



Factors Related to Nutritional Status of Pregnant Women in the Working Area of Baiturrahman Health Center Banda Aceh

Asmaul Husna[✉], Fauziah Andika

Ubudiyah Indonesia University.

Article Info

Article History:
Submitted November 2018
Accepted June 2019
Published July 2019

Keywords:
nutritional status,
pregnant women,
risk factor

Abstract

According to the 2012 Indonesian demographic and health survey (IDHS), based on data of PRAKARSA Policy showed that maternal mortality rate is 359 per 100,000 live births. Nutritional problems that are often faced by pregnant women are Chronic Energy Deficiency (CED) and nutritional anemia. According to the Indonesian Ministry of Health in 2013, the prevalence of CED pregnant women was 24.2%. Methods: This was a research survey with descriptive analytical and case control design. Population in this study were all pregnant woman in second and third semester, An 80 people chosen as a sample. Results: Showed that knowledge ($P=0.015$, $OR=4.608$), attitude ($P=0.008$, $OR=7.933$), family support ($P=0.035$, $OR=3.857$), family income level ($p=0.598$, $OR=1.593$). Multivariate analysis shows the most dominant variable related to nutritional status of pregnant women was attitude ($OR = 8,576$). So, there was correlation between knowledge, attitudes, and family support with nutritional status of pregnant women. While family income level is not a related with nutritional status of pregnant women. Attitude variables is a dominant risk factor of CED.

INTRODUCTION

Nutritional problems in developing countries, including Indonesia, still become a problem on primary public health. Such as maternal and child mortality case. High incidence of maternal mortality rates and weight of birth babies are also determined by the nutritional status of pregnant women. Pregnant women with poor nutritional status or CED tend to give birth to low birth weight babies, and has a greater risk of death compared to babies born to mothers with normal weight (Ferial, 2011, Abdel et al., 2013).

According to the 2012 Demographic and Health Survey (IDHS), in PRAKARSA Policy Update the maternal mortality rate was 359 per 100.000 live births. The maternal mortality rate in Central Java Province in 2013 based on reports from the Regency / City of 116.34 / 100,000 live births, increased when compared to maternal mortality number in 2010 amounted to 116.01 / 100,000 live births (Central Java Health Office, 2013).

According to the data of total pregnant number from 2015 Aceh Province Health Profile, the total number of pregnant women for 23 districts /

©2019 Universitas Negeri Semarang

[✉] Correspondence Address:
Ubudiyah Indonesia University
Jalan Aluenaga Desa Tibang, Banda Aceh
E-mail: asmaulhusna@uui.ac.id

Table 1. Frequency distribution of nutritional status of pregnant women based on knowledge, attitudes, family support and family income level

Variable	Frequency	Percentage (%)
Nutritional Status of Pregnant Women		
CED	16	20.0
Normal	64	80.0
Knowledge		
Low	27	33.8
High	53	66.3
Attitudes		
Negative	44	55.0
Positive	36	45.0
Family support		
Not Support	25	31.3
Support	55	68.8
Family income level		
Low	28	35.0
High	52	65.0

cities in 2014 was 5,407 people; the city of Banda Aceh was 111,400 people. Based on survey data, the number of pregnant women in 2016 in the work area of Baiturrahman Community Health Center was 559 people. Research on risk factors for nutritional status in pregnant women has never been performed in work area of Baiturrahman Community Health Center. Information about risk factors for poor nutritional status in pregnant women is important. Because it is very useful to reduce cases of CED (Badriah, 2011; Betemariam et al., 2018).

METHODS

Research type of this study is a survey (descriptive analytic) with case control study design. Sampling technique was performed by using purposive simple random sampling, with an independent variables and a dependent variable criterias. The population in this study were all second trimester and third trimester pregnant women who were in the Baiturrahman Community Health Center work area in June 2018. 80 people chosen as a sample. The data was collected from June 8 to August 9th, 2018.

Data was collected by trained enumerator. This research used questionnaire as instrument. Collected data was analyzed using chi square with

CI (95%).

RESULTS AND DISCUSSION

Based on interviews with 10 pregnant women in the Baiturrahman Community Health Center work area, 3 people (30%) of pregnant women who had arm circumference under 23.5 cm and 7 people (70%) had arm circumference above 23.5 cm. From the 10 people, 8 people (80%) admitted that they were unaware of the nutrition of pregnant women and 2 people (20%) had good knowledge about nutrition.

Based on Table 2, the relationship between knowledge and nutritional status of pregnant women can be explained from 27 respondents. From 27 respondents, respondents who had CED and low knowledge (37.0%) are greater than 53 respondents who had CED and high knowledge (11.3%).

The results of the statistic obtained a *p*-value = 0.015. This means that, there was a significant relationship between knowledge with nutritional status of pregnant women in the Baiturrahman Health Center Banda Aceh. It can be evidenced by OR = 4.608. This shows, that respondents with low knowledge had 4 times chance of having a risk of CED compared to those with high knowledge.

Tabel 2. Knowledge and Nutritional Status of Pregnant Women in Baiturrahman Community Health Center Banda Aceh

Knowledge	Nutritional Status Pregnant Women				Total		<i>p value</i>	OR
	CED		Not CED					
	n	%	n	%	N	%		
Low	10	37.0	17	63.0	27	100	0.015	4.608 (1.453-14.613)
Height	6	11.3	47	88.7	53	100		

Tabel 3. Attitude and Nutritional Status of Pregnant Women in Baiturrahman Community Health Center Banda Aceh

Attitude	Nutritional Status Pregnant Women				Total		<i>p value</i>	OR
	CED		Not CED					
	N	%	n	%	n	%		
Negative	14	31.8	30	68.2	44	100	0.008	7.933 (1.666-37.784)
Positive	2	5.6	34	94.4	36	100		

The result of this study is accordance with Zerfu et al (2018) that showed limited knowledge in pregnant mother significantly related to poor dietary diversity practices which influenced nutritional status.

Efforts to increase knowledge among pregnant women about nutrition during pregnancy, can be performed by providing education. Education about nutrition, carried out for the wider community and families. But the problem in this case, there is differences in knowledge between people in an area and other communities (Telatar et al., 2009; Abdel et al., 2013; Trihardiani, 2011).

Knowledge is one of the factors, associated with the nutritional status of pregnant women. Because, a good mother's knowledge will affect the mother's dietary habit everyday. So that, the mother can manage her diet during pregnancy and not rejecting food during pregnancy. Thus, the nutritional status during pregnancy, can be fulfilled properly. In this study, it was found that mothers with normal nutritional status is mothers that have a good knowledge. This was due to mothers who have a good nutritional status often obtained information from health workers and carried out what was they recommended. So that, pregnant women will not have a malnutrition (Black et al., 2013; Martorell & Zongrone, 2012; McNulty et al., 2013; Rahman et al., 2016).

Based on Table 3, the relationship between attitudes and nutritional status of pregnant women can be explained from 44 respondents. Respondents who had negative attitudes and had CED (31.8%) were greater than 36 respondents who had a positive attitude and had CED (5.6%).

The results of the data analysis, obtained *p*-

value = 0.008. This means, that there was a significant relationship between attitudes and nutritional status of pregnant women in the Baiturrahman Health Center Banda Aceh. It was proven by finding the value OR = 7.933. It means that, respondents with negative attitudes had 7 times risk of having a CED, compared to the respondents with positive attitude.

The result of this study is in accordance with the study of Palimbo (2014) which shows that there was a relationship between the attitude of pregnant women with the incidence of CED (*p*-value = 0.000). This means that there was a very significant relationship with the nutritional status of pregnant women.

The negative attitude of pregnant women about the incidence of CED is caused by various factors, both internal and external factors of a mother. This is in accordance with the theory from Azwar (2013) which stated there are two factors that influence attitudes. One of them is individual internal factors. Individual internal factors consist of : institutions or religion, culture, environment, mass media, other people who are considered important, and situations (Rahman et al., 2016; Palimbo, 2014; Azwar, 2013).

The attitude of a pregnant woman greatly give influences for the nutritional status. Because nutrition during pregnancy must always be considered. Therefore, mothers who are have negative nutritional status, have a greater chance than those who are positive. Because a malnutrition in pregnant women will have an effect on babies who will be born (Paola & Rosa, 2017; Palimbo et al., 2014, Azwar, 2013).

Based on Table 4, relationship between fami-

Tabel 4. Family Support and Nutritional Status of Pregnant Women in Baiturrahman Community Health Center Banda Aceh

Family Support	Nutritional Status Pregnant Women				Total		<i>p value</i>	OR
	CED		Not CED					
	n	%	n	%	n	%		
Not Support	9	36.0	16	64.0	25	100	0.035	3.857 (1.236-12.040)
Support	7	12.7	48	87.3	55	100		

Tabel 5. Family Income Level and Nutritional Status Pregnancy in Baiturrahman Community Health Center Banda Aceh

Family Income Level	Nutritional Status Pregnant Women				Total		<i>p value</i>	OR
	CED		Not CED					
	n	%	n	%	n	%		
Low	7	25.0	21	75.0	28	100	0.598	1.593 (0.521-4.867)
High	9	17.3	43	82.7	52	100		

ly support and nutritional status of pregnant women can be explained from 25 respondents, who did not get family support and had CED (36.0%) which is greater than 55 respondents who received family support and had CED (12.7%).

From the data analysis results showed that p-value = 0.035. It means that, there was a significant relationship between family support and nutritional status of pregnant women in the Baiturrahman Health Center Banda Aceh. It was proven by finding OR = 3.857. It means that, respondents who those did not get family support, had an opportunity 3 times at risk of having a CED compared to respondents who received family support.

So that, family support is very influential for the nutritional status of pregnant women. Because many families sometimes do not pay attention to food that mothers should consume during pregnancy. Therefore many pregnant women have a malnutrition during pregnancy. The period of pregnancy is a time with the mother must consume nutritious food. So that, the mother can give birth normally and protect babies from being born prematurely (Martorell & Zongrone, 2012; Paola & Rosa, 2017; Rahman et al., 2016; Simpson et al., 2012).

Based on Table 5, the relationship between the level of family income and the nutritional status of pregnant women can be explained from 28 respondents. Respondents who had low income and CED (25.0%) were greater than 52 respondents who had high income and CED (17.3 %).

The results of the statistic analysis showed a p-value = 0.598. This means, that there was no significant relationship between the level of family income and the nutritional status of pregnant women in the Baiturrahman Health Center Banda Aceh.

In accordance with Badriah's theory (2011) stated that income is closely related with decreasing of the level of food safety and the occurrence of malnutrition. According to national health survey data for 2008 and 2009, spending on food for poor families ranges from 60-80% of income and for prosperous families ranges from 0-59% of income. Based on Benner's law, the increased revenue, the quality of food consumption will also increase. Increased income can also encourage someone to consume a

variety of foods. According to Angel's Law, stated if the income level increases, then expenditure on food will increase (Rahman et al., 2016; Telatar et al., 2009; Trihardiani, 2011; Black et al., 2013).

So that, low income people will be vulnerable to CED, whereas high income people will not have CED. Because people who have high income, will complete the food that they have to consume. For the example is consuming folic acid, to fulfill the food supplement during pregnancy (McNulty et al., 2013; Simpson et al., 2011; Rahman et al., 2016; Simpson et al., 2012).

CONCLUSION

Based on the results of the study it can be concluded that there was a significant relationship between knowledge, attitudes, family support and nutritional status of pregnant women in the Banda Aceh Baiturrahman Health Center. While, there was no significant relationship between family income level and nutritional status of pregnant women in Baiturrahman Health Center Banda Aceh Working Area. It is hoped that it can provide better counseling on how to consume food during pregnancy and can decrease MMR (Maternal Mortality Rate) also IMR (Infant Mortality Rate) in the future.

ACKNOWLEDGEMENT

This research was funded by Ministry of Research, Technology and Higher Education.

REFERENCES

- Abdel, R.A.A.R., Ali, D.K., Talkhan, H.M. 2013. Pregnancy outcome and the effect of maternal nutritional status. *Journal of the Egyptian Society of Parasitology*, 43(1):125–32.
- Azwar, S. 2013. *Sikap Manusia-Teori dan Pengukurannya*. Yogyakarta: Pustaka Pelajar.
- Badriah. 2011. *Gizi dalam Kesehatan Reproduksi*. Bandung: PT. Refika Aditama
- Betemariam, G., Biadgilign, S., Taddese, Z., Legesse, T., & Letebo, M. 2018. Determinants of malnutrition among pregnant and lactating women under humanitarian setting in Ethiopia. *BMC Nutrition*, 4:11.
- Black, R.E., Victora, C.G., Walker, S.P., Bhutta, Z.A., Christian, P., de Onis, M., Ezzati, M., Grantham-McGregor, S., Katz, J., Martorell, R., et al. 2013.

- Maternal and child undernutrition and overweight in low-income and middle-income countries. *Lancet*, 382(9890):427–51.
- Ferial, E.W. 2011. Relationship Between Maternal Nutritional Status Based on Upper Arm Circumference (LILA) With Infant Birth Weight in RSUD Daya Kota Makassar. *Jurnal Alam dan Lingkungan*, 2(3): 11-12.
- Martorell R & Zongrone A. 2012. Intergenerational influences on child growth and undernutrition. *Paediatric Perinatal Epidemiology*, 26(Suppl1): 302-314.
- McNulty, B., McNulty, H., Marshall, B., Ward, M., Molloy, A.M., Scott, J.M., Dornan, J., Pentieva, K. 2013. Impact of continuing folic acid after the first trimester of pregnancy: findings of a randomized trial of Folic Acid Supplementation in the Second and Third Trimesters. *American Journal Clinical Nutrition*, 98: 92–98.
- Palimbo, A. 2014. Hubungan Pengetahuan dan Sikap Ibu Hamil terhadap Kejadian Kurang Energi Kronis (KEK) di Wilayah Puskesmas Pulau Telo Kuala Kapuas Banjarmasin Tahun 2014. *Jurnal Dinamika Kesehatan*, 14.
- Paola, C & Imbesi, R. 2017. The Role of Malnutrition during Pregnancy and Its Effects on Brain and Skeletal Muscle Postnatal Development. *Journal Functional Morphology and Kinesiology*, 2(30).
- Rahman, M.S., Howlader, T., Masud, M.S., & Rahman, M.L. 2016. Association of low-Birth Weight with malnutrition in children under five years in Bangladesh: do Mother's education, socio-economic status, and birth interval matter?. *Journal PLoS One*, 11(6):e0157814.
- Simpson, J.L., Bailey, L.B., Pietrzik, K., Shane, B., Holzgreve, W. 2011. Micronutrients and women of reproductive potential: Required dietary intake and consequences of dietary deficiency or excess. Part II—Vitamin D, vitamin A, iron, zinc, iodine, essential fatty acids. *J. Matern. Fetal. Neonatal Med*, 24: 1–24.
- Telatar, B., Comert, S., Vitrinel, A., Erginoz, E., & Akin, Y. 2009. The effect of maternal anemia on anthropometric measurements of newborns. *Saudi Medical J*, 30(3): 409-412.
- Trihardiani. 2011. *Occurrence Risk Factors Low Birth Weight In Working Areas of Singkawang East and North Health Centers, Semarang City*.
- Terfu, T.A. & Biadgilign, S. 2018. Pregnant mothers have limited knowledge and poor dietary diversity practices, but favorable attitude towards nutritional recommendations in rural Ethiopia: evidence from community-based study. *BMC Nutrition*, 4:43.