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## Prescription pattern and drug utilization of antihypertensive agents at Nepalgunj Medical College hospital Kohalpur, Nepal

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**Backgrounds:** Hypertension affects approximately one billion people worldwide. The prevalence of hypertension increases with age and even further, unless broad and effective preventive measures are not implemented. Antihypertensive agents are used to prevent morbidity and mortality related to hypertension. In the medicine practice, there is a growing concern regarding the irrational prescription pattern and use of antihypertensive drugs. The choice of drug for the treatment of hypertension changes at short intervals. Studies on prescription pattern and drug utilization pattern conducted at regular intervals help to guide physicians in prescribing drugs rationally.

**Aim & Objectives:** The present study was conducted to find commonly used antihypertensive agents and to know utilization pattern of antihypertensive agents.

**Materials & Methods:** A hospital based cross-sectional study was done in 200 hypertensive patients attending medical OPD of Nepalgunj Medical College Teaching Hospital Kohalpur. The collected data were analyzed for prescribing and utilization patterns of antihypertensive drugs.

**Results:** Out of 200 patients under study, 61.5% were male, 31.5% female and maximum number of patients were in the age group of 51-60 years. The mean BMI of patients under study was 25.17 kg/m<sup>2</sup>. Out of 200 patients 31% consumed both alcohol and smoking. In our study, (43.5%) patients were of stage II hypertension, followed by stage I (33%) and (23.5%) were of isolated systolic hypertension. In our study, (36.5%) received monotherapy, (35%) received two drug combination therapy, (24%) three drug combination therapy and (4.5%) received four drug combination therapy. Among patients on monotherapy, calcium channel blockers (65.77%) was the drug of choice followed by diuretics (19.17%). In two drug combination therapy, (34.18%) received the combination of Amlodipine + Atenolol, followed by Amlodipine + Losartan (18.56%) In three drug combination therapy Amlodipine + Atenolol + Losartan (16.66%) was most commonly prescribed followed by Amlodipine + Atenolol + Hydrochlorothiazide (12.5%). In four drug combination therapy the combination of Amlodipine + Atenolol + Furosemide + Spironolactone was most commonly used. With respect to overall utilization, calcium channel blockers (76%) were most frequently prescribed followed by, diuretics (37%) and beta-blockers (34.5%). In the analysis of layout of prescriptions, there was lack of basic information such as the identity of practitioner, clarity of instructions, diagnosis of disease, and there was more prescription of drugs by brand name (65.5%). The average number of antihypertensive drug per prescription was 1.96. In 200 prescriptions, 56% of the drugs were of fixed dose combinations and 95% of drugs were prescribed in oral dosage form. The average cost of antihypertensive drugs per month in our study was 291.97 NPR.

**Conclusions:** The evidence observed in this study showed that calcium channel blockers were most commonly prescribed classes of antihypertensive agents in both monotherapy and combination therapy followed by, diuretics and beta-blockers. Among these different classes' also specific drugs like Amlodipine was most commonly prescribed followed by Hydrochlorothiazide, Atenolol. Multiple drugs were often used to control the stage II hypertension and the combination of Amlodipine + Atenolol was extensively prescribed. In general, the prescription pattern of antihypertensive agents was on the British Hypertension Society Guidelines.

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