

Risk Factors Among Pregnant Women

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Abstract—Maternity risk factor is current issue in Indonesia. According to the data Riset kesehatan dasar (RISKESDAS) 2018 in Indonesia, chronic energy deficiency on pregnant women is 17.3% and non pregnant women is 14.5%, and pregnant women with anemia is 48.9%, its more higher than five years ago. About 84.6% anemia occur on pregnant women at 15-24 years old. As we known, anemia is maternal complication and it's the leading of the maternal mortality rate because anemia can cause bleeding antepartum and postpartum. Malnutrition also can cause pregnancy being complicated. Purpose: The aim of this study to determine the prevalence risk factors and perinatal outcome among pregnant women in Kudus district. Method: 7726 pregnant women at third trimester were evaluated. The risk factor in each case were assessed by midwife. The data collected from public health care in Kudus district. Result: We found the chronic energy deficiency 10%, anemia is 36.9% and the low birth weight 3.9%. Conclusion: High risk pregnant can cause poor perinatal outcome. Anemia and chronic energy deficiency are the risk pregnancy. It can effect to mother and baby mortality and morbidity, but it can prevent early by healthcare.

Keywords—Risk, Factors, Pregnant, Women

I. INTRODUCTION

High risk pregnancy is a condition that can occur during the pregnancy period. There are many factor that cause high risk pregnancy such as socioeconomic, cultural and knowledge level. High risk pregnancy can impact the maternal dan perinatal mortality rate. Pregnant mother face the risk of pregnancy like bleeding, depression, infection etc. However, the risk factor on pregnancy can detected early to prevent the seriously impact.

Anemia pregnant women is the biggest problem in developing countries. At the third trimester, hemodilution occur on pregnant women. World Health Organization has defined anemia in pregnancy as the hemoglobin concentration of less than 11g/dl. According to WHO, anemia is considered to be of public health significance or problem if population studies find the anemia prevalence of 5.0% or higher. Prevalence of anemia of more than 40% in a population is classified as a severe public health problem. Anemia during pregnancy is reported to have negative maternal and child health effect and increase the risk of maternal and perinatal mortality. Anemia in pregnancy is

associated with increased risk preterm birth and low birth weight babies.[1]

Reduce levels of hemoglobin favor in placental angiogenesis, limiting the availability of oxygen to the fetus and consequently causing potential restriction of intrauterine growth and low birth weight. Countries with a low human development index show an increase in the magnitude of the association between maternal anemia and low birth weight.[2]

II. METHOD

We selected sample of pregnant women from public health care in Kudus district, central java in 2019. We use purposive sampling and using observational study to determine of risk factor. The eligible for inclusion is all pregnant women at third trimester were evaluated by midwife during January to October 2019. We analysis a total data sample of 7726 pregnant women and determine the risk factor from midwifery recorded. We computed descriptive statistic the proportion of risk factor and perinatal outcome.

III. RESULT

A. Risk of pregnant women

TABLE I. PROPORTION OF RISK FACTOR AMONG PREGNANT WOMEN

	N	%
Chronic energy deficiency	801	10
Anemia	2857	36.9

The data shows that we found several risk pregnancy among pregnant woman. Pregnant women with chronic energy deficiency is 10%, and pregnant women with low hemoglobin (anemia) is 36.9%.

B. Low hemoglobin level

Anemia is a condition that level hemoglobin pregnant women under 11 g/dl. Malnutrition, low sulfas ferrous in diet, malabsorption, bleeding and chronic illness is cause of anemia. Hemodilution occur to all the pregnant women. The hemodilution start at 20 weeks pregnancy and its peak at 32 or 36 gestational. Hemodilution is the condition when

the volume of blood plasma exceeds the number of red blood cell. It can make changes to the body of a pregnant woman such as weak, dizziness and fatigue.

Anemia can impact seriously to the pregnant woman and the baby. For pregnant woman, anemia at the first trimester can cause of abortus and congenital abnormalities. In second and third trimester, anemia can cause the antepartum bleeding. During labor, anemia can cause of uterus contraction disorders and bleeding. Afterbirth, anemia can cause uteri atony retained placenta, postpartum bleeding and subinvolution. For the baby, anemia can cause premature birth and intrauterine growth retardation.

Other studies shows that severity of anemia was inversely related to educational status, and socio-economic status. The low level of educational status reduce the maternal awareness like regular ANC visits and to maintain personal hygiene. Severity of anemia was more often seen when first pregnancy occurred before 18 years old. The health care system should not miss anu health related opportunities afforded during the important years adolescence before marriage and childbearing and strategic shift in the program to mandatory regular supply of iron ferrous tablet to adolescent girl and pregnant women from 4th month onward till 3 months postpartum, food fortification, along with correction of other nutritional deficiencies and timely intervention for reducing malaria.[3]

There is variety of treatment option for iron deficiency an iron deficiency anemia in early pregnancy. These include oral parenteral iron (intravenous and intramuscular preparation). A systematic review and meta-analysis has reported that iron in the context of maternal anemia increases maternal hemoglobin, reduce iron deficiency and reduce low birth weight. Intravenous iron use is recommended only in the second trimester for safety reason. Women with establish iron deficiency anemia should be given 100-200 mg elemental iron daily and should be advised on correct administration to optimize absorption.[4]

C. Chronic energy deficiency

Malnutrition is diagnosed when the upper arm circumference is less than 23.5 cm. Pregnant women who had chronic energy deficiency affected the growth of the baby on the womb. Education and awareness about food intake during pregnancy is important for mother and their family, because lack of knowledge about healthy food can impact the seriously for pregnant women. Most of women in Kudus district work for 5 to 8 ours per day and some rural has a cultural habits like avoid some food (fish, vegetable) during the pregnancy and postpartum.

Education is one of the most important resources that enable the family to provide appropriate care for pregnant woman. The large family size was one of the factors affecting nutritional status. Poor nutrition in pregnancy, in combination with infection is a common of maternal and infant mortality an morbidity, low birth weight and intrauterine growth retardation. Malnutrition remains one of the a world highest priority health issues, not only because its effect are so widespread and long lasting but

also because it can be eradicated best at the preventive stage. Maternal malnutrition is influenced not only by lack of adequate nutrition but also influenced by social and psychological factors, nutritional knowledge of mothers, and biological changes that influence perceptions of eating patterns during pregnancy.[5]

Nutrient imbalance before implantation may result in somatic hypoevolutism at birth, endocrine and metabolic dysfunction in postnatal life. in addition, the maternal malnutrition could exert as suppressive effect on the maternal and fetal immune response. It could also affect both the proliferation of myogenic precursors reducing number of muscle fibres and the future reproductive maturation.[6]

Malnutrition rates among pregnant and lactating women remain high in emergencies context even with ongoing interventions. Receiving antenatal care, maternal occupational status and belonging to families which received TSF were factors associated with maternal nutritional status.[7]

TABLE II. PROPORTION OF THE BABY LOW BIRTH WEIGHT

	N	%
Low birth weight		3.94

Table II shows that baby with low birth weight is 3.94%. Low birth weight is condition that weight of baby less than 2500 gram at birth. Many factor can cause low birth weight baby. Baby with low birth weight have a risk like a asfixia, infection and hypothermia.

Sociodemographic factors associated with low birth weight were maternal age, race of mother and residence of the mother. Prenatal factors associated with low birth weight were ANC attendance, the number of ANC visits, not having a syphilis test and a positive HIV status. Mother who did not attend ANC had increased risk of delivering a low birth weight baby compare to those who attended ANC. Women who tested positive for syphilis or had unknown syphilis status had a greater risk of delivering a low birth weight baby compared to women who tested negative for syphilis. Women tested positive for HIV and had an increased risk of delivering a low birth weight infant compared to women who tested negative for HIV. While women who had unknown HIV status had an increased risk of delivering a low birth weight infant, the association was not statistically significant. Obstetric risk factors associated with low birth weight included women with pre eclampsia and premature rupture of membranes. [8]

Other study shows that significant associated about hypertension and low birth weight. A normal pregnant at the second trimester, blood pressure was decreased and will increased at the third trimester. The change of blood pressure occurred to the women who had diagnosed hypertension. Increasing blood pressure can cause pre eclampsia. Anemia has significant associated with low birth weight baby. Imbalance between plasma volume and red blood cell makes the hemoglobin index decreased in low level and its impact intra uteri growth retardation[9]

Both of them, anemia and hypertension cause the uteroplacental circulation disorders that makes low birth weight.

There are several factor that influence low birth weight babies like maternal education, socioeconomic class, maternal occupation, mode of delivery, maternal height, maternal weight, parity, maternal risk factor, maternal nutrition, maternal hemoglobin. Mothers who having low birth weight baby had no education, mother having weight less than 50 kg increasing the incidence of low birth weight, also mothers who had short stature or less than 145 cm. Mothers who labour have significant delivering low birth weight baby. The similar occurs to the mother who had inadequate diet, anemia, hypertension, antepartum hemorrhage, premature rupture of the membranes and multiparaous .[10][11]

IV. CONCLUSION

Chronic energy deficiency and anemia during pregnant are the seriously complication and all of them are linked one with other. It can effect to mother and baby mortality and morbidity, but it can prevent early by healthcare.

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