

Original Research Article

Factors Influencing Nutritional Status on Pregnant Women during COVID-19 Pandemic

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Abstract: Background: Based on Riskesdas in 2013, it was found that the pregnant women aged 15-49 years who experienced CED (Chronic Energy Deficiency) in Indonesia was 24.2% and in Bali was 10.1%. During Covid-19 pandemic, the emergency response status and Large-Scale Social Restriction policy will have a significant impact in completing nutrition for pregnant women directly or indirectly. The purpose of this study was to determine the factors influencing nutritional status on pregnant women during Covid-19 pandemic. **Method:** This research employed analytical design with cross sectional approach. The data were collected by using non probability sampling technique. There were 35 respondents. The instrument for collecting data was questionnaire. **Findings:** The result of the research showed that 94.3% of pregnant women did not experience Chronic Energy Deficiency. There was significant correlation between education and nutritional status on pregnant women ($p=0.014$), income and nutritional status ($p=0.047$), Knowledge and nutritional status ($p=0.017$), family support and nutritional status ($p=0.025$), and social culture and nutritional status ($p=0.017$). **Conclusion:** There is significant correlation between education, income, knowledge, family support and nutritional status on pregnant women.

Keywords: Factors and Nutritional Status on Pregnant Women.

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INTRODUCTION

Prevalence of Chronic Energy Deficiency (CED) on pregnant women was 24.2%. There has been an increasing in the proportion of pregnant women aged 15-19 years with Chronic Energy Deficiency from 33.5% in 2010 to 38.5% in 2013. In addition, it was occurred in WUS aged 15-19 years who are not pregnant from 30.9% in 2010 increased to 46.6% in 2013 (Depkes RI, 2013). Based on Basic Health Indonesian Research (Riskesdas, 2013) the data showed the proportion of pregnant women aged 15-49 years who were at risk of CED in Indonesia was 24.2% and in Bali was 10.1%.

Based on data from the Directorate of Family Health on September 14th (2020), there were 1086 pregnant women died with positive PCR/antigen swab in Indonesia. 72% of pregnant women who were confirmed positive for Covid-19 were on 37 weeks of pregnancy. During Covid-19 pandemic, the emergency response status and Large-Scale Social Restriction policy will have a significant impact not only community activities but also the economic conditions of people who work in the informal sector. It causes the

acute nutrition (undernutrition and malnutrition) in vulnerable groups and even chronic nutrition problems (stunting) will increase if Covid-19 emergency response is established for a long period of time (prolonged emergency situation).

Nutritional status of pregnant women can be caused by direct or indirect factors. Direct factors that affect the nutritional status of pregnant women are: knowledge, food intake, economic limitations, supplements obtained by pregnant women, meanwhile indirect factors that can affect the nutritional status of pregnant women are: education, culture and health facilities (Almatsier, S, 2011)

Malnutrition on pregnant women can cause risks and complications for the mother, including: anemia, bleeding, the mother does not gain weight normally, and can be exposed to infectious diseases. The effect of undernutrition on the process of giving birth can lead to be difficult and prolonged delivery, premature delivery, bleeding after delivery, and surgery delivery. Malnutrition in pregnant women can also affect the process of fetal growth and can cause

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miscarriage, abortion, stillbirth, neonatal death, congenital defects, anemia in infants, intra partum asphyxia (death in the womb), having low birth weight (LBW) (Kristiyanasari, 2010)

METHODS

Research Design

This study employed cross sectional approach. This research has received ethical approval from the Research Ethics Commission of Institute of Technology and Health Bali with the ethical clearance number LB.02.03/EA/ KEPK/0428/2021 on April 27th 2021.

Research Sampling

The samples on this research were pregnant women in the third trimester in the working area of Public Health Center II Kuta. There were 35 respondents who fulfilled the inclusive criteria. The samples were taken by using non probability sampling with consecutive sampling technic.

Research Instrument and Collecting Data

The data were obtained by using questionnaire about characteristics of respondents (age, education, occupation, income) parity, MUAC (Mid Upper Arm Circumference), mother’s knowledge about nutrition, family support, and social culture which influenced pregnant women’s nutrition.

Analysis Data

The data were analyzed by using univariate to know the frequency and proportion of the variables. The bivariate analysis was done by using Chi Square with Exact Fisher Test.

Ethical Consideration

The respondents were given informed consent before being conducted the research. The principles of this research were anonymity, confidentiality, beneficence, respect for Human Dignity, and justice.

RESULT

Characteristics of Respondents

Table 1: The Frequency Distribution of Factors Influencing Nutritional Status of Pregnant Women During Covid-19 in the Working Area of Public Health Center II Kuta (N= 35).

Characteristics	Frequency (n)	Percentage (%)
Independent Variable		
Age		
Risk	2	5,7
No Risk	33	94,3
Education		
Elementary	6	17,1
High School	7	20
University	22	62,9
Parity		
Risk	1	2,9
No Risk	34	97,1
Occupation		
Employed	25	71,4
Unemployment	10	28,6
Income		
Above regional minimum wage	27	77,1
Below regional minimum wage	8	22,9
Knowledge		
Good	30	85,7
Less	5	14,3
Family Support		
Good	29	82,9
Less	6	17,1
Social Culture		
Support	30	85,7
Disprove	5	14,3
Dependent Variable		
Nutritional Status		
Normal	33	94,3
CED	2	5,7

Based on the data showed that 5.75% of pregnant women experienced CED. There were 5.7% of pregnant women had risk in age and 2.9% of pregnant women had risk in parity. There were 71.4% of pregnant women had an occupation and there were

77.1% of pregnant women had income above regional minimum wage.

Bivariate Analysis

Table 2: Bivariate Analysis factors influencing nutritional status of pregnant women during Covid-19 in the working area of Public Health Center II Kuta (n= 35).

Variable	Hb		P Value
	CED	Normal	
Age			0,887
Risk	0 (0%)	2 (100%)	
No Risk	2 (6,1%)	31 (93,9%)	
Education			0,014
Elementary	0 (0%)	6 (100%)	
High School	2 (28,6%)	5 (71,4%)	
University	0 (0%)	22 9(100%)	
Paritas			0,943
Risk	2 (5,9%)	32 (94,1%)	
No Risk	0 (0%)	1 (100%)	
Occupation			0,496
Employed	1(10%)	9(90%)	
Unemployment	1(4%)	24(96%)	
Income			0,047
Above regional minimum wage	2(25%)	6(75%)	
Below regional minimum wage	0 (0%)	27 (100%)	
Knowledge			0,017
Good	0 (0%)	30 (100%)	
Less	2 (40%)	3 (60%)	
Family Support			0,025
Good	29 (100%)	2 (33,3%)	
Less	0 (0%)	4 (66,7%)	
Social Culture			0,017
Support	0 (0%)	30 (100%)	
Disprove	2 (40%)	3 (60%)	

Based on Table 2, it showed that there was correlation between education, income, knowledge, family support, social culture and nutritional status on pregnant women in Public Health Center II Kuta. Based on bivariate analysis, the result of p value in each factor was showed the correlation between education and nutritional status was 0.014, the correlation between income and nutritional status was 0.047, the correlation between knowledge and nutritional status was 0.017, the correlation between family support and nutritional status was 0.025, and the correlation between social culture and nutritional status was 0.017.

The result of analysis was found some factors did not correlate with nutritional status of pregnant women in Public Health Center II Kuta such as age, parity, and occupation. Based on bivariate analysis, p value between age and nutritional status was 0.887, p value between parity and nutritional status was 0.943, p value between occupation and nutritional status was 0.496.

DISCUSSION

Based on the results of the study, it was found that 5.7% of pregnant women experienced CED (Chronic Energy Deficiency). Nutritional status is a measure of success in completing the nutrition for pregnant women. According to the theory, nutrition for pregnant women is a nutrient which is needed in large quantities for completing mother’s nutrition and the development of the fetus (Bobak, 2005). The growth and development of fetus is strongly influenced by the nutritional intake of mother because the nutritional needs of fetus come from the mother. The nutritional status of mother before pregnancy and during pregnancy affects the nutritional status of mother and her baby. The fetal growth and development are strongly influenced by maternal nutritional intake because the nutritional needs of fetus come from the mother (Hariyani, 2012). The results of statistical tests between knowledge and nutritional status showed there was correlation between knowledge and nutritional status with p value=0.017. The results of this study were in line with research conducted (Goni *et al.*, 2013) which showed correlation between knowledge and

nutritional status during pregnancy at Public Health Center Bahu in Manado. Completing the nutritional needs of pregnant women was related to mother's knowledge level about nutrition. Mother's knowledge level is the ability of a mother to understand the concepts and principles as well as information related to nutrition (Siwi, 2011)

The results showed that there was correlation between education and nutritional status, education level also had an exponential correlation with health level. The higher the education level, the easier for accepting the concept of healthy living independently, creatively, and sustainably. Educational background related to the knowledge level. If the mother's knowledge level was good, it was expected that the nutritional status was good too (Bunga W. K *et al*, 2011). This was in line with research conducted by (Handayani *et al*, 2011) that there was correlation between education and nutritional status in pregnant women.

Based on the results of the study, there was correlation between family support and nutritional status of pregnant women at Public Health Center II Kuta with p value=0.017. Family support is an attitude, action and acceptance of family towards family members. Family support is a reinforcing factor in making healthy behavior. The results of this study were in accordance with research conducted by (Novitasari *et al*, 2019) which stated that there was correlation between family support and CED in pregnant women with P value =0.029 and an OR =0.163.

In this study, the family income also related to the nutritional status of pregnant women with p value=0.047. Based on research conducted by (Novitasari *et al*, 2019), the results showed that there was correlation between economic status and the incidence of CED in pregnant women. In this study, 55.6% of pregnant women who had economic status below regional minimum wage experienced CED.

Socio-culture had correlation to the nutritional status of pregnant women at Public Health Center II Kuta. This was in line with the research conducted by (Susanti *et al*, 2017) at the Public Health Center I Welahan, Jepara Regency, which showed that there was correlation between the culture of abstinence food and nutritional status in third trimester of pregnant women. Abstinence food is food that is not allowed to be eaten by individuals in society for cultural reasons (Marsetyo *et al*, 2002). Another pattern was done by groups within a certain population and at a certain time. If the pattern of abstinence applies is implemented to all population and throughout its life, nutritional deficiencies are less likely to develop as if the taboo only applies to a certain group of people during one stage in the cycle. The health workers must solve the incidence of abstinence by providing knowledge and counseling that abstinence

from foods which contain nutrients can cause malnutrition for pregnant women. The pregnant women with CED can increase the consumption of foods which contain carbohydrates such as rice, noodles and potatoes, contain animal protein such as meat, fish, chicken, eggs, and sources of vegetable protein such as tempeh, tofu, and beans.

CONCLUSION

Based on the result of the study, there is correlation between education, income, knowledge, family support, and social culture on nutritional status of pregnant women. Meanwhile age, parity, and occupation do not correlate to the nutritional status of pregnant women in the third trimester.

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