



A Review Article On Prescribing Patterns Of Anti-Hypertensive Drugs

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Abstract:

Because of the related morbidity, death, and societal economic costs, hypertension continues to be a major public health problem. It poses a considerable risk for renal, cardiovascular, and cerebrovascular issues. 1.56 billion people will develop hypertension by the year 2025, according to predictions. The prevalence of hypertension is rising, and the cost of treating it is also rising, which has an impact on how often doctors prescribe certain medications and how well their patients adhere to their treatment plans. The management of hypertension is covered in a variety of published national and international recommendations. Since many years ago, diuretics have been recommended as first-line medications for the treatment of hypertension. However, the Joint National Commission's most recent guidelines (the JNC8 guidelines) also recommend calcium channel blockers and angiotensin-converting enzyme inhibitors as first-line medications, in addition to diuretics. For long-term management and the treatment of comorbid disorders, antihypertensive medication combinations are often employed. This study focuses on how antihypertensive drugs are used, how much they cost, how well patients follow their treatment plans, and how closely doctors follow prescription drug standards in various contexts, including the Indian context.

Keywords: Hypertention , Cardiovascular disease(CVD), Chronic kidney disease(CKD), Kidney failure, Stroke, Myocardial infraction, Heart failure, Obesity.

Introduction:

The most frequent modifiable risk factor for cardiovascular diseases (CVD), stroke, and kidney failure is hypertension [10]. It is the secondary most common cause of chronic kidney disease (CKD). Worldwide, it is predicted that more than one billion persons have hypertension, and by 2025, this number is expected to rise to 1.56 billion, a 60% increase from 2000. A loss of 4% of the gross domestic product, or \$500 billion USD, is accounted for by cardiovascular illnesses and hypertension each year in low- and middle-income nations [14]. In hypertensive individuals, clinical data shows that reducing blood pressure (BP) using antihypertensive medications lowers their risk of myocardial infarction, stroke, heart failure, revascularization operations, and end-stage renal illnesses. [13].

Population growth, ageing, and behavioural risk factors, such as an unhealthy diet, excessive alcohol use, a sedentary lifestyle, obesity, and exposure to ongoing stress, have all been linked to an increase in the incidence of hypertension.. Hypertension is to blame for almost 50% of fatalities from heart disease and stroke, which account for a staggering 9.4 million deaths annually globally [8, 8], according to research. Epidemiological studies showed that the incidence of hypertension is rising quickly in India, ranging from 4 to 15% in urban populations and 2-8% in rural populations [5, 6]. For the treatment of hypertension, a number of guidelines have been created globally. Clinical practitioners use these guidelines as reference points. In treating hypertension patients, many doctors, based on their clinical expertise, use their own prescribing patterns. A proper and evidence-based therapy of hypertension must be made available to primary care practitioners. Reviewing these prescription trends and how antihypertensive drugs are used in accordance with guidelines might help us understand the idea of individualised, yet affordable, pharmacological therapy of hypertension

Hypertension pharmacotherapy and guidelines

Prescriptions for antihypertensive medications are usually made in an effort to lower the morbidity and mortality rates brought on by hypertension and its side effects. For efficient treatment of hypertension, individuals frequently need more than one medication. Numerous antihypertensive medication groups, such as diuretics, renin-angiotensin system inhibitors, calcium channel blockers (CCB), and beta blockers (BB), have been demonstrated to lessen the consequences of hypertension and may be employed as the first line of treatment [3]. Since it is generally understood that there is a need to enhance the control of hypertension, a number of standards for its management and categorization have been created. Among the organisations that have created

guidelines are the American Society of Hypertension/International Society of Hypertension (ASH/ISH), Joint National Committee (JNC) on Detection, Evaluation, and Treatment of High Blood Pressure, European Society of Hypertension (ESH)/European Society of Cardiology (ESC), National Institute for Health and Care Excellence (NICE), and Japanese Society of Hypertension. The most recent recommendations for managing hypertension in various clinical situations were released in 2014 under the JNC 8 guidelines. . These recommendations were made based on a thorough evaluation of the literature and are intended to assist clinicians, particularly primary care doctors [13]. Despite these recommendations and data demonstrating that hypertension is a serious public health issue, many doctors neglect to frequently check their patients' blood pressure, delay the initiation of therapy, or improperly titrate prescription dosages [7]. Depending on the specific clinical needs of the patient, the existing recommendations suggest various target blood pressure values and medication therapy alternatives.

Evaluating prescribing pattern of antihypertensive drugs:

The global prescribing trends for antihypertensive medications have been examined in a number of research. The usage of ACEIs, ARBs, and CCBs has consistently increased over the last 20 years, and several rigorously done clinical trials have revealed no significant differences in antihypertensive effectiveness, side effects, and quality of life among these medication classes [15]. Retrospective time series data from 2007 to 2012 showed that antihypertensive medicine usage in China almost doubled [16], which provides evidence in favour of this claim. CCBs and ARBs were the two antihypertensive medication groups that were prescribed the most often [16], with ARB prescriptions growing at the fastest rate. A single-pill fixed dose combination (FDC) and multiple-pill combinations were linked to a 55% and 26% increased likelihood of BP control, respectively, when compared to monotherapy, according to results from the National Health and Nutrition Examination Survey, which included subjects under the age of 18. Combination therapy regimens were found to aid in achieving BP goals. Thiazide diuretics, BBs, ACEIs, and ARBs all had increases in usage of 23%, 57%, 31%, and 100%, respectively, as did the use of several antihypertensive medications, which rose from 36.8% to 47.7% (p 0.01) [16].

Antihypertensive drug utilization and adherence:

Research has been done in a variety of contexts on the use of antihypertensive drugs, patient adherence to therapy, and doctor adherence to prescription drug recommendations. Many of them have reported complete, partial, or nonexistent adherence in certain trials. According to studies, standards should be developed so that patients in poor nations can get treatment plans that require less regular physician supervision. Generally speaking, all recommendations state that they are just intended to serve as a guide and that doctors should use a patient-centered strategy. To treat the greatest number of patients possible in developing nations, where access to the health care system is less than in developed nations, treatment strategies must be straightforward, affordable, and time-bound, administered by the primary care physician rather than a specialist or tertiary care physician.

Cost implications in antihypertensive drugs Use:

A persistent roadblock to a successful therapy has always been the price of pharmaceuticals. The prevalence of hypertension is rising, and the cost of treating it is also rising, which has an impact on both patient adherence to treatment and physician prescription habits. Unlike industrialised nations, people in developing nations like India must pay for their own healthcare out of pocket because insurance plans are not available there. Therefore, it would be in their best interests if doctors offered improved services based on sensible and economical medicine prescription. Alpha-blockers came in first place for cost used annually in a cost analysis research by Rachana et al., followed by ACEIs, ARBs, CCBs, BBs, and diuretics in that order. They concluded that prescribing diuretics was the most economical method of treating hypertension [12]. Diuretics are the most economical medications for hypertension, according to Amira et al.'s findings [2] In addition, the price of medications differed depending on the kind of hospital, whether it was public or private. For example, a research by Rimoy et al. found that the cost of nifedipine, bendrofluazide, and frusemide was around five to six times more in private hospitals than at government-owned pharmacies [3].

It is noteworthy that adhering to recommendations when prescribing antihypertensive medications resulted in significant cost savings for prescriptions [1].

Conclusion:

Still, a specific focus is required on the ongoing difficulties in managing hypertension. Numerous national and international recommendations for the treatment of hypertension have been produced, emphasising mono- or combination therapy depending on blood pressure levels and co-occurring conditions. The initial medicine of choice in hypertension treatment plans throughout the world has changed significantly over time, ranging from diuretics to ACEI/ARB/CCB, from monotherapy to low dosage combination single tablet therapy. For improved outcomes in terms of morbidity and death from hypertension, national health policy makers should view the evaluation and treatment of hypertension as a right in the public health system. Numerous clinical investigations have looked into the assessment pattern, patient adherence to the therapy, doctor adherence to hypertension management recommendations, financial implications, and other information regarding comorbid disorders. Inconsistencies in treatment approaches persist despite these facts and published standards, necessitating occasionally the need for clinicians to tailor therapy depending on particular patient features and treatment outcomes. The examination of prescription practises and the usage of antihypertensive drugs based on guidelines, which may be modified to meet the needs of the patients, need to be done in developing nations like India in a more systematic manner.

ETHICAL STATEMENT

this study has no cruelty on animals. Since it was a review article, we did not tool a subjects in this study.

CONFLICT OF INTEREST

The above study describes the prescribing patterns of anti- hypertensive drugs, Cost implications in antihypertensive drugs Use, anti-hypertensive drug utilisation and adherence, evaluating prescribing pattern of anti-hypertensive pattern of anti-hypertension drugs.

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