

Relationship Between Level of Self-Awareness and Blood Pressure Control in Hypertension Sufferers

Dina Dara Kunanti, Wasisto Utomo, Aminatul Fitri

Faculty of Nursing, Universitas Riau

Email: dina.dara3703@student.unri.ac.id

Abstract

Controlling blood pressure is an effort made by an individual to maintain blood pressure in a stable condition, one of which is influenced by self awareness. The method in this study uses a descriptive design of correlation with the total sample of 85 respondents taken based on the inclusion criteria using purposive sampling technique. The measurement tool used is the Mindfulness Attention Awareness Scale (MAAS) questionnaire which has passed validity test with a count r value starting from 0,43-0,78 and Cronbach's alpha value of 0,897 and a digital blood pressure meter. The majority of respondent are in the middle adult age range (40-60 years) (70,6%), the majority are hypertension sufferers ≤ 5 years (52,9%), the majority are female (65,9%), the majority have a high school education (47,1%), and the majority work as housewives (45,9%). The description of the level of self awareness is high at 18,8%. The picture of blood pressure control is controlled by 40%. The results of the test chi-square statistical test show that there is no significant relationship between the level of self awareness and blood pressure control in hypertension sufferers with the p -value=0,078 ($p > 0,05$). There is no significant relationship between the level of self awareness and blood pressure control in hypertension sufferers.

Keywords: blood pressure, hypertension, self awareness

Introduction

Non-Communicable Diseases (NCDs) are diseases that cannot be transmitted to other people and have slow development or are also known as chronic diseases.^{1,3} PTM is usually caused by a combination of several factors such as genetic, physiological, environmental and behavioral factors of the person himself. NCDs include cardiovascular disease, cancer, chronic respiratory diseases (chronic obstructive pulmonary disease and asthma), and diabetes. Cardiovascular disease is one of the main causes of death due to disturbances in the function of the liver and blood vessels such as heart failure, coronary heart disease, *stroke*, and hypertension^{1,4}.

Hypertension is a condition when a person experiences an increase in blood pressure above normal which can be shown by systolic and diastolic numbers^{13,14}. Hypertension is the cause of death in the world and is known as *silent killer* which if prolonged can damage blood vessels in body organs such as the kidneys, heart, brain and eyes and its prevalence will continue to increase in the future^{1,5}. *World Health Organization* (WHO) shows that almost 1.13 billion people worldwide suffer from hypertension. In 2019 Pekanbaru ranked second after Indragiri Hilir in Riau with cases of hypertension in people aged > 15 years^{1,3}. Based on the results of data recapitulation from the Pekanbaru City Health Service (2021), the number of hypertension cases in 2021 was 24,428 cases and the highest cases were in the Rejosari Health Center working area with a total of 3,546 cases.⁹

The increasing incidence of hypertension is caused by several factors such as genetic factors, overweight/obesity, excessive salt consumption, and bad habits such as smoking, stress, excessive alcohol consumption, and also often staying up late and lack of knowledge and awareness about hypertension.^{7,8} It is important for us to assess the extent of sufferers' awareness of the importance of controlling blood pressure, because awareness is one part of programs and interventions designed to improve control of hypertension and blood pressure.^{24,25}

Self-awareness is the process of introspection to understand and know one's ideas, feelings, beliefs and values. Self-awareness is also associated with higher adherence to medication and blood pressure control²⁴. This self-awareness will encourage someone, especially people with hypertension, to behave healthily in order to control blood pressure¹⁵.

Blood pressure control is an activity in an effort to control the blood pressure of hypertensive sufferers who go to health facilities with the aim of monitoring blood pressure. Controlling blood pressure can be done by checking blood pressure regularly, taking antihypertensive medication regularly, and managing a lifestyle such as a low-salt diet. The better a person's attitude and self-awareness in controlling blood pressure, the less likely a person is to develop hypertension. Lack of awareness in controlling blood pressure can affect the blood pressure of hypertensive sufferers²².

Good self-awareness of the dangers of hypertension can help control hypertension. Success in controlling blood pressure in hypertensive sufferers requires self-awareness, one of which is diligently visiting health facilities. The more often someone visits a health facility, the more self-awareness they can change their health behavior¹⁹. Apart from that, it

can influence the self-awareness of hypertension sufferers in increasing their self-awareness towards controlling blood pressure²³. It is often found in hypertension sufferers who are not able to control hypertension well, so this will have an impact on blood pressure. There are still many hypertension sufferers who are uncontrolled and experience obstacles in carrying out self-care due to the lack of awareness of the patients themselves. Individuals who have the awareness to be able to carry out better self-care can certainly make positive lifestyle changes¹⁸.

Based on the results of a preliminary study using interview techniques on February 29 2023 at the Rejosari Community Health Center on 10 hypertension sufferers who knew and received information on how to control blood pressure according to doctor's recommendations. Of the 10 sufferers, 7 of them have not implemented the doctor's recommendations because they still lack awareness of the importance of controlling blood pressure. Hypertension sufferers say they rarely check their health regularly, still eat foods that contain a lot of coconut milk, eat foods high in salt such as salted fish, don't do enough exercise, still smoke and so on. These habits are still difficult to change because there is still a lack of awareness of the importance of changing a healthy lifestyle to improve health. Based on the above phenomenon, researchers are interested in conducting research with the title "The Relationship between the Level of Self-Awareness and Blood Pressure Control in Hypertension Sufferers".

Methods

This research method is a quantitative method with an approach *cross sectional*. The population in this study was 559 people with hypertension who visited the Rejosari Health Center in the last 3 months from November 2022 to January 2023. The sampling technique used in this research is technique *purposive sampling* and using the Slovin formula with an error rate of 10% to calculate the overall research size. The sample size in this study was 85 respondents.

The instrument used in this research to determine the level of self-awareness is *Mindfulness Attention Awaeness Scale* (MAAS) which consists of 15 question items that have been tested with a validity coefficient ranging from 0.43 to 0.78 and reliability with a value of *Cronbach's Alpha* 0.897. The blood pressure measuring tool uses a digital blood pressure monitor.

The data analysis used in the research is univariate analysis to see a description of the characteristics of the respondents, namely age, length of time suffering from hypertension, gender, last education, occupation of the respondent and to see a picture of the independent variable, namely the level of self-awareness, as well as a picture of the dependent variable, namely blood pressure control. And bivariate analysis to see the relationship between the independent variable, namely the level of self-awareness and the dependent variable, namely controlling blood pressure in hypertension sufferers. The statistical test used in this research is the test *chi-square*. This research has been declared ethically appropriate by Decree Number 580/UN19.5.1.8/KEPK.FKp/2023.

Results

1. Respondent Characteristics

Table 1
Frequency Distribution of Respondent Characteristics (n=85)

Respondent Characteristics	Frequency (n)	Percentage (%)
Age		
Middle Adult (40-60 years)	60	70,6%
Older Adults (> 60 years)	25	29,4%
Suffering from hypertension for a long time		
≤ 5 years	45	52,9%
> 5 years	40	47,1%
Gender		
Man	29	34,1%
Woman	56	65,9%
Last education		
No school	2	2,4%
SD	11	12,9%
JUNIOR HIGH SCHOOL	27	31,7%
SMA	40	47,1%
Higher Education (PT)	5	5,9%
Work		
Doesn't work	8	9,4%
IRT	39	45,9%
Laborer	10	11,8%
Farmer	2	2,3%
Self-employed	21	24,7%
Civil servants	5	5,9%
Retired	0	0%
Total	85	100%

Based on table 1, it can be seen that of the 85 respondents who experienced hypertension at the Rejosari Community Health Center who were researched, the

majority of respondents were in middle adulthood (40-60 years), namely 60 respondents (70.6%). Judging from the length of time they have suffered from hypertension, it was found that the majority of respondents had suffered from hypertension for ≤ 5 years, namely 45 respondents (52.9%). Based on gender, the majority of hypertension sufferers were female with 56 respondents (65.9%). In the education category, it shows that the majority of respondents had a Senior High School (SMA) or equivalent education, namely 40 respondents (47.1%). Furthermore, based on the respondents' occupation, it was found that the majority of respondents worked as Housewives (IRT) with 39 respondents (45.9%).

2. Description of the Level of Self-Awareness

Table 2
Frequency Distribution of Self-Awareness Levels (n=85)

Category	Frequency (n)	Percentage (%)
High	16	18,8%
Currently	56	65,9%
Low	13	15,3%
Total	85	100%

Based on table 2, it shows that of the 85 respondents studied, the majority of respondents had a moderate level of self-awareness with a total of 56 respondents (65.9%). A small number of respondents had a low level of self-awareness, 13 respondents (15.3%).

3. Overview of Blood Pressure Control

Table 3
Frequency Distribution of Blood Pressure Control (n=85)

Category	Frequency (n)	Percentage (%)
Controlled	34	40%
Not controlled	51	60%
Total	85	100%

Based on table 3, it can be seen that of the 85 respondents studied, the highest number of respondents' blood pressure was in the uncontrolled category, namely 51 people (60%) and controlled as many as 34 people (40%).

4. The Relationship between the Level of Self-Awareness and Blood Pressure Control in Hypertension Sufferers

Table 4
Relationship between Level of Self-Awareness and Blood Pressure Control in Hypertension Sufferers (n=85)

Level of Self-Awareness	TD control				Total		P-Value
	Controlled		Not controlled		N	%	
	N	%	N	%			
High	9	56,2%	7	43,8%	16	100%	0,079
Currently	23	41,1%	33	58,9%	56	100%	
Low	2	15,4%	11	84,6%	13	100%	
Total	34	40%	51	60%	85	100%	

Based on table 4, the relationship between the level of self-awareness and controlling blood pressure in hypertension sufferers, the results showed that 16 respondents (18.8%) had high levels of self-awareness, with high self-awareness - controlled blood pressure being 9 respondents (56.2%), high self-awareness - uncontrolled blood pressure being 7 respondents (43.8%). Then there were 56 respondents with a moderate level of self-awareness (65.9%), with moderate self-awareness - controlled blood pressure as many as 23 respondents (41.1%), moderate self-awareness - uncontrolled blood pressure with 33 respondents (58.9%). Furthermore, low self-awareness was 13 respondents (15.3%), low self-awareness - controlled blood pressure was 2 respondents (15.4%), and low self-awareness - uncontrolled blood pressure was 11 respondents (84.6%). The results obtained were that the higher the level of self-awareness of hypertensive sufferers, the more controlled their blood pressure was and vice versa, the lower the level of self-awareness of hypertensive sufferers, the more uncontrolled their blood pressure was. However, in the statistical test results the result is $p \text{ value } (0.079) > \alpha (0.05)$ is H_0 failed to be rejected, so it can be concluded that there is no significant relationship between the level of self-awareness and blood pressure control in hypertension sufferers.

Discussion

1. Respondent Characteristics

From the results study Which Already done about characteristics respondents based on age is obtained results that majority age respondents is at on range age mature intermediate (40-60 year) with amount 60 respondents (70,6%). Study Which done Of Palembang by Aristotle (2018), on age between 30-65 years of stress blood systolic increased rate by rate as much as 20 mmHg And continue increased after age 70 year³. Increasing age can cause arteriosclerosis, namely loss of arterial elasticity and thickening of blood vessels in the arteries and arterioles which causes a reduction in the size of the blood vessel lumen which can disrupt organ perfusion. Apart from that, it can also cause atherosclerosis, which is a type of arteriosclerosis which has hard, thick and narrow artery walls, so that their elasticity is reduced which can limit blood flow and ultimately block the arteries. High blood pressure squeezes blood through narrow blood vessels, causing hypertension^{12,30}.

Based on results study obtained that majority respondents experience hypertension <5 year that is as much as 45 people (52,9%). Public Which experience hypertension <5 year them new realize that them experience hypertension. Matter This in line with study Which done Of Jakarta by Bratajaya & Fortune (2020), results his research state majority respondents experience long hypertension <5 year⁶.

Based on results study obtained that respondents with type sex Woman more Lots suffer hypertension compared to with man ie as much as 56 people (65,9%). Matter This because Woman Already enter time *menopause* And Also factor other. Woman tend more *stress* with situation economy House ladder And Also Woman not enough in do activity physique Because majority Work as Mother House Ladder (IRT). Matter This in line with study Which done Of Kalimantan by Tambunan & Baringbing (2022), Which say that Woman more own trend hypertension Because disturbance hormonal²⁸.

Based on results study This obtained that part big respondents educated SMA that is as much as 40 people (47,1%). Matter This in line with study Which done Of Sumatra North by Harianja, Nadapdap and Anto (2021), obtained results Which

The same that is majority respondents Which suffer hypertension with level education SENIOR HIGH SCHOOL. Based on results study obtained level education respondents including in category high However Still experience hypertension. Higher education can influence a person's knowledge. Knowledge influences a person's self-awareness, especially people with hypertension¹¹.

Based on results study Which done obtained results majority respondents Which experience hypertension as much as 39 people (45,9%) own pekerjaan as IRT (Mother House Ladder). Matter This in line with study Which done Of Sulawesi by Akbar *And al.* (2020), Which write that work majority on sufferer hypertension that is IRT. Matter the because work as IRT tend cause hypertension Because exists *stress*².

2. Description of the Level of Self-Awareness

Based on results study obtained that respondents with hypertension own awareness self Which majority currently ie as much as 56 people (65,9%). Someone Which own awareness self Which high will capable for measure atmosphere his heart And understand How atmosphere his heart influence others. Someone who has a high level of self-awareness will try to make maximum positive lifestyle changes such as consuming salt according to doctor's recommendations, exercising diligently, not smoking and diligently checking in at the health center.

Study Which done Of Makassar by Franciska *And al.* (2023) one individual necessary have self-awareness, if awareness self someone low for will influential on *self management* Which low, so it has an impact on pressure blood. Sufferer hypertension Which have awareness self Good for will seen from by life Which carried it out¹⁰.

3. Overview of Blood Pressure Control

Based on results study Which has been done on 85 respondents show pressure blood controlled as much as 34 people (40%) marked with pressure blood <140/90 mmHg, whereas pressure blood No controlled as much as 51 people (60%) marked with pressure blood \geq 140/90 mmHg. Pressure blood respondents Which controlled influenced by business each individual for maintain pressure his blood in law normal. Pressure blood high or hypertension controlled defined as consequence from treatment with modification style life or therapy pharmacological.

Hypertension Which No controlled is a condition hypertension Which No treated with Correct or pressure blood Which No under control^{20,29}.

4. The Relationship between the Level of Self-Awareness and Blood Pressure Control in Hypertension Sufferers

Results study show that No there is connection Which mean between level awareness self with control pressure blood on sufferer hypertension (p value 0,079 > α 0.05). Awareness self on sufferer hypertension is a effort patient in handle self for maintain behavior Which effective in do disease management hypertension. Matter other Which Also must done that is control pressure blood routine for avoid increase pressure blood Which No realized. Besides That, important Also do monitor pressure blood, up action service health can quick done when pressure blood No stable^{26,27}.

On study This found that majority sufferer hypertension Which own pressure blood controlled And experience awareness self currently. Pressure blood controlled-not controlled due to by lack experience And effort from sufferer hypertension. Sufferer has been own awareness However Still Not yet completely do change toward positive in his life. They are consider with drink drug anti hypertension Already Enough for control pressure blood And put aside by life Healthy. Sufferer hypertension Still Lots consume food Which contain Lots salt, coconut cream, experience stress And Still not enough in do activity physique, so that matter here it is Which become reason majority sufferer hypertension experience pressure blood Which No controlled.

Study This in line with study Which done Of Egypt by Sayedramadan & Hussein (2020) about connection between *self Awareness* with pressure blood systolic And diastolic sufferer hypertension Which event whole show exists connection between *self awareness* with pressure blood. Sufferer hypertension Which own *self awareness* Good tend own pressure blood controlled And sufferer Which own *self awareness* bad often experience pressure blood Which No controlled. In study This level category awareness self show exists influence in effort change by life Where sufferer Which own awareness self Good will tend more capable in control hypertension compared to with sufferer Which own

awareness self not enough Good. They are Which own awareness self Good will own effort more in change behavior toward Which positive²⁴.

Study This different with study Which done Of Iran by A daughter *And al.* (2019) where a person Which Already start own awareness self will capable do control pressure blood. In study This level category awareness self No show exists influence in effort Which done sufferer hypertension in change by life toward Which positive²¹.

Based on description on, awareness self is not one by one matter Which must noticed in control pressure blood sufferer hypertension, so sufferer hypertension Which own level awareness self currently expected can increase awareness self And optimize matter other Which positive for overcome pressure blood so that No experience complications consequence hypertension Which No controlled.

Conclusion

The results of research that has been carried out regarding "The Relationship between the Level of Self-Awareness and Blood Pressure Control in Hypertension Sufferers" on 85 respondents can be concluded that the majority of respondents with a high level of self-awareness have controlled blood pressure and the majority of respondents with a low level of self-awareness have uncontrolled blood pressure. However, based on statistical tests, it shows that there is no significant relationship between the level of self-awareness and blood pressure control. In the study, the majority of respondents had a moderate level of self-awareness with uncontrolled blood pressure.

The limitations in this research are: moment researcher do recruitment data study majority respondents more choose researcher read And fill in question on questionnaire, so that researcher need time Which more long moment recruitment data study. It is hoped that future researchers can carry out other research related to self-awareness and can be carried out on other non-communicable diseases (NCDs), not only hypertension sufferers.

Reference

1. Achadiyani, Feinisa, A., Ramadhanti, J., Rahmat, A. A., E, D. R., Rahmah, H. A., Gustoro, I. A., & Putri, M. A. (2019). Peningkatan kesadaran terhadap bahaya hipertensi di Desa Cibeureum Kulon, Kecamatan Cimalaka Kabupaten Sumedang,

2. Akbar, F., Nur, H., Humaerah, U.I. (2020). Karakteristik hipertensi pada lanjut usia di desa buku. *Jurnal Wawasan Kesehatan*. Vol 5, No 2, 35-42
3. Aristoteles. (2018). Korelasi umur dan jenis kelamin dengan penyakit hipertensi di emergency center unit rumah sakit islam Siti Khadijah Palembang 2017. *Jurnal Keperawatan*. Vol 3 No 1, 1-8
4. Nugroho, K. P., Kurniasari, R. R. M. D., & Noviani, T. (2019). Gambaran pola makan sebagai penyebab kejadian penyakit tidak menular (diabetes mellitus, obesitas, dan hipertensi) di wilayah kerja puskesmas cebongan, kota salatiga. *Jurnal Kesehatan Kusuma Husada*, 15-23.
5. Syamsi, N., & Asmi, A. S. (2019). Gambaran tingkat pengetahuan lansia terhadap hipertensi di Puskesmas Kampala Sinjai. *Jurnal Ilmiah Kesehatan Sandi Husada*, 8(1), 17-21.
6. Bratajaya, C. N. A. & Rejeki, G. S. (2020). Hubungan pengetahuan sikap, dan perilaku tentang perawatan hipertensi pada lansia yang menderita hipertensi di Johar Baru Jakarta Pusat. *Jurnal Medika Cendekia*. Vol 7 (02), hal 87-93
7. Cahyati, Y., Somantri, W., Cahyati, A., Rosdiana, I., Sugiarti, I., Imam, A. T., & Puruhita, T. K. A. *Penatalaksanaan terpadu penyakit tidak menular*. Yogyakarta: CV Budi Utama; 2021
8. Surya, D. P., Anindita, A., Fahrudina, C., & Amalia, R. (2022). Faktor risiko kejadian hipertensi pada remaja. *Jurnal Kesehatan Tambusai*, 3(2), 107-119.
9. Dinas Kesehatan Kota Pekanbaru. (2021). *Profil dinas kesehatan kota pekanbaru*. Pekanbaru: Dinas Kesehatan Kota Pekanbaru.
10. Fransiska, A. Ganut, F. Hattu, S. Sheryn. (2023). Hubungan self awareness dan cek rutin tekanan darah penderita hipertensi dengan kejadian stroke. *Jurnal Keperawatan Florence Nigtingale*. 6(01), 13-19.
11. Harianja, B., Nadapdap, P., Anto. (2021). Analisis faktor yang mempengaruhi kejadian hipertensi pada suku batak di wilayah kerja puskesmas cikampak kabupaten labuhan batu selatan. *Jurnal Kesmas Prima Indonesia*. Vol 3, No 1, 7-12
12. Harmani, K. *Sistem Kardiovaskular*. Semarang: Elsevier; 2017
13. Irwan. *Epidemiologi penyakit tidak menular*. Yogyakarta: CV Budi Utama; 2016
14. Pramana, L. D. Y. (2016). *Faktor-Faktor Yang Berhubungan Dengan Tingkat Hipertensi Di Wilayah Kerja Puskesmas Demak II* (Doctoral dissertation, UNIMUS).

15. Kariasa, I. M. *Antisipasi serangan stroke berulang*. Pekalongan: PT. Nasya Expanding Management; 2022
16. Kemenkes RI. *Buku pedoman pencegahan Penyakit Tidak Menular direktorat pencegahan dan pengendalian Penyakit Tidak Menular*. Jakarta: Kemenkes RI; 2019
17. Kemenkes RI. *Hari hipertensi dunia 2019: know your number, kendalikan tekanan darahmu dengan CERDIK*. Jakarta: Kemenkes RI; 2019
18. Khoirun, A., Anita, N., & Norontoko, D. A. (2019). Kesadaran diri pasien hipertensi dalam pencegahan kejadian stroke di puskesmas Tambakrejo Surabaya. *Jurnal Keperawatan, Vol 1 No 1*, 263–266. <http://repo.poltekkesdepkes-sby.ac.id/ideprint/240>
19. Kurniawati, R. D. (2020). Hubungan kesadaran diri dengan manajemen perawatan diri pada penderita hipertensi usia dewasa di Kelurahan Jimbaran Kecamatan Bandung. *Skripsi*. Semarang: Universitas Ngudi Waluyo
20. Mandala, A. S., & Esfandiari, F. (2020). *Hubungan Tekanan Darah Terkontrol dan Tidak Terkontrol terhadap Kadar High Density Lipoprotein Pasien Hipertensi Pendahuluan*. 11(1), 379–386. <https://doi.org/10.35816/jiskh.v10i2.296>
21. Moradi, M., Nasiri, M., Jahanshahi, M., & Hajiahmadi, M. (2019). The effects of a self-management program based on the 5 A's model on self-efficacy among older men with hypertension. *Nursing and Midwifery Studies*, 8(1), 21–27. https://doi.org/10.4103/nms.nms_97_17
22. Naryati, N., & Priyono, N. N. P. (2022). Faktor-faktor yang mempengaruhi pengontrolan tekanan darah pada penderita hipertensi di RW 03 Kelurahan Jagakarsa Jakarta Selatan. *Malahayati Nursing Journal*, 1(1), 156–172. <https://doi.org/10.33024/mnj.v1i1.5725>
23. Puspa, E. A., Nurhaedar, J., & Alwi, M. K. (2020). Faktor yang memperingati keaktifan kunjungan pos pembinaan terpadu penyakit tidak menular (POSBINDU PTM) di wilayah kerja Puskesmas Baturube Kabupaten Morowali Utara tahun 2020. *Journal of Aafiyah Health Research (JAHR)*, 1(2), 58–73. <https://doi.org/10.52103/jahr.v1i2.239>
24. Sayedramadan, E., Mohamed, R., Hussein, S., & Sobhy. (2020). Self awareness as a tool for reduction of blood pressure for patients with hypertension. *Journal of Nursing and Health Science*, 8(1), 13–22. <https://doi.org/10.9790/1959-0801061322>

25. Anggraini, A. A., Putri, V. S., & Nuranti, Z. (2020). Pengaruh pendidikan kesehatan dan pemberian daun seledri pada pasien dengan hipertensi di wilayah rt 10 kelurahan murni. *Jurnal Abdimas Kesehatan (JAK)*, 2(1), 30-38.
26. Sheppard, J. P., Tucker, K. L., Davison, W. J., Stevens, R., Aekplakorn, W., Bosworth, H. B., Bove, A., Earle, K., Godwin, M., Green, B. B., Hebert, P., Heneghan, C., Hill, N., Hobbs, F. D. R., Kantola, I., Kerry, S. M., Leiva, A., Magid, D. J., Mant, J., ... Mcmanus, R. J. (2020). Self-monitoring of Blood Pressure in Patients with Hypertension-Related Multi-morbidity: Systematic Review and Individual Patient Data Meta-analysis. *American Journal of Hypertension*, 33(3), 243–251. <https://doi.org/10.1093/ajh/hpz182>
27. Nurcahyani, W. F. (2021). Pemberdayaan Masyarakat Kelurahan Sonorejo Dalam Rangka Meningkatkan Pengetahuan Mengenai Hipertensi Dengan Media Poster. *Warta LPM*, 24(4), 656-666.
28. Tambunan, L. N., & Baringbing, E. P. (2022). Hubungan karakteristik dengan kejadian hipertensi pada The Relationship Of Characteristics With The Event Of Hypertension In Outpatient Patients In RSUD dr . Doris Sylvanus Central Kalimantan Province. *Jurnal Surya Medika*, Vol 8 No 3, 176–186.
29. Negara, I. G. N. M. K., Jiryantini, N. W. S., & Parwati, N. W. (2019). Hubungan tingkat pengetahuan tentang hipertensi terhadap kepatuhan pasien untuk kontrol tekanan darah. *Jurnal Riset Kesehatan Nasional*, 3(2), 73-77.
30. Sakinah, A. S., Utomo, W., & Agrina, A. (2021). Hubungan dukungan keluarga dan peran tenaga kesehatan dengan kepatuhan kontrol ke pelayanan kesehatan pada lansia penderita hipertensi selama pandemi covid-19. *Berkala Ilmiah Mahasiswa Ilmu Keperawatan Indonesia*, 9(2), 99-108.