

COMBINATION THERAPY BEATS IN DRUG UTILIZATION PATTERN IN UNCOMPLICATED HYPERTENSION IN AN URBAN TERTIARY TEACHING HOSPITAL.Kailash Chandra Swain*¹¹Kailash Chandra Swain, Professor & Head of Department of Pharmacology and School of Pharmacy, Chitwan Medical College, Bharatpur, Nepal.***Corresponding Author: Kailash Chandra Swain**

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ABSTRACT

Background: Drug prescription is common strategy to control the blood pressure that goes beyond 140 SBP and 90 mmHg DBP in 24 hour Ambulatory blood pressure measurement, so diagnosed as hypertension. The management & treatment of hypertension is highly individualized in, stepped- care- approach". Generally, to start with, recommendation to mono-therapy is suggested, but however, combination therapy is also sometime required depending on the clinical state of the individual patient. **Aims:** Thus, the aim of this study is to find the visionary concept on the mono or combination drug utilization pattern in essential hypertension. **Methods:** Total of 280 patients diagnosed with hypertension without comorbidity were recruited, the OPD prescription slips and inpatient case sheets were screened, all the data were recorded and analysis was done as per the record. **Result:** Combination therapy overwhelms mono-therapy and found to have higher utilization rate than mono-therapy to control the blood pressure within safety limit. **Conclusion:** This study concludes that combination/ dual therapy utilization rate is higher than mono-therapy in Gangtok, East Sikkim, India.

KEYWORDS: Combinationtherapy, Monotherapy, Utilization. Hypertension.**INTRODUCTION**

World Health Organization (WHO) in 1977 defined drug utilization as 'study of marketing, distribution, prescription, and use of drugs in society, with special emphasis on the resulting medical, social, and economic consequences.'^[1] Drug utilization research may provide insights into different aspects of drug use and drug prescribing, such as pattern of use, quality of use, determinants of use and outcome of drug use. Monitoring medication use and knowledge of prescription habits are some of the strategies recommended for containing and controlling medication cost and its effect on the national budget.

Drug utilization is an important component of many research initiatives that examine the clinical, economic impact & effectiveness of pharmacotherapy.

Study already revealed that hypertensive patient receiving combined two-drug/more therapy from the start of treatment respond better than patients initially given monotherapy.^[2] And those who later on switched from monotherapy to combination therapy, although, improved their response, but not to the same level as

those who started combination therapy from the begging of their treatment.

Methods: Total of 280 patients of which male 133 and female 147 were recruited for this study who either were newly diagnosed, or suffering from hypertension without any comorbid condition or some are even already receiving antihypertensive medication and thus, presented in the OPD with prescription slip. This study includes patient diagnosed with high blood pressure > 140 SBD and 80 mmHg DBP and not having any comorbid condition.

RESULT

The result of this study showed number of men 47.5% were slightly less than women 52.5%, the age group of large number of patient under the study were less than 55 years old (57.9%) as compared to more than 55 years old (42.1%). As many as, 82.5% of the total number of patients were treated as outpatients.

And then, following Monotherapy versus combination therapy utilization pattern was obtained as evident from data presented here in following different tables.

1. Specific Drug used in Monotherapy

Monotherapy rate of CCBs and Beta Blockers

monotherapy	N=113	40.3
CCB (Amlodipine)	52	46.01
Beta Blocker	10	8.84
Metoprolol	6	5.30
Atenolol	1	0.88
Propranolol	3	2.65
Bisoprolol	1	0.88

Monotherapy rate of AT2RBs

AT2RBs	30	26.5
Telmisartan	20	17.6
losartan	7	6.19
olmesartan	3	2.65

Monotherapy rate of ACEIs and Diuretics

ACEI (Ramipril)	8	7.07
Diuretics	4	3.53
Torsemide	3	2.65
Furosemide	1	0.88

Miscellaneous

Methyl dopa	2	1.7
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Combination Therapy	167	59.64
Two drug combination	160	
More than two drugs combination	7	

II. Specific drugs used in combination therapy

1.	AT2R+diuretics	75
a	Losartan+hydrochloro thiazide	40
b	Olmesartan+hydrochlorothiazide	5
c	Telmisartan+hydrochloro thiazide	30
2.	B- blocker+calcium channel blocker	25
d	Atenolol+amlodipine	8
e	Nebivolol+ amlodipine	1
f	Bisoprolol+ amlodipine	1
g	Metoprolol+ amlodipine	15
3.	Calcium channel blocker+diuretics	21
h	Amlodipine+ Hydrochlorothiazide	21

III. More than two drug combination

4.	Calcium channel blocker+ACEI	9
i	Amlodipine+ramipril	7
5.	Calcium channel blocker+AT2RB	30
j	Amlodipine+telmisartan	23
h	Amlodipine+losartan	9

6.	CCB+Diuretic+AT2RB	7
	Amlodipine+hydrochlorothiazide+Losartan	7

Now, it is crystal clear from table No. I, II & III that over all, combination frequency used in combination

therapy either of two or three drugs combination was Amlodipine in this present study.

DISCUSSIONS

In this study, the relative frequency use of drugs in monotherapy and combination therapy was 40.3% and 59.6% respectively. The results are comparable with many other studies of this sort conducted earlier.

In a study of Bajaj et al^[2] 42.6% patients received monotherapy and rest 57.4% combination therapy^[3], & also in the study conducted by Pavani, et al monotherapy was used in 30.2% Patients and the rest 67.8% were on combination therapy.

In a study conducted in Nigeria, monotherapy was used in 20% of patients whereas combination therapy was in 80% of patients. The high prescription rate of combination therapy may also be due to the high prevalence of patients belonging to the grades of moderate to severe hypertension. These findings are consistent with the recent needs advocating the use of combination therapy as a first line treatment.^[4]

In monotherapy, Amlodipine is the most commonly used agent (18.6%). The ASCOT-BPLA trial has recently shown that an amlodipine based regimen with perindopril and doxazosin has added greater benefit than atenolol based regimen with bendroflumethiazide and doxazosin).^[5,6]

Thus, with the amlodipine based combination regimen, there was finding of less fatal myocardial infarction and fatal heart disease, total cardiovascular events and procedures, cardiovascular mortality, fatal and non-fatal stroke, unstable angina, peripheral arterial disease and renal impairment. Hence, with the amlodipine based regimen used in ASCOT-BPLA study should be preferred over atenolol based regimen in combination therapy than that of any other combinations.

CONCLUSION

Therefore, this study revealed that prescription pattern of combination therapy was highly endorsed in practice in Gangtok, Sikkim Manipal tertiary care urban teaching hospital for the treatment and prevention of complication of hypertension.

Moreover, Amlodipine was extensively used in combination therapy than any other combination.

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