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Effectiveness of complementary nursing "wet cupping" on low-density lipoprotein (LDL) in palliative patients with hypertension

Khoirul Latifin*, Sigit Purwanto, Antarini Idriansari

Department of Nursing, Faculty of Medicine, Universitas Sriwijaya
Jalan Palembang-Prabumulih Km. 32, Indralaya Utara, Ogan Ilir, Sumatera Selatan, Indonesia

**Corresponding author:* khoirullatifin@fk.unsri.ac.id

ABSTRACT

Background: *Nowadays, there are many people with hypertension who are not aware of it. Hypertension can be caused by various factors, based on secondary hypertension or primary hypertension. High cholesterol levels are one of the causes of increased blood pressure. Low-Density Lipoprotein (LDL) is a type of cholesterol that is not good for the body if it exceeds normal limits.*
Objectives: *This study aimed to determine the effectiveness of complementary Wet Cupping nursing on changes in LDL cholesterol levels in people with hypertension.*
Methods: *The research method used was experimental research with a pre-experimental design, namely one group pretest and posttest design. Respondents were selected using purposive sampling techniques, based on the specified inclusion criteria, totaling 16 respondents. Respondents received intervention in the form of complementary wet cupping nursing three times and this was done once a week. The instruments of this research are standard operational procedures and observation sheets for LDL measurement results.*
Results*: The results of this study state that there is a less significant effect on LDL in people with hypertension after being given complementary wet cupping treatment with a significant value of 0.717 or p-value> 0.05. Although the results of statistical tests did not show significant results, there were 56.25% of respondents who experienced a decrease in LDL.*
Conclusions:*. Wet cupping is a treatment method that has various benefits for the body's health and does not cause bad side effects after cupping. So wet cupping can be a recommended alternative therapy option for hypertension sufferers to control LDL levels by doing cupping regularly.*

KEYWORD: *hypertension; low-density lipoprotein; wet cupping;*

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INTRODUCTION

Many people are found with hypertension in society without the sufferer realizing it. Various cardiovascular and renal complaints are often found in patients with hypertensive disorders. Hypertension has a high risk and poor prognosis if left untreated, and can trigger new cardiovascular diseases. Hypertension is caused by various factors, such as unhealthy lifestyles and unhealthy food habits. An unhealthy lifestyle and eating habits can cause an increase in plaque in the blood vessels, so that the blood vessels become narrow and hard. This causes the heart to have to work hard to supply nutrients through the blood so that all systems in the body can work.

Hypertension is a condition where the patient experiences systolic blood pressure above 140 mmHg and diastolic blood pressure above 90 mmHg. Hypertension can also be interpreted as a condition where a person experiences an increase in blood pressure above normal which results in morbidity and mortality (1). High blood pressure becomes dangerous if the blood pressure is persistent because it strains the circulatory system and the organs that receive blood supply (including the heart and brain)(2).

The World Health Organization stated that 17 million deaths were caused by cardiovascular disease, and 9.4 million were due to complications from hypertension. The Ministry of Health of the Republic of Indonesia states that the prevalence of hypertension in Indonesia is 30.9% (3). Women has higher hypertension (32.9%) compared to men (28.7%). And more people living in urban areas suffer from hypertension (31.7%) compared to people living in rural areas (30.2%)(4).

The prevalence of non-communicable diseases (NCDs) in South Sumatra increased by 20% in one year. The head of the provincial health service said the number of non-communicable diseases had increased from 37% to 57%. Hypertension is the highest disease that causes stroke in society, followed by diabetes mellitus. This is caused by unhealthy living trends so that the development of this disease becomes rapid (5).

Most of the causes of hypertension are increased work of the heart, this is because a strong impulse is needed so that blood from the heart can be sent throughout the body. If a person's blood vessels are stiff and hard due to the large amount of plaque attached to them, the heart needs to work hard to pump them. One of the causes of this plaque is high cholesterol in the blood. One of the causes of this plaque is high cholesterol in the blood. One of the causes of increased blood pressure is the presence of plaque in the blood vessels, which over time becomes thicker and makes the blood vessels harder. These plaques are caused by uncontrolled cholesterol levels, so they accumulate in the blood vessels.

If cholesterol is left in the blood vessels, the longer it will stick to the blood vessels and

harden. Resulting in blood vessels that are no longer flexible, and can create blockages for the sufferer. Cholesterol consists of total cholesterol, High Density Lipoprotein (HDL), Low-Density Lipoprotein (LDL) and triglycerides.

LDL choles-terol is bad cholesterol for the body, the function of this cholesterol is to transport cholesterol throughout the body through the blood vessels. LDL cholesterol can accumu-late on the walls of the blood, especially the small blood vessels that supply food to the heart and brain (5). LDL cholesterol can cause atheroma and narrowing of blood vessels, so that over time the blood vessels become narrower and harder. LDL cholesterol tends to accumulate on artery walls, forming plaque which can trigger coronary artery disease. It is important to always pay attention to LDL levels in the blood so that the levels remain optimal at less than 100 mg/dl(6).

The solution that is often offered to control cholesterol in the blood during this time is to consume chemical and herbal medicines. This aims to control and control so that blood pressure can always be stable and complications do not occur. In the current digital era, many people are starting to reduce their consumption of medication, this could be due to non-compliance and could also be due to fear of side effects if they have to take medication continuously because they have started to care about their health through online media. So there needs to be a solution that can provide calm and comfort for hypertensive patients in carrying out complementary therapy, namely wet cupping therapy.

Cupping is the best alternative therapy option, according to several studies, apart from providing benefits for hypertension patients, cupping also has no side effects for patients. And it is very important for researchers to prove that cupping can reduce LDL cholesterol in hypertensive patients.

The description above concludes a formulation of the problem of how LDL levels in hypertensive patients before and after being given cupping treatment. And whether wet cupping can control or reduce LDL levels in hypertensive patients. The aimed of this study was to determine LDL levels before and after treatment and to analyze the effect of cupping on LDL in hypertensive patients.

MATERIALS AND METHODS

The research method used in this research is an experiment with a pre-experimental design, namely one group pretest and posttest design. This research was conducted in the working area of the Timbangan Community Health Center, North Indralaya District, Ogan Ilir Regency.

Respondents were selected using a purposive sampling technique, based on inclusion criteria which consisted of being willing to be a respondent, having hypertension, having a job in the district, and the respondent not having conditions (open infections and chicken pox, blood disorders hemophilia, hypotension, anemia, blood cancer). There were 16 respondents who met

the specified criteria. Respondents were given complemen-tary wet cupping treatment three times in three weeks. The instruments of this research are standard operating procedures and pre and post test observation sheets. Before conducting research on respondents, re-searchers received an ethics certificate with number 398-2023.

Respondents were measured for LDL before being given wet cupping, then respondents were given wet cupping three times in three weeks. After the final cupping, respondents were given the opportunity to rest for six hours, then LDL was measured again. Specific data obtained from pre-test and post-test measurements would be analyzed using the Wilcoxon test. This test was used according to the data obtained and to find out whether there were any changes after being given cupping treatment.

RESULTS AND DISCUSSION

RESULT

Distribution of Individual Characteristics

Table 1 explains that the age distribution of respondents is almost half aged 51-60 years and 31-40 years, this age is the condition most at risk for developing hypertension (7). The gender distribution of respondents was mostly men and almost half were women.

Almost half of the education distribution is at junior high school. The distribution of respondent's duration of suffering from hypertension was half <5 years and half 5-10 years. The distribution of types of food that respondents often consume is that most respondents like sweet and salty, and almost all of them often eat fatty foods.

Table 1. Distribution of individual characteristics

Characteristics	N	Percentage (%)
Age (years)		
31-40	4	25
41-50	2	12.5
51-60	7	42.75
61-70	3	18.75
Total	**16**	**100**
Gender		
Male	9	56.25
Female	7	43.75
Total	**16**	**100**
Education		
Elementary school	5	31.25
Junior high school	7	43.75
Senior high school	4	25
Total	**16**	**100**
Long suffering Hypertension		
<5 years	8	50
5-10 years	8	50
Smoking		
Yes	10	62.5
No	6	37.5
Total	**16**	**100**
Diet Sweet		
Yes	12	75
No	4	25
Total	**16**	**100**
Salty		
Yes	12	75
No	4	25
Total	**16**	**100**
Fatty		
Yes	13	81.25
No	3	18.75
Total	**16**	**100**

Table 2. Results of the wilcoxon sign rank test analysis

	n		P Value
	Pre-Post Test	%	
Negatif Ranks (Decreasing)	9	56.3	0,717
Positif Ranks (Improvement)	7	43.8	
Total	**16**	**100**	

Bivariate Analysis

Table 2 shows the analysis results of the pre test and post test values using the Wilcoxon test. The results obtained were that more than half of the respondents experienced a decrease in LDL cholesterol. So the results of the statistical test show a P value > 0.05. This means that cupping has a less significant effect on LDL cholesterol levels.

DISCUSSION

Table 1 explains the characteristics of respondents, data was taken according to various factors that can cause hypertension. Almost half of the research respondents were aged 51 to 60 years. Meanwhile, 3 people aged 41 to 50 years and 4 people aged 31 to 40 years. A theory explains that essential hypertension begins as a labile process in individuals at the end of their 30s and early 50s and gradually (settled) and then increases (7). A person who has reached the age of more than 30 years will begin to experience an increase in blood pressure, this is caused by a person's lifestyle which tends to tend to be quiet and rarely exercise. At the age of more than 30 years, blood vessels will experience hardening as a person ages.

The gender in this study consisted of 56.25% men and 43.75% women. Gender influences the occurrence of hypertension, men have a higher risk of developing hypertension than women. Research conducted by Amanda and Martin (8) on an epidemiological study of hypertensive patients, their research stated that 73.10% of men had higher hypertension than women. Almost half of the respondents' education was junior high school. Notoadmodjo explains that education influences a person's insight and way of thinking (9). Higher education means that a person will seek more information for their health. Arikunto (10) said that the higher an individual's level of education, the easier it is to obtain information and knowledge.

The results showed that the duration of suffering from hypertension was half less than 5 years and half between 5 years and 10 years knowing that they had hypertension. A person who has suffered from hypertension for a long time has two possibilities, namely that the patient will try to get as much information as possible to control his hypertension. Meanwhile, the second group is hypertensive patients who feel tired and exhausted if they have to always control and take anti-hypertension medication, thus making hypertension a bad prognosis.

Table 2 shows the less significant

effect of complementary nursing “wet cupping” on LDL cholesterol in patients with hypertension. There were 50 percent of respondents who experienced a decrease in total cholesterol after being given cupping treatment to the respondents. And 56.25% of respondents experienced a decrease in LDL cholesterol after being given wet cupping. The test results from the different test obtained a p value: 0.717, which means it is greater than 0.05, so it can be concluded that there is a less significant effect, because the error rate used is 5 percent.

The results of this study are not in line with research from Kazem farahmad (11) which found that wet cupping had a significant effect on improving lipid profiles. The results of this study are in line with research conducted by Akbar (12) on wet cupping on lipid profiles, in his research it was stated that there was no significant difference in blood cholesterol levels between before receiving wet cupping therapy and after receiving wet cupping therapy.

LDL cholesterol levels decreased by more than half of the respondents. There are several factors that can influence this, namely the existence of confounding variables in each study conducted. The confounding variables in this study were the respondents habits regarding diet and daily activities which were not controlled during the study. The respondents low level of education influences the respondent’s daily diet menu choices, and the ability to avoid types of food that can increase LDL cholesterol levels. As well as the daily activities of the respondents, most of whom are farmers and construction workers. This social status means that diet menu choices cannot be varied with menus that are healthy and meet the respondent's energy needs.

Another study stated the results at the age of 20-56 years with a sample size of 11 people, and the technique of giving cupping once, by measuring the pre-test before treatment and the post-test after 2 weeks, obtained significant results with a p value: 0.001 (13). In this research, there was a significant effect of cupping on respondents' cholesterol levels. This research is not in line with this research, in this study the respondents received complementary treatment three times in three weeks. And the results obtained by researchers were that 56.25% of respondents experienced a decrease in their cholesterol levels.

Research conducted by Niasari, Kosari and Ahmadi (14) stated that there was a substantial reduction in LDL cholesterol with a P value <0.0001 and no changes were found in serum triglycerides. Meanwhile, research conducted by Mustafa, Dawood and Al-Sabaawy (15) showed that there was a decrease in total cholesterol, LDL and there was no significant difference in serum HDL cholesterol. Another study by Abbsahar and Ahmed (16) showed that there was a decrease in LDL cholesterol before and after being given wet cupping treatment, meaning that there was a significant effect with a p value = 0.001.

Forty-three point seventy-five percent of respondents who did not experience a decline could be caused by various factors. From the results of the individual characteristics data, it was found that 81.25% of individuals frequently consumed fatty foods. The habit of consuming fatty foods can cause an increase in LDL cholesterol levels in the blood. And there were 62.5% of respondents who smoked, both men and women. Smoking can cause an increase in cholesterol because it can reduce HDL and increase LDL levels. High levels of LDL can increase cholesterol levels in smokers (17). It is possible that respondents who smoke have high cholesterol levels and have not reduced their LDL cholesterol levels after receiving wet cupping three times in three weeks.

Other research also shows a significant effect of wet cupping on reducing total cholesterol. This research was conducted on 21 respondents with a pre-post test design within one week (18). Previous research conducted by Latifin also had a less significant effect on 16 respondents who were given wet cupping, there were 50% of respondents who experienced a decrease in cholesterol and 50% did not experience a decrease (19). Other research on the effect of wet cupping on the lipid profile also showed that it had a significant reduction in LDL cholesterol levels (20).

Researchers assume that complementary cupping nursing can be a step to prevent and treat cholesterol conditions in patients with hypertension. The process of excretion or removal of material through the skin which is carried out by suction first, then a thin incision/incision is made using a lancet, after which the suction is carried out again, can be analogous to the excretion process carried out by the glomerulus in the kidney. The blood released through cupping can consist of the body's metabolic waste, free radicals, and various types of chemicals released from the interstitial fluid, including LDL or what is known as cholesterol. A limitation in this study was that the diet of hypertensive patients who were research respondents was not yet controlled.

CONCLUSION AND RECOMMENDATION

The LDL cholesterol levels of respondents who experienced a decrease after being given treatment consisted of 9 respondents or 56.25%. Meanwhile, those who did not experience a decline were 43.75%.

The results of the analytical tests carried out showed that complementary nursing “wet cupping” had a less significant effect on LDL cholesterol in hypertensive patients. For further research, it is necessary to measure changes in LDL cholesterol with each cupping and to control confounding variables, so that the effects of wet cupping can be measured optimally.

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