



Hypertension

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Abstract—Background: Hypertension, or high blood pressure, is a major cause of disability and the leading risk factor for death around the world. Ongoing surveillance is necessary to monitor and assess the population burden of hypertension in Canada. Data and methods: Using measured data from the Canadian Health Measures Survey, this analysis estimates average systolic blood pressure (BP), average diastolic BP, and hypertension prevalence, awareness, treatment and control in the population aged 20 to 79 years in the period from 2012 to 2015 by sex and age group. Crude and age-standardized overall estimates for 2007-2009, 2009-2011, 2012-2013 and 2014-2015 are also presented. Results: Among adults aged 20 to 79 years, 24% of males and 23% of females had hypertension, defined as measured BP $\geq 140/90$ mm Hg or past-month use of antihypertensive medication. Hypertension prevalence increased to 40% for males and 32% for females when the BP threshold was lowered to $\geq 130/80$ mm Hg. Among adults, 84% of people with hypertension were aware of their condition, 80% of hypertensive people were treated for their condition, and 66% had controlled hypertension (measured BP $< 140/90$ mm Hg), though those aged 20 to 39 were less likely than older age groups to be aware, treated or controlled. Crude and age-standardized rates remained fairly stable during the period from 2007-2009 to 2014-2015. Discussion: Hypertension prevalence among adults has remained stable over time in Canada, and hypertension awareness, treatment and control have remained high. However, rates of awareness, treatment and control are lower among younger adults. This finding highlights the importance of initiatives to encourage this population to have their blood pressure checked and treated.

Introduction

Hypertension is defined as a persistence increase in blood pressure above the normal range of 120/80 mmHg. The prevalence of hypertension increases with advancing age. The persistent and chronic elevated arterial pressure causes marked pathological changes in the vasculature and heart.

Although most human hypertension arises from unknown causes and is called *essential hypertension* or *primary hypertension*, about 5% to 10% of cases arise from a known cause. These are, as a group, called *secondary hypertension* (Box 16-1). These cases can be managed more intelligently and sometimes cured if they are identified.

It may be helpful to use a mnemonic aid to remember the classical causes of secondary hypertension, such as *RECAPS ABCDE* (Box 16-2). In this chapter, each type of secondary hypertension will be considered in the sequence dictated by that mnemonic.

Definition :

Blood pressure is the force exerted by circulating blood against the walls of the body's arteries, the major blood vessels in the body. Hypertension is when blood pressure is too high.

Blood pressure is written as two numbers. The first (systolic) number represents the pressure in blood vessels when the heart contracts or beats. The second (diastolic) number represents the pressure in the vessels when the heart rests between beats.

Hypertension is diagnosed if, when it is measured on two different days, the systolic blood pressure readings on both days is ≥ 140 mmHg and/or the diastolic blood pressure readings on both days is ≥ 90 mmHg.

Risk factors :

Modifiable risk factors include unhealthy diets (excessive salt consumption, a diet high in saturated fat and trans fats, low intake of fruits and vegetables), physical inactivity, consumption of tobacco

and alcohol, and being overweight or obese.

Non-modifiable risk factors include a family history of hypertension, age over 65 years and coexisting diseases such as diabetes or kidney disease.

Symptoms :

Hypertension is called a "silent killer". Most people with hypertension are unaware of the problem because it may have no warning signs or symptoms. For this reason, it is essential that blood pressure is measured regularly.

When symptoms do occur, they can include early morning headaches, nosebleeds, irregular heart rhythms, vision changes, and buzzing in the ears. Severe hypertension can cause fatigue, nausea, vomiting, confusion, anxiety, chest pain, and muscle tremors.

The only way to detect hypertension is to have a health professional measure blood pressure.

Having blood pressure measured is quick and painless. Although individuals can measure their own blood pressure using automated devices, an evaluation by a health professional is important for assessment of risk and associated conditions.

Complications :

Among other complications, hypertension can cause serious damage to the heart. Excessive pressure can harden arteries, decreasing the flow of blood and oxygen to the heart. This elevated pressure and reduced blood flow can cause:

- Chest pain, also called angina.
- Heart attack, which occurs when the blood supply to the heart is blocked and heart muscle cells die from lack of oxygen. The longer the blood flow is blocked, the greater the damage to the heart.
- Heart failure, which occurs when the heart cannot pump enough blood and oxygen to other vital body organs.
- Irregular heart beat which can lead to a sudden death.

Hypertension can also burst or block arteries that supply blood and oxygen to the brain, causing a stroke. In addition, hypertension can cause kidney damage, leading to kidney failure

Prevention :

- Reducing salt intake (to less than 5g daily).
- Eating more fruit and vegetables.
- Being physically active on a regular basis.
- Avoiding use of tobacco.
- Reducing alcohol consumption.
- Limiting the intake of foods high in saturated fats.
- Eliminating/reducing trans fats in diet.

Management :

- Reducing and managing stress.
- Regularly checking blood pressure.
- Treating high blood pressure.
- Managing other medical conditions.[1]

Case Study:-

A 50 year old female, house wife visited Services Hospital Jalna with the complaints of excessive Chest Pain, sudden Nausea Vomiting, muscle tremor, increased thirst, fatigue and excessive sweating. She was experiencing these conditions from last Few months.

Treatment:

1. TAB. METPURE H**2. TAB. CONSVAS 10**

Drug Interaction:- was checked,

No Interaction was present between Drug names

Care Plan :-

Reduce sodium (salt) — Reducing the amount of sodium you consume can lower blood pressure if you have hypertension or elevated blood pressure.

Proper diet ---low Oily Food intake

Exercise and walk to reduce body weight

Check blood pressure time to time with doctor suggestion / consulting

Outcomes :-

Patient used the suggested medicine twice a day after using medicine the blood pressure level of the patient was monitored.

Patient was advised to visit hospital if she suffers any side effect in future or, if her symptoms not properly treated.

The outcome was acute treatment of an elevated BP, defined as administration of an IV antihypertensive or a new pharmacologic class of oral antihypertensive. Medication that was initially prescribed before admission was considered a continuation of outpatient therapy rather than treatment of a specific BP.

The BP reading immediately before treatment was considered the treated measure. At the patient level, we

identified a single measurement as the index BP for purposes of determining subsequent outcomes: for treated patients, it was the highest treated BP; for untreated patients, it was the highest BP during admission. Index BPs were then matched using both patient and blood pressure characteristics.

Mechanism Of Action :**1. Metoprolol Succinate**

Metoprolol is a cardioselective beta-1-adrenergic receptor inhibitor that competitively blocks beta1-receptors with minimal or no effects on beta-2 receptors at oral doses of less than 100 mg in adults. It

decreases cardiac output by negative inotropic and chronotropic effects

Rosuvastatin

Rosuvastatin is in a class of medications called HMG-CoA reductase inhibitors (statins). It works by slowing the production of cholesterol in the body to decrease the amount of cholesterol that may build up on the walls of the arteries and block blood flow to the heart, brain, and other parts of the body.

Discussion:-

Patient suffering from hypertension due to many reasons, included of the rise in blood pressure, majority of Hypertension patient suffering from this due to their genetic and family history. If this condition is not properly treated or is for long term it results in cardiovascular disease, shock, permanent damage to heart. Hypertension patient should properly manage his/her daily dietary

intake because if patient is taking hypertensive agents as medication and not taking diet according to body need then he/she may suffer from hypotensive state that can be more dangerous than the hypertensive. Small meals should be taken 4 to 5 time in a day instead of eating a lot at single time.

Method and design

Overview

The HIP Study was a nested 2X2 randomized Controlled a trial of a physician intervention, a Patient intervention

and both combined (Figure 2). All study Procedures were approved by the Duke Institutional Review Board. Recruitment was conducted in waves i.e. 2 practices were initiated every 6 months to allow adequate time for Study

personnel to train providers and recruit participants. Each group of practices was considered a cohort. Nesting

occurred at the level of the practice and the level of Physician. Primary care practices were randomly assigned to the

physician (MD) intervention or to the MD Control Condition. All participating MD's within a given practice had

the Same randomization assignment. The MD intervention consisted of training and performance monitoring.

Performance data were collected for 18 months and feedback was provided to provided to Physicians every 3

months within that timeframe.

Design of the HIP study. MD = physician.

within the Practices, patient participants were individually randomized to the Patient intervention Or to usual Care.

The patient intervention occurred shortly after initiation of the physician invention and Considered of a 6-month group- based behavioral invention Conducted by trained Interventionists followed by brief monthly phone

counseling for 12 months from a Community health advisor (CHA) Follow-up measurements were performed at 6

and 18 moths months

Patient Control

Participants Control randomized to the control group had an individual brief visit with an interventionist after randomization, during which they received after randomization. for BP Control Consistent with JNC-7 At the end of

the study (18 months), after the final data Collection visit, participants in the control group were offered an abbreviated version of the active intervention, which Consisted if 6 weekly group Sessions to help them make life

style changes to control BP (Wait-list Control).

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