

## ANALYSIS OF COMPLIANCE OF MOTHER PROGRAM FACTORS ASSOCIATED IN GIVING ZINC SYRUP TOWARDS STUNTING INFANT

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### ABSTRACT

The incidence of stunting in Indonesia in 2007, namely 36.8%, 37.2% in 2013 and decreased to 30.2% in 2018, While the prevalence of stunting in Central Java at 36.7%, in Grobogan by 31.5% due to zinc deficiency in infants. The purpose of this study was to analyze factors associated with maternal adherence in programs providing zinc syrup in Infant stunting in Grobogan. The research used explanatory research design with cross sectional approach, the subjects of study were all women included programs that were providing zinc syrup as many as 52 people. Data was collected through questionnaires. Furthermore, univariate, bivariate with chi-square test and logistic regression were used in analyzing the data of the research. Next, the results showed that most of mothers who were obedient, namely 59.6%. Variables have a meaningful relationship / significant with the mother compliance is knowledge where  $p = 0,02$  ( $p < 0.05$ ) and family support ( $p = 0.02$ ), whereas other factors such as attitude did not have a significant relationship with compliance of mother, the most influential factor were the knowledge by which means the odds ratio 15.626 respondents with good knowledge would obedient in giving zinc syrup to stunting infant 15.626 times better than the respondents with less knowledge. Providing zinc syrup programs to infants is to prevent the incidence of stunting in childhood and beyond that expected by health officials to provide information so as to improve the adherence of the mother.

**KEYWORDS:** Compliance, stunting infant, zinc syrup

### INTRODUCTION

Stunting is a nutritional problem the consequences of inadequate nutritional intake is still included problems in the world and poor countries as well as developing countries (Aguayo and Menon, 2016), This is because Stunting can cause a decrease in academic achievement (Picauly and Toy, 2013), Increasing the risk of obesity 4.5, More vulnerable to non-communicable diseases (Unicef Indonesia, 2012) and an increased risk of degenerative diseases 7.8, if children under 2 years old have stunted growth would have emotions and bad behavior in adolescence (Walker et al., 2007) stunting is a form of growth faltering caused by malnutrition during pregnancy to age 2 years 4.10, It will get worse if not balanced by an increased intake of adequate nutrition so that growth can be achieved 4.11, Quality of life is determined at 0- 24-month period so that the so-called golden period. Because at that time very sensitive, so if it is not addressed, it will be forever and can not be diperbaiki. Hence the need for optimal nutrition or inadequate at this age it is important to meet children's nutrition (Mucha, 2012),

Basic Health Research (Riskesdas) showed that the incidence of Stunting in Indonesia increased that in 2007 36.8% and then the next RISKESDAS which in 2013 amounted to 37.2%, and in 2018 decreased to 30.2% of this reduction is not means that we have to avoid Stunting but still remains a health problem, which also means one in three children Indonesia is short (Badan Penelitian Dan Pengembangan Kesehatan Kementerian Kesehatan RI, 2013), As for Stunting prevalence in Central Java 36.7%, consisting of 16.8% is very short, and 19.8% are short. whereas in Grobogan that is equal to 31.5%, consisting of 24.1% short category and the category of very short 7.2% (Badan Penelitian Dan Pengembangan Kesehatan Kementerian Kesehatan RI, 2013), Then the last data according to the results of PSG in 2017 increased to 36.2%, consisting of 5.8% and 30.4% very short short category in toddlers (Badan Penelitian Dan Pengembangan Kesehatan Kementerian Kesehatan RI, 2013),

According to Barker, 2007 at addressing problems early Stunting can reduce the incidence of the generations to come, thus the quality of human will increase from the aspect of health, education and productivity which leads to the increase in social welfare. overcoming the problem of stunting during the last 20 years is very slow. It can be seen from the figures the decline of children who are stunted approximately 0.6% per year from 1990. If this continues then there is confirmed, 15 years later, it is predicted there will be about 450 million children who are experiencing growth inhibited (Stunting) (Alex Cobham, 2012),

One of the nutrients that affect the growth is Zinc (Zn). The micro minerals are nutrients has an important role in many body functions such as metabolism, immunity function of cell growth, cell division and growth (Brown et al., 2002; Dardenne, 2002),

According to Gibson Research, indicates that in infants Stunting one reason is the lack of substance, namely micro GIZ mineral Zinc, she also recommends zinc supplementation to prevent Stunting (Gibson, 2012), This is supported by research conducted by Kujinga, P et al, where the prevalence Stunting in children under 5 years is a result of deficiency Zinc (Galetti et al., 2016), In addition, research V. Uwiringiyimana et al in the northern Rwandan province showed that the intake of zinc is closely associated with height z score in children under five Stunting (Uwiringiyimana et al., 2018),

By Imdad and Zulfiqar state that zinc supplementation is very effective in helping the growth of children under five years and will be very effective if only given Zinc supplementation without combination (Mayo-Wilson et al., 2014), Another study in accordance with the terms of a research Abdollahi M, et al (2014) the sting oral administration Zinc supplementation is effective in increasing the growth of children under 2 years (Abdollahi et al., 2014),

Central Java province in this case the Central Java Provincial Health Office melakukakn program providing Zinc syrup in infants at risk categories Stunting in 2017 through Semarang city health

department, which is aimed at 88 targets with results of 95.45% are in the normal category and the rest is 4 , 55% is still in the short category, with varying frequency of administration, ie, 2% <70 times, 4% of 70-75 times, 11% of 76-80 times, 25% of 80-85 times, and 58% are 86- 90 Zinc syrup feedings(Semarang, 2017), Furthermore, the program is conducted in two other districts of Central dijava namely Blora and Grobogan.

Noncompliance mother in the delivery of Zinc syrup can cause failure of granting program which affects growth and development in infants given zinc syrup, so the reduction and prevention Stunting can not be resolved(Tengah, 2017), Based on the results of the activity report of the three health centers with most cases also reported respectively 40%, 38% and 25% non-compliant Compliance is a health behavior, According to Green in Notoatmodjo defines that there are three factors that influence compliance behavior are the predisposing factors, enabling factors and driving forces. Included in predisposing factors such as knowledge, attitudes, beliefs and value perception. The supporting factors include health care, availability of health facilities, the ease to reach out to health care and socio-economic or cultural circumstances. The driving factor among others; the support of family, community, health and environment(Notoatmodjo, 2012), This study was to analyze Factors Associated with Adherence Women in Giving Program Syrup Zinc Infant Stunting.

## METHOD

The method used in this research is explanatory research with cross sectional approach. The collection of data through questionnaires and in-depth interviews. The study population was all women in programs providing zinc syrup in Infant stunting in Grobogan, while sampling using total sampling technique that is all the mothers included in the program of the zinc syrup as many as 52 people. Univariate analysis used to determine the frequency distribution, bivariate analysis using Chi Square and multivariate logistic regression analysis.

## RESULTS AND DISCUSSION

Distribution of respondents based on characteristics such as age, education, occupation, overall parity as shown in table 1

**Table 1. Frequency Distribution Characteristics of Respondents**

characteristics	Frequency	%
<b>Respondents age</b>		
Teens (17-25)	12	23.1
Adults (26-35)	40	76.9
<b>Education</b>		
Basic education	44	84.4
Higher education	8	15.4
<b>Work</b>		
Work	12	23.1

Does not work	40	76.9
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the table 1 shows that most of respondents adult category was 76.9%, 84.6% Basic education, employment status was not working at 76.9%,

**Table 2 distribution of the level of compliance of respondents**

No.	Obedience	Frequency	Percentage (%)
1	submissive	31	59.6
2	Not obey	21	40.4
Total		52	100

Table 2 illustrates that compliance with the most respondents 59.6% adherent category and 40.4% were not-obey.

**Table 3 Relationship with compliance mother's knowledge in programs providing zinc syrup**

Knowledge	submissive		Not obey		total		p-Value
	N	%	N	%	N	%	
Well	22	42.3	5	9.6	27	51.9	0.01
Less	9	17.3	16	30.8	25	48.1	

Based on Table 3 shows that respondents who do not abide more common in the group of respondents who have a good knowledge of 42.3% compared with the group of respondents with less knowledge (17.3%). While the respondents who do not comply are often found in the group of respondents with less knowledge (30.8%) compared with the group of respondents with good knowledge that is equal to 9.6%.

The results of Chi-square test with significance level of 5% was obtained value of p-Value of 0.01, which means that the value of  $p < 0.05$ , so  $H_0$  rejected so that it can be concluded that there is a correlation between education level of compliance premises in programs providing zinc syrup in Infant stunting ,

**Table 4 Relationship maternal attitude to compliance in programs providing zinc syrup**

Attitude	submissive		Not obey		total		p-Value
	N	%	N	%	N	%	
Well	15	28.8	13	25	28	53.8	0.337
Less	16	30.8	8	15.4	24	46.2	

Based on Table 4 shows that respondents who are obedient more common in the group of respondents who have a poor attitude by 30.8% compared with the group of respondents with a good

attitude 28.8%. While the respondents who do not comply are often found in the group of respondents with a good attitude which is 25% compared with the group of respondents with less attitude that is equal to 15.4%.

The results of Chi-square test with significance level of 5% was obtained of p-Value 0.337 which means that the value of  $p > 0.05$ , so  $H_0$  accepted so that it can be concluded that there is no relationship between the education level of compliance premises in programs providing zinc syrup in Infant stunting.

**Table 5 Relationship with compliance family support mothers in programs providing zinc syrup**

Family support	Submissive		Not obey		total		p-Value
	N	%	N	%	N	%	
Support	23	44.2	9	17.3	32	61.6	0,023
Does not support	8	15.4	12	23.1	20	38.4	

Based on Table 5 indicates that respondents who are obedient more common in the group of respondents who have a supportive family support amounting to 44.2% compared with the group of respondents with family support who do not support (15.4%). While the respondents who do not comply are often found in the group of respondents with family support who do not support (23.1%) compared with the group of respondents with the support of family support in the amount of 17.3%. The results of Chi-square test with significance level of 5% p-Value obtained value of 0.023 which means that the value of  $p > 0.05$ , so  $H_0$  rejected and  $H_a$  accepted so that it can be concluded that there is a significant relationship between respondents with a family support program providing compliance in syrup zinc in stunting infants.

**Table 6 The results of logistic regression test**

variables	B	SE	Wald	df	Sig.	Exp (B)	95.0% CIFOR EXP (B)	
							Lower	Upper
Kategori_P	2,157	.672	10 313	1	.001	8,649	2318	32 274
Kategori_Sl kap	-.802	.667	1,449	1	.229	.448	.121	1,656
Family support	1,206	.813	2,201	1	.138	3,339	.679	16 422
Constant	-2530	1,315	3,704	1	.054	.080		

Based on the analysis of test multivariate enganregresilogistic that significantly with respondents in the compliance program providing zinc syrup is where the knowledge variable  $p = 0.001$  ( $p < 0.05$ ) with a value of 2.749 while keofisien influence attitudinal variables, the availability of drugs, age, occupation, education, support personnel, family support is not related or significant influence because the value of  $p > 0.05$ .

Based on the analysis results obtained influential variable is the variable knowledge with 15.62 Odds ratio means that respondents who have a good knowledge would be obedient in giving zinc syrup in Infant stunting 15.62 times better than the respondents who have less knowledge

### **Compliance mother in programs providing zinc syrup in Infant stunting**

Compliance in this study is the obedience or order of the mother in delivering zinc syrup in accordance with the recommendation of Infant clinic. In the study showed that mothers who obey the rules in granting Program zinc syrup in Infant stunting by 31 people (59.6%) while the non-adherent 21 (44.4%).

Compliance mother in giving their babies zinc syrup can be known through officers visit every two weeks during the program period (3 months) with the form of administration and measured and checked the rest of the drug (syrup zinc) have been given. Moreover given education about stunting and provide guidance related complaints experienced by infants given zinc syrup.

The degree of non-compliance in the treatment vary as to whether such treatment goal for curative or preventive, short term or long term (Sarafino, 2008), While Sackett & Snow (1979) found that adherence dengna goal of treatment is 70% -80%, while compliance for the purpose of prevention of 60% - 70%. Determinant of a person's non-compliance caused by various factors: complexity / difficulty of the treatment procedure, the rate of change of life is required, duration of treatment in which the patient must adhere to this advice, whether the disease is a serious disease, whether the effect of treatment is undertaken looks potentially save lives and the severity of the disease is perceived by the patient. (Sarafino, 2006)

Based on the results of the questionnaire at 52 respondents, obtained 59.6% of respondents obedient. This is because there are 80.8% of respondents answered that the time of zinc syrup to infants and spit it will be given back, 59.6% of respondents answered that already provide appropriate zinc syrup at the recommended dose

Hopefully, by the program of syrup zinc infant stunting to ensure adequate intake of zinc so as to prevent the incidence of stunting in children under five in order to create a young generation of quality, improve academic achievement, lower the risk of obesity, and the risk of degenerative diseases, as well as be able to control emotions and behavior both in the late teens.

Pursuant to the theory of L Green in Notoatmodjo defines that there are three factors that influence compliance behavior are the predisposing factors, enabling factors and driving forces. Included in predisposing factors such as knowledge, attitudes, beliefs and value perception. The supporting factors include health care, availability of health facilities, the ease to reach out to health care and socio-economic or cultural circumstances. The driving factor among others; the support of family, community, health and environment(Notoatmodjo, 2012),

## **Knowledge**

Knowledge is performed by the sensing of an object which then became something diketuhui. In this study is meant by knowledge is what is known mother of stunting.(Notoatmodjo. S, 2010) Results of univariate analysis showed that 51.9% of respondents have a good knowledge of stunting, while respondents with less knowledge level of 48.1%. From the results of this research is that respondents who do not comply in providing zinc syrup in Infant stunting is more prevalent among respondents who have a good knowledge (51.9%) compared to respondents who have less knowledge 17.3%

Based on the statistical test there is no correlation between knowledge of stunting respondents with compliance mother in programs providing zinc syrup in Infant stunting where p-value of 0.01 ( $p < 0.05$ ).

Knowledge of child health will tend to have self-confidence, knowledge and ability antuk make good decisions for themselves and their families but the fact that a person who has knowledge either do not necessarily have a behavior that corresponds to his knowledge such a statement Green (1980), which states that knowledge good does not always cause a person's behavior change, knowledge is a very important thing a person can adopt healthy behaviors but not enough by a factor proficiency level.

This study was supported by research muna the calculation result  $p = 0.025$ , which means that knowledge has a significant relationship with the mother compliance zinc supplementation in infants with diarrhea in health centers Helvetia Medan (Muna chairun, 2017), Additional research is also consistent premises chairanisa Anwar is research where results showed no significant relationship between knowledge with the provision of breastfeeding with p value = 0.023.(Anwar and Ulfa, 2018)

## **Attitude**

Based on the results showed that 88.5% of respondents have a good attitude towards stunting and administration of zinc syrup, while respondents with a good attitude at 6%. Attitude (attitude) is a term that reflects the feelings of the ordinary, happy or not happy from someone of something that could be the attitude towards objects, events, situations people or groups. if that arise against something that is feeling happy / interested will be referred to as a positive attitude, whereas when incurred was feeling not being called a negative attitude.(Luthfi, 2009) In this study showed that respondents who do not abide in the provision of zinc syrup more numerous in the respondents who have a good attitude (30.8%) compared to respondents who have a good attitude (28.8%). Chi-square

test results can be concluded that there is no significant relationship between respondents' attitudes to compliance with the mother in the provision of infant stunting zinc syrup with a p-value value equal to 0.337 In the opinion of the Melyanti Newcomb (2011) an action or activity cannot yet be regarded as an attitude, but it is a predisposing actions or behavior, except that according to the World Health Organization (WHO) in Notoatmodjo (2007) disclose that a positive attitude towards value- health value cannot always be realized in a real action, based on the foregoing, one must assume that there is some possibility that could cause the mother's attitude has no relationship with adherence in programs providing zinc syrup in Infant stunting.

In this study most mothers adhere to the respondents with less good attitude. This is different from Sarlito opinion stating that the tendency to behave regarded as an attitude, and a willingness or readiness to take action, the tendency of a person to perform positive behavior dalam people who have a positive attitude, and vice versa.

Meanwhile, according Widyatama attitude is readiness on the mental and nervous state, which is controlled by the result of the experience that can affect dynamic or suitability to the individual response to each object and circumstances related there (Widyatun, 2009), a person's attitude is a very important part in health behavior, therefore the attitude and behavior of people considered directly related. (Niven, 2002)

In the opinion of the Melyanti Newcomb (2011) an action or activity can not yet be regarded as an attitude, but it is a predisposing actions or behavior, except that according to the World Health Organization (WHO) in Notoatmodjo (2007) disclose that a positive attitude towards value- health value cannot always be realized in a real action, based on the foregoing, one must assume that there is some possibility that could cause the mother's attitude has no relationship with adherence in programs providing zinc syrup in Infant stunting. One is a mother who has a baby at birth is stunting 26.9% of mothers do not agree to report kepetugas health centers and as much as 23.1% of mothers stated that stunting is not an issue kesehatan

## **FAMILY SUPPORT**

The family is the smallest unit of society. To achieve public health behavior, it must be started on each of the family structure. In educational theory is said, that the family is the nursery where humans as members of society. Therefore, if the nursery was ugly then obviously it will affect the community. So that each family be a place that is conducive to the growth of healthy behaviors for children as a future member of society, the promotion was instrumental (Notoatmodjo, 2012), Family support is an attitude, actions and acceptance of people who are sick. In this case the mother should receive support so that the smooth administration of zinc syrup to her child during the program.

Based on Table 4 indicates that respondents who are obedient more common in the group of respondents who have a supportive family support amounting to 44.2% compared with the group of respondents with family support who do not support (15.4%). While the respondents who do not



comply are often found in the group of respondents with family support who do not support (23.1%) compared with the group of respondents with the support of family support in the amount of 17.3%. The results of Chi-square test with significance level of 5% p-Value obtained value of 0.023 which means that the value of  $p < 0.05$ , so  $H_0$  rejected so that it can be concluded that there is a relationship between the respondents with a family support program providing compliance in zinc syrup in Infant stunting.

The results are consistent with the theory L Green stated that the factors that influence compliance one of which includes the driving factor is the support of family.

## CONCLUSION

Most respondents obedient that 31 (59.6%) in the provision of zinc syrup in infants and non-adherent stunting 44.4%. Characteristics of respondents in this study have mostly adult age at 76.9%, 84.6% Basic education, employment status was not working at 76.9%.

Most responde have a good level of knowledge about the stunting of 59.9%, maternal attitudes towards stunting unfavorable circumstances as much as 30.8%.

Variables significantly related to compliance in providing zinc syrup in Infant stunting is knowledge with  $p = 0.01$  and support families with  $p = 0.02$ . The most influential variable is the knowledge with 15.626 odds ratio (95% CI for Exp B: 2872 to 85.021, which means respondents with good knowledge will obey 15.626 times greater than the respondents with less knowledge.

Zinc syrup program is expected to prevent the incidence of stunting so with knowledge and a good attitude can improve compliance mother in the delivery of zinc syrup through health workers who provide information about each visit to the program participants and the community.

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