**ORIGINAL RESEARCH**

# Pattern of drug use in acute fever by general practitioners

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## ABSTRACT

**Background:** Writing a prescription is a science, and interacting with patients is an art. Various factors might influence the prescription practice, potentially resulting in irrational drug use. The present study evaluated pattern of drug use in acute fever by general practitioners (GPs). **Materials &Methods:** 120 general practitioners such as MBBS and BAMS doctors of both genders were selected. Parameters such as the average number of drugs per encounter, the percentage of the drugs which were prescribed by their generic names, the percentage of the encounters with an antibiotic which was prescribed, the percentage of the encounters with an injection which was prescribed, the percentage of the drugs from an essential drug list (EDL) or a formulary was recorded. **Results:** Out of 120 GPs, 75 were males and 45 were females.% of prescriptions with injections was 5% by MBBS and 17% by BAMS, % of prescriptions with antibiotics was 62%and 90%, % of drugs from essential drug list was 58% and 52%, % of drugs from generics was 24% and 32% by MBBS and BAMS respectively. The difference was significant (P< 0.05).Antimicrobial agents used by MBBS and BAMS doctors were Penicillins in 56% and 42%, Cephalosporins in 20% and 25%, Macrolides in 14% and 13%, fluoroquinolones in 3% and 15% and no antibiotics in 7% and 5% doctors respectively. The difference was significant (P< 0.05). **Conclusion:** The WHO prescribing core drug usage indicators among the BAMS GPs were all noticeably anomalous, and the rate of incorrect prescriptions was startlingly high.

**Keywords:** BAMS, MBBS, essential drug



## INTRODUCTION

Patients whine to doctors, hoping that they would find a solution to all of their issues. Prior to prescribing any medication, a doctor must carefully listen to all patient complaints, evaluate the patients, identify the underlying reasons of their issues, create a plan of care, and determine which medications are appropriate.[1] Writing a prescription is a science, and interacting with patients is an art.[2] Various factors might influence the prescription practice, potentially resulting in irrational drug use. These factors include patient pressure, pressure from the pharmaceutical business, doctor knowledge, the availability of unbiased information, and so on. The consequences of excessive drug usage are numerous: it lowers the standard of treatment andincreasesthe risk of the adverse drug effects, in addition to the waste ofresources.[3]

In order to monitor drug use in healthcare institutions, the World Health Organization (WHO) developed key drug use indicators that would characterize drug use patterns and healthcare providers' prescribing practices. A collection of complementary indicators has been defined in addition to the core indicators.Numerous studies have been conducted to assess the drug usage patterns in particular healthcare settings, such as government dispensaries, primary care clinics, tertiary care facilities, etc.[4,5] There haven't been many research done to gauge the drug use trends in everyday life. General Practitioners (GPs) treat the majority of common illnesses. The majority of pharmaceuticals that are sold in the market are prescribed by general practitioners. It goes without saying that abusing drugs to this extent could have disastrous effects.[6]The present study evaluated pattern of drug use in acute fever by general practitioners (GPs).

## MATERIALS & METHODS

The study was carried outon 120 general practitioners such as MBBS and BAMS doctors of both genders.All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. Parameters such as the average number of drugs per encounter, the percentage of the drugs which were prescribed by their generic names, the percentage of the encounters with an antibiotic which was

prescribed, the percentage of the encounters with an injection which was prescribed, the percentage of the drugs from an essential drug list (EDL) or a formulary was recorded. Results thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

## RESULTS

**Table I Distribution of patients**

| Total- 120 | | |
|---|---|---|
| **Gender** | **Male** | **Female** |
| Number | 75 | 45 |

Table I shows that out of 120 GPs, 75 were males and 45 were females.

**Table II WHO core drug indicators**

| Core drug indicators | MBBS | BAMS | P value |
|---|---|---|---|
| % of prescriptions with injections | 5% | 17% | 0.05 |
| % of prescriptions with antibiotics | 62% | 90% | |
| % of drugs from essential drug list | 58% | 52% | |
| % of drugs from generics | 24% | 32% | |

Table II, graph I shows that % of prescriptions with injections was 5% by MBBS and 17% by BAMS, % of prescriptions with antibiotics was 62% and 90%, % of drugs from essential drug list was 58% and 52%, % of drugs from generics was 24% and 32% by MBBS and BAMS respectively. The difference was significant (P< 0.05).

**Graph I WHO core drug indicators**

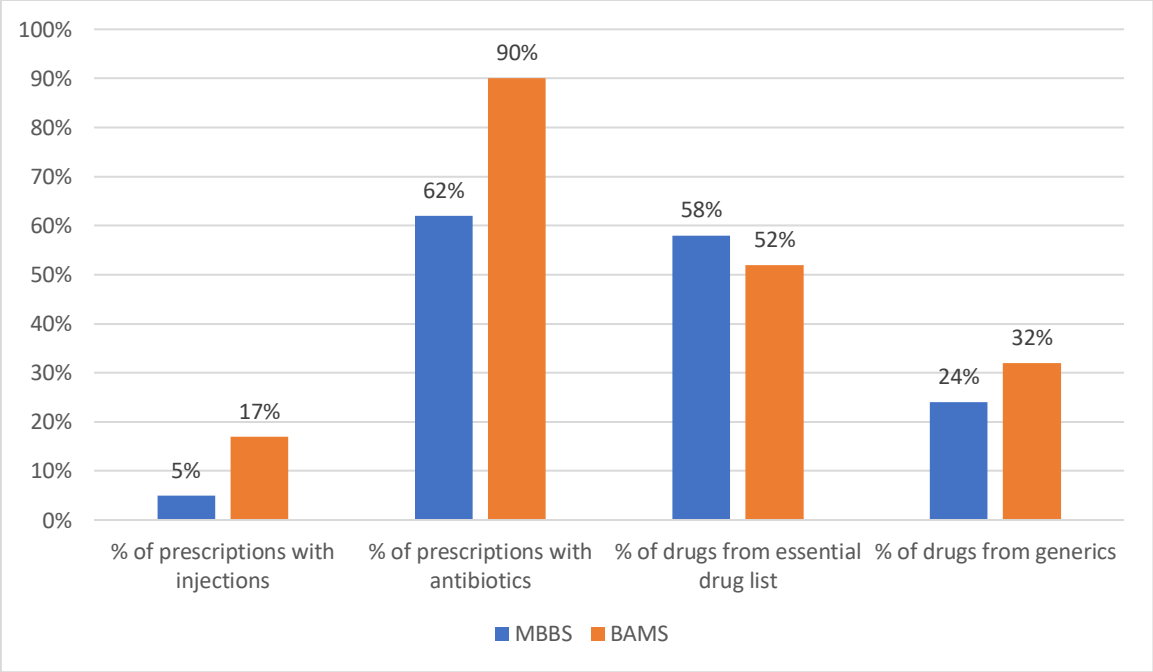


**Table III Use of antimicrobial agents (AMAs) by GPs**

| Antimicrobial agents | MBBS | BAMS | P value |
|---|---|---|---|
| Penicillins | 56% | 42% | 0.05 |
| Cephalosporins | 20% | 25% | |
| Macrolides | 14% | 13% | |
| Fluoroquinolones | 3% | 15% | |
| No antibiotics | 7% | 5 | |

Table III shows that antimicrobial agents used by MBBSand BAMSdoctors were Penicillins in 56% and 42%, Cephalosporins in 20% and 25%, Macrolides in 14% and 13%, fluoroquinolones in 3% and 15% and no antibiotics in 7% and 5% doctors respectively. The difference was significant (P< 0.05).

## DISCUSSION

Medicines are one of the vital tools needed to improve and maintain health and play a crucial role in saving life.[7] However, for too many people throughout the world medicines are still unaffordable and unavailable.[8,9] When available, 50% of patients fail to

take their medicines appropriately. The practice of rational use of medicine is still in developing phase in many countries.[10,11] People in these countries tend to have limited knowledge about medicine use and also tend lack awareness about safe handling and storing medicines at home.[12]The present study evaluated pattern of drug use in acute fever by general practitioners (GPs).

We found that out of 120 GPs, 75 were males and 45 were females.% of prescriptions with injections was 5% by MBBS and 17% by BAMS, % of prescriptions with antibiotics was 62%and 90%, % of drugs from essential drug list was 58% and 52%, % of drugs from generics was 24% and 32% by MBBS and BAMS respectively. Beri et al[13] in their study the age, sex and diagnosis wise distribution of the patients was comparable in both MBBS and BAMS groups. Among the WHO PCDU indicators, a highly significant difference was observed in the average number of drugs which was prescribed, the antibiotic usage and in the injections which were prescribed among the MBBS and the BAMS GPs. The use of the drugs from EDL and that of the generic drugs were comparable in both the groups. A marked irrationality was found in the injectable antimicrobials by the BAMS GPs.The selection of the antimicrobials was inappropriate in 64.14% and 17.5% of the encounters which were made by the BAMS and the MBBS GPs respectively.

We found that antimicrobial agents used by MBBS and BAMS doctors were Penicillins in 56% and 42%, Cephalosporins in 20% and 25%, Macrolides in 14% and 13%, fluoroquinolones in 3% and 15% and no antibiotics in 7%and 5% doctors respectively. Gupta et al[14]ascertained the prescribing behaviour among the private practitioners and to found out the deficiencies therein. A total of 389 outpatient prescriptions were reviewed for standard prescribing norms, therapeutic class and number of drugs prescribed and per day cost of prescription was derived. The prescriptions lacked vital information pertaining to patient's age, sex, diagnosis and dosage. Antibiotics were the most widely prescribed drugs (37 per cent), followed by non-steroidal anti-inflammatory drugs (NSAIDs) and multivitamins. More than 65 per cent of NSAIDs were prescribed in the form of fixed-dose combinations. Polypharmacy (four or more drugs prescribed) was observed in 38.5 per cent prescriptions. None of the prescriptions carried drugs prescribed by unbranded generic names. Median per day cost of prescription was ₹29.30. The study concluded that the prescribing behaviour was irrational and largely, the prescriptions were incomplete. Implementing guidelines for appropriate prescription writing, standard treatment guidelines, emphasizing the importance of these practices in medical school curricula and continuing medical education programmes are necessary for more rational and safer drug prescribing and efficient drug therapy.

The shortcoming of the study is small sample size.

## CONCLUSION

Authors found that The WHO prescribing core drug usage indicators among the BAMS GPs were all noticeably anomalous, and the rate of incorrect prescriptions was startlingly high.

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