

A Prospective Study on Patient Counseling and Monitoring Of ADR Associated With Antihypertensive Drugs in a Tertiary Care Hospital

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Submitted: 12-01-2023

Accepted: 24-01-2023

ABSTRACT

Background: Hypertension is a leading cause of death and disability worldwide and proper assessment of knowledge, attitude and practice (KAP) factors are helpful in its management and monitoring ADR associated with hypertensive drugs.

Objectives: To assess the knowledge, attitude, health condition of patients and to evaluate the incidence of ADR related with hypertensive drugs by patient counseling

Method: A prospective study on patient counseling was conducted in 50 hypertensive outpatients in KIMS ALSHIFA hospital over a period of 6 months, a validated questionnaire was used to carry out study. There was total of 20 questions. This questionnaire was filled by conducting face to face interview. Patient information leaflets were provided after counseling,

Result: Among 50 patients, 23 (46%) were females and 27 (54%) were males. The most vulnerable age group having hypertension medication was found to be 55-65 year. The most prevalent comorbidity was found to be diabetes mellitus (DM) followed by hyperlipidemia and heart diseases. Some of the adverse drug reactions associated with hypertensive drugs are collected.

Conclusion:

Our study suggests that there is a need of patient counseling in hypertensive patients to increase their knowledge, attitude, practice and quality of life. This will help patient better understanding of their illness and their management.

Keywords:

Cardiovascular disease, hypertension, patient counseling, ADR, comorbidities, knowledge, attitude, practice, quality of life

I. INTRODUCTION

Cardiovascular diseases (CVDs) are a leading group of disorders of the heart and blood vessels.

Cardiovascular diseases (CVDs) are the leading cause of death globally. An estimated 17.9 million people died from CVDs since 2019, representing 32% of all global deaths. Of these deaths, 85% were due to heart attack and stroke [1]. Most cardiovascular diseases can be prevented by addressing behavioral risk factors such as tobacco use, unhealthy diet and obesity, physical inactivity and harmful use of alcohol. It is important to detect cardiovascular diseases early as possible so that management with counselling and medicines can begin [2]. Hypertension is the cause of the death of 7.5 million people worldwide. The prevalence of hypertension is reported to increase in the range of 30-46% in developing and developed countries and is predicted to increase by 60% by 2025 [3].

According to the World Health

Organization (WHO) adverse drug reaction (ADR) is a response to a dose normally used in human for the prophylaxis, diagnosis, and treatment of disease, or for modification of physiological function [4]. Adverse drug reactions (ADRs) are considered among the leading causes of morbidity and mortality [5]. Around 6% of hospital admissions are estimated to be due to ADRs and about 6-15% of hospitalized patients experience a serious ADR [6].

II. MATERIALS AND METHODS

A prospective observational study was conducted in a period for 6 months in a tertiary care referral hospital, at Perinthalmanna, Malappuram district, Kerala to provide the patient counselling to hypertensive patients and monitor ADR on anti-hypertensive drugs.

Inclusion and Exclusion criteria

We recruited both male and female patients with ≥ 18 years admitted to cardiology, nephrology and general medicine department.

While psychiatric patients, gestational diabetic patients and other chronic illness patients was excluded from this study.

Methods

A validated questionnaire was used to carry out study. Socio demographic parameters of patients such as gender, age, sex, educational qualification, weight, diet, salt preference, knowledge, attitude, co-morbid conditions and practice questions were included in the questionnaire. There was total of 20 questions. Out of 20 questions, 10 questions were related to knowledge and practice about hypertension, 5 questions to assess the attitude of patients towards the disease and 2 questions were related to comorbid conditions and 3 questions regarding ADR of hypertensive drug. This questionnaire was filled by conducting face to face interview. Followed by counseling is given to the patients by distributing properly designed leaflets regarding the management of hypertension among them.

III. RESULTS AND DISCUSSION

Among 50 patients, 23 (46%) were males and 27 (54%) were females. Mean age of the study population was calculated to be 60.38. Mean age of male was found to be 59.29 and that of female was

61.47. The minimum age in the study was found to be 35 year and maximum age was found to be 84 years. The most vulnerable age group having hypertension medication was found to be 55-65 year (15/50) followed 45-55 year (12/50) and 65-75 year (10/50). Out of total population majority of them were preferred moderate amount of salt and few of them were not aware about their salt consumption.

The most prevalent co morbidity among the study was found to be diabetes mellitus (DM). About 21 (42%) had DM alone. DM along with other diseases like hyperlipidemia 13 (26%), heart diseases 11 (22%), respiratory tract infection, urinary tract infection were also observed in some patients.

For the treatment of hypertension, a wide range of anti-hypertensive agents are available as single or combination therapy to achieve a target blood pressure. Adverse drug reaction associated with these drugs are common and impose a serious health related problem. Some of the monitored ADR were;

- Furosemide induced Hyponatremia and hypokalemia
- Metoprolol induced hyperglycemia
- Tablet Atenolol induced Hyperglycemia
- Tablet Dytor induced Hyponatremia
- Tablet Amlodipine induced Hypotension

TABLE NO.1 AGEWISE DISTRIBUTION IN HYPERTENSIVE PATIENTS.

Age group	Frequency	Percentage (%)
35-45	4	8
45-55	12	24
55-65	15	30
65-75	10	20
75-85	9	18
TOTAL	50	100

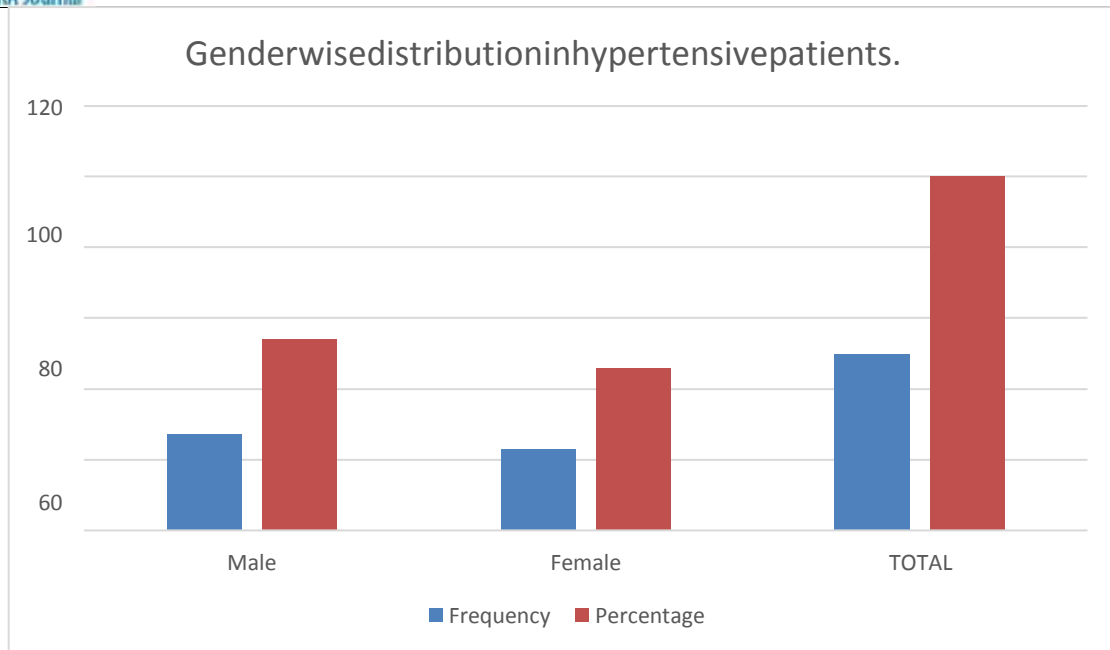


FIG:1 GENDER WISE DISTRIBUTION IN HYPERTENSIVE PATIENTS

TABLE NO 2. WEIGHT WISE DISTRIBUTION IN HYPERTENSIVE PATIENTS.

Weight	Frequency	Percentage (%)
40-60	14	28
60-80	29	58
80-100	6	12
100-120	1	2
TOTAL	50	100

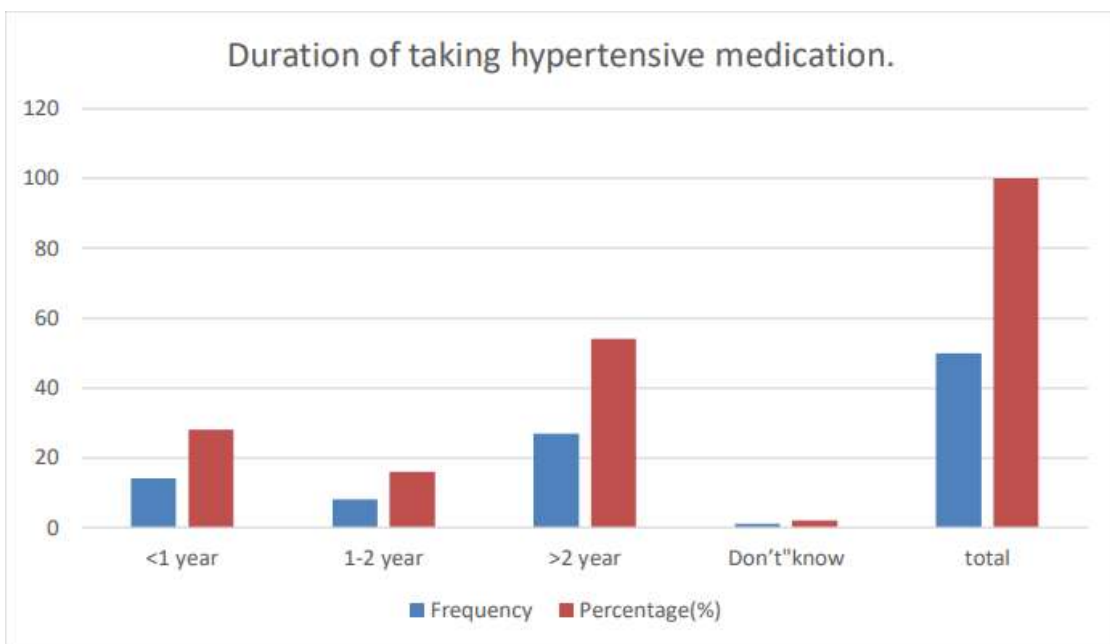


FIG:2 DURATION OF TAKING HYPERTENSIVE MEDICATION

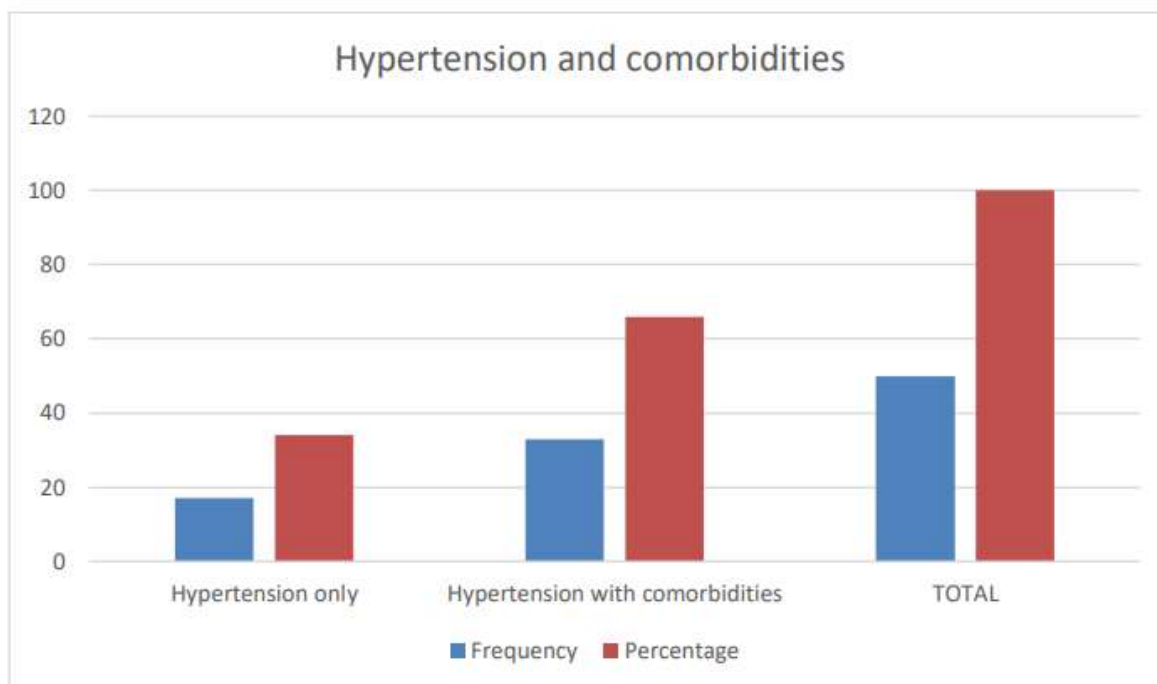


Fig:4 Hypertension and comorbidities

TABLE NO:3 COMORBIDITIES IN HYPERTENSIVE PATIENTS

Comorbidities	Frequency	Percentage (%)
Diabetes mellitus	21	42
Hyperlipidemia	13	26
Heart disease	11	22
Respiratory tract infection	2	4
Urinary tract infection	2	4
Migraine	1	2
Dementia	1	2
TOTAL	50	100

IV.DISCUSSION

Patient counseling is one of the methods/processes for improving the rational use of medications which promotes awareness among people to learn about medicines and their safe use; this in turn minimizes the risk associated with drugs.

KAP questionnaire are the important part in our study to collect information about patient knowledge regarding the disease, drugs and its

usage. In 50 outpatients of study conducted in KIMS AL SHIFA hospital, there were 23 female and 27 male patients [Table no 2]. Most of the patient in the study belong to male gender, which was similar to the study conducted in Karnataka. Most of the patients were belongs to the age group of 55-65Years [Figure No.1]. These findings mostly similar the study conducted by KattaVenkateshRamanath, Katti Ravi Venkappa. These shows that hypertension is highly prevalent

among elderly patients which are greater than or equal to 55 years. Most of the patients were belonged to the weight group of 60-80 kg [Table no 2] which were similar to the study by Preshwa shah etal. There were 17 patients having hypertension only and 33 patients having hypertension with comorbidities [Figure No 5], out of which 21 patients had diabetes mellitus, 13 had hyperlipidemia and 11 had heart diseases followed by respiratory tract infection and urinary tract infection. Current study observed more cases of diabetes mellitus as the comorbid condition which agreed with the findings of similar study conducted by JunaThomas etal. By KAP questionnaire analysis found that patients have poor knowledge about their disease. Their attitude and practice were average.

V.CONCLUSION

The non-communicable disease such as hypertension is increasing in developing and is a significant public health problem in both rural and urban areas. Most of the patients were illiterate and unaware about their disease conditions. Hypertension is most seen in male patients. This may be because of male patient's social habits, genetic influences etc. Most of them had comorbid conditions other than hypertension. Among that diabetes mellitus was found to be more prevalent one. The study showed that there is a need of patient counseling increase their knowledge, attitude, practice and quality of life.

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