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Medication Knowledge Level of Hypertensive Patients from South Indian Hospitals

G. Karthikeyan*, D. Ranganayakulu

Department of Pharmaceutics, Sri Padmavathi School of Pharmacy, Tiruchanoor, Tirupathi-517503, Andhra Pradesh, India

ABSTRACT

To estimate the patient's antihypertensive medication knowledge from south Indian population. Five hundred (500) patients were participated in this study. Out of 500, 46 patients were pre hypertensive so 456 patients were interviewed using a questionnaire which captured data on patient's medication knowledge at south Indian private hospitals in Tamilnadu, India. The present study consists 4 visits that include, screening visit, follow up visit-1 to follow up visit-3. The study measure the knowledge of drug level between usual care and pharmaceutical care. Usual care patients were not educated whereas pharmaceutical care patients were educated by principal researcher. Out of 500 patients, males (49.29 ± 6.5) and females (50.63 ± 6.5) participated in the study. Knowledge of medication and compliance are important in drug treatment regimens. In usual care, Out of 500 patients 65% of patients reported that they were aware that they were taking drugs for high blood pressure where as 35% were not. 32% of patients were able to tell the name of the drugs whereas 68% were not. 64% of the people were thinking it's no cure for hypertension and only 36% of the people feel that it's curable. 64% of the people said lifelong and only 36% of subjects said they are taking only for short term treatment of hypertension. 66% of the people have no clue and knowledge about the side effects of antihypertensive medicines where as 34% were aware, 33% were shared if they take any other drugs along with antihypertensive drugs where as 67% were not, 70% of the patients did not inform to the pharmacist about their high blood pressure (HBP) tablet intake while purchasing other medicines whereas 30% informed. However medication knowledge was improved after the pharmaceutical care.

Keywords: Medication knowledge, usual care, pharmaceutical care, antihypertensive medication, complaints and hypertension.

INTRODUCTION

Hypertension is a very common disorder particularly past middle age. It is not a disease in itself, but is an

important risk factor for cardiovascular mortality and morbidity. [1] Ever though there is really no "normal reading 120/80 mm Hg is referred to as such blood pressure hypertension is defined arbitrarily as a disease in which the systolic blood pressure is greater than 140 mm/hg and the diastolic blood pressure is greater than 90 mm/Hg. Previously identified risk factors for hypertension in Indians include higher body mass index (BMI), abdominal obesity, greater age, greater alcohol consumption, sedentary lifestyle and stress. [2]

***Corresponding author: Mr. G. Karthikeyan,**

Department of Pharmaceutics, Sri Padmavathi School of Pharmacy, Tiruchanoor, Tirupathi-517 503, Andhra Pradesh, India; **Tel.:** +91-877-3247670, 2237670; **Fax:** +91-877-2237732; **E-mail:** spspprinci@gmail.com, karthikeyan.govindan@gmail.com

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It is one of the non-communicable diseases imposing a double burden on the developing countries already combating the challenges of existing problems with infectious diseases. [3-5]

Patient's knowledge regarding hypertension and its complications is an important factor in achieving better compliance and control. Compliance involves not only taking the prescribed medications but also adherence to follow up appointments and maintaining the recommended lifestyle modifications. In addition, the patient should be an active participant in the plan of care. [6]

Like hypertension knowledge, medication knowledge also important in drug treatment regimens. Previous studies indicate that 40-50% of patients don't use their medications as prescribed by their provider and that doctors can't predict which of their patients won't comply. [7] The objective of this study was to investigate patient's medication knowledge of anti-hypertensive drug therapy with validated questionnaires and management of drug adherence.

MATERIAL AND METHODS

The study population consisted of 500, out of which 44 patients were excluded from the study since they are Pre-hypertensive as they were not treated with drugs so remaining 456 patients were participated in the study. Patients ranged in age from 18 to 60 years old. Any patient receiving anti hypertensive regimen was included in the study. The protocol for the study was approved by the Independent Ethics Committee, Madurai, Tamilnadu. The patients were given informed consent form and clarified all the queries and asked to participate the in the study by reading and signing the informed consent form.

We assessed patient's memory on anti-hypertensive medications commonly prescribed to patients. All participants were prescribed the medications at the time of the study. They were presented questionnaire which consists of 7 questions.

All 456 patients in this study received written drug information at the pharmacy dispensing window in a bag along with their medication. The written information used in this study was the patient medication information sheet on antihypertensive drug. It describes in layman's terms uses and actions of medication, proper administration and precautions. It also describes medication adverse effects that may not require immediate attention. When the patient comes at the screening visit (1st visit) and follow up visits the patients were asked all the 7 questions which includes (are you taking any tablets for your high blood pressure, name of the tablets, do you think there is a cure for high blood pressure, duration that you need to take tablet, when you buy tablet for other disease do you inform pharmacist that you are on anti-hypertension medication, and the possible side effects of anti-hypertensive therapy.

- Awareness of the drugs for High BP

- Name of the drug
- Reason for using the drug
- Duration of the drug use
- Side effects of antihypertensive medicines
- Medicine not supposed to take with HT
- Information to pharmacist for anti hypertension drugs intake

RESULTS AND DISCUSSION

During the whole study period 500 patients were recruited, out of 500 patients males (49.29 ± 6.5) and females (50.63 ± 6.5) and their BMI, for males 25.45 ± 2.7 and females 23.03 ± 2.76 participated in the study. Insufficient knowledge of hypertensive patients about the administration of their medication could lead to non-adherence to therapy and then low control of their blood pressure. [8-10] Low to average levels of knowledge on administration of hypertensive medicines for managing hypertension patients have been reported among hypertensive patients both in the developed and developing countries. [11] Lyalomhe & Lyalomhe (2010) found out that of one hundred and eight hypertensive patients sampled only thirty percent knew the name of at least one antihypertensive drug used. [12]

Improving patient's knowledge of specific adherence related behaviors such as the precious steps necessary to follow the treatment plan and how to incorporate the self management behaviors into one's lifestyle, may lead to improved adherence. [13] Poor patient communication seems to be one of the most common reasons for patient noncompliance. [14] Its described patient medication knowledge has been interviewed with 456 patients to know about their seriousness in taking the antihypertensive drugs as per doctor's advice. Questionnaire contains seven questions out of which mostly single answered and "yes" or "no" questions (Table 1).

Patients interviewed their awareness of hypertensive drugs

This particular question was asked to 500 patients to test their knowledge on whether are they aware that they are taking anti hypertensive drugs for the treatment of High BP. Out of 456 patients 65% are aware that they are taking tablets for high BP and 35% of subjects are not aware purpose of hypertension therapy were described (Fig. 1).

Patient interviewed name of antihypertensive drug therapy

456 patients were asked to recollect the name of the drug they are taking for Hypertension. Fig. 2 represented out of which 68% patients are reported that they were not able to tell the name of the anti hypertensive drugs in both generic and branded what they are taking daily. Only 32% of patients were only able to tell the name of the drugs.

Patients interviewed fear factor of hypertension

64% of the people are having fear in mind that there is

Table 1: Patient's medication knowledge between usual care and pharmaceutical care of patients by questionnaires method

Questions about Patient's Medication Knowledge		Patient's Response		Patient's Response	
		Usual Care		Pharmaceutical Care	
Are you taking any tablets for your high blood pressure? This question was included to determine whether the patients were aware that the medication they had been given was for their high BP. Answer : Yes or Don't Know	Tablets for High BP	Yes	Don't Know	Yes	Don't Know
		298	158	360	96
What are their (tablets) names? If the interviewee stated names, these were checked against the medication listed in the medication cover. Both generic and brand names were acceptable. Answer : Correct or Incorrect	Name of Tablets	Correct	Incorrect	Correct	Incorrect
		145	311	324	132
Do you think there is a cure for high blood pressure? The accepted response for this question was that hypertension has no cure. Answer : Cure or No Cure	Cure for Blood Pressure	Cure	No Cure	Cure	No Cure
		164	292	85	371
How long are you going to be taking your tablets for high BP? The patient's responses were considered correct if they showed awareness of the fact that anti-hypertensive therapy was life long. Answer : Short term or Life long	Duration of Treatment	Short Term	Life long	Short Term	Life long
		165	291	96	360
When you get or buy medicines or tablets, for example, for flu or a cough, do you tell the pharmacist/nurse that you have hypertension and are taking tablets for it? The patient's responses were considered correct if they stated that they informed pharmacist that they were hypertensive when they were seeking treatment for other illnesses. Answer : Correct or Incorrect	Information to Pharmacist about High BP & Tablet Intake	Yes	No	Yes	No
		136	320	324	132
Do you know there are some medicines and tablets that you are not supposed to take because of your hypertension and the tablets you are taking? The patient's responses were considered correct if they indicated awareness of drug-drug and drug-disease interactions. Answer : Correct or Incorrect	Types of Medicine which are not supposed to take along with HT	Correct	Incorrect	Correct	Incorrect
		152	304	315	141
Do you know the possible side effects of Anti-Hypertensive Medicine?	side effects of Anti-Hypertensive Medicine	Yes	Don't Know	Yes	Don't Know
		153	303	323	133

Table 2: Overall knowledge level between usual care and pharmaceutical patients

Knowledge Level	Usual care		Pharmaceutical care	
	No of Patients	Percentage	No of Patients	Percentage
Adequate Knowledge	145	32%	325	71%
Moderate Knowledge	143	31%	31	7%
Poor Knowledge	168	37%	100	22%

no cure for hypertension. 36% of the people feel that it's curable were described (Fig. 3).

Patients interviewed to understand the duration of the drug

Patients were asked to describe the duration of the drug intake. 64% of the people said lifelong treatment with hypertension and only 36% said they are taking only for short term period (Fig. 4).

Patients interviewed adverse effects of antihypertensive medicines

66% of the people have no clue & knowledge about the side effects of anti-hypertensive medicines were explained (Fig. 5). The increased availability of safe and effective drugs has greatly improved the management of diseases.

Patients interviewed the knowledge of drug-drug interaction

Only 33% of patients were able to tell that there are some possible drug-drug interactions but 67% of patients don't have any idea about the question (Fig. 6).

Patients interviewed update the information to pharmacist about high blood pressure

Also (Fig. 7) reported 70% of the patients doesn't not inform to the pharmacist about their HBP tablet intake while purchasing the medicines.

The management of hypertension requires non-pharmacological as well as pharmacological methods. [15] Non-pharmacological and pharmacological benefits can be achieved through the patients understanding of disease, medications & lifestyle modification, when the pharmacist provides them practical information via counseling. Pharmacists can contribute to positive outcomes by educating and counseling patients to prepare and motivate them to follow their pharmacotherapeutic regimens and monitoring plans. [16] Patient Information Leaflets (PILs) are produced by either manufacturer or pharmacists for the benefit of the patients and are universally accepted as the most important tool to educate the patient. Illiteracy remains a pervasive problem that compromises quality health care, limits understanding of health information, and potentially leads to poor health outcomes. The use of pictorial aids enhances patients understanding of how they should take their medications, particularly when pictures are used in combination with written or oral instructions. [17]

The objective of the study was to assess the medication knowledge level, adherence and vital role of pharmacists guiding on hypertensive patients of south

Indian population with hypertension and their impact on compliance with anti hypertensive drug therapy.

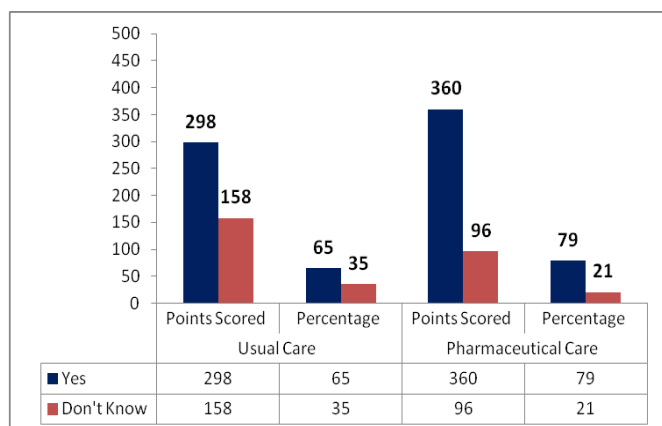


Fig. 1: Awareness of hypertensive drugs.

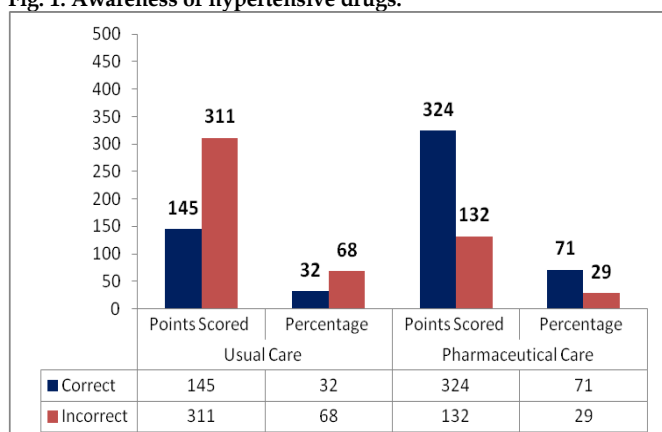


Fig. 2: Name of antihypertensive drug therapy

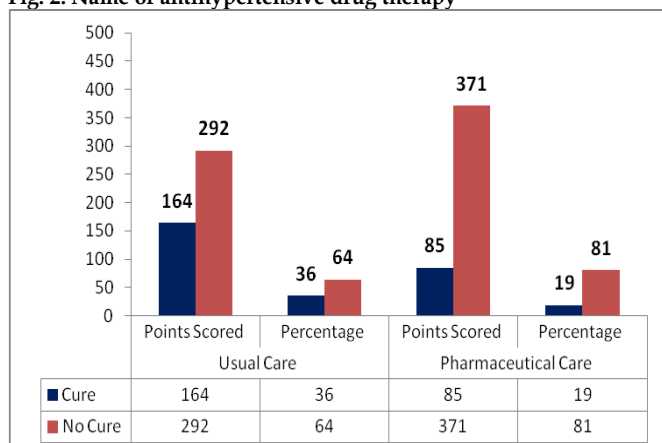


Fig. 3: Fear factor of hypertension.

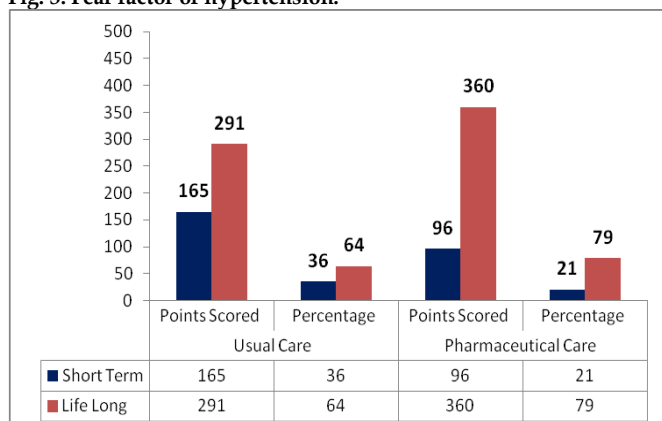


Fig. 4: Duration of the antihypertensive drug use

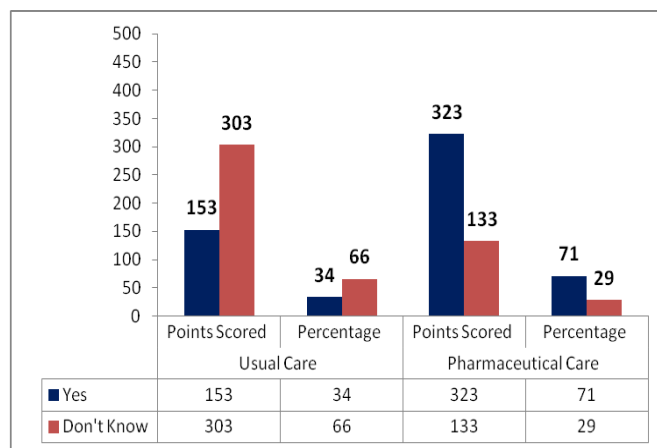


Fig. 5: Adverse effects of hypertensive drugs

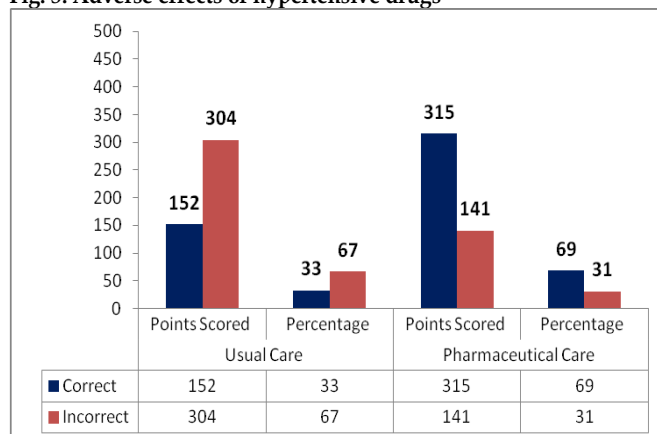


Fig. 6: Knowledge of drug-drug interaction

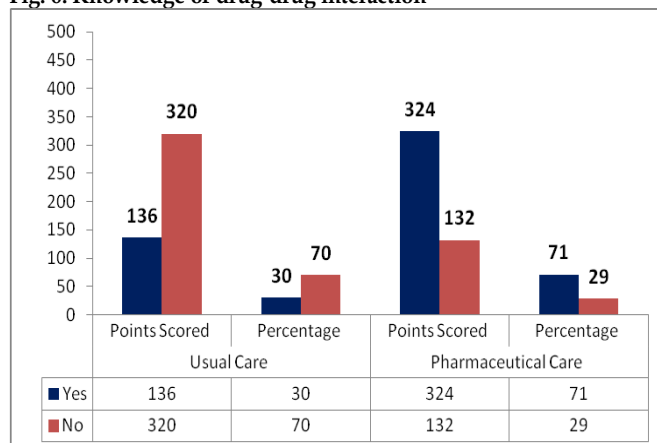


Fig. 7: Information to pharmacist about high blood pressure

The level of knowledge on administration of hypertensive medicines and life style modification for managing hypertension is average. In addition there is a significant relationship between patient's knowledge on their medicines and life style practices for managing hypertension and educational level. There is the need for policies to be drawn and implemented to enhance the care of hypertensive patients. Interventions to improve the knowledge of hypertensive patients on their medicines should focus on educating them on the names and side effects of their medicines. Furthermore there is the need to improve patients counseling during dispensing of medicines especially for patients with low literacy rate. Ways of effectively communicating and monitoring life style practices of patients in low

resourced settings with regard to health personals should also be explored.

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