

A STUDY ON DRUG USE PATTERN THROUGH PRESCRIPTION AND SELF-MEDICATION AMONG BANGLADESHI PATIENTS PRESENTING TO HOSPITAL, HEALTH COMPLEX AND DRUG SELLERS IN URBAN AND RURAL AREAS OF SYLHET DISTRICT

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ABSTRACT:

The study was conducted to assess the drug use pattern through prescription and self-medication among Bangladeshi patients presenting to hospital, health complex and drug sellers in urban and rural areas of Sylhet district, Bangladesh, during June to December, 2010. Data were collected from randomly selected 220 respondents by personal interviewing with a well structured questionnaire. The study reveals that 26% respondents were illiterate and only 24% had completed primary education. 71% of the respondents took medicines through prescription, at the same time as 29% of the respondents received self-medication. 58% of the prescribers were doctors followed by 15% were retail sellers and 13% were non-qualified doctors. Only 18% of the respondents were aware of the side effects of the purchased drugs and 9% of them experienced adverse drug reactions. 31% of the respondents experienced self-medication before, while 41% didn't give any comments about self-medication. Antibiotics were the mostly purchased drugs (14%) both in rural and urban areas, followed by vitamins & minerals preparations (11%), antiulcer drugs (10%) and NSAIDs (9%). Azithromycin (13%) was the highly used drug of all types of antibiotics, where diclofenac sodium (39%) & Omeprazole (55%) were the most widely used drugs of NSAIDs & antiulcerants respectively. The major problems were identified as lack of awareness, illiteracy, influence of unqualified compounders, gender discrimination on health resources distribution, shorts of an organized health care system for all, insufficiency of doctors in the health care centers and overall poor monitoring procedures by the Government & drug administration.

Key-words: Self-medication, Prescription, urban area, rural area.

INTRODUCTION:

Medically inappropriate and economically inefficient use of medicines is observed throughout the world. Bangladesh, with about 146.6 million people in only 147,570 sq km ^[1], is one of the densely populated countries in the world. It has a 'severe shortage' of human resources for health (HRH) ^[2] and a workforce far below the threshold value of 22.8 per 10000 population estimated by the World Health

Organization (WHO) as necessary for meeting the health-related Millennium Development Goals (MDGs). Given the shortage of qualified health workforce in Bangladesh and the inequity of their distribution, people prefer to seek health care from non-qualified providers in the informal sector, especially the poor and the disadvantaged ^[3]. Lack of facilities, lack of doctors, and lack of medications; moreover lack of appropriate knowledge of both

doctors and patients are leading the health of rural patients in a great risk. Inadequate supply of essential drugs, substandard quality, uncontrolled drug prices and inappropriate uses of drugs are major problems in Bangladesh. Prescriptions may include orders to be performed by a patient, caretaker, nurse, pharmacist or other therapist^[4]. Commonly, the term *prescription* is used to mean an order to take certain medications. Self-medication is a term used to describe the use of drugs (including alcohol) or other self-soothing forms of behavior to treat untreated and often undiagnosed mental distress, stress and anxiety, including mental illnesses and/or psychological trauma^[4]. Self-care is a predominant therapeutic activity consisting 30-40% of the disadvantaged populations including women, elderly, ethnic minorities and poor in Bangladesh^[5]. Over-the-counter medicines have emerged as drugs of serious misuse across Bangladesh, and other neighboring countries. One report estimates that there are 4 million drug misusers in the South Asian region, where Bangladesh accounts for half a million of the total^[6]. Along with the common practices of self medication, almost every drug store salesperson is illegally involved in the recommendation and sells of prescription only medicines in Bangladesh^[7]. Self-medications in a country with low literacy level like Bangladesh is very important where prescription medicines are freely available. This may pose serious risks related to inappropriate and irrational personal use of medicines. The rational use of drugs is an essential element in achieving quality of health and medical care for patients and the community, and this must be the important concern of practitioners.

Use of antibiotic and antimicrobial without any valid reason is most common in Bangladesh. This is the reason why antibiotic resistance is growing up^[8].

The objectives of the study were

- 1) To know the awareness of the patients on using the medications.
- 2) To identify the health status of the urban and rural people.
- 3) To recognize the reasons for self-medication.
- 4) To identify the drugs which are most frequently used on self-medication.
- 5) To take initiative steps to reduce the tendency of self-medication.
- 6) To assist the FDA by providing relevant data that they could monitor the drug market properly.
- 7) To promote the rational use of drug.
- 8) To explore the major side effects or hypersensitivities of drug therapy.
- 9) To make out the mostly purchased drugs.
- 10) To estimate the standard prescription as well as sub standard pattern.

MATERIALS AND METHOD:

The study was conducted by collection of primary data from individual respondents. For this study both urban areas (Sylhet town) and rural areas (Moiyarchar, Badhaghat, Bishwanath, Golabganj and Salotikar) of Sylhet District were selected. For data collection from respondents a questionnaire was prepared in accordance with the objective set for the study. Before preparing the questionnaire, a draft questionnaire was developed and then pre-tested in the study area. The questionnaire was then changed, modified and rearranged according to experience gather in the pre

testing. The final questionnaire then developed in logical sequence so that the respondents could answer chronologically. Question related to age, gender, education income and health status of respondents; indications of illness; types of drug purchased; dosage schedule and dosage information; reasons for self-medication and other relevant data included in the questionnaire.

The sample size of respondents depends on several factors such as financial constraints, the importance of the study, its method of data collection etc. For this study the data were collected from 220 randomly selected respondents. Among them 143 were male and 77 were female. For questionnaire interviews, simple random sampling method was followed for 220 respondents in the Golapgonj, Bishwanath and Sadar upazila of Sylhet district. Respondents were interviewed at the health complex, hospital and retail pharmacy shops. Interview of each respondent required about half an hour.

After each visit, the collected information was verified for accuracy. Most of the respondents helped us through giving relevant data. There were some respondents

who were unwilling to give information. We tried our best to convince them and collect data. After collection of data, were scrutinized carefully and recorded. Finally, relevant tables and graphs were prepared in accordance with the objectives of the study. Data presented mostly in the tabular form because it is simple in calculation, widely used and easy to understand.

RESULT AND DISCUSSION:

The study on drug use pattern through prescription and self-medication among Bangladeshi patients was described by giving emphases on age structure, gender, educational status, income level, health status, indication of ailment, prescriber, source of dosage information, name of the purchased drugs, types of drugs purchased, awareness of side effects of the purchased drugs and reasons for self-medication. A total of 220 respondents were interviewed for the collection of data for this study.

Table 1. Education status of the respondents

Education	No Formal Education	Primary	Under SSC	Vocational/ Technical	HSC	Bachelors	Masters & Above
Urban	16	28	30	8	29	7	2
Rural	41	26	20	4	8	1	-
Total	57	54	50	12	37	8	2

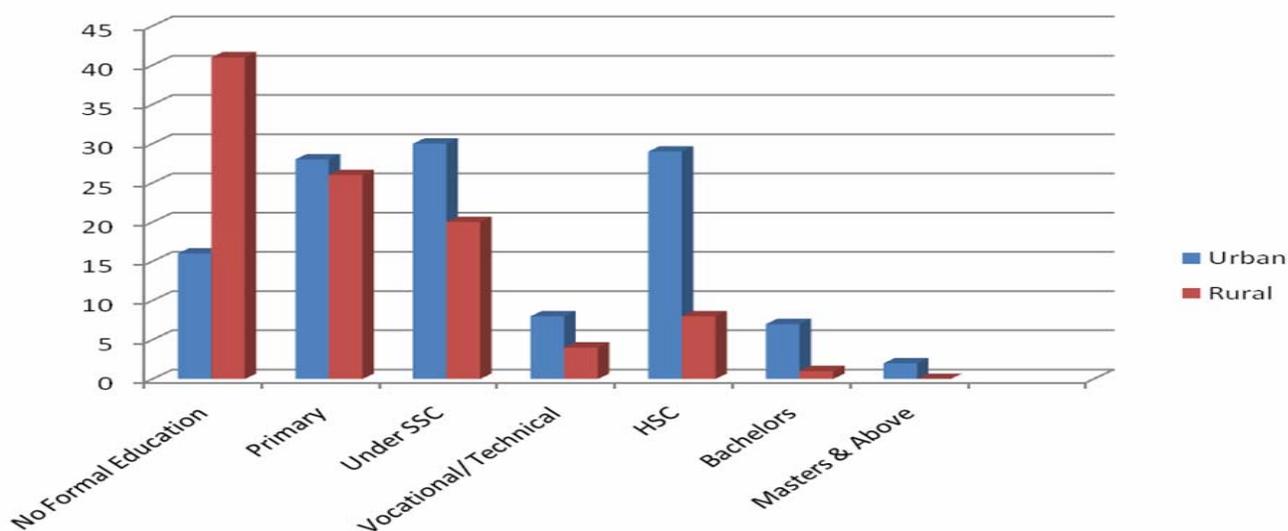


Fig. 1. Scenario of education status among urban & rural areas

Education status:

Education is an obligatory prerequisite for human resource development and an important indicator of social advancement. The present study illustrated that 26% of the respondents were illiterate and 24% had primary education only. When only rural area is considered, the illiteracy rate is 41%. Low label of literacy rate among the respondents indicates the lacking of health awareness among the respondents.

Drug use pattern among the respondents:

Prescription is an order written by a physician, dentist or any other registered medical practitioner to a pharmacist to compound and dispense a specific medication for the patient. It provides a common link of mutual interest between the physician, the pharmacist and the patient. It is the duty of the pharmacist to serve the medication needs of the patient according to the intention of the prescriber.

Table 2. Drugs sold on

Drugs sold on	Prescription	Self-Medication
Urban	92	28
Rural	63	37
Total	156	64

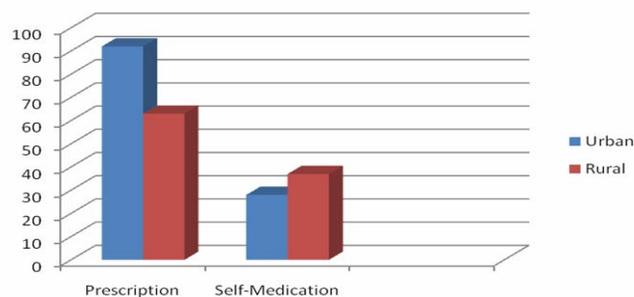


Fig. 2. Scenario of drug selling pattern among urban and rural areas

The study represented that the major portion of the respondents (71%) buy medicine through prescriptions. But also a concerning portion of respondents (29%) take medicines

through self-medication most of which are used wrongly.

Source of dosage information:

Usually the dosage regimen of any drugs is written by the prescriber on the prescription

along with the name of the drugs. The number of doses of the drug to be taken is also mentioned on the prescription. The patients should follow these instructions on the prescription for a thriving treatment procedure.

Table 3. Source of dosage information

	Doctor	Non-qualified Doctor	Previous prescription	Retail seller	Friends/ Relatives	Self
Urban	92	0	5	11	2	10
Rural	35	29	2	25	0	9
Total	127	29	7	36	2	19

Fig. 3. Scenario of source of dosage information among urban & rural areas

It was illustrated on the study that 58% respondents receive dosage information from the doctors followed by 16% from retail sellers, 13% from non-qualified doctors, 9% by themselves, 3% from previous prescription and 1% from their friends & relatives. If we compare between urban and rural areas, we found that a significant portion of respondents from rural area receive medicines and dosage information on retail sellers’ advices which are most often promote irrational use of drugs.

Awareness of the side effects of purchased drugs:

Side effects of any drug are problems that occur when treatment goes beyond the desired effect or problems that occur in addition to the desired therapeutic effect. Again some patients show hypersensitivity to some specific drugs. Therefore it is a serious matter of concern while taking a medication therapy. Everyone should be aware about any unwanted effects of the purchased drugs and should report to the

doctors immediately if any adverse effects or side effects are observed during the medication therapy.

Table 4. Awareness of the side effects of purchased drugs

	Yes	No
Urban	29	91
Rural	10	90
Total	39	181

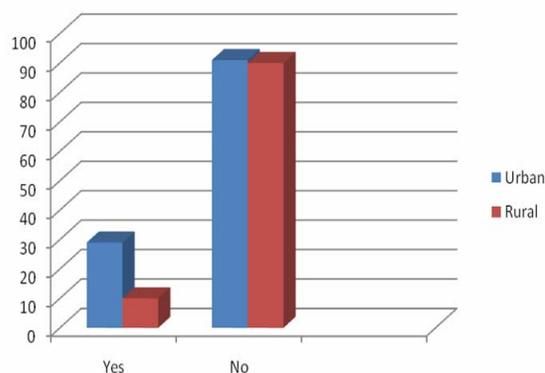


Fig. 4. Scenario of awareness of the side effects of purchased drugs among urban and rural areas

During the study, it was found that most of the respondents (82%) were not aware of the side effects of the purchased drugs. Only a small portion of respondents (18%) were aware of any side effects of the purchased drugs. The scenario of lack of awareness among the respondents is same both in urban and rural areas.

Adverse reaction experienced:

According to WHO, any response to a drug that is noxious & unwanted and that occurs at dose used in man for prophylaxis, diagnosis or treatment is called adverse drug reaction. It is harmful or seriously unpleasant effects occurring at therapeutic dose range and which call for reduction of dose or withdrawal of the drug and/or forecast hazard from future administration.

Table 5 Adverse reaction experienced

	Yes	No
Urban	8	102
Rural	11	89
Total	19	201

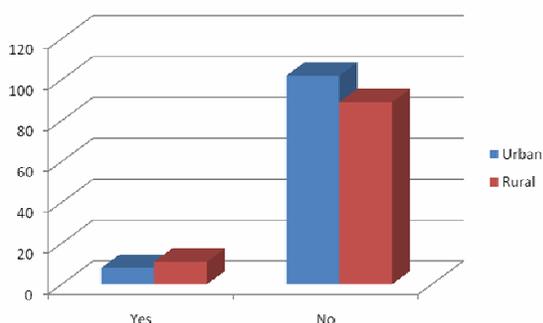


Fig.5. Scenario of adverse reaction experienced among urban and rural areas

Table 6. Self-medication effectiveness

	Yes	Experienced	Don't know	Not for all disease	No
Urban	3	27	49	40	1
Rural	0	42	40	18	0
Total	3	69	89	58	1

During the study, it was found that 91% of the respondents didn't experience any kind of adverse drug reactions, while remaining 9% experienced various kinds of adverse drug reactions such as nausea, vomiting, hypersensitivities, gastritis, diarrhea, skin rash and so on. But most of the respondents experienced adverse drug reactions, never informed their physician or prescriber. It seems that the majority of the adverse drug reactions are due to over use of antibiotics and self-medication.

Self-medication effectiveness:

Self-medication as a mean of self-care through the purchase of over-the-counter (OTC) medicines is, and always has been common in the society for a wide variety of minor ailments, such as headaches, colds and indigestion. But such products can often be misused or abused and sometimes patients buy some restricted medicines themselves. Thus promote irrational use of drug and very often lead to serious health hazards.

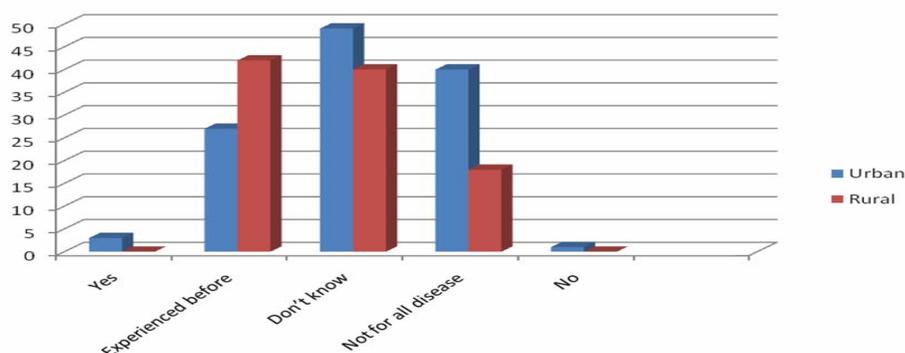


Fig. 6. Scenario of self-medication effectiveness among urban and rural areas

The study represented that 31% of the total respondents experienced self-medication before in contrast with 26% of the respondents believed that self-medication is not effective for all diseases. 41% of the respondents didn't know about self-medication, while 1% believed that it is

effective and remaining 1% gave negative opinion about it.

Reasons for self-medication:

The study illustrated that major part of the respondents (23) receive self-medication due to high doctor fees followed by 22 respondents knew the remedy. 9 respondents gave unsatisfactory answers.

Table 7. Reasons for self-medication

Reasons for self-Medication	No. of respondents
No doctor in the area	3
No health center	0
No doctor in the health center	2
High fee of doctor	23
Remedy is known	22
Distance of the health center	2
Not enough time to go to doctor	3
Unsatisfactory	9
Not satisfied with the doctor	0

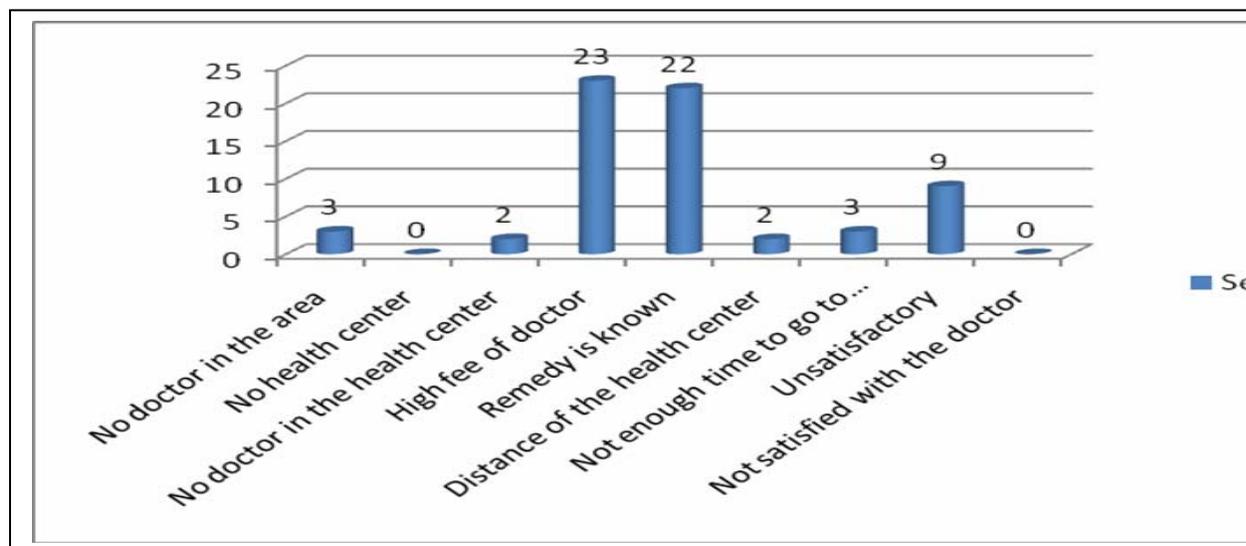


Fig. 7. Reasons for self-medication

From the above graph it is stated that most reasons for self-medication are high fee of doctor and known remedy.

Types of drugs used in self-medication:

The types of drugs used in self-medication were diverse. Among them antibiotics and antipyretics were used as highest number (15 individually) followed by Antihistamines and Vitamins & Minerals preparation (12 individually). The number of NSAIDs and antiulcerant used by the respondents were 11 and 8 respectively. Other drugs used in self-medication were anthelmenthic, antidysentric, psychoactive, ORS, cardiovascular drugs, respiratory drugs, ophthalmic preparation, steroids and others. No drugs like Insulin, oral antidiabetic, ENT preparation, antacid and dermatological preparations were used in self-medication.

Table 8. Types of drugs used in self-medication

SL	Drugs type	Total
01	Antacid	0
02	ENT preparation	0
03	Anthelmenthic	4
04	Insulin	0
05	Oral antidiabetic	0
06	Antibiotics	15
07	NSAIDs	11
08	Antiulcer	8
09	Antidysentric	5
10	Antihistamines	12
11	Antipyretics	15
12	ORS	5
13	Psychoactive	5
14	Cardiovascular Drugs	4
15	Respiratory drugs	1
16	Dermatological	0
17	Ophthalmic preparation	5
18	Steroids	2
19	Vitamins & Minerals	12
20	Others	8
21	Total	112

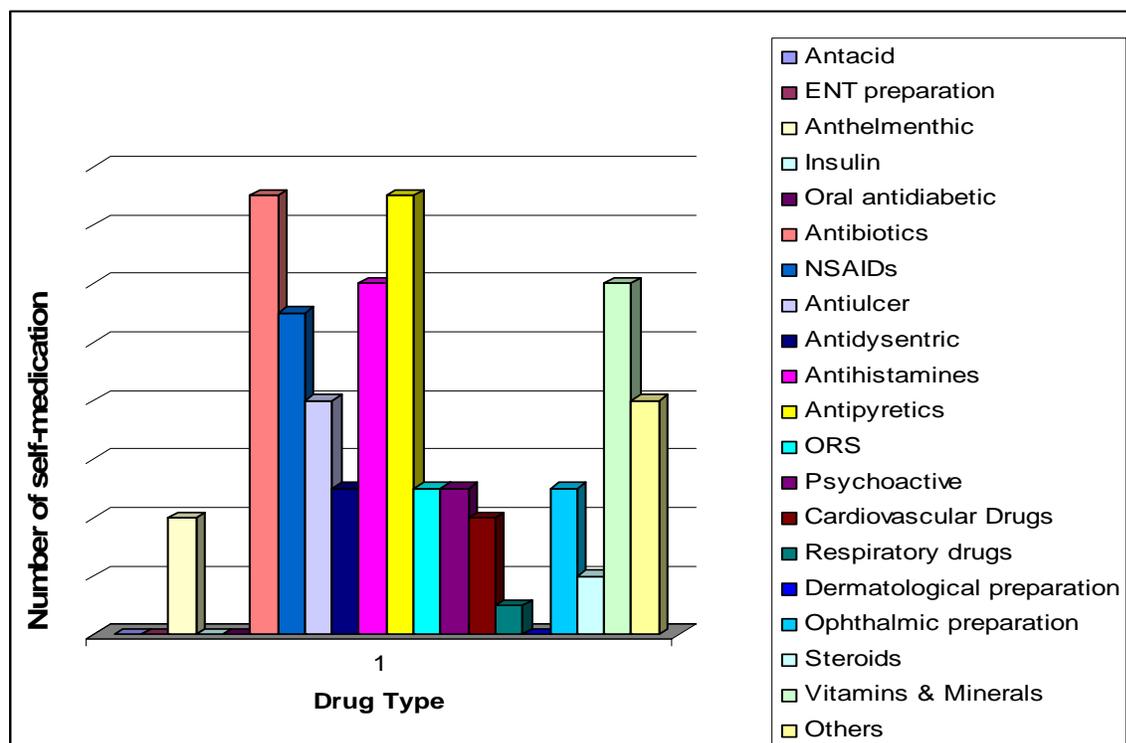


Fig. 8. Types of drugs used in self-medication

CONCLUSION:

The survey results show that the majority of the respondents obtained their medication from the doctors; but a significant portion of the respondents receive self-medication, most of which are irrational. Short interaction time with patients by health workers, overuse of antibiotics, polypharmacy, poor-communications between patient and dispensing personnel, inadequate and faulty dispensing techniques are some of the factors which plague our health systems according to this study. Most of the respondents are not aware of the side effects of the purchased drugs. Antibiotics and vitamins & mineral preparations are widely used drugs. Some of the respondents experienced adverse drug reactions, such as

nausea, vomiting, hypersensitivities, gastritis, diarrhea, skin rash and so on; but never reported to their doctors. The reasons beyond such adverse drug reactions may be irrational & overuse of antibiotics and a higher tendency of self-medication. From the study we can clearly see that, Bangladesh is in a very precarious situation as the non completion of antibiotic courses and prescription of antibiotics unnecessary is widespread. These two factors constitute a major portion of the reason behind the antibiotic resistance. To overcome this situation massive awareness building campaigns should be taken to educate the patients regarding the vital importance of completing the course and also to doctor regarding the dangers of indiscriminate use of antibiotic prescription.

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