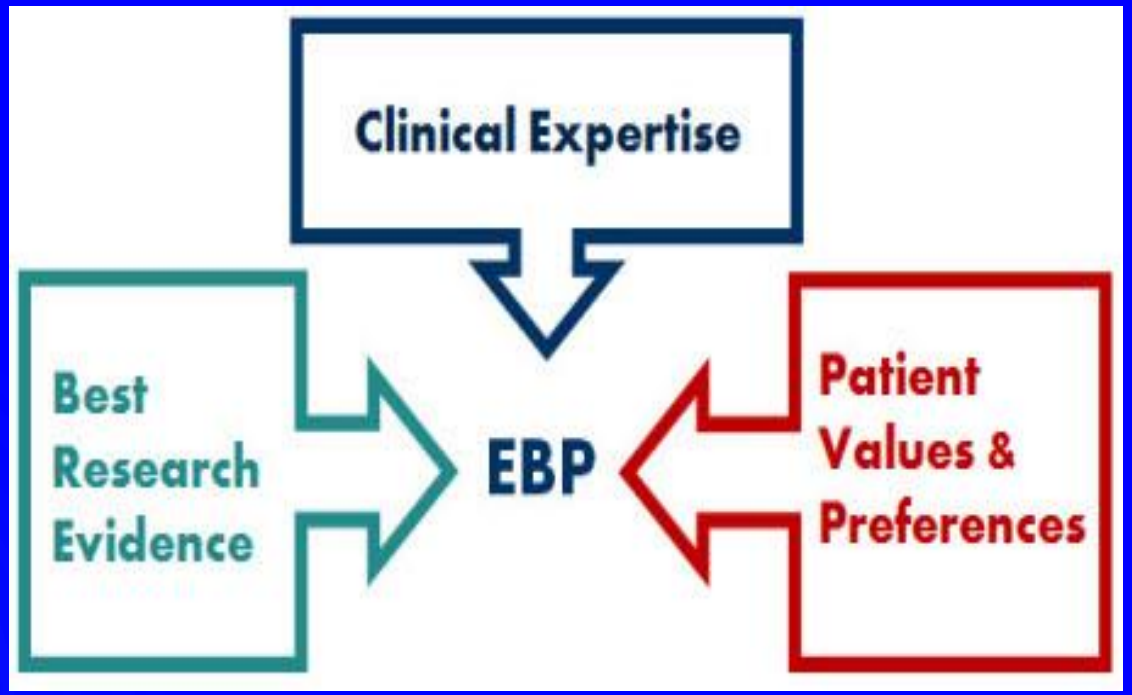
# Non Pharmacological Management Hypertension Berbasis Bukti *)




Dr Rita Sekarsari SKp., Sp KV., MHSM

*) National Symposium Hypertension "WHAT NURSE SHOULD DO?"
Dalam Rangka HUT RSJHK ke 34, Auditorium RSJPDHK - 26 Oktober 2019

| No | Pendidikan |
|---|---|
| 1 | AKPER DEPKES RI 1985 |
| 2 | S1 PSIK UI 1993 |
| 3 | S2 Monas Uni Melbourne 2001 |
| 4 | Pengakuan Ns Sp KV 2011 |
| 5 | S3 FIK UI 2013, Doktor Keperawatan |

| No | Organisasi saat ini |
|---|---|
| 1 | Ketua II PP PPNI 2010-2015 (Mei) |
| 2 | President INKAVIN 2005-2011-2016 |
| 3 | Ketua Kolegium Keperawatan Spesialis Kardiovaskular 2011-2017- sd saat ini. |
| 4 | Pengurus MTKI 2011- 2016 |
| 5 | Surveior KARS 2010 -<br>Pembimbing Akreditasi KARS 2014 -<br>Konsilor Survei Areditasi KARS 2015<br>Tim Fungsional KARS 2017 - |
| 6 | Pengurus PERSI 2015-2018 |

| No | Pekerjaan |
|---|---|
| 1 | Ka Sub Komite Mutu RSJHK 2016 - |
| 2 | Koordinator Program Diklat RSJPDHK 2012 - 2016 |
| 3 | Ketua Sub Komite Keperawatan RSJPDHK 2007 - 2012 |
| 4 | Manajer Instalasi Rawat Inap & Ketua Komite Keperawatan RSJPDHK 2001- 2007 |
| 5 | Ka Ru ICU RSJPDHK 1993 - 2001 |
| 6 | Supervisor Keperawatan RSJPDHK<br>1993 - 2009 |

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# OBJEKTIF

I. Evidence Based & Filosofis Asuhan

II. Non Pharmacological Management Hypertension Berbasis Bukti

III. Penutup

# Evidence Based Nursing Practice

Penggunaan simultan antara keahlian klinis individual (*individual clinical expertise*) dan bukti ilmiah terbaik yang ada dari hasil riset (*the best available external clinical evidence from systematic research*) untuk membantu mengarahkan pembuatan keputusan klinik dengan mempertimbangkan nilai2 yang dianut pasien.

Integrasi dari "***clinically relevant research***, ***clinical expertise*** *and* ***patient preference***" dalam membuat keputusan tentang asuhan pasien yang efektif secara individual.

***Konsep Filosofis***
**Asuhan pasien**
**(Patient care)**

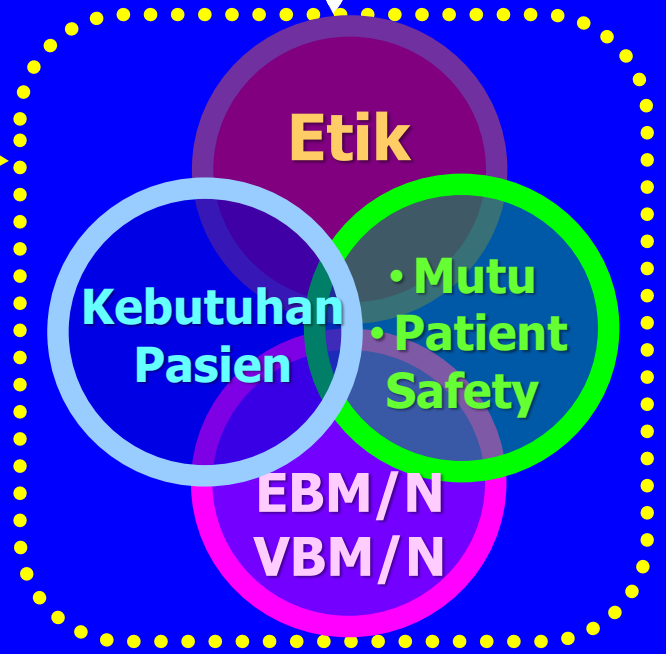
**Manajemen Risiko RS → Risiko Klinis**

**Pelayanan Fokus Person (Person Centred Care)**

**Pola 24**

***4 Fondasi PPA Asuhan pasien***

- Asuhan Medis
- Asuhan Keperawatan
- Asuhan Gizi
- Asuhan Obat




*"Safety is a fundamental principle of patient care and a critical component of Quality Management."*

*(World Alliance for Patient Safety, Forward Programme, WHO, 2004)*

- Evidence Based
- Value Based

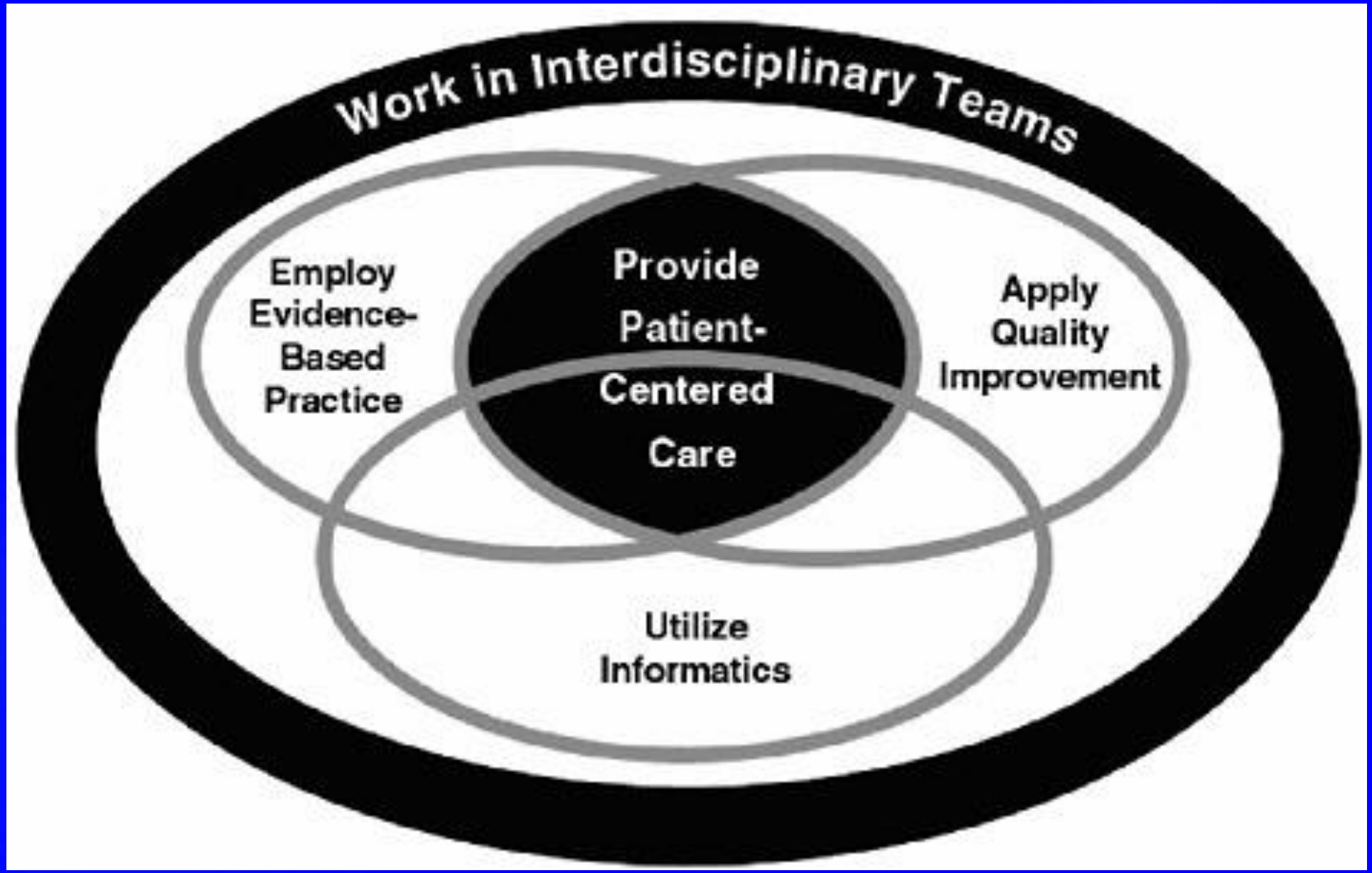



**FIGURE 5-1 Relationship among core competencies for health professionals. SOURCE: IOM (2003).**

# Acquire the evidence

| Category of Evidence | |
|---|---|
| I a | Evidence for meta-analysis of randomized control trials |
| I b | Evidence from at least one randomized controlled trial |
| II a | Evidence from at least one controlled study without randomisastion |
| II b | Evidence from at least one other type of quasi-experimental study |
| III | Evidence non experimental descriptive studies, such as comparative/correlation/case control studies |
| IV | Evidence from expert committee report or opinions or clinical experience of respected authorities or both |

**FOUND IN JOURNAL**

TABLE 3

## A New Hierarchy that Ranks Effectiveness, Appropriateness, and Feasibility

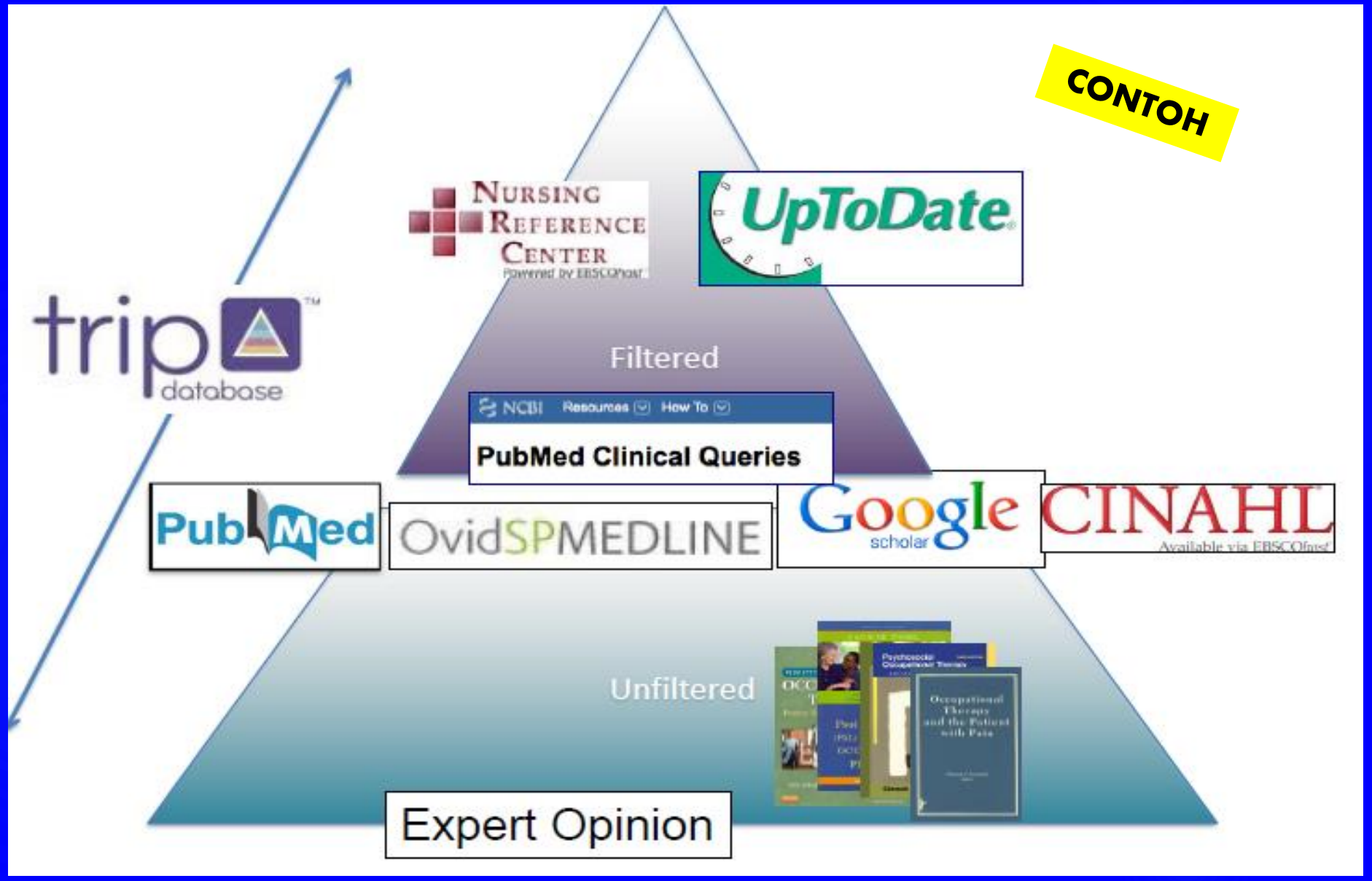
Evans (2003) proposes a new hierarchy of evidence that might be more appropriate for nursing regulation than the traditional hierarchy, because it considers the contributions of a wider range of research methodologies.

| Ranking | Effectiveness | Appropriateness | Feasibility |
|---|---|---|---|
| Excellent | • Systematic review<br>• Multicenter studies | • Systematic review<br>• Multicenter studies | • Systematic review<br>• Multicenter studies |
| Good | • RCTs<br>• Observational studies | • RCTs<br>• Observational studies<br>• Interpretive studies | • RCTs<br>• Observational studies<br>• Interpretive studies |
| Fair | • Uncontrolled trials with dramatic results<br>• Before and after studies<br>• Nonrandomized controlled trials | • Descriptive studies<br>• Focus groups | • Descriptive studies<br>• Action research<br>• Before and after studies<br>• Focus groups |
| Poor | • Descriptive studies<br>• Case studies<br>• Expert opinions<br>• Studies of poor methodological quality | • Case studies<br>• Expert opinions<br>• Studies of poor methodological quality | • Case studies<br>• Expert opinions<br>• Studies of poor methodological quality |

Note: RCTs = randomized controlled trials.

From Evans, D. (2003). Hierarchy of evidence: A framework for ranking evidence evaluating healthcare interventions. *Journal of Clinical Nursing, 12,* 77-84. Reprinted with permission from Wiley-Blackwell.

# SOURCE OF QUESTION



# SOURCE OF QUESTION

CONTOH

ebscohost.com

sciencedirect.com

ProQuest.com

scopus.com

IOSR JNHS

sci-hub.cc

# CONTOH:
# JOURNAL CARDIOVASCULAR, atl

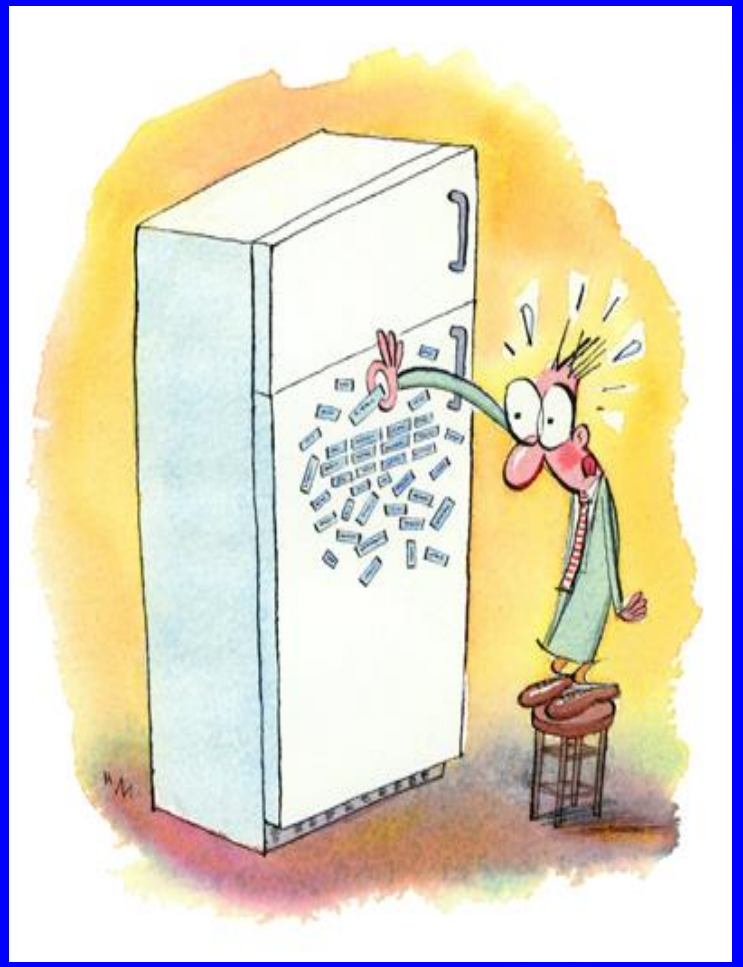
- Arteriosclerosis
- Arteriosclorosis Thrombosis: A Journal of Vascular Biology
- Arteriosclorosis, Thrombosis & Vascular Biology
- Cardiovascular Research
- Circulation
- Circulation: Cardiovascular Intervention
- Circulation Research
- European Heart Journal
- Hypertension

# CONTOH:
# JOURNAL CARDIOVASCULAR, atl

- Journal of the American  Society of Echocardiography
- Journal of Thoracic & Cardiovascular Surgery
- Seminar in Cardiothoracic  & Vascular Anesthesia
- Stroke
- International Journal of Angiology
- Journal of  Cardiovascular Nursing

# Anatomy of a Scientific Article

- Abstract
- Introduction
- Materials and Methods
- Results
- Discussion
- Conclusion



# Non Pharmacological Management Hypertension Berbasis Bukti

?

**Table 1.** Comparison of BP Target Recommendations

| | BP Targets | BP Categories[a] | SBP (mm Hg) | DBP (mm Hg) |
|---|---|---|---|---|
| JNC 7, 2003 | < 140/90 mm Hg<br>< 130/80 mm Hg for those with diabetes or chronic kidney disease | Normal | < 120 | < 80 |
| | | Prehypertension | 120–139 | 80–89 |
| | | Stage 1 hypertension | 140–159 | 90–99 |
| | | Stage 2 hypertension | ≥ 160 | ≥ 100 |
| JNC 8, 2014 | < 150/90 mm Hg for patients ≥ 60<br>< 140/90 mm Hg for patients < 60, diabetes, and chronic kidney disease | Was not a comprehensive set of recommendations, and did not discuss hypertension diagnostic thresholds | | |
| ACP/AAFP, 2017 | < 150/90 mm Hg for patients ≥ 60<br>< 140/90 mm Hg for patients at higher CV risk, or with a history of stroke or TIA | Was not a comprehensive set of recommendations and did not discuss hypertension diagnostic thresholds<br>Did not address recommendations in patients < 60 | | |
| ACC/AHA, 2017 | ≤ 130/80 mm Hg | Normal | < 120 | < 80 |
| | | Elevated | 120–129 | < 80 |
| | | Stage 1 hypertension[b] | 130–139 | 80–89 |
| | | Stage 2 hypertension | ≥ 140 | ≥ 90 |

[a]Patients with SBP and DBP in two different categories should be classified in the higher category.

[b]Antihypertensive medication should be initiated in stage 1 hypertension only in patients with clinical CV disease, a 10-year risk of ASCVD of 10% or higher, diabetes mellitus, or chronic kidney disease.

BP = blood pressure; TIA = transient ischemic attack.



## Hypertension

By Toni L. Ripley, Pharm.D., FCCP, BCPS, AHSCP-CHC; and Anna Barbato, Pharm.D., BCPS, AHSCP-CHC

# Box 2. Selected Causes of BP Measurement Errors

Factors that can falsely increase SBP and DBP:

- Bladder distension
- Cuff too small
- Insufficient rest period
- Talking during measurement

Factors that can falsely decrease SBP and DBP:

- Cuff too large

Factors that have mixed errors on SBP and DBP measurements:

- Deflating the cuff too quickly
- Standing or supine position rather than sitting position
- White-coat effect

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Information from: Kallioinen N, Hill A, Horswill MS, et al. Sources of inaccuracy in the measurement of adult patients' resting blood pressure in clinical settings: a systematic review. J Hypertens 2017;35:421-41.

# Nursing Best Practice Guideline
# Shaping the future of Nursing

## *Nursing Management of Hypertension*

Revised 2009 Supplement Enclosed

## *Interpretation of Evidence*

Levels of Evidence

| | |
|---|---|
| Ia | Evidence obtained from meta-analysis of randomized controlled trials. |
| Ib | Evidence obtained from at least one randomized controlled trial. |
| IIa | Evidence obtained from at least one well-designed controlled study without randomization. |
| IIb | Evidence obtained from at least one other type of well-designed quasi-experimental study, without randomization. |
| III | Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies. |
| IV | Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. |

# Practice Recommendations

## Detection

### Recommendation 1.1

Nurses will take every appropriate opportunity to assess the blood pressure of adults in order to facilitate early detection of hypertension.

*Level of Evidence = IV*

### Recommendation 1.2

Nurses will utilize correct technique, appropriate cuff size and properly maintained/calibrated equipment when assessing clients' blood pressure.

*Level of Evidence = IV*

# Table 1: Appropriate cuff sizing based on arm circumference

Reproduced with permission. Canadian Hypertension Education Program Process, 2005.

| Arm circumference (cm) | Size of cuff (cm) |
|---|---|
| 18-26 | 9x18 (child) |
| 26-33 | 12x23 (standard adult) |
| 33-41 | 15x33 (large, obese) |
| More than 41 | 18x36 (extra large, obese) |

Figure 1: Proper positioning of cuff for blood pressure assessment

Reproduced with permission. Canadian Hypertension Education Program Process, 2005.

# Lifestyle Interventions

## Recommendation 2.1

Nurses will work with clients to identify lifestyle factors that may influence hypertension management, recognize potential areas for change and create a collaborative management plan to assist in reaching client goals, which may prevent secondary complications. *Level of Evidence = IV*

### Lifestyle Factors impacting on blood pressure

- Diet
- Weight
- Exercise
- Alcohol consumption
- Smoking
- Stress

# Table 4: Impact Of Lifestyle Therapies On Blood Pressure In Hypertensive Adults

Reproduced with permission. Canadian Hypertension Education Program Process, 2005.

| Intervention | Targeted change | Change in blood pressure (systolic/diastolic) mmHg |
|---|---|---|
| Sodium intake | -100 mmol/day | -5.8/-2.5 |
| Weight | -4.5 kg | -7.2/-5.9 |
| Alcohol intake | -2.7 drinks/day | -4.6/-2.3 |
| Exercise | 3 times/wk | -7.4/-5.8 |
| Dietary patterns | DASH diet | -11.4/-5.5 |

# Diet

## Recommendation 2.2

Nurses will assess for and educate clients about dietary risk factors as part of management of hypertension, in collaboration with dietitians and other members of the healthcare team.

*Level of Evidence = IV*

Limit sodium to 65-100 mmol/day, which is the equivalent of 2/3-1 tsp of table salt (CHEP, 2005).

100 mmol Na = 2400 mg = 1 tsp (6 grams) table salt

# Healthy Weight

## Recommendation 2.5

**Nurses will assess clients' weight, Body Mass Index (BMI) and waist circumference.**

*Level of Evidence = IV*

## Recommendation 2.6

**Nurses will advocate that clients with a BMI greater than or equal to 25 and a waist circumference over 102 cm (men) and 88 cm (women) consider weight reduction strategies.** *Level of Evidence = IV*

Body Mass Index is calculated as follows:

Weight in kilograms divided by height in metres squared

or

$BMI = weight(kg)/height(m)^2$

Waist circumference should be measured at the point of the torso located midway between the lowest rib and the iliac crest (Health Canada, 2005).

# Exercise

## Recommendation 2.7

Nurses will assess clients' current physical activity level.

*Level of Evidence = IV*

Moderate intensity dynamic exercise includes walking, jogging, cycling or swimming (CHEP, 2004) and elicits 60% to 70% of maximum heart rate (CMA, 1999).

Formula for Maximum Heart Rate:

220 - client's age = maximum HR

220 - age X 0.6 = 60% maximum HR

220 - age X 0.7 = 70% maximum HR

Suggested activities for older adults:

- Walking
- Mall walking
- Gardening
- Golfing
- Water aerobics
- Bowling
- Tai Chi
- Light weight training
- Light house work

Hindawi
Evidence-Based Complementary and Alternative Medicine
Volume 2019, Article ID 1317842, 7 pages
https://doi.org/10.1155/2019/1317842

*Review Article*

# A Review on the Nonpharmacological Therapy of Traditional Chinese Medicine with Antihypertensive Effects

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[2]*The Affiliated Hospital of Shandong University of TCM, Shandong Provincial Hospital of Traditional Chinese Medicine, China*

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Academic Editor: Arthur De Sá Ferreira



Hypertension is a global health concern. Although the pharmacological treatment has obvious antihypertensive effects, there are still some limitations on management of hypertension by drug therapy alone. In recent years, the nonpharmacological therapy of traditional Chinese medicine (TCM) has gradually become an important mean to help the prevention and treatment of hypertension in some Eastern countries. In this review, the nonpharmacological TCM therapies, including acupuncture, tuina, Tai Chi, and auricular-plaster, are covered along with the mechanism.



# Smoking

## Recommendation 2.11

Nurses will be knowledgeable about the relationship between smoking and the risk of cariovascular disease.

*Level of Evidence = IV*

## Recommendation 2.10

Nurses will routinely discuss alcohol consumption with the client and recommend limiting alcohol use, as appropriate, to a maximum of:

- Two standard drinks per day or 14 drinks per week for men;
- One standard drink per day or 9 drinks per week for women and lighter weight men.

*Level of Evidence = III*

One standard drink is equivalent to:

- 5oz./142 ml. of wine (12% alcohol)
- 1.5oz./43 ml. of spirits (40% alcohol)
- 12oz./341 ml. regular strength beer (5% alcohol)

Centre for Addiction and Mental Health, 2004.

# Summary of Coping Strategies

Positive coping strategies include:

- Daily physical exercise
- Talking problems over with someone trustful
- Getting enough rest
- Eating a healthy diet
- Decreasing amount of caffeine and alcohol
- Laughing
- Saying "no" without feeling guilty
- Learning to relax – especially by doing something that is enjoyable
- Accept that one cannot do it alone and that this acceptance is a sign of strength and a step forward
- Seeking assistance through referral to members of the multidisciplinary team (social work, psychology, psychiatry)

# Summary of Lifestyle Interventions in Hypertensive Adults (CHEP, 2005)

## ➪ *Practice Point:*

- Sodium Intake – Target 65-100 mmol/day
- Weight – Target BMI <25 kg/m$^2$
- Waist Circumference – Target <102 cm for men; <88 cm for women
- Alcohol Consumption – Target less or equal to 2 drinks/day
- Dietary Patterns – Follow the DASH diet
- Smoking – Target smoking cessation and a smoke-free environment

## Recommendation 4.4

Nurses will provide the information needed for clients with hypertension to make educated choices related to their treatment plan.

*Level of Evidence = III*

# *Education Recommendation*

## Recommendation 7.1

Nurses working with adults with hypertension must have the appropriate knowledge and skills, acquired through basic nursing education curriculum, ongoing professional development opportunities and orientation to new work places. Knowledge and skills should include, at minimum:

- Pathophysiology of hypertension;
- Maximizing opportunities for detection;
- Facilitating diagnosis;
- Assessing and monitoring clients with hypertension;
- Providing appropriate client/family education;
- Supporting lifestyle changes;
- Promoting the empowerment of the individual; and
- Documentation and communication with the client and other members of the healthcare team.

*Level of Evidence = IV*

# Nonpharmacologic Management of Hypertension: What Works?

RUPAL OZA, MD, and MIRIAM GARCELLANO, DO, *The Ohio State University, Wexner Medical Center, Columbus, Ohio*

Hypertension is one of the most common conditions encountered in primary care. Nonpharmacologic strategies have been shown to help lower blood pressure. Lifestyle modifications are recommended for all patients with hypertension. The American Heart Association/American College of Cardiology lifestyle management guideline recommends a diet emphasizing vegetables, fruits, and whole grains; limiting sodium intake to less than 2,400 mg per day; and exercising three or four times per week for an average of 40 minutes per session. Other nonpharmacologic strategies include weight loss, tobacco cessation, decreased alcohol consumption, biofeedback, and self-measured blood pressure monitoring. For patients with obstructive sleep apnea, the use of continuous positive airway pressure has been shown to improve blood pressure. Dietary supplements such as garlic, cocoa, vitamin C, coenzyme Q10, omega-3 fatty acids, and magnesium have been suggested for lowering blood pressure, but evidence is lacking. (*Am Fam Physician*. 2015;91(11):772-776. )

# Nonpharmacologic Management of Hypertension: What Works?

RUPAL OZA, MD, and MIRIAM GARCELLANO, DO, *The Ohio State University, Wexner Medical Center, Columbus, Ohio*

2015

## Table 1. Dietary Approaches to Stop Hypertension Diet

| *Component* | *Examples of a serving* |
|---|---|
| **High consumption** | |
| Fruits (four or five servings per day) | 1 medium fruit<br>¼ cup dried fruit |
| Vegetables (four or five servings per day) | 1 cup raw leafy green vegetables<br>½ cup cooked vegetables<br>6 oz vegetable juice |
| Whole grains (seven or eight servings per day) | 1 slice whole wheat bread<br>1 cup whole-grain cereal<br>½ cup cooked rice or pasta |
| **Moderate consumption** | |
| Low-fat dairy products (two or three servings per day) | 8 oz low-fat milk<br>1 cup low-fat yogurt<br>1½ oz low-fat cheese |
| Lean meat (two servings per day) | 3 oz cooked lean meat (e.g., 90% lean ground beef, trimmed pork chops), skinless poultry, or fish |
| Nuts, seeds, and beans (four or five servings per week) | ⅓ cup or 1½ oz nuts<br>1 tablespoon or ½ oz seeds<br>½ cup cooked beans |
| Fats and oils (two or three servings per day) | 1 teaspoon margarine<br>1 teaspoon low-fat mayonnaise<br>2 tablespoons light salad dressing<br>1 teaspoon vegetable oil |

| Low consumption | |
|---|---|
| Cholesterol and saturated fats | 2 egg whites in place of 1 whole egg |
| Red meat | 3 oz serving up to three times per week |
| Salt | 1 oz fat-free chips per day |
| Sweets or sweetened beverages (no more than five servings per week) | 1 tablespoon sugar<br>1 tablespoon jelly or jam<br>½ oz jelly beans<br>8 oz lemonade |

*Adapted from National Heart, Lung, and Blood Institute. Your guide to lowering blood pressure. http://www.nhlbi.nih.gov/files/docs/public/heart/hbp_low.pdf. Accessed September 29, 2014.*

## Table 2. Examples of Aerobic Exercise

| | |
|---|---|
| Aerobic exercise class | Golfing without using a cart |
| Bicycling | Jogging |
| Dancing | Moderate-intensity swimming |
| Gardening or yard work (e.g., raking, pushing a lawn mower) | Tennis |
| | Walking briskly |

*Information from reference 14.*

# Nonpharmacologic Strategies for Managing Hypertension

RANDY WEXLER, M.D., M.P.H., and GLEN AUKERMAN, M.D.
*Ohio State University College of Medicine, Columbus, Ohio*

**2006**

## SORT: KEY RECOMMENDATIONS FOR PRACTICE

| *Clinical recommendations for persons with hypertension or prehypertension* | *Evidence rating* | *References* | *Systolic blood pressure reduction (mm Hg)* |
|---|---|---|---|
| Maintain a normal body weight (i.e., body mass index less than 25 kg per $m^2$). | C | 1, 7 | 5 to 20 |
| Eat a diet high in fruits and vegetables and low in fat. | C | 1, 9, 12, 15 | 8 to 14 |
| Consume less than 2.4 g of sodium per day. | C | 1, 9, 11, 12 | 2 to 8 |
| Get 30 minutes of aerobic activity at least four days per week. | C | 1, 13 | 4 to 9 |
| Men should have no more than two alcoholic drinks per day, and women no more than one alcoholic drink per day. | C | 1, 14 | 2 to 4 |

NOTE: *All recommendations are rated C because, although there is good evidence that they lower blood pressure, there is no direct evidence of mortality or morbidity benefit from clinical trials.*

*A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, see page 1874 or http://www.aafp.org/afpsort.xml.*

# Non-pharmacological management of hypertension: in the light of current research

Sajid Mahmood[1,2] · Kifayat Ullah Shah[1,2] · Tahir Mehmood Khan[3] · Sarfraz Nawaz[1,2] · Haroon Rashid[1,2] · Syed Waqar Ali Baqar[1,2] · Sohail Kamran[1,2]

Received: 12 June 2018 / Accepted: 16 August 2018


**Abstract**

Hypertension is a major risk factor for a number of cardiovascular diseases. Proper management of hypertension may require both pharmacological and non-pharmacological interventions. Non-pharmacological interventions help reduce the daily dose of antihypertensive medication and delay the progression from prehypertension to hypertension stage. Non-pharmacological interventions include lifestyle modifications like dietary modifications, exercise, avoiding stress, and minimizing alcohol consumption. Nutritional requirements of hypertensive individuals can be addressed through adopting either the DASH diet or through traditional Mediterranean diet. These dietary guidelines promote the consumption of fruits, vegetables, grains, dairy products, and food rich in $K^+$, $Mg^{+2}$, $Ca^{+2}$, and phosphorus. Restriction of $Na^+$ intake has the greatest role in lowering the blood pressure. The DASH diet alone has the effect equal to that of a single drug therapy. After dietary modifications, exercise and weight loss are the second major intervention for hypertension management. Avoiding stressful lifestyle, depression, and anxiety also help to reduce elevated blood pressure. Minimizing alcohol intake also favors the blood pressure reduction. However, lifestyle modification is a dynamic process and requires continuous adherence. It is a multi-factorial approach targeting more than one intervention. However, 6–12-month lifestyle modifications can be attempted in stage-1 hypertensive patients without any cardiovascular complication, in the hope that they may be sufficiently effective to make it unnecessary to use medicines.

**Keywords** DASH diet · Exercise · Hypertension · Lifestyle modifications · Low salt diet · Non-pharmacological management

# Effects of Massage on Blood Pressure in Patients With Hypertension and Prehypertension

## A Meta-analysis of Randomized Controlled Trials

I-Chen Liao, MSN, RN; Shiah-Lian Chen, PhD; Mei-Yeh Wang, PhD; Pei-Shan Tsai, PhD

**Background:** Massage may help reduce blood pressure; previous studies on the effect of massage on blood pressure have presented conflicting findings. In addition, no systematic review is available. **Objective:** The aim of this study was to evaluate the evidence concerning the effect of massage on blood pressure in patients with hypertension or prehypertension. **Methods:** A search was performed on electronic database records up to October 31, 2013, based on the following medical subject headings or keywords: *hypertension*, *massage*, *chiropractic*, *manipulation*, and *blood pressure*. The methodological quality of randomized controlled trials was assessed based on the Cochrane collaboration tool. A meta-analysis was performed to evaluate the effect of massage on hypertension. The study selection, data extraction, and validation were performed independently by 2 reviewers. **Results:** Nine randomized controlled trials met our inclusion criteria. The results of this study show that massage contributes to significantly enhanced reduction in both systolic blood pressure (SBP) (mean difference, −7.39 mm Hg) and diastolic blood pressure (DBP) (mean difference, −5.04 mm Hg) as compared with control treatments in patients with hypertension and prehypertension. The effect size (Hedges *g*) for SBP and DBP was −0.728 (95% confidence interval, −1.182 to −0.274; $P = .002$) and −0.334 (95% confidence interval, −0.560 to −0.107; $P = .004$), respectively. **Conclusion:** This systematic review found a medium effect of massage on SBP and a small effect on DBP in patients with hypertension or prehypertension. High-quality randomized controlled trials are urgently required to confirm these results, although the findings of this study can be used to guide future research.

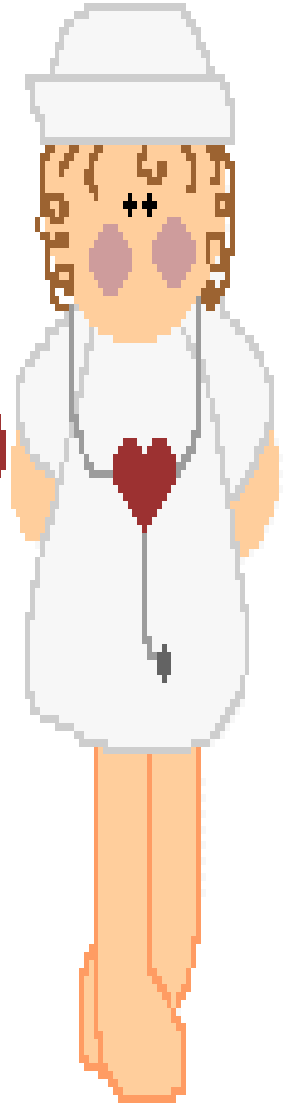
**KEY WORDS: blood pressure, hypertension, massage, meta-analysis**

The areas massaged were categorized as the whole body, the head, the neck, and back area (including the face, neck, shoulders, upper chest, andback).

# PENUTUP

**NERS SANGAT BERPERAN PENTING DAN UTAMA MENURUNKAN MORBITAS, MORTALITAS, LOS, QUALITY OF LIFE PASIEN HIPERTENSI MELALUI NON PHARMACOLOGICAL MANAGEMENT HYPERTENSION BERBASIS BUKTI**

a nurse is someone who listens with heart



Menjadi Ners Profesional adalah Pengabdian Luhur