

PATTERNS OF PRESCRIPTION OF PRIVATE PRACTITIONERS IN BANGLADESH

ZAHAN T¹, PROF. BHUIYAN MM², KHAN MI³

Abstract:

A prescription - a written instruction of doctors to pharmacist to supply drugs in particular form to a patient and the directions to the patients regarding the use of medicines. This study was undertaken to observe the prescribing patterns of the practitioners in Bangladesh, 500 prescriptions were collected randomly from Dhaka city and analyzed using WHO/INRUD indicators. There were average 4.40 drugs per prescription. Drugs were prescribed in generic name only in 0.30%. About 48% drugs were prescribed from the essential drug list, only prescriptions were complete. In respect to patient medication information, antibiotics were prescribed in 72% of the prescriptions; injections were prescribed in about 10% of the prescriptions.

Keywords: Prescription pattern, private practitioners

J Dhaka Med Coll. 2017; 26(1) : 48-51

Introduction:

Prescription writing is a science and art, as it carries the message from the prescriber to the patient.¹ A prescription order is a written instruction of doctors to pharmacist to supply drugs in particular form to a patient and the directions to the patients regarding the use of medicines. It is important therapeutic translation between the clinician and the patient². Prescribing is a complex task requiring diagnostic skills, knowledge of medicines, an understanding of the principles of clinical pharmacology, communication skills, appreciation of risk and uncertainty³. Prescribers can only treat patients in a rational way if they go through an essential drugs list and essential drugs are available on a regular basis⁴.

Irrational use of medicines is a global problem, particularly in developing and transitional countries. Country like Bangladesh, irrational prescribing is common finding. Frequently observed irrational use of medicines per patient (poly pharmacy), inappropriate use of

antimicrobials, over use of injections and vitamins. On the other hand, aggressive drug marketing, lack of information on the use of drug and inadequate drug supply has been suggested to be the main causes behind the irrational prescribing.⁵ Irrational drug use leads to reduce in the quality of drug therapy, excess treatment cost, increased risk for adverse reactions and emergence of resistance⁶. The prescribed drug costs a huge money, causing problems in developing country like Bangladesh. This problem can be solved by prescribing drug by generic name and it should be selected from essential drug list. Generic drugs are substitute of brand drug without any patent protections having similar efficacy though 40-60% cheaper than brand drug⁷.

Doctors are bound to prescribe easily available, affordable and essential medicines to the patients; rather they are blamed to prescribe costly branded drugs⁸. Changing the bad practicing habits is a must. Prescription audit is another approach to avoid irrational prescribing. Periodic evaluation of prescribing

1. Dr. Tahmina Zahan, Assistant Professor, Dept. of Pharmacology, Holy Family Red Crescent Medical College,
2. Prof. Dr. Md. Maniruzzaman Bhuiyan, Professor and Head, Department of Paediatrics and NICU Holy Family Red Crescent Medical College

3. Prof. Dr. Md. Ismail Khan, Professor and Head, Department of Pharmacology, Dhaka Medical College

Correspondence: Dr. Tahmina Zahan, Assistant Professor, Dept. of Pharmacology, Holy Family Red Crescent Medical College, Mob: 01700602469; email: tahminazahan@yahoo.com

Received: 23 December 2016

Accepted: 01 March 2017

pattern leads to increase therapeutic efficacy, decrease adverse effects and provide feedback to prescribers.^{9,10,11} Irrational and inappropriate use of drugs is very common in Bangladesh. International network of rational Use of drugs (INRUD) has developed a list of indicators of rational prescribing.¹² Thus, this study was an attempt to evaluate the prescribing patterns of the private practitioners in Bangladesh.

Materials and methods:

Samples of prescription of private practitioners were collected from patients randomly. Mode of collection was copying of prescriptions by photocopy or by digital camera. Patients consent was taken. All the prescriptions were analyzed according to INRUD indicators. Following parameters were analyzed-

1. Average number of drugs per prescription
2. Percentage of drugs prescribed by generic name
3. Percentage of prescriptions with an antibiotic prescribed
4. Percentage of prescriptions with an injection prescribed
5. Percentage of drug prescribed from essential drug list
6. Whether prescription is complete with respect to-
 - a. Format
 - b. Dosage and duration
 - c. Patient medical information

The sum total of average and percentages were calculated by using standard formulas in WHO's manual on "How to investigate drug use in health facilities"¹¹.

Results:

Total 2200 drugs were prescribed in all prescriptions. Average drugs per prescriptions 4.40%. Only 0.30% of drugs were prescribed in generic name. Antibiotics constituted 72% of prescriptions. Injections were prescribed in about 10% of prescriptions. About 48% drugs were prescribed from essential drug list. Only 23% of prescriptions were complete in respect to patient medical information.

Table-I

Results of prescription audit (n=500)

Prescribing indicator	Results
Average number of drugs per prescription	4.40%
Percentage of drugs prescribed by generic name	0.30%
Percentage of prescriptions with an antibiotic prescribed	72%
Percentage of prescriptions with an injection prescribed	10%
Percentage of prescriptions with an injection prescribed	48%
Percentage of drug prescribed from essential drug list	
Whether prescription is complete with respect to-	
d. Format	40%
e. Dosage and duration	74%
f. Patient medical information	23%

Discussion:

This study attempted to find the pattern of prescription writing among private practitioners in Dhaka city. Out of 500 prescriptions, data were analyzed by applying some of the INRUD indicators. In our study, on an average 4.40 drugs were prescribed per prescription, which was 3.81 in a study conducted in 2009 and 3.24 in another study conducted in 2001 and 3.40 in another study in 2012^{13,14,16}. In an Indian study, the average number of drugs per case was 3.12⁸. In our study most of the private practitioners violated the criteria of rational prescribing.

In a study, Paul et al., and Alam et al., showed that drugs were prescribed in generic name 0.013% and 1.33% respectively^{14, 15}. But in our study, 0.30% drugs were prescribed by generic name. In an Indian study it was 4.24%, 44% in study conducted in Nepal^{8,16}. The lowest value was 0.008%¹³ and 0.20% in a study done in our country^{13,117}. This indicates that the prescribers are not aware of the importance of generic name.

In this study 72% prescriptions were prescribed with antimicrobials. This finding is quite similar with the study Rahman Z et al¹³ where the result was 72.50%. Baqui and Chudhury¹⁸ also reported that percentage of prescriptions with antimicrobials were 73.33%, while Paul et al and Rahman et al found it to be 36.83%¹⁴ and 38.7%¹⁸ respectively. In the present study, about 48% of the drugs were prescribed from the Essential Drug List. Paul et al and Baqui and Choudhury have reported that respectively 48.35% and 49% of prescribed medicines were from EDL^{14,18}. About 10% prescriptions contained an injection which was almost similar with the study done by Saurabh et al (8.0)⁸ and 8.35% in the study done by Begum F et al. (2012). But in comparison it was more (12.1%) in the study of Rahman Z et al¹³. About 74% prescriptions were provided with proper instructions regarding drug dosing, formulation and duration, which was 70% in the study of Rahmaul Z et al¹³, while Baqui and Choudhury¹⁸, found it 58%. On the other hand, only 19% prescriptions contained proper instructions about patient medication information and advice like side effects of the prescribed drugs, other relevant advice and follow up of the patients. This patient medication information parameter was 17.5% in the study Rahman Z et al¹³ and 35.68% prescriptions follow the proper instructions about prescription format. On the other hand, our study revealed that hand writing was illegible in one third of prescriptions. The illegibility (unclear hand writing) of prescriptions could result in misinterpretation and mistakes²⁰.

From this study it was revealed that prescribing pattern of the private practitioners were irrational regarding polypharmacy, generic name, use of antibiotics, drug selection from EDL and provide information. Irrational prescribing is tough to cure from the root. But it can be prevented. Proper training in pharmacotherapy and workshop on rational use of drugs may improve prescription behavior and skills^{21,22}. Strict rules should be implemented by the Government to ensure rational prescribing.

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