

A REVIEW ARTICLE ON ESSENTIAL HYPERTENSION

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ABSTRACT

High blood pressure is often known as essential hypertension. Blood pressure is raised due to some specific persistent medical situations. Blood pressure is explained by either heart muscle contraction nor relaxation as known as systolic or diastolic respectively. This equal equality shows minimum and maximum pressure, respectively. Blood pressure in normal conditions within the range of 100 to 140 mm Hg as systolic and 60 to 90 mm Hg as diastolic. High blood pressure is often present at or above 140/90 mm Hg. High blood pressure is being arranged as either primary or secondary hypertension. High blood pressure puts strain on heart, leading to "hypertensive coronary heart disease" and other heart diseases if not treated well. Hypertension also creating a major risk factors as stroke, peripheral arterial disease and major causative reason as persistent kidney disease and aneurysms of arteries e.g (aortic aneurysm) etc. High risk complication due to hypertension can be diminishing by life style changes and better nutritional status.

KEYWORDS: Hypertension, lifestyle, HBP, CD, mm Hg, Pressure.

INTRODUCTION

Hypertension that affecting 95% of hypertensive patients which also known as primary or idiopathic hypertension. Involving many factors that tend to be familial and having outcome of relationship between environment and genetic factors.^[1 2 3 4] The predominance of hypertension increases with age and individual comparatively having hypertension in younger age are at high risk for successive growth of high blood pressure. High risk conditions such as renal, cardiac and cerebral situations resulting as due to raised blood pressure (hypertension).^[5]

METHODS

For methods three data sources are commonly used that are Google Scholar, PubMed and Science Direct etc.^[6] In these methods quality assessment must be considered.^[7] Many barriers commonly used in the control of hypertension are divided in six categories: awareness related barriers (health literacy and knowledge), lifestyle related barriers (physical inactivity and dietary habits), accessibility and affordability care, pharmacotherapy related barriers, medication adherence and lastly patient related barriers (comorbidity and

demographic). Levels of Systolic blood pressure (SBP) and diastolic blood pressure (DBP) must be considered in Diabetic patients.

ETIOLOGY

From adults the etiological factors associated with hypertension may also be related blood pressure elevation in youth. The associated factors connected with the development of hypertension are the intrauterine malnutrition, predominantly high dietary intake, excess abdominal fat, obesity, low dietary intakes of magnesium, potassium and calcium, insulin hindrance or resistance, high alcohol intakes, physical inactivity, drug use and tobacco utilization, (e.g ecstasy, anabolic steroids, cocaine) mental or oral contraceptive emotional stress, diet pill etc.^[6, 7, 8] Nutrition provision may produce change into foetal structure and metabolism, that leads to increase the risk of hypertension and other diseases or disorders would unsatisfactory in later life.^[9] The increase in hypertension leads to many harms related with insulin resistance and high perinsulinemia.^[10] Sodium sensitivity resulted with the presence of high level of plasma insulin.^[11] In youth the sufficient intake of potassium, calcium, and magnesium are directly linked with low blood pressure. Calcium and potassium

takes are below normal levels. Usually average intakes of protein in adult females and phosphorus which support calcium loss at high level. Physical-activity like daily exercise deficiency may enhance the risk of increasing hypertension by 20 to 50%.^[12]

RISK FACTORS

When I start to take individual history of hypertension or high blood pressure increases the possibility or reasons that an individual may develop high blood pressure.^[13] Hypertension or High blood pressure is 4th times more common in blacks rather than white peoples, it accelerate more quickly and severely with high mortality rate in the black patients.^[14,15,16,17] With obesity and high cholesterol-level can enhance the risk of high blood pressure to five-fold as compared with normal weight and 2/3 of hypertensive cases can be familiar to surplus weight. Cases of essential hypertension occurs in 85% people having body mass index greater than 25.^[18] Another well known environmental factor such as rare salt sensitivity which is received the ultimate attention in all fields of health-education. Approximately 1/3rd of critical hypertensive population generally approachable to sodium intake.^[19,20] The increased concentration of sodium ions stimulates ADH (Anti diuretic hormone) and thirst mechanism that leads to increased re-absorption of water in the kidneys, concentrated urine, and thirst resulted with the higher intake of water and there will be a controversial condition created among sodium intake and hypertension.

Low blood pressure directly proportional to the reduced sodium intake but the effect of magnitude is not enough to propose a universal decrease in salt intake. High level of rennin is another common risk factor. Renin is a type of enzyme that control blood pressure and maintain normal levels of potassium and sodium in the body. Renin is made by special cells in kidneys and when renin released in blood stream then blood pressure drops to very low. Juxtaglomerular apparatus of kidney secretes a rennin enzyme that connected with aldosterone in negative feedback loop. High blood pressure patients having low rennin level and others have essential hypertension. African Americans are more common with low rennin hypertension that may build clear why Africans Americans tends to respond improved diuretic therapy than use of drugs that intervene with the Renin-angiotension system. High rennin levels predispose to follow mechanism: Increased rennin, increased angiotension-II, increased vasoconstriction, thirst / Anti diuretic hormone (ADH) and aldosterone that increased the sodium reabsorption in the kidneys (Distal convoluted tubule (DCT) and Cadmium (CD can cause renal damage), leading to increased blood pressure. Hyperinsulinemia may cause high blood pressure or hypertension and insulin resistance or the component of X or (metabolic syndrome). Metabolic syndrome may create conditions such as rise of blood pressure exceed the body fat and abnormal cholesterol level. Some medical research authorities claim that potassium might

prevent and treat hypertension.^[21] The common risk factor such as cigarette smoking will be the known as danger sign as cardiovascular disease and end result as development of hypertension.^[22] Several studies concerning with salt intake shows the hypertensive patients and their children handle salt in a different way. This implication depends on the presence of sodium transport inhibitor. In most hypertensive cases leucocytes shows as reduced sodium pump activity.^[23] Increased intracellular sodium outcome may leads to intracellular calcium that highly responsible for increased vascular tone. When sodium handling-renal sodium excretion affected that leads to increase extracellular fluid volume and also create a condition which is known as increased venous return and cardiac-output. Many types of Auto regulation diuretic therapies are used to minimize the essential hypertension.

PREVENTION

All recommended personal belongings of high blood pressure must restrict sodium intake as approximate 6 gms of sodium chloride salt or sodium 2.4gms of per day. Sodium restriction must be achieve by adopting the following measures.^[25,26] Such as slighter use of common salt for cooking purpose by 50%. b) Substitute natural foods for processed foods. c)- Avoid salty snakes such as pickles, Pappad salted nuts. d)-Use of salt substitute which contains potassium. e)- Avoid medications that are commonly loaded in salt such as antacids etc. The Worldwide salt recommendation is to consume less than 8 to 10 gms of Sodium Chloride (NaCl) per day. WHO recommendation as 5 or less than 5-gms salt intake chain smokers may sustained an increase in blood pressure, so prevention from smoking is necessary to control high blood pressure. There is extensively stress reduction can minimize the high blood pressure. Clinically several clinical trials are in progress to maintain high blood pressure.^[27] Epidemiological data Studies exposed a strong relation between obesity and hypertension. Preventing obesity is necessary to maintain body by daily exercise, creating most excellent body fitness.^[28,29] Maintain a good health and regular exercise prevents the hypertension. The use of daily balanced diet and monitoring the conditions of blood pressure that would necessary and satisfactory for every individual.

TREATMENT

Two types of medications are required to maintain the high blood pressure as a) Beta-blockers. b)-Calcium channel blockers. Beta blockers is a single drug used to reduced high blood pressure to works as to make sure slowly with less forceful in this manner to reduce blood pressure. The use of calcium channel blockers is suitable because it provide a safe route to calcium entered into blood vessels and muscle of the heart. This situation create a technique that will widen the arteries and reduce high blood pressure.

DISCUSSION

Several disparities observed in the prevalence of hypertension control across different countries due to different population size and encountered barriers.^[30] Frequently reported uncontrolled hypertension must be considered in elderly male patients despite of their education level and employment status.^[31] Overall patient's reported barriers most commonly control hypertension followed by medication adherence barriers.^[32,33,34] Meanwhile higher diabetic patient's blood pressure control in males highly reported.^[35,36] In most of the Countries women predisposed to be more concerned about blood pressure control than men.^[37,38] In postmenopausal women blood pressure increases at high level than in men.^[38] Many risk factors increases due increase in blood pressure in both genders.^[39] Generally it is reported that uncontrolled blood pressure observed among the people with low education status.^[40] Negative impact of hypertension must be considered in younger population with low income group, bachelor and unwaged individuals.^[41] Comorbidity implications includes therapeutic regimen that increased the likelihood of poor adherence to antihypertensive.^[42] Several studies established a strong association between diabetes mellitus (DM) and poor blood pressure control.^[43,44] Meanwhile in type 1 diabetic mellitus(DM) the hypertension may indicate diabetic nephropathy.^[45] Inadequate blood pressure control reported in those patients with elevated uric acid and cholesterol level specially LDL.^[46,47,48] 60% factors directly linked with life style and individual health and quality of life.^[49] However use of two or more antihypertensive drugs with uncontrolled hypertension will report among most patients.^[50,51,52,53] Blood pressure reduction should remain the primary determinant that reduces CVD risk among most of hypertensive patients.^[54] Detailed evaluations of ongoing pattern of hypertension will provide a basis for interventions that are commonly adopted in clinical practice.^[55] For long term disease control needs an intervention that may improve the disease knowledge and enhance medication adherence in most hypertensive patients.^[56] Chronic diseases together with hypertension which involves multiple health industry team members and collaborative models like physicians, pharmacists and nurses which are feasible to provide a proper coverage for the all blood pressure control determinants.^[57,58]

CONCLUSION

Hypertension received a major risk factor for the growth of numerous cardio-vascular diseases. Adopting a healthy lifestyle and fitness exercises are significant for the prevention of high blood pressure. We must follow these changes as a 'lifestyle prescription'. On the basis of literature data, there is clear verification that lifestyle habits may control blood pressure values. Thus lifestyle changes can supply beneficial-effects in hypertensive patients reduces the global cardiovascular risk and mortality rate.

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