Experience of Prescription Audit of Drugs Prescribed in Outpatient Attendees of Private Teaching Hospitals in Central India

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ABSTRACT

Background: Prescription audit assists us in tracking, reviewing and recommending improvements in management practices required to increase the consistency of approved products. Our mission was to conduct prescription audits of drugs prescribed in outpatient attendees and their effect on improvements in quality in future.

Methods: During august 2019-July 2020 the present cross-sectional analysis, was carried out to assess the utilization of drugs and their prescribing pattern. Total of 100 prescriptions was collected, reviewed and analyzed with statistical effect using several advising precise indicators (acclaimed by the World Health Organization). Area of development was identified, the mindful attempt was put in and after two weeks of delay, there was improved care efficiency. The investigation and statistically comparison with the first set was done with a collection of 100 more prescriptions.

Results: The prescription audit assessment of the total patients in 200 patients revealed that five parameters, including Generic Drug Name (16/100) dose (84/100), Total medication number required (00/100), patient's address (00/100), Legibility of Prescription (100/200), are weak in the first set of 100 prescriptions using 18 parameters prescripted in WHO core prescription factors. The results of the above-listed improvement of five parameters as generic drug names (100/100), medication dosage (88/10), Total number of medicines required (100/100), address of patients, legibility of prescription (176/100), and resulted in improved quality of prescriptions.

Conclusion: Our study advocated on overall rational utilization of drugs. Through prescription audit process we can improve patient care, essentially imitate and assess the worth of prescribing activities and practice, helping to identify the changes required to get a better prescription for patient centre managing.

Key Words: Prescription Audit, Drug Utilization, WHO prescribing factors, medication dosage, Generic Drug

INTRODUCTION

The trends of drug usage have been quite troubling in recent years. [1] A prescription is written correspondence from a physician to a pharmacy about guidance on medication dispense. Auditing a prescription is the method of increasing the quality of patient care. [2] The level of patient care is routinely and scientifically evaluated. The audit is also a method that regularly examines the care of patients. For physicians, patients and the public, a good prescription audit is essential.

It also provides doctors with the best treatment for their patients. This provides the best performance analysis, describing criteria as per the drug audit checklist. By increasing medical conditions at the primary levels of the healthcare system, the quality of life may be improved. The compliance with these requirements is checked by a prescription audit. [3]

The audit is remarkably important for the accuracy of the prescriptions administered by clinicians, as poor prescribing practices contribute to ineffective and benign care that

exacerbates or prolongs illness and harms a patient, adding a further burden on health budgets.[4]

The rationality of the scripts prescribed by physicians is of critical importance, Since poor prescribing habits lead to inadequate and unsafe care, exacerbating or prolonging the disease and causing patient discomfort or damage, which adds an extra burden to health budgets.[4]

The audit is generally defined as a healthcare incident analysis and evaluation and recording to relate the quality of the treatment received to the agreed standards. [5] The prescription records are the key method used to administer medicines. The drug audit is the portion of the audit that helps to track, evaluate and recommend corrections procedures for practitioners wherever appropriate. [6] Several differences are found in the prescriptions, though most of them contain fundamental paragraphs. [7]

The basic rules for reasonable prescribing, before any prescription is written, depending on the knowledge of a history of the clinical and pharmaceutical procedure, including prior adverse events; diagnosis; specific patient and medical conditions, which may influence medicinal effects, such as pregnancy, renal and hepatic disease and experience with prescription drugs. For all of these fields, complexity is likely to increase the likelihood of unexpected outcomes.[7]

Medical audit oversees the observance in quality of requirements of Medical treatment at all levels of the delivery system of health care. The prescribing pattern analysis is a portion of a medical audit to track, assess and adjust prescription practice to achieve fair and cost-effective medical procedures.[8]

World Health Organization (WHO) proposed essential prescribing indicators for prescription audit and drug use studies. The focus of Indian studies [9-12] has mainly been on the WHO prescribing indicators such as the variety and amount of drugs per prescription.[13] Besides, some kind of examination, documentation and analysis of their performance, diagnosis and care have also been coordinated by the best clinicians. We often used to call it an audit. Before explaining the concept on which its meaning is based, it would not be right to describe medical audit. Nevertheless, the medical audit is described as the evaluation of medical care quality by the retrospective review of the medical records to understand the matter easily. [14, 15] This research focuses on the nature and volume of medications used and the prescription habits of doctors in a private teaching hospital in Maharashtra. This is the first research of this kind in this area, to the best of our knowledge. The research aimed to enhance the quality of health care by highlighting differences in physician prescribing practices and offering a potentially more reliable and cost-effective use of drugs [16] and to find out the rationality.[17]

MATERIALS AND METHODS

The study was conducted after the approval from IEC.

It was a prospective cross-sectional observational analysis.

STUDY SETTING

This study was carried out at outpatient attendees of private teaching hospitals in central India.

Subjects getting medication throughout treatment were included and studied.

Duration of study the period is from August 2019 to July 2020.

This audit report reveals how well we compose regulations.

A successful medication is written and has relevant facts as provided (Internationally agreed criteria) by the World Health Organisation .

1. Prescriber title
2. Prescriber's code
3. Date: Date
4. Drug name-(generic or not user name) brand name
5. Medicine power
6. Dose-How much? How much?
7. Dosage-How much a day?
8. Dosage-How long?
9. Specific instructions (e.g. after food)
10. Complete amount of tablets or syrup, dispensing pharmaceutical
11. Patient's name
12. Patient Address
13. Patient's Age
14. Legibility (scale of 0 to 2 - 0 - Illegible, 1 – Just legible, 2 Perfect)
15. Amount of prescription drug products
16. Amount of prescription combination medicines
17. Amount of approved antibiotics
18. The total recommended number of injections (1 a day is 5 injections for 5 days)

Criteria of Inclusion:

Patients who attended the clinic have prescription papers.

The research included both male and female patients

Criteria for Exclusion:

The removal of patients who do not require any drugs.

Inpatients

Patients with less than 2 drugs in the prescription

Patients attending OPD for injections.

METHODOLOGY TO IDENTIFY CHANGES[16]

1. Carbon paper was used to produce a copy each day for 10 days of 10 random prescriptions,
2. 100 prescriptions in all.
3. A member of the investigative team reviewed and analysed the collected prescriptions using the excel sheet.
   a. For every item, mark 1 or 0 (1-13),
   b. Label 0, 1 or 2 to read the text as quickly as possible (item 14)
   c. Each item's numbers (15-18).
4. Once this data has been entered, add total and percentage or average
   a.   Of the 50 (1 – 13 items)
   b.   Of hundred (14 items)
   c.   Median (15-18 items)
5. The rate for the results appraisal for each of the parameters tested.
6. Performance evaluated by 95% (for items 1-14) Norm.
7. Recognized areas for change

Methods for Implementation of modifications:

1. These changes have been implemented through increased time allocation and conscious effort.
2. After 2-3 weeks, the cycle is begun again and collected data for 100 more prescriptions.
3. As in the first round of audits, analyses were conducted.
4. Analysed and compared to progress in the first round.

OBSERVATIONS AND RESULTS

The present study was undertaken in the Dept. of Pharmacology at Datta Meghe Medical College, Shalinitai Meghe Hospital and Research Centre, Nagpur in collaboration with Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences, Sawangi (Meghe), Wardha.

Table 1: Showing the WHO Core Indicators with their values/averages in Set I of prescription.

Table 1: Set I of Prescription	
WHO Core Indicators with their values/averages in Set I	
S No Observed Parameters	Scores /average
1. Prescriber 's Name	100/100
2. Prescriber 's code	100/100
3. Date: Date	100/100
4. Drug name-(the generic name used or not) drug name	16/100
5. Medicine power	100/100
6. Dose-How much? How much?	84/100
7. Dosage-How much a day?	100/100
8. So many days is the dosage?	100/100

9.	Additional instruction (e.g. after meals)	100/100
10.	Total tablet/syrup number, pharmacy to be dispensed	00/100
11.	Patient's Name	100/100
12.	Patient Address	00/100
13.	Patient's Age	100/100
14.	Readability (0 to 2-0 — Unreadable, 1 — Readable, 2 Perfect)	100/200
15.	Number of medicinal products in prescription	1(average)
16.	Number of prescription combination medicines	0(average)
17.	Number of antibiotics prescribed	0(average)
18.	Total injection number prescribed in the prescription	0(average)

Table 2: Showing the WHO Core Indicators with their values/averages in Set II of prescription.

Table 2: Set II of Prescription	
WHO Core Indicators with their values/averages in Set II	
S No Observed Parameters	Scores /average
1. Prescriber 's Name	100/100
2. Prescriber 's code	100/100
3. Date: Date	100/100
4. Drug name-(the generic name used or not) drug name	100/100
5. Medicine power	100/100
6. Dose-How much? How much?	88/100
7. Dosage-How much a day?	100/100
8. So many days is the dosage?	100/100
9. Additional instruction (e.g. after meals)	100/100
10. Total tablet/syrup number, pharmacy to be dispensed	00/100
11. Patient's Name	100/100
12. Patient Address	00/100
13. Patient's Age	100/100
14. Readability (0 to 2-0 — Unreadable, 1 — Readable, 2 Perfect)	172/200
15. Number of medicinal products in prescription	1(average)
16. Number of prescription combination medicines	1(average)
17. Number of antibiotics prescribed	1(average)
18. Total injection number prescribed in the prescription	1(average)

Areas of changes identified:

In analysing the first set with 100 prescriptions using 18 prescription factors prescribed by the World Health Organization, five parameters were found to be poor, such as Generic Name of Medicine (16/100), Drug Dosage (84/100), Total drug requirements (00/100), Patient address (00/100), Legibility of prescription (100/200) (table no 1).

The above five parameters seem to have improved by the Generic Drug Name (100/100), Drug Dosage (88/100), Maximum medication requirement (100/100), Patient's address (100/100), Readability of prescription (172/200). Conscious attempts were made to increase the consistency of prescription in the second set. Hence resulting in improved quality of patient care (table no 2).

DISCUSSION

The medical audit is the critical check as the vision for the medical and health care system to achieve crucial improvement in the quality of the healthcare offered to patients.[18] The prescribing behaviours are crucial because the clinical efficacy and protection lie solely in the logic of the prescriptions.[19]

Prescription auditing is among an ideal tool for preventing drug abuse and to propose rational drug use. More than 50 per cent of the patients have miscarried their own drugs, and it is estimated that over half of the medications are administered and dispensed incorrectly.[7] Furthermore, a recent study with similar designs to ours has shown how easy and effective a feedback system is important to prescribe [20]. If the bad skills in the prescription are habitual zed, it is more difficult for them to improve in post-graduate life and typically require a variety of costly and time-consuming training strategies [21-27]. Auditing scripts and getting input on medications may be a helpful way to improve physician prescribing behaviour. [28–37]

Occasions of irrational use of drugs include:

1. Polypharmacy – A community-based prescription design study carried out from retail stores in India reported an average of two prescription drugs [38, 39] like ours. Other studies conducted by hospitals in India reported 3-5 prescription drug figures [40-42]
2. Inadequate dosage,
3. The use of antimicrobials even for infections without bacteria;
4. Extreme use of injections wherein available oral forms and
5. Nonconformitytotreatingregimens.[43]

Parameters reviewed in the examination of prescription

The best criteria for the drug audits to be discussed are,

Demographics of patients

   a) Name Title
   b) Gender
   c) Age
   d) Weight of body
   e) Prescription date

Medical diagnosis:

Standards for prescription

   a) Dose.
   b) Type of dosage.
   c) Name in pharmacology
   d) Name of the company manufactured the drug- The explanations for using brand names should be understood (such as comfortability with brand names, the opinion that generic drugs are of low quality, etc.) and addressed with appropriate interventions.[13]
   e) Duration of treatment
   f) Time of administration

Name and signature of doctors

Superscription (demographic) details:

The date of the prescribed superscription shall include patient name, address, weight and age; and the Rx. The "Rx" symbol is called an ellipse for the Latin term, meaning that a pharmacist who was previous to the "recipe" of a physician for the preparation of a drug[2] is "taken" or "taken thus." Name and address of the patient are required to ensure the proper medicine goes to the right patient on the prescription. The weight, age, or surface of a patient should be noted on the prescription[7] in the dosage calculation.

This value is negligible when compared to the study conducted by Sirisha et al.[19]

Clinical Diagnosis

A diagnosis based not on diagnostic tests but clinical signs and symptoms.

The delivery of quality treatment is influenced by clinical diagnosis[7].

Standards for prescription:

Dose, dosage size, pharmacologic name, brand name, length, time of administration are all aspects of medication. The prescription requirements must be met by the medication guidelines that lead to reasonable prescribing. Weak handwriting is a common and remedial source of errors therefore legibility is essential.[2] Several medication errors have been held responsible for illegible writing of the prescriber. Illegible writing creates uncertainty and can potentially lead to dispensing of wrong drugs which can result in serious adverse events and even death.[44, 45]

Name and Signature of Doctors

Name, address and qualification of the doctor. This ensures that controlled drug prescriptions contain the physician's name, address and registration number.[11]Some non-full prescriptions are one of the disadvantages and raise chance treatment errors.[46]

WHO prescription indicators

A study of the different prescription indicators can understand the doctor's presentation regarding drugs. The criteria that can be used in the research are focused on the clinical procedures observed. These indicators can either be retrospectively examined, from data recorded in patient records or made in the future. Similar publications from foreign papers have been reviewed to test if the requirements of prescribing have been complied with. Such research found that most doctors did not value the diagnosis and use of medication in writing.[47]

In our research set I of 100 prescriptions based on 18 criteria recommended by core WHO variables found that 5 criteria, such as the generic drug name (16/100), the drug dose (84/100), the total number of required drugs (00/100), patient address (00/100), the readability (100/200) were low. The analysis showed that the medication is inappropriate for usage. The attempt was made, however, to enhance the consistency of the prescriptions during round II. The time had been increased for each prescription and the final results, the above five criteria seemed to have improved outcomes as the drug generic name (100/100), the drug dosage (88/100). Total number of medicinal products required (100/100), patient's address (100/100), prescription legibility (172/200).

While readability and dosage of the medication have not improved by as much as to 100 per cent substantially from round I, increased attention will further increase the scores over the coming days. Ultimately, prescription audits are an auto-test tool that helps us to greatly correct our prescriptions by pointing out our errors. Such basic changes lead to better patient care[7]. Comparing the current use of medicines with the standard treatment guidelines will improve treatment effectiveness and make it cost-effective. [13] Such audits are valued to generate and test the hypothesis that improper drug measures have been carried out to improve prescribing patterns[47], the information can usefully be channelled into adverse drug reaction monitoring programs too. [8, 48]

Two separate randomized controlled trials in Norway 49 and The Netherlands have reported similar changes in the treating behaviour of asthma and urinary tract infection by the physicians. [50] Several related articles are available .[51-61]

This Prescription Audit of Outpatient Attendees in our Hospital was a qualifying workout in the soul. Its chief aim was to deliver an unbiased basis namely, illness pattern and real use of drugs by the doctors, and helping in formulating an essential medicines list (EML) for the hospitals.

CONCLUSION

An audit is a tool that can be used to enhance patient treatment. It represents and measures, acknowledges judgmentally, the importance of prescription and procedure that assists in the assessment of modifications to improve health care prescription. Irrational, unsatisfactory treatment will cause patients unnecessary costs. Many of the patterns that are recommended are insightful and need attention. To order to develop pharmacy procedures, the importance of drug screening for development and testing of defective medication would certainly interfere with patient care. Our goal in creating this pharmaceutical audited was that the patient population attending the out-patient hospital would be reflected as accurately as possible, with minimal intervention in the performance of prescriber and hospital administrative duties.

The drop-outs, including the patients who went missing after a visit without a prescription and the patient who did not purchase medications from the hospital pharmacy, were not our accountability. Patients that were re-visited were still not adequately covered by prescriptions alone, because few of them did not have the hospital ambulatory code and were not counted.

We understand that if simultaneous data collection from the department of medical records has been initiated, all these sampling errors may be considered. Then, we could have tested for the significance of the relationship between age and prescribing prevalence for each category of drugs for both sexes as was done by Hurley et al. The current research may serve as a basis for examining the extent of the education intervention and changes in prescribing trends in the drug test.

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