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Evaluation of Drug Regimen, Compliance and Patient counselling in Hypertensive Patients with or without Co-morbidities

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Abstract

Objective: To evaluate drug regimen, compliance, and patient counseling in hypertensive patients with or without comorbidities. **Methods:** A Prospective and observational study was conducted on 200 hypertensive patients with or without comorbidities at Malla Reddy Narayana Multi-Speciality Hospital, suraram, Hyderabad, Telangana. Data was collected via a self-modified data collection form and interviews from November 2022 to April 2023 and then statistically analyzed. **Result:** About 200 hypertensive patients with or without comorbidities were observed. Among 200 hypertensive patients, 126 (63%) were males whereas 74 (37%) were females. The most commonly occurring comorbid condition was found to be DM. This study states that when compared to men (14%), women (16%) had higher rates of good adherence. Among 200 participants 78 utilized monotherapy (39%), and around 122 used combinational therapy (61%). Pharmacist-based patient counseling had improved patients' knowledge and adherence to medications. **Conclusion**: This study concluded that DM is the most common comorbidity that occurs among hypertensive patients and those with comorbidities usually take combinational therapy. Non-adherence is common in males when compared with females due to various reasons like literacy, economic issues, negligence, and forgetfulness.

Keywords
Hypertension, Compliance, patient counseling, comorbidities, diabetes.

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INTRODUCTION:

The term "high blood pressure" is often used to refer to the chronic condition known as hypertension, characterized by a consistent elevation of blood pressure in the arteries. It is one of the non-communicable illnesses known as the "silent killer," hypertension affects 31.1% of the world's population (1.39 billion), which may be calculated using the projected growth in the population of 1.56 billion people by 2025. It is a major cause of health problems worldwide[1]. Hypertension is also recognized as the third-largest cause of years spent with a disability. Adults with hypertension affected 972 million people worldwide in 2000, and by 2025, that number is projected to rise to 1.56 billion, a 60% increase. Some studies have shown that those with HTN are far more likely to have cardiac disease, 4 times as likely to develop CHF, and 7 times as likely to suffer a stroke and cerebrovascular disease. It is a variable that may be avoided and increases the risk

of cardiovascular events and unneeded morbidity and death. Obesity, diabetes, and hyperlipidemia frequently coexist with hypertension. Although the patient with comorbidities requires combinational therapy[2]. The major therapeutic goals for hypertensive patients are reducing blood pressure and managing other controllable risk factors to reduce the risk of cardiovascular morbidity and mortality risk. Treatment is started with one agent, at the optimal dose, and the dose is gradually raised until the ideal blood pressure is reached. An additional medicine or one from a different class is added or replaced if the greatest dose is unsuccessful or causes a negative effect.[3,4]The WHO describes poor adherence as the most important cause of uncontrolled BP and estimates that 50-70% of people do not take their Anti-hypertensive medication as prescribed. Guidelines and evidence-based management have been made accessible for the management of HTN, but maintaining controlled blood pressure is still a major issue for healthcare professionals. Better long-term health outcomes are obtained when hypertension is controlled. Controlled blood pressure can improve health, and this can be done through multidisciplinary physician-pharmacist collaboration through patient education and counseling, pharmacists may help patients become motivated and ready for their pharmacotherapeutic regimen. [5,6]

METHODOLOGY:

200 participants of hypertensive patients were collected from Malla Reddy Narayana Multi-Speciality Hospital, suraram, Hyderabad. Data was gathered from wards like general medicine, surgery, Orthopedics, and from the department of nephrology for the research study, which was included in a prospective observational design for the period of 6 month i.e., November 2022 -April 2023 after approval from the ethical committee (MRIPS/IEC/2022-23/01).

Inclusion criteria:

Age range between >20 & <80 years old, both men and women, hypertensive patient with\without Comorbidities like DM, Thyroid, CKD, CAD. Inpatient.

Exclusion criteria:

Age range between<20 &>80 years old, pregnant & Lactating women, outpatients, associated conditions like cancer, psychotic disorder, and cognitive disorder. Patients are admitted to ICU & emergency unit, unconscious patients who are incapable of providing information.

RESULTS:

A total of 200 individuals were chosen for this research on the basis of study eligibility criteria.

SOCIO DEMOGRAPHIC DETAILS:

Table 1: Gender wise distribution of patients

Gender	No. of participants	Percentage (%)
Male	126	63%
Female	74	37%

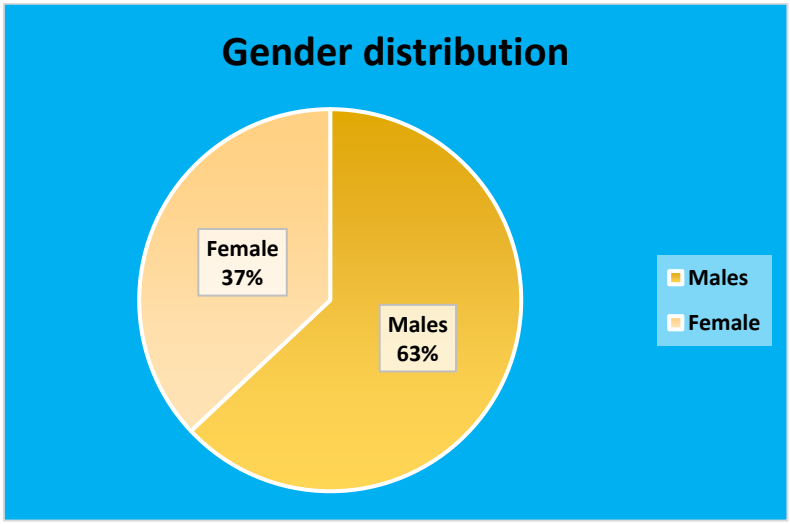

Figure 1: Gender distribution among 200 hypertensive patients

TABLE 2: Age groups

Age groups	No. of participants	Percentage (%)
21-40	36	18%
41-60	124	62%
61-80	40	20%

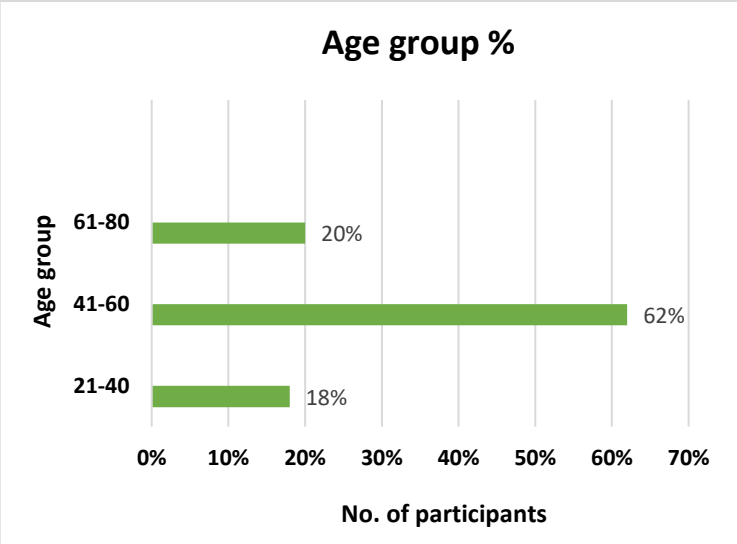

Figure 2: The bar graph demonstrating Percentage of Number of participants in a particular age group

Table 3: BMI Category

BMI Category	No. of participants	Percentage (%)
Underweight	24	12%
Normal	47	23.5%
Overweight	96	48%
Obese	18	9%
Extremely obese	15	7.5%

Table 4: Co-morbidities

Comorbidities	No. of participants	Percentage
Present	132	66%
Absent	68	34%

Table 5: Types of co-morbidities

Co-morbidities with HTN	No. of participants	Percentage
DM	32	24%
CKD	28	21.3%
CAD	22	16.9%
Hypothyroidism	5	3.80%
DM+CKD	17	12.8%
DM+CAD	19	14.5%
DM+CKD+CAD	9	6.8%

Table 6: Percentage of No. of participants having medication adherence

Medication adherence category	No. of participants	Percentage
Good adherence	60	30%
Median adherence	64	32%
Poor adherence	76	38%

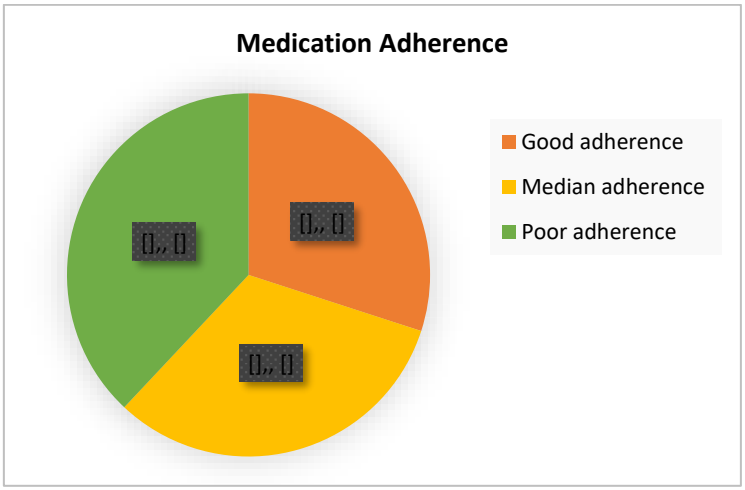

Figure 3: Pie chart displaying percentage of No. of participants belonging to the adherence category

Table 7: Medication adherence according to gender differences

Gender	Good adherence	Median adherence	Poor adherence
Male	28(14%)	38(19%)	42(21%)
Female	32(19%)	26(13%)	34(17%)

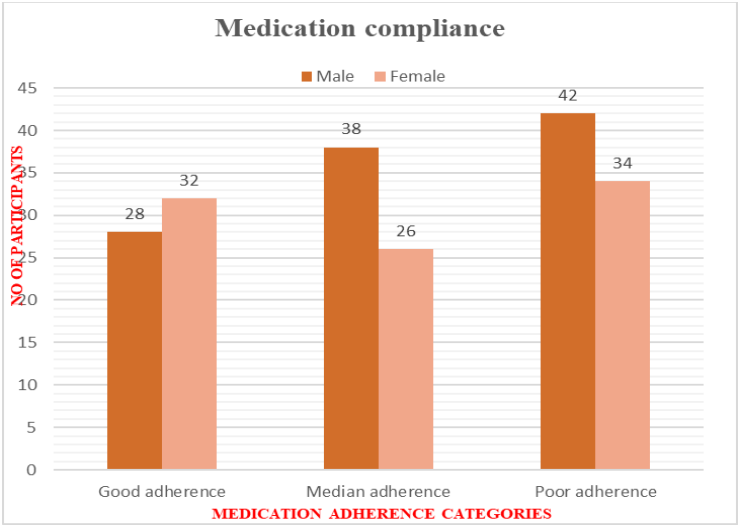

Figure 4: Demonstrating medication compliance in both males & females.

ASSESSMENT OF FACTORS AFFECTING COMPLIANCE:

Table 8: Percentage of factors influencing compliance

Factors	**No. of participants**	**Percentage (%)**
Literacy	33	43.4%
Economic issues	13	17.2%
Age-related factors (forgetfulness, memory loss, polypharmacy, inconvenience)	16	21.5%
Person-specific factors (negligence, intentional)	14	18.4%

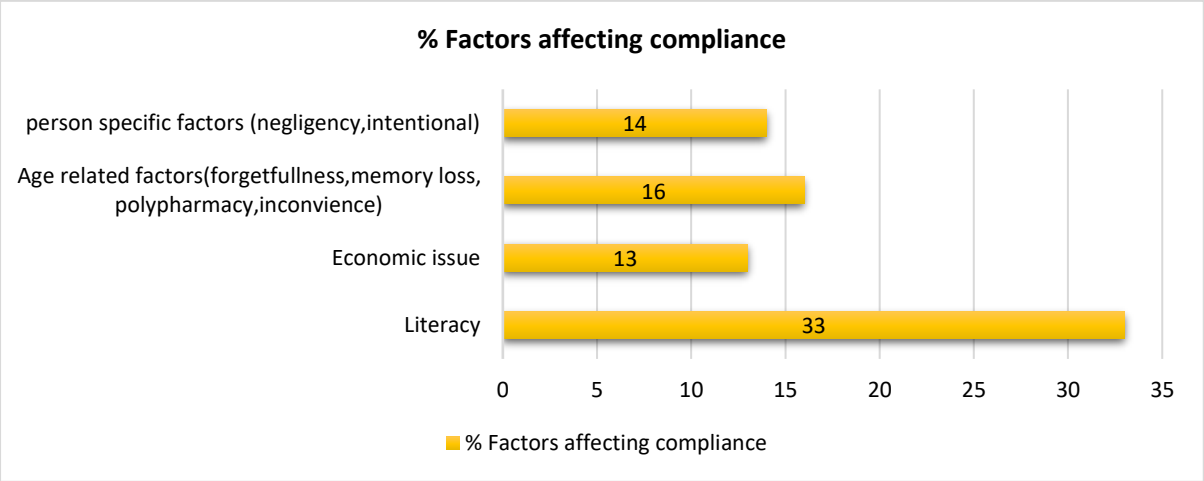

Figure 5: bar graph displays that the most common factor that affected medication adherence

EVALUATION OF DRUG REGIMENS:

Table 9: Percentage of the usage of monotherapy

Monotherapy	No. of participants	Percentage (%)
CCBs	34	43%
ARBs	15	19.3%
Beta-blockers	14	17.9%
Vasodilators	1o	12.9%
ACE inhibitors	5	7.9%

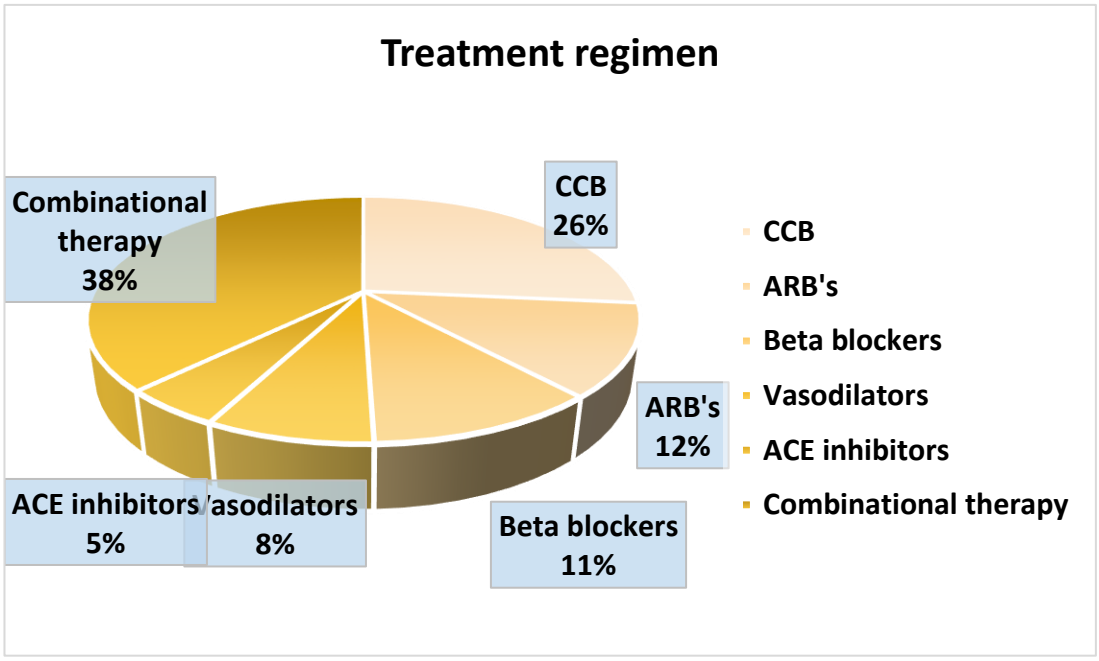

Figure 6: Display the percentage of participants using monotherapy

DISCUSSION:

This study provides various new perspectives on the medication regimen, medication adherence, co-morbidities, compliance-affecting variables, risk factors, and co-morbidities among hypertension patients. In addition, there was a substantial impact on features involving age, sex, BMI (Body Mass Index), educational level, social status, alcohol use, sedentary behavior, and smoking habits in patients with co-existing hypertension[7]. Among 200 study

subjects, 126 (63%) men and 74 (37%) women had high blood pressure respectively. Given that males are more likely than females to have hypertension. In this research study, the age ranges 41-60 (62%) and 61-80 (20%) had the highest percentage of participants, 48% of individuals were overweight, over 12% were underweight, and the majority of participants about 51%, came from lower-class backgrounds. Diabetes mellitus was discovered to be the co-morbidity that occurred most frequently. Our main attention was on the 30% of study participants who had strong adherence, 32% who had median adherence, and 38% who had poor adherence. Women had greater rates of good adherence (16%) compared to those of males (14%), while men had higher rates of poor adherence (21%). The most prevalent reason that influenced medication adherence was found to be literacy (43.4%), followed by person-specific characteristics (negligence, intentional) (18.4%). Other explanations were financial concerns (17.2%) and aging-related difficulties (forgetfulness, memory loss, polypharmacy, and inconvenience (21%). There were 200 individuals, 78 used monotherapy (39%), and around 122 used combination treatment (61%). It was revealed that the drugs most often used in monotherapy were CCBs (43%), ARBs (19.3%), beta-blockers (17.9), vasodilators (12.9%), and ACE inhibitors (7.9%). Patients with concomitant conditions who were hypertensive used 49.18% combinational therapy.

CONCLUSION:

Because it has unknown manifestations, hypertension is sometimes termed the "silent killer"; having elevated BP escalates the Probability of cardiac disorder, renal failure, and CVA, among various disorders. The research study highlighted that men have higher chances of getting high blood pressure due to risk factors such as alcohol consumption, tobacco chewing, smoking, a sedentary lifestyle, and obesity, which increases a man's likelihood of developing high blood pressure. It was also concluded that hypertensive patients with concomitant conditions often take combinational therapy, including medications like CCBs, ARBs, Diuretics, beta-blockers, ACE inhibitors, and vasodilators. This study's findings demonstrated the critical role that pharmacists play in informing and guiding patients about their illnesses, medications, risk factors, and lifestyle management, and their involvement enhanced the patient's overall condition and medication compliance.

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CONFLICT-OF-INTEREST:

No conflict of interest

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