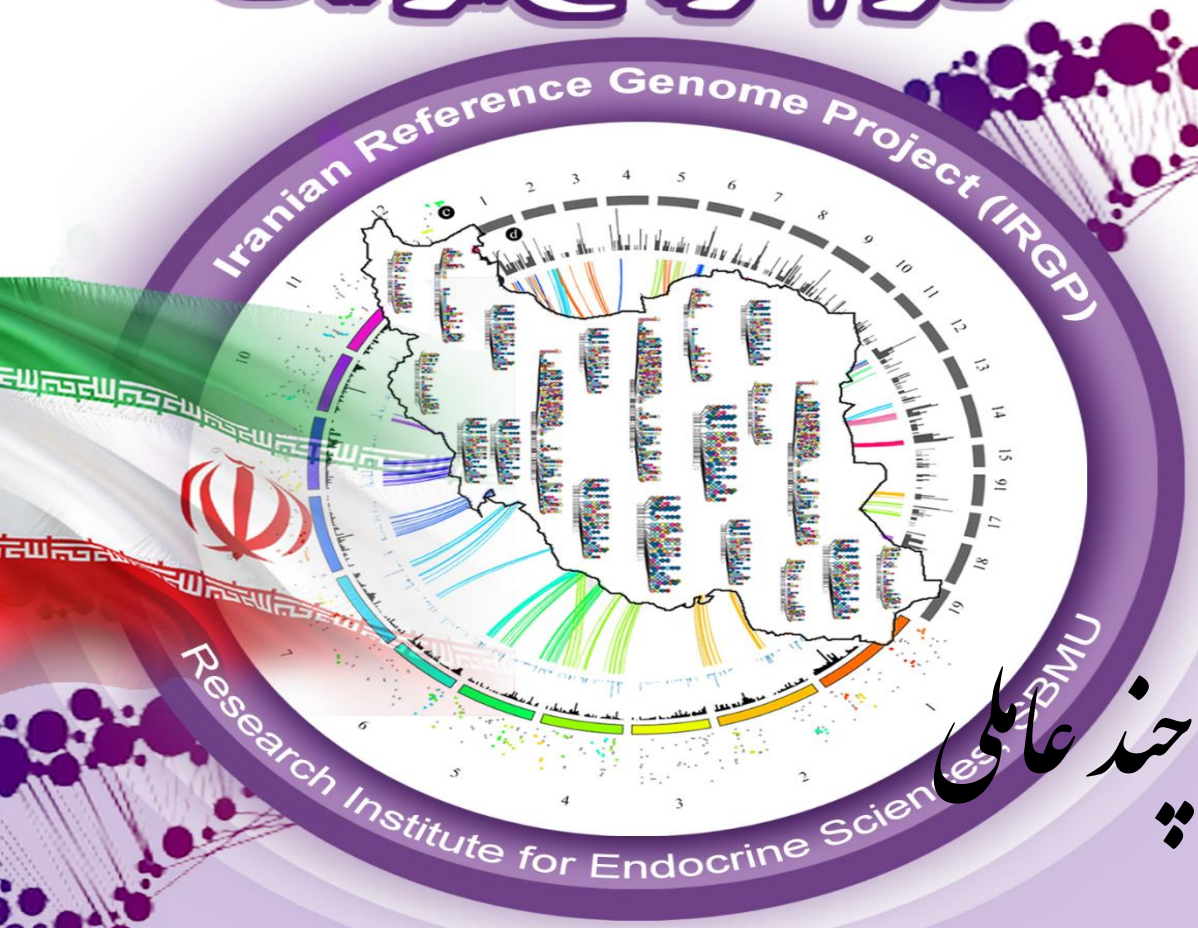
ژمیران

ژنوم مرجع ایرانیان



ت گسترده ژنتیکی و یافته های آن در بیماری های چند عاملی
(بیماری پرفشاری خون در جمعیت ایرانی)

بسم الله الرحمن الرحیم

ژنوم مرجع ایرانیان

وبینار مطالعات گسترده ژنومي دربيماريهاي چندعاملي: بيماري پرفشاري خون در جمعيت ايران

با نگاهی براولین مطالعه گسترده ژنومی پرفشاری خون درجمعیت ایرانی

امتیاز بازآموزی با شناسه: 166828

ساعت برگزاری: 10-12

تاریخ: 13/5/1400

10:30-10:00

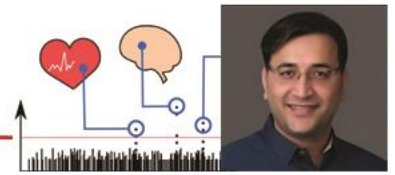
دکتر مریم دانشپور

متخصص ژنتیک ملکولی پزشکی

مطالعات گسترده ژنومی و اهمیت آن در بیماری های چند عاملی

Genome-Wide Association Studies and its importance on multifactorial diseases

11:00-10:30



دکتر مهدی اکبرزاده

متخصص آمار زیستی

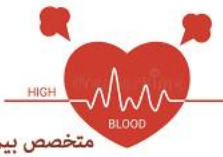
طراحی و تحلیل داده های مطالعات گسترده ژنومی (GWAS)

Design and Analysis of Genome-Wide Association Studies

پرسش و پاسخ

12:15-12:00

11:30-11:00



دکتر مهدی پیشگاهی

متخصص بیماری های قلب و عروق

رویکرد پزشکی شخص محور در پیشگیری و کنترل پرفشاری خون

Personalized Medicine approach in hypertension

12:00-11:30

دکتر گودرز کلی فرهود

متخصص اپیدمیولوژی

عوامل ژنتیکی موثر بر پرفشاری خون درجمعیت ایرانی

Genetic and environmental risk profile and high blood pressure event in the Iranian population

لینک ثبت نام و

ورود به وبینار:

http://ircme.ir

پژوهشکده علوم غدد درون ریزومتابولیسم

مرکزژنوم ایرانیان و مرکزتحقیقات علوم سلولی ومولکولی غدد

دانشگاه علوم پزشکی شهیدبهشتی

رویکرد پزشکی شخص محور در پیشگیری و کنترل پرفشاری خون

دکتر مهدی پیشگاهی
استادیار دانشگاه علوم پزشکی شهید بهشتی
متخصص قلب و عروق

HTN burden

- Global burden of HTN is rising due to escalating obesity & aging … one third of the world by 2025.

- High BP : causing two thirds of all strokes , half of .all IHD , renal failure , blindness …
  (leading cause of mortality & morbidity)

- Half of this disease burden : occurs in
  - HTN (>140/90) , other half in pre HTN

Most people with
high blood pressure
DO NOT KNOW THEY HAVE IT.
1 in 4
men have hypertension

Most people with
high blood pressure
DO NOT KNOW THEY HAVE IT.
1 in 5
women have hypertension

HTN

- <1 in 5 under control
- Every 20/10 mmHg higher BP=X2 death from HD or stroke

Problem

* Although effective medications , are available : uncontrolled BP and low adherence to antihypertensive drugs persist as major public health and clinical challenges

** < 30% controlled to < 140/90 mmHg even among those diagnosed as hypertensive and taking antihypertension treatment

*** Around one billion individuals are living with uncontrolled hypertension globally.

2 major factors contribute to hypertension control in treated patients

*prescription of an adequate number and dose of prescribed BP medications

*adherence with therapy.

(On average, only 50% of adults adhere to chronic disease medications)

Importance of Adherence

* **Modest changes in adherence : lead to clinically significant reductions in BP.**

** **Small** reductions in BP are associated with improvements in mortality, a reduction in **SBP of 3 mm Hg** is associated with an **8%** reduction in **stroke mortality** and a **5% reduction in mortality from CAD**.

*** **modest improvements on adherence can have an appreciable effect on health outcomes**

ADHERENCE

Initiation : *time from prescription until the first dose of the medication is taken.*

4% to 20 % *of patients* ***never start*** *their treatment, despite the fact that they accepted*

*** ***Adherence with pharmacotherapy*** *for hypertension*

1-year after initiation *is typically reported at* ***<50%.***

*** ***More prevalent*** *among* ***newly treated*** *hypertensive patients and* ***higher*** *among patients* ***aged <40 years****.*

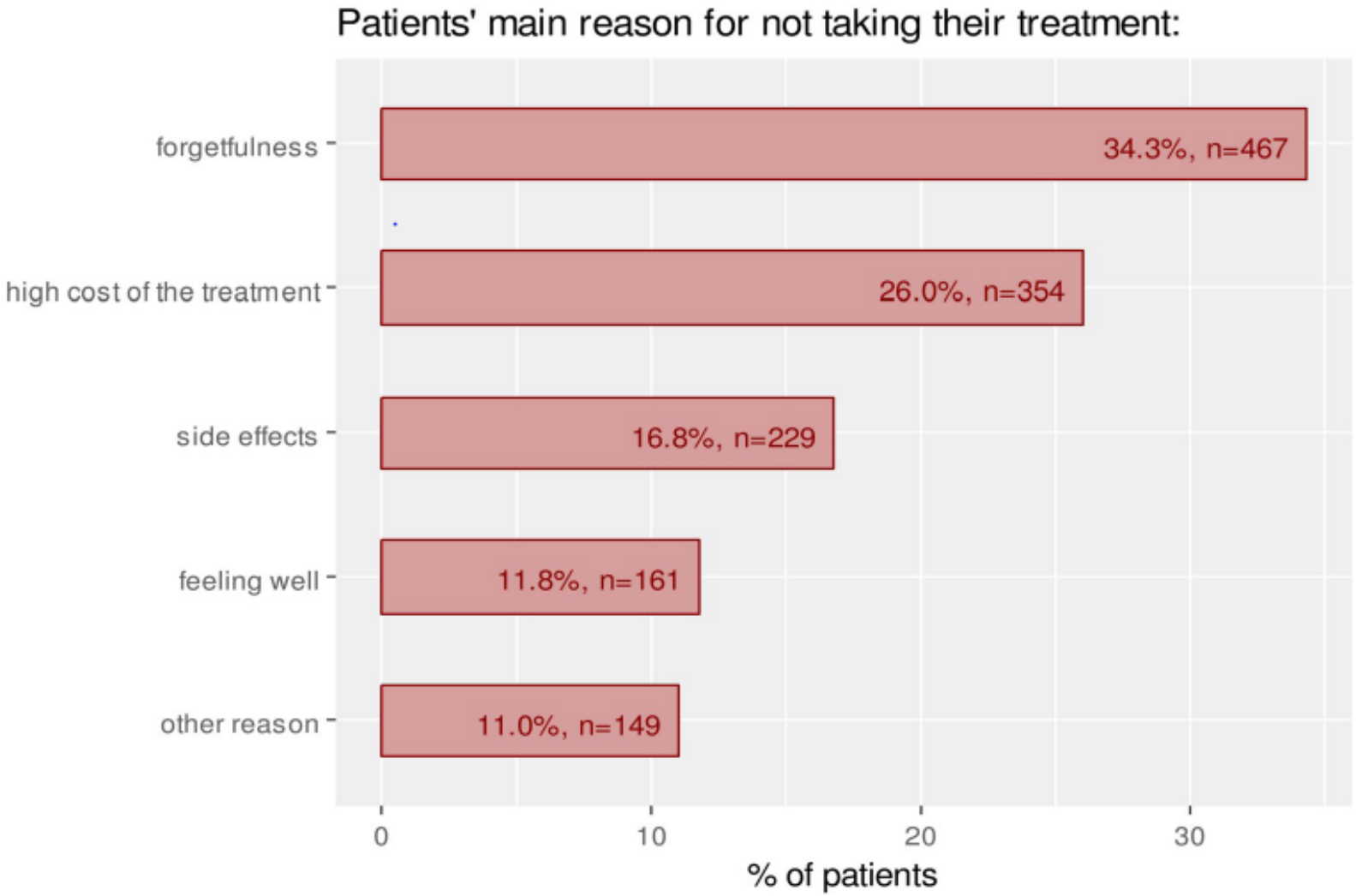


Fig 4. Patients' main reason for not taking their treatment.

Problem with Dr s & Drugs

Physician often undertreat hypertension

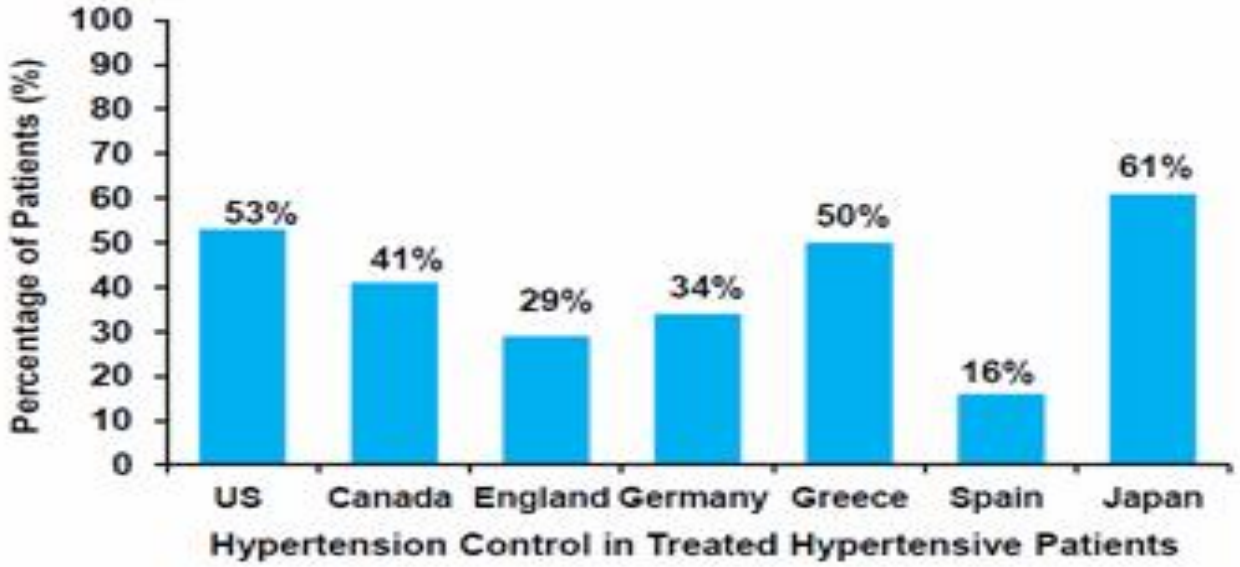
(delay or above goal)

BP remain elevated (when is diagnosed & treated) in half of pts.

****

Even among pts whose ***HTN appears control*** *by* ***conventional standards ,*** *fewer than* ***one in three*** *may yet develop subsequent* ***stroke , MI , HF***.

Failure of Current Multidrug Approach to Successfully Treat Hypertension



“Drugs don’t work in patients who don’t take them”

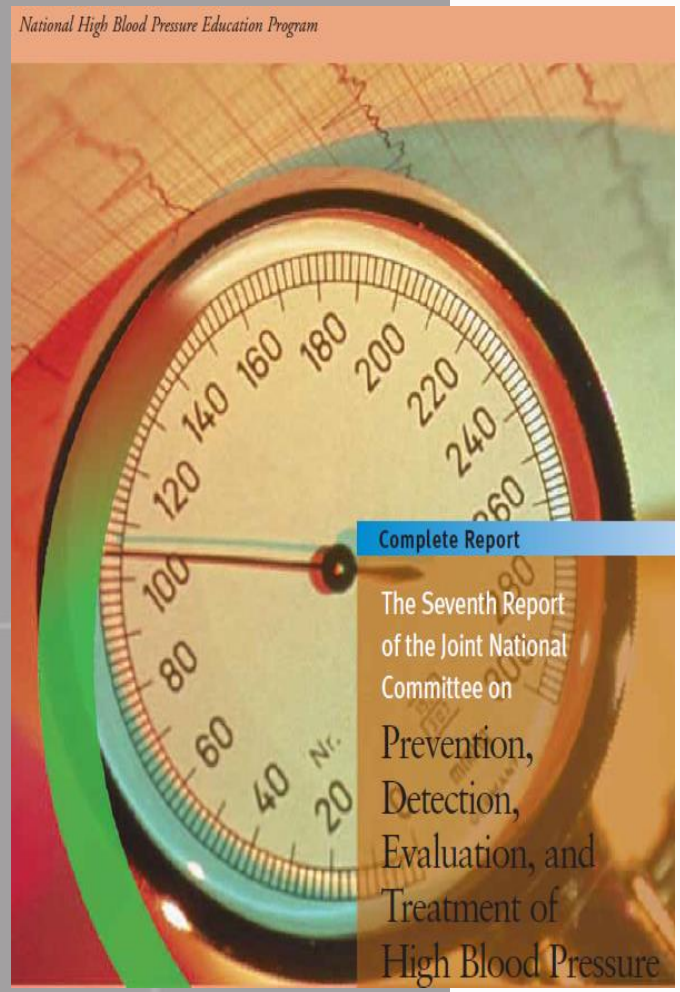
“the full benefits of medications cannot be realized at currently achievable levels of adherence”

ITS MANAGEMENT REQUIRES IMPROVEMEN (New treatment strategies are needed)

guideline is "a ***cord or rope to aid a passer over a difficult point*** or to ***permit retracing a course***," which ensures that ***climbers stay on the safest path while ascending a mountain***

Joint National Committee (JNC)

- Panel appointed by the National Heart, Lung, and Blood Institute (NHLBI)
- First guidelines (JNC-1) published in 1977
- Subsequent updates published in 3- to 6-year intervals
- Last edition (JNC-7) published in 2003



Chobanian AV et al. *JAMA* 2003;289:2560-72.

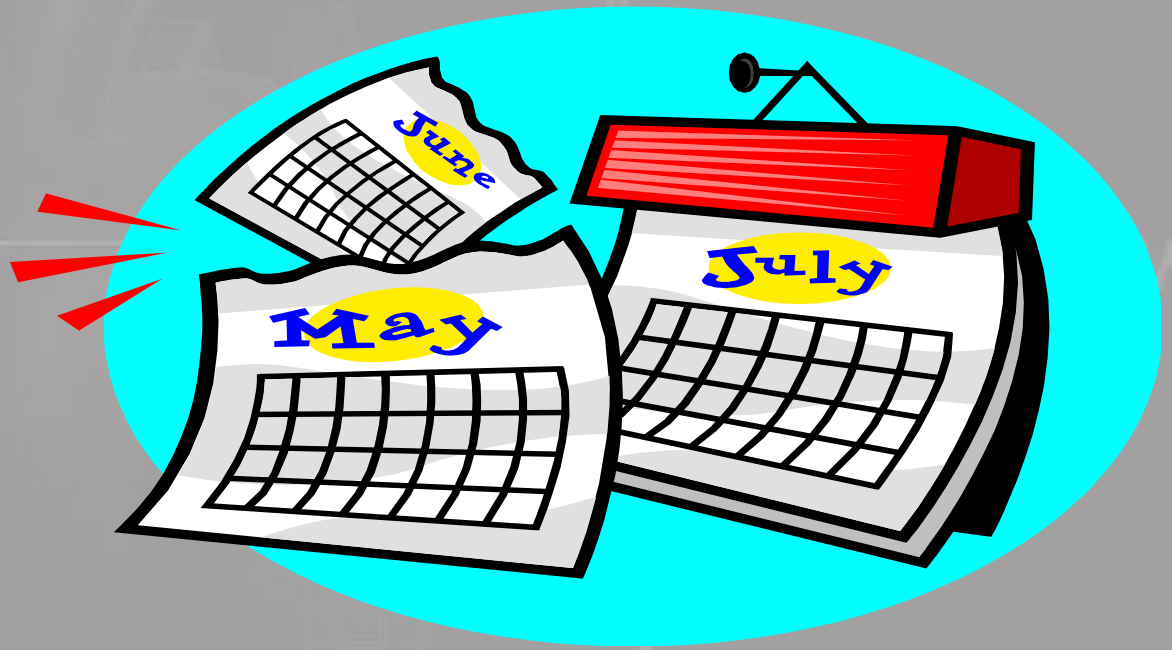
Development of JNC-8

- 3 critical questions for adults with hypertension
  - Does initiating antihypertensive pharmacologic therapy at specific blood pressure thresholds improve health outcomes? [When to start therapy?]
  - Does treatment with antihypertensive pharmacologic therapy to a specified blood pressure goal lead to improvements in health outcomes? [How low should I go?]
  - Do various antihypertensive drugs or drug classes differ in comparative benefits and harms on specific health outcomes? [What drug do I use?]

James PA et al. *JAMA* 2014;311:507-20.

Development of JNC-8

And then we wait…and wait…



But Wait…There's More

- A multitude of other hypertension guidelines were also published in 2013:
  - AHA/ACC/CDC advisory algorithm
  - American Society of Hypertension/International Society of Hypertension (ASH/ISH)
  - European Society of Hypertension and European Society of Cardiology (ESH/ESC)
  - Canadian Hypertension Education Program (CHEP)

Guidelines

- JNC 1-3 DBP < 90
- JNC 4 (1988) DBP < 90, Isolated SBP < 160
- JNC 5 (1993) < 140/90
- JNC 6 (1997) < 140/90
- JNC 7 (2004) < 140/90, Pre HTN
- JNC 8 (2013) < 150/90 or < 140/90

Comparisons to Other Guidelines

BP Goal	JNC-7	JNC-8	ASH/ISH	ESC/ESH	CHEP
Age < 60	<140/90	<140/90	<140/90	<140/90	<140/90
Age 60-79	<140/90	<150/90	<140/90	<140/90	<140/90
Age 80+	<140/90	<150/90	<150/90	<150/90	<150/90
Diabetes	<130/80	<140/90	<140/90	<140/85	<130/80
CKD	<130/80	<140/90	<140/90	<130/90	<140/90

Adapted from Salvo M et al. *Ann Pharmacother* 2014;48:1242-8.

TODAY,S PROBLEM

Clinical Practice Guidelines

2020 International Society of Hypertension Global Hypertension Practice Guidelines

Table 1. Classification of Hypertension Based on Office Blood Pressure (BP) Measurement

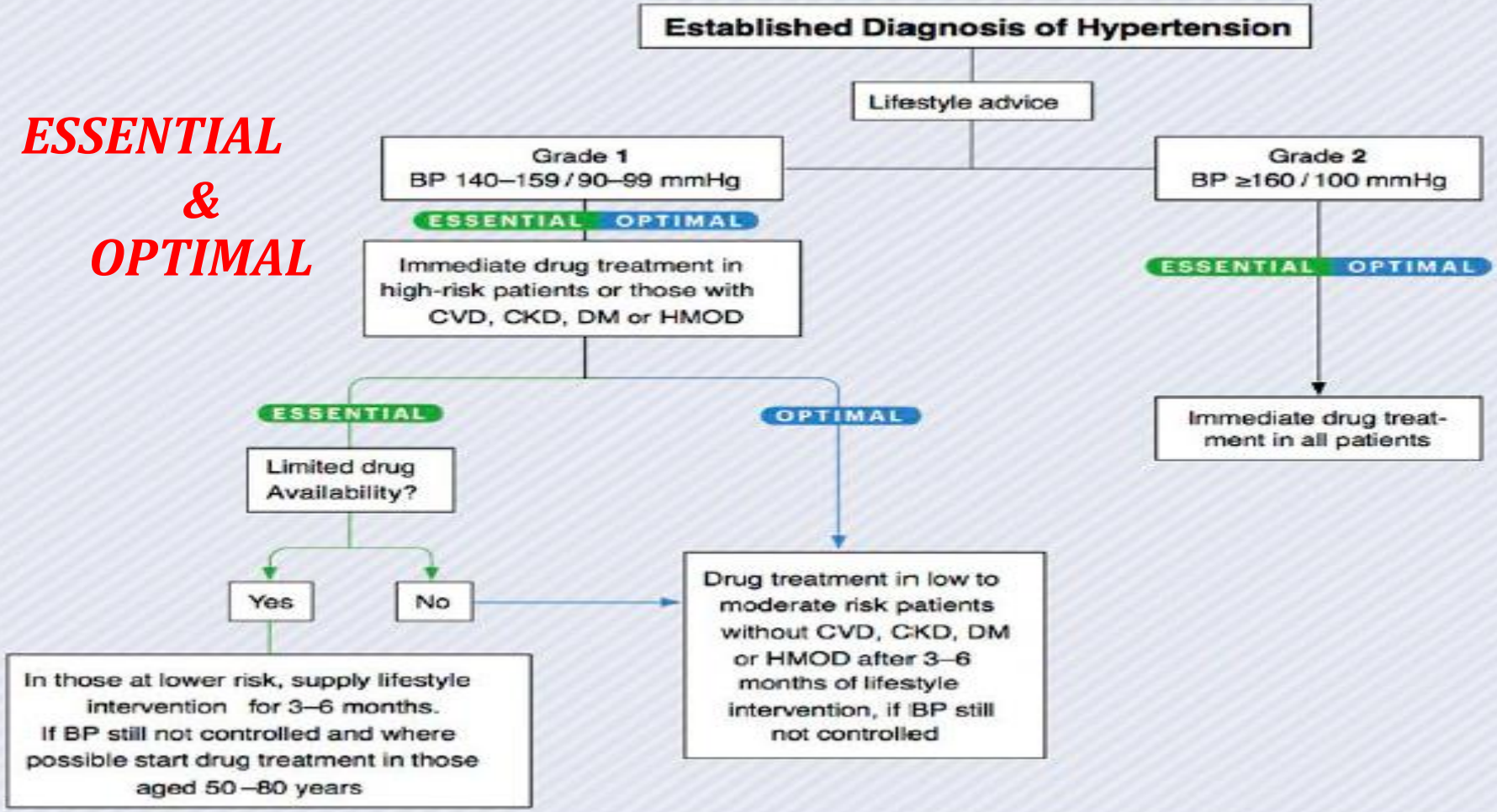
Category	Systolic (mm Hg)		Diastolic (mm Hg)
Normal BP	<130	and	<85
High-normal BP	130–139	and/or	85–89
Grade 1 hypertension	140–159	and/or	90–99
Grade 2 hypertension	≥160	and/or	≥100

Table 2. Criteria for Hypertension Based on Office-, Ambulatory (ABPM)-, and Home Blood Pressure (HBPM) Measurement

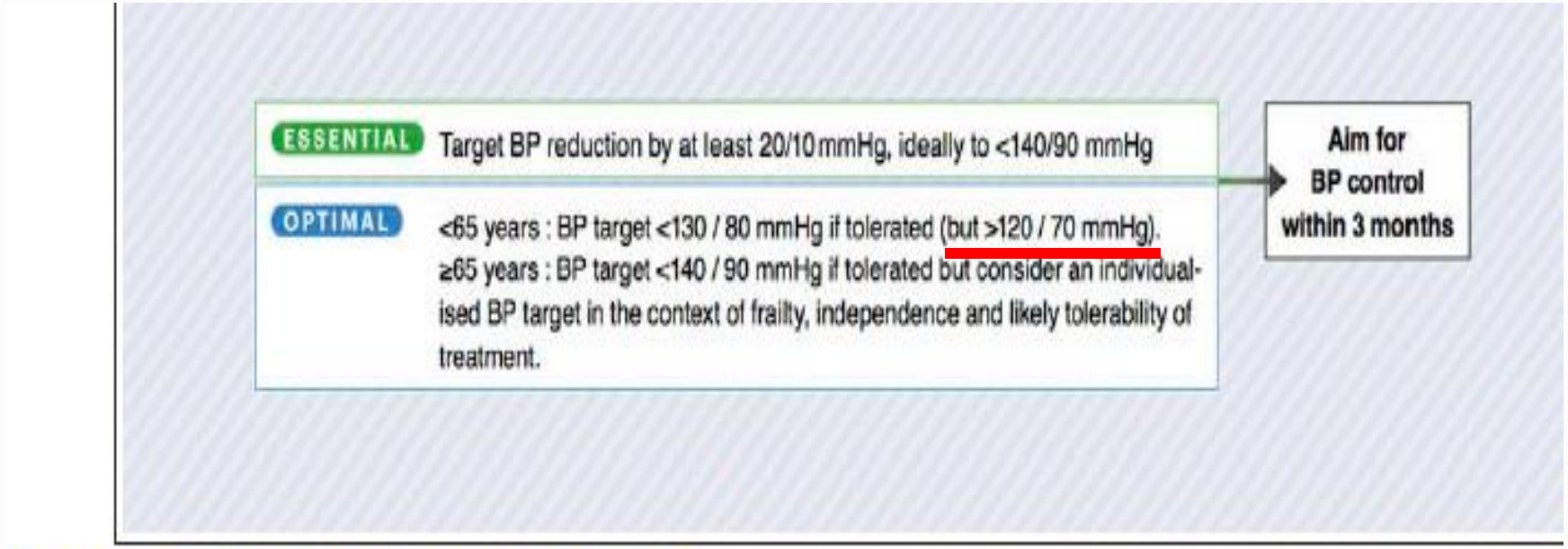
	SBP/DBP, mm Hg
Office BP	≥140 and/or ≥90
ABPM	
24-h average	≥130 and/or ≥80
Day time (or awake) average	≥135 and/or ≥85
Night time (or asleep) average	≥120 and/or ≥70
HBPM	≥135 and/or ≥85

2020 International Society of Hypertension Global Hypertension Practice Guidelines

ESSENTIAL & OPTIMAL



2020 International Society of Hypertension Global Hypertension Practice Guidelines



Office blood pressure targets for treated hypertension.

The New ACC/AHA Hypertension Guidelines: Making 130 the NEW 140 and its Impact in Singapore

It's 130/80!

We'll stick to 140/90!

- Dr low lip ping , Mt elizabeth medical centre

2020 International Society of Hypertension Global Hypertension Practice Guidelines

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ESSENTIAL

- Use whatever drugs are available with as many of the ideal characteristics (see ***Table 9***) as possible.
- Use free combinations if SPCs are not available or unaffordable
- Use thiazide diuretics if thiazide-like diuretics are not available
- Use alternative to DHP-CCBs if these are not available or not tolerated (i.e. Non-DHP-CCBs: diltiazem or verapamil).

SPC

Ideally Single Pill Combination Therapy (SPC)

OPTIMAL

Step 1 Dual low-dose# combination	**A + C** [a, b, c]
Step 2 Dual full-dose combination	**A + C** [a, b]
Step 3 Triple combination	**A + C + D**
Step 4 (Resistant Hypertension) Triple Combination + Spironolactone or other drug*	**A + C +D Add Spironolactone (12.5 – 50 mg o.d.)**[d]

DIFFERENT TYPES

** ***WHITE COAT HTN (10%–30%)***

NO HMOD , INTERMEDIATE RISK

)** ***MASKED HTN (10%–15%***

SIMILAR RISK OF CV EVENTS AS SUSTAINED HTN

10%) (** RESISTANT HTN

3 DRUGS(INCLUDE DUIRETIC) , AFTER EXCLUE PSUDO RESISTANT (50%)

** ***NIGHT TIME HTN***

BEDTIME VERSUS MORNING DOSING

* The average nocturnal blood pressure is approximately 15 percent lower than daytime values.

* Failure of the blood pressure to fall by at least 10 percent during sleep is called "nondipping," and is a stronger predictor of adverse cardiovascular outcomes than daytime blood pressure.

* ***non-dippers*** ***benefit from night-time administration of antihypertensive medications, but the same effect has yet to be shown in the dipper population.***

* ***The bedtime administration of all the antihypertensive medications not only can improve the cardiovascular outcomes but also can substantially improve patient compliance and adherence to medication regimen.***

Differences Challenge with

Side effects : *hemorrhagic stroke , ischemic stroke / MI / HF / LVH*

Types : *dipper & non dipper / salt resistance(+/-)*

Drug efficacy & side effects :

Different groups with different response

…Cough post ACE inh , edema post amlodipine

Thanks For Your Kind Attentions

Slum area, Chabahar, Sistan & Baluchestan, 5 May 2019