

To Assess the Switching of Antihypertensive Drugs in a Tertiary Care Centre.

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ABSTRACT

Background: Hypertension is a major public health burden and is part of an epidemiological transition from communicable to non-communicable diseases globally. The present study was conducted to assess the switching of antihypertensive drugs in a tertiary care Centre. **Methods:** This retrospective study was conducted on 260 patients of hypertension of both genders. Patients were divided into 2 groups. Group I patients were non switchers (140) and Group II patients were switchers (120). Antihypertensive drugs prescribed, number of comorbidities, and the total number of drugs prescribed was reported. **Results:** Out of 260 patients, males were 150 and females were 110. Duration of hypertension in group I was 6.2 years and in group II was 6.7 years, number of symptoms in group I was 3 and in group II was 5, 80 patients in group I and 70 in group II were on diuretics, 20 on group I and 30 in group II were on beta blocker, 40 in group I and 20 in group II were on calcium channel blocker. There were >1 comorbidities in 50 in group I and 110 in group II patients. The difference was significant ($P < 0.05$). **Conclusion:** Authors found that there were almost equal comorbidities and symptoms in switchers and non-switchers.

Keywords: Hypertension, switchers, non-switchers.

INTRODUCTION

In India, the overall prevalence of raised blood pressure (BP) in adults has been continuously on the rise. The global scenario also suggests the same.^[1] Hypertension is a major public health burden and is part of an epidemiological transition from communicable to non-communicable diseases globally. It is an important risk factor for stroke, coronary heart diseases, peripheral vascular disease, heart failure, and chronic kidney disease. The aging, urbanization, sedentary lifestyle, obesity, ethanol consumption, and excess salt intake are the contributing factors for epidemiological transition of hypertension in world.^[2] A cost-effective use of health services such as increasing the knowledge and awareness, detection, treatment, and control of hypertension (HT) is needed among public in developing countries, particularly about the risks associated with uncontrolled blood pressure. Screening for elevated systolic blood pressure (SBP) has been identified as an important medical challenge in the prevention and treatment of

hypertension.^[3] Data from NHANES 2007–10 world over revealed that among those with high BP, 81.5% were aware of the condition, 74.9% were on treatment, however, only 52.5% have it controlled, and 47.5% of the peoples' BP was inadequately controlled. While in India, 25.1% rural and 41.9% urban Indians were aware of their hypertensive status. The pooled estimate for the percentage of treated among those diagnosed with hypertension (HTN) in rural and urban areas was 24.9% and 37.6%, respectively. It is alarming that only 10.7% of rural and 20.2% of urban Indian hypertensive population have their BP under control.^[4] The present study was conducted to assess the switching of antihypertensive drugs and the associated factors in a tertiary care Centre.

MATERIALS AND METHODS

This prospective study was conducted in department of Pharmacology. It comprised of 260 patients of hypertension of both genders. Patients were informed regarding the study and written consent was taken. Ethical approval was obtained prior to the study.

Patient information such as name, age, gender etc. was recorded. Patients were divided into 2 groups. Group I patients were non switchers (140) and Group II patients were switchers (120). All patients

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were examined and symptoms such as headache, nausea, giddiness, palpitations, restlessness, stress, weakness, edema, and shortness of breath were recorded. Antihypertensive drugs prescribed, number of comorbidities, and the total number of drugs prescribed was reported. Results thus obtained were subjected to statistical analysis using chi-square test. P value < 0.05 was considered significant.

RESULTS

Table 1: Distribution of patients

Total- 260		
Gender	Males	Females
Number	150	110

[Table 1] shows that out of 260 patients, males were 150 and females were 110.

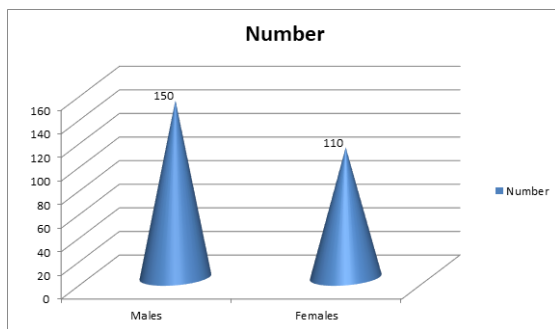


Figure 1: Distribution of patients

Table 2: Comparison of parameters

Parameters	Group I	Group II	P value
Duration of hypertension (Years)	6.2	6.8	0.91
No. of symptoms	3	5	0.05
Drugs Diuretics	80	70	0.12
BB	20	30	0.92
CCB	40	20	0.01
Comorbidity 0	90	30	0.01
>1	50	110	0.001

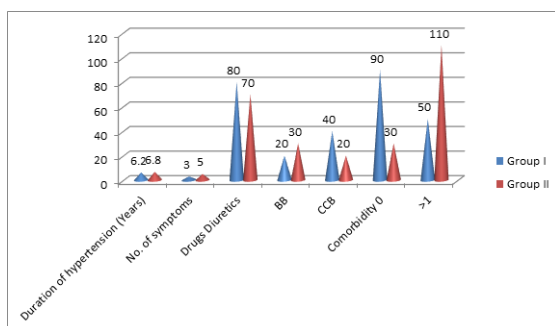


Figure 2: Comparison of parameters

[Table 2, Figure 2] shows that duration of hypertension in group I was 6.2 years and in group II was 6.7 years, number of symptoms in group I was 3 and in group II was 5, 80 patients in group I and 70 in group II were on diuretics, 20 on group I and 30 in

group II were on beta blocker, 40 in group I and 20 in group II were on calcium channel blocker. There were >1 comorbidities in 50 in group I and 110 in group II patients. The difference was significant (P < 0.05).

DISCUSSION

Hypertension remains a challenging medical condition among the non-communicable diseases of ever growing population. Efforts to control HT include increasing public knowledge and awareness about the risks associated with high BP.^[5]

The National High Blood Pressure Education Program was launched to improve the public's knowledge of HT in 1972. Data from the National Health and Nutrition Examination Survey (NHANES II and NHANES III) reported an increase in BP awareness during the time period 1976–1991 from 51% to 73%. Some other studies have assessed HTN knowledge and awareness in the general population and hypertensive population showing a decreased level of knowledge and awareness.^[6] The present study was conducted to assess the switching of antihypertensive drugs and the associated factors in a tertiary care centre.

In present study, out of 260 patients, males were 150 and females were 110. Wong et al,^[7] found that inadequate BP control and side effects of the antihypertensive therapy were reported to cause a 66% discontinuation of treatment or switching to another drug. Although switching medication because of adverse drug effects was less frequent than reported a decade ago.

We found that duration of hypertension in group I was 6.2 years and in group II was 6.7 years, number of symptoms in group I was 3 and in group II was 5, 80 patients in group I and 70 in group II were on diuretics, 20 on group I and 30 in group II were on beta blocker, 40 in group I and 20 in group II were on calcium channel blocker. There were >1 comorbidities in 50 in group I and 110 in group II patients. A study by Wong et al,^[8] showed that the major reason for switching antihypertensive treatment in general practice was insufficient BP control.

Engel et al,^[9] found that a total of 429 prescriptions were monitored for a switchover to a different antihypertensive drug in 180 days. The results revealed that the duration of hypertension (HTN) >5–10 years (adjusted odds ratio [aOR] = 3.73, P < 0.05), two or more symptoms of HTN (aOR = 3.42, P < 0.05), 2014 prescriptions (aOR = 4.54, P < 0.001), polytherapy (aOR = 2.85, P < 0.001), noncompliance to National List of Essential Medicine (NLEM) (aOR = 1.631, P < 0.05), and systolic BP (SBP) (aOR = 1.77, P < 0.05) were the predictors, which were highly likely to switch (38.5%) the antihypertensive drugs. Diuretics (0.7%) were poorly prescribed, the first line of therapy

suggested by Seventh Joint National Committee (JNC VII). Stepwise logistic regression analysis revealed, the calendar year 2014 (odds ratio [OR] = 3.23, $P < 0.001$), polytherapy (OR = 2.5, $P < 0.001$), and the level of SBP ≥ 140 mmHg (OR = 1.82, $P < 0.01$) as the three major predictors which showed a likelihood of switching medication.

Chou et al,^[10] found that 73 of 303 patients were males. 69.9% of patients had adequate knowledge about hypertension. 40.5% of patients were unaware of their disease status. 75.8% of patients could not recall their blood pressure values at the time of diagnosis. 72.3% of patients were unaware of their values of blood pressure during their last outpatient clinic visit. 48.2% of patients had awareness of target organ damage due to hypertension (kidney, 72, 23.7%; heart, 128, 42.2%; brain, 140, 46.7%; eye, 42, 13.8%). Most of the patients had poor drug compliance. The most common reasons for nonadherence were forgetfulness (70, 23.1%) and interruptions of daily routine (53, 17.5%).

CONCLUSION

Authors found that there were almost equal comorbidities and symptoms in switchers and non-switchers.

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