Original Article

An Overview of Systematic Review on Cupping Therapy: Case Study of Hypertension

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Abstract

Efforts to reduce the prevalence of hypertension, several attempts have been undertaken, one of which is cupping therapy, both wet and dry cupping. Cupping was aimed to remove blood which brings about a detrimental effect on the body and eventually shows potential cause of harm from common symptoms to those which will likely decrease health. The aim of this article was to prove that cupping became an alternative in reducing the prevalence of hypertension. The method used was a systematic review by conducting several selections until 23 articles were selected. The results obtained from the selected articles were using wet cupping (12 articles), 9 articles for cupping and 1 article did both. Hijamah cupping therapy or wet cupping provides a great opportunity as a medical treatment for better blood pressure. Therefore, effective wet cupping will likely develop baroreceptor sensitivity for lower blood pressure for elderly patients of hypertension up to 4 weeks, without serious side effects. There are articles that use participants under the age of 20 years, this indicates that this hypertension has attacked at the ages before productive, namely under 20 years.

Keywords: wet cupping, dry cupping, hypertension, systematic review.

Introduction

World Hypertension Day is observed every 17 May. In 2021, the celebration of the World Hypertension League has the theme "Measure Your Blood Pressure Accurately, Control It, Live Longer". This warning focuses on raising awareness about hypertension, especially in low-middle-income countries (World Hypertension League, 2021). Therefore, measuring blood pressure with an accurate method is very important (Lee et al., 2010, 2011). Hypertension is known by the general public as "high blood pressure" because this condition does indicate high blood pressure. Blood pressure itself can be divided into systolic pressure (pressure in the blood vessels when the heart pumps blood) and diastolic or pressure in the blood vessels when the heart is at rest (Al-Shamma & Abdil Razzaq, 2009; World Hypertension League, 2021).

Hypertension is a medical condition with high prevalence of risk of heart, brain, kidney and other diseases. Approximately 21% of the total world population is global hypertension cases, with estimated 1.28 billion adults aged 30-79 years all over the world. About 2/3 of them are from countries of lower-middle economy (Kemenkes-RI., 2021). Less than half (42%) of adults are diagnosed with hypertension and in treatment.

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In 2019, 1 out of in 4 men and 1 out of 5 women were presumed to suffer from hypertension. Based on Basic Health Research in 2018, Indonesia's prevalence of hypertension reached 34.11% in a population of >18 years old (Kemenkes-RI., 2021). As a matter of fact, one of the global targets for non-communicable diseases is to reduce hypertension prevalence by 33% between 2010 and 2030.

Each individual in the family will likely be more vulnerable to hypertension as it relates to genetic pass-on. Thus, patient of over 65 years of age with degenerative disease such as diabetes as well as kidney disorder will likely be at a higher risk of developing high blood pressure. Nevertheless, hypertension risk factors which are normally under our control come with unhealthy diets, a sedentary lifestyles, cigarette and alcohol consumption, and obesity (World Health Organization, 2019). In Indonesia, based on the results of the 2018 Basic Health Research, it was found that the prevalence of hypertension reached 34.11% in a population >18 years old (Kemenkes-RI., 2021). One of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030.

Each individual is more susceptible to hypertension if there is a family member with a history of hypertension. Besides, someone who is over 65 years old and has congenital diseases such as diabetes and kidney disorders is also at a higher risk of developing hypertension. The risk factors for hypertension that we can control can be present from an unhealthy diet, a sedentary lifestyle, cigarette and alcohol consumption, and obesity (World Health Organization, 2019). Hypertension is also known as one of the "silent killers" that sufferers often go unnoticed because they have no symptoms. However, symptoms such as dizziness, nosebleeds, abnormal heartbeat, blurred vision, and ringing in the ears may occur if hypertension is at a more severe stage. If not controlled, hypertension has the potential to cause chest pain, heart attack, stroke, and even sudden death. Therefore, routine blood pressure checks are very crucial to do as an effort to prevent hypertension and the diseases that may arise as a result.

Efforts to reduce the prevalence of hypertension, several attempts have been made, one of which is cupping therapy, both wet and dry cupping. The purpose of cupping is to remove blood from the body which is believed to damage the body and in turn has the potential to cause harm from the usual symptoms that leads to the decreased health (Adel Galal, 2014; N. Aleyeidi, 2015a; N. A. Aleyeidi et al., 2015; Hasan et al., 2014; Rahman et al., 2020; Sutriyono et al., 2019). This article is a summary and summary of all studies related to bean as a treatment for hypertension. The aim of this article was to provide guidance and assess the effectiveness of the use of cupping therapy in treating cases of hypertension.

Literatur Review

The development of cupping therapy until recently has not found a more detailed mechanism of action (Cao et al., 2012). This cupping action is carried out with the suction effect of subatmospheric pressure, increasing the blood circulation of the ferfers to increase the body's immunity (Zeng & Wang, 2016). Cupping action provides various impacts such as increased blood flow to the skin, skin's biomechanical changes, increased metabolism, and reduced inflammation. The mechanism of cupping action through microenvironment change of skin stimulation can turn into biological signals and activate the neuroendocrine immune system (Hong et al., 2012) as well as skin mechanical stress (due to subatmospheric pressure) and local anaerobic metabolism (partial O2 deficiency), as long as suction cupping can produce physiological and mechanical signals which activates or inhibit gene expression (Shaban & Ravalia, 2017).

The current trend of complementary medicine to treat hypertension is by using cupping therapy. Cupping therapy is one way of healing that is considered by the Indonesian people to be able to help lower blood pressure in people with hypertension (Kamaluddin, 2010). Cupping therapy or hijamah recommended by Rasulullah Sallallahu alaihi Wassalam, who was later recommended by Islamic doctors Cupping therapy in research by Refaat et al. (2014), illustrates that cupping therapy can be beneficial to lower blood pressure and to prevent cardiovascular disease, low LDL (Low density lipoprotein) and increased HDL (High-density lipoprotein) levels.

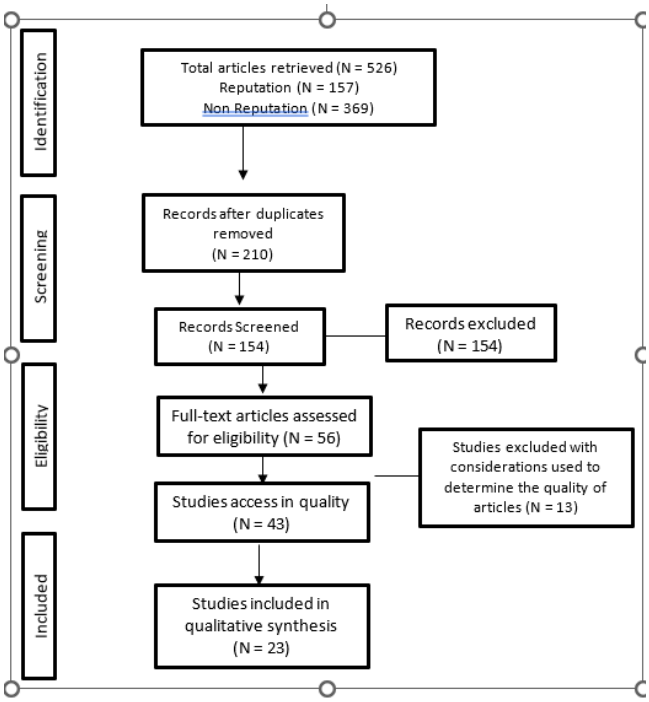
Research conducted by El Sayed et al. (2014) argue that cupping therapy has also proven that cupping therapy can significantly cleanse the blood of substances that cause disease such as serum triglycerides, total cholesterol, LDL-cholesterol, ferritin, uric acid, autoantibodies, cytokine receptors, etc. several diseases such as, hyperlipidemia, hypertension, atherosclerosis, coronary heart disease, gout, muscle pain, hepatitis, and conditions of excess iron in the blood such as thalassemia. This proves that cupping as a treatment recommended by the Prophet Muhammad Sallallahualihi Wassalam has scientifically proven benefits that can treat disease by cleansing the blood and interstitial fluid of disease-causing substances (El Sayed et al., 2013; Hasan et al., 2014).

Methods and Material

The search strategy in this article was undertaken by collecting relevant research on topic two, namely cupping and hypertension based on inclusion and exclusion criteria. First, the search for electronic databases between early August 2021 and May 2022. Systematic review was carried out by searching for articles on the website Elsevier, PubMed, Embase, Cochrane Central Register of Controlled Trials

(CENTRAL), Web of Science, China Science Journal Database (VIP), China National Knowledge Infrastructure (CNKI), Wanfang Data and China Biomedical Literature Database (CBM), from October 2021 to May 2022. The keywords used in the search were cupping (cupping), wet or dry cupping, hijamah, hypertension. Modifications were made to several possible searches for articles related to the research.

The selected articles come from reputable and non-reputable international journals, proceedings and national journals. The research team conducted independent search results (initial review) such as title, abstract, and article's keywords. The full text of selected articles should undertake in-depth review to anticipate researcher's agreements on study's inclusion or exclusion for final decision. The following is general piece of information such as participants' number, interventions, results, side effects, and main conclusions taken by researcher's team. However, the study provides a risk of bias after the authors's independent evaluation of each included study. The study comprised subgroups of different cupping therapies and intervention form to explore potential causes of heterogeneity. The subgroup analysis included: (1) different methods of cupping therapy (dry cupping or wet cupping); and (2) various types of interventions (cupping therapy alone or in combination with other active treatments). The following are the stages of article selection that have been carried out by the research team:



Results and Discussions

Descriptive characteristics of studies

All selected articles were published in English. The articles selected for further analysis, the majority discussed wet cupping (12 articles), cupping (8 articles) without specifying the type of cupping performed and wet and dry cupping (1 article). Selected articles published in 2008 (1 article), 2009 (1 article), 2014 (2 articles), 2015 (2 articles), 2017 (1 article), 2018 (1 article), 2019 (4 articles), 2020 (6 articles) and 2021 (3 articles). The full description is in table 1 below:

Table 1: the identity of the selected article

Authors	Year	Purposes	Type of Cupping
Bhikha	2008	The main objective of the three studies was to evaluate the clinical value of cupping therapy as an adjunct therapy in a number of patients with chronic disorders studied, one of which was hypertension.	Cupping
Shamma et al.	2009	To investigate the effect of prior to and post Al-Hijamah therapy on mean blood pressure (MBP) and heart rate (HR).	Cupping
Refaat et al.	2014	To measure the effects of 2-month hejamah treatment to male healthy young adults' blood pressure, blood glucose, lipid profile, serum sodium and potassium.	Wet Cupping
Hasan et al.	2014	Cupping therapy refers to therapeutic method which applies partial vacuum cups onto certain parts of the body. In Unani practice, this method is also used for hypertension treatment.	Wet Cupping
N. A. Aleyeidi et al.	2015	To evaluate the efficacy of wet cupping therapy (Hijama) on high blood pressure management among patents's of hypertension.	Wet Cupping
N. Aleyeidi	2015	To determine wet cupping's efficacy for high blood pressure, and procedural side effects in the intervention group.	Cupping
Darmawan et al.	2018	To analyze the difference of negative air pressure during the cupping to lower blood pressure of hypertensive patients.	Wet cupping
Al-Tabakha et al.	2018	To determine Hijama therapy's benefits for the	Cupping

		treatment of patients of hypertension.	
Sutriyono et al.	2019	To measure the effects of wet cupping treatment to blood pressure, blood glucose, uric acid, and total cholesterol level.	Wet Cupping
Imaningtias et al.	2019	The study aims to examine the effect differences of wet cupping therapy and dry cupping therapy at the back point of reduced blood pressure in patients of hypertension.	Wet and Dry cupping
Aditiya & Palupi	2019	The purpose of this study was to determine the effect of cupping therapy on reducing blood pressure in hypertensive patients.	Wet Cupping
Elizabeth et al.	2019	to identify the least amount but most effective with minimal cost to treat hypertension	Cupping
Rachman & Rachman	2020	To find a picture of a brief decrease in blood pressure in patients with hypertension using cupping therapy techniques.	Cupping
Fadli et al.	2020	The study aims to identify the effect of wet cupping therapy on increasing arterial baroreflex and post therapy side effects in the intervention group.	Wet Cupping
Mukhlis et al.	2020	To reveal the effect of cupping therapy on blood pressure reduction in patients of hypertension.	Cupping
Rahman et al.	2020	To observe wet cupping treatment's clinical efficacy and safety in relieving headache, chest pain and muscle pain of recently diagnosed patients of hyperlipidemia, diabetes and high blood pressure.	Wet Cupping
Setyawan et al.	2020	The study aims to determine the effectiveness and mechanism of cupping for mean arterial pressure reduction in patients of hypertension.	Cupping
Latifin et al., 2020	2020	To apply wet cupping as complementary nursing application to control hypertension during the covid-19 pandemic.	Wet Cupping
Fadli & Fatmawati	2021	The study aims to identify the effect of cupping therapy on the sensitivity of arterial baroreflex with blood pressure indicators in elderly patients of hypertension.	Wet Cupping
Syahrurama dhani et al.	2021	To identify wet cupping effect on blood pressure (BP) and total cholesterol (TC) of male healthy young adults.	Wet Cupping
Fadli et al.	2021	To reveal the effect of wet cupping therapy on baroreceptor sensitivity to blood pressure and pulse rate indicators.	Wet Cupping
Adam & Aswad	2022	The study was aimed to identify cupping therapy effect on people of hypertension	Cupping

All selected articles aim to assess the effectiveness of the use of cupping therapy, be it cupping, dry or wet cupping. The treatments carried out in all selected articles have their respective differences. However, the most common practice of cupping in the selected articles is wet cupping, namely Bassem Refaat, et. Al. (2014), Izharul Hasan, Tanwir Ahmad & Shabbir Ahmad (2014), Nouran Aleyeidi & Khaled Aseri (2015), Budi Darmawan, et al. (2017), Sutriyono, et al. (2019), Windarti, et al (2019), Fadli, et al (2020), Heshu Sulaiman et al (2020), Khoirul Latifin, et al (2020), Fadli, Fatmawati (2021), Syahruramdhani et al. (2021) and Fadli et al (2021). For wet and dry cupping, only one article was selected, namely Windi Imaningtias, et al. (2019). For articles with cupping only without differentiating wet or dry cupping are Rashid A et al (2008), Yesar MH Al-Shamma & Ali Abdil Razzaq (2009), Nouran A, et al (2015), Marta Elizabeth, et al (2019), Mochammad Erwin et al. (2020), Hamid Mukhlis et al (2020), Aris Setyawan, et al. (2020).

The next table aims to see the type of research conducted and the subjects or participants used in the selected articles. The following data are presented in table II.

Table 2: The Type of Research.

Authors	Type of Research	Subject or participant
(Bhikha, 2008)	Quantitative, experiment	n/a
(Shamma et al., 2009)	Quantitaive, Experiment	15 participants
(Refaat et al., 2014)	Quantitaive, Experiment	16 participants
(Hasan et al., 2014)	Qualitative, Case Study	1 participant

(N. A. Aleyeidi et al., 2015)	Quantitaive, Experiment	18 participants,
(N. Aleyeidi, 2015b)	Quantitative, experiment	40 samples
(Darmawan et al., 2018)	Quantitative, Quasi experiment	40 populations and 32 samples.
(Al-Tabakha et al., 2018)	Studi retrospektif, case control	60 participants.
(Sutriyono et al., 2019)	Quantitaive, Experiment	21 adult men participant.
(Imaningtias et al., 2019)	Quantitative, experiment	52 participant
(Aditiya & Palupi, 2019)	Quantitative, experiment	30 populations and 30 samples.
(Elizabeth et al., 2019)	Metode perwarnaan graf	n/a
(Rachman & Rachman, 2020)	Quantitaive	85 populations and 46 samples.
(Fadli et al., 2021)	Quantitative, experiment	21 responden.
(Mukhlis et al., 2020)	Quantitative, experiment	20 participant
(Rahman et al., 2020)	Quantitative, Quasi Experiment	36 men participants.
(Setyawan et al., 2020)	Quantitative, experiment	16 participants
(Latifin et al., 2020)	Quantitative, experiment	50 men and 50 women popluations.
(Fadli & Fatmawati, 2021)	Quantitative, Quasi-experimental	21 participants.
(Syahruramdhani et al., 2021)	Quantitative, experiment	Ada 44 dewasa
(Fadli et al., 2021)	Quantitative, experiment	31 responden.
(Adam & Aswad, 2022)	Quantitative, Quasi-experimental	13 Women, 17 Men

The majority of selected articles has mentioned that 451 subjects or participants used in cupping except for the articles Rashid A et al (2008), Izharul Hasan, Tanwir Ahmad & Shabbir Ahmad (2014) and Marta Elizabeth, et al (2019). Almost all of the selected articles are quantitative research with an experimental approach, except for Izharul Hasan, Tanwir Ahmad & Shabbir Ahmad (2014) and Marta Elizabeth, et al (2019), but Marta Elizabeth, et al (2019) uses a very different technique, namely the Method graph coloring. Moawia et al (2018) conducted a different study with retrospective and case control studies.

The next review is to find out the treatment carried out on each selected article. The following is the presentation of information related to the treatment undertaken:

Table 3: Control and intervention Groups

Authors	**Country**	**Age**	**Control Groups**	**Intervention Groups**
(Bhikha, 2008)	Germany	aged between 19 and 65 years old.	8 to the control group	A two-armed random controlled trial assigned to 10 partcipants as the intervention group
(Shamma et al., 2009)	Suadi Arabia	n.a	n.a	n.a
(Refaat et al., 2014)	India	Patients' ages of ≥ 18 and <30 years. (Principal inclusion criteria) Patients' ages of <18 years or ≥ 30 Principal exclusion criteria)	Chronic disease (Renal failure, coronary heart disease, etc.)	No chronic disease (e.g. HTN, diabetes mellitus, renal failure, etc.),
(Hasan et al., 2014)	Indonesia	46 years old	n.a	n.a
(N. A. Aleyeidi et al., 2015)	Indonesia	aged between 30 until >= 50 years old	n.a	n.a
(N. Aleyeidi, 2015b)	Indonesia	Adult human being	n.a	n.a
(Darmawan et al., 2018)	Indonesia	aged between 45 and 65 years	Mean age, the average duration of hypertension, Average Low density lipoprotein, family history of	Mean age, the average duration of hypertension, Average Low density lipoprotein, family history of heart disease, smoking history,

Authors	Country	Age	Control Groups	Intervention Groups
			heart disease, smoking history,	
(Al-Tabakha et al., 2018)	Indonesia	n.a	n.a	n.a
(Sutriyono et al., 2019)	Indonesia	Over 48 years old, Less than 48 years old	*Pre and post test as control group*	pre and post test *control group*
(Imaningtias et al., 2019)	Indonesia	45 until 55 years old	400 mbar (n=18) cupping pressure as the control group	540 mbar (*n*=18) as the intervention group
(Aditiya & Palupi, 2019)	Indonesia	26 until 65 years old	*Pre and post test as control group*	*a pre-post test control group*
(Elizabeth et al., 2019)	Indonesia	mean age was 57.6 ± 6.5 years,	*Pre and post test as control group*	*a pre-post test control group*
(Rachman & Rachman, 2020)	Indonesia	n.a	*Pre and post test as control group*	*a pre-post test control group*
(Fadli et al., 2021)	Malaysia	between the ages of 46 and 60	*Pre and post test as control group*	*a pre-post test control group*
(Mukhlis et al., 2020)	Qatar	n.a	*n.a*	*n.a*
(Rahman et al., 2020)	China	aged 40–60	Another files of 30 patients were taken from a hospital	The files of 30 patients were collected from three Hijama centers
(Setyawan et al., 2020)	South Africa	aged between 35 and 55 years	*n.a*	*n.a*
(Latifin et al., 2020)	Saudi Arabia	Aged 46 to 80 years	Random to control or experimental : 10 samples	Random to control or experimental : 10 samples
(Fadli & Fatmawati, 2021)	Indonesia	Na	53.8 (±9.5) Control Groups	52.0 (±9.4) Intervention Groups,
(Syahruramdhani et al., 2021)	Indonesia	aged 18–23 years old	control (n = 22)	intervention (n = 22) groups.
(Fadli et al., 2021)	Indonesia	ages between 25 and 50 years	control (n = 31)	intervention (n = 31) groups.
(Adam & Aswad, 2022)	Indonesia	Adolescent (17-25 Years Old) until Elderly (≥56 Years Old)	*Pre and post test as control group*	*a pre-post test control group*

Dealing with the table above, it can be seen that six articles do not perform control groups and intervention groups, namely (Shamma et al., 2009), (Hasan et al., 2014), (N. A. Aleyeidi et al., 2015), (N. Aleyeidi , 2015b), (Al-Tabakha et al., 2018), (Setyawan et al., 2020). The majority of selected articles carried out control groups and intervention groups. The ages of participants in the selected articles include: [1] under 30 years old [2] between 30 to 65 years and [3] above 65 to 80 years. However, Fadli & Fatmawati's article, 2021 did not mention the age of the participants. There are several selected articles that use participants under the age of 30 and 20 years. For the age of 30 years, the selected articles are (Bhikha, 2008), (Refaat et al., 2014), (Aditiya & Palupi, 2019) and (Fadli et al., 2021). For those under 20 years old, it shows that the selected articles are (Bhikha, 2008), (Refaat et al., 2014), (Syahruramdhani et al., 2021) and (Adam & Aswad, 2022), but there is one article that tries to select participants. under the age of 18 years (Refaat et al., 2014). With the condition of many articles that select participants under the age of 20 years, this indicates that hypertension has attacked at the ages before productive, namely under 20 years. This fact requires other actions that may be suggested to young people to have a healthy lifestyle.

After the above review related to the research objectives, cupping methods and research methods used as well as the treatments carried out, the final stage of this article is to see the research results and conclusions from each article that has passed the selection. Therefore, below is the mapping at the conclusion of each article, the following are the results of the research and the conclusions for all articles:

Table 4: The Conclusion of Research

Authors	Conclusion
(Bhikha, 2008)	The results indicated no difference between Systolic Blood Pressure vs Diastolic Blood Pressure.
(Shamma et al., 2009)	The results showed a decrease in blood pressure after treatment.
(Refaat et al., 2014)	Diastolic blood pressure, but not systolic, indicated significant decrease after therapy
(Hasan et al., 2014)	hypertension can be reduced after treatment
(N. A. Aleyeidi et al., 2015)	The results showed that cupping technique therapy can reduce blood pressure momentarily in hypertensive patients.
(N. Aleyeidi, 2015b)	In conclusion, Hejamah cupping therapy or wet cupping provides a great opportunity as medical treatment to lower blood pressure
(Darmawan et al., 2018)	Effective wet cupping therapy can increase baroreceptor sensitivity to lower elderly patients's blood pressure up to 4 weeks, without serious side effects.
(Al-Tabakha et al., 2018)	Cupping therapy has indicated effective reduction on blood pressure in patients of hypertension
(Sutriyono et al., 2019)	Blood pressure was significantly reduced more after wet cupping therapy than that of after dry cupping therapy.
(Imaningtias et al., 2019)	Cupping pressure between 400 mbar and 540 mbar indicates lower blood pressure result. However, 540 mbar cupping pressure produced a greater effect of lower blood pressure.
(Aditiya & Palupi, 2019)	Cupping therapy has indicated effective reduction on mean arterial pressure (MAP) in patients of hypertension.
(Elizabeth et al., 2019)	Wet cupping therapy indicates effective increase of baroreceptor sensitivity to reduce blood pressure of elderly patients of hypertension up to 4 weeks, without side effects.
(Rachman & Rachman, 2020)	Wet cupping as a complementary nursing application indicates a significant effect on hypertensive participants' blood pressure
(Fadli et al., 2021)	Wet cupping therapy effectively affected patients of high blood pressure
(Mukhlis et al., 2020)	there are 19 nodes is the number of possible cupping points to be cupped for hypertension.
(Rahman et al., 2020)	Hijama therapy and reduction and control of SBP in patients of hypertension have clear relationship
(Setyawan et al., 2020)	Wet cupping therapy effectively affected patients of high blood pressure
(Latifin et al., 2020)	potential adjunctive therapy in the active treatment of patients with hypertension
(Fadli & Fatmawati, 2021)	Wet cupping therapy is effective to lower systolic blood pressure in patients of hypertension up to 4 weeks, without serious side effects.
(Syahruramdhani et al., 2021)	Wet cupping is scientifically proven to lower blood pressure
(Fadli et al., 2021)	Wet cupping therapy indicates effective increase of baroreceptor sensitivity to lower blood pressure and hypertensive patients' (respondents') pulse rate up to 4 weeks after therapy, without serious side effects.
(Adam & Aswad, 2022)	Wet cupping is scientifically proven to lower blood pressure

Responding to the table above, it can be seen that most of the articles have treatment results that are able to reduce hypertension but have short-term effects. Cupping therapy has the potential to reduce hypertension in the future so that it can be used as an alternative action. The research results of Windi Imaningtias, et al. (2019) by conducting two cupping therapies at once in one study, namely dry and wet cupping, the results indicated the difference of blood pressure reduction between wet cupping therapy and dry cupping therapy. As a matter of fact, wet cupping affects hypertensive patients' blood pressure through blood volume reduce in the body. Whereas, dry cupping produces relaxation effect on the heart, kidneys, and back veins. The relaxation effect will cause blood vessels' vasodilation with previous vasoconstriction which resulted decreased blood pressure of hypertensive patients. However, blood pressure indicated more decrease in wet cupping therapy than that in dry cupping therapy. The average decrease in systolic blood pressure after wet cupping therapy was 11.54 mmHg and diastolic blood pressure was 6.15 mmHg compared to average decrease of systolic blood pressure after dry cupping therapy was 3.46 mmHg and diastolic blood pressure was 2 ,31 mmHg. Thus, wet cupping therapy indicated more effective result than dry cupping therapy in reducing hypertension. Hence, it is a potential alternative method to treate patients of hypertension.

Discussion

In this systematic study, it has shown that the majority of the research conducted was using wet cupping (12 articles), 9 articles for cupping and 1 article doing both. The purpose of the entire article is to examine the effect of cupping on blood pressure or hypertension. The results obtained showed that

there was no relationship between Systolic Blood Pressure vs Diastolic Blood Pressure after treatment, but other results showed a decrease in blood pressure shortly after treatment. More specific results showed that diastolic blood pressure, but not systolic, significantly decreased after therapy with the Mean Arterial Pressure (MAP) value which tended to decrease so that hypertension could be reduced after treatment.

Hijamah cupping therapy or wet cupping has a great opportunity to be a medical treatment to lower blood pressure. Effective wet cupping therapy increased baroreceptor sensitivity to reduce blood pressure of elderly patients of hypertension up to 4 weeks, without serious side effects. As a matter of fact, wet cupping and dry cupping indicated different effectiveness of blood pressure reduction in patients of hypertension in which wet cupping therapy shows more decreased blood pressure than that of dry cupping therapy.

Cupping therapy between 400 mbar and 540 mbar pressure can produce effective lower blood pressure. Whereas, 540 mbar cupping pressure produces even greater effect low blood pressure. As a matter of fact, wet cupping therapy indicated effective increase of baroreceptor sensitivity and systolic blood pressure which will likely reduce blood pressure of elderly patients of hypertension up to 4 weeks, without serious side effects. Wet cupping as complementary nursing application provides significant effect on participants' high blood pressure. Nineteen (19) nodes of possible cupping points number of hypertension. Overall, articles included in such a systematic review indicated that wet cupping provides more effective results than that of dry cupping in assisting people of hypertension of all ages. The number of articles that select participants under the age of 20 years, this indicates that this hypertension has attacked at the ages before productive, namely under 20 years. This fact requires other actions that may be suggested to young people to have a healthy lifestyle.

Conclusion

Global hypertension cases are estimated at 21% of the total world population or an estimated 1.28 billion adults aged 30-79 years worldwide. About 2/3 of those with hypertension come from low and middle economic countries. Less than a half (42%) of adults are diagnosed with hypertension and in treatment. As a matter of fact, in 2019, 1 out of 4 men and 1 out of 5 women were presumed to suffer from hypertension. Each individual in the family is more vulnerable to high blood pressure in case of familial medical history of hypertension. Hypertension is also known as one of the "silent killers" that sufferers often not informed due to they have no symptoms. However, symptoms such as dizziness, nosebleeds, abnormal heartbeat, blurred vision, and ringing in the ears may occur if hypertension is at a more severe stage. If not controlled, hypertension has the potential to cause chest pain, heart attack, stroke, and even sudden death. The majority of the research conducted used wet cupping (12 articles), 9 articles for cupping and 1 article did both.

Effective wet cupping therapy can increase baroreceptor sensitivity to reduce elderly patients' high blood pressure up to 4 weeks, without serious side effects. As a matter of fact, wet cupping and dry cupping indicated different effectiveness of blood pressure reduction in patients of hypertension in which wet cupping therapy shows more decreased blood pressure than that of dry cupping therapy. The presence of participants under the age of 20 years, this indicates that hypertension has attacked at the ages before productive, namely under 20 years. This fact requires other actions that may be suggested to young people to have a healthy lifestyle.

References

1. Adam, L., & Aswad, A. (2022). EFFECT OF CUPPING THERAPY ON THE BLOOD PRESSURE OF PEOPLE WITH HYPERTENSION IN THE WORKING AREA OF CENTRAL CITY HEALTH CENTER GORONTALO CITY 2020. 8.
2. Adel Galal, B. R. (2014). Islamic Wet Cupping and Risk Factors of Cardiovascular Diseases: Effects on Blood Pressure, Metabolic Profile and Serum Electrolytes in Healthy Young Adult Men. Alternative & Integrative Medicine, 03(01). https://doi.org/10.4172/2327-5162.1000151
3. Aditiya, N. S., & Palupi, D. L. (2019). The Effect of Wet Therapy on Blood Pressure Reduction in Hypertension Patients in the Clinic Bekam Lahtahzaan Karanganyar. International Conference Health, Science And Technology (ICOHETECH).
4. Aleyeidi, N. (2015a). The Efficacy of Wet Cupping on Blood Pressure among Hypertension Patients in Jeddah, Saudi Arabia: A Randomised Controlled Trial Pilot Study. Alternative & Integrative Medicine, 04(01). https://doi.org/10.4172/2327-5162.1000183
5. Aleyeidi, N. (2015b). The Efficacy of Wet Cupping on Blood Pressure among Hypertension Patients in Jeddah, Saudi Arabia: A Randomised Controlled Trial Pilot Study. Alternative & Integrative Medicine, 04(01). https://doi.org/10.4172/2327-5162.1000183
6. Aleyeidi, N. A., Aseri, K. S., Matbouli, S. M., Sulaiamani, A. A., & Kobeisy, S. A. (2015). Effects of wet-cupping on blood pressure in hypertensive patients: A randomized controlled trial. Journal of Integrative Medicine, 13(6), 391–399. https://doi.org/10.1016/S2095-4964(15)60197-2
7. Al-Shamma, Y. M., & Abdil Razzaq, A. (2009). Al-Hijamah cupping therapy. Kufa Med J, 12(1), 49–56.
8. Al-Tabakha, M., Sameer, F., Saeed, M., Batran, R., Abouhegazy, N., & Farajallah, A. (2018). Evaluation of bloodletting cupping therapy in the management of hypertension. Journal of Pharmacy And Bioallied Sciences, 10(1), 1. https://doi.org/10.4103/jpbs.JPBS_242_17
9. Bhikha, R. A. (2008). PILOT RESEARCH PROJECT CONDUCTED AT THE UNIVERSITY OF WESTERN CAPE THERAPEUTIC CUPPING AS ADJUNCTIVE THERAPY IN THE TREATMENT OF DIABETES, HYPERTENSION AND OSTEOARTHIRITIS. Evaluation and Program Planning.
10. Cao, H., Li, X., & Liu, J. (2012). An updated review of the efficacy of cupping therapy. PloS One, 7(2), e31793.
11. Darmawan, B., Fatmasari, D., & Pujiast, Rr. S. E. (2018). Negative Air Pressure on Wet Cupping in Decreasing Blood Pressures in Hypertensive Patients. Nurse Media Journal of Nursing, 7(2), 116. https://doi.org/10.14710/nmjn.v7i2.15177
12. El Sayed, S. M., Al-quliti, A.-S., Mahmoud, H. S., Baghdadi, H., Maria, R. A., Nabo, M. M. H., & Hefny, A. (2014). Therapeutic benefits of Al-hijamah: In light of modern medicine and prophetic medicine. American Journal of Medical and Biological Research, 2(2), 46–71.

13. El Sayed, S. M., Mahmoud, H. S., & Nabo, M. M. H. (2013). Methods of wet cupping therapy (Al-Hijamah): In light of modern medicine and prophetic medicine. Alternative & Integrative Medicine, 1–16.
14. Elizabeth, M. a/p, Yusof, Y. B., Bin Mohamad, M. S., Abu Bakar, M. F., & Ibrahim, M. A. (2019). Efficacy of Cupping in the Treatment of Hypertension Disease Using Graph Colouring. Journal of Physics: Conference Series, 1366(1), 012044. https://doi.org/10.1088/1742-6596/1366/1/012044
15. Fadli, F., & Fatmawati, F. (2021). Wet Cupping Therapy to The Arterial Baroreflex Sensitivity on Hypertensive Elderly. Jurnal Kesehatan Masyarakat, 17(1), 102–108. https://doi.org/10.15294/kemas.v17i1.24802
16. Fadli, F., Sumbara, S., Pelawi, A. M. P., Suratun, S., & Baharuddin, R. (2021). The Effect of Wet Cupping on Baroreceptor Sensitivity in Hypertensive Patients in Sidenreng Rappang Regency, South Sulawesi. Open Access Macedonian Journal of Medical Sciences, 9(G), 217–222. https://doi.org/10.3889/oamjms.2021.6891
17. Hasan, I., Ahmad, T., & Ahmad, S. (2014). MANAGEMENT OF HYPERTENSION BY WET CUPPING THERAPY (AL-HIJAMAH): A CASE STUDY. International Journal of Pharmacology & Toxicology, 4(1), 24–27.
18. Hong, S. H., Liu, Y. Y., & Guo, Y. (2012). Research Progress on the mechanism of cupping therapy. Henan Traditional Chinese Medicine, 32(2), 261–262.
19. Imaningtias, W., Angkasa, M. P., & Yuniarsih, S. M. (2019). The Effectiveness Of Wet Cupping And Dry Cupping In Reduccing Blood Pressure In Hypertension Patients. International Nursing Conference on Chronic Diseases Management.
20. Kamaluddin, R. (2010). Pertimbangan dan alasan pasien hipertensi menjalani terapi alternatif komplementer bekam di kabupaten banyumas. Jurnal Keperawatan Soedirman, 5(2), 95–104.
21. Kemenkes-RI. (2021). Info Data dan Informasi: Hipertensi. Https://Pusdatin.Kemkes.Go.Id/Resources/Download/Pusdatin/Infodatin/Infodatin-Hipertensi-Si-Pembunuh-Senyap.Pdf.
22. Latifin, K., Purwanto, S., & Wahyuni, D. (2020). APLIKASI KEPERAWATAN KOMPLEMENTER “CUPPING” DALAM MENGONTROL HIPERTENSI DI MASA PANDEMI COVID-19. 4.
23. Lee, M. S., Choi, T. Y., Shin, B. C., Kim, J. I., & Nam, S. S. (2010). Cupping for hypertension: A systematic review. In Clinical and Experimental Hypertension (Vol. 32, Issue 7, pp. 423–425). https://doi.org/10.3109/10641961003667955
24. Lee, M. S., Kim, J. I., & Ernst, E. (2011). Is Cupping an Effective Treatment? An Overview of Systematic Reviews. In JAMS Journal of Acupuncture and Meridian Studies (Vol. 4, Issue 1, pp. 1–4). Korean Pharmacopuncture Institute. https://doi.org/10.1016/S2005-2901(11)60001-0
25. Mukhlis, H., Hermawan, N. S. A., Purwono, J., & Wahyudi, D. A. (2020). CUPPING THERAPY FOR HYPERTENSIVE PATIENTS: A QUASI-EXPERIMENTAL RESEARCH WITH TIME SERIES DESIGN. 7(14), 8.
26. Rachman, M. E., & Rachman, A. N. (2020). Cupping Therapy for Temporary Reduction of Blood Pressure in Hypertension Patients. Green Medical Journal 2.1 13-17.
27. Rahman, H. S., Ahmad, G. A., Mustapha, B., Al-Rawi, H. A., Hussein, R. H., Amin, K., Othman, H. H., & Abdullah, R. (2020). Wet cupping therapy ameliorates pain in patients with hyperlipidemia, hypertension, and diabetes: A controlled clinical study. International Journal of Surgery Open, 26, 10–15. https://doi.org/10.1016/j.ijso.2020.07.003
28. Refaat, B., Galal, A., Ebid, A. A., Ashshi, A., & BaSalamah, M. A. (2014). Islamic Wet Cupping and Risk Factors of Cardiovascular Diseases: Effects on Blood Pressure, Metabolic Profile and Serum Electrolytes in Healthy Young Adult Men. Alternative & Integrative Medicine, 03(01). https://doi.org/10.4172/2327-5162.1000151
29. Setyawan, A., Sari, D. N. A., & Budiyati, G. A. (2020). EFEKTIFITAS DAN MEKANISME BEKAM DALAM MENURUNKAN NILAI MEAN ARTERIAL PRESSURE PADA PASIEN HIPERTENSI. 12(4), 8.
30. Shaban, T., & Ravalia, M. (2017). Genetic theory-a suggested cupping therapy mechanism of action. F1000Res, 6, 1–7.
31. Shamma, Y. M. A.-, Razzaq, A. A., & Ph, B. (2009). Al-Hijamah Cupping Therapy. 8.
32. Sutriyono, S., Robbina, M. R., & Ndii, M. Z. (2019). The Effects of Wet Cupping Therapy in Blood Pressure, Glucose, Uric Acid and Total Cholesterol Levels. Biology, Medicine, & Natural Product Chemistry, 8(2), 33–36. https://doi.org/10.14421/biomedich.2019.82.33-36
33. Syahruramdhani, S., Yuniarti, F. A., Septiana, T. E., & Mustikasari, E. (2021). The Effect of Wet Cupping Therapy on Blood Pressure and Total Cholesterol on Healthy Young Male Adults. Open Access Macedonian Journal of Medical Sciences, 9(T4), 172–176. https://doi.org/10.3889/oamjms.2021.5854
34. World Health Organization. (2019). Hypertension. <https://www.who.int/news-room/fact-sheets/detail/hypertension> Day 23 November 2021.
35. World Hypertension League. (2021). World Hypertension Day 24 Nov, 2021. https://www.whleague.org/index.php/features/world-hypertension-day
36. Zeng, K., & Wang, J. (2016). Clinical application and research progress of cupping therapy. Journal of Acupuncture and Tuina Science, 14(4), 300–304.