*ejpmr, 2021,8(2), 569-575*

SJIF Impact Factor 6.222

**EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH**

www.ejpmr.com

Research Article

ISSN 2394-3211

EJPMR

# STUDY OF PRESCRIPTION WRITING AND ADHERENCE TO WHO CORE PRESCRIBING INDICATORS IN A TERTIARY CARE TEACHING HOSPITAL

**Omair Abdullah Asif*[1], Md. Anwar Habib[2], Mohammad Amirul Islam[3]**

[1]Institute of Biological Sciences, University of Rajshahi, Bangladesh.
[2]Professor, Department of Pharmacology & Principal, Islami Bank Medical College, Rajshahi, Bangladesh.
[3]Professor, Department of Biochemistry & Molecular Biology, University of Rajshahi, Bangladesh.

***Corresponding Author: Omair Abdullah Asif**
Institute of Biological Sciences, University of Rajshahi, Bangladesh.
**Email ID:** oa.asif@gmail.com, **Contact number:** +8801717884657

**Article Received on 21/12/2020** **Article Revised on 11/01/2020** **Article Accepted on 31/01/2021**

## ABSTRACT

This cross-sectional descriptive study was carried out at Outpatient Department (OPD) of North Bengal Medical College Hospital (NBMCH), Sirajgonj, Bangladesh during the period of July-2017 to June-2019. The study was aimed to evaluate the mechanics of prescription order writing (Format) with legibility as well as clarity of prescriptions and adherence with WHO core prescribing indicators. A total number of 761 prescriptions, were collected randomly from OPD of different disciplines and copied by using digital camera with the consent of the patients and authorities. Among 761 prescriptions of NBMCH, address of the patient, age, gender, body weight was not mentioned in 96.85%, 16.60%, 30.62% and 60.05% of prescriptions respectively. Registration number of Doctors given by Bangladesh Medical and Dental Council (BMDC) were not mentioned in 100% of prescriptions. The symbol $R_X$, strength (dose) of drugs, duration of treatment and instructions to the patients were absent in 4.34%, 20.63%, 1.58% and 42.31% of prescriptions. Legibility of prescriptions i.e. no problem in reading all aspects of prescription was 70.57% at OPD of NBMCH. The clarity of instructions was found to be good in 65.17% of prescriptions, whereas clarity of dose (very clear) was 66.10% of prescriptions. Regarding the WHO core prescribing indicators, average number drugs per prescription was 4.40. Percentages of antibiotics were 23.46%, generic name of drugs were 0.72%, injections were 5.70% and percentage of drugs from EDL were 30.90% respectively. The prescribers did not follow good prescribing practices. Therefore, interventions are needed to improve the quality of prescription writing among the Doctors in the study area.

**KEYWORD:** Prescription format, Legibility and Clarity, WHO core prescribing indicators.

## INTRODUCTION

Prescription order is an important document between the physician and the patient which reflects the physicians skill in the diagnosis and attitude towards selecting the most appropriate cost effective treatment.[1,2] So it needs to be continuously assessed and refined suitably. The quality of life can be improved by enhancing the standards of the medical treatment at all levels of the health care delivery system. Studying the prescribing pattern is that part of the medical audit which seeks to monitor, evaluate and suggest modifications in the prescribing practices of medical practitioners, so as to make the medical care rational.[3]

Prescription writing is a skill as it demonstrates the instructions provided by physician to the patient. There are no global standards for the prescription writing but World Health Organization states that some important things should be written in a prescription. These are name, registration number, qualification, address with telephone number and prescribers signature. The date of the prescription, name and strength of drug, total amount with dosage form; patients name, age, body weight and address also be mentioned. Patient must receive medication appropriate to their clinical need, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community.[4,5]

Quality of prescribing is a major determinant of how patient use medicine. It plays a crucial role in the treatment of serious health condition when people do tend to consult health professionals. The way in which health personal prescribe multiple medicines reinforces consumers belief that they need medicine. World health organization (WHO) has designed standardized prescribing indicators to evaluate the trends of prescribing in health facilities. These are the number of drugs per encounter, the percentage of drugs prescribed by generic name, the percentage of antibiotics and injectable drugs per encounter, and the percentage of drugs prescribed from an essential drug list (EDL). These indicators are used to describe current treatment practices, compare health facilities and prescribers, and allow for

identification of potential drug use problems that may affect patient care.[6,7,8]

Irrational prescriptions in the health care system of developing countries usually associated with polypharmacy, extensive use of antibiotics, analgesics (NSAIDs), multivitamins and injections. WHO drugs use indicators are an important tool used to assess prescription trends with the intention of promoting rational drugs use.[9,10] Drugs are an integral part of the health care system and have a vital role in maintain human health and saving mankind. Pharmaceutical companies promote prescriptions of branded medicine as trade name that are usually confusing to the doctors as well as patients. Emphasis should be given for writing the generic name of drugs. The concept of essential drugs was introduced to accelerate the constructive influence of drugs on health status of developing countries.[11]

In developing as well as in developed countries, inappropriate, futile, and economically ineffective use of drugs occur in health care system. Due to such worsened condition, the current study was therefore aimed to assessing the overall prescription writing in a ideal format and adherence of doctors to WHO core prescribing indicators, identified problems and remedial interventional strategies to be implemented so as to check dangerous trends in drug utilization in Bangladesh.

## MATERIALS AND METHODS

**Study design:** Cross sectional descriptive study.

**Study population:** The study population were comprised to all the patients attending OPD of NBMCH (n=761).

**Place of the study:** The Study was compiled in the Molecular Biology Lab, Institute of Biological Sciences, Rajshahi University, Rajshahi, Bangladesh.

**Place of data Collection:** The data were collected from OPD of NBMCH, Sirajgonj at different disciplines (Medicine, Surgery, Gynecology and Obstetrics, Orthopedics, Otolaryngology, Ophthalmology, Dermatology and Pediatrics).

**Period of the study:** Total duration of the study was from July-2017 to June-2019.

**Sample size:** 761 prescriptions were collected.

**Sampling method:** Random sampling.

**Mode of collection of data:** The prescriptions were collected randomly and copied by using digital camera from patients attending OPD of NBMCH after taking the verbal consent form all the patients. Throughout this study, the name of the patients and the prescribers were kept confidential.

**Permission of the study:** Permission was taken from the departments and authorities.

**Research instruments:** Prescriptions, questionnaires and checklist.

**Data were analyzed on the following headings**

A. Mechanics of Prescription Order Writing (Format or Layout).
B. Legibility and clarity of the prescription.
C. WHO core prescribing indicators.

**Mechanics of Prescription Order Writing (Format):**[12] consists of the superscription, inscription, subscription, transcription (signa, and the signature) of the prescriber, all contained on a single form. The components of prescriptions were analyzed separately.

(a) Superscription: The superscription includes the date of the prescription order is written; the name, address, body weight, age of the patient; and the symbol Rx. The symbol "Rx" is said to be an abbreviation for the Latin word recipe, meaning "take" or "take thus," as a direction or order to a pharmacist, preceding the physician's "recipe" for preparing a medication.
(b) Inscription: The body of the prescription. It contains the name, amount and strength of the drug to be dispensed or the name and strength of each ingredient to be compounded.
(c) Subscription: The subscription is the instruction to the pharmacist, usually consisting of a short sentence such as: "make a solution," "mix and place into 30 capsules," or "dispense 30 tablets."
(d) Transcription: consist of signa and signature. The signa or "Sig" is the instruction for the patient as to how to take the drug. The abbreviation "Sig" for the Latin Signatura, is used on the prescription to mark the directions for administration of the medication. Use of abbreviations in direction, particularly Latin, is discouraged, because it leads to dispensing errors. Signature includes prescribers initial, identity (name, address, contact number, qualification), and registration number given by Bangladesh Medical and Dental Council (BMDC). In our country, Doctors identity usually written above the prescription format.

**Legibility and Clarity of the prescription**

The legibility of the prescription was graded on the basis of a four-point scoring system: a) no problem in reading all aspects of the prescription; b) clear but effort required; c) any single aspect not clear; and d) more than one aspect not clear. The clarity of the dose (strength and total number of daily doses) was similarly graded using a four-point scoring system: clear dose stated for all the drugs; clear but effort required; either criterion not met for at least one drug; and either criterion not met for more than one drug. Clarity of the instructions provided for the patients was evaluated as a) very clear b) took effort to interpret c) instructions for at least one drug not clear; and d) instructions for more than one drug not clear.

**WHO core prescribing indicators:** Prescribing indicators by WHO/INRUD (International Network of Rational Use of Drugs).

i) Average number of drugs per prescription
ii) Percentage of drugs prescribed by generic name
iii) Percentage of prescription with antibiotics prescribed
iv) Percentage of prescription with injection prescribed
v) Percentage of drug prescribed from essential drug list (EDL)

**Selection criteria of the patients**

A. Inclusion criteria:

1. Patients who visited the OPD of NBMCH.
2. Only new prescriptions were collected.
3. Patients referred to other hospital were not included in the study.

B. Exclusion criteria:

1. Patients who got admitted during OPD visit.
2. Prescription without format will not be accepted.
3. Non-cooperative or unwilling patients were excluded.
4. Patients who were transferred to another department.
5. Patients who were visited to emergency department.

**Ethical issue:** The study was approved by the institutional Animal, Medical ethics, Biosafety and Biosecurity committees (IAMEBBC), Institute of Biological Sciences, University of Rajshahi, Bangladesh.

**Statistical analysis:** The data were entered and analyzed by using Statistical Package for Social Sciences (SPSS) version 25 software which was computed and coded numerically. The results were expressed in percentage.

**RESULTS**

Two parameters were evaluated during this study i.e. adherence to prescription format and compliance with WHO Core Prescribing Indicators. A total number of 761 prescriptions collected randomly from different disciplines at OPD of NBMCH and were audited. The results have shown that most of the prescriptions were lacking the important patient demographics. These prescriptions were missing the age, body weight, gender and address of the patient. Out of 761 prescriptions, 635 prescriptions (83.40%) were containing the age of the patient. The remaining 126 prescriptions (16.60%) were missing the patients age. In the current study, body weight and gender of the patient were mentioned in 304 (39.95%) and 528 (69.38%) of prescriptions. An alarmingly low number of the prescriptions, only in 24 prescriptions (3.15%) out of the total 761 were containing the address of the patient. The desired result is presence of 100% of all the part of the prescription. This study shows that 100% of the analyzed prescriptions were mentioned the date of prescription and name of the patients. In the current study, name of the drugs with dosage formulation were mentioned in 100% of prescriptions whereas strength of the drugs and duration of treatment were79.37% and 98.42% respectively. Instruction or advice to the patients was 57.69% and signatures of the doctors were found 100% in the present study (Table-1).

The legibility of the prescriptions was assessed on the criteria mentioned in the methodology. There was no problem in reading all the aspects was 70.57% of the prescriptions. Clarity of instructions was found to be good in 65.17% of the prescriptions and strength of the drugs with daily dose was mentioned clearly in 66.10% of the prescriptions. Details about the various aspects of legibility and clarity of the prescriptions are presented in Table-2 and Figure 1, 2 & 3.

Drug prescribing pattern revealed that total number of drugs prescribed in the 761 prescriptions was 3350 and the mean number of drugs per prescription was 4.40 showed in Table-3. Drugs prescribed by generic name were 0.72%. Among the total prescribed drugs, 30.90% were included in the essential drug list of Bangladesh. Antibiotics were prescribed in 23.46% of total drugs present in the prescriptions. The percentage of drugs written in the prescription was 5.70% in injection form. The result of this study was found to be significantly worsened in generic prescription and the drugs prescribed from National EDL than WHO standards in context of WHO Core prescribing indicators shown in Table- 3.

**Table-1: Analysis of the errors of mechanics of prescription order writing at OPD of NBMCH (n=761).**

| Parameters | Particular item | Parts present in prescription | Percentage (%) | Parts absent in prescription | Percentage (%) |
|---|---|---|---|---|---|
| Superscription | Date of prescription | 761 | 100.00 | 0 | 0.00 |
| | Name of patients | 761 | 100.00 | 0 | 0.00 |
| | Address of patients | 24 | 3.15 | 737 | 96.85 |
| | Age of the patients | 635 | 83.40 | 126 | 16.60 |
| | Gender of the patients | 528 | 69.38 | 233 | 30.62 |
| | Weight of the patients | 304 | 39.95 | 457 | 60.05 |
| | Use of Rx symbol | 728 | 95.66 | 33 | 4.34 |
| Inscription | Name of the drugs | 761 | 100.00 | 0 | 0.00 |
| | Dosage formulation | 761 | 100.00 | 0 | 0.00 |
| | Strength of the drugs | 604 | 79.37 | 157 | 20.63 |
| | Duration of treatment | 749 | 98.42 | 12 | 1.58 |
| Subscription | Instruction to pharmacist | 473 | 62.16 | 288 | 37.84 |
| Transcription | Signa: advice/instruction | 439 | 57.69 | 322 | 42.31 |

| | | | | | |
|---|---|---|---|---|---|
| | to the patients | | | | |
| | Sgnature: initial of doctors | 761 | 100.00 | 0 | 0.00 |
| | Registration number | 0 | 0.00 | 761 | 100.00 |
| | Doctors identity (Name, qualification & address) | 761 | 100.00 | 0 | 0.00 |

**Table 2: Showing the legibility and clarity of NBMCH prescriptions (n=761).**

| Criterion | Frequency | Percentage (%) | Comments |
|---|---|---|---|
| **Legibility of prescription** | | | |
| a. No problem of reading of all aspect | 537 | 70.57 | R |
| b. Clear but took efforts | 88 | 11.56 | IR (29.43%) |
| c. One aspect not clear | 73 | 9.59 | |
| d. More than one aspect not clear | 63 | 8.28 | |
| **Clarity of instruction** | | | |
| a. Very clear | 496 | 65.17 | R |
| b. Clear but took efforts | 92 | 12.09 | IR (34.83%) |
| c. Instruction for one drug not clear | 97 | 12.88 | |
| d. Instruction for more than one drug not clear | 75 | 9.86 | |
| **Clarity of strength of drugs** | | | |
| a. Strengths of drugs were very clear | 503 | 66.10 | R |
| b. Clear but took efforts | 100 | 13.14 | IR (33.90%) |
| c. Strength for one drug not clear | 33 | 4.34 | |
| d. Strength for more than one drug not clear | 125 | 16.42 | |

NB: R=Rational, IR=Irrational

**Table 3: Analysis of WHO Core Prescribing Indicators of the patients attending OPD of NBMCH.**

| Serial Number | Indicators | Study Results | WHO Standard |
|---|---|---|---|
| 1 | Average number of drugs per prescription | 4.40 | 1.6-1.8 |
| 2 | Percentage of encounters with an antibiotic prescribed | 23.46% | 20.0% -26.8% |
| 3 | Percentage of drugs prescribed by generic name | 0.72% | 100% |
| 4 | Percentage of encounters with an injection prescribed | 5.70% | 13.4% -24.1% |
| 5 | Percentage of drugs prescribed from EDL | 30.90% | 100% |

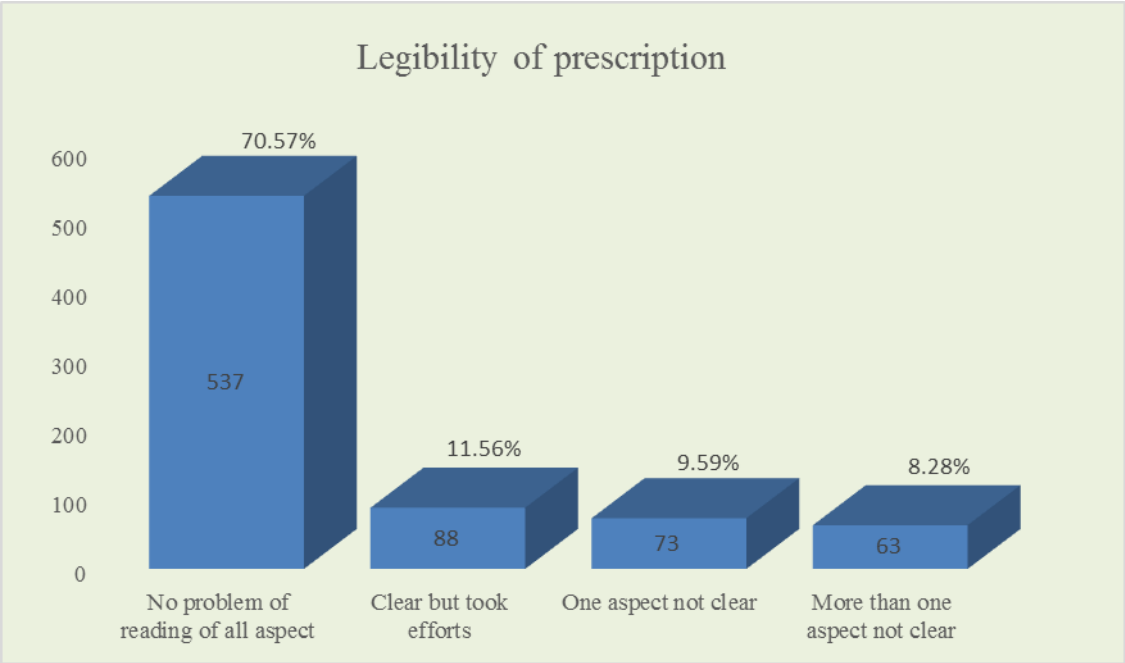


**Figure-1: Legibility of prescription at OPD of NBMCH (n=761).**

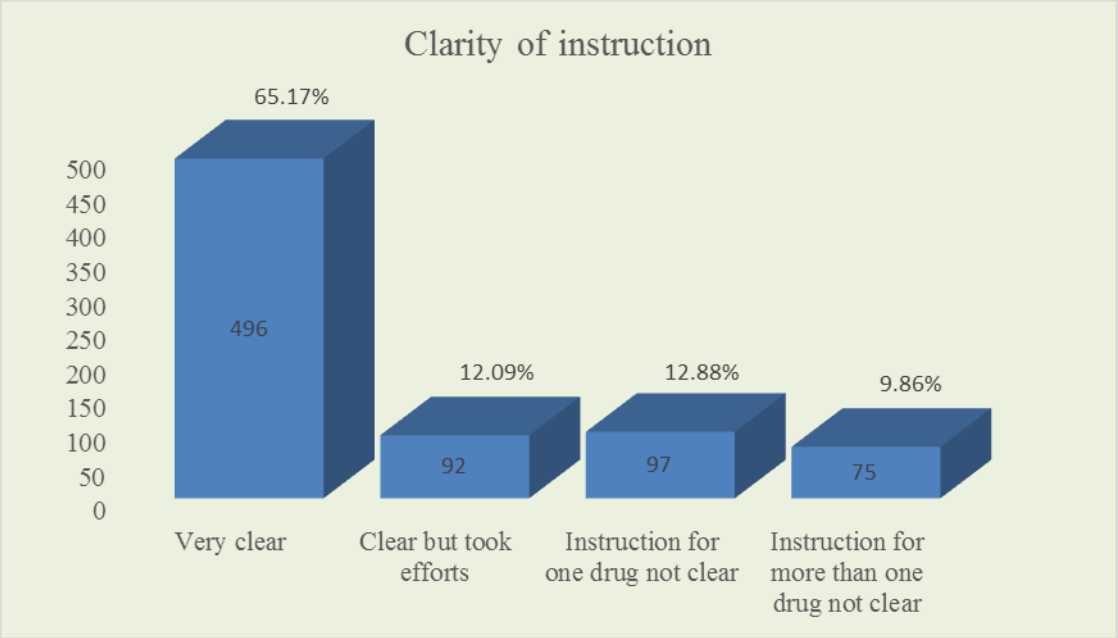


**Figure-2: Clarity of instruction to patient in the prescriptions at OPD of NBMCH (n=761).**

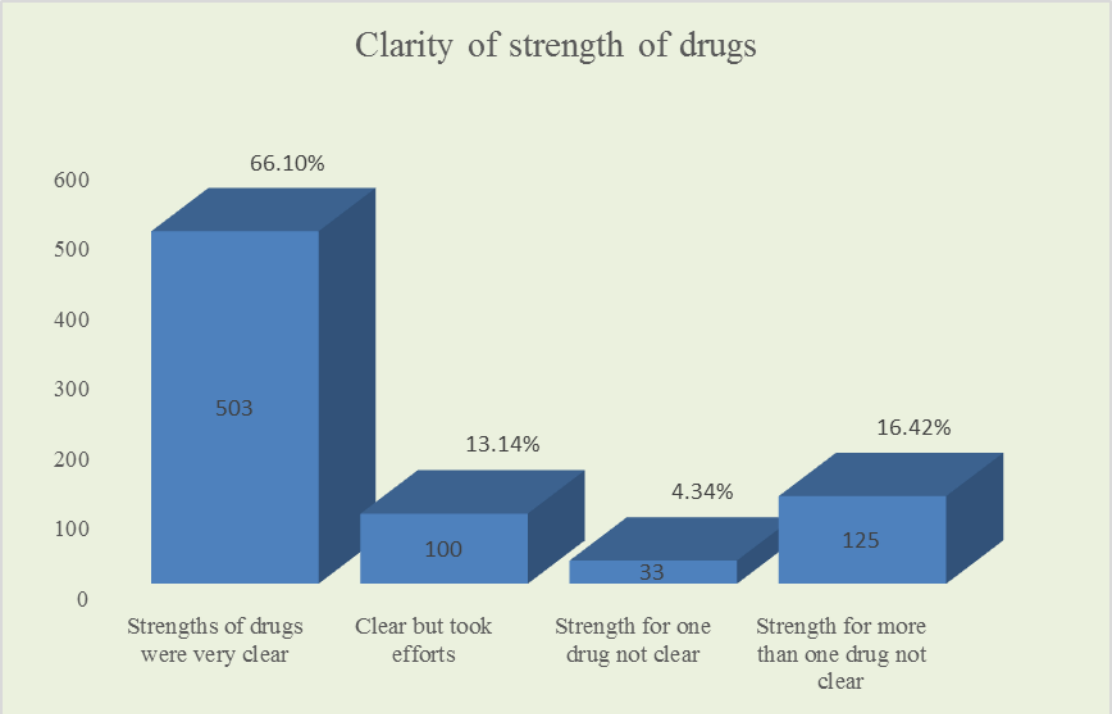


**Figure-3: Clarity of strength of the drugs in the prescriptions at OPD of NBMCH (n=761).**

## DISCUSSION

Regarding the superscription part of a format, this is considered very important while writing a prescription order. It usually contains date of prescription, name, age, gender, body weight, address of the patients and the symbol Rx/Re. According to the current study, we found that date of prescription and name of the patients were present in 100% of the prescriptions. Whereas age, gender, body weight and address of the patients were mentioned in 83.40%, 69.38%, 39.95% and 3.15% of the prescriptions. These findings have conformity with the results of several studies conducted in Pakistan[13] and India.[14] Age of the patient is important to be mentioned on the prescriptions. This facilitates the selection of correct dose of any drug to be dispensed to any patient and may also help in dispensing of the correct dosage form of the drug.

Inscription contains names of drugs, dose of the drug to be taken and the dosage form of the drug to be dispensed or used by the patient. In our study, we found that name of the drugs and dosage formulations were present 100% in all the prescriptions and that was ideal but strength of the drugs were present in 79.37% of prescriptions. In a

study of India[14] the strength of the drugs was mentioned 21.4%. Subscription is the next parameter of a prescription format that was audited in the current study. This component consists of directions to pharmacists regarding the doses and the total amount of any drug which is to be dispensed.

Transcription is also the component of a standard prescription. This part involves the instructions/advice to the patients, doctors signature with identities (name, qualification, contact number and the address of the prescriber), and registration number. In this study, prescribers signature and identities were found in 100% of the evaluated prescriptions. Whereas according to this study, registration number of doctors were absent in 100% of the prescriptions that was strongly irrational.

In the present study we found the legibility of prescription was 70.57%, our study also reveals that clarity of instruction and strengths of the drugs were 65.17% and 66.10%. On the other hand, legibility was 53.70%, 88.40%; clarity of instructions was 59.10%, 86.50% and Clarity of dose was 60.00%, 57.60% respectively in the study of India.[15,16] Our results have conformity with those results found out in the study conducted in India.

Rational drug prescribing is defined as the use of the least number of drugs to obtain the best possible effects in the shortest period at a reasonable cost. In current study, the average number of the drugs per encounter was found to be 4.40. This number is highly deviates from the standard provided by World Health Organization (WHO), according to which, the average number of drugs per encounter should be between 1.6 and 1.8. Our result was comparable with the results of Nigeria (3.8),[17] Jordan (2.3)[18] and Brazil (2.4),[19] Since, WHO has recommended that average number of drug per prescription should be within 2.0, so the result of this study reflect polypharmacy which may lead to adverse drug reactions, dispensing errors and unnecessary drug expenses.

The percentage of drugs prescribed by generic name was 0.72% in our study and WHO standard is 100%. The decreasing percentage of drugs prescribed by generic names in this study is a matter of concern and the reasons for these should be investigated. Generic medicines however are not widely manufactured in Bangladesh. Irrational use of antibiotics is always associated with a vast number of side effects and emergence of resistant strains of microbes. Antibiotics should be prescribed after culture sensitivity report and complete course of antibiotic for a particular infection should be ensured. In our study, we found the encounters with an antibiotic prescription was 23.46% which is less than the results of Nepal (28.3%)),[20] India (39.6%)),[21] and Zimbabwe (42%).[22] According to WHO, 20.0% to 26.8% of antibiotics encountered is expectable, our result was within this range.

Injections need a great care to be employed while administration to the patient. Although injectable formulations have various benefits, but they need expertise and great precautions to be taken while administered. They also increase the cost of therapy and burden on the patient or society. The WHO recommended target for injection exposure is 13.4% to 24.1%. In our study, the percentage of prescription with an injection encountered was 5.70% which is less than in Zimbabwe (13%)[22] and India (13.6%).[23] So the observed proportion of injectable drug prescribed may be considered acceptable according to WHO recommendations. Minimum use of injections is preferred and this reduces the risk of infection through parenteral route and cost incurred in therapy. [19]

In this study, the percentage of drugs prescribed from EDL of Bangladesh was 30.90% but WHO standard is 100%. The possible reason for this lower value could be the prescribers lacking the understanding the importance of essential drug concept. Essential Drug List of any country identifies those drugs that fulfill the health care need of maximum number of patients in any country. Number of the drugs, prescribed from EDL needs to be increased while prescribing, so as to match the with the WHO standards.

## CONCLUSION

From the current study, we conclude that prescribing practices are not up to the mark. Adherence to the standard prescription format is very poor. Mostly, patient demographics, instructions for drug use and prescriber registration number are in the prescription. There is a need for regular refresher courses and training programs of the physicians. Medical students should also be emphasized to learn about writing the prescriptions in a standard way during the course of their degree. The regulatory agencies should be develop a standard prescription format and implement it throughout the country. It was observed during the study that irrational practices of prescribing drugs are quite common. There is a poor compliance of the physicians with WHO Core Prescribing Indicators. From the result of this study, we found that inappropriate drug prescribing, inadequate supply of essential drugs and misuse of drugs are major problems in Bangladesh. Drug control authority should be better equipped and more vigilant to cope with the present situation.

## ACKNOWLEDGEMENTS

We are highly grateful to the authority of North Bengal Medical College Hospital, Sirajgonj, Bangladesh for giving various facilities and allowing us to performing the research work. We are also grateful to the patients attending OPD of NBMCH and who give us the samples of prescriptions as well as face to face interviewing during data collection.

**REFERENCES**


4. Ansari KU, Singh S, Pandey RC. Evaluation of prescribing pattern of doctors for rational drug therapy. Indian J Pharmacol, 1998; 30(1): 43.
5. Kanakambal S, Murugesh N, Shanthi M. Drug prescribing pattern in a Tertiary care teaching Hospital in Madurai. Indian Indian J Pharmacol, 2001; 33(3): 223.
6. Srishyla MV, Mahesh K, Nagarani MA, Mary CS, Andrade C, Venkataraman BV. Prescription audit in an Indian hospital setting using the DDD (Defined Daily Dose) concept. Indian J Pharmacol, 1994; 26(1): 23.
7. Guide to Good Prescribing by WHO. (http//apps.who.int/medicine docs/en/d/Jwhozip23e/5.4.html).
8. Promoting Rational Use of Medicines Core Components - WHO Policy Perspectives on Medicines, No. 005, September 2002.(http//apps.who.int/medicinedocs/en/d/Jh3011e/1.html).
9. World Health Organization (WHO). Introduction to Drug Utilization Research. Oslo, Norway: WHO International Working Group for Drug Statistics Methodology, WHO Collaborating Centre for Drug Statistics Methodology, WHO Collaborating Centre for Drug Utilization Research and Clinical Pharmacological Services; 2003.
10. World Health Organization and University of Amsterdam. How to Investigate the Use of Medicines by Consumers. Geneva, Switzerland: World Health Organization and University of Amsterdam; 2004.
11. WHO. Action programme on essential drugs. How to Investigate Drug Use in Health Facilities. Geneva, Switzerland: WHO; 1993: 9–31.
12. Desalegn AA. Assessment of drug use pattern using WHO prescribing indicators at Hawassa University teaching and referral hospital, South Ethiopia: a cross- sectional study. BMC Health Services Research, 2013; 13: 170. www.biomedcentral.com/1472-6963/13/170.
13. Akl OA, Mahalli AAE, Elkahky AA, Salem AM. WHO/INRUD drug use indicators at primary healthcare centers in Alexandria, Egypt. J Taibah Univ Med Sci, 2014; 9: 54-64.
14. Hogerzeil HV,Sallami AO, Walkar GJA, Farnando G. Impact of an essential drugs programme on availability and rational use of drugs. Lancet., 1989; 333: 141-142.
15. Buxton ILO. Principles of prescription order writing & patient compliance. In: Brunton LL, Chabner BA, Knollmann BC., editors. Goodman & Gillmans The Pharmacological Basis of Therapeutics. 12th ed. 2011, New York, McGrow-Hill; p.1879-1881.
16. Babar HS, Hussain S, Maqsood Z, Dad HA, Khan M, Rahman AA, Bukhsh A. Adherence to prescription format and compliance with WHO core prescribing indicators. *J Pharm Sci & Res*, 2014; 6(4): 195-199.
17. Saurabh M K, Biswas N K, Yadav, Singha A, Saurabh A. Study of prescribing habits and assessment of rational use of drugs among doctors of primary health care facilities.,Asian J Pharm Clin Res, 2011; 4(4): 102-105.
18. Patil KR, Mali RS, Dhangar BK, Bafna PS, Gagarani MB, Bari SB. Assessment of prescribing trends and quality of hand written prescriptions in rural India. Journal of Pharma Sci Tech, 2015; 5(1): 54-60.
19. Patel V, Vaidya R, Naik D, Borker P. Irrational drug use in India: A perspective survey from Goa. J Postgard Med, 2005; 5(1): 9-12.
20. Hogerzeil HV, Bimo, Ross-Degnan D, Lang RO, Ofori-Adjei D, Santoso B et al Field tests for rational drug use in twelve developing countries. Lancet, 1993; 342: 1408-1410.
21. Otoom S, Batieha A, Hadidi H, Hasan M, Al- Saudi K. Evaluation of drug use in Jordan using WHO prescribing indicators. East Mediterr Health J, 2002; 8: 537-543.
22. Acurcio FA, Perini E, Magalhaes SM, Terceiro LG, Vieira Filho JM, Coutinho KE, et al. Analysis of medical prescriptions dispensed at health centers in Belo Horizonte, Minas Gerais, Brazil. Cad Saude Publica, 2004; 20: 72-79.
23. Ghimire S, Nepal S, Bhandari S, Nepal P, Palaian S. A prospective surveillance of drug prescribing and dispensing in a teaching hospital in Western Nepal. J Pak Med Assoc, 2009; 59: 726-731.
24. Karande S, Sankhe P, Kulkami M. Patterns of prescription and drug dispensing. Indian J Pediatr, 2005; 72: 117-121.
25. Lessing C, Trap B. Zimbabwe Essential Drugs Action Programme (ZEDAP) 1995. Ministry of Health and Child Welfare Directorate of Pharmacy.
26. Bhartiy SS, Shinde M, Nandeshwar S, Tiwari SC. Pattern of prescribing practices in the Madhya Pradesh, India. Kathmandu Univ Med J, 2008; 6: 55-59.