

Analysis of Determinants of Vitamin A Capsule Consumption Among Postpartum Mothers in the Working Area of Puskesmas Kuala Bireuen District

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ABSTRACT

Vitamin A is necessary for postpartum mothers. Therefore, postpartum mothers need adequate and balanced nutrition, especially protein and carbohydrate needs. This study aims to analyze the determinants of vitamin A capsule consumption in postpartum mothers in the working area of Puskesmas Kuala, Bireuen Regency, Aceh. The type of research used in this study is an analytical survey with a cross-sectional study. The population in this study was 93 people, and the entire population was used as a research sample (total sampling). Data collection was carried out by collecting primary and secondary data taken from related installations. The results of this study showed that nutritional knowledge was related to the consumption of vitamin A capsules ($P = 0.000$), nutritional counseling was related to the consumption of vitamin A ($P = 0.000$), abstinence from vitamin A capsules was related to the consumption of vitamin A capsules ($P = 0.000$), availability of vitamin A capsules was related to the consumption of vitamin A capsules ($P = 0.000$), and history of infectious diseases was related to the consumption of vitamin A capsules ($P = 0.000$). Multiple logistic regression analysis found that the most influential factor on vitamin A consumption was abstinence from vitamin A capsules (OR 10.951, 95% CI = 3.320-36.114), meaning that mothers who abstained from vitamin A capsules had a 10.9 times higher chance of not taking vitamin A capsules. The conclusion of this study is that there is a relationship between all variables and the consumption of vitamin A capsules, while the most influential factor on the consumption of vitamin A capsules is abstinence from their consumption of vitamin A capsules. Suggestion for postpartum mothers to be able to understand everything that must be known during puerperium so that it can provide comfort during this period.

Keywords: Vitamin A, Consumption, Postpartum

1. INTRODUCTION

Giving vitamin A capsules to postpartum mothers has important benefits for mothers and babies they breastfeed, additional vitamin A through supplementation can improve the quality of breast milk, Increase the immune system of breastfed babies so that it can protect from severe complications from diseases that commonly occur in children such as diarrhea, measles, serves also to accelerate the recovery of postpartum reproductive function and also serves to protect the eyes from xerophthalmia and night blindness and is also useful for skin health (1).

In breastfeeding mothers, vitamin A plays an important role in maintaining during breastfeeding such as avoiding breastfeeding mothers from night blindness during breastfeeding, a condition that often occurs Vitamin A deficiency, which is closely related to the incidence of anemia in mothers, underweight, malnutrition, increased risk of infection and reproductive disease, to reduce maternal survival up to two years after giving birth (1).

Vitamin A is needed by postpartum mothers, therefore postpartum mothers need adequate nutrition, balanced nutrition, especially protein and carbohydrate needs. Consume an additional 500 calories each day, that is, the mother should consume 3 to 4 servings every day. Iron tablets are consumed, to add nutrients for 40 days postpartum. Vitamin A capsules (200,000 units) can meet the needs of vitamin A to babies through breast milk. (1)

Breast milk is a good source of vitamin A. If vitamin A in the mother's body is low, breast milk is proportionally low and the baby will be in period I of the corneal epithelium which

eventually results in softening and rupture of the cornea, the eye is infected and bleeding occurs and the mother is also at risk of infection. (2)

Some countries in the world have problems with vitamin A deficiency. Vitamin A deficiency is one of the main public health problems experienced by poor and developing countries. In poor and developing countries that have public health problems related to vitamin A deficiency conditions, there is 1 death out of 4 child deaths caused by vitamin A deficiency caused by postpartum mothers not given vitamin A capsules. Vitamin A deficiency also increases the risk of maternal death. This problem is mainly experienced by countries in Africa and Southeast Asia (3).

WHO and UNICEF in collaboration with the Canadian International Agency for International Development and The Micronutrient Initiative campaign The Vitamin A Global Initiative, one of which is by providing high-dose vitamin A supplementation 2 times a year to vulnerable groups of people experiencing vitamin A deficiency (3). The provision of vitamin A capsules is one of the government programs that aims to meet the coverage of vitamin A intake in toddlers and postpartum mothers. Currently, the coverage of vitamin A provision nationally has not reached 80% (4).

The program to overcome vitamin A deficiency has been pioneered since 1960 and was effective in the 1970s so that it did not become a public health problem anymore, but the economic crisis in 1997 again found cases of vitamin A deficiency, so research was carried out again to overcome and the source of the problem again, one of which was countermeasures by giving vitamin A capsules to postpartum mothers or postpartum mothers, which will further have an effect on the baby (5).

The target for providing Indonesian vitamin A capsules in 2014 was 90%. The national coverage of vitamin A is 85.4% and has not yet reached the target. In 2016 coverage amounted to 84.41% which decreased from 2015 amounting to 87.6%. The achievement of giving vitamin A capsules in Bireuen district in 2017 reached 85.25% (6).

Data from the Kemenkes RI in 2016 the number of postpartum visits coverage in Indonesia showed an increasing trend from 2008 to 2016, but the number of postpartum visits in Indonesia in 2016 amounted to 84.41% and this decreased from 2015 which amounted to 87.06%, based on the achievement of postpartum visits in DKI Jakarta province had the highest achievement of 94.3% while the province with the lowest coverage was Papua at 30.46% (6).

Based from Dinkes Aceh in 2016, the coverage of postpartum visits decreased to 79%, while in 2011, the number of postpartum visits coverage amounted to 87.8%. (2). Data from the Dinkes Bireuen in 2017, the number of postpartum mothers was 8,751 people, while postpartum mothers who received vitamin A were 79.45%. While in 2013 the number of postpartum mothers in Bireuen Regency was 7904 people, the provision of vitamin A capsules amounted to 85.25% (3). This situation shows that coverage in Bireuen Regency still remains below the target (<90%) and there is a decrease in coverage by 2.8% from 2013 to 2017 (6).

In the working area of Dinkes Bireuen, there were 18 health centers and the highest coverage of vitamin A capsule administration was at Puskesmas Gandapura, while the lowest was at Puskesmas Kuala. The number of postpartum mothers reached 90 people. The number of vitamin A capsules given to postpartum mothers was 68 people (75.5%) (7). Based on Fetiani's research (2013), in the Puskesmas Peukan Bada work area (Aceh Besar), with the type of Analytical research obtained 42.7% who consumed vitamin A capsules, 52.0% who had a positive attitude, 41.3% with moderate knowledge and 62.7% of respondents never received health information (8).

2. METHODS

This research used in this study is an analytical survey with a case control study design with the aim of assessing the risk of vitamin A consumption in postpartum women in the Puskesmas Kuala working area, Bireuen Regency.

Measurement Aspect

Nutrition knowledge

To measure the nutritional knowledge of respondents on Vitamin A consumption, the study developed a measuring instrument in the form of a 15-question questionnaire, ordinal scale, with the results showed good, sufficient, or lack of Vitamin A consumption.

Nutrition Counseling

To measure respondents' nutritional counseling on Vitamin A consumption, the researcher developed a measuring instrument in the form of a 6-question questionnaire, ordinal scale, with the results measured good, sufficient, or lack of Vitamin A consumption.

Abstinence From Vitamin A Capsules

To measure respondents' dietary restrictions on Vitamin A consumption, the researcher developed a measuring instrument in the form of a 5-question questionnaire, ordinal scale, with the results measured good, sufficient, or lacking.

Availability of Vitamin A

To measure the availability of Vitamin A consumption, the researcher developed a measuring instrument in the form of a questionnaire totaling 5 questions, ordinal scale, with the results measured good, sufficient, or less.

History of Infectious Diseases

To measure respondents' history of infectious diseases on Vitamin A consumption, the study developed a measuring instrument in the form of a 6-question questionnaire, ordinal scale, with the results measured good, sufficient, or lack of Vitamin A consumption.

3. RESULT AND DISCUSSION

Univariate analysis

In the analysis of univariate data, it was found that the majority of respondents' nutritional knowledge was in the insufficient category, with 42 respondents (45.2%). Respondents who received nutrition counseling were mostly in the less category, with 38 respondents (40.9%), the vitamin A capsule abstinence was in the abstinence category as many as 47 respondents (50.5%). The variable for availability of vitamin A capsules was mostly in the category of less, with 39 respondents (41.9%). The variable for history of infectious diseases was mostly in the category of less, with 42 respondents (45.2%). Additionally, and there were 52 (55.9%) did not take vitamin A capsules.

Bivariate Analysis

Bivariate analysis is a statistical test used to analyze the relationship between independent variables and dependent variables. The variables of nutrition knowledge, nutrition counseling, abstinence from vitamin A capsules, availability of vitamin A capsules, history of infectious diseases with vitamin A capsule consumption have a relationship with a p value (sig) of 0.000 <0.05 (table 1).

The results of the relationship between the dependent and independent variables are as follows:

- a. There is a relationship between the nutritional knowledge of postpartum mothers and the

- consumption of vitamin A capsules (p-value = 0.000).
- There is a relationship between nutrition counseling and vitamin A capsule consumption (p value = 0.000).
 - There is also a relationship between abstinence from vitamin A capsules for postpartum mothers and vitamin A consumption (p value = 0.000)
 - There is a relationship between vitamin A capsule availability and vitamin A capsule consumption (p value=0.000)
 - There is a relationship between knowledge of postpartum mothers and consumption of vitamin A capsules (p value=0.046).

Table 1. Relationship Between the Dependent and Independent Variables

No	Variables	Consumption of vitamin A				Total		P value
		No		Yes		f	%	
		f	%	f	%			
1	Nutritional knowledge							
	- Less	32	34.4	10	10.8	42	45.2	0.000
	- Enough	19	20,4	20	21.5	39	41.9	
	- Good	1	1.1	11	11.8	12	12.9	
2	Nutrition Counseling:							
	- Less	15	16.1	23	24.7	38	40.9	0.000
	- Enough	3	35.5	4	4.3	37	39.8	
	- Good	4	4.3	14	15.1	18	19.4	
3	Abstinence From Vitamin A Capsules:							
	- Abstained	39	41.9	8	8.6	47	50.5	0.000
	- Not Abstained	13	14	33	35.5	46	49.5	
4	Availability of vitamin A capsules:							
	- Less	24	25.8	2	2.2	26	28	0.000
	- Enough	19	20.4	16	17.2	35	37.6	
	- Good	9	9.7	23	24.7	32	34.4	
5	History of							
	- Less	27	29	11	11.8	38	40.9	0.046
	- Enough	18	19.4	20	21.5	38	40.9	
	- Good	7	7.5	10	10.8	17	18.3	
	Total	52	55,9	41	44,1	93	100	

Multivariate Analysis

To determine the factors that influence the consumption of vitamin A capsules has a multivariate analysis was carried out using a logistic regression test (binary multiple regression) through several steps, including:

- Selecting variables that are potentially included in the model variables that are selected as candidates or that are considered significant.
- In this modeling, variables that have a p value of 0.25 in the bivariate test (chi-square test)

are included together in the multivariate test. From the results of the bivariate test, the variables that are used as model candidates in the logistic regression test (binary multiple regression) are variables of nutritional knowledge, nutritional counseling, food abstinence, availability of vitamin A and history of infectious diseases. The use of statistical significance of 0.25 in multiple statistical regression tests allows variables that are covertly important to be included in multivariate models. Variables that enter the selection of model candidates.

- c. Furthermore, testing was carried out simultaneously using the enter method to identify the variables that significantly influenced the consumption of vitamin A capsules ($p < 0.05$).

Table 2. Selection of Variables that become Candidate Models in Logistic Regression Test Based on Bivariate Analysis

No	Variables	p value (sig)	Category
1	Nutrition Knowledge	0.000	Candidate
2	Nutrition Counseling	0.000	Candidate
3	Abstinence from Vitamin A Capsules	0.000	Candidate
4	Availability of Vitamin A Capsules	0.000	Candidate
5	History of Infectious Disease	0.007	Candidate

The table 2, shows that there are 5 (five) variables with a p value < 0.05 . These are eligible to enter the multivariate model.

Table 3. First Stage Multiple Logistic Regression Analysis Results

No	Variables	B	p (Sig)	Exp (B)	95% C.I	
					Lower	Upper
1	Nutrition Knowledge*	1.600	0.003	4.951	1.735	14.130
2	Nutrition Counseling	0.527	0.227	1.695	0.720	3.988
3	Abstinence from Vitamin A Capsules*	2.266	0.000	9.645	2.844	32.716
4	Availability of Vitamin A Capsules*	1.026	0.024	2.789	1.145	6.794
5	History of Infectious Disease	0.430	0.319	1.536	0.660	3.576
	Constant	-10.310	0.000	0.000		

In the first stage multiple logistic regression test, the variables p (sig) < 0.25 , namely the variables of nutritional knowledge (p sig 0.003), abstinence from vitamin A capsules (p sig 0.000), and the availability of vitamin A (p sig 0.024), will be included as candidates for the second stage of the model.

Table 4. Second Stage Logistic Regression Test Analysis Results

No	Variables	B	p (Sig)	Exp (B)	95% C.I	
					Lower	Upper
1	Nutrition Knowledge	1.287	0.008	3.620	1.409	9.306
2	Abstinence from Vitamin A Capsules	2.393	0.000	10.951	3.320	36.114
3	Availability of Vitamin A Capsules	1.029	0.015	2.798	1.218	6.431

Constant	-8.285	0.000	0.000
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From the results of the logistic regression test in the second stage, it was found that the most dominant variable that has a significant influence on the consumption of vitamin A capsules is the abstinence of vitamin A capsules (p sig 0.000, OR=10.951), Meaning that mothers who abstain from vitamin A capsules have a 10.9 times chance of not taking vitamin A capsules. Next were the nutrition knowledge variable (p sig 0.003, OR = 3.620), and the vitamin A availability variable (p (sig) 0.024, OR = 2.798).

4. DISCUSSION

Analysis of the Effect of Nutritional Knowledge with Vitamin A Capsule Consumption

The results of multivariate statistical tests, including multiple logistic regression tests, showed that the nutritional knowledge of postpartum women influenced the consumption of vitamin A capsules (p sig=0.008, OR = 3.620). Nutritional knowledge in the postpartum period, especially about vitamin A consumption, makes it very easy for postpartum mothers to be aware of diseases and correct food intake in the postpartum period. Because vitamin A in the postpartum period not only functions for the postpartum mother herself but for the baby she is breastfeeding too, although later the baby will also get vitamin A at the child stage.

Nutritional knowledge during the puerperium, especially about the consumption of vitamin A, makes it very easy for postpartum mothers to be aware of diseases and correct food intake in the puerperium, because vitamin A during the puerperium does not only function for the postpartum mother itself but for the baby she breastfeeds as well, although later the baby will also get vitamin A at the childhood stage.

According to the assumption of nutrition knowledge is necessary because the achievement of something good and right, and good knowledge as well, this knowledge can be obtained from various sources. With high knowledge, a person will tend to get information, both from other people and mass media. To increase this knowledge, counseling can be carried out by health workers, especially midwives, to make the public or postpartum mothers aware of the importance of consuming vitamin A.

Analysis of the Effect of Nutrition Counseling with Vitamin A Capsule Consumption

The results of multivariate analysis for nutrition counseling obtained a p (sig) value of 0.227 with an OR value = 1.695, it can be concluded that nutrition counseling that is categorized as less will have an effect on postpartum women who do not want to take vitamin A. Nutrition counseling aims to change people's behavior in a good direction in accordance with the principles of nutrition science, namely changes in nutritional knowledge, attitudes and eating behavior, and skills in managing food.

Nutrition counseling can be done with several methods, so that it can make it easier for nutrition extension targets to absorb knowledge that is the topic of counseling, which is expected to thereby increase the life expectancy of the extension target. However, there are also several factors that influence the counseling, targets and the counseling process, namely where the material is too monotonous and the appearance is not convincing, making it difficult to accept the target of counseling, it can also be influenced by factors of low education of the targets and the process in counseling, namely the selection of inappropriate places, methods that are difficult to understand the targets and teaching aids that are lacking.

According to the assumption of the researchers, counseling is very necessary and important to do so that postpartum mothers know the importance of using Vitamin A for infants and mothers themselves, this can be done in collaboration with posyandu cadres by providing counseling to encourage postpartum mothers to take vitamin A. The counseling can be carried out by distributing classes, namely for respondents with elementary school

education can be given counseling with demonstrations, with pictures to make it easier for mothers to understand, for mothers with junior high school education (SMP) and those with high school education and universities are expected to provide input or advice to take vitamin A and eat nutritious foods during postpartum.

Cadre support in the postpartum mother's vitamin A program is very important because the cadres are in charge of helping midwives conduct data collection, giving postpartum mothers' vitamin A and helping midwives conduct health counseling individually and in community groups. The role of midwives themselves as companions and directors in services and motivators in maintaining the continuity of activities, carrying out regular coaching and training for health cadres and carrying out evaluations of activities with health cadres. It is hoped that the more experience and knowledge possessed by cadres will be able to serve the community who come to Posyandu services well and with quality

Analysis of the effect of abstinence from vitamin A capsules on vitamin A capsule consumption among postpartum women

Multiple logistic regression test showed that abstinence from vitamin A capsules for postpartum women affects vitamin A consumption ($p=0.000$, $OR=10.951$). Food Abstinence is a food item or dish that should not be eaten by individuals in the community for cultural reasons. According to the researcher's assumption, abstinence from vitamin A capsules for postpartum women is a myth, as in the community the habit of avoiding certain types of food during the postpartum period for healing reasons is still found.

Abstinence Food is a food or cuisine that should not be eaten by individuals in society for cultural reasons. These challenging customs are taught from generation to generation and tend to be obeyed even though the individual who practices them does not really understand or believe the reason for challenging the food concerned.

Abstinence is forbidden according to custom or belief Vitamin A capsules are a vitamin that functions in the visual system, immune formation function and reproductive function. In pregnant and lactating women, vitamin A plays an important role. Because, this is closely related to the incidence of anemia in mothers, underweight, malnutrition, increased risk of infection and reproductive diseases

Analysis of the Effect of Vitamin A Capsule Availability on Vitamin A Capsule Consumption

The results of multivariate analysis obtained a p value = 0.015 with an OR value = 2.798, which can be interpreted that if the availability of vitamin A in the Puskesmas is not there, the chances of postpartum women not taking vitamin A are 2.7 times greater. According to the researcher's assumption on the availability of vitamin A for postpartum women, which is due to the lack of socialization about the provision of vitamin A capsules for postpartum women, midwives in the Puskesmas work area focus more on giving vitamin A capsules to toddlers. This is also influenced by the absence of procurement of vitamin A capsules sourced from the district / city APBD funds so that the provision of vitamin A capsules still relies on the central buffer stock. If the availability of vitamin A capsules in birth attendants is sufficient to meet the needs of all targets, then the availability is a means of possibility for birth attendants to behave positively in giving vitamin A capsules to postpartum mothers as well. In order to carry out the provision of vitamin A capsules for postpartum mothers. So the role of childbirth helpers in giving vitamin A capsules to postpartum mothers is carried out optimally and optimally.

Analysis of the Effect of History of Infectious Diseases on Vitamin a Capsule

Consumption among Postpartum Mothers.

Multiple logistic regression test showed that the history of infectious diseases affects vitamin A consumption ($p=0.319$, $OR=1.536$). According to the researcher's assumption, the occurrence of infectious diseases can be caused by a lack of Vitamin A. In order for the coverage of vitamin A for postpartum women to be fulfilled, it is necessary to increase efforts to communicate, information and education (CIE) on nutrition to the community, the need for nutritional counseling for pregnant women, building infrastructure, the need for cross-program, cross-sector support and sweeping from health cadres targeting mothers and children who have not received vitamin A capsules. Therefore, it is expected that postpartum women consume enough vitamin A, in order to avoid various infectious diseases that will arise.

History of infectious diseases or infectious diseases are diseases that have been experienced by patients in the past, these diseases are usually caused by pathogenic microorganisms, such as viruses, bacteria, fungi, or parasites. This disease can spread directly or indirectly from one person to another. Symptoms caused by each infectious disease and treatment steps also vary depending on what microorganisms trigger it.

5. CONCLUSION

1. The conclusion in this study is that there is a relationship between all variables with the consumption of vitamin A capsules while the most influential on the consumption of vitamin A capsules is abstinence from consuming vitamin A capsules,
2. It is suggested to postpartum women to be able to understand what should be known during the postpartum period so that it can provide comfort during the postpartum period.

6. ACKNOWLEDGEMENT

Special thanks to the team for discussing and revising this article. This research was supported by Almuslim University. We thanks to our colleagues from Almuslim University who provided insight and expertise that greatly assisted the research.

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