Contents lists available at IOCScience

Science Midwifery

journal homepage: www.midwifery.iocspublisher.org

The Effect Of Educational Dietary Approaches To Stop Hypertension On Blood Pressure Changes In The Elderly In The Work Area Of The Kutalimbaru Health Center Deli Serdang Regency In 2022

Lindawati Simorangkir[1], Agustaria Ginting[2] , Uli Veira[3]

[1,2,3]Nurses Study Program STIKes Santa Elisabeth Medan

ARTICLE INFO

Keywords:
DASH,
Blond Pressure Changes,
Elerly

ABSTRACT

Hypertension is a non-communicable disease if not controlled can lead to complications of stroke and even death. The purpose of this study was to determine the effect of dietary approaches to stop hypertension on changes in blood pressure in the elderly in the work area of the Kutalimbaru Health Center, Deli Serdang Regency in 2022. The research method used correlation with a one group pretest - posttest design. of 31 respondents, with purposive sampling technique. The data was taken directly using the observation sheet. The results of the study found that the mean pretest was 155.15 mm Hg where the standard deviation was 9.616, while the posttest mean was 147.74 mm Hg with a standard deviation of 8.835. The results of the research before and after the DASH intervention was given the Wilcoxon rank test statistical test results obtained a p value of <0.05 where the effect of DASH education on changes in blood pressure in the elderly in the working area of the Kutalimbaru Public Health Center, Deli Serdang Regency in 2022. It is hoped that the results of this study can used as material when conducting education about the DASH diet for people with hypertension when conducting research, especially the elderly at the Kutalimbaru Public Health Center, Deli Serdang Regency because many respondents did not know about the DASH diet pattern..

E-mail:
juntakuliveira@gmail.com

1. Introduction

Hypertension is a degenerative health disorder with high morbidity and mortality rates, which is one of the main risk factors for non-communicable diseases in adults in Indonesia, in addition to smoking and obesity. Hypertension is characterized by blood pressure that is higher than the normal value (systolic 140mmHg and diastolic pressure 90 mmHg)(Sefrina, 2021).

Based on the results of Riskedas in 2018, it was stated that the prevalence of hypertension in the population aged >18 years was 34.1%. From the data from the Ministry of Health, hypertension is ranked first with the number of cases reaching 185,857 (Dwi Utami et al., 2020)classified by gender, women and men, hypertension more often affects women (54.3%) who are affected by hypertension than men (45.7%). Meanwhile in the capital city of DKI Jakarta now it is 34.4 percent and in the United States more than 50 million people have hypertension. Several other countries in Asia in 2000 recorded 38.4 million sufferers and continues to increase in 2025 it is estimated to be 67.4 million people.(Nina et al., 2021). Meanwhile, the incidence of hypertension in South Nias district is quite high, namely 31.6%. Patients with hypertension in Indonesia in 2013 were ranked as the second highest cause of death in the elderly over the age of 65 years. Based on the measurement results at the age of 18 years, 25.8% were in Aceh Province (30.9%), Riau Province (30.8%), West Java (29.4%) and North Sumatra Province (29.0%) In particular, the city of Medan ranks in the top 5 in the prevalence of hypertension (Sarumaha & Diana, 2018).

Risk factors that can cause hypertension in the elderly include genetic factors such as race, gender, age. Changes in diet and unhealthy lifestyle can affect blood pressure and can reduce the risk of

disease complications. The DASH diet intervention given to hypertensive patients showed a decrease in systolic and diastolic blood pressure(Astuti et al., 2021).

Diet patterns applied to treat high blood pressure generally have supported the application of dietdietary approaches to stop hypertensionas an effective diet for managing hypertension. One of the factors that can prevent complications in hypertensive patients is dietary compliance. Kusumastuti (2014), stated that dietary compliance in hypertensive patients only reached 54.3% and the study of Runtukahu, et al (2015) showed that as many as 74% of patients adhered to the diet.

The DASH (Dietary Approaches to Stop Hypertension) diet is a diet that emphasizes increasing consumption of fruits, vegetables and low-fat dairy with a lower intake of saturated fat, total fat, and cholesterol. The DASH diet also emphasizes the importance of eating whole grains, fish, poultry, and legumes, as well as the consumption of foods in the form of red meat, sugary foods (containing simple sugars), and sugar-containing beverages in reduced amounts.(Sefrina, 2021).

Based on the initial data survey in December 2021 at the Kutalimbaru Health Center, Deli Serdang Regency, the highest number of hypertension sufferers in the Kutalimbaru Health Center work area was in Pasar X Village, namely in 2021 totaling 456 people.

Based on the explanation above, researchers are interested in conducting research with the reason to find out "The Effect of Educational Dietary Approaches To Stop Hypertension on Blood Pressure Changes in the Elderly in the Work Area of Kutalimbaru Health Center Deli Serdang Regency in 2022".

2. Methods

This type of research isQuasi Experimentaldesign with the research method of one group pretest, posttest design. This research was carried out at the Kutalimbaru Health Center, Deli Serdang Regency, which was held from April to May 2022. The population in this study were all elderly people with hypertension, totaling 456 people, with a sampling technique namely Purposive Sampling as many as 31 respondents. Analysis of the data used in this study is the Wilcoxon sign rank test.

3. Results And Discussion

Table 1.
Distribution of Respondents Frequency and Percentage Related to Hypertensive Patients in the Work Area of the Kutalimbaru Health Center, Kab. Deli Serdang 2022

Characteristics	f	%
Age		
60-74 years old	24	77.4
75-90 years old	7	22.6
Total	**31**	**100.0**

Based on table 1, from 31 respondents, 24 people (77.4%) were found aged 60-74 years and 7 people aged 75-90 years (22.6%). Then the type of respondent's characteristics based on gender is 100% female.

Table 2.
Differences in Respondents' Blood Pressure Based on Pre and Post DASH Education Interventions in the Work Area of the Kutalimbaru Health Center Deli Serdang Regency in 2022

Blood pressure	Pretest				Posttest			
	mean	SD	Min-Max	n	mean	SD	Min-Max	n
	155,16	9.616	140 -170	31	147.74	8,835	130 -170	31

Based on table 2 shows that blood pressure before DASH education, the mean is 155.16 mmHg with a standard deviation of 9.616. The lowest blood pressure score was 140 mmHg and the highest was 170 mmHg. and after education DASH was at a score of 147.74 mmHg with a standard deviation of 8.835. The lowest blood pressure score is 130 mmHg and the highest is 170 mmHg and

Contents lists available at IOCScience

Science Midwifery

journal homepage: www.midwifery.iocspublisher.org

based on the output of test statistics, it is known that the p value is 0.001 because the value of 0.001 is less than <0.05, so it can be concluded that Ha is accepted, meaning that there is a difference in the average value of blood pressure before and after, so that It can be concluded that there is an effect of DASH education on changes in blood pressure in the elderly at the Kutalimbaru Public Health Center, Deli Serdang Regency.

Table 3.
The Effect of DASH Education on Changes in Blood Pressure in the Elderly in the Work Area of the Kutalimbaru Health Center, Kab. Deli Serdang 2022

		N	Mean Rank	Sum of Ranks	P-value
Before - after being given DASH Education	Negative Ranks	18	9.50	171.00	
	Positive Ranks	0	.00	00	
	Ties	13			0.001
	Total	31			

Based on table 3, it was found that the results of the Wilcoxon statistical test obtained a value of p = 0.001 <0.05, meaning that there was an effect of DASH education with changes in pressure. Based on the results obtained by 18 respondents with lower blood pressure results after education than before education, 13 respondents with fixed blood pressure. So it can be seen that there is an effect of DASH education on changes in blood pressure.

Pre interventionEducation on dietary approaches to stop hypertension on changes in blood pressure in the elderly.

Based on the results of the study, it showed that of the 31 respondents the blood pressure before education was at a score of 155.16 with a standard deviation of 9.616 with the lowest blood pressure score being 140 mmHg and the highest 170 mmHg. Where blood pressure in the elderly is slightly higher, namely 140 to 170 mmHg this is due to changes in the cardiovascular system, where the elastic blood vessel system and arteries are reduced, causing capillary blood vessels to thicken and become stiff due to increased blood pressure in the elderly.

Based on research results(Adam, 2019)said that as a person ages, blood pressure will increase, the heart and blood vessels of the elderly experience natural changes as an aging process. In this study, age is also associated with the incidence of hypertension, due to natural changes in the body that affect the elasticity of blood vessels to decrease and decrease endurance in the elderly.

Based on the research results obtained, the food that is often consumed by respondents sometimes pays less attention to the food to be eaten. Sometimes people with hypertension do not have an appetite if their daily food is not soupy (coconut milk) and have a habit of consuming more fried foods than eating high-fiber foods. In their sports activities, hypertension sufferers say that they sometimes take a leisurely walk but don't do it regularly because they are busy and lazy. Patients also do not understand how to control their emotions, resulting in an increase in blood pressure in elderly patients.

This is in line with research(Rangkuti, 2021)**,**Consumption of foods with high fat content also affects the incidence of hypertension. Consuming foods with high fat content can increase cholesterol levelsPeople with hypertension whose blood pressure is not controlled is one of the reasons for not doing a good diet, many respondents cannot avoid the habit of consuming saturated fat, because they are used to unhealthy foods. The habit of consuming fried foods and foods that contain coconut milk has been shown to have an influence on the incidence of hypertension.

Post interventionEducation on dietary approaches to stop hypertension on changes in blood pressure in the elderly

Based on the research results obtained, after 6 treatments of DASH education using leafleat media in the elderly, it showed that from 31 respondents, blood pressure after education was obtained at a score of 147.74 with a standard deviation of 8.835 with the lowest blood pressure score being 130 mmHg and the highest 170 mmHg. Where there is a change after the DASH intervention of 7.42 this is due to the cognitive function of the elderly where the intellectual ability to receive information becomes slow. By following a healthy diet and avoiding preserved foods such as tape and sticky rice, red meat, fatty foods and coconut milk, spices such as soy sauce, shrimp paste, tomato sauce, and alcoholic beverages such as durian.

This is in line with research conducted by(Ramli & Fadhillah, 2020)Cognitive decline occurs in the elderly due to increasing age will result in anatomical changes in the elderly, such as decreased brain function so that by itself can cause a decrease in cognitive function in the elderly which slows down the thinking process in the elderly.

Based on the results obtained, changes in blood pressure that increase in the elderly can experience changes if the elderly can control their blood pressure such as changing a healthier lifestyle from an unhealthy lifestyle, and reducing the sodium or salt content in the food consumed, known as the DASH diet. which is used as a method for health. Therefore, as DASH education progresses, it can become a concept that can be applied to improve public health in understanding actions and knowledge so that the elderly better understand healthy eating patterns.

Based on the research results obtained, the provision of DASH education will increase knowledge in the elderly where changes in elderly behavior are based on the provision of DASH education which will increase knowledge in the elderly. This is because the elderly do not know what the dash diet is and after increasing knowledge of the elderly after getting to know the DASH diet they will be able to implement a healthier lifestyle than before, and the knowledge of the elderly will increase. The elderly will know what is allowed to be consumed and what foods to avoid are not good for the elderly body. In the end, the elderly will change their behavior by paying attention to healthy eating patterns for the elderly.

This is in line with research(Uliatiningsih & Fayasari, 2019), that there is a significant effect of providing DASH health education on dietary compliance in patients with hypertension with the media used in the form of leaflets given to the elderly which is also one of the factors in increasing adherence to diet leaflets containing material about the DASH Diet which will be a guide for the elderly in choosing food for the elderly to eat.

Sin line with research conducted by(Damayanti et al., 2017)about the effect of providing education with leaflet media on food intake and changes in blood pressure, that there is an effect of providing education in the form of leaflets and flashcards on changes in respondents' blood pressure. In addition to providing education, it is also necessary to look at family support from hypertensive patients, which also affects dietary compliance so that fiber and sodium intake is in accordance with the DASH diet recommendations. It is hoped that the intervention in the form of the DASH diet material can be used as educational material in other health activities such as other nutrition counseling.

The Effect of Dietary Educational Approaches to Stop Hypertension on Blood Pressure Changes in the Elderly.

Based on the research results obtained, there is an effect of education on dietary approaches to stop hypertension in the working area of the Kutalimbaru Public Health Center, Deli Serdang Regency in 2022. With increasing knowledge in the elderly and changes in healthy behavior in terms of controlling hypertension diet, there are two external and internal factors. the elderly who also affect the occurrence of changes in blood pressure such as from the intention of the elderly who want to change the diet pattern of the elderly by wanting to apply the hypertension diet pattern that has been taught in DASH education to the elderly.

The results of this study are in line with the results of the study(Daris, 2021) Hypertension can be controlled if there is a will in yourself by changing your lifestyle and obeying the recommended diet such as a low salt diet, caffeine diet, a diet of saturated fat foods, as well as doing sports, reducing weight, not smoking.

Based on the research results obtained, family support is also very helpfulThis is because most hypertension patients live with their families. Therefore, family support is needed by the elderly, because the elderly who are sick certainly need attention and affection from their closest family. If there is support from the family by providing motivation to the elderly so that there is encouragement for the elderly to achieve the desired goals. So that the motivation from the family can make the elderly to be more obedient in undergoing the DASH diet that has been taught.

This research is in line with the results of research(Nature & Jama, 2020), the elderly who have good family support is an important thing that must exist in every elderly who is sick or healthy. With family support, sick elderly people feel cared for, peaceful and loved so as to reduce the burden and psychological stress of the individual. Family members who get this will all be encouraged to follow and adhere to the diet they are living because there are those who support healing in the elderly

Based on the research results obtained, from the results of the Wilcoxon sign rank test statistic, the

Contents lists available at IOCScience

Science Midwifery

journal homepage: www.midwifery.iocspublisher.org

negative ranks value is 18 and the positive ranks is 0 which means there is a reduction before and after DASH education is given and the mean rank value has decreased by 9.50 and the sum of ranks is 171.00 so that p value < a (0.001 < 0.05). which shows that there is an effect of Dietary Approaches To Stop Hypertension Education on Blood Pressure Changes in the Elderly in the Work Area of the Kutalimbaru Health Center, Deli Serdang Regency in 2022.

This research is in line with researchAstuti (2021)The results showed that there was a difference in knowledge before and after the DASH education was carried out between the treatment group and the control group with a p value of 0.001 <0.05 and there was a difference in low salt eating habits before and after the dash education between the treatment group and the control group with a p value <0.05 which indicates a significant change in blood pressure after being given DASH education.

Based on the results of the study, it was found that the provision of dash education with leaflet media can increase knowledge in the elderly where changes in elderly behavior based on education will increase knowledge in the elderly because the elderly are less familiar with the dash diet and after being given DASH education, the knowledge of the elderly and the elderly can increase. apply to a healthier lifestyle than before being given DASH education. Knowledge of the elderly will increase, the elderly will better understand what foods can be consumed that are good for the body and what foods should be avoided that are not good for the elderly body.

This research is in line with the results of researchApriana (2017) and Rachmawati et al., (2021), stated that by providing DASH educationwhich is accompanied by the provision of leaflets has an effect on lowering blood pressure. After giving DASH education, the intervention group's systolic blood pressure was lower than the control group. The leaflet media has a very important role in providing the DASH dietary intervention to the elderly because in the leaflet media there is information about fiber and sodium intake according to the dash diet recommendation.

4. Conclusion

Based on the results of a study with a sample of 31 respondents regarding the effect of dietary approaches to stop hypertension on changes in blood pressure in the elderly in the Working Area of the Kutalimbaru Public Health Center, Deli Serdang Regency in 2022, it is concluded Prior to DASH education, blood pressure changes were 155.16 mmHg with a standard deviation of 9,616 where the lowest to highest blood pressure was 140 mmHg to 170 mmHg. After DASH education, the change in blood pressure was 147.74 mmHg with a standard deviation of 8.835 where the lowest to highest blood pressure was from 130 mmHg to 170 mmHg. Based on the results of statistical tests, it was found that there was an effect of DASH education on changes in blood pressure in the elderly at the Kutalimbaru Public Health Center, Deli Serdang Regency in 2022, where the value (p = 0.001) was smaller than = 0.05.

References

Adam, L. (2019). Determinants of Hypertension in the Elderly. Jambura Health and Sport Journal, 1(2), 82–89. https://doi.org/10.37311/jhsj.v1i2.2558

Alam, RI, & Jama, F. (2020). Analysis of Factors Affecting Non-adherence to Treatment for Elderly Patients with Hypertension in the Work Area of Pampang Health Center. JIKP Scientific Journal of Health …, 09(2), 115–125. https://stickesmu-sidrap.e-journal.id/JIKP/article/view/173

Apriana. (2017). The Relationship between the Application of the DASH (Dietary Approach to Stop Hypertension) Method and the Level of Hypertension. Designing, 15(3), 179–184.

Astuti, AP, Damayanti, D., & Ngadiarti, I. (2021). Implementation of the Dash Diet Recommendation Compared to a Low-Salt Diet Based on Nutrition Counseling on Lowering Blood Pressure in Hypertensive Patients at the North Larangan Health Center. Nutrition Indonesia, 44(1), 109–120. https://doi.org/10.36457/gizindo.v44i1.559

Damayanti, D., Hartono, AS, Zulfianto, NA, & Aminah, M. (2017). Development Of Educational Materials For Nutrition And Hypertension. SANITAS : Journal of Health Technology and Arts, 8(1), 41–47. https://doi.org/10.36525/sanitas.2017.7

Daris, H. (2021). 1) , 2) 1). 6(1), 49–57.

Dwi Utami, AP, Kurdanti, W., & Suryani, I. (2020). Boodidash (DASH Diet Booklet) Can Improve Knowledge, Fiber Intake, and Blood Pressure of Hypertension Patients at Gamping I Community Health Center. Nutrition, 22(2), 69–77. https://doi.org/10.29238/jnutri.v22i2.178

Nina, N., Calisane, P., & Lindayani, L. (2021). Effect of Self-Management Intervention on Self-Care and Blood Pressure in Hypertensive Patients. Risenology, 2018(September), 24–30.

Rachmawati, D., Sintowati, R., Lestari, N., & Agustina, T. (2021). Effect of Diet Dash (Dietary Approach To Stop Hypertension) on Blood Pressure Reduction in Hypertension Patients: Literature Study. Proceedings of The URECOL, 150–157.

Ramli, R., & Fadhillah, MN (2020). Factors Affecting Cognitive Function in the Elderly. Window of Nursing Journal, 01(01), 22–30. https://doi.org/10.33096/won.v1i1.21

Rangkuti, W. (2021). Lifestyle Associated With Hypertension Incidence. Permas Scientific Journal, 11(April), 5–6.

Sarumaha, EK, & Diana, VE (2018). Risk Factors for the Incidence of Hypertension in Young Adults at the UPTD Health Center Plus Teluk Dalam, South Nias Regency. Journal of Global Health, 1(2), 70. https://doi.org/10.33085/jkg.v1i2.3914

Sefrina, LR (2021). Journal of Work Nutrition and Productivity. 2(1), 1–7.

Uliatiningsih, R., & Fayasari, A. (2019). Effect Education of DASH DIET on Dietary Intake Adherence and Blood Pressure of Hypertension Outpatients in Rumkital Marine Cilandak. Sudirman Journal of Nutrition and Food, 3(2), 120. https://doi.org/10.20884/1.jgps.2019.3.2.1924