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Hypertension Management in Males and Females, Comparative Review

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ABSTRACT
A significant, modifiable risk factor for cardiovascular disease (CVD) is hypertension. The prevalence of blood pressure, a dichotomous gender attribute, can differ significantly between men and women throughout the course of a person's life. These disparities are caused by a number of variables, some of which are biological, and others are psychological. Male-female disparities in incidence, treatment, and outcomes are not taken into account in the conventional method of diagnosing and treating hypertension. For every 10 mm Hg increase in systolic blood pressure, the cumulative increase of coronary artery disease (also known as coronary artery disease, ischemic heart disease, or myocardial infarction) is 15% in men and 25% in women (Reckelhoff, 2018). Additionally, there are gender differences in the range of diseases linked to hypertension, such as heart failure, where women have a higher disease burden and a different clinical phenotype and chronic kidney disease, which is more prevalent in men. Song et al. (2020) summarize recent studies on the prevalence, approaches, results, and management of hypertension in men and women in this review, along with future research priorities that will help build a well-rounded body of information.

Keywords: Hypertension, gender disparity, hypertension management

I. INTRODUCTION

A significant, modifiable risk factor for cardiovascular disease (CVD) is hypertension. The prevalence of blood pressure, a dichotomous gender attribute, can differ significantly between men and women throughout the course of a person's life. These disparities are caused by a number of variables, some of which are biological, and others are psychological. Male-female disparities in incidence, treatment, and outcomes are not taken into account in the conventional method of diagnosing and treating hypertension. For every 10 mm Hg increase in systolic blood pressure, the cumulative increase of coronary artery disease (also known as coronary artery disease, ischemic heart disease, or myocardial infarction) is 15% in men and 25% in women (Reckelhoff, 2018). Additionally, there are gender differences in the range of diseases linked to hypertension, such as heart failure, where women have a higher disease burden and a different clinical phenotype and chronic kidney disease, which is more prevalent in men. Song et al. (2020) summarize recent studies on the prevalence, approaches, results, and management of hypertension in men and women in this review, along with future research priorities that will help build a well-rounded body of information.

One of the most significant non-communicable diseases found to be hypertension in 2015; it has been suggested through the diagnosis of hypertension that 24.1% of men and 20.1% of women worldwide (NCDs) suffer from illness (Choi et al., 2017). Although hypertension and its effects are largely avoidable, the global hypertension epidemic has been exacerbated by insufficient detection and treatment. In addition to lifestyle modifications like salt restriction and weight control that can lower blood pressure and prevent hypertension, antihypertensive medications can significantly minimize cardiovascular disease brought on by essential hypertension. The majority of hypertensive patients are uninformed of their condition and are given subpar care, which hinders them from accomplishing the suggested treatment objectives. This is particularly difficult in many low- and middle-income nations where non-communicable illnesses and hypertension are becoming more common.

According to a longitudinal study performed by Patrice et al. (2021), the prevalence of hypertension among middle-aged residents reduced by up to 65% between the years 2000 and 2015. Despite the progress, gender inequalities in hypertension awareness are maintained, with more women than men (61.7% vs. 51.6%) being aware of the condition (Dosoo et al., 2019). A nationwide survey of 1.7 million Chinese adults conducted in 2009–2010 revealed that about 37% of the population had high blood pressure. Only 23% of hypertensive received therapy, only 5.7% had their

blood pressure under control, and over 36% had high blood pressure.

Numerous studies highlighted gender disparities in characteristics related to the prevalence, awareness, control, and treatment of hypertension. The organization and economics of the healthcare systems are very different, despite the fact that both systems aim to provide compassionate healthcare to the entire population. The long-term objective of maintaining high blood pressure under control is well-suited to the developed healthcare system. The usefulness of physician training and feedback mechanisms in adopting clinical guidelines for the management of hypertension in primary care is demonstrated by a recent study.

Purpose of the Study

The study aims to highlight the gender disparity in the context of hypertension management. Through this document, we would understand the factors that lead to certain behaviors which surge disparity.

Gender Disparities in Hypertension and Risk Factors for Hypertension

According to Cheron et al. (2021), the gender disparities in hypertension that have been reported in humans and animals may be caused by both biological and behavioral variables. Sex hormones, chromosomal variations, and other biological gender differences are among the biological mechanisms that protect women from high blood pressure. When women reach menopause, when gender differences in hypertension are likewise minimal or nonexistent, these biological determinants become apparent during adolescence and persist into adulthood.

Body mass index (BMI) is one risk factor for high blood pressure, as are reduced smoking and exercise levels (Gupta and Xavier 2018). These significant behavioral risk variables are complexly different between men and women. A recent study found that both men and women have the same BMI of 28.7 (Mosha et al., 2017). Although the prevalence of obesity varies by gender based on BMI, women are more likely than males to be severely obese. However, men are more prone than women to be overweight. Despite the gender gap closing in recent years, women still smoke as often as men do. However, men often exercise more than women do. Together, these behavioral variations imply that some behavioral factors may diminish the gender gap in hypertension, such as obesity and physical activity, while others, such as smoking, may exacerbate the gap.

Understanding Blood Pressure

The accessibility of reliable blood pressure data for each individual is necessary for accurate reporting of gender disparities in blood pressure. Because biomarkers are only present in a tiny portion of data sources, such as blood pressure measurements, researchers that investigate hypertension typically rely on self-reporting. The reliability of self-reported ailments in gauging public health has been mentioned as a potential issue by the general population. The American population does not have a lot of knowledge about blood pressure, according to studies comparing self-reported hypertension with objective measurements of systolic and diastolic blood pressure. For instance, research from the early 2000s revealed that just 43% of people were aware of their blood pressure. According to the most recent National Health and Nutrition Examination Survey Rahman et al. (2017) (NHANES) statistics, only 78% of persons with hypertension were aware of their condition. In terms of healthy individuals, not much has changed in Europe over the past 15 years; as a result, more screening options in nonclinical settings and advancements in hypertension knowledge are likely to raise awareness of the condition. The average age of individuals is another factor contributing to varying views on blood pressure. Younger respondents are generally far less mindful of their blood pressure than older respondents. Young people receive reliable and recent information on their blood pressure because they visit the doctor frequently to remain in better health.

Few researchers, such as Wu et al. (2018) and Ferdinand and Nasser (2017), have looked at how gender affects awareness of hypertension. The results of a recent study are contradictory; some studies have found that women are more aware of their blood pressure than males, while other studies have found the opposite to be true. Young adults in our target audience typically have very little knowledge of high blood pressure.

Gender, Hypertension, and the Use of Health Services: A Conceptual Framework

In addition to biological and behavioral risk factors, there is ongoing discussion over the value of healthcare, both in terms of access and utilization, in relation to arterial hypertension and disparities in population health. Young adults, who are more likely to have health insurance and less likely to visit a doctor than older adults, may be particularly affected by this issue. According to Hasan et al. (2019) some articles, inequalities in

health status are partially explained by access to healthcare and health insurance.The uninsured delay or skip medical visits, do not obtain routine treatment and do not fill prescriptions among young adults (ages 19 to 24). Because of this, those without health insurance are less likely to go through screening, which includes cardiovascular disease screening. Utilization of healthcare services is a significant predictor of the diagnosis and management of hypertension, according to recent studies.

Instead, health disparities develop and remain outside the system and are not primarily linked by insurance to socio-demographic factors and ailments like hypertension. Independent of medical intervention, cardiovascular disease leading to hypertension is likely to be influenced by previously recognized biological and behavioral risk factors for hypertension (Wu et al., 2018). Studies have shown that even with regular treatment, the diagnosis of high blood pressure in young people is frequently delayed, proving that having health insurance or even receiving treatment does not always guarantee an accurate diagnosis and course of action for conditions like high blood pressure. Additionally, numerous studies have demonstrated that having access to healthcare does not preclude the possibility of disparities in care type, care quality, or insurance status.

Given the stark variations in how men and women use healthcare, a crucial component of our inquiry is the significance of obtaining and utilizing healthcare. These distinctions start to show during puberty and continue until adulthood (Hasan et al., 2019). This may be partially attributed to the fact that women are more likely to visit a doctor for routine pelvic floor treatment and birth control, which raises the possibility that blood pressure will be measured during the examination. The misogynistic male society encouraged that men need to be strong and not call for help in situations is another factor that is thought to contribute to gender management of the disease. Men are less likely to seek health services, such as cancer treatment, preventive care, and medical attention, as a result of these gender stereotypes, which have a substantial impact on their health (Mosha et al., 2017).

The Disparity in Treatment with Context to Gender

It has been examining a variety of characteristics and biases crucial to clinical practice, in addition to the basic studies undertaken to define acceptable strategies and goals for the management of hypertension in men and women. According to studies by Choi et al. (2017), men and women are prescribed antihypertensive medications at significantly different rates. Even though their blood pressure was similar, women in the Norfolk-EPIC group were less likely than males to obtain antihypertensive medication. A recent meta-analysis conducted b Ferdinand and Nasser (2017) that included 43 studies, and 2,264,600 participants looked at gender disparities in cardiovascular medication prescribing in primary care.

Aged 51 to 76, 28% of the population were women. Both men and women used blood pressure medicine on average 69% of the time. Women were 15% less likely to be administered an ACE inhibitor and nearly 30% more likely to be prescribed a diuretic, despite the lack of any discernible gender differences. Similar to this, people aged 45 to 84 years in the Multinational Study of Atherosclerosis had lower blood pressure than women after the age of 65, and this difference in treatment status was larger with age. Therefore, when treating patients with hypertension, it is important to take into account the gender variations in the manner and intensity of treatment, which may get better with age.

This secondary analysis was created to look at and contrast gender-specific characteristics related to the management and treatment of hypertension in young people. Emerald, science direct springer and Tylor and Francis databases wereutilized to collect the data for this investigation. This database includes descriptive statistics on the population's health and nutritional status as well as details on associated trends. Ten individuals from different paths of life have been approached for examination. Face-to-face interviews with computer assistance were used to measure diet during the home visit. Prior to conducting interviews and medical exams in a dedicated test vehicle, written consent was sought. During the interview, data on demographics, comorbidities, and medical history were gathered. A questionnaire was used to gather data on food and health in relation to smoking and activity. During the doctor appointments, blood pressure, height, weight, and laboratory tests were performed. Ten respondents were taken, of which five were male, and five were female.

Ages 19 to 44 years old and the existence of hypertension symptoms (systolic blood pressure [SBP] 140 mmHg, diastolic blood pressure [DBP] 90 mmHg, or use of antihypertensive medication for treatment) were the two requirements for study inclusion. In control, blood pressure was checked three times, with the average of the second and

third readings being recorded. Both a lack of blood pressure data and a lack of records with multiple dimensions were studied exclusion criteria. All of the participants were satisfied with the criterion for inclusion, and their data were used in the study that followed.

Perceived health status, stress awareness, hypertension, diabetes mellitus management, dyslipidemia and other chronic conditions were all examined in this study. How do you feel about your general health? It was used to gauge perceived health, with one denoting very good health and 5 denoting extremely poor health. Regarded stress levels were graded on a scale of 1 (very stressed), 2 (moderately stressed), 3 (a little stressed), and 4 (assure about bad health), with 1 or 2 being positive and 3 or 4 being for stress (which is perceived as negative). Medical diagnoses were used to characterizehypertension. Current medications were classified as those used to treat hypertension. Stroke, heart attack, angina pectoris, kidney failure, and clinically confirmed depression are a few more chronic disorders that have been researched.

For blood pressure readings exceeding 90 mm Hg or 140 mm Hg, high blood pressure is treated surgically or with blood pressure-lowering medications. According to Dosoo et al. (2019), treating hypertension entails taking antihypertensive medications at least 20 days a month. SBP 140 mmHg and DBP 90 mmHg were considered to be controlled blood pressure.

SPSS was used to evaluate the complex sampling-based data. The graphic display the weighted proportions, means, and standard errors of the test variables. Using paired-samples testing and cross-over testing, the connection between study variables and hypertension treatment and control was assessed. Regression was used to find factors in the treatment and management of hypertension for pooled data. In order to treat and control hypertension, a complete model was built using factors that were significantly correlated with both the chi-square test and the sample test.

Through this assessment, the fact has been highlighted that men had greater rates of hypertension than women (29% and 36%). In an examination, it has been reflected that men were less in control, less concerned, and less aware of their elevated blood pressure than women. Moreover, it has been confirmed that the likelihood of hypertension and its diagnosis is increased by aging, glucose intolerance or diabetes, high blood pressure or cardiovascular illness, limited physical activity, and being overweight or obese.

II. DISCUSSION

Although earlier studies revealed lower rates of hypertension therapy and control in women than men, however, only a few studies highlighted the sociocultural factors and pathways through which they impact disease prevalence. We discovered that treatment and follow-up rates for hypertension were lower in women compared to men of the same age, which is consistent with findings from earlier research in the general population. It can be challenging for many people, especially men with hypertension, to adopt the essential lifestyle adjustments and fully comply with their prescribed antihypertensive medications. Therefore, treating and managing hypertension in men should be a top priority for healthcare practitioners.

In this study, females had better treatment outcomes than males in the context of hypertension among the same age group. Women are more likely to improve blood pressure control and medication adherence after marriage if their families are supportive. In light of this, women are more concerned about their health and, due to increased consciousness about their bodies, pay more visits to hospitals. On the other hand, male counterparts possess low consciousness and worry with regard to their health and in order to preserve their image in society of being a strong individual in comparison to females due to peer pressure.

III. CONCLUSION

Despite the negative characteristics that make it challenging to control blood pressure, this study shows that women with hypertension have better blood pressure control than men. Since lowering hypertension-related morbidity and mortality is the main objective of antihypertensive medication, individuals must take a more customized approach to patient care that puts the needs of those with hypertension first. Gender disparities should receive special consideration. Planning health initiatives must prioritize setting up the right environment for effective care of vascular disease.

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