Contents lists available at iocspublisher

Science Midwifery

Journal Homepage: www.midwifery.iocspublisher.org

The Relationship Between Young Adult's Lifestyle about Hypertension in The Working Area at Bunturaja PHC Dairi

Herlina Evi Yanti Manik[1], Perak M.A. Hutagalung[2]

[1,2] DIII Nursing Dairi Poltekkes KemenKes Medan

ARTICLEINFO

Keywords:
Lifestyle, Young Aduelt, Hypertntion

ABSTRACT

One disease that is becoming a trend today is hypertension. One billion people are having problems with hypertension that triggers stroke and heart events. This study aims to determine the risk factors for the incidence of hypertension in the Work Area of Bunturaja Public Health Center, Dairi Regency in 2018. This type of research is analytic observational with a case control study design. The population of this study were all patients who visited the Bunturaja Community Health Center in 2018 and recorded in a medical record book. The study sample was patients who had hypertension and did not suffer from hypertension with a ratio of cases and controls 1: 1 consisting of 33 cases and 33 controls. Data analysis was performed with CI = 95% and using odds ratio (OR) test. The results of the Chi Square test in the case group showed that there was a significant relationship between diet and hypertension p = 0.001 and the OR = 0.6548 CI (0.206-2.076). There is a significant relationship between activity and the incidence of hypertension with a value of p = 0.000 and OR = 0.10 CI (95%) = 0.120-2.318. Smoking habits had no significant relationship with p> 0.05 (p = 0.091 and OR 1.834 (CI = 0.667-5.037). There was a significant relationship between drinking alcohol and hypertension with an OR value of 2.356 (CI = 0.413-13.449) p value <0.05, namely (0.02). There was no significant relationship between stress levels and the incidence of hypertension with a p value = 0.210 and an OR of 1.578 (0.569-4.381). It is recommended that Bunturaja Puskesmas further increase the BINDU POS (posyandu for non-communicable diseases at the age of 15-44 years) so that it is easy to detect people with hypertension, especially in young adults The need for blood pressure checks, regular medication, and living a healthy lifestyle.

E-mail:
herlinamanik076@gmail.com

1. Introduction

One disease that is becoming a trend today is hypertension. One billion people are having problems with hypertension that triggers stroke and heart events. WHO researchers estimate that as many as 9 (nine) million people die each year from diseases related to hypertension. Hypertension is a global health problem that requires attention because it can cause major death in both developed and developing countries. According to a survey conducted by the World Health Organization (WHO) in 2000, the number of world population suffering from hypertension for men is around 26.6% and women around 26.1% and it is estimated that in 2025 the number will increase to 29.2%.[1]

The prevalence of hypertension sufferers in Indonesia continues to increase. The results of the Household Health Survey (SKRT) in 2000 were 21% to 26.4% and 27.5% in 2001 and 2004. Furthermore, it is estimated to increase again to 37% in 2015 and to 42% in 2025. According to Indonesian Ministry of Health data in 2009 shows that the prevalence of hypertension is 29.6% and increased to 34.1% in 2010. (Riskesdas) 2013 shows that 25.8% of Indonesia's population has hypertension. The 2016 National Health Indicator Survey (Sirkesnas) saw this figure increase to 32.4%, this will continue to increase because of people's lifestyle factors which also increase from smoking habits, consumption of salt meat and stress factors. Basic Health Research Data Semarang City Health Office data in 2009 stated that the prevalence of hypertension was 12.85% with 2,063 cases.[2]

Prevention of hypertension can be done by exercising regularly, not smoking and drinking alcohol, a diet low in salt and fat, adequate sleep rest, and being able to process the stress experienced. Controlled hypertension can prevent complications and prevent organ damage. Lifestyle changes that can be made are maintaining body weight to keep it ideal, lowering cholesterol levels by adjusting diet, not drinking alcohol. Proper dietary regulation can lower blood pressure more rapidly and may not depend on the use of drugs.[3,4].

Early adulthood ranges from 18 years of age to about 40 years, when the physical and psychological changes accompanying reduced reproductive capacity. At this age a person has very high activity and is at the peak of his responsibility as an individual to his family and society. The lifestyle at this age is very much influenced by the environment.[5].

Contents lists available at iocspublisher

Science Midwifery

Journal Homepage: www.midwifery.iocspublisher.org

Hypertension in young adults or pre hypertension may rarely be heard in the wider community. People who assume that hypertension is only experienced by older adults. Actually, this assumption must be eliminated because hypertension can occur not only in old adults but also among young adults. The current trend shows that more pre-hypertension is found in young adults. Young adults often feel healthier so they don't realize that they have hypertension or are diagnosed when the disease begins to be followed by comorbidities. There are so many factors that influence this, considering the changing patterns of life along with the times. [6].

There is a phenomenon of increasing hypertension sufferers in young adults in Siempat Nempu District, Dairi Regency. Based on data on visits of hypertension sufferers at Bunturaja Community Health Center starting in 2016, there was an increase in patient visits with hypertension in young adults, namely 352 people in 2016 to 374 people in 2017, data in 2018 (January to October) 1006 people. Based on the age of hypertensive patients with young adults (19-44 years) in 2016 (data for October) 2 people, in 2017 there were 54 people, in 2018 (January to August) there were 371 people, the last report was in August people with age hypertension young adults there are 47 people. Even so, the number of visits did not reflect the number of sufferers because some of them went to hospitals and doctors' practices.[7].

The results of the initial survey on two people with hypertension in the age range 19-44 years, it is known that there are different lifestyles between the two even though they both have hypertension. The first hypertensive sufferer said that as a farmer he had a habit of eating rice and salted fish. In addition, he said he often ate late at night. The second hypertensive patient who worked as a civil servant said that he seldom ate salted fish at home and even had a regular diet at home, but he was unable to refuse food served at parties such as meat or when carrying out social activities in the form of alcoholic drinks such as tuak. What they both have in common are active smokers, like to drink tuak and consume meat.

Based on the above problems, a study was conducted on the relationship between the lifestyle of patients in young adults and the incidence of hypertension in the working area of the Bunturaja Community Health Center, Siempat Nempu District, Dairi Regency.

2. Method

This research includes an analytical survey with a case control design which aims to find the relationship between the dependent variable and the independent variable.The study was conducted using a case control approach, namely research that seeks to look back (backward looking) meaning that data collection starts with the effects and then traces back about the cause.The effect referred to in this study is hypertension in young adults and the causative variable is a lifestyle which consists of diet, stress, activity, smoking and alcohol.

The research was conducted in the working area PHC BunturajaDairi. The population in this study were all young adult hypertensive patients who visited PHC Bunturaja as many37 people the sampling technic was carried out by purposive sampling, namely the sample was determined based on certain criteria and the number is in accordance with the specified sample size. The sample in this study was total sampling, namely all patients diagnosed with hypertension, namely 33 people, a total of 33 people who were not hypertensive patients were used as the control group.

Data analysis used univariate and bivariate analysis. Univariate analysis is that all variables to be used in the analysis are displayed in the frequency distribution. And bivariate analysis is an analysis used to see the relationship between the dependent variable and the independent variable simultaneously by using Chi-Square statistical analysis, namely to see the size of the relationship between lifestyle (diet, stress, physical activity, smoking habits, alcohol consumption habits) and the incidence of hypertension in young adults who came to visit the Bunturaja Community Health Center, Siempat Nempu District, Dairi Regency, if the calculation of the Confidence Interval (95% CI).

Contents lists available at iocspublisher

Science Midwifery

Journal Homepage: www.midwifery.iocspublisher.org

3. Research Results and Discussion

3.1 Researchresult

a. UnivariateAnalysis

Table 1

Frequency Distribution of Characteristics of Respondents in the Case and Control Groups

Characteristic Responden	Case		Control	
	f	%	f	%
Dietary habit				
Good	7	18,9	30	81,1
Moderate	18	48,7	7	18,9
Bad	12	32,4	0	0,00
Total	**37**	**100,0**	**37**	**100,0**
Physical Activity				
Good	3	8,1	25	67,6
Moderate	10	27,0	8	21,6
Less	24	64,9	4	10,8
Total	**37**	**100,0**	**37**	**100,0**
Smoking habit				
Not Smoker	14	37,8	19	51,4
Light to moderate smoker	11	29,7	10	27,0
Heavy smoker	12	32,5	8	21,6
Total	**37**	**100,0**	**37**	**100,0**
Habit of Drinking Alcohol				
Do not consume alcohol	4	10,7	18	48,7
Consuming moderate-heavy alcohol	24	65,0	19	51,3
Heavy alcohol consumption	9	24,3	0	0
Total	**37**	**100,0**	**37**	**100,0**
Stress Level				
No stress	9	27,3	22	66,7
Moderate-Mild Stress	12	36,4	9	27,3
Heavy Stress	12	36,4	2	6,1
Total	**33**	**100,0**	**33**	**100,0**

From the table above, based on diet, most of the respondents in the case group had a moderate diet of 8 people (24.2%), while in the control group, 28 respondents (84.8%) had a good diet.Based on physical activity, most of the respondents in the case group had less physical activity, 22 people (66.7%), while in the control group, 25 respondents (75.8%) had good physical activity.Based on smoking habits, most of the respondents in the case group and control group were non-smokers, respectively 14 people (37.8%) and 25 people (67.6%).Based on the habit of drinking alcohol, most of the respondents in the case group had a habit of consuming moderate-heavy alcohol as many as 24 people (72.7%) while in the control group most of the respondents consumed moderate-heavy alcohol as well as 23 people (69.7%). Based on the stress level of the respondents, most of the case group respondents experienced moderate or mild and severe stress 16 people (36.4%), and in the control group, 22 respondents were not stressed (66.7%).

b. BivariateAnalysis

Table 2

Cross Tabulation of Diet and Hypertension in Case and Control Groups

Dietary habit	Case		Control		OR	P- Value
	f	%	f	%		
Good	7	21,2	28	84,8		
Moderate	16	48,5	5	15,2	0,654	0,001
Bad	10	30,3	0	0	(0,206-2,076)	
Total	**33**	**100,0**	**33**	**100,0**		

Based on the results of the Chi Square test found in the case group, there was a significant relationshipbetween diet and hypertension p <0.05 and the OR = 0.6548 CI (0.206-2.076).

Contents lists available at iocspublisher

Science Midwifery

Journal Homepage: www.midwifery.iocspublisher.org

Table 3
Cross tabulation of physical activity with hypertension in cases and controls

PhysicalActivity	Case		Control		OR	P -Value
	f	%	f	%		
Good	3	9,1	25	75,8	0,010	
Moderate	8	24,2	6	18,2	(0,120-2,318)	0.000
Less	22	66,7	2	6,1		
Total	**33**	**100,0**	**33**	**100,0**		

Based on the results of the Chi Square test, it was found that in the case group p <0.05, it means that there is a significant relationship between activity and the incidence of hypertension with an OR = 0.10 CI (95%) = 0.120-2.318. This means that 0.10 times good activity enhances the immunity not to have hypertension and vice versa 0.10 times bad activity to cause hypertension

Table 4
Cross tabulation of smoking habits and hypertension in cases and controls

Smoking habit	Case		Control		OR	P- Value
	f	%	f	%		
Not Smoker	13	39,4	23	69,7		
Light to moderate smoker	9	27,3	6	18,2	1,834	0,091
Heavy smoker	11	33,3	4	12,1	(0,667-5,037)	
Total	**33**	**100,0**	**33**	**100,0**		

The p value generated in Chi Square shows that there is no significant relationship with p> 0.05 (p = 0.091). When viewed from the OR value obtained, in the case group it was 1.834 (CI = 0.667-5.037), meaning that the non-smoking group would increase 1.834 times to experience hypertension.

Table 5
Cross tabulation of drinking alcohol habits and hypertension in cases and controls

Habit of Drinking Alcohol	Case		Control		OR	P-Value
	f	%	f	%		
Do not consume alcohol	2	6,1	6	18,2		
Consuming moderate-heavy alcohol	24	72,7	23	69,7	1,578	0.002
Heavy alcohol consumption	7	21,2	4	12,1	(0,569-4,381)	
Total	**33**	**100,0**	**33**	**100,0**		

The OR value in the case group was 2.356 (CI = 0.413-13.449) with a p-value <0.05 (0.002). There is a significant relationship between the habit of drinking alcohol and the incidence of hypertension.

Table 6
Cross-tabulation of Stress Levels and Hypertension in Case and Control Groups

Stress Level	Case		Control		OR	P-Value
	f	%	f	%		
No stress	9	27,3	22	66,7		
Moderate-Mild Stress	12	36,4	9	27,3	1,578 (0,569-4,381)	0,210
Heavy Stress	12	36,4	2	6,1		
Total	**33**	**100,0**	**33**	**100,0**		

Chi Square results in the case group showed that there was no significant relationship between stress levels and the incidence of hypertension with an OR value of 1.578 (0.569-4.381)

3.2 Discussion

a. Relationship between Diet and Incidence of Hypertension

The results showed that there was a significant relationship between diet and hypertension p <0.05 and the OR = 0.010 CI = 0.120-2.318. This data shows that people who have a poor diet are more at risk of developing hypertension.The results of this study were supported by Muhammadun, who stated that diet is one of the things that can influence or be a major contributor to hypertension. Preserved foods and high amounts of table salt and seasonings can increase blood pressure because they contain excess amounts of sodium.Several studies have shown that an average decrease in sodium intake of ± 1.8 grams / day can reduce systolic blood pressure of 4 mmHg and diastolic 2 mmHg in hypertensive patients. The response of changing salt intake to blood pressure varies among individuals.

b. Relationship between Physical Activity and Hypertension

Based on the results of the Chi Square test, it was found that in the case group p <0.05, it

Contents lists available at iocspublisher

Science Midwifery

Journal Homepage: www.midwifery.iocspublisher.org

means that there is a significant relationship between activity and the incidence of hypertension with an OR = 0.10 CI (95%) = 0.120-2.318. This means that 0.10 times good activity enhances the immunity not to have hypertension and vice versa 0.10 times bad activity to cause hypertension. This study is in accordance with the one conducted in India, finding that the prevalence of HST increases with decreasing levels of physical activity (p-value = 0.01). Lack of physical activity will increase the risk of developing hypertension and conversely, regular and measured physical activity can maintain blood pressure in normal conditions.

c. The Relationship between Smoking and the Incidence of Hypertension

The results showed that there was no significant relationship with p> 0.05 (p = 0.091). The results showed that there were 5 people (38.5%) who did not smoke and did not experience hypertension, and 8 people who had hypertension (61.5%). The group of light-moderate smokers who experienced hypertension was 9 people (100.0%). And the group of heavy smokers had hypertension 9 people (81.8%) and 2 people who were not hypertensive (18.2%).The control group who did not smoke but had hypertension was 2 people (8.7%), and 21 people did not experience hypertension (91.3%). 6 people (100.0%) of light-moderate smokers did not experience hypertension. And the group of heavy smokers who had hypertension 3 people (75%) and who did not have hypertension 1 person (25.0%).The absence of a relationship between smoking and the incidence of hypertension is probably due to the number of respondents who are mostly women. As we know in the culture of the people of Siempat Nempu District, it is not uncommon for a woman to smoke. Smoking activities are generally carried out by men or husbands. Even if there are, they are usually from the merchant group. The habit of women in Siempat Nempu District to get rid of boredom is to eat betel, but youth and young adults especially those who are not married don't like it that much. So that in this study, we found that female respondents in both the case and control groups were not smokers, while male respondents were generally smokers.

d. Relationship of Drinking Alcoholic Beverages with Incidence of Hypertension

The OR value in the study was obtained at 2.356 (CI = 0.413-13.449) with a p value <0.05 (0.002). There is a significant relationship between the habit of drinking alcohol and the incidence of hypertension.The results of this study are also in accordance with the research of Supentangin which shows that drinking alcoholic beverages is a risk factor for hypertension in the community in Sruni Musuk Boyolali Village (p-value 0.378> 0.05) with OR = 1.477; CI 95% 0.620 - 3.521. Thus it can be concluded that people who have the habit of consuming alcohol are at risk (1.477) times of developing hypertension than those who do not consume alcohol. The results of this study are in line with the results of the Stranges study, which concluded that alcoholic drinking is a risk factor for hypertension (OR = 1.71-2.31; 95% CI 1.11-4.86).

e. Relationship between Stress and Incidence of Hypertension

Based on the results of the study and the tabulation between the level of stress and the incidence of hypertension, the group of cases without stress had hypertension 6 people (66.7%) and 3 people without hypertension (33.3%), the group with moderate or mild stress had hypertension 9 people 75.0%) and no hypertension 3 people (25.0%), and the severe stress group who had hypertension were 11 people (91.7%) and no hypertension one person (8.3%).The control group results showed that 20 people (90.9%) were not stressed and 2 people had hypertension (9.1%). In the mild stress group, 7 people (77.8%) did not experience hypertension and 2 people (22.2%) had hypertension. And in the heavy stress group, there were two people, one had hypertension and one did not have hypertension. Chi Squar results in the case group showed that there was no significant relationship between stress levels and the incidence of hypertension with an OR value of 1.578 (0.569-4.381).

The absence of a relationship between stress and hypertension is probably due to both the case and control groups having the same problems, namely economic conditions and household problems. This can be seen from 95% of respondents who are married and the majority of respondents, both control and case, both admit to having pressure in their respective households. This is what causes stress not related to hypertension.This is different from Suhadak's opinion, who stated that stress is also closely related to hypertension. Stress is a problem that triggers hypertension where the relationship between stress and hypertension is thought to be through increased sympathetic nerve activity, which can increase blood

Contents lists available at iocspublisher

Science Midwifery

Journal Homepage: www.midwifery.iocspublisher.org

pressure intermittently (erratically). Prolonged stress can cause blood pressure to remain high. Although this has not been proven, the incidence rate in urban communities is higher than in rural areas. This can be related to the influence of stress experienced by community groups who live in cities. However, the results showed that there was no significant relationship between stress levels and the incidence of hypertension and in the control group with the incidence of hypertension with OR valuesof 3.072 and p of 0.226 (0.730- 12,937) .

4. Conclusion

a. The case group found that 2 people had a good diet and no hypertension (6.1%), and 5 people had hypertension (15.2%). Respondents with a moderate diet and no hypertension 2 people (6.1%) and 14 people who experience hypertension (42.4%). In the poor diet group, 3 people without hypertension (9.1%) and hypertension 7 people (21.2%), while in the control group with a good diet, 24 people did not experience hypertension and one with hypertension (3.0%).), respondents who had a moderate diet did not experience hypertension as many as 4 people (12.1%) and had hypertension as many as 2 people (6.1%). There were two respondents who experienced poor diet and hypertension (6.1%). Based on the results of the Chi Square test found in the case group, there was a significant relationship between diet and hypertension p <0.05 and the OR = 0.6548 CI (0.206-2.076).

b. The case group who had good physical activity as many as 3 people had hypertension (100,%), 8 people had moderate physical activity, 2 people (25.0%) were not hypertensive and 6 people (75.0%) had hypertension. Inadequate activity 5 people did not have hypertension (22.7%) and 17 people had hypertension (77.3%), while in the control group respondents with good activity had hypertension 1 person (20.0%), 24 people who were not hypertensive (96.0%). 2 people (33.3%) had moderate activity group, 4 (14.3%) did not have hypertension. And in the less activity group with hypertension 2 people (100.0%), so that there is a significant relationship between activity and the incidence of hypertension with a value of OR = 0.10 CI (95%) = 0.120-2.318.

c. There were 5 cases group who did not smoke and did not have hypertension (38.5%), and 8 people had hypertension (61.5%). The group of light-moderate smokers who experienced hypertension was 9 people (100.0%). And the group of heavy smokers had hypertension 9 people (81.8%) and 2 people who were not hypertensive (18.2%). The control group who did not smoke but had hypertension was 2 people (8.7%), and 21 people did not experience hypertension (91.3%). 6 people (100.0%) of light-moderate smokers did not experience hypertension. In the group of heavy smokers who had hypertension 3 people (75%) and 1 person who did not experience hypertension (25.0%). The p value generated in Chi Square shows that there is no significant relationship with p> 0.05 (p = 0.091).

d. The case group with the group who did not drink alcohol obtained that one person had hypertension (50%) and one person who did not have hypertension. There were 19 people who drank moderate alcohol (79.2%) and 5 people who did not have hypertension (20.8%). And in the group who consumed hypertension, 6 people (85.7%) and no hypertensin one person (14.3%). Respondents in the case group who did not drink alcohol did not experience hypertension as many as 6 people (100.0%), 18 people who consumed moderate alcohol did not have hypertension (78.3%), and consumed heavy alcohol and 4 people did not have hypertension (100%). There is a significant relationship between the habit of drinking alcohol and the incidence of hypertension.

e. The results of the study and the tabulation between stress levels and the incidence of hypertension showed that the group of cases without stress had hypertension 6 people (66.7%) and 3 people without hypertension (33.3%), the group with moderate or mild stress had hypertension 9 people (75.0%) and no hypertension 3 people (25.0%), and the severe stress group who had hypertension were 11 people (91.7%) and no hypertension one person (8.3%). The control group results showed that 20 people (90.9%) were not stressed and 2 people had hypertension (9.1%). In the mild stress group, 7 people (77.8%) did not experience hypertension and 2 people (22.2%) had hypertension. And in the heavy stress group, there were two people, one had hypertension and one did not have hypertension, so that in the case group there was no significant relationship between stress levels and the incidence of

Contents lists available at iocspublisher

Science Midwifery

Journal Homepage: www.midwifery.iocspublisher.org

hypertension.

5. References

[1] WHO. A Global Brief on Hypertension. Switzerland*:* WHO; 2013
[2] Badan Penelitian dan Pengembangan Kesehatan. Laporan hasil riset kesehatan dasar (Riskesdas) nasional2009.[dokumen di internet]. 2008 Tersedia darihttp://www.kesehatan.kebumenkab.go.id/data/lapriskesdas.pdf.
[3] Karyawan A. Waspadai Penyakit Silent Killer. [dokumen di internet]. 2009 [diunduh 20 febrauri 2015]. Tersedia dari: http://www.dexa-medica.com/images/manajemen_hipertensi.pdf
[4] Aris S. Faktor risiko hipertensi grade II pada masyarakat.[Tesis].Semarang: FKM UNDIP; 2007.
[5] Martiningsih. Faktor-faktor yang berhubungan dengan terjadinya hipertensi primer pada pasien di poliklinik penyakit dalam RSUD bima ditinjau dari perspektif keperawatan self Cacre orem. [Tesis]: Jakarta: Universitas Indonesia; 2011.
[6] Meylen S. Hubungan gaya hidup dengan kejadian hipertensi di puskesmas kolongan Kecamatan Kalawat Kabupaten Minahasa Utara. [e-journal]. 2014 [di unduh 20 Februari 2014]; Vol (2) ; halaman (1). Tersedia dari: Http://Ejournal.Unsrat.Ac.Id/Index.Php/Jkp/Article/View/4055/3571
[7] Puskesmas Bunturaja. Data kunjungan pasien. Bunturaja; 2018.
[8] Sjaifoellah. Buku ajar ilmu penyakit dalam. Jakarta: Balai Penerbit FK UI; 2002.
[9] Yogiantoro M. Hipertensi Esensial dalam Aru W, Bambang S, Idrus A, Marcellus S, Siti S (Eds) buku ajar penyakit dalam.Jilid V. Jakarta: InternaPublishing; 2009.
[10] Yusuf, Dewi YN. Gambaran perilaku penderita hipertensi dalam upaya mencegah kekambuhan penyakit hipertensi (di wilayah kerja puskesmas dulalowo kota gorontalo tahun 2013). [Skripsi]. Gorontalo : Fakultas Ilmu Keperawatan Universitas Gorontalo; 2014.
[11] Shadine, M. Mengenal penyakit hipertensi, diabetes, stroke & serangan jantung. Jakarta: Keenbooks; 2010.
[12] Abramson J, Berger A, Krumholz HM, Vaccarino V. Depression and risk of heart failure among older persons with isolated systolic hypertension. Arch Intern Med; 2001; 161(7): 1725-1730.
[13] Alwi H. *Kamus besar bahasa Indonesia.* Jakarta: Balai Pustaka; 2003.
[14] Notoatmodjo S. Metodologi penelitian kesehatan. Jakarta: PT Rineka Cipta; 2010.
[15] Maman A dan Sambas AM. Panduan praktis memahami penelitian. Bandung: CV Pustaka Setia; 2011.
[16] Andreasson S, Allebeck P, Romelsjo A, Alcohol and mortality among young man, BMJ, 1998;296: 1021-1025. (PubMed).