



A Cross Sectional Study

Prevalence and Correlation of Knowledge Levels with the Physical Activity of Hypertension Patients

Heri Ariyanto¹, Andika Abdul Malik², Wina Widiarti³, Windi Oktavia⁴

STIKes Muhammadiyah Ciamis, Jln. KH. Ahmad Dahlan No. 20 Ciamis 46216, Indonesia

Article Information

Received: November 20, 2020
 Revised: December 06, 2020
 Available online: December 12, 2020

Keywords

hypertension, knowledge, physical activity

Correspondence

Phone: +62-821-2039-4445
 E-mail: ariyantoheri7@gmail.com

ABSTRACT

Introduction: As many as 1 billion people in the world or about 1 in 4 adults suffer from hypertension. Many people with hypertension still ignore their disease, even though if left untreated it will lead to further complications. This is because knowledge about hypertension affects the quality of life for people with hypertension.

Method: This study aims to determine the relationship between the level of knowledge and the physical activity of people with hypertension. This study used a quantitative analytic study with a cross sectional approach. The sampling technique used proportional random sampling. The study population was 100 people, and a total sample of 50 people. The research instrument used an accurate knowledge questionnaire of 20 items to see the level of knowledge and a physical activity questionnaire on the SF-12 to see the quality of life.

Result: The results showed that the respondents had more knowledge than the average yaiu as many as 32 people (64%). While the physical activity of respondents in the good category was 25 people (50%).

Conclusion: Based on the results of the analysis, the conclusion is that there is a significant relationship between knowledge and physical activity in patients with hypertension as evidenced by the value of p value = 0.002 and the value of chi square (X^2) = 9.810.

INTRODUCTION

Hypertension is an increase in systolic and diastolic blood pressure that exceeds normal limits. A person is considered hypertensive if the systolic blood pressure is at ≥ 140 mmHg while the diastolic blood pressure is at ≥ 90 mmHg, the increase in systolic pressure is due to the flexibility of large blood vessels which decreases with age until the seventh decade, while the increase in diastolic pressure until the fifth decade and sixth is usually persistent and tends to decline (Huang et al., 2019).

Hypertension is one of the deadliest diseases in the world. As many as 1 billion people in the world or about 1 in 4 adults

suffer from this disease (Setiawan, Khaerunnisa, Ariyanto, & Firdaus, 2020). In fact, hypertension can lead to other diseases that are classified as severe so that it can cause complications and provide advanced symptoms for a target organ, such as stroke for the brain, coronary heart disease for the heart blood vessels and for the heart muscle. This disease has become a major problem in public health in Indonesia and in several countries in the world (Firsia M Desak, 2020).

Globally, cases of hypertension continue to increase in various countries (Setiawan, Ediati, & Winarni, 2017). It is estimated that the prevalence of hypertension in the world

reaches 15-25% of the adult population. In America the prevalence in 2015 was 21.7%. In Vietnam in 2014 it reached 34.5%, Thailand (2015) 17%, Malaysia (2016) 29.9%, while the prevalence of hypertension in Indonesia was 14% (Tirtasari & Kodim, 2019).

Based on data from the Tasikmalaya City Health Office 2018, hypertension is included in the top ten most diseases in Tasikmalaya City, to be precise the second most after acute nasopharyngitis. Hypertension visit data from 2016, which totaled 2,457 people to 24,161 people in 2017 and increased again in 2018 to 24,439 people. The age of young adults ranges from 18 to 40 years, based on data obtained from annual reports of hypertension at Puskesmas Tamansari, cases of young adults are always increasing. In 2016, 2017, and 2018, respectively, 18, 35, and 79 cases (Firmansyah, Jahidin, & Najamuddin, 2019). A person suffering from hypertension at a young age requires more intensive treatment to reduce the risk of complications from other diseases in the future (Honton et al, 2020).

The factors that influence the occurrence of hypertension are genetics, gender, stress, and smoking habits. An unhealthy diet, excessive calories, no physical activity or a sedentary lifestyle and obesity lead to hypertension (Obiang-obounou, 2020). The World Health Organization (WHO) defines physical activity as movement produced by bone muscle which requires energy expenditure (Frieden, 2019). Lack of physical activity increases the risk of suffering from hypertension. People who are inactive tend to have a higher heart rate, so the heart muscle has to work harder with each contraction, the bigger and more frequent the heart muscle pumps, the more pressure is placed on the arteries so that blood pressure will increase (Musfirah, 2019).

A study in 2018 showed that patients who routinely do physical activity can reduce

the risk of complications in people with hypertension, doing light to heavy physical activity is beneficial for health and can avoid themselves from various diseases, one of which is hypertension (Maskanah & Tiranda, 2019). In patients with hypertension, physical activity is one way to stabilize blood circulation, respiration, stress management so that blood flow can circulate properly (Putra Apriadi Siregar, 2020).

METHOD

This research is a quantitative analytic study with a cross sectional approach. This study uses two variables, namely the independent variable in the form of patient knowledge and the dependent variable in the form of physical activity.

The population in this study were 100 people with hypertension in the working area of the UPTD Puskesmas Kahuripan. The number of samples of this study using proportional random sampling of 50 people. The inclusion criteria included being able to write and read, being in the inpatient and outpatient process and willing to fill out an informed consent. While the exclusion criteria in this study were patients with chronic diseases other than hypertension.

The data used in this study is to use primary data, namely the data directly obtained from the object of research, namely by distributing questionnaires to respondents. Respondents were asked to answer all the questions on the questionnaire. This research was also assisted by nurses who worked at the UPTD Puskesmas Kahuripan.

The research instrument was to fill in a questionnaire filled out by all people in the work area of the Kahuripan Puskesmas UPTD which aims to determine the level of knowledge and physical activity of hypertensive sufferers. The knowledge questionnaire consisted of 20 questions about hypertension, which had previously been tested for validity and reliability.

Meanwhile, the quality of life questionnaire uses SF-12. This research was conducted in the work area of the UPTD Puskesmas Kahuripan, Tasikmalaya City on November 28 to 30, 2020.

RESULT

Characteristics of respondents seen in this study include age, gender, education and occupation.

Table 1. Sociodemography

Variables	F	(%)
Age		
Teens 11-19 years	7	14,0
Early adulthood 20-60 years	29	58,0
The elderly 60 more years	14	28,0
Gender		
Male	30	60,0
Girls	20	40,0
Study		
SD	27	54,0
SMP	9	18,0
SMA	14	28,0
Profession		
Tni	2	4,0
Pns	5	10,0
Wiraswasta	17	34,0
IRT	10	20,0
Free workers	4	8,0
Traders	7	14,0
Farmer	5	10,0

The results showed that the most respondents' age was early adulthood (58.0%), the majority of respondents were male (60.0%), the majority of their latest education was Elementary School (54.0%), the majority worked as entrepreneurs (34, 0%) of 50 respondents.

Table 2. Frequency distribution of respondents based on Knowledge of Hypertension in the work area of the UPTD Puskesmas Kahuripan Tasikmalaya

Knowledge	F	%
> Mean	32	64

< Mean	18	36
	50	100

Based on the table above, the majority of respondents have more knowledge than the average of 32 people (64%).

Table 3. Frequency distribution of respondents based on physical activity of hypertension sufferers in the work area of the UPTD Puskesmas Kahuripan Tasikmalaya.

Physical activity	F	%
Good	31	62
Bad	19	38
	50	100

Based on the table above, the majority of respondents have good physical activity as many as 31 people (62%).

Hypertension Knowledge	physical activity		Total	P Value	X ² Count	
	Good	Bad				
	F	%	F	%	F	%
>Mean	25	50	7	14	32	64
<Mean	6	12	12	24	18	36
Total	31	62	19	38	50	100

Table 4. Relationship between knowledge and physical activity of hypertension sufferers in the work area of the UPTD Puskesmas Kahuripan Tasikmalaya

Based on the table above, respondents who have a level of knowledge more than the average majority have good activity, namely 25 people, as well as respondents with less than average knowledge have bad activity, namely 12 people.

DISCUSSION

Based on the results of the chi-square statistical test carried out to determine the relationship between the level of knowledge of hypertensive patients with physical activity, the p value was <0.05 (p = 0.002). This is in accordance with the opinion of Maryono (2017) that good

knowledge will be able to change your lifestyle by doing regular sports activities, stopping smoking as early as possible, improving your diet, avoiding stress and avoiding unhealthy lifestyles. Sumadjo (2014) states that the better the respondent's knowledge of hypertension, the better the efforts to control hypertension they suffer.

From the results of the research conducted, the researcher found that the level of knowledge of both respondents about hypertension at the UPTD Puskesmas Kahirupan Tasikmalaya was 64.0%.

Regular physical activity can help strengthen the heart muscle. A stronger heart can certainly pump more blood. The lighter the work of the heart, the less pressure on the arteries so that blood pressure will decrease (Windri, Kinasih, & Sanubari, 2019).

Adequate and regular physical activity can reduce the risk of heart and blood vessel disease in addition to helping reduce weight in obese people. Physical activity that is recommended for people with hypertension is moderate activity for 30-60 minutes every day. Calories burned at least 150 calories per day. One thing that can be done is aerobics, an activity whether it is daily activities or sports, it is said to be aerobic if it can increase the working ability of the heart, lungs, and muscles (Marleni, Syafei, Thia, & Sari, 2020).

CONCLUSION

Based on the results of the analysis, it was concluded that there was a significant relationship between knowledge and physical activity of people with hypertension as evidenced by the value of p value = 0.002 and the value of chi square (X^2) = 9.810.

The suggestions that can be given to the public are expected to further increase knowledge about hypertension so that

they can improve the health status in an effort to prevent hypertension by always actively participating in health education whether held by Puskesmas, Hospitals, or other sources of information.

From this study we recommend increasing the status of knowledge about hypertension so as to improve the health status of the patient. Nurses as educators can collaborate with other health practitioners to provide health education in order to increase the status of knowledge.

REFERENCE

- Firsia M Desak. (2020). Hubungan tingkat pengetahuan lansia tentang hipertensi dengan kepatuhan diet hipertensi di panti sosial tresna werdha jara mara Pati Buleleng. *Medika Usada*, 3(2013), 41–47. Retrieved from <http://jurnal.stikeswirahusada.ac.id>
- Firmansyah, A., Jahidin, A., & Najamuddin, N. I. (2019). efektifitas penyuluhan dengan menggunakan media leaflet dan video bahasa daerah terhadap pengetahuan bahaya rokok pada remaja. *Bina Generasi;Jurnal Kesehatan*, 11(1), 80–86.
- Frieden, T. R. et al. (2019). Scaling up effective treatment of hypertension — A pathfinder for universal health coverage. *Willey Online Library*, (June), 1442–1449. <https://doi.org/10.1111/jch.13655>
- Honton et al. (2020). Investigation and treatment of high blood pressure in young people . Too much medicine or appropriate risk reduction? *University of Bristol*, 75, 16–22. <https://doi.org/10.1161/Hipertension.aha.119.13820>.Please
- Huang, J., Chen, Z., Chen, H., Chen, Z., Chen, S., & Chen, Y. (2019). Association Between Body Mass Index (BMI) and Brachial-Ankle

- Pulse Wave Velocity (baPWV) in Males with Hypertension: A Community-Based Cross-Section Study in North China. *Journal Medical Science Monitor*, 25(1), 5241–5257.
<https://doi.org/10.12659/MSM.914881>
- Marleni, L., Syafei, A., Thia, M., & Sari, P. (2020). Palembang the correlation between physical activity and hypertension level at public health center palembang. *Kesehatan Poltekkes Palembang*, 15(1), 66–72.
<https://doi.org/10.36086/jpp.v15i1.464>
- Maskanah, S., & Tiranda, Y. (2019). Hubungan Aktivitas Fisik Dengan Tekanan Darah Pada Penderita Hipertensi. *Keperawatan Muhammadiyah*, 4(2), 97–102. Retrieved from <http://journal.um-surabaya.ac.id/index.php/JKM/article/view/3128>
- Musfirah, M. (2019). Analysis of Risk Factor Relation With Hypertension Occurrence At Work Area of Takalala. *Kesehatan Global*, 2(2), 93–102. Retrieved from <http://ejournal.helvetia.ac.id/index.php/jkg%0AAANALISIS>
- Obiang-obounou, B. W. (2020). Assessment of Risk Factors of Hypertension among Pakistani People Living in Populated Cities of the Country. *Academic Research Publishing Group*, 6, 900–907. Retrieved from url:
- Putra Apriadi Siregar. (2020). Aktivitas Fisik , Konsumsi Makanan Asin dan Kejadian Hipertensi Masyarakat Pesisir Kota Medan. *Jurnal Ilmiah Kesehatan (JIKA)*, 2(1), 1–8. Retrieved from <https://ojs.yapenas21maros.ac.id/index.php/jika/article/view/34>
- Setiawan, H., Ediati, A., & Winarni, T. I. (2017). Genetic Counseling to Reduce the Level of Depression in Parents of Children with Thalassemia Major. *ICSSHPE 2nd International Conference on Sports Science, Health and Physical Education Thalassemia.*, 1(1), 102–106.
- Setiawan, H., Khaerunnisa, R. N., Ariyanto, H., & Firdaus, F. A. (2020). Telenursing meningkatkan kualitas hidup pasien dengan penyakit kronis. *Jurnal Mutiara Ners*, 3(2), 95–104.
- Tirtasari, S., & Kodim, N. (2019). Prevalensi dan Karakteristik Hipertensi Pada Usia Dewasa Muda di Indonesia. *Tarumanagara Medical Journal*, 1(2), 395–402.
- Windri, T., Kinasih, A., & Sanubari, T. (2019). Pengaruh Aktivitas Fisik Dengan Kualitas Hidup Lansia Hipertensi Di Panti Wredha Maria Sudarsih Ambarawa. *Jurnal JMP Online*, 3(11), 1444–1451. Retrieved from <http://www.e-jurnalmitrapendidikan.com>