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EFFECTIVENESS OF HEAD AND FOOT MASSAGE ACCOMPANIED WITH SURAH AR-RAHMAN ON REDUCING HEADACHE IN HYPERTENSION PATIENTS AT PROKLAMASI HOSPITAL

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Abstract

Hypertension is often accompanied by headaches due to impaired cerebral perfusion which not only causes discomfort but can also interfere with daily activities. Therefore , non-pharmacological approaches including safe and effective complementary therapies are important to research. One of the non-pharmacological approaches known to be effective in helping relieve pain is head massage and foot massage, which can improve circulation and stimulate the nervous system for relaxation, respectively. Psychospiritual therapies such as listening to Surah Ar-Rahman have been reported to reduce stress and help the body enter a state of relaxation, which in turn can contribute to reducing pain perception. Objective this study aims to determine the effectiveness of head and foot massage accompanied by murottal Surah Ar-Rahman on reducing headaches in hypertensive patients. Method quasi-experimental design with a pretest–posttest control group involving 48 respondents (24 intervention, 24 control). Pain levels were measured using the Numeric Rating Scale (NRS). Results showed a significant reduction in pain in the intervention group (p=0.001), while in the control group it was not significant (p=0.317). Conclusion it was concluded that the combination of interventions was effective in reducing headaches.

Keywords : hypertension, headache, head massage, foot massage, murottal

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INTRODUCTION

Hypertension is a non-communicable disease often accompanied by headaches due to increased blood pressure and impaired cerebral perfusion. Data from the World Health Organization (WHO) shows that an estimated 1.13 billion people worldwide live with hypertension, meaning approximately 1 in 3 adults suffer from this condition. Approximately 1.28 billion individuals aged 30–79 years live with this condition, and nearly two- thirds of them live in low- to middle-income countries. The problem is further complicated by the fact that nearly half of sufferers are unaware that they have high blood pressure. In addition, less than 50% of cases are diagnosed and receive adequate therapy. Of all sufferers, only about one-fifth are able to achieve optimal blood pressure control. In Indonesia, according to the 2018 Basic Health Research (Riskesdas) report, the prevalence of hypertension in the population aged ≥ 18 years was 34.1%, indicating that more than one-third of Indonesian adults have high blood pressure. Regionally, West Java Province is one of the provinces with a high prevalence of hypertension, at around 39.6% of the adult population according to Riskesdas data and regional epidemiological research. Furthermore, local research data shows that the prevalence of hypertension in Karawang Regency reached around 37.5 % , indicating that more than one-third of Karawang's population also suffers from hypertension.

One of the clinical complaints frequently experienced by hypertension patients is headache, which not only causes discomfort but can also interfere with daily activities. Several studies have shown that headache is a common symptom among hypertensive patients. Purqoti et al. (2021) reported that approximately 58% of hypertensive patients experience headaches, while Ferdisa & Ernawati (2021) found that 73% of hypertensive patients reported headaches, with varying degrees of pain severity.

Untreated headaches can reduce quality of life. One of the clinical complaints frequently experienced by hypertension patients is headache, which not only causes discomfort but can also interfere with daily activities. Clinical management of headaches in hypertensive patients has so far largely relied on pharmacological therapy, which, although effective, can have side effects when used long-term. Therefore, non-pharmacological approaches, including safe and effective complementary therapies, are important to research. One non-pharmacological approach known to be effective in helping relieve pain is head and foot massage, which can improve circulation and stimulate the nervous system for relaxation, respectively. Furthermore, psychospiritual therapies such as listening to Surah Ar-Rahman have been reported to reduce stress and help the body enter a state of relaxation, which can ultimately contribute to reduced pain perception.

METHOD

Quasi-experimental research with pretest–posttest design with control group. A sample of 48 hypertensive patients with headaches was selected using purposive sampling. The intervention group received 15–20 minutes of head and foot massage accompanied by recitation of Surah Ar-Rahman, while the control group received standard care. The instrument used was the Numeric Rating Scale. Data were analyzed using the Wilcoxon and Mann–Whitney tests (α=0.05) .

RESULTS AND DISCUSSION

Table 1 Frequency Distribution of Respondents

Characteristics Respondents	Category	Group Intervention		Control Group	
		F	%	F	%

Age	19-29 Years	0	0	0	0
	30-59 Years	16	66.7	18	75.0
	44-60 Years	2	8.3	1	4.2
	>61 Years	6	25.0	5	20.8
	Total	**24**	**100**	**24**	**100**
Gender	Man	10	41.7	8	33.3
	Woman	14	58.3	16	66.7
	Total	**24**	**100**	**24**	**100**
Work	housewife	10	41.7	12	50.0
	LABORER	3	12.5	3	12.5
	TRADER	6	25.0	4	16.7
	FARMER	3	12.5	3	12.5
	EMPLOYEE	1	4.2	1	4.2
	DRIVER	1	4.2	1	4.2
	Total	**24**	**100**	**24**	**100**

The age distribution of respondents in the intervention group showed that the majority of respondents were in the 30–59 age range, namely 16 people (66.7 %). Respondents aged 44–60 years were 2 people (8.3 %), while respondents aged >61 years were 6 people (25.0%). There were no respondents in the 19–29 age group. In the control group, the majority of respondents were also in the 30–59 age range, namely 18 people (75.0 %). Respondents aged 44–60 years were 1 person (4.2 %), and respondents aged >61 years were 5 people (20.8%). Similar to the intervention group, there were no respondents in the 19–29 age group.

Based on gender, in the intervention group, the majority of respondents were female, namely 14 people (58.3 %), while there were 10 male respondents (41.7%). In the control group, there were also more female respondents than male, namely 16 people (66.7 %), while there were 8 male respondents (33.3%).

Based on occupation, in the intervention group, most of the respondents were housewives (IRT) as many as 10 people (41.7 %). Respondents who worked as traders were 6 people (25.0 %), laborers and farmers were 3 people each (12.5%), while employees and drivers were 1 person each (4.2%). In the control group, respondents' occupations were dominated by housewives, namely 12 people (50.0 %). Respondents with laborer and farmer jobs were 3 people each (12.5 %), traders were 4 people (16.7%), and employees and drivers were 1 person each (4.2%).

Table 2 Description of Pain Levels Before and After Intervention

Level Painful	NRS Score	Group Intervention		Group Control	
		Pre	Post	Pre	Post

Light	1-3	0(0%)	21(87.5%)	0(0%)	0(0%)
Currently	4-6	6(25.0%)	3(12.5%)	7(29.2%)	10(41.7%)
Heavy	7-10	18(75.0%)	0(0%)	17(70.8%)	14(58.3%)
	Total	**24(100%)**	**24(100%)**	**24(100%)**	**24(100%)**

After treatment, there was a significant decrease in headache levels in the intervention group, with 21 respondents (87.5%) in the mild pain category (NRS score 1–3) , and no more respondents with severe pain. Meanwhile, in the control group, after treatment, most respondents remained in the moderate pain category (10 respondents (41.7%) and 14 respondents (58.3%) with severe pain. No respondents with mild pain were found.

Table 3. Test of the Effectiveness of Using Head and Foot Massage Accompanied by Surah Ar-Rahman on Reducing Headaches in Hypertension Patients

Group	N	Z	P-Value
Intervention	24	-4,443	0.001
Control	24	-1,000	0.317

The results of the Wilcoxon test on headache scores before and after treatment showed that in the intervention group, a p value of 0.001 ($p < 0.05$) was obtained , while in the control group, the Wilcoxon test results showed a p value of 0.317 ($p > 0.05$). Thus, the intervention provided was proven effective in reducing headaches in hypertensive patients.

Table 4 Differences in Pain Levels Between the Intervention Group and the Control Group

Group	N	Mean Rank	Mann-Whitney University	P-Value
Intervention	24	12.50	0.000	< 0.05
Control	24	36.50	0.000	< 0.05

The results of the statistical test obtained a p value <0.05, which indicates that there is a significant difference between the intervention group and the control group.

Discussion

Distribution of respondent characteristics

The study results showed that the majority of respondents were between the ages of 30 and 59, predominantly female. This suggests that hypertension accompanied by headaches is common in productive adults. During this age period , physiological changes begin to occur in the cardiovascular system, particularly decreased blood vessel elasticity and increased peripheral vascular resistance. These changes lead to increased blood pressure that is difficult to control.

Continuous increases in blood pressure can disrupt blood flow to the brain. This disorder stimulates pain receptors in cerebral blood vessels, leading to headaches. Hasanah (2019) explains that hypertension in adults is often accompanied by headaches due to impaired cerebral perfusion. Therefore, the age characteristics of the respondents in this study were strongly associated with the onset of headaches.

This is in line with research conducted by Safitri, Sangadji, and Mizan (2018), where the majority of respondents (more than 65%) were in the middle-adult to elderly age range . Similarly, research by Arianto, Prastiwi, and Sutriningsih (2023) reported that approximately 60–70% of respondents with hypertension were aged > 45 years.

The majority of female respondents indicated that women have a higher susceptibility to headaches in hypertensive conditions. In line with research by Safitri et al. (2018) which reported that more than 60% of respondents were women. Hormonal factors, especially fluctuations in the hormone estrogen, influence blood pressure regulation and sensitivity to pain. In addition, women tend to be more susceptible to emotional stress which can worsen hypertension. Safitri (2018) stated that hormonal and psychological factors in women play a role in increasing the perception of headaches, especially in hypertension sufferers.

Based on type of work, most respondents are housewives. Household activities that are carried out routinely and repeatedly, such as taking care of the family and domestic work, are often not balanced with sufficient rest time. Continuous physical and psychological stress can lead to chronic stress. This stress increases sympathetic nervous system activity, which leads to increased blood pressure and triggers headaches. This is in line with research conducted by Safitri, Sangadji, and Mizan (2018), which reported that more than 50% of respondents with hypertension in their study were housewives. The study explained that unstructured activity patterns and domestic stress can be risk factors for worsening blood pressure control. Supported by research by Wijaya, Sugiharto, and Zulkarnain (2019) which states that emotional stress is an important factor contributing to the emergence of headaches in hypertensive patients.

The Effectiveness of Using Head and Foot Massage Accompanied by Surah Ar-Rahman for Headaches in Hypertension Patients

The results showed that after receiving head and foot massage accompanied by recitation of Surah Ar-Rahman, there was a very significant reduction in headaches in the intervention group. The percentage of severe pain decreased from 75.0 % to 0%, while mild pain increased to 87.5%. These results indicate that the majority of respondents experienced significant improvement in their pain.

Head massage plays a role in reducing head and neck muscle tension, which often increases in hypertensive patients. This is in line with research by Safitri, Sangadji, and Mizan (2018), which reported that more than 70% of respondents experienced a decrease in pain intensity after receiving head massage combined with murottal ($p < 0.05$). This is supported by research by Tarwoto (2015), which states that massage therapy can improve blood circulation, reduce muscle tension, and provide a relaxing effect that contributes to headache relief.

Foot massage also plays a significant role in reducing headaches. Stimulation of reflexology points on the soles of the feet can affect the central nervous system and increase parasympathetic nervous system activity. This is in line with research by Paneo & Muksin (2023), who stated that foot massage is effective in reducing pain levels in hypertensive patients through relaxation mechanisms and increased blood circulation. In their study, the application of foot massage showed a reduction in headache intensity from a scale of 5 to 1 in approximately 80% of respondents, indicating that non-pharmacological massage therapy can provide a relaxing and analgesic effect on hypertensive patients. In addition to reducing headaches, this therapy is also effective in lowering blood pressure. A study by Awaliah and Mochartini (2022) showed that the intervention group receiving foot massage experienced a significant decrease in systolic and diastolic blood pressure compared to the control group ($p < 0.05$) .

Supported by research by Pratiwi, Suryani, and Hidayat (2021), which showed that approximately 60% of respondents experienced a significant reduction in pain after listening to murottal ($p < 0.05$), their research suggests that massage plays a role in creating psychospiritual relaxation that supports the physiological effects of massage.

So the combination of head, foot massage and Surah Ar-Rahman has a very significant effect in reducing headaches in hypertension sufferers.

Difference in Effectiveness The Use of Head and Foot Massage Accompanied by Surah Ar-Rahman for Headaches in Hypertension Patients Between the Control Group and the Intervention Group

In the control group, although there was a slight change in pain distribution, it was not statistically significant ($p = 0.317$). The percentage of severe pain decreased only from 70.8 % to 58.3%, and there were no respondents with mild pain. This suggests that without specific intervention, headache reduction in hypertensive patients tends to be minimal.

These findings align with research by Sri Ayu Rahayu S. Paneo and Murniati Muksin (2023), which demonstrated that foot massage can reduce pain scores from 5 to 1, or by 80%, in hypertensive patients. This is supported by research by Andi Haryati Ersa (2023), who also reported that the intervention group experienced significant reductions in blood pressure and pain ($p < 0.05$) , while the control group showed no significant changes. This reinforces the finding that relaxation-based therapy has a direct effect on hemodynamic stabilization and pain perception.

Thus, the results of this study strengthen the evidence that a nursing approach that combines physical and spiritual therapy provides a more comprehensive and effective effect in reducing headaches in hypertension sufferers.

CONCLUSION

Head and foot massage accompanied by murottal Surah Ar-Rahman has been proven effective in reducing headaches in hypertensive patients and can be recommended as a non-pharmacological nursing intervention.

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