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An Observational Study on the in Patient Prescription, a Quality Assessment Tool in a Tertiary Care Teaching Hospital of Southern India

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Abstract: ***Background: Prescription auditing is one of the important tools to avoid misuse of drugs and improving the rational use of drugs. The prescription audit is also a part of the medical audit which seeks to monitor, evaluate and if necessary, suggest modifications in the prescribing practices of medical practitioners. Our objective was to study the prescription as a quality assessment tool for In-Patients' prescription in a tertiary care teaching Hospital in southern India. The most important part of healthcare system is to deliver the right medicine to the right patient at right time in right dose by right route. Aims & Objective: To study the inpatient prescription for completeness of prescription format and legibility. Methods: An Observational Cross-sectional study was carried out during the period of 2 months and Total 310 prescriptions of In-patients were collected, scrutinized and statistically analyzed. The parameters which were used to analyze in the process of prescription as a quality assessment tool are Patient demographics, Clinical diagnosis, Department, Prescribing standards, Doctors name and signature. Results: The prescriptions were found to be less than 50% acquiescent to that of the WHO prescribing standards in almost all of the departments.Majority of practitioners are not following the guidelines while writing the prescriptions and usage of drugs. Conclusions: The members of the hospital and Quality committee need to focus on findings of it, which help them during accreditation by regulatory authority.***

Keywords: Prescription audit, Better healthcare, prescription pattern, WHO indicators, prescription monitoring

1. Introduction

Prescription auditing is one of the important tool to avoid misuse of drugs and improving the rational use of drugs. Providing the right medicine to the right people at the right time is a main priority of health care. The way to ensure this is through the effective implementation of the WHO's recommendation on rational drug policies. Rational drug use is a function of prescription practices having medical, social and economic implications. Prescription auditing is the mainstay of quality assurance in hospitals.

Prescription is physician's order for the preparation and administration of a drug, device or any other advice for a patient. A prescription has several parts. They include the superscription or heading with the symbol "R" or "Rx", which stands for the word recipe (meaning, in Latin, to take); the inscription, which contains the names and quantities of the ingredients; the subscription or directions for compounding the drug; and the signature which is often preceded by the sign "s" standing for signa (Latin for mark), giving the directions to be marked on the container[1]. Our objective was to study the prescription as a quality assessment tool for In Patients' prescription in a tertiary care teaching Hospital in southern India

The Indian medical council states the standards for prescription in Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002

The central government has amended Indian Medical Council Regulations, 2002, providing therein that every physician should prescribe drugs with generic names in legible and capital letters and he/she shall ensure that there is a rational prescription and use of drugs. MCI regulation 1.4.2 governs Prescription writing that Every physician shall display the registration number accorded to him by the State Medical Council / Medical Council of India in his clinic and in all his prescriptions, certificates, money receipts given to his patients.Physicians shall display as suffix to their names only recognized medical degrees or such certificates/ diplomas and memberships/honors which confer professional knowledge or recognizes any exemplary qualification/ achievements. Regulation 1.5 of MCI governs Use of Generic names of drugs asEvery physician should, as far as possible, prescribe drugs with generic names .Also All doctors in India are required to abide by the laws that

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regulate the practice of medicine and also follow the provisions of State Acts like Drugs and Cosmetics Act, 1940; Pharmacy Act, 1948; Narcotic Drugs and Psychotropic substances Act, 1985; Drugs and Magic Remedies (Objectionable Advertisement) Act, 1954.[2]

The main tool used to direct administration of medicines in a hospital setting is the Prescription and Administration Record. There are many variations in use, but most contain the following sections: Basic patient information identifies the prescription with the correct patient which introduces the real possibility of serious error. Previous adverse reactions/ allergies for communicating important patient safety information based on a careful drug history or the medical record. Other medicines charts Notes any other hospital prescription documents that contain current prescriptions being received by the patient (e.g. Anticoagulants, insulin, oxygen).

The quality of life can be improved by enhancing the standards of the medical treatment at all levels of the health care delivery system. A medical audit oversees the observance of these standards.[3] An 'audit' is defined as 'the review and the evaluation of the health care procedures and documentation for the purpose of comparing the quality of care which is provided, with the accepted standards.[4]

2. Methods & Methodology

The study was designed and conducted as a cross-sectional observational study at a teaching hospital in South India. The study was carried over a period of three months from may 2021 to july2021. A total of 310 in-patient prescriptions were randomly sampled and audited from different departments. The sample size for each department is depicted in graphical representation in figure.1

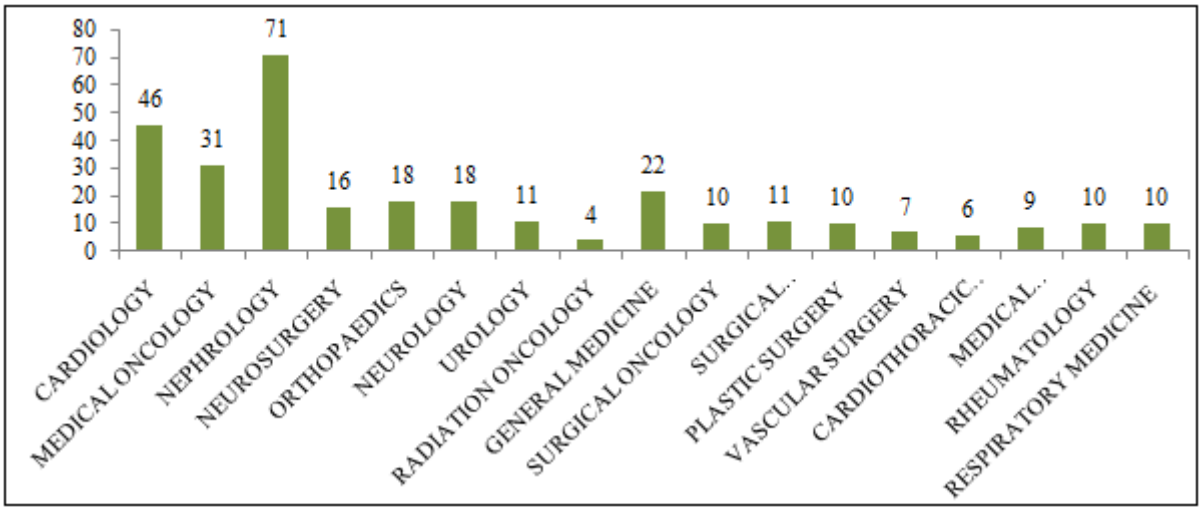

Figure 1: Sample size for each Department

The prescriptions were analyzed for following parameters:

Prescription format and its completeness with regards to:

- Patient identifications (name, age, sex, weight)
- Prescriber identification (name, signature, registration number)
- Date
- Drug type
- Generic name
- Dose
- Frequency
- Directions for administration
- In capitals
- Diagnosis

Legibility of prescriptions: Prescription legibility was graded on a subjective scale by two independent investigators. Prescriptions were graded as:
Grade 1 (legible with ease)
Grade 2 (legible with difficulty)
Grade 3 (illegible).

3. Results

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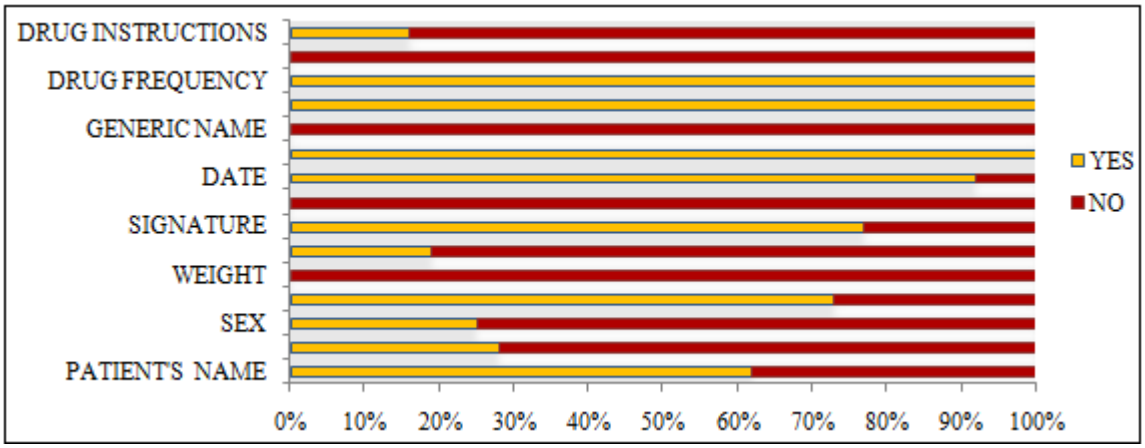

Figure 2: A bar graph showing completeness of parameters in prescriptions

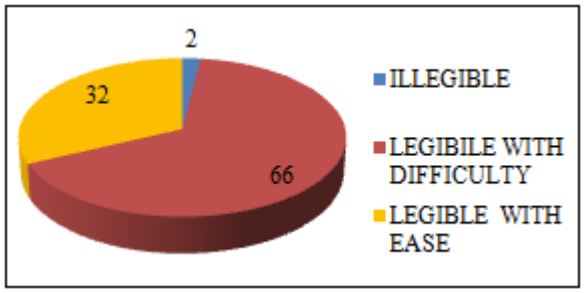

Figure 3: Pie chart showing percentage of legibility of Prescriptions

Out of the 310 prescriptions audited, drug form, frequency and drug dose were mentioned in all the cases, compliance being 100%. The parameter with maximum compliance next in line was date (92.3%).

The prescribing doctor undersigned the prescription in 77.4% cases. The diagnosis was mentioned in 73% cases and patients name in 61.9% cases.Patients age and sex was mentioned in 28.3% and 24.5% case sheets respectively. The prescribing doctors name was mentioned in 19.3% and instructions for drug intake in only 15.4% cases. The compliance for parameters like patients weight, doctors registration number, generic name of drug and writing in capitals was 0% indicating it was not done in any of the 310 scrutinized documents.

The legibility of prescription was found to be 66% legible with difficulty, 32% legible with ease and 2% of writing was illegible.

4. Discussion

Prescription auditing is a type of vigilance activity, which is beneficial in clinical practice in terms of reducing the burden of disease because of medication errors. Irrational prescribing is a global problem. The rationality of prescribing pattern is of utmost importance because bad prescribing habits include misuse, overuse and underuse of medicines which can lead to unsafe treatment. The quality of life can be improved by enhancing the standards of the medical treatment at all levels of the health care delivery system.

Pharmacovigilance is a systematic process of Collecting information about the nature, severity, clinical characteristics, and outcomes of adverse effects of medicinal products, Documenting and analyzing the collected adverse-effects data todetect a causal link between the medicinal product and adverse effect, Taking remedial actions to eliminate (or minimize) hazards posed by adverse effects of medicinal products, and Monitoring the impact of any such remedial actions.

Scope of pharmacovigilance:

- New and previously undocumented Adverse events
- Increase in severity of a previously documented Adverse events
- New product–drug, product–device, product–food, orproduct–dietary supplement interactions,
- Identification of previously unrecognized at-risk populations
- Confusion about a drug's name, labelling, packaging, or use
- Concerns arising from the way a drug is used
- Inadequacies of a currently implemented risk-minimization action plan
- Cases of abuse, overdose, and attempted suicide
- Medication errors
- Use of medicinal products for unapproved indications
- Administration of medicinal products by incorrect routes, and
- Lack of efficacy reports.

Study by DR MARYAM GHANADI FARNOUD ANDSHEKAR H. S. done on audit of prescriptionsin a tertiary care hospital that a total of 3000 outpatient Prescriptions from a tertiarycare hospital in Bangalore were screened for the amount of drugs and class of drugs per prescription.

Debasis Bandyopadhyay et.al testified the prescription auditing in a tertiary care teaching hospital of eastern India that total 4500 prescriptions collected during the study period. The study assessed the proportion of male patients and female patients. It also assessed the age of patients which was written on prescriptions[9].

Ahsan M. et al stated in the Study in a teaching hospital in NorthIndia that among the 1274 prescriptionsanalyzed,all of

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them had the date, details of the patient such as name, age, sex and address. Weight was written on all pediatric prescriptions but not on prescriptions for adults. Name of all the unit doctors and hospital address was printed on the prescriptions, but none mentioned the doctor's registration number and 17% prescriptions did not have the physician's initials. Complete diagnosis was written inonly 56% of prescriptions. In the inscription part of the prescription, the dosage form such as Tab, Inj was missing in 15%. Nine percent of prescriptions had incorrect dosage and 13% of prescriptions omitted the duration of treatment. Direction for drug use was not mentioned in 35% of prescriptions while follow up advice was written in only 23% of prescriptions.

5. Conclusion

Prescription audit is an important mechanism to improve the quality of care afforded by the hospitals. Our study shows that there is scope for improvement in prescribing patterns in areas of writing generic names of drugs, writing legible and complete prescriptions as well as writing prescriptions in capital letters Generic prescribing was least seen which adds to the economic burden making the medications expensive as per the patients perspective. It is necessary to make prescribers aware about the use of drugs, importance of prescribing drugs with generic names and in patients point of view, the factor of cost effectiveness.

- There is a compelling need for short-term training sessions including a briefing on proper prescription writing for the resident doctors.
- Prescriptions should be audited at regular intervals to make the prescribers more conscious.
- As hospital administrators we should focus on results of this prescription audit to follow the prescribing guidelines stringently and encourage educational initiatives for the rational prescribing practices.
- A pharmacovigilance committee should be constituted in coordination with Hospital Administration and Pharmacology department which should involve all the specialties for the monitoring of Medication Errors through timely prescription audits

Note: There is no conflict of interest for the above study done.

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