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ABSTRAK

Pendahuluan : Status nutrisi pada ibu memegang peranan penting terhadap kesejahteraan ibu dan janin. Metode yang biasa digunakan untuk mengetahui status nutrisi seseorang adalah dengan menghitung indeks massa tubuh (IMT). Pada negara berkembang, penelitian mengenai efek indeks massa tubuh ibu dengan bayi berat badan lahir rendah sangat jarang ditemukan, terutama yang menggunakan indeks massa tubuh hari pertama pasca lahirkan.

Tujuan : tujuan dari penelitian ini adalah untuk menginvestigasi hubungan antara indeks massa tubuh ibu hari pertama pasca melahirkan dengan bayi berat badan lahir rendah di Rumah Sakit Umum Pusat Sanglah pada bulan September sampai dengan bulan November 2014.


Hasil : Dari 50 sampel yang diperoleh terdapat 3 sampel dengan IMT rendah (6%), 16 sampel dengan IMT normal (32%), 12 sampel dengan IMT berlebih (24%), 14 sampel dengan IMT obesitas I (28%), 5 sampel dengan IMT obesitas II (10%). Pada penelitian ini diperoleh 6 bayi dengan BBLR (12%), 42 bayi dengan BBLN (84%), dan 2 bayi dengan BBLB (4%). Pada ibu dengan IMT obesitas II terdapat 5 bayi dengan BBLN (100%). Pada ibu dengan IMT obesitas I terdapat 1 bayi dengan BBLR (7,1%), 12 bayi dengan BBLN (85,7%), dan 1 bayi dengan BBLB (7,1%). Pada ibu dengan IMT berlebih terdapat 1 bayi dengan BBLR (8,3%), 10 bayi dengan BBLN (83,3%), dan 1 bayi dengan BBLB (8,3%). Pada ibu dengan IMT normal terdapat 2 bayi dengan BBLR (12,5) dan 14 bayi dengan BBLN (33,3%). Pada ibu dengan IMT rendah terdapat 2 bayi dengan BBLR (66,7%), dan 1 bayi dengan BBLN (33,3%). Dengan menggunakan uji komparatif Fisher Exact diperoleh nilai p- value lebih kecil dari taraf signifikansi yang digunakan dalam penelitian ini ($\alpha= 0,05$), yaitu 0,035

Kesimpulan : Terdapat hubungan antara indeks massa tubuh ibu hari pertama pasca melahirkan dengan bayi berat badan lahir rendah.

Kata kunci : indeks massa tubuh, berat badan lahir rendah, hari pertama pasca melahirkan
ABSTRACT

Introduction: Maternal nutritional status plays crucial role to ensure maternal and fetal well-being. The method that often used to determine someone’s nutritional status is by calculating the Body Mass Index (BMI). In developing countries, researches on the effects of body mass index on maternal and low birth weight neonate are still rare to be found, especially those using first day postpartum Body Mass Index.

Objectives: The aim of our study is to investigate the relationship between maternal first day postpartum body mass index and low birth weight neonate at Sanglah Public General Hospital on September until November 2014.

Methods: This analytic observational study with cross sectional method used primary and secondary datas which have been taken from patient’s labor medical records in Sanglah Public General Hospital on September until November 2014. The samples are mothers who gave birth and were treated in Bakung Timur, Sanglah Public General Hospital who fulfilled the inclusion and the exclusion criteria. The data were described in the form of frequency tables and tested using a comparative test, Fisher Exact test.

Results: From 50 samples, there are 3 samples with low BMI (6%), 16 samples with normal BMI (32%), 12 samples with overweight BMI (24%), 14 samples with obesity I BMI (28%), 5 samples with obesity II BMI (10%). There are 6 neonates with LBW (12%), 42 neonates with NBW (84%), and 2 neonates with HBW (4%). On mothers with obesity II BMI, there are 5 neonates with NBW (100%). On mothers with obesity I BMI, there are 1 neonate with LBW (20%), 12 neonates with NBW (80%), and 1 neonate with HBW (10%). On mothers with overweight BMI, there are 1 neonate with LBW (8%), 10 neonates with NBW (80%), and 1 neonate with HBW (2%). On mothers with normal BMI, there are 2 neonates with LBW (12%), 14 neonates with NBW (87%), and 1 neonate with NBW (33%). By using Fisher exact test, the p value is less than the predetermined significance level ($\alpha=0.05$), it is 0.035.

Conclusion: there is correlation between maternal first day postpartum BMI and low birth weight neonate.

Key words: body mass index, low birth weight, first day postpartum
CHAPTER I

INTRODUCTION

1.1 Background

Maternal and neonatal mortality rates are important indicators to determine the health quality of a country. Under five mortality rate in the world is tend to decrease from 12 million in 1990 to 7.6 million in 2010 (from 88 in 1000 partuses become 57 in 1000 partuses). But, in Indonesia maternal and neonatal mortality rates tend to increase. (World Health Organization, 2010).

Maternal and neonatal mortality rates are still unacceptable high in Indonesia, based on the result of Survey Demografi Kesehatan Indonesia (SDKI) in 2012, maternal mortality rate is higher than in 2007 which is 228 deaths in 100.000 partuses compare with 359 in 100.000 partuses (increase about 57 percent) which is the highest rate in Association of South East Asia Nations (ASEAN) (Kementrian Kesehatan RI, 2012).

Maternal and neonatal health have been one of the top priorities in Indonesia since the Millennium Development Goals (MDGs) were agreed and implemented by the United Nations in 2000. The government has target to decrease maternal and neonatal mortality rates into 102 in 100.000 partuses in 2015, it seems to be a big problem since maternal and neonatal mortality rates in Indonesia is very high.
In Bali, 2012, maternal and neonatal mortality rates are also high, and tend to increase from the previous year, 95 deaths per 100,000 partuses (Dinas Kesehatan Provinsi Bali, 2013).

Nowadays, one of the problems in health that we face is low birth weight as one of the factors that can increase the mortality risk about 10–20 times greater than normal birth weight neonate. Normal birth weight is 2500 gr until 4000 gr, if neonate was born with birth weight under 2500 gr, then it called low birth weight. World Health Organization has predicted between 16% of all babies born have body weights below 2500 gr and 90% of them were found in developing countries, while 20–30% were found in South East Asia. In Indonesia, based on Riskesdas in year 2007, 11,5% neonates born with body weights less than 2500 gr, and the percentage of low birth weight neonate in year 2010 is 11,1%. This problem is related to social economic status of pregnant woman, environment condition, perinatal services and gestational age (Endriana, 2012; Kementrian Kesehatan RI, 2010; Budiman, 2011). In Bali, the percentage of low birth weight neonate in 2010 is 12,1%.

Based on Riset Kesehatan Dasar (2007), many causes of neonatal death are sepsis (20,5%), congenital abnormalities (18,1%), pneumonia (15,4%), prematurity and low birth weight (12,8%). Direct causes of neonatal death are low birth weight and asphyxia (Kementrian Kesehatan, 2010).

A mother’s nutritional status is one of the most important determinant of maternal and birth outcomes. Maternal nutrition during pregnancy is one of nutrition problem in public health in Indonesia, pregnant woman need more nutrition than usual for the development and the growth of the fetus.
Malnutrition during pregnancy may arise different types of complications that are life threatening for both the mother and the fetus (Hanifah, 2009; Irawan, 2013).

There are several methods to measure nutritional status including body mass index, it is body weight divided by body height in square, it is influenced by ethnics and genetics (Sativa, 2011). Several studies showed that underweight woman (low BMI) give birth to neonate with lower weight, shorter length and with smaller head circumference (HC), and obese woman (high BMI) is in high risk to have macrosomia, thromboemboli, preeclampsia, sectio caesarian operation during delivery, miscarriage, perinatal death (Sativa, 2011; Davies et al, 2013; Sunardi, 2013; Haim, 2011).

BMI is the most common method used to estimate whether a person is underweight, normal, overweight or obese. It is also used to measure population prevalence of underweight, overweight and obesity. It is used because for most people, it correlates reasonably well with their level of body fat. It is also relatively easy, cheap and non invasive method for establishing nutritional status. However, BMI is only a proxy for body fatness. Other factors such as fitness, ethnic origin and puberty can alter the relation between BMI and body fatness and must be taken into consideration. Other measurements such as waist circumference and skin thickness can be collected to indicate a person’s nutritional status or body fatness. None of these are widely used like BMI. Body mass index that is usually used in several studies mostly is pregravid body mass index, another studies use the increasing of body weight during pregnancy (at regular antenatal clinic
appointments), some studies show correlation with maternal and fetus outcomes and some are not (Sativa, 2011; Davies et al, 2013; P Kalk, 2009). Nevertheless, in Indonesia many women attend antenatal clinics later on in their pregnancy (>5 months) or never (Kusuma, 2012), and it’s very rare for them to check their pregravid weight and body mass index (BMI), this phenomenon can lead to an inaccurate result of study. Nowadays, people’s lifestyle also has changed, especially about food consumption, diet habit, and so on. So, it is very interesting to study whether the first day postpartum body mass index influence in the neonatal birth weight.

In developing country, study about the correlation between maternal body mass index (BMI) and neonatal birth weight is rare to be found especially study that use maternal first day postpartum body mass index. The aim of this study is to know the “Relationship between Maternal First Day Postpartum Body Mass Index (BMI) and Low Birth Weight Neonate at Sanglah Public General Hospital on September until November 2014”.

1.2 Problem statement

Based on the explanation in the background, the writer try to identify the problem in the form of question : How is the relationship between maternal first day postpartum body mass index (BMI) with low birth weight neonate at Sanglah Public General Hospital on September until November 2014?
1.3 Aims

1.3.1 General aims:

To know the relationship between maternal first day postpartum Body Mass Index (BMI) with low birth weight neonate at Sanglah Public General Hospital on September until November 2014.

1.3.2 Specific aims:

1. To describe maternal first day postpartum BMI at Sanglah Public General Hospital on September until November 2014
2. To describe low birth weight cases at Sanglah Public General Hospital on September until November 2014
3. To know the distribution of maternal BMI with low birth weight neonate at Sanglah Public General Hospital on September until November 2014
4. To know the distribution of frequency of maternal body weight in low birth weight cases at Sanglah Public General Hospital on September until November 2014
5. To know the distribution of frequency of maternal body height in low birth weight cases at Sanglah Public General Hospital on September until November 2014
1.4 Benefits

This study that will be done by the writer, hopefully can give a lot of benefits for the writer, for the reader or parties that concerned about the topics

1.4.1 For the writer

1. Practical Benefits
   a. As consideration in making interventions in the treatment program for low birth weight neonates.
   b. To know about the importance of nutrition during pregnancy, to know the physiology mechanism that change in pregnancy also to know the risks and outcomes of malnutrition for the neonate

2. Theoretical benefits
   a. To increase the experience and knowledge in study about maternal first day postpartum body mass index and it’s correlation with neonatal birth weight.
   b. To increase the skill of the researcher in doing research and the students are able to apply knowledge that was gained in Faculty of Medicine Udayana University.

1.4.2 For the government and health agency

This study can give some information for the government to screen nutritional status among pregnant women which is easy, cheap and also effective, so it can decrease maternal and neonatal mortality rates that have already known very high in Indonesia.
1.4.3 For the university

a. To apply *tridarma perguruan tinggi* in carrying out the functions and duties of the university as institutions that provide education, research, and community service also can realize Udayana University as research university in order to develop science.

b. As a object to increase refferency in the Faculty of Medicine Udayana University library especially about nutrition in pregnancy according to maternal body mass index, and also the correlation with neonatal birth weight.

c. As a parameter to measure the comprehension of the writer in making a good study report.