

Original Article

Evaluation of Prescribing Pattern of the Private Practitioners in Bangladesh

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Abstract :

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. This study was undertaken to observe the prescribing patterns of the private practitioners in Bangladesh, 430 prescriptions were collected randomly from Dhaka city and analyzed using WHO/INRUD indicators. There were average 3.40 drugs per prescription. Drugs were prescribed in generic name only in 0.20%. About 46.31% drugs were prescribed from the Essential Drug List, only 19% of prescriptions were complete in respect to patient medication information. Antibiotics were prescribed in 70.33% of the prescriptions; injections were prescribed in about 8.35% of the prescriptions.

Key words: Private Practitioner, Rational Prescribing.

Introduction :

Prescription writing is a science and art, as it conveys the message from the prescriber to the patient¹. 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 have access to 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.

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Country like Bangladesh, irrational prescribing is common finding. Frequently observed irrational use of medicine includes the use of too many 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 prescribing⁵. Irrational drug use leads to reduction in the quality of drug therapy, wastage of resources, increased treatment costs, increased risk for adverse drug reactions and emergence of drug resistance⁶. The high cost of prescribed drug causes problems in developing countries like Bangladesh. This problem can be minimized by prescribing drugs by generic name and selection of drugs from essential medicine list. Generic drugs are substitute of branded drug without any patent protections with similar efficacy but 40 to 60% cheaper than branded drugs⁷.

Ideally doctors should bind to prescribed affordable and essential medicines to their patients; however they are blamed to write costly branded medicines⁸. Changing existing bad prescribing habits is a difficult task, so appropriate training is required before habits develop. Another approach to preventing irrational prescribing habits is prescription audit (PA), from which they get regular feedback about their prescriptions⁹. Prescribing patterns need to be evaluated periodically to increase the therapeutic efficacy, decrease adverse effects and provide feedback to prescribers^{10,11}. Like all other developing countries, 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 prescribing¹². Therefore present study was an attempt to observe the prescribing patterns of the private practitioners in Bangladesh.

Materials and methods :

Samples of prescriptions (by private practitioners) were collected from patients randomly. Mode of collection was copied prescriptions by photocopy or by digital camera after taking consent of patients. A total of 430 prescriptions were the study sample. No attempt has been made to categorize the prescriptions according to patient's age, sex or disease profile. Afterwards all prescriptions (430) were analyzed using the 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 drugs prescribed from essential drug list
6. Whether prescription is complete with respect to-
 - a. format
 - b. dosage and duration
 - c. patient medication information (PMI)

The sum total of average and percentages were calculated by using the standard formulas in WHO's manual "How to investigate drug use in health facilities"¹².

Results :

A total of 1462 drugs were prescribed in all prescriptions. Average number of drugs per prescription was 3.40. Only 0.20% the drugs were prescribed under generic name. Antibiotics constituted 70.33% of prescription. Injections were prescribed in about 8.35% of prescriptions. Only 35.68% of prescriptions were complete in regard standard prescription format. About 46.31% drugs were prescribed from the EDL. Only 19% of prescriptions were complete in respect to patient medication information.

Table-I: Results of prescription audit (n= 430)

Prescribing indicator	Results
Average number of drugs per prescription	3.40
Percentage of drugs prescribed by generic name	0.20 %
Percentage of prescriptions with an antibiotics prescribed	70.33 %
Percentage of prescriptions with and injection prescribed	8.35 %
Percentage of drugs prescribed from Essential Drug List	46.31 %
Whether prescription is complete with respect to	
Format	35.68 %
Dosage and duration	72.5 %
Patient medication information	19 %

Discussion :

This study was an attempt to find the existing pattern of prescription writing among private practitioners especially in Dhaka city. Among 430 prescriptions, data were analyzed by using some of the INRUD indicators. Through the exercise we identified that, most of the private prescribers did not follow the criteria of rational prescribing. In this study, on an average, 3.40 drugs were prescribed per prescription, which was 3.81 in a study conducted in 2009 and 3.24 in another study conducted in 2011^{13,14}. In an Indian study, the average number of drugs per case was 3.12⁸.

In the current study, only 0.20% drugs were prescribed under generic names but Paul et al. and Alam et al. reported it to be 0.13% and 1.33% respectively^{14,15}. In an Indian study it was 4.24%, which was 44% in Nepal study^{8,16}. The lowest value was 0.008%¹³ and the discrepancies among the studies may indicate that prescribers are not aware of the importance of generic name.

In this study 70.33% 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 Chudhury¹⁷ 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 46.31% 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^{14,17}.

About 8.35% prescriptions contained an injection which was almost similar with the study done by Saurabh et al (8.0)⁸. But in comparison it was more (12.1%) in the study of Rahmal Z et al¹³ About 72.5% 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 Choudhury¹⁷, 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 parameters 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 mistakes¹⁹.

From this study it was revealed that prescribing pattern of the private practitioners mostly irrational regarding polypharmacy, generic prescribing, use of antibiotics, drug selection from EDL and provision of information. Irrational prescribing is a habit that is difficult to cure. However, prevention is possible. Intervention is needed to improve prescribing behaviours of doctors such as short problem based training course in pharmacotherapy and rational use focused workshops can improve prescription behaviour and skills^{20,21}. Clear and comprehensive rules should be formulated and implemented by the government to ensure rational prescribing.

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