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Mother's Behavior, Family Income and Availability of Iodized Salt in the Household

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ABSTRACT

Iodine is one of the essential micro minerals needed by human body in small amounts. As a result of iodine deficiency disorder is often found in mountainous areas, deficiency of iodine in the body provide hypothyroidism conditions by increasing thyroid tissue. The aim of this study was to analyze the relationship between the behavior of housewives about the availability of iodized salt. This type of research is analytic observational with cross sectional approach. The population in this study were all family heads in the Taninin Village area, Takari District, Kupang Regency, NTT Province, Indonesia. The sample size studied was 85 families selected randomly. Independent variables in this study are: 1) housewife behavior which includes: knowledge, attitudes, actions related to the use of iodized salt, 2) family income. While the dependent variable is the availability of iodized salt in the household. Data was collected through filling out questionnaires. The data that has been collected is categorical so that it is presented in the form of frequencies equipped with percentages. Further hypothesis testing using Chi square test for the first stage and continued with multiple logistic regression tests for the second stage. Referring to the logistic regression model produced, the factors that influence the availability of iodized salt in the household are maternal knowledge. The probability of availability of iodized salt due to maternal knowledge is 2.107, which means that 1 time the increase in the respondent's knowledge of iodized salt will increase the availability of iodized salt by 2.1 times greater

Keywords: Knowledge, Iodized salt

INTRODUCTION

Iodine Deficiency Disorders (IDD) are some of the symptoms that result from a continuous lack of iodine in the body for a long time. Iodine is a mineral that is needed by the body that is used to support growth and development. IDD influences children's performance in school, also decreases the creativity of adults, which in turn will have an impact on socio-economic problems (Atika, 2012).

Risikesdas (2013) reports that in Indonesia, the number of households consuming iodized salt (> 30 ppm) only reached 77.1%. In Indonesia there are still households that use iodized salt. In NTT Province, households that consumed iodized salt were only 52.4%. In Kupang regency, 57.1% of households consumed salt with iodine content in the sufficient category, 29.6% of households consumed salt with iodine content in the less category and 13.3% consumed non-iodine⁽²⁾.

The use of iodized salt is still an alternative and a good strategy for preventing and overcoming IDD. The quality of iodized salt is affected by storage, storage and use during processing. Storage and use of iodized salt that is wrong will cause a decrease and damage to iodine levels⁽³⁾.

Notoatmodjo (2012) explained that the use of iodized salt is influenced by knowledge, attitude, environment, socio-economic and information factors. Based on Green theory, it is known that a person's behavior is influenced by three factors: predisposing factors, enabling factors, reinforcing factors. The predisposition is a factor that facilitates the occurrence of a person's behavior such as knowledge, attitudes, beliefs, beliefs, traditions, values and other elements. In this context the intended predisposing factors for the behavior of household members in consuming iodized salt⁽⁴⁾. Setiarini (2010) reports that there is a relationship between the level of knowledge of housewives about IDD by storing and using iodized salt⁽⁵⁾.

In Kupang Regency, there are still a few households that consume iodized salt, with a percentage of 76.09% in 2012, 57.6% in 2013 and 57.2% in 2014⁽⁶⁾. Meanwhile, according to Kemenkes RI (2005), the percentage of using iodized salt is still far below the target 90%⁽⁷⁾. Preliminary surveys conducted at the Huebunif Health Center showed that the percentage of households that consumed iodized salt in 2013 was 70.0% and in 2014 was

52.33%⁽⁶⁾. The purpose of this study was to analyze the relationship between housewife behavior and family income with the availability of iodized salt in households in Tanini Village, Takari District, Kupang Regency.

METHODS

This type of research is analytic observational with cross sectional approach. The population in this study were all family heads in the Taninin Village area, Takari District, Kupang Regency, NTT Province, Indonesia. The sample size studied was 85 families selected randomly. Independent variables in this study are: 1) housewife behavior which includes: knowledge, attitudes, actions related to the use of iodized salt, 2) family income. While the dependent variable is the availability of iodized salt in the household. Data was collected through filling out questionnaires. The data that has been collected is categorical so that it is presented in the form of frequencies equipped with percentages⁽⁸⁾. Further hypothesis testing using Chi square test for the first stage and continued with multiple logistic regression tests for the second stage.

RESULTS

Table 1. Distribution of age, education and job of respondent

Characteristic	Frequency	Percent
Age		
19 – 26 years	8	9.4
27 – 34 years	21	24.7
35 – 42 years	21	24.7
43 – 50 years	17	20
51 – 58 years	11	12.9
59 – 66 years	7	8.2
Education		
Elementary school	70	82.3
Junior high school	96	7.1
Senior high school	9	10.6
Job		
Have a job	8	9.4
Don't have a job	77	90.6

Table 1 shows that the highest age group of respondents was 27-34 years and 35-42 years, each of which was 24.7%. Thus, it can be said that the age of respondents in the study area is generally classified as women of childbearing age. Respondent education with the largest proportion was not graduating from elementary school (82.3%), while high school graduates were only 10.6%. Thus, in the study area, the level of education of respondents was still relatively low. Meanwhile, most respondents worked as farmers, namely 90.6%.

Table 2. Distribution of availability of iodized salt in households

No	Availability of iodized salt	Frequency	Percent
1	Available	27	31.8
2	No available	58	68.2
Total		85	100

Table 2 shows that the availability of iodized salt at the household level in Tanini Village is still low, in the sense that most people in general still provide salt that does not contain iodine.

Table 3. Distribution of knowledge

No	Knowledge	Frequency	Percent
1	Good	17	20.0
2	Fair	22	25.9
3	Less	46	54.1
Total		85	100

Table 3 shows that most mothers have a lack of knowledge about the importance of iodine. Table 4 shows that maternal attitudes toward the supply of iodized salt at the household level are mostly in the fair category. Table 5 shows that the mother's actions to provide iodized salt, mostly in the less category. Table 6 shows that most families have income in the less category.

Table 4. Distribution of attitude

No	Attitude	Frequency	Percent
1	Good	28	32.9
2	Fair	53	62.4
3	Less	4	4.7
Total		85	100

Table 5. Distribution of action

No	Action	Frequency	Percent
1	Good	28	32.9
2	Fair	28	32.9
3	Less	29	34.1
Total		85	100

Table 6. Distribution of income

No	Family income	Frequency	Percent
1	Good	16	18.8
2	Less	69	81.2
Total		85	100

Table 7. The relationship between knowledge, attitude, action and income with availability of iodized salt

Variable		Availability of Iodized Salt				p-value
		Available		Not available		
		n	%	n`	%	
Knowledge	- Good	2	44		0.0001	
	- Fair	12	10			
	- Less	13	4			
Attitude	- Good	18	10		0.0001	
	- Fair	8	45			
	- Less	1	3			
Action	- Good	19	9		0.0001	
	- Fair	4	24			
	- Less	4	25			
Income	- Good	8	8		0.082	
	- Less	19	50			

Chi square test results for each factor (knowledge, attitude, action and income) with the availability of iodized salt in the household shows that all p-values are less than 0.25. Thus it can be decided that all factors can be included in the next analysis, namely multiple logistic regression tests.

Table 8. The result of multiple regression test in first stage

Variable	B	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
				Lower	Upper
Knowledge	2.107	0.0001	8.225	3.501	19.324
Attitude	1.944	0.0001	6.985	2.582	18.901
Action	1.475	0.0001	4.372	2.110	9.061
Income	.968	0.0881	2.632	.864	8.011

Table 9. The result of multiple regression test in final stage

Variabel	B	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
				Lower	Upper
Knowledge	2.107	0.0001	8.225	3.501	19.324
Constant	-4.615	0.0001	0.010		

Table 8 shows that there is one factor that has a p value of more than 0.05, namely income. Thus, this factor must be excluded from further analysis. Based on the results of logistic regression analysis at the final stage, the following models can be arranged.

$$\text{logit } p = \ln \left[\frac{p}{1-p} \right] = -4.615 + 2.107 \text{ knowledge}$$

with an estimate of the probability of being a case : $p = \frac{1}{1+e^{-(-4.615+2.107 \text{ knowledge})}}$

or

Availability of iodized salt = $-4.615 + 2.107 \text{ knowledge}$

Referring to the logistic regression model produced, the factors that influence the availability of iodized salt in the household are maternal knowledge. The probability of availability of iodized salt due to maternal knowledge is 2.107, which means that 1 time the increase in the respondent's knowledge of iodized salt will increase the availability of iodized salt by 2.1 times greater. This shows that knowledge has an effect of 8.225 on the availability of iodized salt in households in Tanini Village. The significance value of the Omnibus test is 0.000 so that H_0 is rejected, which means that at least one factor influences the availability of iodized salt in households, in this case knowledge, so that the model can be used for further analysis. Nagelkerke R-Square is 49.1% which means the variability of the availability of iodized salt which can be explained by the variability of knowledge is 49.1%, while the rest (51.9%) can be explained by other variables outside the research model. The significance value of the Hosmer and Lemeshow Test is 0.090 so that it is interpreted that the logistic regression model is sufficient to be able to explain the data or model fit with the data. The overall percentage in the classification table is 78.8% so that it is interpreted that overall, the accuracy of the classification of observations on the availability of iodized salt in households in Tanini Village is 78.8%.

DISCUSSION

The results showed that the determinants of the availability of iodized salt in households in Tanini Village were knowledge of housewives. Knowledge in general can influence certain attitudes in a person and influence his actions in daily life. Thus, knowledge of iodized salt will in turn help them to provide iodized salt for daily consumption. The influence of habits learned and done since childhood, easily becomes permanent behavior and is difficult to change again⁽¹⁾.

The results of this study illustrate that the low level of knowledge of respondents causes a low level of awareness of the importance of consuming iodized salt. The reason respondents did not use iodized salt is because they usually use crystal salt which they think is cheaper, does not like the taste of iodized salt which they think is more bitter than crystal salt, but also because of the abundant availability of crystal salt so it is easier to get crystal salt. It should be underlined that crystal salt does not contain iodine in sufficient quantities or does not even contain iodine at all.

CONCLUSION

Based on the results of the study it can be concluded that the availability of iodized salt in households is determined by the level of knowledge of housewives about iodized salt.

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