

November 18-19, 2013 Hilton San Antonio Airport, TX, USA

## Poly-pharmacy approaches in Ethiopia

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**Introduction:** Multiple diseases and co-morbidity inevitably lead to the use of various drugs, a condition known as polypharmacy. Patients treated with complex medical regimens carry the potential for drug-drug interaction and potential adverse drug reactions. The aim of this study was to assess the extent of poly-pharmacy, occurrence and associated factors for the occurrence of drug-drug interaction and potential adverse drug reaction in Gondar University Teaching Referral Hospital.

**Methods:** Institutional based retrospective cross sectional study was conducted on prescriptions of both in and out-patients at Gondar University Hospital. Both bivariate analysis and multivariate logistic regression were used to identify risk factors for occurrence of drug-drug interaction and possible adverse drug reactions.

**Results:** A total of 12,334 prescriptions were dispensed during the study period of which, 2,180 prescriptions containing two or more drugs per prescription. A total of 21,210 drugs were prescribed on the 12,334 prescriptions and the average number of drugs per prescription was 1.72. Occurrence of drug-drug interaction of all categories (Major, Moderate and Minor) was analyzed and drug-drug interaction was detected in 32.6% (711) of the 2180 prescriptions. Sex was not found to be a risk factor for the occurrence of DDI and ADR, while age and number of medications per prescription were significant risk factors for the occurrence of DDI and ADR.

**Conclusions:** The mean number of drugs per prescription was 1.72 and hence with regard to the WHO limit of drugs per prescription, Gondar University Teaching Referral Hospital was able to maintain the limit. Drug-drug interaction was detected in 32.6% of those prescriptions containing multiple drugs supposed to be taken systemically. Numbers of drugs per prescription as well as older age were found to be predisposing factors for the occurrence of drug-drug interaction and potential adverse drug reactions while sex was not a risk factor.

Key Words: Poly-pharmacy, Prescription, Drug-drug interaction, Adverse drug reaction

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