

Social Construction of Academic Staff in Order to Create Professional The Effect of Brisk Walking Exercise on Blood Pressure in Hypertension Patients at Muhammadiyah Gresik Hospital

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Abstract:

Hypertension is a serious non-communicable disease affecting many individuals, with pharmacological therapy often failing due to patients' non-compliance or difficulties in accessing medications. Non-pharmacological interventions, such as routine brisk walking, offer a viable alternative for controlling blood pressure. This study aimed to analyze the impact of brisk walking on blood pressure changes in hypertensive patients at Muhammadiyah Gresik Hospital. A quasi-experimental design with a one-group pre-posttest approach was used. The study population consisted of hypertensive patients at Muhammadiyah Gresik Hospital, with a sample size of 36 patients selected through simple random sampling. Data collection involved questionnaires and standard operating procedures (SOPs), and data analysis was performed using a paired t-test. The average blood pressure measurement before the brisk walking intervention (pretest) was 124.7 mmHg. After the intervention (posttest), the average blood pressure decreased to 120 mmHg. The paired t-test results yielded a P-value of 0.001, which is less than the significance level (α) of 0.05. This indicates that brisk walking significantly affects blood pressure changes in hypertensive patients at Muhammadiyah Gresik Hospital.

Keywords: Brisk walking, exercise, blood pressure, hypertensio

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Introduction

A condition where there is a sustained increase in blood pressure, noted in at least two visits, with a systolic pressure exceeding 140 mmHg and a diastolic pressure above 90 mmHg. The two main categories of causes of high blood pressure are primary (essential) hypertension and secondary hypertension. 90% of hypertension sufferers experience primary hypertension, or high blood pressure with no known cause, while the remaining 10% are affected by secondary hypertension, or hypertension with a known cause.

A stable increase in blood pressure during a number of tests and procedures is a symptom of hypertension (Wijaya and Putri, 2013). An unstable increase in blood pressure during several tests and procedures is a symptom of hypertension (Sumaryati, 2018).

In Indonesia, 25.8% of adults aged over 18 years have high blood pressure, and the 2018 Riskesdas study found this figure had increased to 30.9%. According to the 2018–2020 East Java

Province Health Profile, hypertension still ranks highest of non communicable disease (NCDs), accounting for 57.89% of cases in 2018, 57.87% in 2019, and 60% of cases. cases in 2020. The 2018 Riskesdas report stated that 34.1% of people aged over 18 years experienced excessive blood pressure based on measurement findings. The highest was in South Kalimantan (44.1%), and the lowest was in Papua (22.2%). Hypertension occurred in the age group 31-44 years (31.6%), age 45-54 years (45.3%), age 55-64 years (55.2%). From the prevalence of high blood pressure of 23.1%, it is known that as many as 8.8% were diagnosed with high blood pressure and 13.3% of people diagnosed with high blood pressure did not take medication and 32.3% did not regularly take medication. The results of a preliminary study conducted by researchers at the Muhammadiyah Gresik Hospital on 10 hypertension sufferers who visited, 9 people said they did not comply with any advice from health workers, such as taking medication regularly, avoiding foods high in salt, and rarely doing exercise and only 1 person complied follow the advice of health workers.

Brisk walking exercise in question is a structured exercise program that is expected to stabilize blood pressure. Brisk walking exercise doesn't require a lot of money, we just need to do exercise regularly for at least 30 minutes per day. One type of non-pharmacological therapy to help control blood pressure is to carry out routine brisk walking exercise activities. Brisk walking exercise is a form of aerobic exercise which is a moderate form of exercise for hypertensive patients using the brisk walking technique for 15 - 30 minutes at an average speed of 4 - 6 km/hour (Ita, 2017).

Methods

The design was used a quasi-experimental with a pre and post-control group design approach. The population of all patients with hypertension aged 18-45 years at the Muhammadiyah Gresik Hospital in July–August 2022 were 39 people. This research uses probability sampling with a random sampling type. The samples size were 36 respondents hypertension sufferers at the Muhammadiyah Gresik Hospital.

Results

Blood pressure measurements were taken before and after brisk walking exercise. The results of blood pressure measurements are shown in the table below :

Table 1. Pre test and post test

No	Keterangan	Tekanan darah			
		Sebelum intervensi		Setelah Intervensi	
		Jumlah	%	Jumlah	%
1	Stadium 1 (Hipertensi ringan)	0	0	15	41.7
2	Stadium 2 (Hipertensi sedang)	32	88.9	21	58.3
3	Stadium 3 (Hipertensi berat)	4	11.1	0	0
4	Stadium 4	0	0	0	0

	(Hipertensi maligna)				
Jumlah		36	100	36	100
Mean MAP (pretest)		124,7			
Mean MAP (posttest)		120			
Mean (pretest- posttest)		4,7			
P Value		0,001			

The table above shows that the majority of patients who did brisk walking exercise at Muhammadiyah Gresik Hospital MAP (pretest) for research patients was 124.7. From these results, it was found that there was a decrease in the mean posttest MAP blood pressure in research patients by 120. From the results of the paired t test with significance α (0.05), a sig (2-tailed) value was 0.001. Because the P-value is $0.001 < \alpha$ (0.05), the research hypothesis is accepted, which means there is an effect of brisk walking on blood pressure variations in hypertensive patients at Muhammadiyah Gresik Hospital.

Discussions

The mean MAP (pretest) blood pressure measurement results in research patients was 124.7. After being given the brisk walking exercise intervention, the average MAP blood pressure measurement results (posttest) in the research patients were 120. These results indicate that there was a decrease in the average MAP blood pressure in the research patients by 4.7. The results of the paired t test showed that the p value was $0.001 < \alpha$ 0.05, meaning that there was an effect of brisk walking exercise on changes in blood pressure in hypertensive patients at the Muhammadiyah Gresik Hospital. There are some patients whose MAP results increase and remain constant, this is caused by several factors such as stress, non-compliance with taking medication and dietary factors.

This is in line with research conducted by Ayuningtias and Suryani (2019) regarding the effectiveness of walking and low impact aerobic exercise in reducing blood pressure in hypertensive patients with the results of MAP (pretest) blood pressure measurements in research patients of 124.7. Another study conducted by Berlian (2019) also showed a change in the results of MAP (posttest) blood pressure measurements in research patients by 120.

Brisk walking can improve circulation and help control blood pressure as a result of maintaining heart health. Apart from that, brisk walking exercises can maintain muscle strength and stamina to perform and achieve the recommended time when doing brisk walking exercises, so that physiological changes in hypertension can decrease after brisk walking exercises. If you regularly do brisk walking in the morning or evening, you will fall asleep easily without difficulty at night because your body will feel the need to rest or is tired after exercising, and as a result the mind will be more relaxed. This can reduce anxiety, depression, fatigue, and confusion. Patients can perform brisk walking exercises using this phenomenon.

Conclusion

There is an effect of the brisk walking exercise on changes in hypertensive patients blood pressure at the Muhammadiyah Gresik Hospital. Suggestions for hypertension sufferers are they can apply the physical exercise brisk walking exercise to control blood pressure independently.

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