

Risk Factors Related to the Event of Hypertension in Pregnant Women in Rsia. St. Khadijah 1 Makasaar

Agusti Fauziah¹

¹Makassar Nursing Department, Health Polytechnic of the Ministry of Health Makassar, Indonesia

Abstract. *The purpose of this study was to determine the risk factors associated with the incidence of hypertension in pregnant women at RSIA.St.Khadijah 1 Makassar. This type of research is observational analytic with a cross sectional design, which is a study to study the dynamics of the correlation between risk factors and effects by using an approach, observation or data collection all at once (Point Time Approach). This study was conducted to explain the factors associated with the incidence of hypertension in pregnant women at RSIA.St. Khadijah 1 Makassar. This research was conducted at RSIA. The results of this study indicate that there is a relationship between maternal age and the incidence of hypertension in pregnancy. Hypertension (preeclampsia-eclampsia) increases at a young age due to the imperfection of the organs in a woman's body to reproduce, in addition to psychological factors that tend to be less stable in adapting to pregnancy. Factors that influence hypertension in pregnancy are the condition of young primigravida and repeated deliveries.*

Keywords: *Hypertension, Pregnant Women, Pregnancy*

Received: November 12, 2021

Received in Revised: November 27, 2021

Accepted: December 16, 2021

INTRODUCTION

Indonesia is experiencing a double burden of disease, namely non-communicable diseases and infectious diseases that occur at the same time. Hypertension is a non-communicable disease that is at high risk in pregnancy which is a major health problem for pregnant women that threatens pregnancy and poses a risk to the fetus. If your blood pressure is consistently higher than 140 over 90 mm Hg, you may be suffering from hypertension, which is part of a worldwide epidemic. The World Health Organization forecasts that by 2025, almost 29% of the world's population, or 1.15 billion people, would have hypertension. In 2012, this number was 839 million. Bleeding (25%), hypertension in pregnancy (12%), obstructed labor (8%), abortion (13%) and other factors account for 80% of all direct causes of maternal death worldwide the remainder (7%) (WHO, 2012).

As much as 10% of pregnant women around the world have hypertension. Preeclampsia, eclampsia, hypertension during pregnancy, and chronic hypertension are all forms of hypertension that can affect a pregnant woman. According to the 2012 IDHS, the Maternal Mortality Rate in Indonesia was 359 per 100,000 live births, while the Infant Mortality Rate was 32 per 1000 live births.

Bleeding, hypertension in pregnancy, and infection are the leading causes of death in Indonesia. Clinically, hypertension is the most common symptom of preeclampsia in pregnant women. Hypertension in pregnancy is on the rise, from 21.5% in 2010 to 27.1% in 2013, an increase of 5.6%, whereas bleeding and infections are on the down (Ministry of Health, 2013).

Based on the health profile of the province of South Sulawesi in 2015, the prevalence of hypertension in women was 47.73% greater than 38.51% for men. Hypertension is more common in women due to various supporting factors, especially in women who experience pregnancy, around 2-3% who experience complications during pregnancy (Sirait, 2012). In Makassar, the causes of maternal death were bleeding 42.4%, hypertension 33.3% and infection 18%. Therefore, early diagnosis and treatment of hypertension needs to be carried out immediately to reduce maternal and perinatal mortality (Manuputty, 2010).

Several factors contribute to the increased risk of hypertension during pregnancy. Results from a study conducted by Saraswati (2014) confirm a correlation between maternal age and the prevalence of hypertension. Hypertension is more likely to affect those between the ages of 20 and 35 than those older or younger.

Preeclampsia is more common among women with a history of hypertension, who had a 1.591-fold higher risk of developing the condition compared to women who do not have a history of hypertension, according to research by Nur and Arifuddin (2017).

Sri's (2016) study found that among women who had given birth more than three times, 74% have hypertension during pregnancy. The quality of medical care can only be enhanced by first establishing a reliable measure of patient satisfaction. That's why it's crucial to conduct consistent, precise, and ongoing surveys of patients' satisfaction levels.

Fetal morbidity and mortality are linked to the widespread prevalence of hypertension in pregnant women. As a starting point for preventing hypertension in pregnant women, knowledge of the risk factors that contribute to the development of the condition is crucial. The researchers wanted to find out what causes hypertension in pregnant women at RSIA. Khadijah 1 Makassar.

METHODS

This study used a cross-sectional, observational analytic methodology to investigate the time-varying nature of the association between risk factors and outcomes (Point Time Approach). To better understand what causes hypertension in pregnant women at RSIA.St. Khadijah 1 Makassar, this study was carried out. This study was done out in 2019 at RSIA St.Khadijah 1 Makassar. The items included in this study's population were all appropriate for the study's aims. All participants were hypertensive pregnant women. In this study, we sample from the entire population by employing a statistical method known as "total sampling.

RESULTS AND DISCUSSION

This study was carried out between April 2019 and July 2019 at RSIA St. Khadijah 1 Makassar. Women who participated in ANC while pregnant were included in this study. Among the several RSIA hospitals in Makassar City, RSIA Sitti Khadijah 1 Muhammadiyah stands out for the quality of care it provides and the recognition it has received from the wider community.

Located in Jl. R.A. Kartini No. 15-17, Baru, Kec. Ujung Pandang, Makassar City, South Sulawesi, RSIA St. Khadijah 1 Makassar boasts a prime spot in the heart of the city, making it convenient to reach via both public and private transportation. The researchers in this study distributed questionnaires in five waves until they had collected enough data to draw conclusions about the causes of hypertension.

The following explanation shows how the findings of univariate and bivariate analysis are included in the frequency distribution generated from the processed data:

Univariate Analysis

Table 1. Frequency Distribution of Respondents Based on the Incidence of Hypertension in Pregnant Women at RSIA Khadijah 1 Makassar in 2019

Hypertension Incidence	Frequency (f)	Percentage (%)
Yes	16	38.1
Not	26	61.9
Total	42	100

Based on Table 1, it can be stated that from 42 respondents, 16 (38.1%) respondents experienced hypertension and 26 (61.9%) respondents did not.

Table 2. Frequency Distribution of Respondents by Age in Pregnant Women at RSIA Khadijah 1 Makassar in 2019

Age (Years)	Frequency (f)	Percentage (%)
Risk <20 and >35	10	23.8
No risk 20-35	32	76.2
Total	42	100

Based on Table 2, it can be stated that from 42 respondents, 10 (23.4%) respondents who had high risk category age < 20 years and > 35 years were found and 32 respondents with no risk category age 20-35 years were 32 (76, 2%).

Table 3. Frequency Distribution of Respondents Based on History of Hypertension in Pregnant Women at RSIA Khadijah 1 Makassar in 2019

History of Hypertension	Frequency (f)	Percentage (%)
Once	28	66.7
Never	14	33.3
Total	42	100

Based on Table 3, it can be stated that of the 42 respondents, 28 (66.7%) had experienced hypertension and 14 (33.3%).

Table 4. Frequency Distribution of Respondents Based on Fast Food Consumption of Pregnant Women at RSIA Khadijah 1 Makassar in 2019

Consumption of Fast Food	Frequency (f)	Percentage (%)
Which	33	78.6
Not	9	21.4
Total	42	100

Based on Table 4, it can be stated that of the 42 respondents, 33 (78.6%) respondents who consumed fast food and junk food and 9 (21.4%).

Table 5. Frequency Distribution of Respondents Based on Parity in Pregnant Women at RSIA Khadijah 1 Makassar in 2019

Parity	Frequency (f)	Percentage (%)
at risk	17	40.5
No Risk	25	59.5
Total	42	100

Based on Table 5, it can be stated that from 42 respondents, it was found that respondents who experienced parity at risk were more than 2 times as many as 17 (40.5%) and those who experienced parity were not at risk as many as 25 (59.5%).

Table 6. Frequency Distribution of Respondents Based on Working Status of Pregnant Women at RSIA Khadijah 1 Makassar in 2019

Working Status	Frequency (f)	Percentage (%)
Yes	12	28.6
Not	30	71.4
Total	42	100

Based on Table 6, it can be stated that from 42 respondents, 12 (28.6%) respondents had working status and 30 (71.4%) respondents did not work.

Bivariate Analysis

This bivariate analysis aims to determine the relationship between the factors in the incidence of hypertension in pregnant women, so the chi-square test statistical test can be used with a significance level of 0.05 or a confidence interval of $p < .$ The incidence of hypertension is grouped into two categories. The relationship between these two variables can be seen from the following table:

Table 7. Relationship between the incidence of hypertension and age in pregnant women at RSIA Khadijah 1 Makassar in 2019

Age	Hypertension Incidence				Total		Sig
	Yes		No		f	%	
	f	%	f	%			
High risk	7	70	3	30	10	100	P = 0.02
Low risk	9	28,1	23	71,9	42	100	

Based on the results of the analysis with chi Square, the relationship between the incidence of hypertension in pregnant women was obtained 7 (43.8) from 10 mothers with high risk age who experienced hypertension and 16 mothers with high risk.

Table 8. Relationship between hypertension incidence and history of hypertension in pregnant women at Khadijah 1 Makassar RSIA in 2019

History of Hypertension	Hypertension Incidence				Total		Sig
	Yes		No		F	%	
	f	%	f	%			
There is a history	14	50	14	50	28	100	P = 0.02
No history	14	53.8	12	46.2	26	100	

Table 9. The Relationship between Hypertension Incidence and Fastfood Consumption in Pregnant Women at RSIA Khadijah 1 Makassar in 2019

Hypertension Incidence	Fast food consumption				Total		Sig
	Yes		No				
	f	%	f	%	f	%	
Yes	16	100	0	0	16	100	P = 0.00
Not	17	65.4	9	34.6	26	100	

Table 10. Relationship between hypertension incidence and parity in pregnant women at Khadijah 1 Makassar RSIA in 2019

Hypertension Incidence	Parity				Total		Sig
	At Risk		No Risk				
	f	%	f	%	f	%	
Yes	10	62.5	6	37.5	16	100	P = 0.02
Not	7	26.9	19	73.1	26	100	

Table 11. Relationship of Hypertension Incidence with Working Status of Pregnant Women at RSIA Khadijah 1 Makassar in 2019

Hypertension Incidence	Working Status				Total		Sig
	Yes		No				
	f	%	f	%	f	%	
Yes	4	25.0	12	75.0	16	100	P = 0.74
Not	8	30.8	18	19.2	26	100	

According to the hypothesis put forth by Cunningham (2006), the age at risk of developing hypertension in pregnant women is 20 years or >35 years, the results of statistical tests indicate that there is a relationship between maternal age and the incidence of hypertension in pregnancy. Hypertension (preeclampsia-eclampsia) is more common in younger women because of the imperfection of the reproductive organs and because of psychological variables that are less resilient in adapting to pregnancy. The theory of placental implantation ischemia proposes that trophoblasts are absorbed into the circulation, triggering increased sensitivity to angiotensin II, renin, and aldosterone, resulting in blood vessel spasm and resistance to systole in women aged 35 and up, which is consistent with the idea that the reproductive organs lose some of their effectiveness after that age (Cunningham, 2006).

This is consistent with Karkata's (2006) hypothesis that hypertension in first-time mothers tends to worsen in subsequent pregnancies. No significant difference between mothers with a history of preeclampsia and the prevalence of severe preeclampsia was found in this study ($p = 0.001$), corroborating the findings of Rozikhan (2007). If a pregnant woman has a history of hypertension (preeclampsia-eclampsia), she is more likely to develop severe preeclampsia. The term "gravidity" is used to describe the total number of live births, regardless of how far along the mother is. Young primigravida and previous births are risk factors for hypertension during pregnancy. Preeclampsia was reported to have a 3.9% risk in the first pregnancy, 1.7% in the second, and 1.8% in the third, according to data published in The New England Journal of Medicine.

Activin A plays a role in inhibiting antibody production against flawed antigens and HLA-G, which is a common cause of hypertension in first-time pregnant women. Activin A is a glycoprotein that is part of the Transforming Growth Factor- family of

proteins. This family of proteins regulates cell division and differentiation throughout various physiological systems, most notably the immune system. Hypertension is more common in first-time mothers due to differences in immune systems and genetics. According to a recent study (Peni & Diana, 2015).

CONCLUSION

According to the findings, older mothers were more likely to experience hypertension during their pregnancies. Preeclampsia and eclampsia (hypertension) are more common in younger women because of the imperfection of reproductive organs and because of psychological factors that are less resilient throughout pregnancy. Women with a history of hypertension (preeclampsia-eclampsia) are at increased risk for developing severe preeclampsia during pregnancy. Young primigravida and previous births are risk factors for hypertension during pregnancy. According to a study published in *The New England Journal of Medicine*, the risk of preeclampsia decreases with each subsequent pregnancy, from 3.9% in the first to 1.7% in the second and 1.8% in the third.

REFERENCES

- Cunningham, F. G., Gant, N. F., & Leveno, K. J. (2006). *Obstetri Williams Edisi 21*. Jakarta: EGC.
- Karkata, M. K. (2006). Faktor Risiko Terjadinya Hipertensi dalam Kehamilan. *Indonesian Journal of Obstetrics and Gynecology*.
- Kemenkes RI. (2013). *Kejadian Hipertensi dalam Kehamilan di Indonesia*. Jakarta: Kemenkes RI.
- Manuputty, M. (2018). Pengaruh Lingkungan Kerja Dan Perilaku Penggunaan Alat Pelindung Diri Terhadap Kesehatan Awak Kapal Ikan Tipe Pole and Line. *ALE Proceeding*, 1, 50-56.
- Nur, A. F., & Arifuddin, A. (2017). Faktor Risiko Kejadian Preeklampsia Pada Ibu Hamil di Rsu Anutapura Kota Palu. *Healthy Tadulako Journal (Jurnal Kesehatan Tadulako)*, 3(2), 69-75.
- Peni, T., & Diana, S. (2015). Efektivitas Jus Pisang Dan Air Kelapa Muda Terhadap Tensi Lansia Penderita Hipertensi. *Hospital Majapahit (Jurnal Ilmiah Kesehatan Politeknik Kesehatan Majapahit Mojokerto)*, 7(1).
- Rozikhan, R. (2007). *Faktor-Faktor Risiko Terjadinya Preeklampsia Berat di Rumah Sakit Dr. H. Soewondo Kendal* (Doctoral dissertation, Program Pasca Sarjana Universitas Diponegoro).
- Saraswati, N., & Mardiana, M. (2016). Faktor Risiko Yang Berhubungan Dengan Kejadian Preeklampsia Pada Ibu Hamil (Studi Kasus Di Rsud Kabupaten Brebes Tahun 2014). *Unnes Journal of Public Health*, 5(2), 90-99.
- Sirait, A. M. (2012). Prevalensi hipertensi pada kehamilan di Indonesia dan berbagai faktor yang berhubungan (Riset Kesehatan Dasar 2007). *Buletin Penelitian Sistem Kesehatan*, 15(2), 103-109.
- Sri, S., & Novi, N. (2016). Analisis Faktor-faktor Yang Berisiko Terhadap Preeklampsia Pada Ibu Bersalin Di RSUD Raden Mattaher Jambi Tahun 2016. *Scientia Journal*, 5(2), 200-205.
- World Health Organization. (2015). *Data Hipertensi Global*. Asia Tenggara.