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Original Research Article

Study of Prescription Audit in Inpatient Department of a Tertiary Care Teaching Hospital in Telangana

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Conflict of interest: Nil

Abstract

Background: The inappropriate use of drugs is a global health problem, especially in developing country like India. Irrational prescriptions have an ill effect on health as well as health-care expenditure. Prescription auditing is an important tool to improve the quality of prescriptions, which in turn improves the quality of health care provided. The present study was conducted to investigate the rational use of drugs for completeness, legibility, and against the World Health Organization (WHO)-recommended core drug use indicators. [1]

Methods: This cross-sectional study was conducted in inpatient department of tertiary care teaching hospital. A total of one hundred prescriptions were analysed from all clinical departments for general details, medical components and WHO core drug use indicators.

Results & Conclusion: The prescribing practices in this study were good regarding mentioning of general details of patients and hospital, and satisfactory regarding handwriting legibility of physicians and average number of drugs prescribed per prescription.

Keywords: Prescription indicators, India, Health care.

Introduction

An audit is defined as "the review and the evaluation of the health-care procedures and documentation to compare the quality of care, which is provided, with the accepted standards". Prescription writing assessment is the most important technique to ensure rational use of drugs.

Material and Methods

This cross-sectional study was conducted in inpatient department of tertiary care teaching hospital. A total of one hundred prescriptions were analysed from all clinical departments for general details, medical components and WHO core drug use indicators.

Prescribing Indicators

Average number of drugs per prescription – 2.97

Percentage of drugs prescribed by Generic name – 75% (236)

Percentage of prescriptions containing antimicrobial agents (antibiotics) – 49%
Percentage of injections per prescription – 18%
Percentage of drugs prescribed from list of essential drugs – 82%

Patient Care Indicators

Average consultation time – 2.6 minutes
Average dispersing time – 1.5 minutes
Percentage of drugs dispensed – 69%
Percentage of drugs adequately labelled – 78%
Patient knowledge of correct dosage – 40%

Health facility indicators

Availability of copy of essential drug list in all OPDs - 79%
Availability of key drugs – 95%

Most Commonly Prescribed Drugs

Table 1:

Antibiotics	70
Proton pump inhibitors	59
Multivitamins	40
Anti-emetics	25
Vitamin C	17
Iron medications	11
Antihistamines	7
Miscellaneous	68

Table 2: Department Wise Distribution of Prescriptions

Department	**Prescription (%)**
General medicine	30 %
Ophthalmology	7 %
Urology	5 %
General surgery	12 %
Obstetrics and gynaecology	6%
Paediatrics	11 %
Nephrology	9 %
Miscellaneous	11 %

Table 3: Evaluation of Various Prescription Parameters Audited

Details	100 %
Hospital name and address	100 %
Date of visit	100 %
Consulting unit /Department	100 %
Patients name	100 %
Patients address	97.7 %
Patients age and sex	100 %
Patients weight	94.4 %
Clinician's initials	24 %
Diagnosis	81 %
Generic name	75 %
EDL of hospital	82%
Start dose date	98.2 %
Drug strength	74 %
Duration of drug intake	99 %
Diagnosis mentioned	89 %
Route of drug administration	99 %
Allergy status	0 %
Prescribed antibiotics	50 %

Results

A total of one hundred inpatient Prescriptions were randomly selected for auditing irrespective of clinical departments. In this 58 were males and 42 were females, among them <20 years - 8 patients, 20-40 years -36 patients, 40-60 years -38 patients and >60 years 18 patients were attended.

A total of 297 drugs were prescribed in 100 prescriptions. The most prescribed drugs are antibiotics, proton pump inhibitors, multivitamins, anti-emetics, and vitamin C.

Out of 297 drugs 236(75%) drugs were prescribed by Generic names and 61 (25%) drugs were prescribed by brand names. An average of 2.97 drugs per encounter was prescribed. The average consultation time and dispensing time are 2.6 min and 1.5 min respectively.

Demographic Data

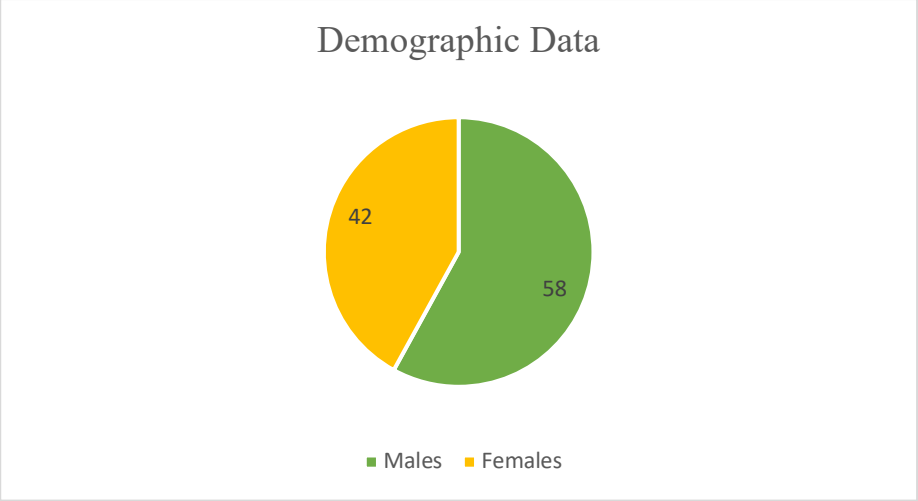

Figure 1: Demographic Data

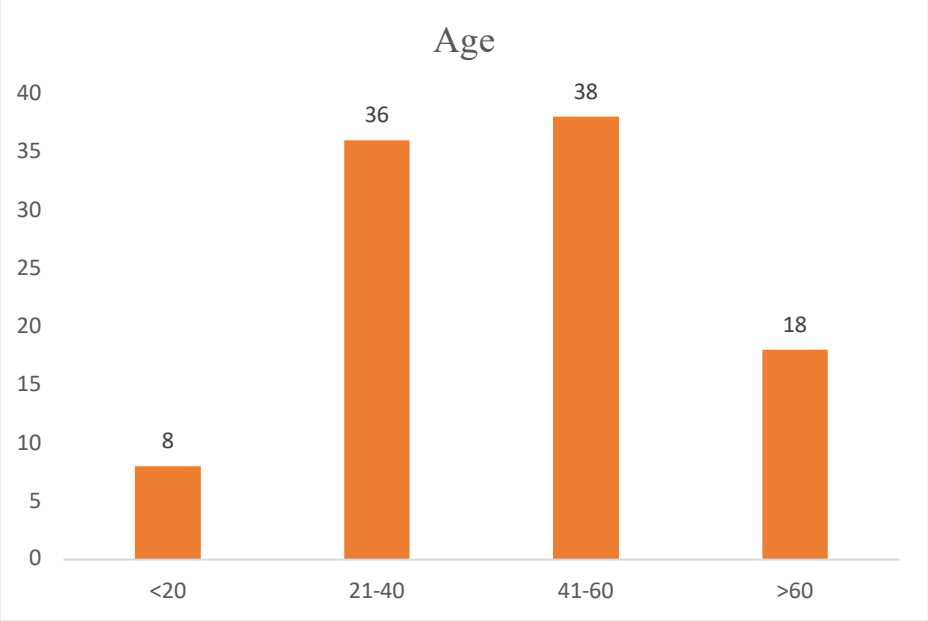

Figure 2: Age

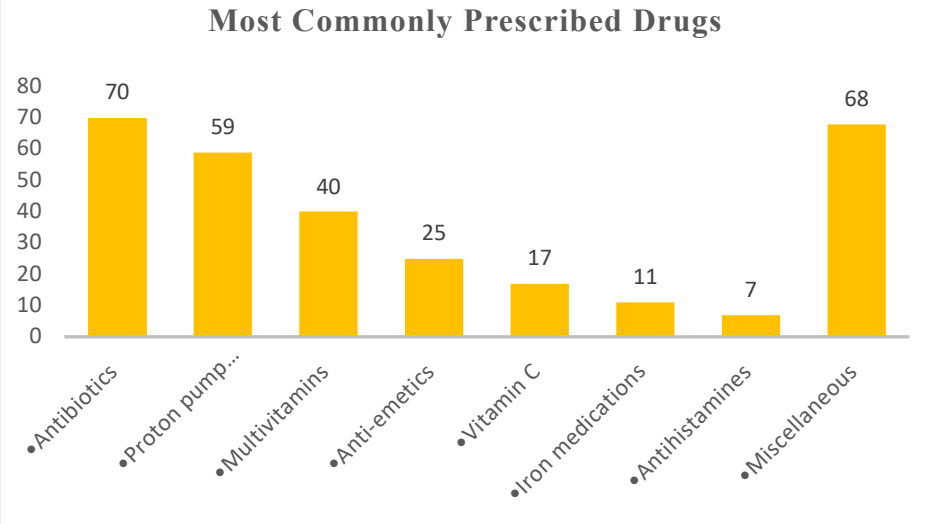

Figure 3: Most commonly prescribed drugs

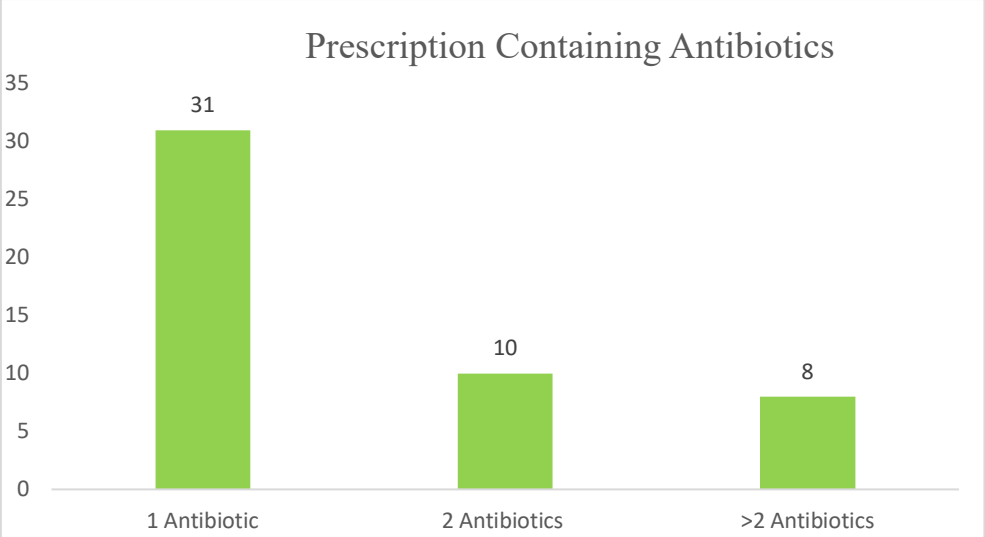

Figure 4: Prescription containing antibiotics

Discussion

1. According to the results from our study, the details of the hospital and the patient such as hospital name, address, date of visit, department, patient name, age, sex etc. were complete because of printed matter Present on the hospital inpatient admission book.
   - Similar studies (1)(2)
   - Patient address found in 97.7% of Prescriptions (our study)
   - Study by Nagashree. B et al patient address found only in 11% of Prescriptions. (3)
   - Study by Sharma M, payal N et al, patient address found in 95.5% of Prescriptions (4)
2. Our study found 24% of Prescriptions does not have the clinician's name.
   - A study by Paltarida et al 17% of Prescriptions does not have Patient address (5)
3. Out of 100 prescriptions 81% of same had diagnosis (our study)
   - A study from rural hospital of Delhi found that 64.2% of Prescriptions have diagnosis (1)
   - A study from Merseyside UK reported that 50% of Prescriptions didn't have diagnosis (6)
4. In our study we found 6% of Prescriptions have handwriting that was legible with difficulty.
   - A study conducted in eastern India tertiary care medical college and hospital showed that in 97.8% of Prescriptions, some words illegible but report can be understood by clinician. (7)
5. In our study, the average number of drugs prescribed (2.97) was little higher when compared with the WHO laid benchmark i.e., two drugs per prescription.
6. Similar studies in India reported high average number of drugs per prescription (3-4) (8)(9)
7. Percentage of drugs prescribed by generic name -236(75%)
8. Ajay Kumar Sahoo et al in Retrospective analysis of drug prescription statistics in a tertiary care centre in India – 50% (10)
9. Another study by Mukesh Sharma et al conducted in North India got use of 68.5% Generic names (4)
10. Out of 297 drugs, 243 drugs (81.8%) are prescribed by oral form.
11. Similar study conducted in Kerala found oral form is most common dosage form (87.4%) (9)
12. Percentage of injections -18% (our study)
13. Our study findings crossed the WHO laid limits (<10%)
14. A study by Debraj Mukhopadhyay et al, the percentage of injections were 11.87% (11)
15. Another study by Arora et al the percentage of injections per prescription were 5.13% (12)
16. The average consultation time in our study was 2.6 mins while other Study found 2.8mins (1) for the same.
17. Percentage of drugs prescribed from EDL - 82% (our study)
18. A study by Jhaj R, Banerjee A et al, the percentage of drugs from EDL is 69% (13)
19. Another study by Arora et al percentage of drugs from EDL is 51.75% (12)
20. In our study 49% of Prescriptions had Antimicrobial prescribed where in one antibiotic prescribed 31% of Prescriptions,2 Antibiotics present in 10% of Prescriptions and 8 prescriptions contain more than 2 Antibiotics.
21. In another study by Priyadarshini et al the number of Prescriptions with one antibiotic is 16.2% and two antibiotics is 13% (14)
22. A study by Sharma M et al,51.5% prescriptions had Antimicrobials where only one antibiotic was mentioned in 40% of Prescriptions and two antibiotics mentioned in 23% of Prescriptions and none of the prescription had > 2 prescriptions.

Conclusion

The prescribing practices in this study are good regarding mentioning of general details of patients and hospital, and satisfactory regarding handwriting legibility of physicians and average number of drugs prescribed per prescription.

Our study highlights the need to train our prescribing doctors to write oral form of drugs than injections, avoiding multiple antibiotics in same prescription, increase the average consulting time and dispensing time and selection of 100% drugs from EDL.

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