 119 of 159 respondents (74.8%). According to the Ministry of Health of the Republic of Indonesia [16], anemia could raises impact bad for health mother and fetus, among others is risk baby born premature (birth not enough than 9 months), and risk stunted children due to LBW (<2500 gr) and short (<48 cm). A study the previous one by Putri was successful find exists connection Among birth length with stunting in toddlers where born toddler short tend experiencing stunting as a result exists immaturity cells ongoing growth no direct caused by a lack intake nutrition and substance iron.

Research results show that part big child no experiencing stunting with number 100 of 159 respondents (62.9%). this must must be maintained improved due to health status something nation could seen from prevalence of stunting on generation successor like mentioned by Ahmadi [17] that deficiency substance one nutrition as a result form stunting incident, got damage HR quality because tend experience stunted growth and development. this strengthened with results study earlier by Sakti [18] who found that stunting causes the disturbance development in children because growth cells suboptimal brain. Though majority children in the work area Sungai Pinang Health Center does not stunted, however stunting percentage there reached 37.1%. Rahmawati mentioned, the incidence of stunting became problem health Public if its prevalence by 20% or more and should quick handled. because it is necessary action quick from party service health for resolve problem this is for the sake of lowering stunting rate in the work area Sungai Pinang Public Health Center.

Research results show that part big mothers who do not tend to KEK have children who are not temporarily stunting mother which experience KEK tend have stunted child. Statistical test results *chi*

square P value of  $0.000 < 0.05$  which means H<sub>0</sub> is accepted or there is no significant relationship Among history KEK mother with stunting incident . According to Nurbaety [14], a woman who has history of risky CED tall experience problem deficiency intake nutrition for the baby since in content so that baby will born with condition heavy baby born low (LBW) and birth length short . Condition baby like this if no supported with intake nutrition which adequate, could cause child experiencing stunting and impairment development . If the baby is born already experiencing LBW then intake good nutrition must given to children to avoid from condition stunting.

Research results show that part big mother who doesn't anemia tend have children who are not temporarily stunting experiencing mother anemia tend have stunted child. Statistical test results *chi square* shows score P value of  $0.000 < 0.05$  which means H<sub>a</sub> is accepted or there is that relationship significant Among history mother anemia with stunting incident. According to Imani (2020), anemia during pregnancy usually caused because lack of substance working iron important in the process of growth fetus in uterus . Substance iron function for increase rate working *hemoglobin* deliver oxygen and intake the necessary nutrients for growth fetus. Deficiency substance engendering iron anemia could cause obstruction growth fetus in known womb with term *intrauterine fetal growth restriction* which is factor reason stunting occurs in children . Prevention the main anaemia is with increase intake nutrients and substances iron in accordance recommendation Ministry health ie a minimum of 90 tablets during pregnancy.

## CONCLUSION

The results of research on analysis univariate show that part big mother no once experience CED in pregnancy previously with number 135 of 159 respondents (84.9%), no once have anemia in pregnancy previously with number 119 of 159 respondents (74.8%), and some big child no experiencing stunting with number 100 of 159 respondents (62.9%). Analysis results bivariate with the *chi square* test shows that there is significant relationship Among history KEK mother with incidence of stunting ( $P = 0.000$ ) and there significant relationship among history anemic mother with incidence of stunting ( $P = 0.000$ ).

## REFERENCES

- [1] Sulfianti, Sulfianti et al. *Midwifery Care in Childbirth* . Medan: Our Writing Foundation. 2020.
- [2] Tarigan, S S. "Analysis of Factors Associated with Stunting Incidents in the Working Area of the Sungai Aur Community Health Center, West Pasaman Regency." Andalas Padang University. <http://scholar.unand.ac.id/54097/>. 2019.
- [3] Sudargo, Toto, Tira Aristadari, and Aulia Afifah. *The First 1000 Days of Life* . Yogyakarta: UGM Press. 2018.
- [4] Aziz, R, M Rifai, and NK Setiahadi. "Analysis of Risk Factors for Mothers and Children Under Five to Stunting in the Working Area of the Sangurara Health Center." *PREPOTIF Journal of Public Health* 5(2). 2021.
- [5] Wulandari, Catur Leny et al. *Pregnancy Midwifery Care* . Bandung: Media Science Indonesia. 2021.
- [6] Oktaviani, Ni Putu Wiwik et al. *Stunting Alert in Indonesia* . Medan: Our Writing Foundation. 2022.
- [7] Dwiyono, Yudo. *Student Development* . Yogyakarta: Deepublish. 2021.
- [8] Wanimbo, Erfince, and Minarni Wartiningih. "Relationship between Mother's Characteristics and Baduta Stunting Incidents (7-24 Months)." Ciputra University. 2020. <https://dspace.uc.ac.id/handle/123456789/2643>.

- [9] Melinda, Susanti, La Ode Ali Hanafi, and Juslan Juslan. "Determinants of Increased Delivery at Home During the Covid-19 Pandemic." *Miracle Journal of Public Health (MJPH)* .. 4(2): 169–75.
- [10] Fajrin, Dessy Hidayati et al. *The Movement of the Indonesian Health World During the Covid-19 Pandemic* . Indramayu: Adab. 2020.
- [11] Febriani, Cristin Angelina, Agung Aji Perdana, and Humairoh Humairoh. "Factors of Stunting in Toddlers Aged 6-23 Months in Lampung Province." *Journal of Public Health* .2018.7(3): 127–34.
- [12] Martony, Oslinda, Dini Lestrina, and Raflizar Raflizar. *Lemuru Fish Nuggets (Sardinella Lemuru) Snacks for Stunted Children* . West Pasaman: Azka Pustaka. 2022.
- [13] Helmyati, Siti, Dominikus Raditya Atmaka, Setyo Utami Wisnusanti, and Maria Wigati. *Stunting: Problems and Handling* . Yogyakarta: UGM Press. 2020.
- [14] Wardita, Yulia, Emdat Suprayitno, and Eka Meiri Kurniyati. "Determinants of Stunting in Toddlers." *Journal of Health Science*. 2021. 6(1): 7–12.
- [14] Nurbaety, Nurbaety. *Preventing Stunting in Toddlers Aged 24-59 Months* . Pekalongan: NEM Publisher. 2022.
- [15] Fatimah, Siti, and Nopi Tri Yuliani.. "Relationship between Chronic Energy Deficiency (KEK) in Pregnant Women with Low Birth Weight (LBW) in the Rajadesa Health Center Work Area in 2019." *Journal of Midwifery and Public Health*. 2019. 1(2): 1–8.
- [16] ———. *Regulation of the Minister of Health of the Republic of Indonesia Number 2 of 2020 concerning Child Anthropometry Standards* . Jakarta. 2020b.
- [17] Ahmadi, Ferry. *Pregnancy, Fetus and Nutrition* . Yogyakarta: Deepublish. 2019.
- [18] Sakti, Syahria Anggita. "The Effect of Stunting on the Development and Development of Children in the Golden Age Period." *Biomatics: Scientific Journal of the Faculty of Teaching and Education* 6(1): 169–75. 2020.