

## The Effect of Dash (Dietary Approaches to Stop Hypertension) Dietary Education in Controlling Blood Pressure in Hypertension Patients

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### ABSTRACT

**Background** : Hypertension or high blood pressure is an increase in systolic blood pressure of more than 140 mmHg and diastolic blood pressure of more than 90 mmHg on two measurements with an interval of five minutes in a state of sufficient rest/quiet. One of the problems that occur is the low effort to control blood pressure in hypertensive patients.

**Objective** : This study aims to analyze the effectiveness of the effect of dietary education on Dietary Approaches to Stop Hypertension (DASH) in controlling blood pressure in hypertensive patients in Blega Village, Blega Health Center Work Area, Bangkalan Regency.

**Method** : The research design used a Quasy Experiment design. The population was 298 adolescent hypertension patients in Blega Village, Blega Health Center Work Area, Bangkalan Regency with 36 samples taken, namely 18 treatments and 19 controls. with sampling technique using probability sampling with purposive sampling technique. The independent variable of this study was education about the DASH diet and the dependent variable was the effort to control blood pressure in hypertensive patients. Data collection techniques using a questionnaire on the subject to be studied. Statistical test using independent t test with ( $\alpha = 0.05$ ).

**Results** : The results showed that with the results of the independent t test, the p- value was  $0.007 < 0.05$ . It was concluded that there was a difference in blood pressure control between the treatment group that was given DASH (Dietary Approaches To Stop Hypertension) education with a booklet and the control group who was given DASH (Dietary Approaches To Stop Hypertension) education and not given a booklet in the working area of the Blega Health Center, Bangkalan Regency

**Conclusion** : Based on the results of these theories, It is recommended for hypertensive patients to increase knowledge about hypertension diet so that they can maintain and regulate a balanced diet to control their blood pressure

### KEYWORDS

Blood pressure control, DASH, hypertension

## INTRODUCTION

Hypertension based on evidence-based or consensus or epidemiological meta-analytic studies. The risk of morbidity and mortality from cardiovascular events increases when blood pressure is above the agreed normal. Hypertension is blood pressure that must always be above 140/90 mmHg. (Setiati et al, 2014).

According to (WHO) (2019), there are 1 billion people with hypertension worldwide, two-thirds of whom live in developing countries. In Indonesia, 34.11% of hypertension sufferers based on blood pressure measurements are over 18 years old, 8.8% are medically diagnosed or drug-induced, and 8.4% are medically diagnosed (Risksedas, 2018). Data on

hypertension sufferers in East Java is estimated at around 11,952,694 (East Java Health Profile, 2019). In Bangkalan, blood pressure measurements were carried out on 12,814 patients, i.e. 1.88%, 1,518 or 11.8% of the total population 682,014 with hypertension, 726 or 12.4% male and 792 or 11.1% women (DinKes, Bangkalan, 2015).

The causes of hypertension are divided into two risk factors: Modifiable factors include unhealthy lifestyles such as eating fatty and salty foods, obesity, smoking, alcohol, lack of exercise, and stress. Factors that cannot be changed such as increasing age and the aging process, gender, hypertension or family history, and certain races or ethnicities (Dewit and Kumagai, 2013 in Savitri 2021).

Hypertension can be controlled or prevented by pharmacological and non-pharmacological means. Pharmacological treatment consists of administering drugs prescribed by a doctor. Non-pharmacological therapy maintains a lifestyle, one of which is the DASH method (Mukti, 2019).

The DASH diet can help lower and control blood pressure. Applying the diet focuses on nutritious foods such as fruits and vegetables that are high in fiber and low in salt. The principle of the DASH diet is that the food consumed comes from fruits and vegetables, uses low-fat dairy products, and consumes fish, nuts and poultry that contain sufficient saturated fat (Utami, 2020).

## METHODS

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## RESULTS AND DISCUSSION

**Table 1. Based on patient characteristics**

Education	Treatment Group		Control Group	
	Frequency	Percentage	Frequency	Percentage
Elementary School	9	50.0	10	55.6
Junior High School	7	38.9	7	38.9
Bachelor Degree	2	11.1	1	5.6
Amount	9	50.0	18	100

Based on table 1 above it is known that half of the education in the treatment group had elementary-junior high school (elementary) education in the amount of 9 (50%) respondents and most of the control group

had elementary-junior high school (elementary) education in the number of 10 (55.6%) respondents.

**Table 2. Differences in blood pressure control between before and after being given DASH diet education with booklets in the treatment group**

No. Respondent	Treatment Group	
	Pre Test Score	Post Test Score
1	23	31
2	24	26
3	26	31
4	23	23
5	26	28
6	22	31
7	25	28
8	20	20
9	21	21
10	22	29
11	23	23
12	21	25
13	20	23
14	26	31
15	22	26
16	26	29
17	22	31
18	23	26
<i>Mean</i>	23.06	26.78
<i>Std. Deviation</i>	2.043	3.671
<i>Positive</i>	14	
<i>Negative</i>	0	
<i>Ties</i>	4	
<i>PValue</i>	0,000	

Source: Primary data on July 2022

Based on table 3, 18 hypertensive patients in the control group who were not given DASH diet education in hypertensive patients who were tested using Wilcoxon obtained a p-value of  $0.026 < 0.05$ . There were also positive rank 6, negative rank 0, and ties 12. So it can be concluded that there is a difference in blood pressure control between before and after being given DASH diet education and not being given a booklet in the control group at the Blega Health Center, Bangkalan Regency.

**Table 4 Differences in blood pressure control between the treatment group who were given DASH education with booklets and the control group who were given DASH education and were not given booklets**

No. Respondent	Control Group	Treatment Group
	Post Test Score	Post Test Score
1	22	31
2	27	26
3	25	31
4	24	23
5	28	28
6	24	31
7	23	28
8	22	20
9	28	21
10	22	29
11	21	23
12	22	25
13	23	23
14	26	31
15	24	26
16	23	29
17	21	31
18	25	26
<i>Mean (rata-rata)</i>	23.89	26.78
<i>Std. Deviation</i>	2.220	3.671
<i>P-Value</i>	0,007	

Source: Primary Data on July 2022

Based on table 4, 36 hypertensive patients after the independent t test obtained a p-value of  $0.007 < 0.05$ , there was a difference in blood pressure control between the treatment group who were given DASH education with booklets and the control group who were given DASH education but were not given booklets in the work area Public health center Blega Bangkalan Regency

#### 1. Differences in blood pressure control between before and after being given DASH (Dietary Approaches to Stop Hypertension) diet education with booklets in the treatment group

On the results of the study the differences in blood pressure control between before and after being given DASH (Dietary Approaches to Stop Hypertension) education with booklets in the treatment group showed

that there were differences in blood pressure control after being given DASH diet education with booklets in the treatment group at Blega Health Center Bangkalan Regency.

In the treatment group, the provision of education was carried out by explaining how to control blood pressure accompanied by providing media booklets as reinforcement material in explaining, so that the provision of education became more complete in terms of explanation and media booklets as reminders that could be read again. The media used, namely the DASH Booklet, is a small book with 24 pages or less. Content must be clear, powerful, and easy to understand. Brochure sizes are usually between 8 cm and 13 cm (Irmaviani, 2019). So that the booklet can be an option in providing health education. Changing behavior in a healthier direction through increasing skills, knowledge and changing attitudes related to lifestyle changes. Changes in health education that are expected to be implemented both at the individual and community levels and in the implementation of health programs (Nurmala, 2018). So that the booklet which is a media for health education can help in controlling blood pressure.

Research by Irmaviani (2019) is based on the results if there are differences in knowledge between hypertensive patients who are given the DASH information booklet. The methods and tools used are very accurate and are supported by observations of hypertensive patients who read the contents of the booklet.

## **2. Differences in blood pressure control between before and after being given DASH (Dietary Approaches to Stop Hypertension)**

## **diet education and not being given a booklet in the control group**

The Wilcoxon test results obtained an average value (mean) during the pre test 22.56 and post test 23.89, positive rank 6, negative rank 0, ties 12, and also obtained p-value 0.026 <0.05 there is a difference in pressure control after being given education the DASH diet without being given a booklet in the control group at the Blega Health Center, Bangkalan Regency.

In the control group, education was provided by explaining how to control blood pressure without the provision of media booklets. However, this still had an influence on the control group as it was proven that there were differences in efforts to control blood pressure after being given education on the DASH diet even without media booklets and only education.

Someone who gets information can quickly acquire new knowledge, when information is analyzed, processed and managed, what is called knowledge is created. The information received can increase as a whole, both in terms of knowledge and action. Health education is also needed to increase patient knowledge about available programs to maintain good health, especially in cases of hypertension. This shows that the level of education is not only a factor that influences a person's ability to control his blood pressure, but also the factors of interest, discipline and obedience so that a person can also control his blood pressure (Sunarti, 2019).

## **3. Differences in blood pressure control between the treatment group that was given DASH education with a booklet and the control group that was given DASH (Dietary**

### **Approaches to Stop Hypertension) education and were not given a booklet**

The results of the independent t test obtained a p-value of 0.007 <0.05, there was a difference in blood pressure control between the treatment group who were given DASH education with booklets and the control group who were given DASH education without being given booklets at the Blega Health Center, Bangkalan Regency.

The management of blood pressure was carried out in the control group and the intervention treatment was different, namely the treatment group received training with pamphlet media and the control group only received training. There was a difference in the control group that education with printed media was more effective than education without newspapers.

Apriliyani's research (2022) states that the education provided by e-booklet media has a significant effect on the knowledge and attitudes of respondents. Zulfiana's research (2018) Education through pamphlets and lectures is said to be effective in increasing respondents' knowledge

### **CONCLUSION AND RECOMMENDATION**

There were differences in blood pressure control between before and after being given DASH diet education with booklets in the treatment group in the working area of the Blega Public Health Center, Bangkalan Regency.

There were difference in blood pressure control between before and after being given DASH diet education and not being given a booklet in the control group in the working area of the Blega Public Health Center, Bangkalan Regency

There were differences in blood pressure control between the treatment group that was given DASH education with booklets and the control group that was given DASH education (without being given booklets in the working area of the Blega Health Center, Bangkalan Regency).

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