



**SURVEY ON LEGIBILITY OF PRESCRIPTIONS IN PRIVATE AND GOVERNMENT
CLINICAL SETUPS IN AND AROUND BAGEPALLI TOWN**

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ABSTRACT

Prescription is a written instruction by a medical practitioner that authorizes a patient to be issued with a medicine or treatment. It is a written direction from prescriber to pharmacist which is considered to be a medico legal document that should be written legibly, accurately and completely in capital letters. The present study was carried out over one month period in different private and Government clinical setups. Patient and drug data was recorded. It should contain patient particulars, diagnosis, investigations, drug details and information from the prescriber regarding the indication of prescribing agents, duration of therapy. But survey showed most of the prescriptions contains patient particulars and medications only in which 92% of prescriptions are unclear; unreadable; illegible which is a serious problem that may lead to dispensing errors and treatment complications.

KEYWORDS: Prescription, medical practitioner, legible, dispensing errors, complications.

INTRODUCTION

Drug use evaluation, sometimes referred to as drug utilization review, is a system of continuous, systematic, criteria-based drug evaluation that ensures the appropriate use of drugs. It is a method of obtaining information to identify problems related to drug use and if properly developed, it also provides a means of correcting the problem and thereby contributes to rational drug therapy. The study of drug utilization is powerful, experimental tool to ascertain the role of drugs in medical practice. They create a sound and economic basis for health care. Studies on the process of drug utilization focus on the factors related to the prescribing, dispensing, administering and its associated events covering the medical and nonmedical determinants of drug utilization. The characterization of drug utilization may be extended linking prescription data to the reasons for drug prescribing. They include the concept of appropriateness that must be assessed relative to indication for treatment, concomitant diseases and the use of other drugs.

A prescription is a health-care program implemented by a physician or other qualified practitioner in the form of instructions that govern the plan of care for an individual patient. It is considered to be a medico legal document that should be written legibly, accurately and completely.^[1] Prescribing physicians as well as those involved in the execution of the prescription hold legal responsibility for the prescription although the prescription format varies from one country to another.^[2] Most of the countries agree on the core elements that should be included in the prescription order. These are: prescriber's name, address, telephone number and signature; patient's name, address, age and weight (important at the extremes of age; prescription date; drug name preferably generic, formulation, strength, dose, frequency of administration, quantity prescribed, reason for prescribing and instructions for use.^[3]

Prescriptions may include notes to be performed by a patient, caretaker, nurse, pharmacist or other therapist. The term prescription is used to mean an order to take

certain medications. Prescriptions have legal implications, as they may indicate that the prescriber takes responsibility for the clinical care of the patient and in particular for monitoring efficacy and safety. As medications have increasingly become prepackaged manufactured products and medical practice has become more complex, the scope of meaning of the term "prescription" has broadened to clinical assessments, laboratory tests, and imaging studies relevant to optimizing the safety or efficacy of medical treatment. A prescription should consist of the following seven parts:

1. Date, Identification of the prescriber.
2. Name of the patient and information as to age.
3. Superscription.
4. Inscription.
5. Subscription.
6. Directions.
7. Prescriber's signature and seal of the prescriber.

The allocation for meeting the cost of the drugs is even meager i.e., 0.9% of its Gross Domestic Product to health in India, the production of pharmaceutical preparations in India is grossly imbalanced and there is cut throat competition among drug companies, which breeds malpractice. Indian markets are flooded with over 70,000 formulations, as compared to about 350 listed in the WHO essential drug list. Pharmaceutical companies encourage Prescribers to prescribe branded medicines, often in exchange for favors. Parameters like legibility of any prescription would also studied under the prescription pattern, legibility of any prescription could be score on 3 point Likert scale as here under:

1. Legible, can read the medication order without consulting other health care professional or references.
2. Legible, with effort can read the medication order after consulting with one or more health care professionals and/or references.
3. Illegible cannot read the medication order, despite consultation with one or more health care professionals and/or references as good quality prescriptions are extremely important for minimizing dispensing errors, physicians should adhere to the guidelines for prescription writing for the benefit of the patient.^[4]

Proper documentation of prescribing practice allows the identification of acceptable and non-acceptable prescribing habits. Such information is needed to set up continuous medical education programs to encourage rational prescribing among physicians. It also helps in setting up monitoring systems to ensure good prescribing habits to maintain them. Health professionals may also utilize this information to develop guidelines for safe and cost-effective prescribing.

Therefore, we aimed to obtain information on demographic characteristics of the patients selected for analysis; to calculate the percentage of drugs prescribed

by generic name and percentage of encounters where antibiotics were prescribed and to analyze the prescriptions for completeness of information like the presence of OPD number, name, age and sex of patient, diagnosis, name, dose and duration of prescribed drugs.

MATERIALS AND METHODS

1. The retrospective study was carried out over one month period in private and Government Clinical setups in and around Bagepalli town of Chickballapur District, Karnataka, India. Patient and drug data was recorded from out-patient prescription using Systematic Random Sampling.
2. The data was collected in customized Proforma in the form of an audit questionnaire.
3. It contained patient particulars, diagnosis, investigations, drug details and information from the prescriber regarding the indication for prescribing agents, duration of therapy and details of any concomitant medications.
4. Analysis of the prescriptions for completeness of information like the presence of OPD number, name, age and sex of patient, diagnosis, name, dose and duration of prescribed drugs was conducted.

RESULTS AND DISCUSSION

The study was performed to identify the degree to which physicians to conform the guidelines of prescription writing during their clinical practice. A total of 3000 outpatient Prescriptions from all private and Govt Clinics were screened for the essential elements of prescriptions according to published guidelines. The number of drugs prescribed ranged between 1 and 7 in which 90.8% of prescriptions included 3 or less drugs. In that, commonly prescribed drugs were diabetic and antihypertensive drugs 30.3% and 28.3% respectively followed by analgesic and antimicrobial drugs [Figure-1]. The present study showed that majority of prescriptions was deficient. None of the prescriptions contained the telephone number of the prescriber. These elements should be included according to WHO.^[5] However, the hospital does not require telephone number and address of the prescriber to be included in the prescription. Also, the address might not be relevant because physicians are required to stamp the prescription and the stamp should usually contain the name, title and address of physicians [Figure-2].

The present study found that 0.2 % of prescriptions deficient in the prescriber name and the prescriber signature. Balbaid and Al-Dawood reported that prescriptions from some Ministry of Health hospitals in Jeddah city were deficient in physician's name and signature in 14% and 16.3% of cases.^[6] Meyer from a hospital and clinic in Texas mentioned that a survey of outside provider pharmacies requesting information on problems related to prescriptions indicated that 96% of responders believed that failure to print the prescriber name was one of the main problems.^[7] Our finding that the prescriber was identified by both name and signature

in 99.80% of prescriptions is in contrast to the 7.5% figure reported by Francois *et al.* from a university hospital in France.^[8] Blatt *et al.* have shown that 20%–30% of prescriptions from a central hospital in Yaounde, Cameroon, did not include the name and the function of the prescriber.^[9] Anderson and Beurling from Copenhagen University Hospital reported that among the most frequent errors of omission in prescriptions was inadequate identification of the physician.^[10] These deficiencies indicate how things are made difficult for the dispensing pharmacist to contact the prescriber in case of any clarification.

Information concerned to the patient, our finding that prescriptions were deficient inpatient's name and age in 6.40% and 7.6% of prescriptions respectively are in contrast with the results of Balbaid and Al-Dawood (6). However, Bawazir, in a large study from 22 major hospitals from all health regions within Saudi Arabia reported that patient age was missing in 18.6% of prescriptions, while patient name and sex were missing in 0.2% of prescriptions.^[11]

The name of the patient was present on 93.6% of prescriptions, whereas the patient's age only 92.40% and sex of the patient was not mentioned in any prescription [Fig-2]. The date of the prescription was provided in only 94.20 % of prescriptions. The dose units were not mentioned in almost one-fifth (0.4%) of prescriptions. Most of the prescriptions (94.0%) did not contain the quantity that the pharmacist should dispense. The directions for patient use were complete in only in 8.5 % of prescriptions, while in 20 % of cases prescriptions contained partial instructions either among the drugs prescribed or for certain drugs. The diagnosis within the prescription was filled clearly in 88.0% filled unclearly in 18.9% and unfilled in 15.1% of prescriptions [Fig-2]. Makonnen *et al.* about the quality of prescriptions at a tertiary care pharmacy in Addis Ababa, Ethiopia, where 50% of prescriptions did not contain the sex and age of the patient.^[12] The address of the patient is among the elements that should be included in the prescription according to WHO,^[5] while inclusion of weight is recommended for patients at the extremes of age because of the implication it has on drug pharmacokinetics and

pharmacodynamics. Omission of patient address from prescriptions is a serious deficiency when problems in the prescription are discovered and the patient needs to be contacted to correct the problem. This is even more serious when the name of the patient is also omitted.

The present study found that 90.1%, 5.0% and 4.9% of prescriptions contained generic names, brand names and both generic and brand names, respectively, is peculiar in the sense that some physicians prescribed drugs within the same prescription utilizing both generic and brand names. However our study found that using generic names in prescriptions gives flexibility to the dispensing pharmacist and may be of economic benefit to the patient. The present study found that 0.4% of prescriptions did not include the strength of medication, the dose units were not included in 0.1 % and the quantity of medications was not included in 0.3 % of prescriptions [Fig-2]. Apparently, these parameters are left to the pharmacist to decide upon and the implications for the duration of therapy will be dependent on the individual pharmacist.

The study showed that the prescription was legible and readable 0.9 % of prescriptions only and 7.1% legible with effort [Fig-3]. Anderson and Beurling reported that omitting the indication for use was among the most frequent errors in prescriptions.^[10] The study results showed that 92% of prescriptions suffered poor handwriting which was unclear; unreadable and illegible is in contrast with what was found by Balbaid and Al-Dawood who reported illegible hand writing in only 7.2% of prescriptions.^[6] The high percentage of poor handwriting we found could be due to the fact that we considered the presence of word or a dose unit as poor handwriting for the whole prescription. Poor handwriting is a serious problem that might lead to dispensing of wrong medication to the patient leads serious or even fatal results.^[13] Meyer found that 15% of prescriptions studied had illegible handwriting.^[7] Furthermore, in a survey of outside provider pharmacies, 69% of responders stated that illegible hand writing was one of the main problems they encountered. Makonnen *et al.* also reported illegible prescriptions in 15% of cases.^[12]

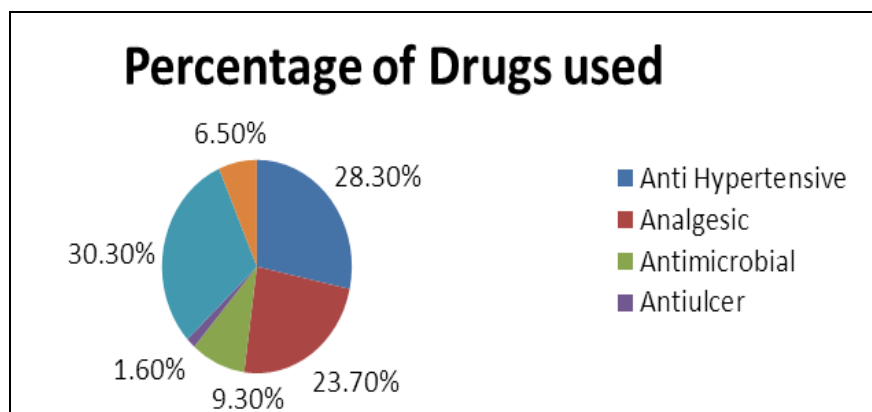


Fig-1: Showing percentage categories of drugs prescribed

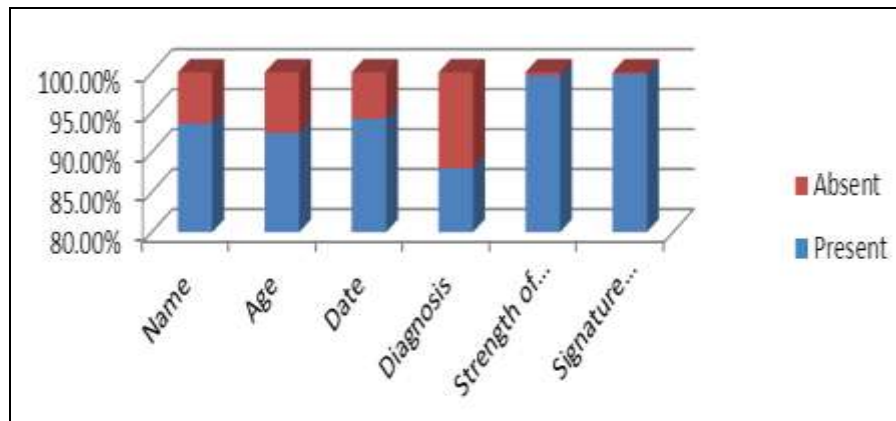


Figure-2: Parameters absent from the prescription audited

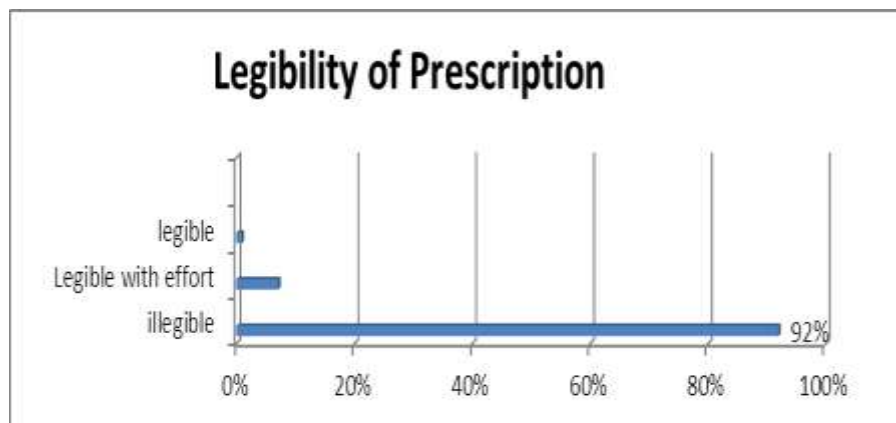


Figure-3: Percentage of Legibility of Prescription

CONCLUSION

In conclusion, the prescriptions were viewed suffered from serious deficiencies and were not properly written. The use of capital letters while prescribing drugs by the treating physician can also be implicated for legibility of the prescription. The need for education for medical practitioners on appropriate prescription writing is obvious and follow-up on the matter is needed for newly qualified practitioners. Furthermore, inclusion of Continuous Medical Education (CME) programs and refresher trainings about prescription writing in the final clinical year curriculum of medical students before they complete graduation is necessary. As per guidelines of Medical Council, the administrative monitoring of the prescription makes the habit of writing prescription will be clear, readable and legible.

RECOMMENDATIONS

1. Karnataka Medical Council or/and Indian Medical Association, Local Branch has to be inspected all private clinical setups and check the qualifications of medical Practitioners and their authorization to practice since researcher got very poor results in legibility of prescriptions.
2. There is a need to educate the practitioners to follow prescription guidelines.
3. It is a right of every patient to have a legible prescription, because a legible prescription provides the following 5 Rights;

1. Right Medication

- Is this the medication the provider ordered?

2. Right Dose

- How many milliliters, tablets, or does are to be given?

3. Right Time

- What time of day should the medication be taken?

4. Right Route

- Should the medication be given by mouth, via feeding tube, or is it an injectable medication?

5. Right Patient

- Is the medication for this patient or is it for someone else?

CONFLICT OF INTEREST

There is no conflict of interest associated with the authors of this paper.

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