

# A Study on Assessment of Prescription Pattern and Quality of Life in Hypertensive Patients in a Tertiary Care Hospital

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## ABSTRACT

**Aim:** The study aims to assess the prescription pattern and quality of life in hypertensive patients in a tertiary care hospital. **Materials and Methods:** A prospective observational study of a six-month duration was conducted. All the data were documented and analyzed based on a standard protocol and entered into Microsoft Excel. Quality of life was collected using World Health Organization Quality of Life (WHOQOL)-BREF Questionnaire. The statistical analysis was done by IBM Statistical Package for the Social Sciences (SPSS) Statistics Version 28.0.0.0. **Results:** A total of 174 hypertensive patients consisting of 111 males and 63 females of age group 32-88 years were included in the study. The study showed Hypertension (HTN) was commonly affected in males. It was further clarified that Stage 2 HTN was the most prevalent one. The patients have been prescribed a total of 9 categories of anti-hypertensives in which the most commonly prescribed anti-hypertensives were diuretics (66.06%) and the least prescribed were alpha ( $\alpha$ )-blockers (1.74%) and central sympatholytic (1.74%). Quality of Life (QOL) of hypertensive patients was carried out using the WHOQOL-BREF questionnaires. The comparison shows that a high mean score is seen in the psychological domain and a low mean score is seen in the social health domain. **Conclusion:** The study provides an overall layout regarding the prescription pattern and QOL in hypertensive patients. The patients were administered a total of 9 categories of anti-hypertensives. From the study, it was concluded that diuretics were the most prescribed anti-hypertensive drug. The average QOL in hypertensive patients were observed more in the psychological health domain (46.19).

**Keywords:** Hypertension, Quality of life, Prescription pattern, WHOQOL questionnaires, IBM SPSS software.

Received: 21-09-2022;  
Revised: 08-12-2022;  
Accepted: 06-03-2023.

DOI: 10.5530/ijopp.16.2.22

## INTRODUCTION

Hypertension is a major health problem all over the world. It is rapidly spreading in developing countries as well as being the ruling cause of impairment and mortality. Hypertension is a symptom rather than a disease. While it is an important risk factor for cardiovascular mortality and morbidity according to the seventh report of the Joint National Committee (JNC) on increased Blood Pressure (BP) (2003), and World Health Organization (WHO)-International Society of Hypertension (ISH) guidelines (2003) have defined it as 120/80 mm Hg

above as risk. It has been estimated that by the year 2030, 23 million cardiovascular deaths will be caused due to hypertension, with which about 85% of cases will be from small resource places and underdeveloped nations. It has been estimated that by the year 2030, 23 million cardiovascular deaths caused due to hypertension, with which about 85% of cases will be from small resource places and underdeveloped nations. It is reported that hypertension is the fourth most common reason for premature death in developed nations and the seventh leading cause of premature death in underdeveloped

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nations. According to recent reports, a rough estimate of having hypertension is 1 billion adults and this is predicted to increase by 1.56 million by the year 2025. In India, about 20-40% of adult hypertensive patients are from town areas and 12-17% from village areas. Blood pressure control is vital to prevent organ damage and complications, such as myocardial infarction, stroke, kidney disease or heart failure. India is home to 15% of all uncontrolled hypertension individuals worldwide. According to scientific data, reducing blood pressure effectively can prevent such adverse occurrences. According to recent research conducted in India, hypertension is directly to blame for 24% of all deaths from coronary heart disease and 57% of all deaths from stroke. Even though 69% of hypertensive patients are aware of their condition, only 54% of them receive therapy, and only 27.4% have their blood pressure under control. In addition to a lack of awareness, unhealthy lifestyles, and flawed public health systems, doctors also fall short in providing therapy by accepted standards. It is anticipated that medication treatment for hypertension will help between 10% and 25% of the population. There is a significant assortment of antihypertensive medications. Utilizing medications that lessen adverse effects for patients is crucial. Based on the patient's age, race, and other medical problems, the appropriate starting medication therapy will vary. An ACE-inhibitor is advised as the first line of treatment for younger white patients. A calcium channel blocker or thiazide diuretic is a good first option for older adults and non-whites. For many people, it takes multiple medications in combination to effectively regulate blood pressure. Drugs should be easy to take and free of side effects. According to newly released research, the management of hypertension is continually changing, and additional medications are being added quickly. JNC I to VII recommendations for treating hypertension with monotherapy or combination medication are periodically updated. There are several guidelines available for therapy, one of which is JNC 7. JNC 7 suggests the sensible administration of medications by outlining treatment algorithms according to the stages of hypertension. Normal, pre-hypertension, stage 1 HTN, and stage 2 HTN are the four phases of hypertension. According to JNC 8 recommendations, the first antihypertensive therapy should involve a thiazide diuretic, calcium channel blocker, ACE inhibitor, or Angiotensin Receptor Blockers (ARBs) in the general non-black population or a thiazide diuretic or calcium channel blocker in the general black population three recommendations that have recently been applied to manage hypertension clinically have an impact. These include the JNC VIII Panel Recommendation, American Society of Hypertension (ASH)/ISH guidelines, and

ESH recommendations. Even though these rules and suggestions are very comprehensive, several questions remain. Recent evidence-based recommendations on treatment thresholds, objectives, and drugs for the management of adult hypertension were released by the Eighth Joint National Committee (JNC-8). The Joint National Committee (JNC-8) recommendations are regarded as the "gold standard" for treating hypertension. According to a 2014 study from panel lists on the Eighth Joint National Committee (JNC-8), patients over the age of 60 should have blood pressure objectives of 150/90 mm Hg or lower. While providing lifestyle counselling, patients with moderate hypertension (140-159/90-100 mmHg) can have their risk levels evaluated. To help patients make educated decisions about pharmaceutical therapy, general health education is crucial. This includes encouraging patients to lose weight, limit their intake of salt and alcohol, eat more fruits and vegetables, and engage in regular cardiovascular activity. In the developing world, the overall burden of disorders connected to hypertension is quickly increasing. Quality of Life (QOL) is a broad notion that is intricately influenced by an individual's level of independence, social interactions, psychological condition, physical health, and relationship to important aspects of their environment. An important outcome of hypertension that can be negatively impacted by both the disease itself and its side effects are Health-related Quality of Life (HRQOL). Studies examining QOL in hypertension patients from India are infrequent. To determine QOL in hypertensive patients using WHOQOL- BREF (World Health Organization Quality of Life-BREF), a general instrument applicable to any chronic disease, and to assess disease outcome this study was undertaken. The treatment, co-morbid conditions, organ damage, and blood pressure of hypertension patients all affect how well they can live their lives. People with chronic diseases for which treatment is improbable are especially concerned about QOL. Patients, healthcare professionals, and policymakers all prioritize Quality of Life (QOL), and interest in Health-related Quality of Life (HRQOL) has significantly risen in recent years. Patients with hypertension have significantly lower HRQOL than healthy people. Measures that are designed to be useful across a variety of illnesses, treatments, or interventions can be used to assess health-related QOL. The 36-item short form of the Medical Outcomes Study Questionnaire (SF-36), which was created as a general indicator of health status for use in population surveys and research of health policy, is one of the most frequently used generic tools. The WHOQOL assessments will enable in-depth quality of life data to be gathered on a specific population for epidemiological research, increasing the study of diseases

and the development of treatment approaches. By using tools like the WHOQOL-100 and the WHOQOL-BREF, international epidemiological studies will make it possible to conduct quality of life research across multiple centers and to compare the results. A Quality of Life profile is created by the WHOQOL-BREF (Field Trial Version). You can determine four domain scores. Additionally, two items are investigated independently: question 1 inquiry about a person's general impression of their quality of life, and question 2 inquiries about a person's general perception of their health. The four domain ratings represent a person's assessment of their quality of life in each specific domain.

## MATERIALS AND METHODS

### Study site

The study was conducted at the inpatient Department of Cardiology in a tertiary care hospital in Kannur.

### Study duration

The study duration was 6 months after getting consent from the ethics committee.

### Study method and size

A prospective observational study was conducted with consecutive sampling, and 174 patients were included in the study.

### Inclusion criteria

Patients of both sex and age above 25 years are admitted to the hospital for the treatment of hypertension.

### Exclusion criteria

Patients who are unwilling to do the study and patients who are pregnant or lactating.

### Study design

A prospective observational study for assessing the prescription pattern and QOL in hypertensive patients was conducted at the Department of Cardiology, Tertiary care hospital, Kannur. Detailed information regarding the study is explained to the participants who are hypertensive patients. Informed consent is obtained from participants who are willing to participate in the study. A data collection form was designed to collect patient information. The information based on the patient's demography, complaints on admission, diagnosis, past medical, medication and family history, and treatment chart were collected and documented.

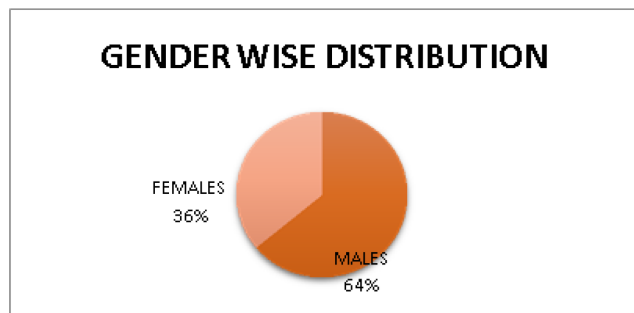


Figure 1: Distribution of samples according to gender.

QOL was determined using WHOQOL-BREF and the extent was determined.

### Ethics and consent

The study was approved by the Institutional Human Ethical Committee of Crescent College of Pharmaceutical Sciences filed under 003/2021/CCOPS/IEC. Permission to conduct the study was obtained from the chairperson of the institutional human ethics committee.

## RESULTS

The study was done for a period of six months in the cardiology department of a tertiary care hospital. Based on inclusion and exclusion criteria 174 patients were included in our study.

### Distribution of samples based on gender

Of a total of 174 patients, 111 patients were males (64%), and 63 patients were females (36%). From the study, data shows that males are more prone to hypertension when compared to females (Figure 1).

### Distribution of sample according to age

The age group recorded in the study was 32-88 years. Among 174 patients 9 (5%) patients belong to 31-40 age group, 14 (8%) patients belong to 41-50 age group, 36 (21%) patients belong to 51-60 age group, 62 (36%) patients belong to 61-70 age group, 41 (23%) patients belong to 71-80 age group and 12 (7%) patients belong to 81-90 age group (Figure 2). The mean and standard deviation age of the patient was found to be  $64.55 \pm 12.21$ . In the study, the occurrence of hypertension was highly seen in the 61-70 age group and the least occurrence of hypertension was seen in the 31-40 age group.

### Stages of hypertension

Classifications of hypertension according to JNC-8 are normal, pre-hypertension, stage 1 and stage 2. In our study, blood pressure is classified under stage 1 and

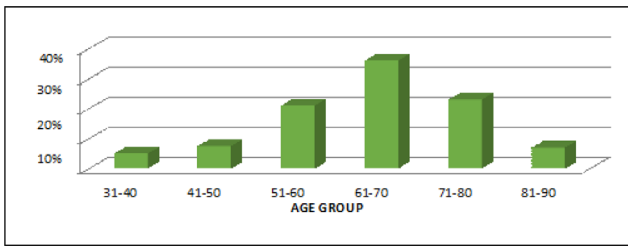


Figure 2: Distribution of samples according to age.

Table 1: Classification of hypertension among patients.

Classification	No. of patients	Percentage
Stage 1	70	40.23%
Stage 2	104	59.77%

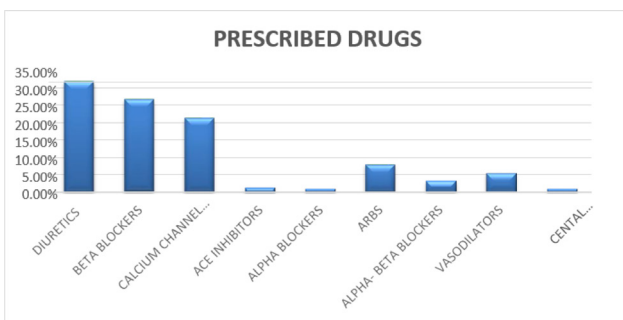


Figure 3: Distribution of anti-hypertensives used in the hospital.

stage 2. From the 174 samples of patients, Stage 1 hypertension was seen in 70 (40.23%) patients and Stage 2 hypertension were seen in 104 (59.77%) patients (Table 1). The study shows that stage 2 hypertension is most common, followed by stage 1 hypertension.

### Class-wise distribution of anti-hypertensive drugs used in the hospital

In our study, 360 Anti-hypertensive drugs are prescribed for 174 samples of patients and there are 9 categories of anti-hypertensive, which are shown in Figure 3:

From this study, it was observed that the commonly prescribed drugs are diuretics (31.90%), beta (β)-blockers (26.66%), Calcium Channel Blockers (CCBs) (21.38%), Angiotensin Receptor Blockers (ARBs) (8.05%), vasodilators (5.55%), α+β blockers (3.33%), Angiotensin Converting Enzyme Inhibitors (ACE inhibitors) (1.38%), α- blockers (0.83%) and central sympatholytic (0.83%). From Figure 3, we can find that the most prescribed category of antihypertensive in the study is diuretics which contain furosemide, spironolactone, torsemide and mannitol. The least common drugs are central sympatholytic which contain clonidine and α-blockers which is prazosin.

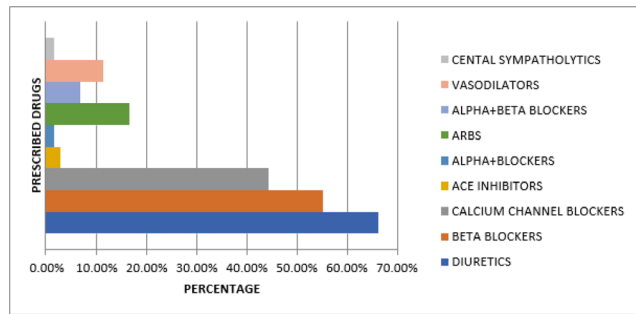


Figure 4: Prescription pattern of hypertension.

### Prescription pattern analysis of hypertensive patients

Among 174 patients in the study, the data obtained suggest that diuretics are commonly used by patients at the range of 66.06% which is followed by β-blockers (55.17%) and then by CCBs (44.25%). The least used drugs among the patients are ACE inhibitors (2.80%), α- blockers (1.74%) and central sympatholytic (1.74%).

### Prescription pattern of diuretics

The study contains a total of 360 anti-hypertensives of which 115 drugs were diuretics. Diuretics prescribed in the study were furosemide, spironolactone, torsemide and mannitol. The study suggests that 66 (57%) patients received furosemide and it's given in two dosage forms i.e., iv injection (68.18%) and tablet (31.81%). Spironolactone is received by 19 (16%) patients, torsemide by 23 (20%) patients and both these medications are given as a tablet. On the other hand, mannitol is received by 7 (6%) patients which are the least no. of diuretics in our study, it is given both tablets (71.42%) and iv injection (28.57%) (Table 2).

### Prescription pattern of β- blockers

Among 360 antihypertensive drugs, 96 were under the β- blockers category.

All the 96 β- blockers were administered as tablets. β- blockers given in the study was bisoprolol to 67 (70%) patients, metoprolol to 27 (28%) patients and nebivolol to 2 (2%) patients. The commonly given β- blocker is bisoprolol and the least commonly given β- blocker drug was nebivolol (Table 3).

### Prescription pattern of calcium channel blockers

According to the study which contains 360 anti-hypertensive drugs, 77 drugs were calcium channel blockers (Table 4).

Calcium channel blockers given in this study were amlodipine for 59 (77%) patients, cilnidipine for 12 (16%)

Table 2: Distribution of Diuretics.		
Diuretics	No. of Prescriptions	Percentage
Furosemide	66	57%
Spironolactone	19	16%
Torseamide	23	20%
Mannitol	7	6%

Table 3: Distribution of $\beta$ - blockers.		
$\beta$ - blockers	No. of Prescriptions	Percentage
Bisoprolol	67	70%
Metoprolol	27	28%
Nebivolol	2	2%

Table 4: Distribution of CCBs.		
CCBs	No. of Prescriptions	Percentage
Amlodipine	59	77%
Cilnidipine	12	16%
Nifedipine	6	7%

Table 5: Distribution of ACE inhibitors.		
ACE Inhibitors	No. of Prescriptions	Percentage
Enalapril	2	40%
Ramipril	3	60%

patients, and nifedipine for 6 (7%) patients. All of them were given as a tablet. Among the CCBs commonly given drug was amlodipine and the least given drug was nifedipine.

### Prescription pattern of Angiotensin Converting Enzyme Inhibitors (ACE Inhibitors)

In our study (Table 5), only 5 drugs came under ACE inhibitors.

Enalapril and ramipril came under ACE inhibitors in our study and were given as a tablet. Enalapril was given to 2 patients (40%) and ramipril was given to 3 patients (60%).

### Prescription pattern of ARBs

The study contains 29 angiotensin receptor blockers. Losartan, valsartan and telmisartan are the drugs that came under ARBS in our study and are all given as a tablet (Figure 5). Telmisartan is given to 15 (52%) patients followed by losartan given to 12 (41%) patients and then by valsartan to 2 (7%) patients.

### Prescription pattern of $\alpha$ + $\beta$ blockers

Among 360 anti-hypertensives, 12 drugs were  $\alpha$ + $\beta$  blockers (Table 6).

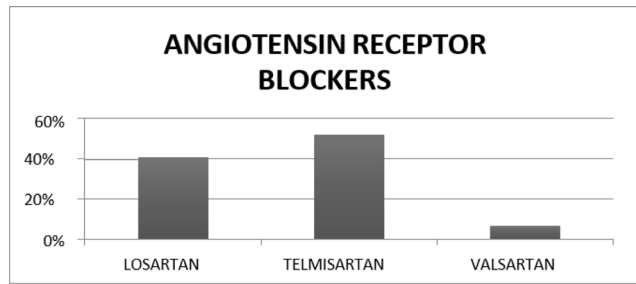


Figure 5: Prescription pattern of ARBs.

Table 6: Distribution of Quality of life $\alpha$ + $\beta$ blockers.		
$\alpha$ + $\beta$ blockers	No. of Prescriptions	Percentage
Carvedilol	9	75%
Labetalol	3	25%

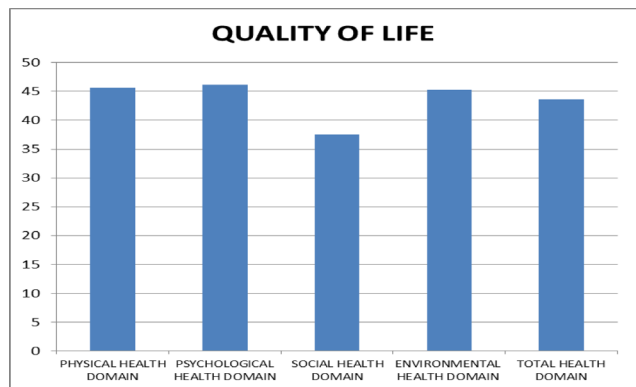


Figure 6: Comparison of a transformed score of WHOQOL-BREF domains and total health domain.

$\alpha$ + $\beta$  blockers in the study were carvedilol and labetalol. Carvedilol is commonly prescribed for 9 (75%) patients and labetalol for 3 (25%) patients.

### Quality of Life

The QOL contains 4 major domains: Physical health domain, psychological health domain, social health domain and environmental health domain. The total health domain is obtained by calculating the average of these 4 domains.

From our study (Figure 6), we found that the psychological health domain is more with 46.19, followed by the physical health domain with 45.62, then by the environmental health domain with 45.27 and the social health domain with 37.50. The total health domain or overall quality of life of hypertensive patients is found to be 43.64.

There are different factors which influence the quality of life in hypertensive patients. Here we are correlating

**Table 7: Correlation between age and WHO QOL-BREF domains.**

Domains	Correlation	With Age
Physical health domain	Pearson Correlation	0.075
	Sig (2-tailed)	0.323
	N	174
Psychological health domain	Pearson Correlation	-0.028
	Sig (2-tailed)	0.711
	N	174
Social health domain	Pearson Correlation	-0.364**
	Sig (2-tailed)	<.001
	N	174
Environmental health domain	Pearson Correlation	-0.062
	Sig (2-tailed)	0.419
	N	174

**Table 8: Independent sample test of sex and WHO QOL-BREF domains.**

Domains	P value	T value	95% CL
Physical health domain	0.995	0.007	-0.902±.896
Psychological health domain	0.816	0.233	-0.772±.979
Social health domain	0.701	0.384	-0.463±.687
Environmental health domain	0.674	0.421	-1.093±1.686

age to different domains of WHOQOL-BREF. From Table 7, Pearson correlation has a positive relationship between age and physical domain (0.075). Age has a significant relationship with the social health domain ( $p < 0.001$ ) which implies age is correlated to the social health domain.

In IBM SPSS Statistics 28.0.0.0, We also conducted an independent samples test where we compared sex with different WHOQOL-BREF domains. From the Table, we can find that the  $p$ -value of all the domains is greater than 0.05. So, we concluded from Table 8, that there is no significant relationship between sex and the WHO-BREF QOL domains.

## DISCUSSION

The study was conducted at a tertiary care hospital in Kannur to assess the prescription pattern and quality of life in hypertensive patients. A similar study on the prescription pattern of anti-hypertensives was done by Rajeev Mishra *et al.*,<sup>1</sup> Chandra S *et al.*,<sup>2</sup> Chandra Narayan Gupta *et al.*,<sup>3</sup> Shruti Chandra *et al.*,<sup>2</sup> Jay Kumar Sharma *et al.*<sup>4</sup> and Vijayakumar Krishnapillai *et al.*<sup>5</sup> a review article was done by Noah Jarari *et al.*<sup>6</sup> There are studies

based on the quality of life based on hypertensive patients by Nandikol Sunanda P *et al.*<sup>7</sup> and Dr K. Mahitha Reddy *et al.*,<sup>8</sup> Baibing Mi *et al.*,<sup>9</sup> Erwei Zheng *et al.*,<sup>10</sup> Sattanathan Kaliyaperumal *et al.*<sup>11</sup>

A total of 174 patients were included in the study who satisfied both inclusion criteria and exclusion criteria for a period of 6 months. From the study population of about 174 patients, 111 were males, and 63 were females. It was concluded that males were more prone to have hypertension (64%) than females, which was similar to the gender distribution found in previous studies carried out by Rajesh Kumar Jangir *et al.*<sup>12</sup> The hypertensive patients recorded in the study were of age group from 32-88 years. The majority of patients with hypertension fall in the age group of 61-70 years and the minority of patients fall in the age group of 31-40 years corresponding to similar age distribution in earlier studies carried out by Dr. K. Mahitha Reddy *et al.*<sup>8</sup>

Hypertension is a chronic disease which requires systematic treatment. This prospective observational study analyzed the drug use pattern in hypertensive patients according to JNC-8 guidelines and WHO-BREF QOL questionnaires. The overall goal of treating hypertension is to prevent or reduce hypertension-associated morbidity and mortality.

The study classifies hypertension into stage 1 and stage 2 as per the JNC-8 classification of hypertension and shows that stage 1 hypertension was seen in 40.23% of the study population and stage 2 hypertension among 59.77%. So, stage 2 was noted as much more common than stage 1.

As per the present study, 9 categories of anti-hypertensive drugs were administered. A total of 360 anti-hypertensive drugs were prescribed by the physician from these 9 categories. When taking into account the total drugs administered, it was found that diuretics were the most prescribed class (31.90%), followed by  $\beta$ -blockers (26.66%), CCBs (21.38%), vasodilators (5.55%), ARBs (8.05%),  $\alpha + \beta$ -blockers (3.33%), ACE inhibitors (0.83%),  $\alpha$ -blockers (0.83%) and central sympatholytic (0.83%) respectively and similar study based on anti-hypertensive class was done by Bernard M Y Cheung *et al.*<sup>13</sup> When the total number of patients are considered, among 174 patients, the data showed that diuretics were prescribed to 115 patients,  $\beta$ -blockers were given to 96 patients, followed by CCBs to 77 patients, ARBs to 29 patients, vasodilators to 20 patients,  $\alpha + \beta$ -blockers to 12 patients, ACE inhibitors to 5 patients,  $\alpha$ -blockers to 3 patients and central sympatholytic to 3 patients respectively. The most commonly prescribed anti-hypertensive is diuretics

and the least commonly prescribed anti-hypertensives are  $\alpha$ -blockers and central sympatholytic which coincided with similar studies done by Oluseyi Adejumo *et al.*,<sup>14</sup> and Chandra Narayan Gupta *et al.*<sup>7</sup>

A total of 115 diuretics were recorded which include furosemide, spironolactone, torsemide and mannitol. The study conveys that 66 patients received furosemide, administered as an IV injection (68.18%) and tablet (31.81%). Spironolactone was received by 19 patients, torsemide by 23 via tablets and mannitol by 7 patients via tablet (71.42%) and IV injection (28.57%). Among diuretics, furosemide is the most commonly administered drug among patients, which corresponds to studies done by Tadesse Melaku Abegaz *et al.*<sup>15</sup> A total of 96  $\beta$ -blockers were recorded which includes bisoprolol, metoprolol and nebivolol. Bisoprolol was administered mostly to 67 patients, followed by metoprolol to 27 patients and nebivolol to 2 patients. All  $\beta$ -blockers were given as tablets, from which bisoprolol was the most commonly given  $\beta$ -blocker. A total of 77 CCBs were recorded under the study which includes amlodipine, cilnidipine and nifedipine and all of them were administered via the oral route as tablets. Amlodipine was given to 59 patients, cilnidipine for 12 patients and nifedipine for 6 patients. Commonly given CCB was amlodipine (77%). ACE inhibitors included in the study were enalapril for 2 patients and ramipril for 3 patients. ARBs recorded in the study consisted of Losartan, telmisartan and valsartan. Losartan was prescribed for 12 patients, telmisartan was prescribed for 15 patients and valsartan for 2 patients. The most common ARBs were telmisartan (52%) and least common ARBs were valsartan (7%). Prescribed drugs under  $\alpha$ + $\beta$ -blockers were carvedilol for 9 patients and labetalol for 3 patients. Drugs prescribed under vasodilators were hydralazine for 20 patients;  $\alpha$ -blockers included prazosin for 3 patients and central sympatholytic included clonidine for 3 patients.

Quality of life of hypertensive patients was carried out using the WHOQOL-BREF questionnaires which is the same as the questionnaire used in a study conducted by Katarzyna Snarska *et al.*<sup>16</sup> According to WHOQOL-BREF “quality of life” is defined as an individual’s perception of their position in life in the context of the culture and value systems in which they live and in and about their goals, expectations, standards and concerns. After collecting the data from patients, the scores are calculated according to WHOQOL-BREF. The quality of life contains 4 major domains: Physical health domain, psychological health domain, social health domain and Environmental domain. After calculating the domain score it is converted to transformed scores at a scale of

0-100 and an average of each domain is calculated along with the overall or total health domain. The average of the physical health domain was determined to be 45.62, the psychological domain was calculated to be 46.19, social health was 37.50 and environmental health was 45.27 respectively. The comparison shows that a high mean score is seen in the psychological domain and a low mean score is seen in the social health domain. The overall quality of life was found to be 43.64.

SPSS stands for Statistical Product for the Social Sciences and is used by various researchers to analyse complex statistical data. SPSS is used in studies done by Katarzyna Snarska *et al.*<sup>16</sup> Gemmechu Hasen *et al.*<sup>17</sup> and Oluseyi Adejumo *et al.*<sup>14</sup> In IBM SPSS Statistics 28.0.0.0, we correlated age to different WHOQOL-BREF criteria. It was found that the Pearson correlation has a positive relationship between age and physical domain (0.075). It was also determined that there is a significant relationship between age and the social health domain ( $p < 0.001$ ) which suggests that age is correlated to the social health domain. In the same software, we conducted an independent sample test between sex with different WHOQOL-BREF domains and found that there is no significant relationship between sex and WHOQOL-BREF domains because the calculated  $p$ -value of all domains was higher than 0.05.

## CONCLUSION

Hypertension is a condition when the blood exerts too much pressure on the arterial walls. Usually, HTN is defined as BP above 140/90 mm Hg and is considered severe if the pressure is above 180/120 mm Hg. This study primarily involved the assessment of prescription pattern and QOL in hypertensive patients in a tertiary care hospital. To conduct the study, a total of 174 prescriptions were collected from patients belonging to the age group 32 to 88 years. Out of which 111 patients were males and 63 were females.

As per the study, the patients were treated with a total of 9 categories of anti-hypertensives. From the lot, it was determined that diuretics were the most prescribed class of anti-hypertensives. When the total number of patients is considered, among 174 patients, the data showed that diuretics were prescribed commonly to 115 patients,  $\beta$ -blockers were given to 96 and the least common was,  $\alpha$ -blockers patients and central sympatholytic to 3 patients respectively.

Quality of life of hypertensive patients was carried out using the WHOQOL-BREF questionnaires. The average

of each of the domains was calculated and the overall quality of life domain was determined. For the study, we used IBM SPSS Statistics 28.0.0.0 and correlated age with different domains using Pearson's correlation. It was found that there was a positive correlation between age and physical domain and a significant relationship between age and social domain. We also conducted independent sample tests by comparing sex and different domains and found no significant relationship among them.

## ACKNOWLEDGEMENT

The authors are thankful for the almighty to whom we bow down to acknowledge the continued blessing and grace showered on us to go through this study and to complete our dissertation. We extend our sincere gratitude to our guide Mrs. Soumya M K, Assistant Professor, Crescent College of Pharmaceutical Sciences who has the attitude and the substance of a genius, for her ever readiness to solve our problems to guide us with valuable suggestions and constant encouragement during the work. We express our heartfelt gratitude to our reverend guide.

We are highly obliged to Prof. Dr. Suja C, Principal for providing the necessary facilities to carry out this. We are grateful to the management and staff of Crescent College of pharmaceutical sciences, Madayipara, Kannur. We would like to thank all others who helped us directly and indirectly in completing our work.

Every achievement is a process and many are involved. You all will remain in the special part of our hearts.

## CONFLICT OF INTEREST

The autor declares no conflict of interest.

## ABBREVIATIONS

**α:** Alpha; **β:** Beta; **ACE Inhibitors:** Angiotensin Converting Enzyme Inhibitors; **ARBs:** Angiotensin Receptor Blockers; **ASH:** American Society of Hypertension; **BP:** Blood Pressure; **CCBs:** Calcium Channel Blockers; **HRQOL:** Health Related Quality of Life; **HTN:** Hypertension; **ISH:** International Society Of Hypertension; **JNC:** Joint National Committee; **QOL:** Quality Of Life; **OPD:** Outpatient Department; **SPSS:** Statistical Package for the Social Sciences; **WHO:** World Health Organisation.

## SUMMARY

- The study comprised 174 patients of either sex who were treated in the Cardiology department of a tertiary care hospital.
- A majority of the patients were between the ages of 61 and 70. Males had a higher prevalence of hypertension than females.
- JNC-8 divides hypertension into stages 1 and 2 as well as normal and pre-hypertension. We evaluated the different stages of hypertension in our study and discovered that stage 2 hypertension is more frequent than stage 1 hypertension.
- There are 360 anti-hypertensive medications in total, divided into 9 groups; diuretics are the most often given group of these medications.  $\alpha$ -blockers and central sympatholytic are the medications that are prescribed the least.
- Furosemide is the most frequently prescribed medication among diuretics, and mannitol is the least diuretic.
- Bisoprolol is the most frequently prescribed  $\beta$ -blocker, and nebivolol is the least frequently prescribed  $\beta$ -blocker.
- Amlodipine was among the CCBs that were frequently prescribed, whereas nifedipine was the least frequently prescribed.
- In our analysis, 29 ARBs are presented which are under losartan, valsartan, and telmisartan. Patients receive telmisartan more frequently and valsartan less frequently.
- By averaging each domain score acquired from the WHOQOL-BREF questionnaire, the QOL was calculated. The psychological health domain had a higher average score (46.19), whereas the social health domain had the lowest (37.50). Patients with hypertension are reported to have a 43.64 overall quality of life.
- The correlation of age to different domains of WHOQOL-BREF is done with Pearson correlation by IBM SPSS Statistics 28.0.0.0 and found a positive relationship between age and physical domain.



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