DESCRIPTION OF PHYSICAL ACTIVITY IN HYPERTENSION CLIENTS IN GARUT

Citra Windani Mambang Sari, Via Komalasari, Iwan Suhendar
Faculty of Nursing, Padjadjaran University
Email: citra.windani@unpad.ac.id

ABSTRACT

Hypertension is a non-communicable disease and has a risk of heart disease. Hypertension can be managed by doing physical activity. Physical activity can control blood pressure in hypertensive clients. The purpose of this research was to identify the overview of the biological activities of hypertensive clients at the Guntur Community Health Centre in Garut Regency. The research type was a quantitative descriptive with the study population of hypertensive patients who were registered at Guntur Community Health Centre. The sampling method in this research was a total sampling method, and the total number of this study was 118 hypertensive patients. This research instrument used the long form of the International Physical Activity Questionnaire with a number of 25 questions and consisted of 4 activity domains. The data were processed using the analysis of distribution frequency and percentage. The results showed as many as 100 respondents (84.7%) did a mild physical activity, and none did moderate physical activity, and as many as 18 respondents (15.3%) did a strenuous physical activity. From the research results, it can be concluded that most of the respondents did a mild physical activity. The implication of this research is to provide health education about appropriate physical activity for hypertensive clients at Guntur Health Center.

Keywords: Physical Activity, Hypertension, Self Management.

Background

Non-communicable diseases are diseases caused by individual lifestyles and unhealthy living behaviors. Non-communicable conditions include obesity, diabetes mellitus, coronary heart disease, stroke, chronic kidney disease, cancer, and hypertension (Ministry of Health, 2018). One of the diseases caused by unhealthy behavior, which is still a problem globally and in Indonesia, is hypertension. According to data from the World Health Organization (WHO), An estimated 1.13 billion people worldwide have hypertension, most (two-thirds) living in low- and middle-income countries. A review of current trends shows that the number of adults with hypertension increased from 594 million in 1975 to 1.13 billion in 2015, with the increase seen mostly in low- and middle-income countries. This increase is due mainly to a rise in hypertension risk factors in those populations (WHO, 2020).

In Indonesia, in 2013, the prevalence of hypertension occurring at ≥ 18 years of age reached 25.8%, and in 2018 there was an increase in hypertension to 34.1% (Ministry of Health, 2018). In 2016 in West Java, 790,382 people were found with hypertension, 2.46% of the total population ≥ 18 years of age from those who were examined as many as 8,029,245 people spread across 26 districts/ cities (West Java Health Office, 2016). Based on data obtained from the Garut Regency Health Office, the prevalence of hypertension based on age in Garut Regency in the 20-54 year age group is 36.5%, the 55-69 age group is 36.0%, and the period over 70 years is 14.4%, (Office, 2017).

The definition of hypertension, according to (Cardiology, Cardiology, & Association, 2018), hypertension is a condition in which a person experiences systolic blood pressure of 130 mmHg and diastolic 80 mmHg. Signs and symptoms commonly caused by hypertension sufferers can be divided into two, namely, no symptoms and joint symptoms. No symptoms mean that there are no specific symptoms that can be associated with an increase in blood pressure. Common symptoms are symptoms such as complaining of headaches, weakness, shortness of breath, and restlessness (Cardiology et al., 2018). The high incidence of hypertension occurs because various risk factors for hypertension according to the JNC-7 (Joint National Committee) can be divided into two groups, namely factors that can be modified and factors that cannot be changed, factors that can be modified include diet, alcohol consumption, physical activity. Less, smoking habits, obesity, diabetes mellitus, and psychosocial. Factors that cannot be changed are age, gender, history of hypertension, and cardiovascular disease (Chobanian et al., 2003).

Hypertension requires proper handling so that complications do not occur to other diseases such as heart failure, myocardial infarction, coronary heart disease, and kidney disease, which can eventually lead to organ damage (Cardiology et al., 2018). Research conducted by (Sariana, Destriatania, & Febry, 2015) states that handling hypertension sufferers are an effort that can be done by modifying modifiable factors (Destriatania & Febry, 2015). The management of hypertension, according to JNC-7, consists of five treatments, namely weight loss, sodium diet, physical activity, limiting alcohol consumption, and dietary Dietary Approaches to Stop Hypertension DASH (Chobanian et al., 2003). Based on research, performing resistance exercise or improving muscular strength appears to be associated with a lower incidence of hypertension (Bakker, Sui, Brellenthin, & Lee, 2018).

Lack of physical activity increases a person's risk of suffering from hypertension. People who are not active in physical activity tend to have a higher heart rate so that the heart muscle has to work harder with each contraction. The more significant and often the heart muscle pumps blood, the greater the pressure to be put on. in the arteries so that blood pressure will increase (Karim, Onibala, & Kallo, 2018). This results in the heart muscle working harder with each contraction, and the more a person enters the elderly. The physical activity will decrease, causing hypertension. The harder the heart muscle pumps blood throughout the body, the greater the pressure on the artery walls so that peripheral resistance causes an increase in blood pressure. Lack of physical activity can also increase the risk of being overweight, which will increase the risk of hypertension.

WHO (2011) states that another factor that causes hypertension is a lack of physical activity. WHO noted that inactivity is a significant risk factor for the occurrence of non-communicable diseases such as hypertension; besides that, lack of physical activity is also a significant risk factor for the fourth death in the world. Approximately 3.2 million people die every year due to a lack of physical activity. Doing physical activity can reduce the risk of increasing blood pressure because the action will widen the diameter of the blood vessels (vasodilation) and burn fat in the blood vessels of the heart, so that blood flow throughout the body is excellent. Types of physical activity that can be done include exercise, walking, gardening, working in the garden, washing clothes, and others.

Lack of physical activity increases the risk of suffering from hypertension. People who are not active in physical activity tend to have a higher heart rate, so their heart muscle has to work harder with each contraction. The bigger and more frequent the heart muscle pumps, the greater the pressure placed on the arteries so that blood pressure will increase.

According to the results of research conducted by (Pusparani, 2016), it can be seen that most respondents do not have physical activity habits, namely 36 respondents (90.0%), while respondents who have the habit of doing the physical activity are only 10.0 %. Most of the respondents who did not have a practice of activities in their spare time were 35 respondents (87.5%), while respondents who had a habit of leisure activities were five respondents (12.5%). Another study conducted found that in his research, 32 respondents did the physical activity as many as 21 people (65.5%) compared to 11 people who did not regularly do physical activity with a frequency (34.4%) (Suoth, Bidjuni, & Malara, 2014).

The highest number of hypertension sufferers in the Garut Regency occurred in the Guntur Health Center work area from January to September 2018. The number of visits per name at Guntur Health Center in 2018 as many as 1012 people, sampling in this study from October to December there were 118 people. With hypertension. Based on a preliminary survey conducted on March 23, 2018, out of 7 hypertension sufferers who were interviewed at the Guntur Health Center, three said they never did regular exercise and did not do many movements such as walking, hypertension exercise. As many as two people said they always routinely do physical activities once a week, such as walking and exercising, and two people said they routinely do physical activities such as physical activity, exercise, work, and walking.

The method used in this preliminary study was by conducting interviews with several hypertensive patients who were being treated at the Guntur Health Center related to physical activity in hypertensive patients at the Guntur Health Center, Garut Regency. Based on this background, research on the description of physical activity in hypertensive patients is very important to determine the level of physical activity in hypertensive patients. The objective of this study was to identify the description of physical activity in hypertensive patients at the Guntur Health Center, Garut Regency.

Method

This type of research used in the research was a quantitative descriptive. The population in this study were 118 patients diagnosed with hypertension at Guntur Health Center. The sampling technique used was total sampling. From each questionnaire, the respondents spent about 15 minutes. The instrument used to measure physical activity uses the International Physical Activity Questionnaire-long form (IPAQ-long form). The long-form IPAQ questionnaire is a measuring tool consisting of 25 questions used to measure physical activity, which consists of 4 activity domains. The four domains of activity are physical activity related to work (leisure-time activity), domestic and gardening (yard) activity, work-related physical activity, and transportation-related physical activity. The IPAQ questionnaire consists of 25 questions and has been translated into Indonesian by (Hastuti, 2013). The validity value of the IPAQ questionnaire is 0.477 (Saragih, 2015). The reliability value on the IPAQ questionnaire is 0.950 - 0.952. The numbers 0.950 - 0.952 indicate that the questionnaire is reliable (Hastuti, 2013). Measurements

for the identification of physical activity per domain are the cumulative results of measuring the overall physical activity. Mild if <120 MET minutes / week, moderate if 120 MET minutes / week, strenuous if 120-600 MET minutes / week.

This research that has been done uses univariate analysis. Data analysis was used to measure physical activity using the IPAQ questionnaire, which was then measured by multiplying the duration and frequency of each question, then the total number of respondents' physical activity was the sum of all domains, which were then categorized into light activity, moderate activity, and strenuous physical activity. This research was carried out after the researcher obtained ethical permission from the Ethics Committee of Padjadjaran University with letter number 419 / UN6.KEP / EC / 2019.

Result

Table 1 Frequency Distribution of Respondent Demographic Characteristics at Guntur Health Center, Garut Regency

Characteristics	Frequency(f)	Percentage (%)
Age		
26-35 yo	**4**	**3.4**
36-45 yo	**17**	**14.4**
46-55 yo	**38**	**32.2**
56-65 yo	**59**	**50.0**
Gender		
Male	**12**	**10.2**
Female	**106**	**89.8**
Occupation		
Yes	**13**	**11.0**
No	**105**	**105**
Smoking		
Yes	**17**	**12.1**
No	**101**	**72.1**
Diet		
Yes	**78**	**55.7**
No	**40**	**28.6**
Blood Pressure		
Hypertension Grade I	**46**	**32.9**
Hypertension Grade II	**50**	**35.7**
Critical Hypertension	**44**	**31.4**
Medication Compliance		
Never	**4**	**2.9**
Sometimes	**41**	**29.3**
Often	**32**	**22.9**
Always	**63**	**45.0**
Control History		
Never	**15**	**10.7**
Sometimes	**23**	**16.4**
Often	**24**	**17.1**
Always	**38**	**55.8**

Physical Activity		
Yes	**80**	**57.1**
No	**38**	**27.1**
Education Background		
Elementary	**72**	**51.4**
Junior High	**32**	**22.9**
Senior High	**13**	**9.3**
Academic	**1**	**7**

Table 2 Identification of Physical Activity in Hypertension Patients at Guntur Health Center

Characteristics	Frequency(f)	Percentage (%)
Physical Activity Work		
Low	**107**	**90.7**
Moderate	**0**	**0**
High	**11**	**9.3**
Physical Activity Transportation		
Low	**59**	**50.0**
Moderate	**12**	**10.2**
High	**46**	**39.0**
Physical Activity Work, housekeeping, family		
Low	**43**	**36.4**
Moderate	**12**	**10.2**
High	**63**	**53.4**
Physical Activity Sports		
Low	**22**	**18.2**
Moderate	**23**	**19.5**
High	**73**	**61.9**

Table 3 Identification of Physical Activity Levels in Hypertension Patients at Guntur Health Center, Garut Regency

Characteristics	Frequency(f)	Percentage (%)
Low	**100**	**84.7**
Moderate	**0**	**0**
High	**18**	**15.3**
Total	**118**	**100**

Characteristics of respondents in table 1, Table 2 identifies physical activity in hypertensive patients at the Guntur Health Center, Garut Regency. Table 3 identifies the level of physical activity at the Health Center of Guntur, Garut Regency, from a sample of 118 respondents, shows that in carrying out physical activity work, physical activity with transportation, physical activity homework, physical activity sports, and physical activity recreation are included in the mild action with a frequency of 100 people (84.7%). For moderate physical activity, a small proportion of them did not do moderate physical activity, then a small proportion of those who did heavy or high physical activity were 18 people (15.3%).

Table 4 Description of Physical Activity Levels in Hypertension Patients according to Respondent Characteristics (n = 118)

Variable	Physical Activity Level				Total
	Low		High		
	F	%	F	%	
Age					
26-35 yo	**2**	**50.0**	**2**	**50.0**	**100**
36-45 yo	**11**	**64.7**	**6**	**35.3**	**100**
46-55 yo	**33**	**86.8**	**5**	**13.2**	**100**
56-65 yo	**54**	**91.5**	**5**	**8.5**	**100**
Gender					
Male	**10**	**83.3**	**2**	**16.7**	**100**
Female	**90**	**84.9**	**16**	**16.2**	**100**
Smoking					
Yes	**13**	**76.5**	**4**	**23.5**	**100**
No	**87**	**86.1**	**14**	**13.9**	**100**
Diet					
Yes	**66**	**84.6**	**13**	**15.4**	**100**
No	**34**	**34.0**	**6**	**33.3**	**100**
Blood Pressure					
Hypertension Grade I	**31**	**86.1**	**5**	**13.9**	**100**
Hypertension Grade II	**34**	**79.1**	**9**	**10.3**	**100**
Critical Hypertension	**35**	**89.7**	**4**	**10.3**	**100**
Medication Compliance					
Never	**2**	**100.0**	**0**	**0.0**	**100**
Sometimes	**36**	**87.8**	**5**	**12.2**	**100**
Often	**24**	**77.4**	**7**	**22.6**	**100**
Always	**38**	**86.4**	**6**	**13.6**	**100**
Control History					
Never	**12**	**80.0**	**3**	**20.0**	**100**
Sometimes	**18**	**78.3**	**5**	**21.7**	**100**
Often	**48**	**85.7**	**8**	**14.3**	**100**
Always	**22**	**91.7**	**2**	**15.3**	**100**
Physical Activity					
Yes	**70**	**87.5**	**10**	**12.5**	**100**
No	**30**	**78.9**	**8**	**21.1**	**100**
Education Background					
Elementary	**62**	**86.1**	**10**	**13.9**	**100**
Junior High	**27**	**84.4**	**5**	**15.6**	**100**

Senior High	**10**	**76.9**	**3**	**23.1**	**100**
Academic	**1**	**100.0**	**0**	**100.0**	**100**

Based on table 4, at the age of 56-65 years, the respondents were mostly in light activity, mainly as many as 54 respondents (91.5%), and on the gender characteristics, it was found that almost 90 respondents (84.9%) did a low physical activity, smoking behavior was obtained The results show that those who do a low physical activity the most are respondents who do not smoke as many as 87 respondents (86.1%), then the respondents with the most blood pressure in critical hypertension are almost 35 respondents (89.7%). Doing a lot of light activity is always in the category of still nearly half as many as 38 respondents (86.4%), and for the history of control doing most of the light activities, almost half of them are 38 respondents (86.4%), for the results on the physical activity it is found that the most doing the action mild physical, namely in patients who often do physical exercise, namely partly was 70 respondents (87.5%), and the last category for doing most mild physical activity in the primary education category was mostly 62 respondents (86.1%).

Discussion

Hypertension is a disease that is often encountered in the community, which is a non-communicable disease. Still, hypertension is a chronic disease that can affect the quality of life and productivity. The results of research conducted on hypertensive patients at the Guntur Health Center, Garut Regency, obtained the characteristics of age groups, most respondents based on age were aged 55-56, mostly 59 people (50.0%) included in the late elderly. Based on research conducted found that patients who experience hypertension are more than 60-74 years old (Hasan & Syafei, 2013). This shows that the increasing age, the more risk of developing hypertension, most hypertension occurs at the age of more than 55 years, it is advisable for the elderly to regularly do elderly exercise, so that blood vessels widen and blood flow becomes normal (Chang, Fritschi, & Kim, 2013).

Based on the characteristics of the gender group, most respondents were women, as many as 106 people (89.8%). Based on research conducted, women tend to suffer from hypertension than men. In that study, 45.5% of women had hypertension, while only 33.3% of men experienced an increase in high blood pressure after menopause, namely over 45 years of age. For those who have a habit of light physical activity, efforts are made to change bad habits in the form of lack of body movement so that the energy obtained from food is not converted into fat and accumulates in the stomach and other parts of the body that can result in disease (Abaa, Polii, & Wowor, 2017).

Based on this research, it is known that many hypertensive respondents do a regular diet, which is almost 78 people (55.7%). According to WHO (2020), people with hypertension must maintain their eating behavior because it will affect blood pressure. Based on table 1 in the control history, the results are often 56 people (40.0%); this shows that hypertensive patients often control their disease. Based on table 1, in the history of doing physical activity in hypertensive patients, it was found that almost 80 people (57.1%) were active in physical activity. Based on the results of research conducted which stated that in his study, 11 people with regular exercise showed that this research. Regular activity makes blood vessels dilate so that blood flow normally, in this study, especially those who have never made a history of control, it is recommended to control blood pressure (Suoth et al., 2014).

In table 1, the characteristics of education respondents show that most of the 72 people (51.4%) have elementary and junior high school education, almost half are 32 people (22.9%). This found same with research from (Utomo, Abi Muhlisin, & Haryatun, 2013) that the primary level of education is more, which is almost half as many as 32 people (41%) where education is an effort to provide knowledge so that there is increased positive behavior change, it is hoped that the expertise and knowledge they have will expand including respondent knowledge about hypertension and can improve efforts to prevent hypertension recurrence (Utomo et al., 2013).

Based on table 2, it is found that the results of identification of the results of physical activity that are mostly carried out by respondents are 107 people (90.7%) in the light category of work activities. Based on the results of research conducted from (Atun, Siswati, & Kurdanti, 2014), the results of light physical activity are 84%. Mild physical activity is beneficial for people with hypertension, and a lack of physical activity can also increase blood pressure (Atun et al., 2014).

Based on table 2, it is found that the results of the activities of all parts include physical activity, working, transportation, doing home and family activities, and sports and recreation, totaling 100 people (84.7%), this is in line with research conducted by (Muliyati, Syam, & Sirajuddin, 2011). Some respondents have mild physical activity because some of the respondents are elderly, so they cannot do heavy physical activity, it is recommended for elderly respondents to do mild physical activity in order (Muliyati et al., 2011).

Based on the results of table 3, it is found that the most doing mild physical activity, namely the late elderly 56-65, mostly obtained as many as 54 (91.5%). This can be seen from the decline in age; the older it causes a setback so that physical activity decreases. And the results obtained according to gender in light physical activity for sex were more common in women as many as 90 (84.9%). This was due to more female patients than men, and physical activity in women was mostly done by women. Then, the mild physical activity behavior was mainly carried out by respondents with non-smoking behavior. This was indicated by the results obtained that those who did not smoke were more in mild physical activity as many as 87 (86.1%).

Based on the results of table 4, it is found that almost half of the patients who have critical hypertension are 35 people (89.7%). There are also more light activities; this happens because those who have essential hypertension cannot carry out routine activities. The results for adherence to drug drinking mostly occurred in the category always as many as 38 people (86.4%), the history of control did most of the mild physical activity this happened because patients who often checked for hypertension knew how many weeks they had to control so that the patient understood the pressure value. the blood he's had. The results of the mild activity education category were mostly carried out by patients with elementary education, mostly 62 respondents (86.1%); this was influenced by education so that hypertensive patients were less knowledgeable in physical activity.

Conclusion

The level of physical activity in hypertensive patients at the Guntur Health Center, Garut Regency, is included in low physical activity as many as 100 people (84.7%) and 18 people (15.3%) did high physical activity. Community nurses can always provide health promotion by providing health education to hypertensive patients so that they always carry out routine did physical activity. Clients are given health education on the importance of carrying out physical exercise and routinely checking blood pressure, especially for with hypertension that physical activity is significant for a healthy body and body fitness.

References

Abaa, Y. P., Polii, H., & Wowor, P. M. (2017). Gambaran Tekanan Darah, Indeks Massa Tubuh, dan Aktivitas Fisik pada Mahasiswa Kedokteran Umum Angkatan Tahun 2014. eBiomedik, 5(2).

Atun, L., Siswati, T., & Kurdanti, W. (2014). Asupan sumber natrium, rasio kalium natrium, aktivitas fisik, dan tekanan darah pasien hipertensi. Indonesian Journal of Micronutrition, 6(1), 150177.

Bakker, E. A., Sui, X., Brellenthin, A. G., & Lee, D.-c. (2018). Physical activity and fitness for the prevention of hypertension. Current opinion in cardiology, 33(4), 394-401.

Cardiology, A. C. o., Cardiology, A. C. o., & Association, A. H. (2018). 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA guideline for

the prevention, detection, evaluation, and management of high blood pressure in adults a report of the American College of Cardiology/American Heart Association Task Force on Clinical practice guidelines. Hypertension, 71(6), E13-E115.

Chang, A. K., Fritschi, C., & Kim, M. J. (2013). Sedentary behavior, physical activity, and psychological health of Korean older adults with hypertension: effect of an empowerment intervention. Research in gerontological nursing, 6(2), 81-88.

Chobanian, A. V., Bakris, G. L., Black, H. R., Cushman, W. C., Green, L. A., Izzo Jr, J. L., . . . Wright Jr, J. T. (2003). The seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure: the JNC 7 report. Jama, 289(19), 2560-2571.

Destriatania, S., & Febry, F. (2015). Faktor-faktor Risiko yang Dapat Dimodifikasi pada Kejadian Hipertensi di Desa Seri Tanjung Kecamatan Tanjung Batu. Jurnal Ilmu Kesehatan Masyarakat, 6(3).

Hasan, I., & Syafei, Z. (2013). Perbedaan Nilai Tekanan Darah Lansia dengan Hipertensi Sebelum dan Sesudah Olahraga Senam pada Lansia. Jurnal Ilmu Keperawatan, 1(1).

Hastuti, J. (2013). Anthropometry and body composition of Indonesian adults: an evaluation of body image, eating behaviours, and physical activity. Queensland University of Technology,

Karim, N. A., Onibala, F., & Kallo, V. (2018). Hubungan aktivitas fisik dengan derajat hipertensi pada pasien rawat jalan di wilayah kerja Puskesmas Tagulandang Kabupaten Sitaro. Jurnal Keperawatan, 6(1).

Ministry of Health. (2018). Basic Health Research. Retrieved from https://www.litbang.kemkes.go.id/laporan-riset-kesehatan-dasar-riskesdas/

Muliyati, H., Syam, A., & Sirajuddin, S. (2011). Hubungan pola konsumsi natrium dan kalium serta aktifitas fisik dengan kejadian hipertensi pada pasien rawat jalan di RSUP dr. Wahidin Sudirohusodo Makassar. Media Gizi Masyarakat Indonesia, 1(1), 46-51.

Office, G. H. (2017). Health Profile of Garut Regency 2017. Retrieved from

Pusparani, I. D. (2016). Gambaran Gaya Hidup pada Penderita Hipertensi di Puskesmas Ciangsana Kecamatan Gunung Putri Kabupaten Bogor. UIN Syarif Hidayatullah Jakarta: Fakultas Kedokteran dan Ilmu Kesehatan, 2016,

Saragih. (2015). UJI VALIDITAS INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE (IPAQ) VERSI INDONESIA DAN IPAQ MODIFIKASI TERHADAP PEDOMETER PADA POPULASI REMAJA DI YOGYAKARTA. Universitas Gadjah Mada,

Sariana, S., Destriatania, S., & Febry, F. (2015). Modifiable Risk Factors on Incidence of Hypertension in Seri Tanjung Village Tanjung Batu Subdistrict 2014. Jurnal Ilmu Kesehatan Masyarakat, 6(3), 58036.

Suoth, M., Bidjuni, H., & Malara, R. (2014). Hubungan gaya hidup dengan kejadian hipertensi di puskesmas kolongan kecamatan kalawat kabupaten minahasa utara. Jurnal Keperawatan, 2(1).

Utomo, P. T., Abi Muhlisin, H., & Haryatun, N. (2013). Hubungan Tingkat Pengetahuan tentang Hipertensi dengan Upaya Pencegahan Kekambuhan Hipertensi pada Lansia di Desa Blulukan Kecamatan Colomadu Kabupaten Karanganyar. Universitas Muhammadiyah Surakarta,

WHO. (2020). Hypertension. Retrieved from https://www.who.int/news-room/fact-sheets/detail/hypertension. https://www.who.int/news-room/fact-sheets/detail/hypertension