

Relationship Of Risk Factors For Hypertension In Pregnant Women In Indonesia: Literature Riview

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ABSTRACT

Hypertension during pregnancy is a common and leading cause of maternal death and other serious consequences during childbirth. Hypertension during pregnancy occurs in 5% of all pregnancies. Risk factors for hypertension in pregnant women include (1) the relationship between the degree and the incidence of hypertension during pregnancy, (2) the relationship between body mass index and the incidence of hypertension during pregnancy, and (3) age and the incidence of hypertension during pregnancy. Relationship of hypertension (4) History of childbirth and hypertension of pregnancy (5) History of hypertension and hypertension of pregnancy. The method used in this research is literature study by reviewing or reviewing existing information or processing research materials. The number of gestational hypertension in Indonesia is increasing and almost 30% of maternal deaths in Indonesia are caused by gestational hypertension which is one of the main causes of maternal death after bleeding in Indonesia. Pregnant women are expected to avoid risk factors that can increase the incidence of hypertension during pregnancy, and health practitioners are encouraged to help pregnant women avoid risk factors at an early age. to pregnant women. What causes high blood pressure.

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1. INTRODUCTION

Hypertension in Pregnancy (HDK) is defined as blood pressure $\geq 140/90$ mmHg in 2 or more measurements (Cunningham, 2010). Based on the International Society for the Study of Hypertension in Pregnancy (ISSHP) there are 4 types of hypertension in pregnancy, namely preeclampsia, gestational hypertension, chronic hypertension and chronic hypertensive preeclampsia superimpose. (Manuba, 2007 In the United States the incidence of pregnancy with hypertension reaches 6- 10%, of which there are 4 million women with bodies of 2 and an estimated 240,000 with hypertension each year. Hypertension is an aspect of stroke risk and its incidence increases in pregnancy where 15% of maternal deaths in America are caused by intracerebral hemorrhage (Malha et al., 2018)

In Indonesia, hypertension during pregnancy is the second cause of maternal death after bleeding. In this case, severe preeclampsia was the most common trigger in the hypertensive group during pregnancy, causing complications that led to maternal death. According to the Indonesian Public Health Department (2017), one of the direct causes of maternal death in Indonesia is 28% hypertension, 24% eclampsia and 11% bleeding during pregnancy. In 2019, maternal deaths due to hypertension in Indonesia reached 1,066 cases, of which very large cases were localized in West Java (218 cases) and East Java (162 cases) (Indonesia Health Profile 2019). The maternal mortality rate in Aceh has continued to increase from 2015 to 2019. The maternal mortality rate increased by 143/100,000 live births in 2017, 139/100,000 live births in 2018 and 172/100,000 live births in 2019. The aspects that cause the most Maternal mortality in Aceh in 2019 was bleeding up to 29.9% and hypertension during pregnancy up to 24.2%. (Aceh Health Office, 2020).

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About 1 million people worldwide suffer from hypertension, and 2 out of 3 people live in developing countries. According to the World Health Organization (World Health Organization), maternal deaths due to hypertension have reached 14,000 maternal deaths. It is known that the number of maternal deaths worldwide in 2013 was almost 210 in 2013. Pregnancy is very large worldwide, with more than 410 deaths. Mainland Asia, especially parts of Southeast Asia, averages fewer than 100 deaths. In general, hypertension during pregnancy has a significant impact on reducing maternal mortality. Hypertension during pregnancy or what is called preeclampsia, this event accounts for 12% of maternal deaths worldwide. In 2013, the Ministry of Health noted that hypertension increases mortality and morbidity in pregnant women. In eastern Indonesia, the highest number of pregnant women with hypertension is in South Sulawesi, where up to 95 mothers have two bodies. The 2015 Indonesia Health Profile data found that maternal mortality in Indonesia was still dominated by the three main causes of death: bleeding, gestational hypertension (HDK), and inflammation. However, the proportion is changing and it is known that while the proportion of HDK continues to increase, bleeding and infection tend to decrease. High blood pressure ranks first with a rate of 33.3%, only 10% behind the main cause of maternal death, bleeding with 42.4%. Therefore, in this study, researchers aimed to identify the relationship between age, education level, family support, psychological stress, weight accumulation, and family support with the incidence of hypertension in pregnant women in Indonesia.

2. METHOD

The method used in this research is literature review. Systematic review is a synthesis of several research results which include quantitative (meta-analytical) and qualitative (meta-synthetic) techniques. Systematic review will be very useful for synthesizing various relevant research results, so that the facts presented to policy makers become more comprehensive and balanced. The search for reference literature uses academic databases, namely Google Scholar, and Research Gate. Search articles using the keywords "Hypertension in pregnant women in Indonesia, risk factors for hypertension in pregnant women, the relationship between hypertension in pregnant women in Indonesia" and other keywords that are still related to hypertension in pregnancy. Article literature included in the last 10 years sample. Based on the search for articles, there are many articles that can be said to be sufficient to support this research.

3. RESULTS AND DISCUSSION

Hypertension is one of the most common cardiovascular diseases worldwide. Hypertension during pregnancy was defined as a previously normotensive woman with a blood pressure of 140 mm Hg at 20 weeks' gestation, a systolic blood pressure increase of 30 mm Hg, and a diastolic blood pressure 15 mm Hg above baseline. Hypertension is one of the most common medical cases during pregnancy and can cause complications in 2-3% of pregnancies. In addition, hypertension during pregnancy remains a major cause of maternal death. Central Java is one of the states with the highest maternal mortality rate, with 111.16/100,000 births and a total of 619 problems in 2015.

In the 2015 Indonesian Health Profile, hypertension (27.1%) is known to be the second highest proportion of maternal deaths after bleeding (30.3%). According to the Semarang City Health Profile in 2015, maternal mortality during pregnancy reached 12% due to eclampsia (34%), bleeding (28%) and disease (26%) (9). Factors causing preeclampsia, eclampsia (22%), bleeding (16%), disease (47%), infection (6%), others (6%), unknown 3%. The Puskesmas in Kedungumundu is one of the three problems of maternal mortality during pregnancy due to hypertension and bleeding, with a very large number of maternal deaths in 2016. One of the complications of pregnancy that contributes to MMR in Indonesia is hypertension during pregnancy. Side effects of developing hypertension in pregnant women include: a family history of hypertension, suffering from hypertension, very young or old maternal age, first birth, repeated pregnancies, diabetes, kidney disease/disorders, hypertension before pregnancy, excess weight accumulation. During pregnancy (1 kg/week).

Pregnancy is a moment that is highly anticipated by every husband and wife. Every pregnant woman certainly wants a healthy pregnancy, but a healthy pregnancy cannot be seen with one's eyes,

but pregnant women should always check their pregnancy in order to obtain counseling about the nutrition of pregnant women, patterns of rest for pregnant women and the characteristics of the dangers of pregnancy so that they are free from pregnancy complications that will occur and cause maternal death. Hypertension or high blood pressure is a medical condition in which a person experiences an increase in blood pressure chronically (for a long time) which causes morbidity and mortality. A person is said to have high blood pressure or hypertension if the systolic blood pressure is 140mmHg and the diastolic is 90mmHg (1). Pregnancy is a natural process that occurs as a result of intimate reproduction. Every woman who has healthy reproductive organs and has menstruated is likely to get pregnant. Pregnancy is defined as fertilization or union of sperm and egg. Followed by nidation or implantation, is a physiological process that leads to human growth. 40 weeks or 10 months or 9 months for the international calendar is a normal gestation period for a human baby. It is based on the Gregorian calendar, which is the most popular calendar in the world. Pregnancy is broken up into 3 trimesters, with the first trimester lasting 12 weeks, the second trimester lasting 15 weeks (weeks 13 to 27), and the third trimester lasting 13 weeks. Weeks 28 to 40(12). Hypertension in pregnancy is 5-15% of complications of pregnancy and is one of the 3 highest causes of maternal mortality and morbidity. In Indonesia, the mortality and morbidity of hypertension in pregnancy are still quite high. The generational aspect of proven statistical information that a person will have a greater chance of getting hypertension if his mother and father are people with hypertension. Individual characteristics that affect hypertension are age (if age increases, blood pressure continues to increase), gender (males are greater than females), race (blacks are more than whites). The routines of life that often lead to hypertension are: consuming large amounts of salt (more than 30 grams), obesity or overeating, mental stress, smoking, drinking alcohol, taking drugs (ephedrine, prednisone, epinephrine).

Gravidity is the number of pregnancies regardless of gestational age. Statistical records show that 5% to 8% of pre-pregnancy hypertension in all pregnancies is 12% more likely due to first birth (first pregnancy) of all pregnancies worldwide. Factors that influence hypertension during pregnancy are its frequency is higher in primiparous women than in multiparous women, especially in young primiparous women. Rebirth poses many risks to pregnancy, but it has been proven that second and third deliveries mean safe deliveries. The New England Journal of Medicine found that the risk of preeclampsia was 3.9% for the first pregnancy, 1.7% for the second, and 1.8% for the third. (Rozikhan, 2007)

The difference between this study and previous studies is due to the difference in the number of samples collected, the research location, and the research methods used can affect the incidence of hypertension during pregnancy. Defective antigens and HLA-G, often cause hypertension in primiparous pregnancies. Activin A is a glycoprotein that belongs to the transforming growth factor family, a group of proteins that regulate cell proliferation and differentiation in many biological systems, especially the immune system. Differences in the immune system and genetics of each individual can affect the development of gestational hypertension in the first birth (Rozikhan, 2007)

Body Mass Index (BMI) is an anthropometric scale that uses the ratio of body weight to height to assess your nutritional status. Increased BMI is closely related to the development of mild hypertension and/or pre-eclampsia. A previous study of first time pregnant women in 2010 found a significant difference between obesity and the development of hypertension during pregnancy. The relationship between maternal weight gain and the risk of developing preeclampsia is progressive. This is supported by a 4.3% increase in incidence among mothers with a BMI of 35 kg/m². (Ibrahim, 2010).

Based on the results of statistical tests, it shows that there is a relationship between body mass index and the incidence of hypertension in pregnancy, where pregnant women with a body mass index > 26.0 have a 2.602 times chance of causing hypertension in pregnancy. The results of this study are in accordance with the theory which states that high BMI values are associated with dyslipidemia, which will increase serum/plasma triglycerides, LDL (Low Density Lipoprotein) and decrease VLDL (Very Low Density Lipoprotein). This situation will indicate oxidative stress and cause endothelial system dysfunction. which is the basic concept of the causes of hypertension in pregnancy (Ibrahim 2010, Tsania).

The results of this study are in line with the same results obtained from previous studies with a cohort study design which reported a relationship between the incidence of hypertension in pregnant

women and age aspects. Similarly, the results reported by Thuridor et al. A 2016 case-control study design reported an association between hypertension and age with a p-value = 0.0008.9. The same result was confirmed in a study conducted by Sirait in 2012. The age group of 35 years was 24.3%, and multivariate analysis showed that the risk of hypertension was 2.85 times higher at age 35 (95% CI: 24.7 -3.28) compared with people aged 20 to 35 years. This problem is very dangerous. At the reproductive age of 35, you also have to pay attention to your health. In this situation, the female reproductive organs also begin to shrink, which is very dangerous for the formation of increased blood pressure. Based on research results from 55 pregnant women (100%) who were in the 35 year age group, there were 23 pregnant women (41.8%), 6 pregnant women (10.9%) experienced chronic hypertension and 17 pregnant women (30.9%) experienced gestational hypertension. For Walyani, age is the length of time she has lived or since she was born. Age greatly determines the health of the mother, the mother is said to be at high risk if the pregnant woman is under 20 years of age and over 35 years of age. Based on research results, the results were 31 (56.4%) of 55 first-time pregnant women, 16 (29.1%) with chronic hypertension, and 15 (27.3%) were pregnant. Up to 18 pregnant women (32.7%) gave birth to twins, up to 3 pregnant women (5.5%) had chronic hypertension, and up to 15 pregnant women (27.3%) had hypertension during pregnancy. The number of large births included 6 pregnant women (10.9%), 4 pregnant women with chronic hypertension (7.3%), and 2 pregnant women with gestational hypertension (3.6%).

For researchers, parity is fertility, or the number of children a woman has. The parity aspect is relevant to childbirth, because pregnant women are at higher risk of experiencing problems during pregnancy, especially for mothers who are giving birth for the first time. Pregnancy rates 2 to 3 are very safe birth rates in terms of maternal mortality. The higher postpartum 1 and 3, the higher the maternal mortality rate, and the higher the postpartum, the higher the maternal mortality rate. Because the uterus stretches with each pregnancy, pregnancy continues until the uterus becomes weak, which raises concerns about problems during pregnancy, childbirth, and the puerperium. Hypertensive pregnancies are more common in primiparous women, the condition is immunologically triggered, and the formation of blocking antibodies against placental antigens is incomplete in early pregnancy, resulting in unfavorable immunity against placental histoincompatibility. Primiparous and large mothers are 9,592 times more likely to experience gestational hypertension than multiparous pregnant women. The ideal pregnancy rate is 2 to 3, and mothers with five children are twice as likely to develop gestational hypertension. However, genetics/genetics, obesity, psychological stress, smoking, improper diet, emotional problems, women with twins, relative humidity mismatch, kidney disease, hyper/hypothyroidism, aortic stenosis If you have disease, adrenal obstruction, or parathyroid obstruction. These are high blood pressure, high salt intake (more than 30 grams), obesity or overeating, psychological stress, smoking, alcohol consumption, drugs (ephedrine, prednisone, epinephrine). Genetic factors from statistically proven information that a person has an increased risk of developing hypertension if the mother and father are hypertensive.

Hypertension is seen when one of the identical twins (one egg) has hypertension. Family history is a problem that stimulates the formation of hypertension. If both parents have had high blood pressure throughout their lives, they have a 25% chance of developing high blood pressure. This is related to an increase in the intracellular sodium concentration and a decrease in the potassium to sodium ratio. A study by Androgue and Madiias on the etiology of potassium and sodium in hypertension showed that genetic factors influence primary hypertension through several genes involved in vasoregulation and increased reabsorption of sodium by the kidneys. (Irza, 2009).

Based on research results from 55 pregnant women who had a history of hypertension, 30 pregnant women (54.4%), 18 pregnant women (32.7%) who faced chronic hypertension and 12 pregnant women who faced gestational hypertension (21.8) %. There were 25 pregnant women (45.5%) who had no history of hypertension, 5 pregnant women who had chronic hypertension (9.1%) and 20 pregnant women who had gestational hypertension (36.4%). Based on the results of the chi-square statistical test with a significance limit of $\text{sig}\alpha 0.05$, the results obtained were a p-value of $0.007 < \text{sig}\alpha (0.05)$, which means that there is a significant relationship between the history of hypertension in pregnant women and hypertension in pregnancy at the Setabu Health Center in North Kalimantan

Province in 2018. The results of this research are in line with research attempted by Istiana, et al (2017). It is known that the research results are based on the results of statistical tests using the Chi-Square test with a value of $p = 0.032$ ($p < 0.05$), that there is a significant relationship between family history of hypertension and hypertension.

Based on various studies, it has been found that hypertension is a problem that many people fear because of the quite dangerous consequences it causes, such as heart disease, kidney failure, stroke, and even death. Hypertension if it occurs during pregnancy has a fairly large risk for the mother and the fetus she has. Not infrequently in general you will experience early labor, either naturally or through medical procedures so that toddlers are born prematurely.

4. CONCLUSION

Based on the results of the analysis, the researchers showed that there was a relationship between the incidence of hypertension in the mother and the mother's age, family support, maternal stress/worries, weight gain, and fasting consumption. History of diet or hypertension. The study showed that pregnant women ate less fast food, such as instant noodles and other fried foods that can increase blood pressure, and reduced concerns about their postpartum rates, and the maternal mortality ratio (MMR) decreased by around 38% worldwide between the years 2000 and 2017 .

Every day, around 810 women die as a result of pregnancy or childbirth. Most of all maternal deaths, 94%, occur in low and middle income countries (WHO, 2017). According to the 2017 WHO report, MMR was recorded at 305/100,000 births in Indonesia. That means 400,000 mothers die every month and 15,000 women die every day. 99% of all maternal deaths occur in developing countries. If bleeding is the main cause of maternal death, 32 n 26% is caused by hypertension which causes seizures, toxemia of pregnancy which causes maternal death (RI Ministry of Health, 2017). Risk factors for high blood pressure during pregnancy include: (1) There is a relationship between the incidence and frequency of hypertension during pregnancy. (2) There is a relationship between BMI and the incidence of hypertension during pregnancy. (3) Significant relationship between the age of pregnant women and hypertension during pregnancy (4) Significant relationship between pregnant women and hypertension during pregnancy (5) Pregnancy High blood pressure during pregnancy with a significant relationship between history of hypertension in women during pregnancy and high blood pressure during pregnancy pregnant.

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