EVIDENCE BASED NURSING

PEMBERIAN TERAPI BEKAM PADA PENDERITA HIPERTENSI DI KLINIK HOLISTIK GRIYA AKUPUNTUR KARIMATA

Diajukan Untuk Memenuhi Persyaratan Menyelesaikan Pendidikan Profesi
Ners State Holistik

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2021/2022

LEMBAR PENGESAHAN

Evidence based nursing yang berjudul "pemberian terapi bekam pada penderita hipertensi Di Klinik Holistik Griya akupuntur karimata" telah diperiksa dan disahkan pada:

Hari : Jumat

Tanggal : 11 Maret 2022

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BAB I

PENDAHULUAN

1.1 Latar Belakang

Hipertensi merupakan penyakit tidak menular yang menjadi salah satu pencetus utama kematian di dunia. Hipertensi merupakan ketidakstabilan tekanan darah yang menjadi ancaman kesehatan masyarakat sebab potensinya bisa menyebabkan keadaan komplikasi semacam stroke, penyakit jantung koroner, serta gagal ginjal. Penegakkan diagnosa bisa dicoba melalui pengukuran tekanan darah oleh tenaga kesehatan ataupun kader kesehatan yang sudah dilatih serta dinyatakan layak oleh tenaga kesehatan untuk melaksanakan pengukuran. Hipertensi diisyarati dengan hasil pengukuran tekanan darah yang menampilkan tekanan sistolik >140 mmhg dan tekanan diastolik >90 mmhg (Kemenkes RI, 2019).

Menurut American Heart Association, (2020) penduduk Amerika yang berumur diatas 20 tahun mengidap hipertensi sudah menggapai angka sampai 74, 5 juta jiwa, tetapi nyaris dekat 90- 95% permasalahan tidak dikenal penyebabnya. Bagi World Health Organization dalam departemen kesehatan 2019, prevalensi hipertensi di dunia menggapai 22%. Daerah Afrika mempunyai prevalensi hipertensi paling tinggi sebesar 27%. Asia Tenggara terletak diposisi ke- 3 paling tinggi dengan prevalensi sebesar 25%. World Health Organization memperkirakan 1 di antara 5 orang wanita diseluruh dunia mempunyai hipertensi (Kemenkes RI, 2019).

Prevalensi hipertensi di Indonesia, ialah sebesar 26,2%. Jumlah ditaksir pengidap hipertensi yang berumur ≥15 tahun, dengan proporsi pria 48% serta wanita 52%. Dari jumlah tersebut, yang memperoleh pelayanan kesehatan pengidap hipertensi sebesar 40,1% ataupun 4.792.862 penduduk (Dinkes, 2020).

Tekanan darah yang tinggi dapat membebani kerja jantung dan pembuluh darah secara berlebihan dan dapat mempercepat penyumbatan pembuluh arteri. Kenaikan tekanan darah ini dapat menyebabkan dinding arteri mengalami tekanan sehingga menyebapkan endotel mengalami kerusakan, yang memicu aterosklerosisi (Sa'adatul Abadiyah, 2019).

Penatalaksanaan hipertensi bisa dilakukan dengan pengobatan farmakologi ataupun non-farmakologi. Pengobatan secara farmakologi yaitu diuretika, beta bloker, obat antihipertensi sentral, sedangkan penatalaksanaan non farmakologi yaitu perilaku gaya hidup yang terdiri diit rendah garam, menghindari berat badan atau obesitas, olahraga teratur dan terapi terapi komplementer (Roni Alfaqih, 2016). Terapi komplementer yang saat ini populer dan dipercaya masyarakat untuk mengobati hipertensi diantaranya yaitu terapi bekam (Ekawati, 2016).

Terapi bekam merupakan salah satu terapi komplementer yang berfungsi untuk menurunkan tekanan darah tinggi. Terapi bekam dilakukan dengan cara mengeluarkan CPS *(Causative Pathological Substance)* dari dalam tubuh melalui permukaan kulit (Putra, 2019). Untuk

menurunkan tekanan darah harus banyak mengkonsumsi makanan tinggi serat dan kalium (Shanti & Zuraida, 2016).

Peneltian yang dilakukan oleh Sormin, (2018) menyatakan bahwa terdapat penurunan tekanan darah setelah dilakukan terapi bekam dengan nilai P value 0,000. Didukung penelitian yang dilakukan oleh Ahmad, (2020) menyatakan bahwa terapi bekam efektif dalam menurunkan tekanan darah baik sistolik maupun diastolik pada penderita hipertensi dengan nilai P value 0.000, dimana terdapat pengaruh terapi bekam terhadap penurunan tekanan darah. Sejalan dengan penelitian yang dilakukan Monica, (2021) menyatakan bahwa terdapat penurunan tekanan darah setelah dilakukan terapi bekam dengan nilai P value tekanan sistolik 0,000 dan nilai P value tekanan diastolic yaitu 0,006. Dari uraian diatas peneliti tertarik untuk meneliti seberapa berpengaruhnya pemberian terapi bekam pada penderita hipertensi.

1.2 Rumusan Masalah

Berdasarkan latar belakang di atas, rumusan masalah adalah "Apakah terdapat pengaruh pemberian terapi bekam terhadap penurunan tekanan darah pada penderita hipertensi?"

1.3 Tujuan Penelitian

1.3.1 Tujuan Umum

Tujuan *Evidance Based Nursing* ini untuk mengetahui pengaruh pemberian terapi bekam terhadap penurunan tekanan darah pada penderita hipertensi.

1.3.2 Tujuan Khusus

a. Mendeskripsikan tekanan darah sebelum dilakukan pemberian terapi bekam pada penderita hipertensi
b. Mendeskripsikan tekanan darah sesudah dilakukan pemberian terapi bekam pada penderita hipertensi
c. Menganalisis tekanan darah sebelum dan sesudah dilakukan pemberian terapi bekam pada penderita hipertensi

1.4 Manfaat Penelitian

1.4.1 Teoritis

Untuk dijadikan *evidence-based* dan meningkatkan pengetahuan dibidang medis dan ilmu keperawatan sebagai intervensi tambahan penyakit hipertensi.

1.4.2 Praktis

Memberikan informasi untuk meningkatkan pelayanan kesehatan dalam melakukan intervensi terapi bekam untuk menurunkan tekanan darah tinggi.

BAB II
TINJAUAN PUSTAKA

2.1 Konsep Hipertensi

2.1.1 Definisi Hipertensi

Menurut Gunawan (2012) dalam Suri (2017) Istilah "tekanan darah" berarti tekanan pada pembuluh nadi dari peredaran darah sistemik di dalam tubuh manusia. Tekanan darah di bedakan antara tekanan darah sistolik dan tekanan darah diastolik. Tekanan darah sistolik adalah tekanan darah ketika menguncup (kontraksi) sedangkan, tekanan darah diastolik adalah tekanan darah ketika mengendor kembali (relaksasi).

Menurut Gardner dalam Intan (2017) Tekanan darah adalah tekanan yang digunakan untuk mengedarkan darah dalam pembuluh darah dalam tubuh kita. Jantung yang berperan sebagai pompa otot mensuplai tekanan tesebut untuk menggerakkan darah dan juga mengedarkan darah diseluruh tubuh. Pembuluh darah (dalam hal ini arteri) memiliki dindingdinding yang elastis dan menyediakan resistensi yang sama terhadap aliran darah. Oleh karena itu, ada tekanan dalam system peredaran bahkan antara detak jantung.

2.1.2 Klasifikasi Tekanan Darah

Menurut Martha (2012) Jenis tekanan darah dapat dibedakan menjadi tekanan sistole, tekanan diastole dan tekanan nadi. Tekanan sistole adalah tekanan darah tertinggi selama satu siklus jantung, merupakan tekanan yang dialami pembuluh darah saat jantung berdenyut atau memompakan darah keluar jantung. Pada orang dewasa normal tekanan sistole berkisar 120 mmHg. Tekanan diastole adalah tekanan darah terendah selama satu siklus jantung, suatu tekanan di dalam pembuluh darah saat jantung beristirahat. Pada orang dewasa tekanan diastole berkisar 80 mmHg. Sedangkan tekanan nadi merupakan selisih antara tekanan sistole dan tekanan diastole.

2.1.3 Macam-Macam Tekanan Darah

1. Tekanan Darah Normal

   Menurut (WHO, 2020) tekanan darah normal adalah tekanan darah yang kurang atau sama dengan 120/80 mmHg. Tekanan darah yang normal bersifat individual, karena itu terdapat rentang dan variasi dalam batas normal.

2. Tekanan Darah Rendah (Hipotensi) Hipotensi atau tekanan darah rendah adalah tekanan darah yang rendah sehingga tidak mencukupi untuk perfusi dan oksigenasi jaringan adekuat. Hipotensi dapat berupa hipotensi primer atau sekunder, (misalnya penurunan curah jantung, syok hipovolemik, penyakit Addison) atau postural (ortostatik). Menurut (Masala et al, 2017) penurunan tekanan darah terjadi apabila nilai sistol dan diastolnya (90/(60 mmHg.

3. Tekanan Darah Tinggi (Hipertensi)

   Menurut Triyanto (2014) Hipertensi adalah suatu keadaan dimana seseorang mengalami peningkatan tekanan darah diatas normal yang mengakibatkan peningkatan angka kesakitan (morbiditas) dan angka kematian (mortilitas). Tekanan darah 140/90 mmHg di dasarkan pada dua fase dalam setiap denyut jantung yaitu fase sistolik 140 menunjukkan fase darah yang sedang di pompa oleh jantung dan fase diastolik 90 menunjukkan fase darah yang kembali ke jantung

2.1.4 Fisiologi Tekanan Darah

Tekanan darah dipengaruhi oleh curah jantung dan resistensi pembuluh darah perifer (tahanan perifer). Curah jantung cardiac output adalah jumlah darah yang dipompakan oleh ventrikel ke dalam sirkulasi pulmonal dan sirkulasi sitemik dalam waktu satu menit, normalnya pada dewasa adalah 4-8 liter. Cardiac output dipengaruhi oleh volume sekuncup (stroke volume) dan kecepatan denyut jantung (hert rate). Resistensi perifer total (tahanan perifer) pada pembuluh darah dipengaruhi oleh jari-jari arteriol dan viskositas darah. Stroke volume atau volume sekuncup adalah jumlah darah yang dipompakan saat

ventrikel satu kali berkontraksi normalnya pada orang dewasa yaitu ± 70-75 ml atau dapat juga diartikan sebagai perbedaan antara volume darah dalam ventrikel pada akhir sistolik dan volume sisa ventrikel pada akhir sistolik. Hert rate atau denyut jantung adalah jumlah kontraksi ventrikel per menit. Volume sekuncup dipengaruhi oleh 3 faktor yaitu volume akhir distolik ventrikel, beban akhir ventrikel (afterloat) dan kontraktilitas dari jantung (Annisa, 2017).

Tubuh mensuplai darah ke suluruh jaringan, sehingga mampu memberikan gaya dorong berupa tekanan arteri rata-rata dan derajat vasokontriksi arteriol jaringan tesebut. Tekanan arteri rata-rata merupakan gaya utama yang mendorong darah kejaringan. Tekanan arteri rata-rata harus dipantau dengan baik karena apabila tekanan ini terlalu tinggi dapat memperberat kerja jantung dan meningkatkan risiko kerusakan pembuluh darah serta tejadinya ruptur pada pembuluh-pembuluh darah halus. Tekanan arteri akan tetap normal melalui penyesuaian jangka pendek (dalam hitungan detik) dan penyesuaian jangka panjang (dalam hitungan menit sampai hari). Penyesuaian jangka pendek dilakukan dengan mengubah curah jantung dan resistensi perifer total yang diperantarai oleh sistem saraf otonom pada jantung, vena dan anterior. Penyesuain jangka panjang dilakukan dengan meyesuaikan volume darah total dengan cara menyeimbangkan garam dan air melalui mekanisme rasa haus dan pengeluaran urin (Annisa, 2017).

2.1.5 Faktor- Faktor Yang Mempengaruhi Tekanan Darah

1) Usia

Pada umumnya tekanan darah akan naik dengan bertambahnya umur terutama setelah umur 40 tahun. Hal itu disebabkan oleh kaku dan menebalnya arteri karena arteriosclerosis sehingga tidak dapat mengembang pada saat jantung memompa darah melalui arteri tersebut (Faisalado & Cecep, 2013).

2) Exercise

Saat aktivitas fisik terjadi peningkatan cardiac output maupun tekanan darah sistolik sehingga tekanan darah perlu dikaji sebelum, selama dan sesudah aktifitas. Tekanan darah cenderung menurun saat berbaring daripada duduk atau berdiri (Black dan Hawks, 2014).

3) Stres

Stres meningkatkan resistensi vascular perifer dan curah jantung serta menstimulasi aktifitas system saraf simpatis. Dari waktu ke waktu hipertensi dapat berkembang. Stressor bisa banyak hal, mulai dari suara, infeksi, peradangan, nyeri, berkurangnya suplai oksigen, panas, dingin, trauma, pengerahan tenaga berkepanjangan, respon pada peristiwa kehidupan, obesitas, usia tua, obat-obatan, penyakit pembedahan dan pengobatan medis dapat memicu respon stress. American Institute of Stress memperkirakan 60%-90% dari seluruh kunjungan perawatan primer karena stre adalah permasalahan persepsi, interpretasi orang terhadap kejadian yang menciptakan banyak stressor dan respon stress (Black dan Hawks, 2014).

4) Obesitas

Tekanan darah cenderung lebih tinggi pada orang yang gemuk atau obesitas daripada orang dengan berat badan normal. Kombinasi obesitas dengan faktor-faktor lain dapat ditandai dengan sindrom metabolis, yang juga meningkatkan risiko hipertensi (Black dan Hawks, 2014).

5) Jenis Kelamin

Menurut Faisalado & Cecep (2013) Pria cenderung mengalami tekanan darah yang tinggi dibandingkan dengan wanita. Rasio terjadi hipertensi antara pria dan wanita sekitar 2,29 untuk kenaikan tekanan darah sistol dan 3,6 untuk kenaikan tekanan darah diastolik. Laki-laki cenderung memiliki gaya hidup yang dapat meningkatkan tekanan darah dibandingkan perempuan. Tekanan darah pria mulai meningkat ketika usianya berada pada rentang 35-50 tahun.

Kecenderungan seorang perempuan terkena hipertensi terjadi pada saat menopause karena faktor hormonal.

6) Obat-obatan

Merokok sigaret, mengkonsumsi banyak alcohol dan beberapa penggunaan obat terlarang merupakan faktor-faktor risiko hipertensi. Pada dosis tertentu nikotin dalam rokok sigaret serta obat seperti kokain dapat menyebabkan naiknya tekanan darah secara langsung. Kejadian hipertensi juga tinggi diantara orang yang minum 3 ons etanol per hari. Pengaruh dari kafein dapat meningkatkan tekanan darah akut tetapi tidak menghasilkan efek berkelanjutan (Black dan Hawks, 2014).

2.1.6 Manifestasi Klinis Hipertensi

Gejala hipertensi sangat bervariasi, pada sebagian penderita hipertensi tidak menimbulkan gejala (tanpa gejala) yang spesifik yang dapat dihubungkan dengan peningkatan tekanan darah. Crowin (2000 dalam wijaya & putri, 2013) menyebutkan bahwa sebagian besar gejala klinis timbul, seperti : nyeri kepala saat terjaga, kadangkadang disertai mual muntah akibat peningkatan tekanan darah intrakranial, penglihatan kabur akibat kerusakan retina akibat hipertensi, ayunan langkah yang tidak mantap karena kerusakan susunan saraf pusat, nokturia karena peningkatan aliran darah ginjal, pembengkakan akibat peningkatan kapiler.

2.1.7 Komplikasi

Komplikasi Hipertensi Menurut Ardiansyah, M. (2012) komplikasi dari hipertensi adalah :

1. Stoke

   Stroke akibat dari pecahnya pembuluh yang ada di dalam otak atau akibat embolus yang terlepas dari pembuluh nonotak. Stroke bisa terjadi pada hipertensi kronis apabila arteriarteri yang memperdarahi otak mengalami hipertrofi dan penebalan pembuluh darah sehingga

aliran darah pada area tersebut berkurang. Arteri yang mengalami aterosklerosis dapat melemah dan meningkatkan terbentuknya aneurisma.

2. Infark Miokardium

   Infark miokardium terjadi saat arteri koroner mengalami arterosklerotik tidak pada menyuplai cukup oksigen ke miokardium apabila terbentuk thrombus yang dapat menghambat aliran darah melalui pembuluh tersebut. Karena terjadi hipertensi kronik dan hipertrofi ventrikel maka kebutuhan okigen miokardioum tidak dapat terpenuhi dan dapat terjadi iskemia jantung yang menyebabkan infark.

3. Gagal Ginjal

   Kerusakan pada ginjal disebabkan oleh tingginya tekanan pada kapiler-kapiler glomerulus. Rusaknya glomerulus membuat darah mengalir ke unti fungsionla ginjal, neuron terganggu, dan berlanjut menjadi hipoksik dan kematian. Rusaknya glomerulus menyebabkan protein keluar melalui urine dan terjadilah tekanan osmotic koloid plasma berkurang sehingga terjadi edema pada penderita hipertensi kronik.

4. Ensefalopati

   Ensefalopati (kerusakan otak) terjadi pada hipertensi maligna (hipertensi yang mengalami kenaikan darah dengan cepat).Tekanan yang tinggi disebabkan oleh kelainan yang membuat peningkatan tekanan kapiler dan mendorong cairan ke dalam ruang intertisium diseluruh susunan saraf pusat. Akibatnya neuro-neuro disekitarnya terjadi koma dan kematian.

2.1.8 Penatalaksanaan Hipertensi

Pengobatan hipertensi terdiri dari terapi nonfakmakologis dan farmakologis. Terapi nonfarmakologis harus dilaksanakan oleh semua pasien hipertensi dengan tujuan menurunkan tekanan darah dan mengendalikan faktor-faktor resiko penyakit penyerta lainnya.

Modifikasi gaya hidup berupa penurunan berat badan (target indeks massa tubuh dalam batas normal untuk Asia-Pasifik yaitu 18,5-22,9 kg/m2), kontrol diet berdasarkan DASH mencakup konsumsi buah-buahan, sayur-sayuran, serta produk susu rendah lemak jenuh/lemak total, penurunan asupan garam dimana konsumsi NaCl yang disarankan adalah < 6 g/hari. Beberapa hal lain yang disarankan adalah target aktivitas fisik minimal 30 menit/hari dilakukan paling tidak 3 hari dalam seminggu serta pembatasan konsumsi alkohol. Terapi farmakologi bertujuan untuk mengontrol tekanan darah hingga mencapai tujuan terapi pengobatan. Apabila terapi antihipertensi sudah dimulai, pasien harus rutin kontrol dan mendapat pengaturan dosis setiap bulan hingga target tekanan darah tercapai. Perlu dilakukan pemantauan tekanan darah, LFG dan elektrolit.

Berikut jenis-jenis obat antihipertensi menurut (Yogiantoro,2009) :

1. Diuretik

   Obat-obatan jenis diuretic bekerja dengan mengeluarkan cairan tubuh (lewat kencing), sehingga volume cairan tubuh berkurang mengakibatkan daya pompa jantung menjadi lebih ringan dan berefek pada turunnya tekanan darah. Contoh obat-obatan ini adalah: Bendroflumethiazide, chlorthizlidone, hydrochlorothiazide, dan indapamide.

2. ACE-Inhibitor

   Kerja obat golongan ini menghambat pembentukan zat angiotensin II (zat yang dapat meningkatkan tekanan darah). Efek samping yang sering timbul adalah batuk kering, pusing sakit kepala dan lemas. Contoh obat yang tergolong jenis ini adalah Catopril, enalapril, dan lisinopril.

3. Calsium channel blocker

   Golongan obat ini berkerja menurunkan menurunkan daya pompa jantung dengan menghambat kontraksi otot jantung (kontraktilitas). Contoh obat yang tergolong jenis obat ini adalah amlodipine, diltiazem dan nitrendipine.

4. ARB

   Kerja obat ini adalah dengan menghalangi penempelan zat angiotensin II pada reseptornya yang mengakibatkan ringannya daya pompa jantung. Obat-obatan yang termasuk golongan ini adalah eprosartan, candesartan, dan losartan.

5. Beta blocker

   Mekanisme obat antihipertensi ini adalah melalui penurunan daya pompa jantung. Jenis obat ini tidak dianjurkan pada penderita yang telah diketahui mengidap gangguan pernafasan seperti asma bronchial. Contoh obat yang tergolong ke dalam beta blocker adalah atenolol, bisoprolol, dan beta metoprolol.

2.2 Konsep Bekam

2.2.1 Definisi Bekam

Bekam atau hijamah secara bahasa berasal dari kata al-hajmu yang artinya mengisap. Orang yang membekam disebut al-hajim karena ia mengisap darah melalui bagian tubuh yang dibelah (Ahmad, 2010).

Bekam adalah sebuah metode penanganan penyakit yang melibatkan Qi (Energi) dan Xue (darah) ke permukaan kulit menggunakan ruang hampa udara (vakum) yang tercipta di dalam mangkuk seperti gelas atau bambu. Bekam adalah metode pengobatan dengan metode tabung yang ditelungkupkan pada permukaan kulit agar menimbulkan bendungan lokal. Terjadinya bendungan lokal disebabkan karena tekanan negatif dalam tabung yang sebelumnya benda-benda dibakar dan dimasukkan ke dalam tabung agar terjadi pengumpulan darah lokal.Darah yang telah terkumpul dikeluarkan dari kulit dengan dihisap, dengan tujuan meningkatkan sirkulasi energi Qi dan Xue, menimbulkan efek analgetik, mengurangi pembengkakan, dan mengeluarkan zat pathogen angin, baik dingin maupun lembab (Ridho, 2012).

2.2.2 Jenis Bekam

a) Bekam Kering

Bekam kering dilakukan dengan cara meletakkan gelas di tempat tertentu, dilanjutkan dengan menyedot udara yang ada di dalam gelas dengan perhitungan tertentu. Bekam ini dilakukan tanpa ada sayatan. Biasanya digunakan untuk pasien diabetes (Thalbah *et al.*, 2008).

b) Bekam Basah

Bekam yang dilakukan dengan menggunakan sayatan setelah dilakukan bekam kering. Bekam basah ini dilakukan pembedahan lapisan epidermis kulit sedalam kurang lebih 1 mm dengan panjang kurang lebih 4 mm sebanyak satu atau tiga baris. Kemudian letakkan gelas di kulit yang telah disayat dan dilakukan pengisapan udara hingga keluar gumpalan darah. Bekam ini dapat menghilangkan sumbatansumbatan yang mengganggu peredarah darah pada tempat tersebut (Thalbah *et al.*, 2008 dalam Ahmad 2010).

c) Bekam Luncur

Bekam ini biasanya dilakukan terhadap orang yang tulang rawannya terkilir yang biasa terjadi di daerah punggung. Bekam ini dilakukan dengan cara menggerakkan gelas bekam setelah dilakukan pengisapan pada bagian tubuh pasien yang telah diberi bahan-bahan pelumas untuk menghindari terjadinya gesekan kuat (Sharaf, 2012).

2.2.3 Tempat-tempat Terbaik Untuk Bekam

Sebagian mengatakan bahwa ada 98 titik bekam pada tubuh. Sebanyak 55 di antaranya berada di daerah punggung, sedangkan 43 lainnya berada di daerah wajah dan perut (Thalbah *et al.*, 2008).

a) Titik Kahil

Titik ini adalah daerah ruas tulang belakang cervival ketujuh (C7) yang sejajar dengan pundak dan berada di bawah leher. Titik kahil merupakan titik paling utama untuk titik pengobatan segala penyakit dan dilakukan pada tiap pengisapan pertama. Titik ini merupakan tempat endapan darah kotor (Thalbah *et al.*, 2008). Titik ini untuk

terapi berbagai macam penyakit, di antaranya hipertensi, gangguan menstruasi, gangguan kelenjar tiroid, sinusistis, nyeri leher, batuk, asma, dan lain-lain (Sharaf, 2012).

b) Titik Yafukh

Titik temu antara tulang tengkorak bagian depan dan tulang tengkorak bagian belakang/ bagian paling atas dan tengah kepala. Salah satu titik pengobatan akupuntur yang sangat penting untuk menstimulasi sel-sel otak.

c) Titik Al-Akhda'ain (Dua akhda)

Titik ini yaitu dua otot di samping kanan dan kiri leher (Sharaf, 2012).

d) Ala Warak (pinggang)

Pertemuan antara otot gluteus maximus dan otot gluteus medius.

Dari Ibnu Abbas, ia berkata: "Nabi Shalallahu Alaihi Wasallam berbekam di kepalanya ketika beliau berihram karena nyeri kepala (migrain), di sebuah tempat yang disebut Luhy Jamal. (HR. Bukhari) (Sharaf, 2012).

Dari Qatadah, dari Anas bahwa Rasulullah Shalallahu Alaihi Wasallam : "Berbekam ketika ihram, di punggung telapak kaki disebabkan oleh memar." (HR. An-Nasai) (Sharaf, 2012).

e) Titik Hamah

Hamah adalah titik di kepala.Ada yang mengatakan di puncak dan tengah kepala

2.2.4 Waktu-waktu Yang Dianjurkan Untuk Bekam

1. Diriwayatkan oleh Ibnu Majah, dari Anas bin Malik, Rasulullah Shallallahu 'alaih wa sallam bersabda: "Barangsiapa ingin berbekam, hendaklah memilih tanggal 17, 19, dan 21. Jangan sampai darah bergolak pada salah seorang dari kalian sehingga membunuhnya." (Ahmad, 2010).
2. Diriwayatkan oleh Thabrani, Abu Dawud, dan Baihaqi, dari Abu Hurairah dari Nabi Shallallahu alaihi wa sallam, beliau bersabda:

“Barangsiapa berbekam pada tanggal 17, 19, dan 21 niscaya akan jadi penyembuh setiap penyakit." (Ahmad, 2010).

Dalam kitab Al-Qanun dijelaskan bahwa pengobatan bekam diperintahkan untuk dilakukan bukan pada awal bulan atau akhir bulan, melainkan pada pertengahan bulan (Ahmad, 2010). Berbekam pada awal atau akhir bulan bukan berarti tidak bermanfaat. Akan tetapi lebih bermanfaat dan berkhasiat apabila dilakukan pada hari-hari yang telah ditetapkan oleh Rasulullah (Sharaf, 2012).

2.2.5 Manfaat Bekam

Penelitian tentang efektivitas dan mekanisme bekam terhadap kesembuhan seseorang belum banyak, namun secara fakta bekam sudah menyembuhkan ribuan penyakit dan telah dilakukan sejak ribuan tahun lalu (Sharaf, 2012).

Dalam beberapa riwayat Rasulullah Shalallahu Alaihi Wasallam bahkan menekankan manfaat bekam salah satunya ialah diriwayatkan oleh Tirmidzi dalam Sunannya, Ibnu Majah, dan Hakim, bahwa Rasulullah bersabda: “Hendaklah kalian berbekam pada tengah qamahduah karena bisa menyembuhkan 72 penyakit.” (Sharaf, 2012).

Menurut Sharaf (2012) adapun manfaat bekam terhadap organ tubuh, di antaranya:

a) Efek bekam terhadap kulit

   Bekam berperan dalam menstimulasi folikel rambut dengan meningkatkan sirkulasi darah ke kulit sehingga meningkatkan suplai nutrisi yang baik untuk rambut dan akar rambut. Bekam juga menghilangkan zat-zat berbahaya yang mengendap di bawah permukaan kulit.

b) Efek bekam terhadap otot

   Bekam berperan menstimulasi sirkulasi darah di otot sehingga menghilangkan kekejangan otot.Bekam juga berperan mengantarkan oksigen yang dibutuhkan oleh serat-serat otot, meningkatkan penyerapan oksigen oleh sel-sel setelah pembekaman, sehingga

menguatkan dan memperbaiki fungsi otot.Bekam berperan mengeluarkan zat asam laktat dari otot sehingga menghilangkan kelelahan dan sumbatan otot.

c) Efek bekam terhadap tulang

Bekam berperan menstimulasi sirkulasi darah di dalam persendian sehingga mengurangi rasa sakit yang disebabkan oleh penyakit rematik. Bekam juga berperan menstimulasi membrane synovial untuk mengeluarkan cairan synovial yang berfungsi untuk mengurangi pergesekan sendi, memudahkan gerak, dan akhirnya mencegah terjadinya kekakuan sendi. Bekam berperan mengeluarkan zat-zat berbahaya yang mengendap di persendian seperti kristal-kristal asam urat yang menyebabkan kekakuan sendi dan penyakit gout.

d) Efek bekam terhadap sistem pencernaan

Kuatnya isapan alat bekam mengatur sekresi asam lambung dan enzim pencernaan yang ada di lambung, sehingga meningkatkan kualitas pencernaan dan penyerapan makanan. Bekam juga berperan menstimulasi sel hati dan sel pancreas serta memperbaiki fungsinya.

2.2.6 Larangan Berbekam

Menurut Ahmad (2010) dan Sharaf (2012) larangan dalam berbekam sebagai berikut :

1. Daerah yang dilarang untuk berbekam
   a. Mata, telinga, hidung, mulut, putting susu, alat genital, ekdubur.
   b. Area tubuh yang banyak kelenjar limfe.
   c. Area tubuh yang dekat dengan pembuluh darah besar.
   d. Bagian tubuh yang ada varises, tumor, retak tulang, jaringan luka.
2. Kondisi yang tidak boleh dibekam
   a. Tekanan darah sangat rendah, menderita vertigo, atau lemah fisiknya.
   b. Selepas makan (minimal 2 atau 3 jam)

c. Suhu tubuh tinggi
d. Pendonor darah, hindari bekam setidaknya sepekan
e. Terkena infeksi terbuka
f. Ada varises pada bagian kaki
g. Penyakit liver kronis
h. Mengkonsumsi alkohol dan rokok sebelum bekam
i. Menggunakan hemodialisis
j. Hamil trimester pertama
k. Penderita hepatitis
l. Setelah mandi, setelah berjimak
m. Terlalu lapar atau terlalu kenyang
n. Orang yang dalam ketakutan
o. Wanita yang sering keguguran
p. Anak-anak yang mengalami dehidrasi
q. Makan pencair darah

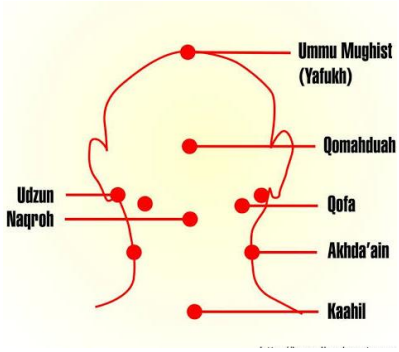
2.2.7 Letak Titik Bekam Untuk Hipertensi

Menurut Umar (2012)

1. Letak titik bekam di kepala leher

   Titik qomahwaduh, terletak di tulang kepala bagian belakang (os. Occipital) di sebelah atas dari tonjolan tulang (protuberantia occipitalis).

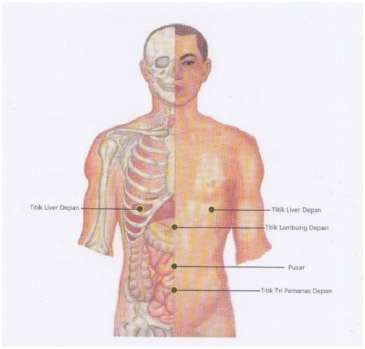
   Pada tulang menonjol bagian belakang kepala, terletak di antara dua telinga, yaitu di bagian kepala di mana kalau seseorang tidur terlentang, maka qomahduwah adalah bagian kepala yang menempel di tanah. Titik naqroh, terletak di leher bagian belakang, di tulang leher 1–7, sejak dari atas batas rambut belakang hingga ke tulang leher 7 (cervical ke-7). Bisa ke kanan dan ke kiri ke arah belakang telinga. Di sebelah dalamnya terdapat cereblum, yang berbatasan dengan medulla oblongata.



Gambar 2.1 Titik Bekam Hipertensi di Kepala dan Leher

2. Letak titik bekam di perut

Titik liver depan, terletak pada sela iga ke–7 sepanjang garis puting susu. Di bawah ulu hati ke samping luar, sepanjang garis puting susu. Titik lambung depan, terletak di antara ulu hati dan pusar, yaitu 4–6 cm di atas pusar.



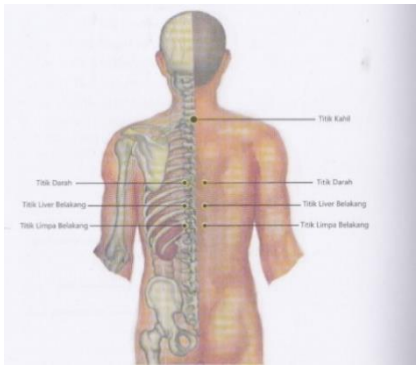
Gambar 2.2 Titik Bekam Hipertensi di Perut

3. Letak titik bekam di punggung

Titik kahil, terletak di sekitar tonjolan tulang leher belakang ke–7 (processus spinosus vertebra cervical VII), antara acromion kanan dan kiri, setinggi pundak. Titik bainal katifain, ada yang berpendapat terletak di antara dua bahu atau di tengah-tengah bahu. Pendapat lainnya ada di tulang belikat kanan dan kiri.

Titik jantung belakang, terletak di antara tulagn belikat kanan kiri, sejajar dengan tengah tulang belikat, di antara ujung tulang rusuk (V–toraks) ke 5–6, tepat di kanan kiri ruas tulang belakang. Titik liver belakang, terletak di kiri atau kanan tulang belakang, sejajar dengan

ujung bagian bwah tulang belikat, agak ke bawah di antara tulang dada ke 9–10. Titik limpa belakang, terletak di atas pinggang, di bawah titik kandung empedu, di antara ujung tulang dada ke 11–12, tepat di kanan kiri ruas tulang belakang. Titik lambung belakang, terletak di atas pinggang, sejajar dengan tulang dada paling bawah (yang ada di pinggang), di antara tulang dada ke–12 tulang pinggang ke 2–3, tepat di kanan kiri ruas tulang belakang. Titik ginjal belakang, terletak sejajar dengan lekukan pinggang, di antara tulang pinggang ke 2–3, tepat di kanan kiri ruas tulang belakang.



Gambar 2.3 Titik Bekam Hipertensi di Punggung

4. Letak titik bekam di kaki

Titik cunsali, terletak di bawah lutut bagian luar. Dengan cara telapak tangan ditelungkupkan di lutut, maka ujung jari tengah akan menunjukkan titik ini. Titik sanyinciao, terletak 3–4 jari di atas mata kaki bagian dalam. Titik sensun, terletak di betis belakang, di batas bawah dari otot M. gastrocnemius.

Gambar 2.4 Titik Bekam Hipertensi di Kaki

BAB III

METODE PENELITIAN

3.1 Strategi Pencarian Literatur

3.1.1 Protokol dan Registrasi

Rangkuman menyeluruh dalam bentuk *literatur review* mengenai efektivitas terapi bekam terhadap penurunan tekanan darah pada penderita *hipertensi*. Protokol dan evaluasi dari *literatur review* akan menggunakan untuk menyeleksi studi yang telah ditemukan dan disesuaikan dengan tujuan dari *literatur review.*

3.1.2 Database Pencarian

Literatur review yang merupakan rangkuman menyeluruh beberapa studi penelitian yang ditentukan berdasarkan tema tertentu yaitu berupa terapi bekam terhadap penurunan tekanan darah pada penderita hipertensi. Pencarian literatur dilakukan pada bulan Februari 2022. Data yang digunakan dalam penelitian ini adalah data sekunder yang diperoleh bukan dari pengamatan langsung, akan tetapi diperoleh dari hasil penelitian yang telah dilakukan oleh peneliti- peneliti terdahulu. Sumber data sekunder yang didapatkan berupa artikel dari jurnal ilmiah yang bereputasi baik sesuai dengan tema yang ditentukan. Pencarian literatur dalam *literatur review* ini menggunakan database dengan kualitas sedang dan tinggi yaitu *google scholar, PubMed*, Portal Garuda, *Elsevier*

3.1.3 Kata Kunci

Pencarian artikel atau jurnal menggunakan *keyword* dan *boolean operator* (dan, dan atau, *and, or, and not*) yang digunakan untuk memperluas atau menspesifikkan pencarian, sehingga mempermudah dalam penentuan artikel atau jurnal yang digunakan dan terdiri sebagai berikut:

Tabel 3.1 Kata kunci *literatur review*

Terapi Bekam	**Tekanan darah**	**Hipertensi**
Cupping therapy	*Blood pressure*	*Hypertensive*
Or	*Or*	*Or*
Terapi Bekam	Tekanan darah	Hipertensi

Berdasakan tabel 3.1 diatas maka pencarian dalam database menggunakan kata kunci terapi bekam, tekanan darah, hipertensi dan juga menggunakan istilah dalam bahasa inggris berupa *Cupping therapy, Blood pressure, Hypertensive.*

3.2 Kriteria Inklusi dan Eksklusi

3.2.1 Seleksi Studi dan Penilaian Kualitas

Setelah dilakukan penetapan topik *review* maka seluruh kata kunci dimasukkan dalam database yaitu *google scholar* setelah itu dilakukan pembatasan pencarian dengan membatasi tahun yaitu artikel bertahun 2018-2022. Setelah mendapatkan artikel sesuai topik dilakukan identifikasi abstrak dan selanjutnya di telaah naskah lengkapnya (*fulltext*) selanjutnya dilakukan matrik sebagai bagian untuk melakukan analisis.

Setelah dilakukan matrix dari artikel maka dilakukan sintesis berupa menyusun hasil matrix dalam bentuk narartif.

Strategi yang digunakan untuk mencari artikel menggunakan PICOS *framework* yaitu:

a. *Population/problem*

   Populasi atau masalah yang akan di analisis. Pada *literatur review* ini masalah yang diangkat atau menjadi topik adalah terapi bekam terhadap penurunan tekanan darah pada penderita *hipertensi*

b. *Intervention*

   Suatu tindakan penatalaksanan terhadap kasus perorangan atau masyarakat serta pemaparan tentang penatalaksanaan. Pada *literatur review* ini tatalaksana hasil terapi bekam dan penurunan tekanan darah

c. *Comparation*

   Penatalaksanaan lain yang digunakan sebagai pembanding. *Literatur review* ini tidak membandingkan melainkan mensintesis hasil studi terdahulu

d. *Outcome*

   Hasil atau luaran yang diperolah pada penelitian. Pada *literatur review* ini artikel dengan hasil analisis adanya pengaruh antara terapi bekam terhadap penurunan tekanan darah pada penderita *hipertensi.*

e. *Study design*

Desain penelitian yang digunakan oleh jurnal yang akan di *review*. Desain dari *literatur review* adalah seluruhnya berjenis kuantitatif.

Adapun format PICOS dalam *literatur review* ini diuraikan bedasarkan tabel sebagai berikut:

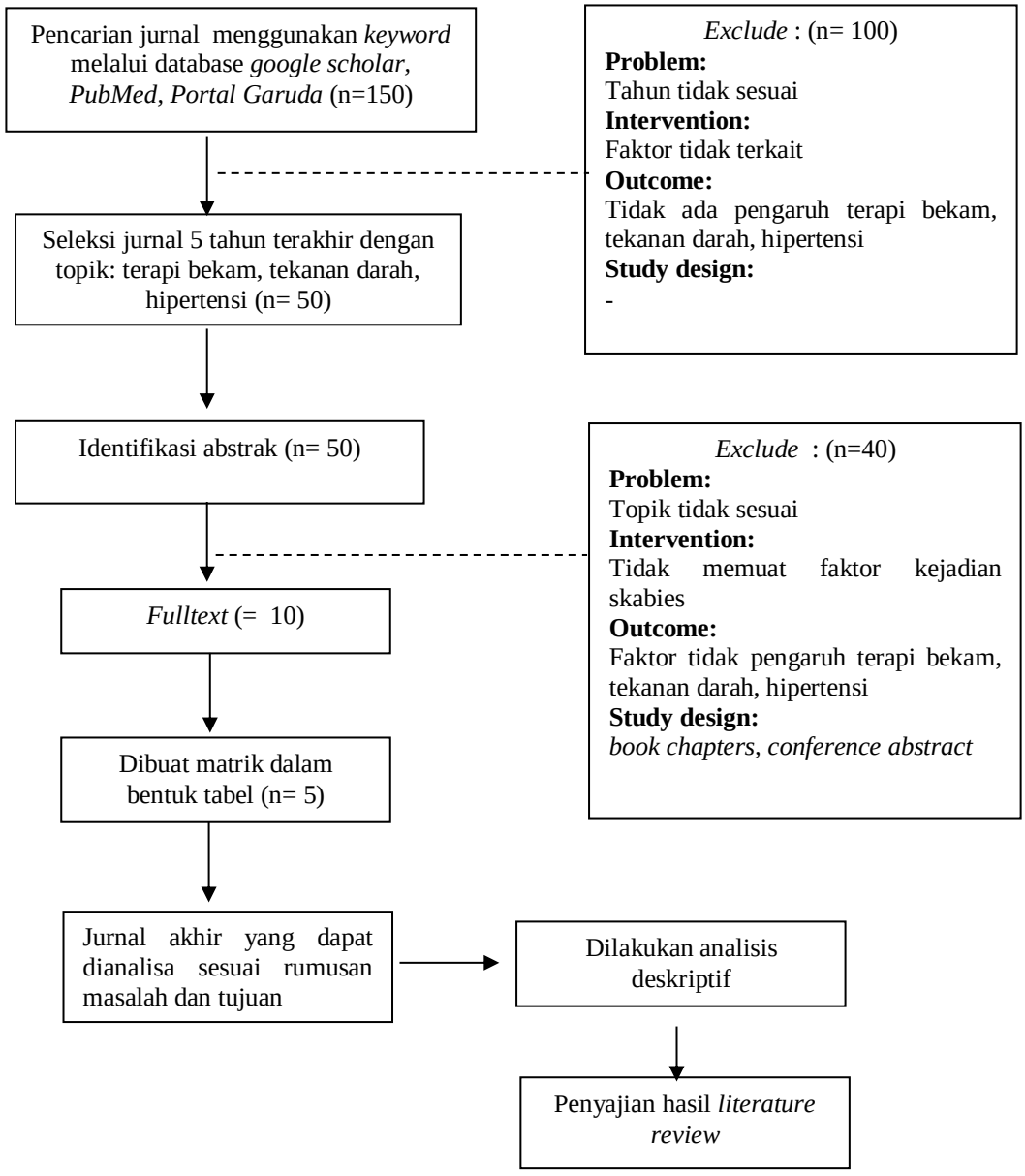
Kriteria	Inklusi	Eksklusi
Population/ Problem	Kelompok individu dengan *hipertensi*	Kelompok invidu dengan tekanan darah rendah
Intervention	Terapi bekam, tekanan darah tinggi	Selain Terapi bekam, tekanan darah tinggi
Comparation	Terdapat pembanding	Tidak terdapat pembanding
Outcome	Adanya pengaruh terapi bekam dan tekanan darah tinggi penderita *hipertensi*(p value <0,05)	Tidak adanya pengaruh terapi bekam dan tekanan darah tinggi penderita *hipertensi* (p value >0,05)
Study design	*Kuantitatif studi: crosssectional*	*Literature review, qualittive study, mixstudy,*
Publication years	2018-2022	Sebelum 2018
Language	Bahasa Indonesia dan *English*	Selain Bahasa Indonesia dan *English*

Tabel 3.2 Tabel PICOS

3.2.2 Hasil Pencarian dan Seleksi Studi

Berdasarkan hasil pencarian literatur melalui publikasi dalam database dan menggunakan katakunci yang sudah disesuaikan peneliti mendapatkan 150 artikel yang sesuai dengan tema dan tujuan penelitian. Hasil pencarian yang sudah didapatkan kemudian dilakukan identifikasi abstrak tersisa 50 artikel. Peneliti kemudian melakukan skrining fulltext yang sesuai dengan tema *literatur review* dan didapatkan sebanyak 10 artikel. Asesment yang dilakukan berdasarkan kelayakan terhadap kriteria inklusi dan eksklusi dan didapatkan sebanyak 5 artikel yang dapat digunakan

dalam *literatur review* ini. Hasil seleksi artikel studi dapat digambarkan dalam diagram *flow* dibawah ini:



Gambar 3.1 Kerangka Penelitian

BAB IV

HASIL DAN ANALISIS

4.1 Hasil

4.1.1 Karakteristik Studi

Lima artikel yang di dapatkan penulis memenuhi kriteria inklusi dan kelima artikel menggunakan metode penelitian kuantitatif dengan pendekatan *cross sectional*. Semua artikel penelitian membahas tentang efektivitas bekam untuk penurunan tekanan darah pada pasien hipertensi. Artikel yang digunakan terbit dalam rentang tahun 2012-2020, dua penelitian terbit tahun 2012, serta dua penelitian lain terbit tahun 2018, dan satu penelitian terbit tahun 2020. Hasil analisis artikel ditampilkan ke dalam bentuk tabel sebagai berikut :

Tabel 4.1 Hasil Analisis

Penulis dan Tahun Terbit	**Judul**	**Metode (Desain Penelitian, Sampel, Variabel, Instrumen, Analisis)**	**Hasil**	**Kesimpulan**
Mochammad Erwin Rachman, Aksa Nur Rachman (2020)	Cupping Therapy for Temporary Reduction of Blood Pressure in Hypertension Patients	**D**: *Descriptive Study* **S**: Total sampel 46 pasien **V**: Untuk mengetahui gambaran penurunan tekanan darah secara singkat pada penderita hipertensi menggunakan teknik terapi bekam. **I**: Teknik terapi bekam **A**: SPSS versi 13	Hasil penelitian menunjukkan bahwa rata-rata tekanan darah sistolik sebelum bekam adalah 164,78 mmHg mengalami penurunan sebesar 10,87 mmHg menjadi 153,91 mmHg setelah	Dari analisis di dapatkan data bahwa terapi teknik bekam dapat menurunkan tekanan darah sesaat pada penderita hipertensi.

			bekam dan rata-rata tekanan darah diastolik sebelum bekam sebesar 99,78 mmHg mengalami penurunan sebesar 4,13 mmHg menjadi 95,65 mmHg	
Nouran A. Aleyeidi, Khaled S. Aseri, Shadia M. Matbouli, Albaraa A. Sulaiamani, Sumayyah A. Kobeisy	Effects of wet-cupping on blood pressure in hypertensive patients: a randomized controlled trial	**D**: *Randomized controlled trial* **S**: 40 responden **V**: Menentukan kemanjuran bekam basah untuk tekanan darah tinggi, dan kejadian efek samping prosedur pada	Hasil penelitian menunjukkan rata -rata tekanan darah sistolik pada kelompok intervensi adalah 8,4 mmHg lebih rendah	Terapi bekam basah efektif menurunkan tekanan darah sistolik pada pasien hipertensi hingga 4 minggu, tanpa efek samping yang serius.

(2018)		kelompok intervensi. **I**: *Automatic sphygmomanometer dan wet cupping theraphy* **A**: SPSS version 16	dari pada kelompok kontrol *(P = 0,046)*	
Hengky Irawan, Setyo Ari (2012)	Pengaruh Terapi Bekam Terhadap Penurunan Tekanan Darah Pada Klien Hipertensi	**D**: *Pre-experimental one group pretest-post test* **S**: 14 responden **V**: Mengetahui pengaruh terapi bekam terhadap penurunan tekanan darah pada klien hipertensi **I**: *Cupping therapy*	Hasil penelitian menunjukkan terdapat penurunan tekanan darah yang signifikan antara pre test dan post test untuk tekanan darah sistolik mengalami penurunan	Dari analisis di dapatkan data bahwa ada pengaruh terapi memar untuk menurunkan tekanan darah pada pasien hipertensi.

		A: *T-test*	rata-rata 22,857 mmHg dan pre test dan post test tekanan darah diastolik rata-rata 21,429 mmHg dan pengujian dengan uji T menunjukkan p = 0001 dan 0003 (α < 0,05)	
Al-Tabakha MM, Sameer FT, Saeed MH, Batran RM, Abouhegazy NT, Faragallah AA (2018)	Evaluation of bloodletting cupping therapy in the management of hypertension	**D**: *Retrospective case–control study* **S**: 30 responden **V**: Menentukan apakah terapi Hijama bermanfaat dalam	Hasil penelitian menunjukkan penurunan yang signifikan dalam SBP (nilai P <0,01) selama	Dari analisis di dapatkan data bahwa menunjukkan hubungan yang jelas antara Hijama dan pengurangan dan kontrol

		pengobatan pasien dengan hipertensi **I**: *Wet cupping (Hijama)* **A**: *SPSS version 21*	tiga sesi bekam basah (dari 149,2 menjadi 130,8 mm Hg)	SBP pada pasien dengan hipertensi
Mohammad Zarei, Shirin Hejazi, Seyed Ali Javadi, Hojatollah Farahani (2012)	The efficacy of wet cupping in the treatment of hypertension	**D**: *Random, controlled, clinical trial* **S**: 42 responden **V**: Pengaruh bekam basah terhadap tekanan darah pada pasien usia 35-60 tahun yang terdiagnosis hipertensi. **I**: *Wet Cupping Theraphy* **A**: Analisis data dengan SPSS	Hasil penelitian menunjukkan perbedaan tekanan darah sistolik yang signifikan pada kelompok bekam sebelum dan sesudah bekam basah (P < 0,05).	Dari analisis di dapatkan data bahwa bekam mengurangi tekanan darah

		versi 17, *t-test, paired t-test,* *Fisher's exact test.*		

4.1.2 Karakteristik Responden

4.1.2.1 Usia

Penulis	Usia
Mochammad Erwin Rachman, Aksa Nur Rachman	>30 tahun
Nouran A. Aleyeidi, Khaled S. Aseri, Shadia M. Matbouli, Albaraa A. Sulaiamani, Sumayyah A. Kobeisy	Rata-rata 52 tahun
Hengky Irawan, Setyo Ari	>45 tahun
Al-Tabakha MM, Sameer FT, Saeed MH, Batran RM, Abouhegazy NT, Faragallah AA	40-60 tahun
Mohammad Zarei, Shirin Hejazi, Seyed Ali Javadi, Hojatollah Farahani	35-60 tahun

Tabel 4.2 Usia

Berdasarkan tabel 4.2, penelitian yang dilakukan oleh (Mochammad Erwin Rachman, Aksa Nur Rachman) usia responden diatas 30 tahun. Sedangkan pada penelitian yang dilakukan oleh (Nouran, et al) adalah responden rata-rata berusia 52 tahun. Pada penelitian yang dilakukan oleh (Hengky Irawan, Setyo Ari) usia responden diatas 45 tahun. Penelitian yang dilakukan oleh (Al-Tabakha, et al) usia responden berkisar antara 40-60 tahun. Penelitian yang dilakukan oleh (Mohammad Zarei, et al) usia responden antara 35-60 tahun.

4.1.2.2 Jenis Kelamin

Penulis	Jenis Kelamin	
	Laki-laki	Perempuan
Mochammad Erwin Rachman, Aksa Nur Rachman	24	22
Nouran A. Aleyeidi, Khaled S. Aseri, Shadia M. Matbouli, Albaraa A. Sulaiamani, Sumayyah A. Kobeisy	13	27
Hengky Irawan, Setyo Ari	14	0
Al-Tabakha MM, Sameer FT, Saeed MH, Batran RM, Abouhegazy NT, Faragallah AA	30	0
Mohammad Zarei, Shirin Hejazi, Seyed Ali Javadi, Hojatollah Farahani	11	10

Tabel 4.3 Jenis Kelamin

Berdasarkan tabel 4.3, penelitian yang (Mochammad Erwin Rachman, Aksa Nur Rachman) jenis kelamin responden pada penelitian ini sebagian besar adalah laki-laki sebanyak 24 responden dan perempuan sebanyak 22 responden. Sedangkan penelitian yang dilakukan oleh (Nouran, et al) jumlah responden laki- laki yaitu sebanyak 13 responden, lebih sedikit dibandingkan dengan responden perempuan yang berjumlah 27 responden. Penelitian yang dilakukan (Hengky Irawan, Setyo Ari) tidak menjelaskan jenis kelamin responden. Pada penelitian (Al-Tabakha, et al) hanya terdiri dari responden laki- laki yaitu sebanyak 30 responden. Sedangkan penelitian yang dilakukan oleh (Mohammad Zarei, et al) jenis kelamin responden laki-laki sedikit lebih banyak dengan jumlah 11 responden dan perempuan 10 responden.

4.2 Analisa

4.2.1 Tingkat tekanan darah sistolik sebelum dan sesudah bekam

Penulis	Rata-rata tekanan darah (Sistolik)		n
Mochammad Erwin Rachman, Aksa Nur Rachman	Sebelum	164.78	46
	Sesudah	153.91	
Nouran A. Aleyeidi, Khaled S. Aseri, Shadia M. Matbouli, Albaraa A. Sulaiamani, Sumayyah A. Kobeisy	Sebelum	152.0	40
	Sesudah	140.0	
Hengky Irawan, Setyo Ari	Sebelum	159.29	14
	Sesudah	136.43	
Al-Tabakha MM, Sameer FT, Saeed MH, Batran RM, Abouhegazy NT, Faragallah AA	Sebelum	149.2	30
	Sesudah	130.8	
Mohammad Zarei, Shirin Hejazi, Seyed Ali Javadi, Hojatollah Farahani	Sebelum	151.1	42
	Sesudah	141.2	

Tabel 4.4 Tingkat tekanan darah sistolik sebelum dan sesudah bekam

Berdasarkan tabel 4.4, tingkat tekanan darah sistolik sebelum dan sesudah bekam pada 5 artikel yang telah dianalisa menunjukkan hasil bahwa dalam penelitian (Mochammad Erwin Rachman, Aksa Nur Rachman) rata-rata tekanan darah responden sebelum di bekam yaitu 164.78 dan sesudah bekam menurun menjadi 153.91. Penelitian (Nouran, et al) rata-rata tekanan darah sebelum bekam 152 menurun di angka 140 sesudah di bekam. Sedangkan dalam penelitian (Hengky dan Setyo) rata-rata sebelum bekam turun banyak dari angka 159.29 menjadi 136.43 sesudah di bekam. Penelitian oleh (Al-tabakha, et al) juga menunjukkan rata-rata tekanan darah turun banyak yaitu 149.2 sebelum bekam menjadi 130.8 sesudah di bekam. Kemudian penelitian yang dilakukan Mohammad Zarei,et al) menunjukkan rata-rata tekanan darah 151.1 menjadi 141.2 sesudah di bekam.

4.2.2 Tingkat tekanan darah diastolik sebelum dan sesudah bekam

Penulis	Rata-rata tekanan darah (Diastolik)		n
Mochammad Erwin Rachman, Aksa Nur Rachman	Sebelum	99.78	46
	Sesudah	95.65	
Nouran A. Aleyeidi, Khaled S. Aseri, Shadia M. Matbouli, Albaraa A. Sulaiamani, Sumayyah A. Kobeisy	Sebelum	85.0	40
	Sesudah	82.0	
Hengky Irawan, Setyo Ari	Sebelum	101.43	14
	Sesudah	80.0	
Al-Tabakha MM, Sameer FT, Saeed MH, Batran RM, Abouhegazy NT, Faragallah AA	Sebelum	92.5	30
	Sesudah	87.0	
Mohammad Zarei, Shirin Hejazi, Seyed Ali Javadi, Hojatollah Farahani	Sebelum	93.2	42
	Sesudah	92.7	

Tabel 4.5 Tingkat tekanan darah diastolik sebelum dan sesudah bekam

Berdasarkan tabel 4.5, menunjukkan bahwa tingkat tekanan darah diastolik sebelum dan sesudah bekam pada 5 artikel yang telah dianalisa hasilnya yaitu dalam penelitian (Mochammad Erwin Rachman, Aksa Nur Rachman) rata-rata tekanan darah responden sebelum di bekam yaitu 99.78 dan sesudah bekam menurun menjadi 95.65. Penelitian (Nouran, et al) rata-rata tekanan darah sebelum bekam 85 menurun di angka 82 sesudah di bekam. Sedangkan dalam penelitian (Hengky dan Setyo) rata-rata sebelum bekam turun banyak dari angka 101.43 menjadi 80.0 sesudah di bekam. Penelitian oleh (Al-tabakha, et al) juga menunjukkan rata-rata tekanan darah

turun banyak yaitu 92.5 sebelum bekam menjadi 87.0 sesudah di bekam. Kemudian penelitian yang dilakukan (Mohammad Zarei,et al) menunjukkan rata-rata tekanan darah 93.2 menjadi 92.7 sesudah di bekam.

4.2.3 Perbedaan rata-rata tekanan darah sebelum dan sesudah bekam

Penulis	Tekanan darah	Rata-rata tekanan darah			N
		Sebelum	Sesudah	Perbedaan	
Mochammad Erwin Rachman, Aksa Nur Rachman	Sistolik	164.78	153.91	10.87	46
	Diastolik	99.78	95.65	4.13	
Nouran A. Aleyeidi, Khaled S. Aseri, Shadia M. Matbouli, Albaraa A. Sulaiamani, Sumayyah A. Kobeisy	Sistolik	152.0	140.0	12	40
	Diastolik	85.0	82.0	3	
Hengky Irawan, Setyo Ari	Sistolik	159.29	136.43	22.86	14
	Diastolik	101.43	80.0	21.43	
Al-Tabakha MM, Sameer FT, Saeed MH, Batran RM, Abouhegazy NT, Faragallah AA	Sistolik	149.2	130.8	18.4	30
	Diastolik	92.5	87.0	5.5	
Mohammad Zarei, Shirin Hejazi, Seyed Ali Javadi, Hojatollah Farahani	Sistolik	151.1	141.2	9.9	42
	Diastolik	93.2	92.7	0.5	

Tabel 4.6 Perbedaan rata-rata tekanan darah sebelum dan sesudah bekam

Berdasarkan tabel 4.6, menunjukkan perbedaan rata-rata tekanan darah sebelum dan sesudah bekam pada 5 artikel yang telah dianalisa hasilnya yaitu dalam penelitian (Mochammad Erwin Rachman, Aksa Nur Rachman) perbedaan rata-rata tekanan darah sistolik sebanyak 10.87 dan diastolik sebanyak 4.13. Penelitian (Nouran, et al) perbedaan rata-rata tekanan darah sistolik sebanyak 12 dan diastolik sebanyak 3. Sedangkan

dalam penelitian (Hengky dan Setyo) perbedaan rata-rata tekanan darah sistolik yaitu 22.86 dan diastolik sebanyak 21.43. Penelitian oleh (Al-tabakha, et al) menunjukkan perbedaan rata-rata tekanan darah sistolik sebanyak 18.4 dan diastolik sebanyak 5.5. Kemudian penelitian yang dilakukan (Mohammad Zarei,et al) menunjukkan perbedaan rata-rata tekanan darah sistolik sebanyak 9.9 dan diastolik sebanyak 0.5.

BAB 5

PEMBAHASAN

5.1 Mendeskripsikan tekanan darah sebelum dilakukan pemberian terapi bekam pada penderita hipertensi

Berdasarkan hasil dari penelitian kelima artikel didapatkan bahwa dari kelima artikel semua responden memiliki tekanan darah > 140 mmHg. Pada penelitian yang dilakukan oleh Mochammad Erwin Rachman, Aksa Nur Rachman (2020) dengan judul *Cupping Therapy for Temporary Reduction of Blood Pressure in Hypertension Patients* dengan total sampel 46 pasien dengan rata rata tekanan sitolik 164/78 mmHg. Penelitian yang dilakukan oleh Nouran dkk dengan judul *Effects of wet-cupping on blood pressure in hypertensive patients: a randomized controlled trial*, total responden 40 dengan rata rata tekanan darah sebelum dilakukan terapi bekam diatas 140 mmHg. Pada penelitian yang dilakukan oleh Hengky Irawan, Setyo Ari (2012) dengan judul Pengaruh Terapi Bekam Terhadap Penurunan Tekanan Darah Pada Klien Hipertensi, total responden 14 dengan rata rata tekanan darah sebelum dilakukan bekam diatas 140 mmHg. Serta dua artikel lainnya dengan total responden 72 dengan rata rata tekanan darah sebelum pemberian terapi bekam adalah 152 mmHg.

Bekam atau hijamah secara bahasa berasal dari kata al-hajmu yang artinya mengisap. Orang yang membekam disebut al-hajim karena ia mengisap darah melalui bagian tubuh yang dibelah (Ahmad, 2010). Bekam

adalah sebuah metode penanganan penyakit yang melibatkan Qi (Energi) dan Xue (darah) ke permukaan kulit menggunakan ruang hampa udara (vakum) yang tercipta di dalam mangkuk seperti gelas atau bambu. Darah yang telah terkumpul dikeluarkan dari kulit dengan dihisap, dengan tujuan meningkatkan sirkulasi energi Qi dan Xue, menimbulkan efek analgetik, mengurangi pembengkakan, dan mengeluarkan zat pathogen angin, baik dingin maupun lembab (Ridho, 2012).

Berdarakan fakta dan teori diatas peneliti menyimpulkan bahwa tekanan darah diatas 140 mmHg merupakan tanda hipertensi yang perlu manajemen hipertensi dengan baik, tidak hanya dengan farmakologi dan gaya hidup yang sehat, terapi alternatif seperti terapi bekam yang sudah banyak dilakukan penelitian oleh para ilmuan merupakan salah satu alternatif yang dapat di pilih sebagai pengobatan komplementer.

5.2 Mendeskripsikan tekanan darah sesudah dilakukan pemberian terapi bekam pada penderita hipertensi

Berdasarkan dari hasil penelitian dari lima artikel didapatkan bahwa terjadi penurunan setelah dilakukan terapi bekam. Pada penlitian yang dilakukan oleh Mochammad Erwin Rachman, Aksa Nur Rachman (2020) dengan judul *Cupping Therapy for Temporary Reduction of Blood Pressure in Hypertension Patients* mengalami penuurunan 10,87 mmHg. Penelitian yang dilakukan oleh Nouran dkk dengan judul *Effects of wet-cupping on blood pressure in hypertensive patients: a randomized controlled trial,* terjadi

penurunan 8 mmHg atau lebih rendah dari kelompok kontrol. Pada penelitian yang dilakukan oleh Hengky Irawan, Setyo Ari (2012) dengan judul Pengaruh Terapi Bekam Terhadap Penurunan Tekanan Darah Pada Klien Hipertensi, terjadi penurunan yang sangat signifikan, dengan angka 22,857 mmHg. Pada hasil penelitian yang dilakukan oleh Al-Tabakha dkk dengan judul *Evaluation of bloodletting cupping therapy in the management of hypertension* hsail rata rata penurunan tekanan darah adalah 9,7 mmHg.

Bekam merupakan proses pengeluaran *causative pathological subtances (CPS)* atau darah kotor, orang dengan hipertensi disebabkan oleh banyak faktor, yang diantaranya darah yang lebih kental, ada penumpukan kolesterol dalam darah dll, bekam memiliki titik tersendiri untuk hipertensi yaitu pada titik bekam di perut, titik bekam di punggung, titik bekam di kaki (Umar 2012).

Berdarakan fakta dan teori diatas dapat di simpulkan bahwa bekam dapat menurunkan tekanan darah dengan sigifikan mulai dari penurunan 9,7 mmHg hingga 22,857 mmHg.

BAB 6

KESIMPULAN DAN SARAN

6.1 Kesimpulan

Berdasarkan *studi literature* yang berjudul Efektivitas Bekam Terhadap Penurunan Tekanan Darah Pada Pasien Hipertensi dengan *literature review* dapat ditarik kesimpulan:

1. Tekanan darah sebelum dilakukan terapi bekam dari lima artikel diatas 140 mmHg.

2. Tekanan darah setelah dilakukan terapi bekam mengalami penurunan yang sangat signifikan yaitu 9,7 mmHg – 22,857 mmHg.

6.2 Saran

6.2.1 Bagi Peneliti

Bagi peneliti selanjutnya dapat melakukan penelitian secara langsung atau dengan data primer dengan responden yang lebih banyak serta menggunakan kelompok kontrol.

6.2.2 Bagi Masyarakat

Diharapkan masyarakat dapat memanfaatkan terapi bekam sebagai salah satu pengobatan komplementer sebagai alternafif pengobatan bagi penderita hipertensi.

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GREEN MEDICAL JOURNAL
E-ISSN 2686-6668

Green Medical Journal, Vol. 2 No.1 (April, 2020)

Cupping Therapy for Temporary Reduction of Blood Pressure in Hypertension Patients

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Received 3 March 2020; Accepted 29 March 2020 ; Published 4 April 2020

ABSTRACT

Introduction: Hypertension is still a major problem in the field of health problems in general. One therapy to cure hypertension is cupping technique therapy.
Objectives: To find a picture of a brief decrease in blood pressure in patients with hypertension using cupping therapy techniques.
Methods: This study was a descriptive study using purposive sampling totaling 85 populations and 46 samples.
Results: The results showed that the average systolic blood pressure before cupping was 164.78 mmHg decreased by 10.87 mmHg to 153.91 mmHg after cupping and the average diastolic blood pressure before cupping was 99.78 mmHg decreased by 4.13 mmHg to 95.65 mmHg.
Conclusion: The results showed that cupping technique therapy can reduce blood pressure for a moment in hypertension sufferers.

Keywords: Cupping therapy; blood pressure; hypertension

Introduction

Various facts show that until now, hypertension is still a major problem in the field of neurology and health in general. To overcome this crucial problem, prevention of hypertension not only includes the preventive aspects, but also rehabilitation therapy is very helpful.[1]

Treatment of hypertension by pharmacotherapy can be done by administering diuretics, Calcium Channel Blockers, Angiotensin Converting Enzyme (ACE) inhibitors. The treatment depends on the patient's consideration including regarding costs, demographic characteristics, comorbidities, and quality of life. Treatment of hypertension is currently not very effective and the price of the drug is also relatively expensive, recurrence often occurs and causes more dangerous side effects.[2,3]

One therapy to cure hypertension is cupping technique therapy. The purpose of cupping is to remove blood from the body that is believed to damage the body and in turn has the potential to cause harm from the usual symptoms to those that lead to a decrease in health.[2,4]

Method

This research is a descriptive study using purposive sampling. The research location will be held in Makassar's Islamic Health Care Center Clinic for a month. The population is all patients with hypertension who do cupping technique therapy and recorded in the medical record. The procedure begins with the measurement of blood pressure before the patient has been placed in bed after resting for approximately 20-30 minutes. After that the patient was buried for 30-45 minutes by cupping technique at 5 points of burping (according to standard cupping therapy in patients with hypertension). Then the patient rests for 20-30 minutes, then blood pressure measurements are taken again after suppression. Then the blood pressure measured is systole and diastole.

Data processing is carried out by taking medic record data in the Makassar City Cupping Clinic and processing it using a computer with a statistical product and service solution (SPSS) version *13,00* program as a tool in collecting and processing data of research results presented in tabular and graphical forms.

Results

Based on the results of research conducted on 46 patients, the distribution table is obtained as follows:

Table 1. Distribution of Patient According to Age, Sex, Degree of Hypertension at The Makassar Islamic Heal Care Center Clinic

Variable	n	%
A. Age (Years)		
30 - 39	8	17.4
40 - 49	25	54.3
≥ 50	13	28.3
B. Gender		
Female	22	47.8
Male	24	52.2
C. Grade of Hypertension		
Grade 1	12	26.1
Grade 2	34	73.9

Source : Secondary date 2018

Based on table 1 it can be seen that sufferers are in the age group of 30-39 years, as many as 8 people (17.4%), the age group of 40-49 years are 25 people (54, 3%), while the age group ≥ 50 years is 13 people (28.3%). Patients who are male, as many as 24 people (52.2%), while women as many as 22 people (47.8%). patients had grade 2 hypertension, which was 34 people (73.9%), while patients had grade 1 hypertension as many as 12 people (26.1%).

Table 2. Distribution of Blood Pressure Pre and Post Cupping Therapy

Variable	Amount (n)	Minimum	Maximum	Median	Average
Blood pressure before cupping					
Systole	46	140	200	170	164.78
Diastole	46	90	120	100	99.78
Blood pressure after cupping					
Systole	46	120	190	155	153.91
Diastole	46	80	120	90	95.65

Source: Secondary Data 2018

Based on table 2 it can be seen that the systolic blood pressure before cupping is 140 mmHg, the maximum value is 200 mmHg, the median value is 170 mmHg, and the mean value is 164.78 mmHg while the diastole blood pressure minimum value is 90 mmHg, the maximum value is 120 mmHg, the median value is 100 mmHg, and the mean value is 99.78 mmHg. Whereas the systolic blood pressure after cupping the minimum value is 120 mmHg, the maximum value is 190 mmHg, the median value is 155 mmHg, and the mean value is 153.91 mmHg while the blood pressure diastole has cupped the minimum value is 80 mmHg, the maximum value is 120 mmHg, the median value is 90 mmHg, and the mean value is 95.65 mmHg.

Table 3. Overview Difference Mean Blood Pressure Pre and Post Cupping Therapy

Variable	Pre Cupping	Post cupping	Difference
Systole	164.78	153.91	10.87
Diastole	99.78	95.65	4.13

Source: Secondary Date 2018

Based on table 3 it can be seen that the difference in systolic blood pressure before and after cupping is 10.87 mmHg while the diastole blood pressure difference before and after cupping is 4.13 mmHg.

Discussion

Based on the age characteristics it can be concluded that the majority of patients are in the 40-49 years group of 25 people and the age group ≥ 50 years are 13 people so that it can be said the incidence of increased blood pressure increases at this age. This is in line with research conducted by Institute of Medicine (US) Committee on Public Health Priorities to Reduce and Control Hypertension (2010) which shows that the incidence of hypertension is prevalent in populations with an age range of 40 - 59 years.[5]

Based on the sex characteristics, it can be concluded that the majority of hypertensive sufferers are male as many as 24 sufferers so it can be said that men suffer more

hypertension than women. This result is in line with the theory put forward by William *(*2009) that men have a high risk of developing hypertension due to the type of work done by men heavier than women as well as smoking or drinking alcohol and also emotions that are less regular. While the risk factors for women with hypertension are very rare as long as they do not follow the risk factors like men. In addition, premenopausal women are still awake by the hormone estrogens which regulates the condition of cholesterol or lipids which are the most common factor in hypertension.[6] But these results are also inversely related to research conducted by Wijaya PA on the Relationship between Lifestyle and the Occurrence of Hypertension in Outpatients in Internal Medicine at the Raden Said Sukanto Central Jakarta Police Hospital in 2009 which showed that more women suffer from hypertension than men guys. This is consistent with WHO's statement in 2005, stated that women with hypertension were higher, namely 37%, while men were 28%.

Based on the characteristics of the degree of hypertension the majority of patients who come for treatment at the Makassar Islamic Health Care Center clinic are in second degree hypertension, namely 34 people by 73.9%, then followed by first degree hypertension for 12 people by 26.1%. This is in line with research conducted by Ernest *et al* (2014) where 19 degrees of hypertension (48.7%), grade 2 hypertension (51.3%) were obtained.[7]

Based on research results from Abdullah M.N in Cupping the Sunnah of the Prophet and Medical Miracles that is cupping can reduce blood pressure.[1] This is consistent with this study which shows that the average systolic blood pressure is 164.78 mmHg (before cupping) will decrease by 10.87 mmHg to 153.91 mmHg (after cupping) while the average blood pressure of diastole is 99, 78 mmHg (before cupping) will decrease by 4.13 mmHg to 95.65 mmHg (after cupping).

According to Umar WA, under the skin and muscles there are many nerve points. These points are interconnected between one another's organs so that cupping is done not always on the affected part of the body but at the relevant nerve node. Impingement is usually done on the surface of the skin (cutis), subcutaneous tissue (sub cutis) this tissue will be "damaged".[8]

As a result of this damage several substances such as *serotonin, histamine, bradykinin , slow reaction substance* (SRS) will be released as well as other unknown substances. This substance causes capillary and arteriol dilatation, and flare reaction in the area to be burned. Capillary dilatation can also occur in places far from the burial site. This

causes an improvement in blood vessel microcirculation.[9] As a result the relaxing effect (relaxation) of stiff muscles and as a result of general vasodilation will reduce blood pressure stably. Most important is the release of *corticotrophin releasing factor* (*CRF*), as well as other releasing factors by *adenohipophyse* . CRF will then cause the formation of *ACTH* , *corticotrophin and corticosteroids* . This corticosteroid has the effect of curing inflammation and stabilizing cell permeability.[10]

Conclusions

There was a decrease average someone with systolic blood pressure after establish bruise late by 10.87 mm Hg, and mean diastolic blood pressure of 4.13 mmHg. It is hoped that subsequent researchers will add to factors other than hypertension in order to better understand the factors that influence cupping therapy in order to reduce blood pressure.

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Effects of wet-cupping on blood pressure in hypertensive patients: a randomized controlled trial

Article *in* Journal of Integrative Medicine · November 2015

DOI: 10.1016/S2095-4964(15)60197-2

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• Research Article

Effects of wet-cupping on blood pressure in hypertensive patients: a randomized controlled trial

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ABSTRACT

BACKGROUND: Although cupping remains a popular treatment modality worldwide, its efficacy for most diseases, including hypertension, has not been scientifically evaluated.

OBJECTIVE: We aimed to determine the efficacy of wet-cupping for high blood pressure, and the incidence of the procedure's side effects in the intervention group.

DESIGN, SETTING, PARTICIPANTS AND INTERVENTIONS: This is a randomized controlled trial conducted in the General Practice Department at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, between May 2013 and February 2014. There were two groups (40 participants each): intervention group undergoing wet-cupping (hijama) in addition to conventional hypertension treatment, and a control group undergoing only conventional hypertension treatment. Three wet-cupping sessions were performed every other day.

MAIN OUTCOME MEASURE: The mean systolic and diastolic blood pressures were measured using a validated automatic sphygmomanometer. The follow-up period was 8 weeks.

RESULTS: Wet-cupping provided an immediate reduction of systolic blood pressure. After 4 weeks of follow-up, the mean systolic blood pressure in the intervention group was 8.4 mmHg less than in the control group (P = 0.046). After 8 weeks, there were no significant differences in blood pressures between the intervention and control groups. In this study, wet-cupping did not result in any serious side effects.

CONCLUSION: Wet-cupping therapy is effective for reducing systolic blood pressure in hypertensive patients for up to 4 weeks, without serious side effects. Wet-cupping should be considered as a complementary hypertension treatment, and further studies are needed.

TRIAL REGISTRATION: *ClinicalTrials.gov* Identifier NCT01987583.

Keywords: blood pressure; hypertension; cupping therapy; randomized controlled trials

Citation: Aleyeidi NA, Aseri KS, Matbouli SM, Sulaiamani AA, Kobeisy SA. Effects of wet-cupping on blood pressure in hypertensive patients: a randomized controlled trial. *J Integr Med*. 2015; 13(6): 391–399.

http://dx.doi.org/10.1016/S2095-4964(15)60197-2
Received March 18, 2015; **accepted** June 9, 2015.
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1 Introduction

Hypertension is an important health problem, rated globally as the number one mortality risk factor in 2004[1]. Worldwide, approximately 40% of adults over age 25 are reported to be hypertensive[2]. In Saudi Arabia, the overall prevalence is 25.5% among 15–64 year olds[3]. Despite its prevalence, a real cure for the disease has yet to be discovered. All currently available anti-hypertension medications control blood pressure (BP) for a very limited time, never exceeding a single day, rather than actually being curative. Additionally, these medications are also associated with side effects and increased costs for the patients. As a result, the World Health Organization (WHO) stated that, currently, a more suitable long-acting, single dose/day anti-hypertension medication without side effects, that can also reverse the complications of hypertension, is still needed[4]. Thus, the search continues for a new anti-hypertension remedy.

Cupping is an ancient healing method that has been practiced for centuries in many parts of the world. Cupping therapy can be divided into two broad categories, dry- and wet-cupping. Dry-cupping is the process of using a vacuum on different areas of the body in order to collect blood in that area without any incisions[5]. Wet-cupping (or hijama in Arabic) is the process of using a vacuum at different points on the body, along with the use of incisions (small, light scratches made using a razor), to remove what was previously termed as 'harmful blood' (this represents accumulated blood that is located just beneath the skin surface)[5].

Although cupping remains a popular treatment modality in many parts of the world, its efficacy for most diseases, including hypertension, has not been scientifically studied. A recent systematic review involved searching 15 databases, without language restrictions, and included all relevant trials through June 2009[6]. Only 2 studies met the inclusion criteria, and only one assessed the effects of wet-cupping. In that study, 35 patients with acute hypertension were included, and all patients underwent three wet-cupping sessions every other day on the GV14 (Dazhui) acupuncture point; there was no control group. After a single wet-cupping session, acute hypertension improved in 71% of the patients[7]. The authors of the systematic review concluded that there was no strong evidence suggesting that cupping is an effective treatment for hypertension, and that further research is required[6]. A recent randomized controlled trial (RCT) assessed the efficacy of wet-cupping for the treatment of hypertension. The protocol randomly divided 42 participants into intervention and control groups. After 6 weeks of follow-up, a comparison of the mean BP differences between the intervention and control groups showed a significant difference in systolic BP (SBP), but not in diastolic BP (DBP)[8].

Thus, further evidence is needed to establish the efficacy of wet-cupping for lowering high BP. The present study investigated the efficacy of wet-cupping in lowering BP in hypertensive patients, and assessed the incidence of side effects among the treated participants.

2 Materials and methods

The present RCT was conducted in the General Practice Department at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, between May 2013 and February 2014. *The Declaration of Helsinki* was followed and ethical approval was given by the Unit of Biomedical Ethics at King Abdulaziz University before data collection.

This two-armed study involved an intervention group, undergoing wet-cupping (hijama) in addition to conventional hypertension treatment, and a control group undergoing only conventional hypertension treatment. The study could not be blinded because blinding was impossible for this procedure, unlike that for dry-cupping[9].

2.1 Participants

The participants were included in the study if they had high (grade I or II)[4] BP at the time of the study (SBP ≥ 140 mmHg and/or DBP ≥ 90 mmHg). For patients with diabetes mellitus, high BP was defined as SBP ≥ 130 mmHg and/or DBP ≥85 mmHg[10]. Patients were required to be 19–65 years old, and both men and women were included. Patients were excluded if they had grade III hypertension (SBP ≥ 180 mmHg and/or DBP ≥ 110 mmHg), very high added risk according to the WHO hypertension management guidelines[4], or secondary hypertension, or were pregnant. Patients who had undergone dry-cupping, wet-cupping, or acupuncture within the previous six months were also excluded, as were those who required anti-hypertension medication dose or type changes within the follow-up period.

2.2 Randomization and ethical considerations

After checking for eligibility, written informed consent was obtained, and the participants were randomized into the treatment or control group using block randomization method. To preserve concealment, the randomization was performed using sealed opaque envelopes, such that neither the patient nor the observer could predict the group to which a participant was assigned. The randomization process and patient enrolment into their groups were done by the prime investigator. Patient confidentiality was ensured throughout the study, and participants were free to exit the study whenever they desired.

2.3 Intervention

The hijama procedure, performed on intervention group patients, involved cleaning the target area with an alcohol swab, placing the cup over the area, and starting suction. The cup was then gently removed, and five very superficial incisions were made parallel to each other. After creating

the incisions, the cup was placed over the same area and the suctioning was repeated. The cupping procedure was repeated approximately three times without repeating the incisioning, and then the area was cleaned and dressed. Hijama was performed at four sites (Figure 1). The first site was between the two scapulae, opposite the T1—T3 scapular spine. This is the recommended site for treatment of hypertension in an RCT previously done in Iran[7]. This area is called Al-Kahil in Arabic. The second site was located on the seventh cervical vertebra. This site was used in the uncontrolled observational study performed in China on the efficacy of wet-cupping for hypertension[6], and it is called GV14 in Chinese medicine. The other two sites were on both sides of the neck. They are located two fingers posterior to the angle of the mandible on both sides, just below the skull bone, on the hairline. These two areas are called Al-Akhdaain in Arabic, and they were added because they are recommended areas in Islamic literature for general healing along with Al-Kahil[11].

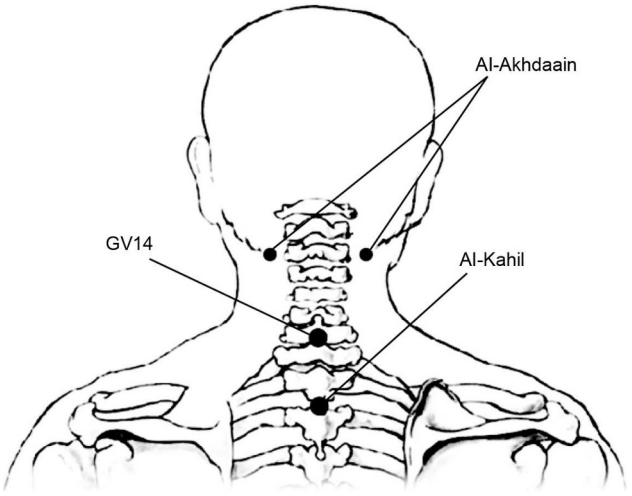

Figure 1 Wet-cupping treatment points

The hijama sessions were repeated 3 times, with a rest day between sessions[6,8]. In Islamic literature, hijama is recommended to be done on days 17, 19, and 21 of the lunar calendar month; these sessions were performed accordingly[11].

2.4 Outcome measures

The main outcome measure in this study was BP measurements. For BP measurement, we followed the BP measurement standards recommended by the *Saudi Hypertension Management Guidelines*[10]. According to these guidelines, the patient rested for 3–5 min before the BP was measured; measurements were performed on both arms during the initial visit. The patient avoided consumption of nicotine or caffeine for 1 h prior to the BP measurement. An appropriate cuff size was used — either a standard or large cuff — according to the upper arm circumference of the participant. All BP measurements were performed with the patient in a sitting position, using a validated, automatic oscillometric sphygmomanometer (705IT; Omron, Kyoto, Japan) to minimize observer bias[12–14]. The instructions provided by the device manufacturer were carefully followed for the measurements. BP was recorded at least twice during each visit, and the mean value was documented.

The potential side effects were those previously published[15]. The occurrence of side effects was evaluated immediately after each hijama session (immediate effects), as well as 4 weeks after the sessions (late effects). The percentage of side effects experienced due to the hijama procedure was calculated.

2.5 Sample size

Based on figures from a previous pilot study[16], we used a standard deviation of ± 15.9 mmHg to calculate the sample size necessary to detect a difference of 10 mmHg between the groups. A sample size of 80 participants, equally divided between the intervention and the control groups, was determined to be sufficient to detect a 10-mmHg change in SBP with 80% power and $\alpha = 0.05$.

2.6 Statistical analysis

Statistical analyses were conducted using SPSS, version 16.0 (IBM, Armonk, NY, USA). BP comparisons were performed between the intervention and control groups at baseline, 4 weeks after intervention, and 8 weeks after intervention using unpaired Student's *t*-test analyses. A second BP comparison was conducted within each group using a paired *t*-test. *P* values < 0.05 were considered significant. Mean BP differences, with 95% confidence intervals, were reported. The percentage of patients experiencing any hijama-related side effect was calculated. An intention-to-treat analysis was used to consider participants lost to follow-up.

3 Results

3.1 Participants' inclusion and exclusion process

During the recruitment period, 318 participants were screened to check for the primary eligibility criteria; 180 individuals were excluded, and 58 refused to participate in the study. The remaining 80 participants were recruited into the study and randomized into the intervention (40 participants) and control (40 participants) groups. Three participants did not attend the 4-week follow-up session and 7 did not attend the 8-week follow-up session. Further, 1 participants from the intervention group and 3 from the control group were excluded at the last follow-up appointment because of changes in their anti-hypertension medications (Figure 2).

3.2 Baseline characteristics' comparison

The intervention and control groups had well-matched

baseline characteristics, without statistically significant differences between any of the baseline variables, except for fasting blood sugar levels, which were significantly higher in the intervention group than in the control group (P = 0.022). The baseline BP measurements were not significantly different (Table 1).

3.3 Conventional anti-hypertension treatment details

Most of the participants in this study were already taking anti-hypertension medications, including 28 in the intervention group and 33 in the control group. The number of anti-hypertension medications used by the participants was not significantly different between the two groups. In addition, the intervention and control groups were compared regarding the class of anti-hypertension medications taken by the participants. There were no significant differences between the two groups in that area (Table 2).

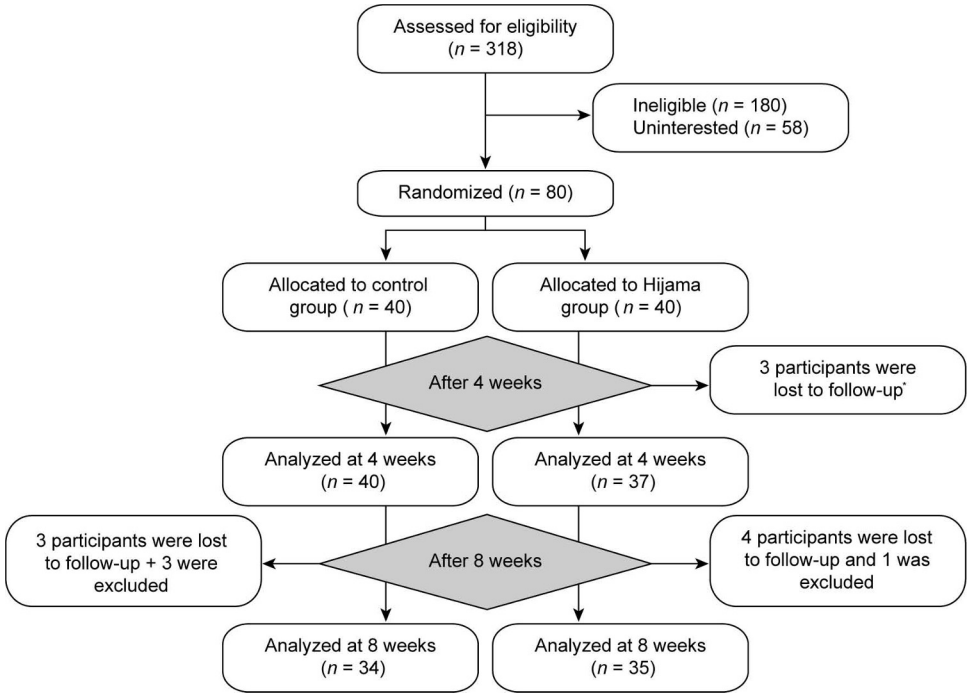

Figure 2 Participant flow chart

*The 3 participants who were lost to follow-up at 4 weeks showed up at the 8 weeks.

Table 1 Comparison of the participants' baseline characteristics

Baseline characteristic	Intervention group (n=40)	Control group (n=40)	P value
Mean age, years (± SD)	52.0 (±9.4)	53.8 (±9.5)	0.409
Male:female ratio	13:27	11:29	—
Diabetes, n (%)	25 (62.5)	23 (57.5)	0.648
Hyperlipidemia, n (%)	26 (65)	22 (58)	0.434
Mean body mass index, kg/m^2 (± SD)	32.1 (±6.2)	33.2 (±6.4)	0.444
Currently smoking, n (%)	3 (7.5)	2 (5.1)	1.0
Family history of premature cardiovascular disease deaths, n (%)	2 (5)	3 (7.7)	0.675
Mean fasting blood sugar, mmol/L (± SD)	8.5 (±4.1)	6.6 (±1.8)	0.022
Mean low-density lipoprotein level, mmol/L (± SD)	3.2 (±1.0)	2.9 (±0.7)	0.160
Mean high-density lipoprotein level, mmol/L (± SD)	1.3 (±0.4)	1.3 (±0.5)	0.621
Mean creatinine level, mmol/L (± SD)	62.0 (±18.0)	54.6 (±24.0)	0.145
Mean potassium level, mmol/L (± SD)	3.9 (±0.7)	5.5 (±8.9)	0.283
Mean thyroid-stimulating hormone level, mIU/L (± SD)	4.8 (±12.2)	2.9 (±2.5)	0.345

SD: standard deviation.

During the entire follow-up period, any participant who had changed his or her anti-hypertension medication was excluded from the study, as mentioned before. The participants' compliance with their anti-hypertension medication schedule was measured, using a validated tool[17–19], at the beginning and end of the study. In addition, histories of the use of anti-hypertensive herbal treatments or other concomitant medications were also obtained. These variables were compared between the intervention and the control groups using chi square or Fisher's exact tests; no significant differences were observed.

3.4 Blood pressure changes during follow-up

At the 4-week follow-up visit, BP measurements were repeated for both groups. The mean SBP and DBP after intervention in the hijama group were significantly different (paired *t*-test) from those at baseline ($P = 0.000$ and 0.042, respectively). In the control group, there were also significant differences (paired *t*-test) in the SBP and DBP compared to those at baseline ($P = 0.016$ and 0.003, respectively). When comparing the mean BP readings between the two groups after 4 weeks of follow-up (Student's *t*-test), there was a significant difference in SBP values ($P = 0.046$) but not in DBP values ($P = 0.681$). The mean difference in SBP values between the two groups after 4 weeks of follow-up was –8.4 mmHg (95% confidence interval, –16.7 to –0.1).

After 8 weeks of follow-up, significant differences persisted within the hijama group, for SBP and DBP ($P = 0.002$ and 0.004, respectively, compared with those at baseline). Similar results were also found for both SBP and DBP in the control group ($P = 0.036$ and 0.022, respectively, compared with those at baseline). When comparing the mean BP readings (independent Student's *t*-test) between the two groups, after 8 weeks of follow-up, the differences in the SBP and DBP values were not significantly different between the groups ($P = 0.129$ and 0.881, respectively) (Table 3).

3.5 Assessment of factors that may affect the participants' blood pressure

As various factors may alter BP results, we repeated the comparisons several times while accounting for these factors. One such factor was the amount of blood collected during hijama. This factor was not included in the original protocol; therefore, a cut-off value for high and low volumes of collected blood was not prospectively determined. The amount of blood collected was recorded using the symbols +, ++, +++ or ++++, and was only recorded during the third hijama session. Nevertheless, we believe that this factor should be accounted for, and hence, the amount of blood collected was estimated as accurately as possible. Therefore, the hijama group was divided into two groups — the lower amount of blood extracted (LABE) group included those with + and ++ (estimated to represent less than 50 mL per session), and the higher amount of blood extracted (HABE) group included those with +++ and ++++ (estimated to represent more than 50 mL per session). Thereafter, both the HABE and LABE groups were compared with the control group. When the LABE

Table 2 Comparison of the class of anti-hypertension medications taken by the participants

Anti-hypertension medication class	Intervention group (n=40)	Control group (n=40)	P value
Angiotensin-converting enzyme inhibitors (%)	18 (45%)	13 (32.5%)	0.251
Calcium channel blockers (%)	10 (25%)	14 (35%)	0.329
Thiazide diuretics (%)	3 (7.5%)	8 (20%)	0.105
β_1 Receptor antagonists (%)	3 (7.5%)	6 (15%)	0.481
Angiotensin-II receptor antagonists (%)	3 (7.5%)	5 (12.5%)	0.712
Loop diuretics (%)	1 (2.5%)	0 (0%)	1.0

Table 3 Blood pressure comparisons between the intervention and control groups after 4 and 8 weeks of follow-up, and the changes from baseline within each group

(Mean ± standard deviation, mmHg)

Group	Systolic BP	Diastolic BP
Hijama group		
At baseline (n=40)	152.0 ± 10.7	85.0 ± 7.9
After 4 weeks (n=37)	140.0 ± 17.7*	82.0 ± 9.9
After 8 weeks (n=35)	143.0 ± 19.8	81.0 ± 10.4
Control group		
At baseline (n=40)	157.0 ± 11.3	86.0 ± 6.4
After 4 weeks (n=40)	149.0 ± 18.5	81.0 ± 12.2
After 8 weeks (n=34)	150.0 ± 15.8	82.0 ± 12.1

*P<0.05, *vs* control group. BP: blood pressure.

group was compared with the control group, the BP results were not significantly different. However, there was a significant difference in SBP at the 4-week follow-up visit when the HABE group was compared with the control group. Finally, we compared the LABE group with the HABE group. The SBP and DBP values were significantly different between these two groups after 4 weeks of follow-up (Table 4).

The other factors that may affect blood pressure outcome were also assessed, including gender, number of hijama sessions, body mass index, compliance with the anti-hypertension medication therapy, and the class of the anti-hypertension medication taken by the patient. None of these factors had a significant effect on the blood pressure outcomes.

3.6 Assessment of wet-cupping's side effects

Serious side effects were not observed in the hijama group. Most of the mild side effects were experienced immediately after hijama and lasted for few hours, but never for more than 48 h. This excludes hijama-site pruritus, which appeared 1–2 d after the session and lasted for a few days. The most common immediate side effects were headache, followed by hijama-site pruritus, dizziness, and feeling tired and sleepy after hijama. Wound infections were not observed 1–2 weeks after the intervention in any of the participants. After 8 weeks of follow-up, the only remaining side effect was a mildly hyperpigmented scar at the hijama site in 10 participants (27.8% of the hijama group) (Table 5). In addition, all of the mentioned side effects were compared between the HABE and LABE groups after the 3rd session, because the amount of blood was only recorded at that time, and there was no significant difference between the two groups (Table 6).

4 Discussion

The results of the present study showed a significant difference in SBP measurements (–8.4 mmHg) between the intervention and control groups after 4 weeks of follow-up. After 8 weeks of follow-up, the hijama effect had disappeared, leaving no significant BP difference between the intervention and control groups. The positive results reported in this study are consistent with those of Zarei *et al*[8] who also reported a significant difference in SBP values between the intervention and control groups after 6 weeks of follow-up. Therefore, hijama produces an effect that lasts for 4–6 weeks.

Table 4 Comparison of the BP values between the higher amount of blood extracted (HABE) group and the lower amount of blood extracted (LABE) group

Measurement (mmHg)	HABE group	LABE group	Mean difference between the two groups	*P* value
Systolic BP at baseline	150 (±12.2)	156 (±9.2)	5.9 (−1.5–13.2)	0.114
Diastolic BP at baseline	85 (±8.3)	85 (±8.1)	−0.2 (−5.8–5.5)	0.957
Systolic BP after 4 weeks	133 (±12.5)	146 (±20.8)	2.8 (0.4–25.1)	0.043
Diastolic BP after 4 weeks	78 (±11.1)	85 (±7.5)	7.0 (0.2–13.7)	0.044
Systolic BP after 8 weeks	141 (±14.2)	144 (±24.4)	3.0 (−13.1–19.2)	0.704
Diastolic BP after 8 weeks	81 (±10.6)	81 (±11.7)	0.2 (−8.5–8.9)	0.963

After 4 weeks of follow-up, the group with a higher amount of blood extracted included 15 participants, whereas the group with a lower volume of blood extracted included 20 participants. After 8 weeks of follow-up, the group with a higher amount of blood extracted included 12 participants, whereas the group with a lower volume of blood extracted included 17 participants. BP: blood pressure.

Table 5 Frequency of adverse events immediately after each hijama session

Side effect	After session 1	After session 2	After session 3	Total frequency	Percentage (based on total number of sessions)
Headache	4	3	6	13	11.8%
Hijama-site pruritus	0	3	5	8	7.3%
Dizziness	5	2	0	7	6.4%
Tired and sleepy	1	3	3	7	6.4%
Nausea	2	0	1	3	2.7%
Pain at hijama site	0	0	2	2	1.8%
Same-day insomnia	1	1	0	2	1.8%
Vomiting	1	0	0	1	0.9%
Bullae formation	0	0	0	0	0%

Table 6 Comparison of the wet-cupping side effects between the higher amount of blood extracted (HABE) group and the lower amount of blood extracted (LABE) group

Side effect	HABE group	LABE group	*P* value
Headache	1	4*	0.336
Hijama-site pruritus	1	3*	0.602
Dizziness	0	0	1.000
Tired and sleepy	0	3	0.228
Nausea	1	0	0.467
Pain at hijama site	1	1	1.000
Same-day insomnia	0	0	1.000
Vomiting	0	0	1.000
Bullae formation	0	0	1.000

*1 missing data.

When comparing the baseline BP measurements with the BP readings at 4 and 8 weeks of follow-up, a significant difference was noted within the hijama group, although similar results were also found within the control group. However, we believe that the BP reduction in the control group may be due to the short follow-up intervals — this may have made the participants more conscious of their BP, and may have led them to improve their diet and lifestyle, possibly positively influencing their BP measurements. However, these reductions were not the result of changes in anti-hypertensive medication types or compliance, as these factors were monitored throughout the study.

An uncontrolled observational study in China measured the BP outcomes of patients immediately after they underwent hijama sessions, and the values were compared with the baseline BP readings[7]. The authors reported a significant difference in the readings, similar to that in the present study; however, we do not believe that this observation is clinically relevant because if hijama does not yield a relatively long-lasting BP reduction, it would not be applicable as a treatment as it is unrealistic to undergo the procedure daily.

The days for hijama procedures in the present study (days 17, 19, and 21 of the lunar month) were chosen according to Islamic literature. Some evidence in the published literature has indicated some relation between the lunar phase and blood pressure[20]. In our previous pilot study, we did not choose specific days for conducting hijama sessions, and we did not observe any positive effect on BP[16]. However, the identification of specific days for performing the hijama procedure requires further research, particularly considering that this variable has not been reported in previous hypertension studies.

Although we assessed many factors that could have affected the hijama procedure outcomes, the amount of blood collected during the hijama session was the only one that showed a positive effect on the BP. As mentioned earlier, hijama patients in the HABE group had better BP outcomes than those in the LABE group. In particular, these groups showed significantly different SBPs and DBPs. However, as this measurement was not prospectively planned, the amount of blood was not accurately measured. Nevertheless, this is an important point that has not been described in previous studies. We believe that a greater number of incisions at each hijama site — 10 to 15 incisions — might yield more blood collection and consequently produce better results. Based on our results, we would not recommend undergoing 3 consecutive sessions, each spaced a day apart, because there was no BP difference between those who did one, two, or three sessions. One session might be enough to achieve the required result. This is area that needs further research.

The BP-lowering mechanism of hijama is unknown. One hypothesized mechanism of action is the "Taibah Theory", which states that hijama drains interstitial fluid, excess intravascular fluid, and noxious metabolic substances. The theory also hypothesizes that hijama stimulates endogenous nitric oxide production and excretion of accumulated vasoactive substances and free radicals, which may cause reduced BP measurements. All these effects are beneficial for treating hypertension, according to the theory[21].

In the present study, hijama was demonstrated to be a generally safe and well-tolerated procedure. The most common immediate side effect was headache, with other less frequent side effects including pruritus, post-procedural sleepiness, dizziness, nausea, and insomnia; only one patient experienced pain at the cupping site. One patient experienced hypotension and vomiting after her first hijama session, immediately after seeing blood accidently spilled from the collection cup; this may have been a vaso-vagal effect. She was stabilized before she left the clinic and her blood pressure returned to normal within a few minutes. That patient did not experience similar reactions following the subsequent two hijama sessions. The only late side effect was the presence of mild hyperpigmented scars that persisted 8 weeks after treatment in 10 of the 36 participants who completed the follow-up visits. Typically, these scars gradually disappeared over time, but this was not confirmed in this study. These side effects, compared with those associated with anti-hypertension medications, are considered mild[4]. In addition, the HABE group did not experience additional side effects.

The present study has several positive factors. One such factor is its originality, since studies describing the effect of wet-cupping on hypertension are very rare. Another positive aspect is the study participants' high follow-up rates. Only three participants (3.75%) were lost to follow-up at 4 weeks and seven (8.75%) at 8 weeks. This study

also involved a larger sample size than previous studies, giving it greater statistical power. Finally, we followed patients for a relatively long period, which made it possible to track the effects of hijama on BP over a long period of time.

This study's most important limitation, and that of all wet-cupping studies performed to date, is the inability to blind the study. This is due to the absence of a well-developed sham wet-cupping method. Although wet-cupping might induce a placebo effect, BP is an objective outcome that is unlikely to have a significant placebo effect. Another limitation is that the timing of the 4-week follow-up appointment was not accurate for all participants in both groups. This was largely overcome at the 8-week follow-up appointment.

5 Conclusion

Wet-cupping therapy effectively reduced SBP in hypertensive patients for up to 4 weeks, without any serious side effects. We recommend the use of this complementary treatment, in conjunction with anti-hypertension medications, to treat hypertension. Additional studies are also needed to investigate the efficacy of wet-cupping alone, without any concomitant anti-hypertension medications. Moreover, additional research on the effect of the number of incisions and the amount of blood collected during the hijama procedure is needed. We also recommend the development of a sham wet-cupping technique to aid future studies.

6 Acknowledgements

This study was funded by King Abdulaziz University (Jeddah, Saudi Arabia) and Kashef Diagnostics Factory (Jeddah, Saudi Arabia).

We acknowledge the field-work assistance provided by Prof. Hasan Alzahrani, Dr. Samiha Murad, Dr. Abduljawad Assawy, Mrs. Nuha Abdullah, Mr. Mohammed Adeeb Ahmed, Dr. Rothaina Saeedi, Dr.Waleed Bukhari, Dr. Saad Alhatemy, and Dr. Mohammed Goname. We also acknowledge the opinions and advice provided by Prof. Magda Hagras, Dr. Adil Ibrahim, Dr. Abeer Kawthar, and Dr. Muttaz Abdulfatah. In addition, we offer special thanks to those who helped us to establish the initial study idea: Dr. Rajaa Al-Raddadi and Prof. Ahmed Mandil. We thank, as well, all the patients who participated in this study.

7 Conflict of interest disclosure

The authors report the absence of any conflicts of interest with the funding organizations.

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The efficacy of wet cupping in the treatment of hypertension

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Abstract

BACKGROUND: Wet cupping is an old method that is still used in medicine, but few empirical studies have been done about its effect on hypertension. The purpose of this research was to study the effect of wet cupping on blood pressure in 35-60 year old patients who were diagnosed with hypertension.

METHODS: This study was a random, controlled, clinical trial and samples were 42 patients who referred to Imam Hussein Clinic of Quchan. Samples were determined by purposive sampling method and divided randomly into two groups. Samples of the cupping group were prescribed a series of 3 staged wet cupping treatments at 2 week intervals, and the participants in the control group were only prescribed medication. Blood pressure was measured (for the two groups) at the base line and at 42 days post treatment. Analysis was done by SPSS software version 17. Statistical methods used included independent t-test, paired t-test, and Fisher's exact test.

RESULTS: The study subjects of wet cupping and control groups do not show significant difference in the independent t-test for age, body mass index, duration of hypertension, and duration of antihypertensive drugs, and the two groups are homogeneous with $P = 0.983$, $P = 0.682$, $P = 0.770$, and $P = 0.540$ respectively. Independent t-test results showed a significant difference in systolic blood pressure in the cupping group before and after wet cupping course ($P < 0.05$).

CONCLUSION: With regard to the increasing use of wet cupping in the treatment of a wide group of illnesses and the clients' satisfaction, presenting suitable and proper use, informing people about its usage, and supervising the above-mentioned centers should be considered by authorities.

Keywords: Blood Pressure, Wet Cupping, Complementary Medicine, Hypertension

ARYA Atherosclerosis Journal 2012, 8(Special Issue in National Hypertension Treatment): ???-???

Date of submission: 29 Jan 2012, ***Date of acceptance:*** 2 Jun 2012

Introduction

Hypertension is one of the most common risk factors for cardiovascular and renal diseases.[1] The annual rate of hypertension development, or incidence, is difficult to determine because hypertension goes undiagnosed in many cases.[2] With the current growth rate, the prevalence of hypertension is expected to be more than one billion people in 2025.[3] Hypertension in the Iranian population is 25% and 32% in adults.[4]

The side effects of antihypertensive drug therapy can sometimes cause patients to turn to complementary therapies, hoping that such treatments might improve their symptoms.[5] Complementary therapies are one of the most frequently used by patients with hypertension. One such treatment option is cupping.[6] Cupping is a traditional, physical treatment used by acupuncturists or other therapists, who utilize a bamboo or glass cup to create suction on the skin over a painful area or acupuncture point.[7] There are two types of cupping; dry and wet cupping. Dry cupping pulls the skin into the cup without drawing blood. However, in wet cupping the skin is lacerated so that blood is drawn into the cup.[8] Cupping is used to improve subcutaneous blood flow circulation and to stimulate the autonomic nerves system. In clinical practice, cupping is often used to decrease blood pressure (BP) and relieve symptoms of hypertension, such as headaches and anxiety.[9]

A recent systematic review included two trials on the effects of cupping (one wet cupping, and the other dry cupping) on hypertension. Its findings suggested that positive effects of cupping for hypertension may be seen in real clinical practice in the patients evaluated for this therapy; favorable results were also seen in the two included trials.[9]

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Together, available evidence and historical precedent suggest cupping therapy might be an effective treatment for high blood pressure, but rigorous scientific trials are lacking. The present study was designed to contribute to that need.

Materials and Methods

This study included a random, controlled, clinical trial and samples were 42 patients who referred to Imam Husain Clinic of Quchan. These patients were diagnosed with hypertension without having a chronic disease by the cardiologist of the clinic. They were being treated with antihypertensive drugs and had the eligibility criteria; age of 35 to 60 years, had no record of wet cupping and/or other complementary treatments in the previous 3 months, they were not alcoholic, addicted, or pregnant, and had no specific causes of stress. Patients were excluded if they were receiving another complementary treatment during the period of this study.

Samples were determined through purposive sampling method and then were homogenized by age, sex, body mass index, and time of medication. Patients were randomly allocated to each group. The instrument for data collection was a questionnaire consisting of three parts. The first part of the questionnaire included the demographic information. Part two consisted of the information about the disease and hypertension, and part three about wet cupping. Sheets were respectively completed for the samples. The tools for collection of information on blood pressure were Japanese mercury ALPK2 and a German digital scale with Heliometers' height meter, sterile disposable cups with valve, No. 15 scalpel, electric suction device, sterile dressing and iodine poi dine (beta dine), and hypoalergic plast. Validity and reliability were obtained through content validity methods and test-re-test. The study was done after obtaining the Medical Ethics Committee's approval and informed consents from the subjects.

During the 6 weeks that both groups were taking antihypertensive medication and at the beginning and end of the study the participant's blood pressures were measured.

Samples of the cupping group were prescribed a series of 3 staged wet cupping treatments at 2 week intervals (i.e. 0 days, 14 days, and 28 days). The site for wet cupping was between the two scapulas, opposite the T1-T3 scapular spine. Each wet cupping treatment procedure took about 20 minutes. The protocol for performing cupping was as follows: the skin was disinfected, scarification (puncturing) of the skin was carried out by repeatedly puncturing it superficially with sterile 15-gauge surgical blades (number of incisions: 5 to 10), the vacuum cups were applied and the air within the cup was rarefied by manual mechanical suction, the cupping glasses were removed after 3 to 5 minutes, and the treated area was bandaged afterwards. Each patient was cupped three times within two weeks. The control group was treated with medication alone. Blood pressure was measured (for the two groups) at the baseline and at 42-days post treatment.

Data analysis was conducted by SPSS software version 17 in 2 steps. First, the descriptive statistics were considered. Second, paired t-tests were computed to compare pre-treatment and post-treatment measures of blood pressure (systolic and diastolic blood pressure). We also compared the two groups by independent t-tests.

Results

One of the affective factors on the validity of the results is the homogeneity of samples within the two groups. Therefore, both groups were tested based on statistical formulas and the following results were obtained. As shown, the control and intervention groups were quite similar in age, sex, body mass index, and time of antihypertensive medications (Tables 1-3).

Table 1. The frequency distribution table for the patients with hypertension based on the age and body mass index within the two groups

	Cupping Group		Control Group		Result of Independent t-test
	Mean ± SD	Number	Mean ± SD	Number	
Age	51.19 ± 6.05	21	51.29 ± 6.38	21	t = -0.50 df = 40 P = 0.961
BMI*	25.78 ± 2.84	21	26.04 ± 3.11	21	t = -0.281 df = 40 P = 0.780

* Body mass index

Table 2. The frequency distribution table for the patients with hypertension based on the time of antihypertensive medications within the two groups

Group / Time	Cupping Group		Control Group		Result of Test
	Number	Percentage	Number	Percentage	
Night	17	81.0	17	81.0	Fisher's Exact Test = 0.116
Morning and Night	4	19.0	4	19.0	P = 1.000

Table 3. The frequency distribution table for the patients with hypertension based on sex within two groups

Group / Sex	Cupping Group		Control Group		Result of Test
	Number	Percentage	Number	Percentage	
Male	11	52.4	11	52.4	$X^2 = 0.000$
Female	10	47.6	10	47.6	d.f = 40 P = 1.000

Table 4. Comparison of the means of systolic and diastolic blood pressures at the beginning and end of the study (cupping group)

	Mean ± SD		Result of Paired t-test
	Beginning Of The Study	End Of The Study	
mean of SBP*	151.1 ± 17.8	141.2 ± 10.1	t = 4.356 df = 20 P = 0.001
mean of DBP**	93.2 ± 7.8	92.7 ± 4.3	t = 0.502 df = 20 P = 0.621

* Systolic blood pressure
** Diastolic blood pressure

Table 5: Comparison of the means of systolic and diastolic blood pressure at the beginning and end of the study (control group)

	Mean ± SD		Result of Paired t-test
	Beginning Of The Study	End Of The Study	
mean of SBP*	141.1 ± 18.3	141.3 ± 12.4	t= -0.065 df=20 P=0.948
mean of DBP**	88.9 ± 10.4	87.7 ± 6.0	t= 0.571 df=20 P=0.575

* Systolic blood pressure
** Diastolic blood pressure

The average age of subjects was 51.2 ± 6.2, so that the age ranges between 39 to 60 years were considered. Results of independent t-test showed that there was no correlation between the means of the two groups according to their ages.

The mean body mass index (BMI) of subjects was 25.9 ± 2.9. Results of independent t-test showed that there was no correlation between the means of the two groups regarding their BMI.

As for the sex of subjects, 52.4% (22 patients) were males and 47.6% (20 patients) females. Results of chi-square test showed that there was no correlation between the means of the two groups considering sex, and that the two groups were homogenous.

Results of Fisher's exact test showed that within the two groups the correlation between marital status, occupation, and type and time of medication was not significant; in fact the two groups were homogenous.

The results of paired t-test showed that there was a significant difference between the means of systolic blood pressure at the beginning and end of the study in the cupping group ($P < 0.05$) (Table 4).

The results of paired t-test showed that there was no significant difference between the means of systolic and diastolic blood pressures at the beginning and end of the study in the control group ($P < 0.05$) (Table 5).

Table 6: Comparison of the means of the difference of systolic and diastolic blood pressure at the beginning and end of the study

	Cupping Group		Control Group		Result of Independent t-test
	Mean ± SD	Number	Mean ± SD	Number	
means of the difference of SBP*	9.71 ± 10.8	21	-0.19 ± 15.4	21	t = 2.408 df = 40 P = 0.021
means of the difference of DBP**	0.57 ± 5.3	21	1.14 ± 10.1	21	t = -0.231 df = 40 P = 0.819

* Systolic blood pressure
** Diastolic blood pressure

Moreover, in line with the main aim of the study, the results of independent t-test showed that there was a significant difference between the means of the difference of systolic blood pressure at the beginning and end of the study in the two groups ($P < 0.05$) (Table 6).

Discussion

Generally, the results of the study showed that after a three-session wet cupping the mean hypertension of the subjects with systolic and diastolic blood pressure at the end of the study was reduced. Furthermore, the results of independent t-test showed a significant difference between the means of systolic blood pressure at the beginning and end of the study for the two groups.

In connection with the effect of phlebotomy on hypertension, Lee et al. quoted Guo (1999) that, performing three sessions of cupping on the samples showed 71% reduction in their hypertension.[9] Our results are consistent with these findings.

In fact, based on these studies regarding the effects of cupping treatment, it seems that cupping reduces BP, and hence can prevent its clinical effects.

Acknowledgments

The researchers wish to thank the staff of Imam Husain clinic of Quchan who helped in conducting the study and gave us their support and cooperation throughout this study.

Conflict of Interests

Authors have no conflict of interests.

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How to cite this article: Zarei M, Hejazi Sh, Javadi SA, Farahani H. **The efficacy of wet cupping in the treatment of hypertension.** ARYA Atherosclerosis Journal 2012; 8(Special Issue): ???-???.

Original Article

Evaluation of Bloodletting Cupping Therapy in the Management of Hypertension

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Abstract

Background: Bloodletting cupping therapy (Hijama) is a traditional alternative medicine practiced in different cultures. Claims about the therapeutic efficacy of Hijama in hypertension are contradictory. The aim of this project was to determine if Hijama therapy is beneficial in the treatment of patients with hypertension. **Materials and Methods:** In this retrospective study, 60 files for patients treated for hypertension, aged 40–60 years and whose systolic blood pressure (SBP) is at least 140 mm Hg, were used. The data from 30 patient files were obtained from three licensed Hijama centers (study group), whereas data from the rest of 30 patient files were collected from a hospital (control group). The data from Hijama centers included age, date of Hijama therapy, and blood pressure measured before each Hijama session. Both diastolic blood pressure (DBP) and SBP data were obtained over 3-month period. **Results:** The results showed a significant reduction in SBP (P value < 0.01) over three sessions of wet cupping (from 149.2 to 130.8 mm Hg), but this was not significant for DBP over three sessions (P = 0.074). The study also found that the mean SBP in the study group was 9.6 mm Hg less than that in the control group (130.8 vs. 140.4 mm Hg, P = 0.019), whereas there was no significant difference in DBP between the study group and the control group (87.0 vs. 86.0 mm Hg, P = 0.75). **Conclusions:** Our study shows clear relationship between Hijama and the reduction and control of SBP in patients with hypertension. Therefore, Hijama can be used as an adjunct to conventional therapy, which may allow downtitration of given doses of antihypertensive drugs. The possible association of SBP reduction by Hijama and pain reduction needs an investigation.

Keywords: *Bloodletting cupping therapy, diastolic blood pressure, Hijama, hypertension, retrospective, systolic blood pressure*

Introduction

Bloodletting cupping (BLC) therapy (i.e., Hijama[1]) is a traditional alternative medicine practiced in different cultures such as China, Greek, Arab, Turkish, and Persian and can be traced back to more than 2000 years.[2-5] It has been claimed to control and prevent certain diseases and to maintain homeostasis.[6] Regardless of its common use in many countries, the evidence to support its practice to promote patients' health and improve quality of life is incomplete.[7,8]

Different types of cupping appear in literature, including dry cupping, wet cupping, moving cupping, and fire cupping.[2,9-11] All types involve suction created by various means with or without bloodletting. The wet

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Quick Response Code:

Website: www.jpbsonline.org

DOI: 10.4103/jpbs.JPBS_242_17

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How to cite this article: Al-Tabakha MM, Sameer FT, Saeed MH, Batran RM, Abouhegazy NT, Faragallah AA. Evaluation of bloodletting cupping therapy in the management of hypertension. J Pharm Bioall Sci 2018;10:1-6.

cupping Hijama technique includes applying suction to the desired points on the skin using plastic, bamboo, earthenware, silicone, or glass cup. Thereafter, incisions are applied to the same areas of the skin to remove and suck the blood into the replaced cups.

Studies aimed to establish or correlate the beneficial effects of Hijama therapy in various health conditions were mainly able to associate beneficial effects to different kinds of pain, including neck pain, upper shoulder pain, and low back pain.[8,12-17] In addition, tension and migraine headache,[18] acute/chronic inflammation, infectious diseases,[19] immune system disorders, diabetes,[20] anxiety and depression,[21] sleep quality,[22] heart rate variability,[23] and hypertension have been investigated.[24] Of particular interest was the control of hypertension because contradictory findings have been reported. For example, one registered clinical trial showed that there were no significant differences in the systolic blood pressure (SBP) or diastolic blood pressure (DBP) between the cupping therapy group and the control group.[25] On the other hand, studies with larger number of participants have shown that cupping can have beneficial effects on blood pressures (BPs), although long-time benefits were not investigated.[26]

The claim that Hijama therapy may be beneficial to patients with hypertension was based on the removal of both excess interstitial and intravascular fluid and harmful metabolic substances.[27] It was also proposed that Hijama therapy stimulates endogenous nitric oxide production and excretion, including accumulated vasoactive substances and free radicals,[28] which may result in reduced BP measurements. Hijama professionals believe that causes of illness can be either superficial or exist in deeper organs, which have a link with the skin at certain points.[29] These pathologies can be removed when a negative pressure is applied through superficial clean incisions, thus enhancing the flow of blood. Such explanation, however, is superficial and is not substantiated by enough evidence.

The objective of this retrospective observational study was to assess whether applying Hijama therapy helps in the reduction of SBP and DBP compared to a control group within three session periods.

Materials and Methods

To conduct this retrospective case–control study, ethical approval was obtained from research ethics committee of Ajman University. The participating centers and the hospital were all licensed from the Ministry of Health in the United Arab Emirates (UAE). Three Hijama centers in Ajman and Sharjah cities (UAE) were visited to obtain data from admitted patients with hypertension seeking Hijama therapy, whereas one participating hospital in Dubai city (UAE) was used to obtain data from patients with hypertension already taking the prescribed treatment. The required consents were obtained from the patients/hospital/centers to use the data for the purpose of this research.

Sample size

Data were collected in the period between October 15, 2017, and November 15, 2017, with a sample size of 60 patients. The patients were divided into two groups: the study group (30 patients' files) and the control group (30 patients' files). The primary outcome under investigation was SBP lowering. A difference of at least 10 mm Hg between the two groups was considered significant in this study. The sample size was calculated based on study power of 85%, α error rate of 0.05, and SBP population standard deviation for hypertensive of 13 mm Hg (from literature review).

Inclusion and exclusion criteria

At Hijama centers, patient's file was used if the patient sought Hijama therapy for the primary purpose of hypertension management and continued for at least three sessions. Patients also needed to meet the following criteria for their files to be used:

1. Gender: male.
2. For Hijama centers, patients must have undergone cupping therapy for three consecutive sessions, and their BP was measured before each session. The gap between one session and another is approximately 1 month.
3. Patients who are between 40 and 60 years of age.
4. For Hijama centers, files of patients were used whether or not the patient was taking medication for hypertension, whereas for data from the hospital included patients under conventional antihypertensive treatment.
5. SBP is at least 140 mm Hg.

Patients' files were excluded if the patients had the following:

1. Kidney disease
2. Donated blood (1 month before cupping therapy)
3. Bleeding diathesis (unusual susceptibility to bleed)
4. SBP of more than 180 mm Hg

Cupping therapy

Cupping therapy specialist decides the cupping points required to treat specific diseases/conditions. For hypertension, the participating centers applied cups to the same standard sites known to the professionals. The Hijama therapy was performed in the following way: The sites where the cups are applied are first

sterilized with alcohol swabs. The cups are then placed on the selected sites, negative pressure is created by a suction pump, and then cups are left for 5 min to form congestions beneath them. After the removal of the cups, superficial incisions are made using sterilized blades on each congestion. The cups are placed again and vacuumed to remove blood from the sites until they are full. The cups are then removed. The bleeding areas are then cleansed using alcohol swabs and then bandaged.

Data analysis

One-way analysis of variance and Student's *t*-test were used for comparison and to make inferences regarding the effect of Hijama therapy on hypertension. The 95% confidence interval (CI) assuming $\alpha = 0.05$ and two-tail test were applied in the tests. Analysis was done using SPSS, version 21 (SPSS, Chicago, IL), and Excel 2013 (Microsoft Corporation, Redmond, WA, D.C.) was used for the preparation of the graph.

Results

The baseline line characteristics of the study and the control groups are given in Table 1. The age of the control group did not differ significantly from that of the study group ($P = 0.96$). The age range in both the study and the control groups was from 40 to 60 years. Likewise, both DBP ($P = 0.74$) and SBP ($P = 0.29$) showed similar values. In the study group, DBP ranged from 70 to 110 mm Hg, whereas in the control group, it was from 70 to 113 mm Hg. On the other hand, in the study group, SBP ranged from 140 to 170 mm Hg, whereas in the control group, it was from 140 to 172 mm Hg.

For patients undergoing Hijama therapy, SBP had improved with each session and gave best results at the third session. For example, on the third session, SBP decreased from baseline 149.2 (95% CI: 146.1–152.3 mm Hg) to 130.8 (95% CI: 127.1–134.6 mm Hg), ($P < 0.001$). Similarly, the control group undergoing conventional therapy witnessed a decrease in SBP from 151.8 to 140.4 mm Hg ($P = 0.006$). Comparing the two groups (at the third Hijama session with control group after 2 months of conventional therapy), it was clear that the Hijama group achieved better (−9.6 mm Hg) pressure reduction ($P = 0.019$).

In comparison, DBP at the third Hijama session decreased from a baseline value of 92.5 (95% CI: 88.2–96.8 mm Hg) to 87.0 (95% CI: 83.0–91.0 mm Hg); however, this was not significant ($P = 0.06$). On the contrary, DBP with conventional therapy decreased significantly from 93.4 to 86.0 mm Hg ($P = 0.014$). When comparing DBP at the third Hijama session with the control group, no significance was shown ($P = 0.75$). Figure 1 shows the changes in SBP and DBP over the three sessions of Hijama therapy.

Table 1: Baseline characteristics of the study and control groups

	BLC therapy with/ without conventional treatment	Conventional treatment
Overall records analyzed	30	30
Age (years) ± SD	50.3 ± 7.1	50.2 ± 6.1
Baseline SBP (mm Hg) ± SD	149.2 ± 8.3	151.8 ± 10.4
Baseline DBP (mm Hg) ± SD	92.5 ± 11.5	93.4 ± 9.3

SD = standard deviation

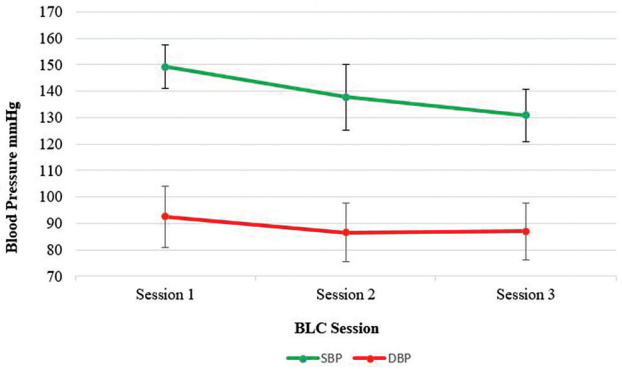

Figure 1: Changes in systolic and diastolic blood pressures over three sessions of Hijama therapy. Error bars represent standard deviation

The percentage of patients with hypertension who had their SBP less than 140 mm Hg at the third Hijama session was 73.3%, whereas this was 46.7% in the case of conventional treatment. This shows that much less patients would be diagnosed with hypertension at the third session compared to the conventional therapy. On the other hand, 43.3% patients who underwent Hijama therapy had their DBP less than 90 mm Hg compared to 66.7% of those with conventional treatment.

Discussion

The baseline characteristics indicate that the two samples have similar characteristics to provide valid comparison. Although SBP clearly decreased with the use of Hijama therapy, this was not shown for DBP. According to the findings of one study published in 2014, there was no significant difference in SBP or DBP between the Hijama and control groups, and the authors explained this to be due to the small sample size.[25] Another study conducted in 2015 with a larger sample size showed that Hijama therapy is effective for reducing SBP in patients with hypertension.[26]

A more recent study has shown that while SBP changed significantly before and after wet cupping, there was no significant difference in DBP,[30] in agreement with our results.

Ibrahim *et al.*[31] published a study in 2016 based on the face-to-face interviews with patients having hypertension (n = 20) seeking complementary and alternative medicines (CAMs) other than their prescribed medicines, which indicated that 35% of the participants have tried Hijama therapy because of religious beliefs or friend's recommendation and have reported feeling better, whereas only 30% reported adhering to the treatment prescribed by their physician. The low adherence to medication reported in the study was not consistent with another study showing more than 70% adherence to antihypertensive medication.[32] One recent review indicated that not only high proportion of patients with hypertension sought CAMs but also many used antihypertensive medications concurrently with analgesics and other herbal products.[33] Physicians treating their patients for hypertension should consistently ask them about over-the-counter (OTC) medicines and CAMs they are using, and whether they are adhering to their prescribed medication.

Several reasons were put forward to explain how Hijama therapy could reduce BP. The removal of blood (which can be more than 50 mL) by Hijama procedure reduces its volume in the arteries and will have a direct effect on BP.[26] It is, however, unlikely that the small volume that can be compensated rapidly from cellular and extracellular fluid would have a significant lasting effect. Although it is well proven that Hijama therapy can reduce various types of pain and because pain has been associated with hypertension,[34-37] it is possible that Hijama acts directly and/or indirectly on BP by reducing pain. Pain has the ability to increase sympathetic activity and therefore increase BP. Also, many patients are prescribed nonsteroidal anti-inflammatory drugs (NSAIDs) to control their pain. This, however, would reduce the beneficial effect of antihypertensive drugs such as the diuretics, beta-blockers, angiotensin-converting enzyme inhibitors, and perhaps the calcium-channel blockers.[38-41] So, reducing pain would reduce the sympathetic pressor effect (direct effect) and also would reduce the intake of NSAIDs (indirect effect), which altogether would lead to BP reduction. This hypothesis requires future focused controlled clinical trials.

This study is an observation case–control study (retrospective), and to provide a greater insight into the beneficial effect of Hijama intervention, a carefully controlled clinical trial with large sample size and appropriate length of time and Hijama sessions is recommended. Controlled clinical trials testing the effects of Hijama were previously conducted. A recent randomized controlled trial included adequate number of participants (40 participants in each study and control group), but the length of time applied in the study does not permit to generalize conclusion on the use of Hijama therapy for the management of hypertension. That study showed Hijama to be more effective than the conventional treatment alone when used for up to 4 weeks, but not 8 weeks.[26] Prior clinical trials involving small groups of not more than 20 participants did not provide evidence of the effectiveness of Hijama therapy on hypertension. It is also difficult to isolate the individual effect of Hijama therapy on BP if the study group participants are allowed to continue using their hypertension treatment while undergoing Hijama therapy; however, asking the participants to stop their conventional treatment will be unethical, especially with the need for lead-in phase to washout the antihypertensive treatment from the system. Furthermore, a mechanistic study is required to prove or refute our theory that Hijama therapy works indirectly on BP by alleviating pain. Also, it is needed to know the session at which Hijama produces its maximum beneficial effect and adequate follow-up period to provide information about its long-term safety and efficacy.

Conclusion

The results of this study indicate that Hijama can be used effectively to reduce SBP. Therefore, if used in conjunction with the conventional antihypertensive agents, downtitration of the medication used will reduce the untoward side effects while attaining the required BP targets. Common adverse effects of antihypertensive drugs include cough, diarrhea or constipation, erection problems, tiredness, headache, and dizziness or lightheadedness. It is important for the physician prescribing antihypertensive medications to be aware of OTC medicines and CAMs used by their patients and whether they adhere to their prescribed drugs.

The long-term benefits from Hijama need further investigation to provide evidence of sustained effect. It is also important to provide scientific explanation of how Hijama may be able to reduce BP alone and in combination with hypertensive medications. We theorize that this effect may be related to pain reduction.

Acknowledgements

Our utmost appreciation goes to the participating Hijama centers for allowing access to patients' files after getting their consent, with special thanks to the working

staff in these centers who appreciated the importance of this study and offered their help and support. This appreciation covers Dr. Sied Almrakby from Al Sultan Medical Center (Ajman, UAE), Dr. Syed Asaduddin Ahmed from Al Hijama Alternative Medical Center (Sharjah, UAE), and Dr. Haiman El Nahal from International Holistic Health Center (Sharjah, UAE). We further extend our sincere gratitude to the Iranian hospital in Dubai for their continuous support.

The work received ethical approval before the start of the study from the University Research Ethics Committee (number F-H-17-08-01).

Financial support and sponsorship

This research is self-funded. We certify that no funding has been received for the conduct of this study and/or preparation of this manuscript.

Conflicts of interest

Each author of this manuscript declares no conflicts of interest.

Authors' Statement

We all have read and approved the manuscript and we satisfy the requirements for authorship as stated in the journal's "instructions to authors". Each author believes that the manuscript represents honest work and authors alone are responsible for the content and writing of the paper.

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ISSN 2303-1433

PENGARUH TERAPI BEKAM TERHADAP PENURUNAN TEKANAN DARAH PADA KLIEN HIPERTENSI

(The effect of therapy bruise to the decrease of blood pressure in hypertensive clients)

Hengky Irawan, Setyo Ari

ABSTRACT

Hypertension or high blood pressure is one of the major health problems that require special attention. Cupping therapy is a process to remove dirty blood from the body through the skin surface. Cupping is an alternative to lower blood pressure. The purpose of this study was to determine the effect of therapy bruise to the decrease of blood pressure in hypertensive clients.

This research is taking pre-experimental one group pretest-post test design. The sample was selected based on inclusion criteria using accidental sampling with total respondent 14 people. Here is the independent variable and dependent variable bleed therapy is to decrease blood pressure. Collect data by observation. Collecting and using data pengolahahan T test with a significant α ≤ 0.05.

The results showed that there was a significant decrease in blood pressure between pre-test and post-test for systolic blood pressure decreased by an average of 22.857 mmHg and pre-test and post-test diastolic blood pressure by an average of 21.429 mmHg and testing with the T test indicates p = 0001 and 0003 (α <0.05).

It can be concluded that there are significant bruise therapy to decrease blood pressure in hypertension patients. Doing the right skin bruise location will be on the mast cell, which will produce substances such as serotonin, histamine, bradykinin, slow-reacting substance, Nitric Oxide (NO) and endorphins. These substances will make repairs and reduce the capillary pressure darah.Hasilnya relaxing effect on muscle and vasodilatation of blood vessels, and eventually the blood pressure decrease. Needs further research with more respondents and considers factors - confounding factor in research. With this result can bleed into one alternative way of treatment of hypertension.

Keywords: Hypertension, Blood Pressure, Cupping Therapy

PENDAHULUAN

Hipertensi atau yang lebih dikenal dengan tekanan darah tinggi, merupakan salah satu penyakit yang ditandai dengan peningkatan tekanan darah dalam tubuh. Hipertensi dapat ditetapkan sebagai tingginya tekanan darah secara menetap dimana sistolik > 140 mmHg dan tekanan darah diastolik > 90 mmHg (Brunner dan Suddarth, 2005). Hipertensi sering juga disebut sebagai pemicu dan penyebab berbagai penyakit lain yang akhirnya berujung pada kematian (Filbert, 2001). Pengobatan hipertensi saat ini belum efektif karena hanya menurunkan prevalensi sebesar 8%, harganya mahal, sering terjadi kekambuhan dan menimbulkan efek samping yang lebih berbahaya. (Bachtiar, 2009). Lebih dari 10 % pasien yang menerima obat yang diresepkan, mengalami efek merugikan yang tak terduga dari pengobatanya (Price, 2005). Salah satu pilihan alterantif pengobatan hipertensi saat ini yaitu dengan menggunakan terapi bekam atau hijamah. Bekam adalah suatu metode pengobatan dengan menggunakan tabung atau gelas yang ditelungkupkan pada permukaan kulit agar menimbulkan bendungan lokal. Hal ini disebabkan oleh tekanan negatif di dalam tabung, yang sebelumnya benda – benda dibakar dan dimasukkan dalam tabung, agar terjadi penggumpalan darah lokal. Kemudian

darah tersebut dikeluarkan dengan dihisap, dengan tujuan meningkatkan sirkulasi energi chi dan darah, menimbulkan efek analgetik (menghilangkan nyeri), mengurangi pembengkakan, serta mengusir pathogen angin, baik dingin maupun lembab)(Umar,2008).

Secara ilmiah, beberapa referensi bekam menyebutkan bahwa 1). Pada saat dilakukan bekam, tubuh akan mengeluarkan zat seperti serotonin, prostaglandin, bradikinin, histamine yang berpengaruh terhadap vasodilatasi pembuluh darah (Umar, 2008). 2). Penghisapan akan merangsang saraf-saraf pada kulit. Rangsangan ini akan dilanjutkan pada cornu posterior medulla spinalis melalui syaraf A delta dan C, serta traktus spino thalamikus ke arah thalamus yang akan menghasilkan endorphin (Umar, 2008), endorphin adalah peptida kecil yang dilepaskan ke hipotalamus yang akan berdampak memperbaiki suasana hati dan meningkatkan perasaan tenang / sejahtera (Corwin, 2000) sehingga akan berpengaruh terhadap relaksasi dari tubuh dan tekanan darah seseorang. 3). Rangsang yang bekerja pada sel endotel akan mengahasilkan faktor pembuat relaksasi derivat endotel *(FBRDE, endhotelium-derived relaxing factor/EDRF)* atau sekarang lebih dikenal dengan nama *Oksida Nitrat* (NO). Keluarnya zat tersebut menyebabkan vasodilatasi pembuluh darah, sehingga memperlancar sirkulasi darah dan akhirnya dapat menurunkan tekanan darah (Ganong, 2002). 4). Bekam mampu mengeluarkan lipoprotein dalam darah dalam bentuk bentuk kolesterol total, LDL dan HDL. Keluarnya kolesterol dalam tubuh diharapkan dapat memperlancar aliran darah dalam pembuluh darah (Majid, 2009), sehingga dengan aliran yang lancar maka tekanan darahpun akan turun. Adanya dasar ilmiah tersebut, maka terapi bekam nantinya akan menjadi cara perawatan / pengobatan penyakit yang akan digunakan masyarakat dan dapat dilakukan mandiri oleh perawat. Hal ini juga seiring dengan adanya kecenderungan praktek mandiri perawat yang mulai dikembangkan. Peran perawat dalam pelaksanaan bekam diantaranya adalah sebagai: *Caregiver, Educator, Advocate, Researcher*. Tujuan penelitian yaitu mengetahui Pengaruh Terapi Bekam Terhadap Penurunan Tekanan Darah Pada Klien Hipertensi (Suatu Studi di Perumahan Permata Hijau Kelurahan Singonegaran Kecamatan Pesantren Kota Kediri).

METODOLOGI PENELITIAN

Rancangan peneliti ini menggunakan rancangan penelitian *Pre-Experimental*, untuk mengetahui pengaruh perlakuan terapi bekam terhadap penurunan tekanan darah pada pasien hipertensi. Jenis *pre-test post test one group design* yaitu mengidentifikasi tekanan darah sebanyak 2 kali, sebelum dan sesudah eksperimen. Hasil pengukuran tekanan darah sebelum eksperimen (01) disebut *pre test* dan hasil pengukuran tekana darah setelah eksperimen (02) disebut *post test* (Nursalam, 2008).

Jumlah sampel dalam penelitian ini adalah 14 orang. teknik sampling dalam penelitian ini dilakukan dengan Non Probability Sampling dengan pendekatan "Accidental Sampling" dengan kriteria inklusi dan eksklusi yang dimaksud di atas. Variable dependent dalam penelitian ini adalah penurunan tekanan darah pada pasien hipertensi. Variable independent dalam penelitian ini adalah intervensi bekam pada klien hipertensi.

HASILPENELITIAN

1. Data Umum Kelompok Eksperimen

a. Karakteristik Responden Berdasarkan Usia

Tabel 1

Karakteristik responden berdasarkan usia pada klien hipertensi dengan TDS ≥ 140 mmHg dan TDD ≥ 90 mmHg di daerah Kelurahan Singonegaran – Perum Permata Hijau, Kota Kediri pada tanggal 23 Mei 2010.

No	Umur	Jumlah	Prosentase
1.	45 – 54 th	8	57 %
2.	55 – 64 th	6	43 %
Total		14	100 %

Pada tabel di atas berdasarkan distribusi frekuensi usia, menunjukkan bahwa responden yang berpartisipasi dalam penelitian sebesar 8 orang (57 %) berusia 45 – 54 tahun, 6 orang (43%) berusia 55 – 64 tahun.

b. Distribusi Responden Berdasarkan Jenis Kelamin

Tabel 2

No	Jenis kelamin	Jumlah	Prosentase
1.	Laki – laki	14	100 %
2.	Perempuan	0	0
Total		14	100 %

Pada table di atas berdasarkan distribusi frekuensi bahwa responden yang berpartisipasi dalam kegiatan ini semuanya adalah berjenis kelamin laki – laki yaitu ada 14 orang atau 100 %.

c. Distribusi Responden Berdasarkan Pekerjaan

Tabel .3

Karakteristik responden berdasarkan pekerjaan pada klien hipertensi dengan TDS ≥ 140 mmHg dan TDD ≥ 90 mmHg di daerah Kelurahan Singonegaran – Perum Permata Hijau, Kota Kediri pada tanggal 23 Mei 2010.

No	Pekerjaan	Jumlah	Prosentase
1.	PNS/TNI/POLRI	5	36 %
2.	Wiraswasta	5	36 %
3.	Swasta	4	28 %
Total		14	100 %

Pada tabel di atas berdasarkan distribusi frekuensi pekerjaan, menunjukkan bahwa responden yang berpartisipasi dalam penelitian ini sebesar 5 orang (36 %) pekerjaannya sebagai PNS/TNI/POLRI, sebannyak 5 orang (36%) pekerjaanya sebagai wiraswasta dan 4 orang (28 %) pekerjaannya adalah sebagai swasta.

1. Data Khusus

a. Distribusi Responden Berdasarkan Riwayat Bekam

Tabel 4.

Karakteristik responden berdasarkan riwayat bekam pada klien hipertensi dengan TDS ≥ 140 mmHg dan TDD ≥ 90 mmHg di daerah Kelurahan Singonegaran – Perum Permata Hijau, Kota Kediri pada tanggal 23 Mei 2010.

No	Riwayat bekam	Jumlah	Prosentase
1.	1-2 kali	5	36 %
2.	3-4 kali	8	57 %
3.	5-6 kali	1	7 %
Total		14	100 %

Pada tabel di atas berdasarkan distribusi frekuensi riwayat bekam, menunjukkan bahwa responden yang berpartisipasi dalam penelitian ini sebesar 8 orang (57 %) pernah melakukan bekam sebannyak 3-4 kali, sebannyak 5 orang (36%) pernah melakukan bekam sebannyak 1-2 kali dan 1 orang (7 %) pernah melakukan bekam sebannyak 5-6 kali.

b. Distribusi Responden Berdasarkan Yang Dirasakan Setelah Terapi

Tabel .5
Karakteristik responden berdasarkan yang dirasakan setelah terapi pada klien hipertensi dengan TDS ≥ 140 mmHg dan TDD ≥ 90 mmHg di daerah Kelurahan Singonegaran – Perum Permata Hijau, Kota Kediri pada tanggal 23 Mei 2010.

No	Yang dirasakan	Jumlah	Prosentase
1.	Rileks & tenang	14	100 %
2.	Pusing	0	0 %
3.	Tegang/pegal - pegal	0	0 %
Total		14	100 %

Pada tabel di atas berdasarkan distribusi frekuensi yang dirasakan setelah terapi, menunjukkan bahwa 14 orang responden (100%) mengatakan merasa rileks & tenang.

c Apakah Terjadi Peradangan

Tabel 6
Karakteristik responden berdasarkan terjadinya peradangan setelah terapi pada klien hipertensi dengan TDS ≥ 140 mmHg dan TDD ≥ 90 mmHg di daerah Kelurahan Singonegaran – Perum Permata Hijau, Kota Kediri pada tanggal 23 Mei 2010.

No	Peradangan	Jumlah	Prosentase
1.	Ya	14	100 %
2.	Tidak	0	0 %
Total		14	100 %

Pada tabel di atas berdasarkan distribusi frekuensi terjadinya peradangan setelah terapi, menunjukkan bahwa 14 orang responden (100%) terjadi peradangan di tempat dilakukannya bekam.

d. Viskositas Darah Yang Keluar

Tabel .7
Karakteristik responden berdasarkan viskositas darah setelah terapi pada klien hipertensi dengan TDS ≥ 140 mmHg dan TDD ≥ 90 mmHg di daerah Kelurahan Singonegaran – Perum Permata Hijau, Kota Kediri pada tanggal 23 Mei 2010.

No	Viskositas darah	Jumlah	Prosentase
1.	Kental	14	100 %
2.	Encer	0	0 %
Total		14	100 %

Pada tabel di atas berdasarkan distribusi frekuensi viskositas darah yang keluar setelah terapi, menunjukkan bahwa 14 orang responden (100%) darah yang keluar adalah kental.

e. Variabel Yang Diukur

Pada bagian ini diuraikan data-data tentang pengukuran tekanan darah sebelum dan sesudah diberikan terapi bekam, serta pengaruh terapi bekam terhadap penurunan tekanan darah pada pasien hipertensi. Berdasarkan observasi diperoleh hasil sebagai berikut :

Tabel .8
Tabulasi pengaruh terapi bekam pada tekanan darah sistolik pada klien hipertensi di daerah Kelurahan Singonegaran – Perum Permata Hijau, Kota Kediri pada tanggal 23 Mei 2010.

No Responden	Tekanan Darah Sistolik (mmHg)		Penurunan TDS
	Pre-test	Post-test	
1.	140	130	20
2.	150	110	40
3.	170	160	10
4.	150	130	20
5.	160	130	30
6.	150	120	30
7.	180	160	20
8.	170	160	10
9.	160	140	20
10.	170	140	30
11.	150	130	20
12.	170	140	30
13.	160	130	30
14.	150	130	20
Rerata	159.29	136.43	22.857
SD	11.411	14.991	9.139
Hasil Uji	p = 0.001		

T test	
Keputusan	Karena p < 0.005 maka Ho ditolak

Tabel di atas menunjukkan terjadinya penurunan tekanan darah sistolik (TDS) pada semua responden setelah intervensi bekam. Nilai rerata pre TDS adalah 159,29 mmHg, sedangkan nilai rerata post TDS adalah 136,43 mmHg. Dengan penurunan terkecil 10 mmHg dan penurunan terbesar 40 mmHg. Dari hasil pengujian statistik dengan T test diperoleh p = 0.001.

Tabel .9

Tabulasi pengaruh terapi bekam pada tekanan darah diastolik pada klien hipertensi di daerah Kelurahan Singonegaran – Perum Permata Hijau, Kota Kediri pada tanggal 23 Mei 2010.

No Responden	Tekanan Darah Diastolik (mmHg)		Penurunan TDD
	Pre-test	Post-test	
1.	90	70	20
2.	90	80	10
3.	120	90	30
4.	100	80	20
5.	100	80	20
6.	100	80	20
7.	100	80	20
8.	100	80	20
9.	90	80	10
10.	120	90	30
11.	100	80	20
12.	110	80	30
13.	100	70	30
14.	100	80	20
Rerata	101.43	80.00	21.429
SD	9.493	5.547	6.630
Hasil Uji T test	p = 0.003		
Keputusan	Karena p < 0.005 maka Ho ditolak		

Tabel di atas menunjukkan terjadinya penurunan tekanan darah diastolik (TDD) pada semua responden setelah intervensi bekam. Nilai rerata pre TDD adalah 101,43 mmHg, sedangkan nilai rerata post TDD adalah 80,00 mmHg. Dengan penurunan terkecil 10 mmHg dan penurunan terbesar 30 mmHg. Dari hasil pengujian statistik dengan T test diperoleh p = 0.003.

Pembahasan

Berdasarkan uji T test dengan membandingkan TDS sebelum intervensi *(pre-test)* dengan TDS setelah intervensi *(post-test)* menghasilkan p = 0.001. Hal ini berarti terdapat perbedaan rerata TDS yang bermakna sebelum dan sesudah intervensi bekam. Sedangkan T test dengan membandingkan TDD sebelum intervensi *(pre-test)* dengan TDD setelah intervensi *(post-test)* menghasilkan 0.003. Hal ini berarti juga terdapat perbedaan rerata TDD yang bermakna sebelum dan sesudah intervensi bekam. Karena pada TDS atau TDD nilai p < 0.005 maka Ho ditolak dan H1 diterima dengan kata lain ada pengaruh terapi bekam terhadap penurunan tekanan darah pada pasien hipertensi di Perum Permata Hijau, Kec. Pesantren, Kota Kediri. Penurunan tekanan darah itu dapat terjadi yaitu karena :

Pertama, terapi bekam menimbulkan reaksi peradangan (rubor, dolor, kalor, funsiolesa) pada semua responden (Tabel 4.6) hal ini menunjukkan terjadinya kerusakan dari mast cell dan lain-lain akibat pembekaman mengeluarkan beberapa zat seperti serotonin, histamine, bradikinin, slow reacting substance (SRS), serta zat-zat lain yang belum diketahui. Zat-zat ini menyebabkan terjadinya dilatasi kapiler dan arteriol, serta flare reaction pada daerah yang dibekam (Umar, 2008) dan akan terjadi juga terjadi pengeluaran faktor pembuat relaksasi derivat endotel *(FBRDE, endhotelium-derived relaxing factor/EDRF)* atau sekarang lebih dikenal dengan nama *Oksida Nitrat* (NO) yang akan berdampak pada relaksasi otot polos pembuluh darah (Ganong,2003). sehingga dapat disimpulkan bahwa saat dilakukan

pembekaman akan keluar zat-zat tersebut yang akan menyebabkan relaksasi & vasodilatasi pada pembuluh darah sehingga menurunkan tahanan dari pembuluh darah yang akan berdampak pada menurunnya tekanan darah.

Kedua, setelah dilakukan terapi bekam semua responden merasa rileks dan tenang (Tabel 4.5) menurut Umar (2008) saat dilakukan penghisapan akan merangsang saraf-saraf pada kulit. Rangsangan ini akan dilanjutkan pada cornu posterior medulla spinalis melalui syaraf A delta dan C, serta traktus spino thalamikus ke arah thalamus yang akan menghasilkan endorphin, endorphin adalah peptida kecil yang dilepaskan ke hipotalamus yang akan berdampak memperbaiki suasana hati dan meningkatkan perasaan tenang / sejahtera (Corwin, 2000). Denagan suasana hati yang senang dan tenang maka dengan sendirinya tubuh akan terasa rileks dan denyut jantungpun akan menurun, dengan menurunya denyut jantung maka *cardiac output* akan ikut turun. Salah satu hal yang mempengaruhi tekanan darah adalah curah jantung (*cardiac output)* (Brunner & Suddarth, 2001) maka dapat disimpulkan dengan penurunan *cardiac output* tekanan darahpun juga akan ikut turun.

Ketiga, pada darah yang keluar saat dilakukan terapi bekam yang dari semua responden viskositasnya adalah kental (Tabel 4.7). Menurut Majid (2009) darah yang keluar dari terapi bekam mengandung kolesterol jauh melebihi angka normal, yang mendemonstrasikan bahwa telah terjadi akumulasi kolesterol dalam sel darah rusak yang kemudian terekstrak selama terapi bekam. Tingginya level kolesterol mengakibatkan kerusakan sel, karena fisiologis dalam sel tidak dapat berjalan optimal, bahkan sel mungkin saja tidak dapat berfungsi. Kolesterol dibawa melalui aliran darah dalam dua komponen protein, yaitu lipoprotein berdensitas rendah (LDL) dan lipoprotein berdensitas tinggi (HDL). Ukuran LDL lebih besar dari pada HDL hal ini memungkinkan lebih mudah tersangkut di pembuluh darah. Keluarnya kolesterol dalam tubuh dengan terapi bekam diharapkan dapat memperlancar aliran darah dalam pembuluh darah (Majid. 2009). Tekanan darah dipengaruhi juga oleh viskositas dari darah (Brunner & Suddarth, 2001) Dengan kata lain dengan menurunkan viskositas darah dalam tubuh melalui terapi bekam maka tekanan darahpun juga ikut turun.

Sesuai dengan garis meridian efek-efek tadi (efek-efek dari penghisapan dan penarikan kulit karena tekanan negatif), akan terjadi proses penekanan titik-titik tadi, tepat di bawah kulit di sepanjang meridian. Dengan demikian, dapat dikatakan bahwa efek terapi tidak hanya mengenai bagian permukaan kulit yang dibekam saja, tetapi bisa menembus ke dalam jaringan di bawahnya. Dengan demikian, terapi bekam ini akan bekerja di sepanjang meridian, dari permukaan tubuh ke organ, organ ke organ, jaringan penunjang, ke bagian tubuh kanan dan kiri, atas dan bawah, keempat anggota gerak, ke jaringan penunjang yang satu dengan lainnya, dan seterusnya (Umar, 2008).

Kesimpulan

1. Tekanan darah responden sebelum diberikan intervensi bekam basah termasuk kategori hipertensi ringan sedang dan berat.

2. Setelah dilakukan terapi bekam basah selama 5 – 10 menit pada klien hipertensi penurunan tekanan darah, rerata pada sistolik 22.857 mmHg, dan pada diastolik 21.429 mmHg. Hal ini disebabkan oleh terapi bekam yang akhirnya merangsang tubuh menghasilkan zat seperti serotonin, sitokin, bradikinin, histamine, Oksida Nitrat (NO) dan endhorphin. yang menyebabkan dilatasi pembuluh darah arteriol. Dan efek pengeluaran darah yang berakibat penurunan viskositas

darah sehingga memperlancar sirkulasi darah dan akhirnya menurunkan tekanan darah.

3. Terdapat pengaruh terapi bekam basah terhadap penurunan tekanan darah pada klien hipertensi di perum permata hijau kec. pesantren kota kediri. Dengan uji T tes p < 0.005 dan Ho ditolak, penurunan juga bisa dipengaruhi oleh faktor luar seperti komunikasi, lingkungan, pelayanan saat melakukan terapi.

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