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Research Article

Evaluation Of Adherence To Therapy In Patients Of Hypertension At Tertiary Care Hospital

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ABSTRACT

Aim and objectives: The aim of the study is Evaluation of Adherence to Therapy in Patients of Hypertension at Tertiary Care Hospital, to evaluation of Adherence to Therapy in Patients of Hypertension. to assess the Drug utilization.
Methodology: A prospective observational study was carried out in the outpatient and inpatients of the department of general medicine a tertiary care hospital.
Results and discussions: A total number of 380 individuals were taken and asked different questions; based on their answers we categorized the individuals into different categories. 278 [73.15%] were aware of medicines taken and remaining 102 [26.84%] were not aware of medicines taken, 157 [41.3%] of individuals are aware of dose and route of administration and remaining 223 [58.68%] were not, 320 [84.21%] were aware of the frequency of administration. Telmisartan + Hydrochlorthiazide [12.10%] were the most frequently prescribed combinational drug followed by Losartan + Hydrochlorthiazide [8.0%].
Conclusion: To conclude, lack of adherence in patients is major problem in control of hypertension. Forgetfulness and Aware about precautions to be taken while taking medicines are main reasons of non adherence.

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INTRODUCTION

Hypertension is the leading noncommunicable disease risk attributing to morbidity and mortality. In India, hypertension is a significant noncommunicable disease risk attributing to 10% of all deaths. Hypertension attributes to 10% of ischemic heart disease, 21% of peripheral vascular disease, 24% of Acute MI, and 29% of Strokes [1] Drug utilization research was defined by WHO in 1977 as "the marketing, distribution, prescription and use of drugs in a society, with special emphasis on the resulting medical, social, and economic consequences[2]

Since Antihypertensive drugs are extensively being prescribed in the hospital the present study will give an idea about the trend in prescribing pattern of antihypertensive drugs in a tertiary care hospital [3] A doctor should not only involve in treating the disease condition but also take care about the well being of the patient who suffers from a disease. So that the expenditure spent on the treatment of the patient can be reduced and can also reduce the rate of incidence of adverse drug reactions and drug interactions. As a result, the workflow of medical and paramedical staff can be easily carried out [4, 5] However, the recently published data showed evidence in increased use of the more expensive Calcium Channel Blockers (CCBs) and Angiotensin Converting Enzyme Inhibitors (ACEIs) but there is lack of evidence to support that they are superior to diuretics and beta blockers in reducing morbidity and mortality of cardiovascular diseases [6] The high blood pressure is particularly liable to be as a result of nonadherence to prescribed medications. High blood pressure is found to be an outcome [7] The knowledge of patients has an influence on the management of their illness and also effects the compliance to the drug therapy, blood pressure control, morbidity and mortality of the patients [8] So that there is no need for the patient to spend additional time for this purpose at the time of doctor's consultation [9]

AIM AND OBJECTIVES:

1. The aim of the study is Evaluation of Adherence to Therapy in Patients of Hypertension at Tertiary Care Hospital
2. To evaluation of Adherence to Therapy in Patients of Hypertension.
3. To assess the Drug utilization

METHODOLOGY:

The data collected included socio-demographic details like age, sex, educational status, clinical details such as medical history, diagnosis and other co-morbidities, the drugs prescribed (antihypertensive drugs and other drugs in the prescription).

***Study Design*:**

A prospective observational study was carried out in the outpatient and inpatients of the department of general medicine of Manipal super specialty hospital, a tertiary care hospital in Vijayawada. After getting approval from the institutional review committee and the hospital authorities we have to start this study.

***Study Period*:** one year (March 2017 – March 2018)

***Data Analysis*:**

Data was analyzed in MS Excel and descriptive statistics were used for analyzing the result of the study is recorded

RESULTS AND DISCUSSIONS:

Table 1: Respondents' awareness about medicine use (n=380)

Questions	No. of respondents (%)	
	Yes	No
Aware of medicines taken	278(73.15)	102(26.84)
Aware about dose and route of medicine	157(41.31)	223(58.68)
Aware about frequency of administration	320 (84.21)	60(15.78)

Aware about precautions to be taken while taking medicines	68(17.89)	312(82.10)
Aware that not taking medication would affect in any way	259(68.15)	121(31.84)
Stopped taking any medicines prescribed by a doctor	79(20.78)	301(79.21)
Stopped any medicine due to adverse effects	69(18.15)	311(81.84)

Table 2: Self-reported Reasons to Stop/Miss Medications

Reasons	No. of patients (n=380)	Percent (%)
Forgetfulness	320	84.21
The high cost of medications	127	33.42
Lack of access to hospital/drug store	80	21.05
Fear of side effects	126	33.15
Confused over schedule and decided not to take a dose	10	2.63
Lack of information about how to take/Illiteracy	27	7.10
Believed medication was not effective and decided not to take a dose	0	0
Absorbed in daily work and forget to take/Occupation related problems	86	22.63
Lack of family support/Motivation	0	0
Fear of becoming dependent on treatment	54	14.21

Table 3: Distribution of the Patients According to Age Groups

S.No	Age	Males	Females	No. of Patients	Percentage
1.	20-29	3	2	5	1.31%
2.	30-39	18	15	33	8.68%
3.	40-49	48	38	86	22.63%
4.	50-59	69	64	133	35%
5.	60-69	48	43	91	23.94%
6.	70-79	15	17	32	8.42%
	Total	201	179	380	

Fig 1: Age groups between the male and female

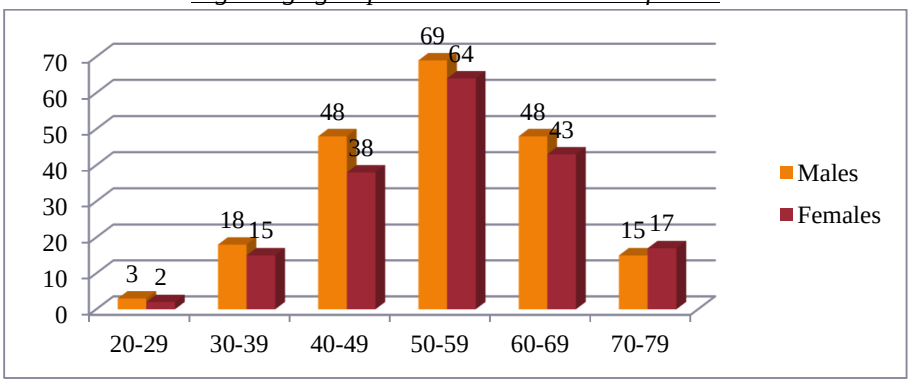

Table 4: patient suffering from comorbid illness

Sr.No	Disease-associated with hypertension	No. of patients Suffering Patients
1	Diabetes mellitus	180
2	CAD	21
3	PCOS	3
4	Chronic kidney disease	8
5	others	32

Table 5: Systolic and Diastolic Values in Female Patients

S.No	Range of systolic	Females systolic range (members)	Percentage	Range of diastolic	Female diastolic range (members)	Percentage
1.	less than 100	10	5.64	60	10	5.58
2.	110	19	10.73	70	54	30.16
3.	120	31	17.51	80	51	28.49
4.	130	49	27.68	90	34	18.99
5.	140	32	18.07	100	18	10.05
6.	150	12	6.77	110	4	2.23
7.	160	14	7.90	120	4	2.23
8.	170	7	3.95	130	2	1.11
9.	180	2	1.12	140	1	0.55
10.	more than 180	1	0.56	less than 140	1	0.55

Table 6: Systolic and Diastolic Values in male Patients

S.no	Range of systolic	Male Systolic range	percentage	Range of diastolic	Male diastolic range	percentage
1.	less than 100	15	7.46	60	7	3.4
2.	110	36	17.91	70	54	26.86
3.	120	34	16.91	80	57	28.35
4.	130	29	1.44	90	47	23.38
5.	140	36	17.9	100	26	12.93
6.	150	17	8.45	110	4	1.99
7.	160	15	7.46	120	1	0.49
8.	170	5	2.48	130	3	1.49
9.	more than 180	14	6.9	more than 140	2	0.99

Table 7: Percentages of Mono-Therapy Drugs Prescribed

S.no	Generic	Brand	Total	Percentage
1.	Amlodipine	T.Amlong, T.Stamlo, T.Amlong, T.Amlo.	51	13.42
2.	Cilidipine	T.Cilidin, T.Cinod, T.Ciladuo.	68	18.0
3.	Diltiazem	T.Dilzem, T.Angizem.	8	2.10
4.	Furosemide	T.Lasix (6), Inj.Lasix(5)	28	7.3
5.	Torsemide	T.Dytor(21),Inj.Dytor.(9)	76	20.0
6.	Metolazone	T.Metoz	3	0.66

7.	Telmisartan	T.Telvas, T.Telma, T.Telsartan, T.Telmikind, T.Telista.	53	14.0
8.	Enalapril	T.Enam	3	0.66
9.	Losartan	T.Losar, T.Repace	18	4.73
10.	Metoprolol	T.Prolomet Xl, T.Met Xl, T.Starpress Xl, T.Supermet Xl.	96	25.33
11.	Ramipril	T.Cardace, T.Ramistar.	13	3.42
12.	Atenolol	T.Aten.	40	10.78
13.	Spironolactone	T.Aldactone	13	3.42
14.	Olmesartan	T.Olmezest	15	3.94
15.	Propranolol	Inderal,Inderal La	8	2.10
16.	Clonidin	T.Arkamine	5	1.31
17.	Nebivolol	T.Nebistar	5	1.31
18.	Carvedilol	T.Carviflo	15	3.94
19.	Prazocin	T. Minipress Xl,T.Prazocip Xl .	5	1.31

Table 8: Percentages of Combinational Therapy Drugs Prescribed

S.no	Generic Name	Brand Name	Total	Percentage
1.	Amlodipine + Atenolol	T.Amlokind At, T.Amlosafe At	5	1.31
2.	Furosemide + Spironolactone	T.Lasilactone	5	1.31
3.	Telmisartan + HclThz	T.Telma H, Telpres H, T.TelvasH, T.Tellzy H, Telista H	46	12.10
4.	Telmisartan + Amlodipine	T.Venpress Am, T.Telmikind Am, T.Cresar Am.	18	4.73
5.	Telmisartan + Metoprolol	T.Tellzy Mt, T.Telmax	13	3.42
6.	Telmisartan + Chlorthalidone	T.Tellzy Ch	13	3.42
7.	Amlodipine + HclThz	T.Amlong H, T.Stamlo D.	5	1.31
8.	Metoprolol + Ramipril	T.Prolomet R	3	0.78
9.	Metoprolol + Amlodipine	T.Amlong Mt	5	1.31
10.	Cilidipine + Metoprolol	T.Cilidin M	3	0.78
11.	Olmesartan + Amlodipine	T.Olmezest Am	5	1.31
12.	Losartan + Hcl Thiazide	T.Losar H, T.Cosart H	30	8.0

DISCUSSION:

In another study adherence to medication was measured by using the Medication Compliance Questionnaire and approximately 53% of patients in the study population were found to be nonadherent[10]. Awareness of various adverse effects of the medicines used by the patients helps them to comply with the treatment. A total number of 380 individuals were taken and asked different questions; based on their answers we categorized the individuals into different categories. We found that among 380 individuals, 278 [73.15%] were aware of medicines taken and remaining 102 [26.84%] were not aware of medicines taken, 157 [41.3%] of individuals are aware of dose and route of administration and remaining 223 [58.68%] were not, 320 [84.21%] were aware of the frequency of administration, 68 [17.89] were aware of precautions to be taken while taking medicines, 259[68.1%] of individuals were aware that not taking medications would affect in any way, 70

[20.78%] stopped taking medicines prescribed by the doctor, 69 [18.15%] stopped taking medicine due to adverse effects. Finally table shows respondents awareness about medicine use.

Among 380 individuals 84.21% individuals stop/Miss medications due to forgetfulness, 33.42% due to the high cost of medications, 21.05% due to lack of access to hospital/drug store, 33.15% due to fear of side effects, 2.63% due to confused over schedule and decided not to take a dose, 7.10% due to lack of information about how to take/illiteracy, 22.63% due to involvement in daily work and forget to take/occupation related problems, 14.21% due to fear of becoming dependent on treatment. Finally table was about self-reported reasons to Stop/Miss medications. the categorization of patients according to their age group. Number of patients fall between the age group of 60-69y [23.94%], and the least number of patients were between 20-29y [1.31%]

Co morbid illness of patients. Out of all diseases, the majority of patients are suffering from Diabetes Mellitus[180] associated with hypertension, and less frequently chronic kidney disease was less frequently associated with hypertension[8%]. percentage of Mono-therapy drugs prescribed is Metoprolol [25%] was the most frequently prescribed mono-therapy drug followed by Torsemide [20.0%], where Enalapril & Metalazone [0.66%] were less frequently prescribed. And the percentage of combinational drugs prescribed. Telmisartan + Hydrochlorthiazide [12.10%] was the most frequently prescribed combinational drug followed by Losartan + Hydrochlorthiazide [8.0%] and Metoprolol + Ramipril [n=3] was less frequently prescribed the combinational drug. By Prescribing low-cost medicines to patients may promote some extent of medical adherence to drug therapy [1]. The various factors which are discussed earlier may be responsible for the nonadherence to the medication and the factors which are discussed before will not affect adherence to dietary schedule and exercise [9]. Research revealed that lifestyle modification does not affect the adherence for medication use [11]. It is reported in some studies that many patients find it easy to adhere to medication schedule than to diet or exercise plan [11]

CONCLUSION:

To conclude, lack of adherence in patients is major problem in control of hypertension. Forgetfulness and Aware about precautions to be taken while taking medicines are main reasons of non adherence. Patient counseling is the effective tool to overcome these problems linked with non adherence of medication except medications with high cost and further strategies of hospital. Health professionals like pharmacists, physicians, nurse practitioners can promote adherence to the therapy by interacting with the patients.

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