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Alhijama Related to the Decrease of Systolic Blood Pres- sure in Hypertensive Patients: Preliminary Study

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ABSTRACT
Some patients with Non-Comunicable Diseases (NCD) like hyperten- sion receive hijamah in addition to community health center treatment to support conventional treatment and maintain a stable blood pressure [1][2] Few studies have shown that hijamah lowers blood pressure in hypertensive patients, thus more research is needed. Hypertension is common and has increased over the previous decade, worsened by rising healthcare expenses in Indonesia [3] [4] [5] [6] [7]. Most hypertensive patients are productive age [8], and their quality of life is affected [9], which is harmful to the patients, their families, and public health and community welfare [10] [11] [12]. This circumstance will disturb the resilience of a nation on a national scale, as the resilience of a nation is determined by its people, which is dependent on family resilience and individual resilience [13] [12]. Hypertension is on the rise [6] [5] [7], and most patients are unaware [14]. They are youths to seniors [8] and unaware of hypertension problems [15]. They only realized they had high blood pressure after an exam [16] and CERDIK instruc- tion [17], with some taking additional steps [18]. Many hypertension sufferers use complementary methods like hijama. Some have been proven elsewhere, but clinical laboratory approaches to testing effec- tiveness are rare in Indonesia. This initial stage will verify its effects for lowering blood pressure in hypertensive individuals, allowing clinical laboratory verifica- tion. This should explain hijama therapy's success scientifically.

Keywords: Characteristics, Depression, Post Partum

INTRODUCTION
Hypertension is a prevalent condition that affects individuals globally, including in In- donesia. Moreover, there has been a discernible trend of rising cases in recent years [5] [6]. Hypertension is described as having a systolic pressure greater than 139 mmHg and/or a diastolic pressure greater than 89 mmHg, according to blood pressure measures. In addition, the data exhibited unstable fluctuations during multiple testing sessions. This is determined by various internal factors of the patient, including their adherence to control, medication, and diet [1] [17] [19], as well as external factors such as an inability to adjust to the environment, resulting in heightened stress levels [20].

Hypertensive individuals commonly utilize hijama as a complementary therapy alongside conventional treatment to achieve reduced and stabilized blood pressure [21] [22] [23] [2] [24]. Multiple studies on hijama have demonstrated favorable outcomes in certain instances of disease [25] [26]. However, in Indonesia, the availability of such study findings remains scarce. Hence, additional research is required to investigate the clinical advantages of hijama in lowering blood pressure in hypertensive individuals using a clinical-laboratory methodology.

The present study seeks to validate the therapeutic advantages associated with the decrease of blood pressure in

hypertension patients who receive hijama treatment. This research serves as a first phase preceding clinical-laboratory investigations.

RESEARCH METHOD

The study employed a quasi-experimental methodology to assess the impact of hijama therapy on hypertension patients. Blood pressure and average pulse rate were measured both before and after the patients underwent hijama therapy at the Hijamah Clinic in Surabaya. The research protocol has obtained Ethical Feasibility Approval from the Health Research Ethics Committee (KEPK) of Poltekkes Kemenkes Surabaya. The study includes patients who meet the inclusion criteria, specifically those with stage one and stage two hypertension, and excludes patients who have hypertension along with complications such as vision disturbances, paralysis, altered consciousness, and kidney failure. The participants were chosen through a random selection process and were provided with an explanation. They also signed a form indicating their informed consent. The data obtained included measurements of systolic and diastolic blood pres- sure, as well as the average pulse rate.

The data collecting equipment consists of the well calibrated OneMed-1A® digital tensiometer and an observation sheet. Before the hijama therapy, blood pressure and average pulse rate were measured. These values were obtained again 15 minutes after the patient received the hijama therapy. The protocol for assessing blood pressure and average pulse rate using a digital sphygmomanometer adheres to the standards estab- lished by the World Health Organization [27] [28]. The blood pressure data and average pulse rate were processed, characterized, and analyzed using the Wilcoxon Rank Signed Test. This test was used because the data did not follow a normal distribution. The analysis was conducted with an alpha level of 0.05.

RESULT AND DISCUSSION

The study sample comprised of 40 adult individuals who willingly consented to have their blood pressure and average heart rate assessed. Of this sample, 65% were male and 35% were female. The mean age of the group is 51.2 years with a standard deviation of 8.3. The mean weight is 69.9 kg with a standard deviation of 12, and the mean height is 162.1 cm with a standard deviation of 6.2.

Prior to the hijama procedure, the recorded measurements indicated an average sys- tolic blood pressure of 158.3 mmHg (±13.2) and an average diastolic blood pressure of 88.2 mmHg (±11.4). The average pulse rate was 83.8 beats per minute (±11.7). Follow- ing the hijama procedure, the mean systolic blood pressure was 143.5 mmHg (±14.1), the mean diastolic blood pressure was 86.6 mmHg (±8.5), and the mean pulse rate was 78.5 bpm (±10.3). Consequently, there was a reduction reported in both the systolic and diastolic blood pressure, as well as in the mean pulse rate following hijama.A compar- ison study was done to examine the impact of hijama on blood pressure and average pulse rate. Measurements were taken both before and after the hijama procedure. Due to the non-normal distribution of data across all variables, a Wilcoxon Signed Rank Test was performed to analyze the differences. A Z-score of -5.089 was found for sys- tolic blood pressure, with a p value of 0.000 (less than 0.05). The average pulse rate was found to have a Z-score of -4.001, with a p value of 0.000, which is less than 0.05. However, the findings for diastolic blood pressure were distinct, showing a Z-score of -0.684 and a p value of 0.494, which is greater than 0.05.

The findings of the difference test demonstrate that the decrease in systolic blood pressure and average pulse rate, which are both statistically significant, can be at- tributed to the impact of hijama. However, the reduction in diastolic

pressure is not statistically significant and does not suggest any influence from the hijama therapy.

Based on Table 1, it is known that the characteristics of young adults in this study are mostly at the age of 35-40 years, totaling 21 respondents (72%), and mostly in the female gender of 19 respondents (66%). At the education level, 18 respondents mostly graduated from high school (62%). Almost half had private jobs, totaling 11 respondents (38%).

Alhijama practice has a considerable impact in lowering systolic blood pressure and average pulse rate. Nevertheless, cupping therapy does not have a substantial impact on reducing diastolic blood pressure.

Alhijama, a procedure that involves cupping, incisions, or needle pricks, stimulates the skin's immune system, causing a defensive reaction in both the local area and across the body [29] [30]. Hijama has a favorable effect on vasodilation, which is facilitated by the presence of nitric oxide [31], This leads to a reduction in peripheral resistance and subsequently decreases blood pressure. Cupping therapy has been found to have a beneficial effect on lipid profiles [32], resulting in lower levels and improvement [2]. Additionally, it indirectly contributes to the reduction of blood pressure in patients with hypertension [33]. Nevertheless, the effectiveness of cupping treatment in reducing blood pressure has not been substantiated by sufficient evidence. This suggests that the decrease in diastolic blood pressure cannot be attributed significantly to cupping ther- apy. Hijama stimulation has been found to affect the sensitivity of the baroreflex, lead- ing to a decrease in average heart rate [34]. This, in turn, results in a reduction in blood pressure among hypertension patients [35].

CONCLUSION

Alhijama therapy effectively reduces systolic blood pressure in hypertensive patients, but does not have a significant impact on diastolic blood pressure or the average pulse rate. Further study is advised to bolster the existing research findings, particularly re- garding biological indicators and their mechanisms, in a more thorough manner.

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