Prevalence Of Medication Discrepancies And Its Related Causes In Emergency Department

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Introduction

Hospital admission is an interface of care when patients are at a high risk of medication discrepancies as they transition from home to hospital. These discrepancies are important, as they may contribute to drug-related problems, medication errors, and adverse drug events.

Objectives

This study was conducted to evaluate the prevalence of medication discrepancies and its affecting factors using medication reconciliation method in patients admitted to the emergency department.

Study Design

Patients were over 18years, with at least one chronic disease that used 2regular prescription medications enrolled.

Methods

This cross-sectional study was conducted with a sample size of 200 patients admitted to the emergency department of a tertiary care teaching hospital during 8 months. After 24hours of admission, demographic data and patient's home medications were collected using the questionnaire, interview and medical records. Medication discrepancies were assessed through comparison of a best possible medication history list with the physician orders at the medical records.

Results

Out of 200 patients (mean age, 61.5 years; 86 males, 114 women) 169 (84.5%) patients had one or more (1≤) medication discrepancies and 31 (15.5%) of them did not have any discrepancy. The prevalence of medication discrepancies 77.5 percent was estimated. The most common discrepancy was medication omission (35.49%), the next most frequent were change (11.12%), substitution (10.97%) and discontinue (3.09%) respectively.

The relationship between age, gender, Education, working shifts (morning, afternoon, night) with the medication discrepancy were not statistically significant (all P>0.05). Although number of comorbid conditions was statistically significant (P<0.05). Cardiovascular drugs (categorized by WHO ATC codes) compared to other medications classes showed the highest discrepancies (36.2%).

Although Multiple logistic regression analysis showed that the drug groups included: Anti-infective for Systemic use (OR= 8.43; 95% CI 2.5-28.2; P= 0.001), Antineoplastic and Immunomodulator Agents (OR=0.49; 95% CI 0.27-0.87; P= 0.016), Blood and Blood Forming Organs (OR= 0.33; 95% CI 0.21-0.52; P< 0.001), Muscular-Skeletal System (OR= 2.4; 95% CI 1.13- 5.1; P= 0.022), Nervous System (OR= 2.75; 95% CI 1.7-4.4; P<0.001), Respiratory System (OR= 0.38; 95% CI 0.22-0.67; P= 0.001) were associated with the drug discrepancy.

In addition there was no relationship between using of high-risk drugs (OR=2.00; 95%CI 0.92-4.36; P= 0.079) that the patient was taking before and after admission with happened discrepancies although relationship between numbers of high-risk drugs (OR=1.71; 95%CI 1.05-2.77; P= 0.028) that the patient was taking before and after admission and total number of drugs used by patients (OR= 1.67; 95%CI 1.35-2.07; P= <0.001) with discrepancies was statistically significant.

Conclusion

Medication discrepancies occur commonly on hospital emergency department admission. Understanding the type and frequency of discrepancies can help clinicians better understand ways to prevent them. Structured medication reconciliation process may help to prevent admission medication discrepancies.

References

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