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# Assessment of knowledge, attitude and practice of prescription writing as per Medical Council of India guidelines among interns in a Medical College

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## Abstract
**Objective:** To assess the knowledge, attitude and practice of prescription writing among interns in medical college.
**Materials and Methods:** A cross-sectional study was conducted among the interns in a Medical College, after taking approval from the Institutional Ethics Committee. Participants were asked to write prescription for a common ailment in a given prescription blank page. A structured questionnaire was designed based on new Medical Council of India (MCI) prescription writing pattern to analyse the prescription. The data was analysed using descriptive statistics.
**Results:** Among 84 interns, most of the participants had written the drug by generic name (95.2%) and have signed in the prescription sheet (98%). None of them were aware of the latest prescription writing pattern recommended by Medical Council of India (MCI). The writing of generic name in capital letter was not done by 97.6% of interns.
**Conclusion:** Our study concluded that interns were not aware of new Medical Council of India (MCI) prescription writing pattern. Majority of interns have made errors while writing the prescription. Thus there is a need for regular formal education regarding prescription writing, before the start of internship. They can be given training under medical education unit regarding the recent updates of prescription writing.
**Keywords**: Prescription pattern, Intern, Medical Council of India (MCI).

## 1. Introduction
A medication error is any preventable event which may lead to inappropriate medication use or harm to a patient. Since 2000, the Food and Drug Administration (FDA) has received more than 95,000 reports of medication errors.[1]

Prescription writing is a skill as it demonstrates the instructions provided by the physician to the patient. World Health Organisation states that some important things should be written in a prescription so not much can go wrong. These are name and address of the prescriber, date of prescription, name and strength of the drug, dosage form and total amount, prescriber's initials or signature, name, age and address of the patient.[2]

Internship is a period of medical apprenticeship under the supervision of a consultant. The intern is expected to learn clinical skills, perform some clinical procedures and demonstrate a good clinical judgement to arrive at patient management decision. Therefore Interns are the most junior doctors in tertiary care hospital.[3]

Unsuccessful prescribing takes several forms: underprescribing, overprescribing, inappropriate prescribing, irrational prescribing and prescribing errors.[4]

Prescription errors are caused by multi-factorial reasons originating from both individual and organizational factors.[5] Errors were classified as either "new prescribing" or "prescribing." New prescription involved a decision to start, stop or change a drug, or a drug's form, route or dose. Re-prescription was any continuation therapy that includes prescriptions written when patients were admitted to hospital, transferred or discharged.[6]

A prescribing fault can arise from the choice of the wrong drug, the wrong dose, the wrong route of administration, and the wrong frequency or duration of treatment, but also from inappropriate or erroneous prescribing in relation to the characteristics of the individual patient or co-existing treatments; it may also depend on inadequate evaluation of potential harm deriving from a given treatment.[7]

Prescribing is a complex and high-risk intervention. Safe prescribing must include cognitive and decision-making steps before the prescription is actually written and prescribing errors should be discussed and analysed at the institution level so that errors can be learnt at the individual, team and organisational level.[8]

Confidence and competence in prescribing can be increased through the use of targeted education programmes. [9-13]

The aim of the study is to assess the knowledge, attitude and practice of prescription writing pattern among interns and to analyse their prescription with the structured questionnaires as instrument for the study.

**1.1 Objective:** To assess the knowledge, attitude and practice of prescription writing among interns in medical college.

## 2. Materials and Methods

A cross sectional study was conducted among the Interns in a tertiary care hospital. The study was initiated after approval from the Institutional Ethics Committee. Written informed consent was taken from all the interns participating in the study.

All participants were instructed to write a prescription for a common ailment for example, throat infection, in a given prescription blank page. A specially designed pre tested questionnaire was used to analyse the prescription based on new prescription writing pattern introduced by Medical Council of India (MCI).[14]

**2.1 Statistical analysis:** The data obtained were analysed by using simple descriptive statistics and the parameters were expressed in percentages.

## 3. Results

Total 84 interns participated in the study out of which 39 were males and 45 were females. All of them wrote the prescription for the common ailment, the response rate was 100%. (Table 1)

Drugs prescribed by Essential drug list were 83.6%. Only 27% was inaccurate due to illegible hand writing in prescription writing. (Table 2)

The incidence of polypharmacy was common with maximum no. of drugs prescribed per prescription were four constituting about 16% of total prescription followed by three drugs per prescription (38%) and 35.7% of prescriptions had two drugs. (Table 3)

Most of the participants have written the drug by generic name (95.2%) and have signed in the prescription sheet (98%). Writing the drug name in capital letters was not done by 97.6% of the participants. None of them were aware of the latest prescription writing pattern recommended by Medical Council of India (MCI). (Figure 1)

**Table 1: Analysis of prescription writing**

| Sl. No | Questions | Yes | No |
|---|---|---|---|
| 1 | Awareness of new MCI prescription pattern | 0 | 84 |
| 2 | Patient name mentioned | 70 | 14 |
| 3 | Patient age mentioned | 62 | 22 |
| 4 | Patient gender mentioned | 56 | 28 |
| 5 | Drug dosage mentioned | 58 | 26 |
| 6 | Drug frequency mentioned | 67 | 17 |
| 7 | Drug total quantity mentioned | 49 | 35 |
| 8 | Route of drug administration | 80 | 04 |
| 9 | Generic name | 80 | 04 |
| 10 | Usage of capital letters | 02 | 82 |
| 11 | Signature | 83 | 01 |
| 12 | Awareness of minimum size of paper | 0 | 84 |

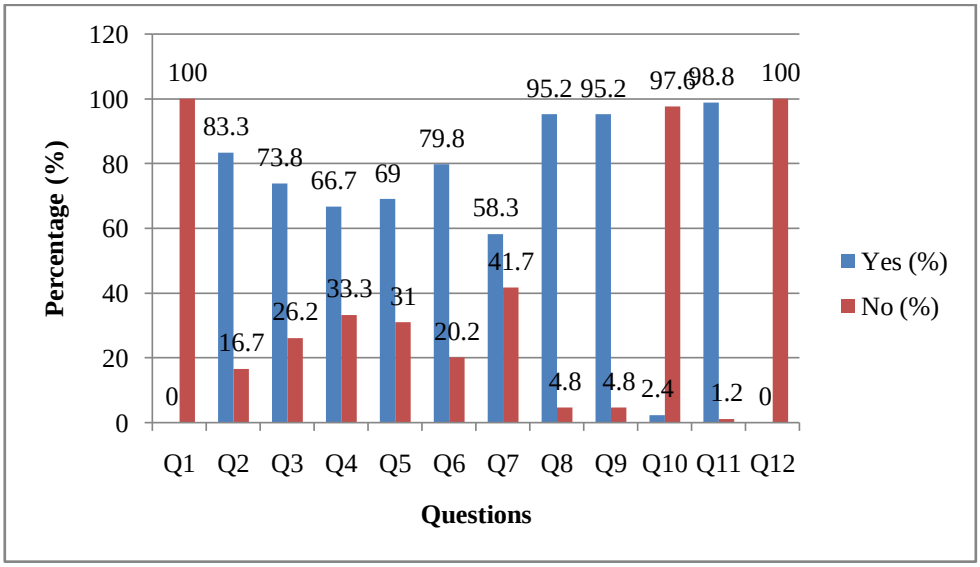
**Table 2: Assessment of the correctness of components of prescription**

| Sl. No | Prescribing Indicators | Yes (%) |
|---|---|---|
| 1 | Percentage of drugs prescribed from essential drug list | 83.6% |
| 2 | Percentage of injectable prescribed | 0% |
| 3 | No of drug combination prescribed | 16.5% |
| 4 | Percentage of use of superscription | 92.4% |
| 5 | Percentage of drug abbreviations used | 52.3% |
| 6 | Percentage of illegible hand writing | 27% |

**Table 3: Number of drugs prescribed per prescription**

| Number of drugs per prescription | Percentage of prescriptions (%) |
|---|---|
| One | 11% |
| Two | 35% |
| Three | 38% |
| Four | 16% |

**Figure 1: Analysis of prescription writing of interns in percentage**




## 4. Discussion

Total 84 interns participated in a cross-sectional study for the assessment of knowledge, attitude and practice of prescription writing pattern as per new MCI guidelines. Our study showed that none of them were aware of new prescription writing pattern recommended by MCI. There is tendency to forget art of writing prescription though it has been taught in second year MBBS pharmacology subject, hence there is a need for regular education before the start of internship.

In our study 58 (69%) and 49(58.3%) interns, have written accurate drug dose and drug total quantity respectively. Appropriate drug dosing is required to prevent drug resistance and drug toxicity.[15]

A study done by Padhy BM revealed that majority of drugs prescribed were by brand name, where as in our study majority of interns preferred writing drugs in generic name (95.2%) compared to brand name. The generic name drugs are cheaper and pharmacist can easily follow the prescription. Prescribing generic medicines rather than branded products will help in reducing health care cost.[16]

A study done by Krause *et al* concluded that 88% of interns prescribed the drugs from essential list of medicines where as in our study 83.6% of interns prescribed drugs from essential drug list (EDL).[17]

Polypharmacy was the norm. Four drugs per prescription were seen in 16% of total prescription & 3 drugs per prescription was seen in 38% of total. Most of the previous studies have shown polypharmacy. [18-20]

In our study 27% of prescriptions had illegible hand writing. Inaccuracy in writing, illegible handwriting, the use of abbreviations or incomplete writing of a prescription, can lead to misinterpretation of prescription by healthcare personnel. [7]

The use of abbreviation for writing prescription of drug was 52.3%, whereas study done by Kumari R showed 69.8% of interns using the abbreviation for writing the name of a drug in prescription writing.[21]

Oral dosage forms were prescribed in 95.2 % of prescriptions of drugs & none of them prescribed injectable forms of drug.

In our study essential information like patient age (26.2%), drug dosage (31%) and drug frequency (20.2%) were omitted from prescription writing. Studies done by Ajemigbitse *et al* and Phalke *et al* showed the similar results. [22, 23]

Confidence in prescribing comes with practice, responsibility and familiarity with frequently used drugs in the ward and adequate supervision by senior doctors.[24]

Interns should undergo training under medical education unit regarding the recent updates of prescription writing before they start internship.

Our study had some limitations such as, the study was limited to interns of our medical college only and so the sample size was relatively small. Further studies can be pursued on interns of other colleges or of different batches of the same college and results can be compared.

## 5. Conclusion

Our study concluded that interns were not aware of new Medical Council of India (MCI) prescription writing pattern. Majority of interns have made errors while writing the prescription, thus there is a need for regular formal

education regarding quality of undergraduate training and thereby improving safety in prescription writing. There is a need to strengthen the training programme for continuing professional development of interns to ensure that patients are always given evidence based cost effective treatment. Integration between pharmacology and various clinical disciplines is a key issue in ensuring meaningful training opportunities for medical students may result in better outcome.

## Acknowledgement

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