

## Status of Self-medication Among the Patients Attending Outpatient Department in Selected Private Hospitals in Dhaka City

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### Abstract

**Background:** Self medication is a common practice in developing countries. Inappropriate self-medication causes wastage of resources, increases resistance of pathogens and generally causes grave health hazards such as drug reactions, perpetuated suffering and dependence on drugs.

**Objectives:** The purposes of this study were to determine the status of self-medication, types of medicine used and reasons of self medication.

**Methods:** It was a cross sectional study and the study extended from November 2017 to March 2018. The study was conducted purposively selected two private hospitals in Dhaka city, which had outpatient department, namely, Samorita Hospital Ltd. and Popular specialized Hospital Ltd. from each zone of Dhaka. The calculated sample size was 303.

**Results:** One hundred and fifty two respondents were interviewed from each hospital. Every 3<sup>rd</sup> patient was selected for interview according to the selection criteria. A pretested semi-structured interviewer administered questionnaire was used for collecting data. Majority of the respondents were male (62.40%). This study reported that more than half (68.98%) of the respondents practiced self medication for their complaints. Highest percentages of complaints for taking self medication were respiratory tract infections (27.49%) and gastrointestinal disorders (21.51%). Most common drugs used for self medication were H<sub>2</sub> receptor blocker/PPI (23.98%), antibiotics (21.35%) and antipyretic (18.42%). Nearly half (40.92%) of the respondents used self medication for quick relief, one fourth (23.43%) of the respondents for previous experience, seventeen percent of the respondents took self medication due to lack of time. The commonest source of medicine was pharmacy (74.16%).

**Conclusion:** Self-medication is relatively a common problem in Bangladesh. So, the existing laws must be implemented strongly to stop selling medicine by the pharmacists without prescription. Awareness should be developed about the dangers of self medication.

**Keywords:** Status of medication, Urban area, Outpatient, Private hospital.

### Introduction

Self-medication is a worldwide problem and is common practices in developing countries.<sup>1</sup> Self-medication can be defined as taking of drugs, herbs or home remedies on one's own initiative, or on the advice of another person, without consulting a doctor.<sup>2</sup> Inappropriate self-medication causes wastage of resources, increases resistance of pathogens and generally causes grave health hazards such as drug reactions, perpetuated suffering and dependence on drugs. Several factors could affect the self medication practice and that includes sex, age, race, scholastic and economic status.<sup>1</sup> In the United Kingdom where on the average 50% of health care takes place within the realm of self medication.

In neighboring countries like India, 35.48% male and 15.56% female used self -medication due to the lack of time.<sup>3</sup> Where in Nepal, a 59% of the study population took self medication for minor illness.<sup>4</sup> In Srilanka, prevalence of self medication use in urban and rural population was 33.9% and 35.3% respectively.<sup>5</sup> In Bangladesh, a study was conducted on the students of selected medical colleges of Dhaka city showed almost moiety of the respondents 47.06% reported practiced self-medication for their illness.<sup>6</sup> While in an another study found that 26.69% people experienced self medication with antibiotics.<sup>7</sup>

The most paramount perils cognate to self-medication practices are drug interactions, medications abuse or dependence, misdiagnosis and erroneous choice of treatment. A major issue of self medication with antimicrobials is the

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emergence of human pathogens resistance globally especially in developing countries, where antibiotics are often available without a prescription.<sup>8</sup> There are some factors influence self-medication like lack of time, urge of quick relief, poverty, lacking of education and awareness, ignorance, lack of health services, misbelieves, extensive advertisement and availability of drugs. In many cases people are using traditional home remedies to reduce sufferings immediately where many of them are not medically proved.<sup>3</sup> Home remedies are simply prepared medication or tonic, made with ingredients available at home, often of unproven effectiveness administered without prescription or professional supervision and additionally kened as totka.<sup>9</sup> Traditions run deep in the communities of Bangladesh, even many people are reluctant to seek professional medical care. Home remedies are quite prevalent in Bangladesh and practically every household has multiple remedies for avoidance and treatment of various diseases.<sup>10</sup> Thus this issue of self-medication must be addressed and approached with high vigilance and clear vision. Utilisation of medicines by oneself can engender irreversible damage to health. The general people must sentinel against the hazards of infelicitous self-medication practices.

In the context of Bangladesh, it is still needed to explore this subject in getting more detail scenario of self medication.

### Materials and Methods

It was a cross sectional study and the study extended from November 2017 to March 2018. The study was conducted at selected private hospitals in Dhaka city namely Samorita Hospital Ltd. and Popular specialized Hospital Ltd. which had outpatient department. Dhaka is the capital city of Bangladesh and is the principal city of Dhaka district and division. It is divided into north and south zone. One hospital from each zone was selected purposively.

The sample size was calculated by using the formula,  $n = (Z^2 * p * q) / d$ .<sup>2</sup> And the calculated sample size was 303. Where  $p = 0.27$  (26.69% participants experienced self medication with antibiotics).<sup>7</sup> Respondents were equally distributed. One hundred and fifty two respondents were selected from each hospital.

From each hospital 152 respondents were interviewed. Calculated sample size was 303. The outpatient departments of the hospitals were visited by 25 patients daily. Data were collected five days in a week. Thus 1000 patients came

during the study period of 8 weeks and as such given the sampling interval of 3.30. So every 3<sup>rd</sup> patient was selected for interview according to the selection criteria until the fulfillment of the desired sample size.

A semi structured interviewer-administered questionnaire was developed which had 2 sections. Section-I consisted of socio-demographic characteristics included age, sex, religion, marital status, education, occupation, personal and annual family income, type of the family, number of family members, number of children and housing condition and section-II consisted of factors related to self medication included presenting complaints, days of sufferings, consultation of health care professional, medicine used without consultation, type of drugs used for self medication, source of medicine, dosages of medicine, information regarding self medication, home remedies, causes of self medication, side effects of self medication, measures taken for side effects of self medication, sharing prescription and advising medicine to others. There were total 31 questions. It was pre-tested among 10 (ten) patients similar to the study population in other place. Verbal informed consent was taken from each respondent assuring that the collected data would be anonymous and kept confidential. Data were collected by researcher himself.

The Statistical Package for Social Science (SPSS) was used to analyze the data.

Approval obtained from the Ethical Review committee of the State University of Bangladesh. Permission was taken from the respective departments of selected private hospitals in Dhaka city. Respondents had right to refuse and withdraw from the study at any time was ensured.

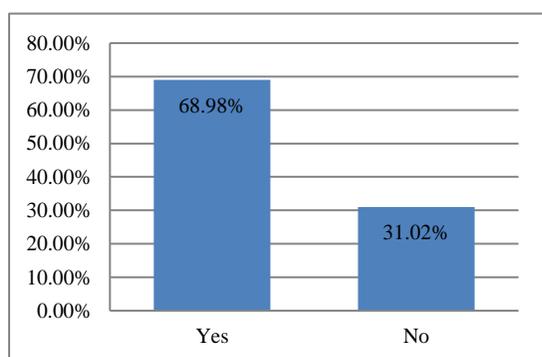
### Results

It was found that 62.40% respondents were male and 37.60% were female. The mean age of the respondents was  $34.90 \pm 11.98$  years, minimum 18 years and maximum 80 years. In the same table, educational status of the respondents shows that majority 36.96% completed SSC education followed by graduate 36.30%. Again out of 303 respondents 36.60% were in non government service, 20.79% were students, 13.86% house wives, 11.22% were in business, 6.93% government service holder and 10.89% others (included daily wage earner, house maid, retired, freelancer, farmer and unemployed). Here the mean annual family income of the respondents was  $8,73,537.95 \pm 5,22,997.47$  BDT, minimum 50,000 BDT and maximum 28,00,000 BDT (table I).

**Table I:** Distribution of the respondents by sex, age, education, occupation and annual family income. (n=303)

Sex	No of respondents	%
Male	189	62.40
Female	114	37.60
<b>Total</b>	<b>303</b>	<b>100</b>
Age group	No of respondents	%
≤ 30 years	128	42.20
31 – 45 years	118	38.90
46 – 55 years	39	12.90
56 – 70 years	16	5.30
≥ 71 years	2	0.70
<b>Total</b>	<b>303</b>	<b>100</b>
Mean age =34.90±11.98 years, Minimum = 18 years, Maximum = 80 years		
Educational level	No of respondents	%
Illiterate	12	3.96
Primary education	29	9.57
SSC	112	36.96
Graduate	110	36.30
Post graduate	40	13.20
<b>Total</b>	<b>303</b>	<b>100</b>
Occupation	No of respondents	%
Government service	21	6.93
Non government service	110	36.31
Business	34	11.22
Student	63	20.79
House wife	42	13.86
Others	33	10.89
<b>Total</b>	<b>303</b>	<b>100</b>
Annual family income	No of respondents	%
≤ 5,00,000 BDT	87	28.71
5,00,001 - 10,00,000 BDT	118	38.94
10,00,001 -15,00,000 BDT	71	23.43
15,00,001 - 20,00,000 BDT	18	5.94
≥ 20,00,001 BDT	9	2.97
<b>Total</b>	<b>303</b>	<b>100</b>
Mean = 873537.95 ± 522997.47, Minimum = 50,000, Maximum = 28,00,000		

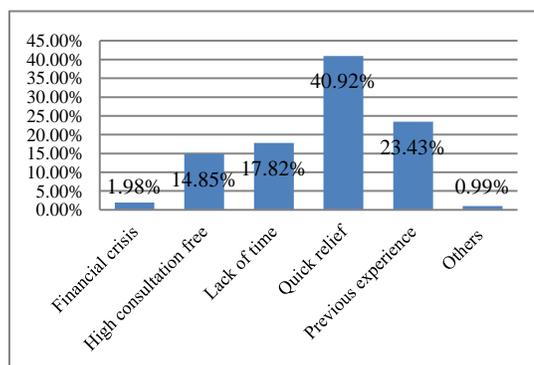
More than half (68.98%) respondents took medicine without asking any professional and 31.02% respondents did not (figure 1).



**Figure 1:** Distribution of the respondents by using self-medication. (n=303)

About 40.92% respondents took self medication for quick relief, 23.43% respondents used self medication from previous experience, 17.82%

respondents took self medication due to lack of time and 14.85% self medicated due to high consultation fee of the consultants, 1.98% for financial crisis and 0.99% others (included believed in home remedies and parental advice) (figure 2).



**Figure 2:** Distribution of the respondents by reasons of self-medication. (n=303)

Generally, there were some clinical conditions for which respondents used self-medication like respiratory tract infections (includes sore throat, cough, running nose, shortness of breath, Haemoptysis) 27.49%, 21.51% complained of gastrointestinal disorders (includes abdominal pain, vomiting, loose motion, constipation, nausea, loss of appetite), 18.18% came with fever, 12.20% headache, 9.98% came with skin and soft tissue infection, 9.53% respondents suffered from musculoskeletal disorders (includes ankle sprain, knee pain, back pain, spinal pain, ankle swelling and pain) and 1.11% respondents came with kidney and urinary tract disorders (includes burning micturation, urinary retention). About 59.41% respondents of total 303 advised medicine to others and 40.59% respondents did not. A highest majority 96.37% of 303 respondents never shares prescription to others but only 3.63% respondent's shared prescription to others.

**Table II:** Distribution of the respondents by presenting complaints, advising medicine and sharing prescription to others and necessity of consultation for minor complaints. (n=303)

Complaints	No of respondents	%
Headache	55	12.2
Respiratory tract infections	124	27.49
Musculoskeletal disorders	43	9.53
Gastrointestinal disorders	97	21.51
Fever	82	18.18
Skin and soft tissue infection	45	9.98
Kidney and urinary tract disorders	5	1.11
Multiple responses		
Advising medicine	No of respondents	%
Yes	180	59.41
No	123	40.59
<b>Total</b>	<b>303</b>	<b>100</b>
Sharing prescription	No of respondents	%
Never	292	96.37
Sometimes	11	3.63
<b>Total</b>	<b>303</b>	<b>100</b>
Necessity of consultation	No of respondents	%
Yes	48	15.84
No	255	84.16
<b>Total</b>	<b>303</b>	<b>100</b>

Again 84.16% respondents thought they need not any consultation of doctor for minor complaints whereas only 15.84% respondents said they need doctors' consultation for minor complaints. Among the respondents who used different types of drugs as self-medication, 23.98% took H<sub>2</sub> receptor blocker/PPI as self-medication, 21.35% took antibiotics, 18.42% used antipyretic, 13.45% anti-histamines, 11.11% anti-inflammatory/analgesic, 3.22% anti-emetics, 7.58% others (included anti spasmodic, Prochlorperazine, laxatives, oral gel, sedative, ointments, nasal drop, vitamins, anti septic solution, syrup) and 0.88% could not mention the name of the medicine. Respondents got information about dosages of medicine from different ways. More than half (58.37%) respondents got information about the dosages of medicine from pharmacist, next 25.36% from family members/friends, 15.31% respondents got information from previous experiences and 0.48% had no idea about dosages of medicine. Most of the respondents (74.16%) got their medicine from pharmacy while 25.84% from house hold (table III).

**Table III:** Distribution of the respondents by using drugs, getting information about the dosages of medicine and source of medicine. (n = 209)

Type of drugs	No of respondents	%
Antibiotics	73	21.35
Antipyretic	63	18.42
Anti-inflammatory/Analgesic	38	11.11
Anti-emetics	11	3.22
Anti-histamines	46	13.45
H <sub>2</sub> receptor blocker/PPI	82	23.98
Others	26	7.58
Could not mention the name	3	0.88
Multiple responses		
Getting information	No of respondents	%
By consulting pharmacist	122	58.37
By consulting family members/friends	53	25.36
Previous experience	32	15.31
No idea about dosages	1	0.48
Own knowledge (Pharmacy student)	1	0.48
<b>Total</b>	<b>209</b>	<b>100</b>
Source	No of respondents	%
Pharmacy	155	74.16
Household	54	25.84
<b>Total</b>	<b>209</b>	<b>100</b>

There was statistically significant association ( $p \leq 0.01$ ) between self medication and necessary of taking consultation from doctor for minor complaints. More than half of the respondents said that consultation of doctors for minor complaints was not necessary. It is documented in this study that there is statistically significant association between educational level and self medication ( $p \leq 0.05$ ). But there was no statically significant association between the family income of the respondents and self medication ( $p = 0.06$ ) (table IV).

**Table IV:** Association between socio demographic characteristics of the respondents and self medication, home remedies and necessity of consultation for minor complaints. (n=303)

Sex of the respondents	Self medication			p
	Yes	No	Total	
Male	138	51	189	0.034
Female	71	43	114	
Total	209	94	303	

Self medication	Necessity of consultation for minor complaints			p
	Yes	No	Total	
Yes	21	188	209	0.000
No	27	67	94	
Total	48	255	303	

Educational level	Self medication			p
	Yes	No	Total	
Illiterate	9	3	12	0.035
Primary education	24	5	29	
SSC	85	27	112	
Graduate	68	42	110	
Post graduate	23	17	40	
Total	209	94	303	

Annual family income	Self medication			p
	Yes	No	Total	
≤ 5,00,000 BDT	68	19	87	0.06
5,00,001 – 10,00,000 BDT	80	38	118	
10,00,001 – 15,00,000 BDT	48	23	71	
15,00,001 – 20,00,000 BDT	9	9	18	
20,00,001 BDT ≥	4	5	9	
<b>Total</b>	<b>209</b>	<b>94</b>	<b>303</b>	

## Discussion

Self-medication is an alarming practice. It would be safe, if the people who are taking it, have sufficient knowledge about its dose, time of intake, side-effects of over dose. But due to lack of information it can cause serious effects such as antibiotic resistance, hypersensitivity and allergy. This cross sectional study was conducted among 303 respondents attending the outpatient department of selected private hospitals in Dhaka city to determine the

proportion of self medication among them. In this study, more than half (68.98%) of the respondents took self medication for their complaints. The study result revealed that male respondents took more medicine without consultation of doctor for their complaints than female. There was statistically significant association between sex of the respondents and medicine used without consultation ( $p \leq 0.05$ ).

Higher percentage of the complaints of taking self medication were respiratory tract infections 27.49% and gastrointestinal disorders 21.51% documented in the study and both of the categories were collectively more than fifty percent. The results also showed that the most common drugs respondents used for self medication were H<sub>2</sub> receptor blocker/PPI 23.98%, antibiotics 21.35% and antipyretic 18.42%. H<sub>2</sub> receptor blocker/PPI drugs are using in our country invariably as self medication as because of lack of knowledge about drugs, misbelieve of the safety of using these drugs and availability. In this study, 21.35% respondents used antibiotics as self medication which was alarming. A study which was conducted in Rajshahi city in Bangladesh showed 26.69% participants experienced self medication with antibiotics.<sup>7</sup> In another study in Iran, more than 53.0% of the respondents practiced self-medication with antibiotic within 3 months afore the study.<sup>11</sup> Proximately half (40.92%) of the respondents use self medication for quick relief and fifteen percent of the respondents took medicine of their own for the lack of time. Thus the respondents use self medication for quick relief which was kindred to the study conducted in India where 55.0% took drugs of their own for quick relief, 58.0% for lack of time.<sup>12</sup> Other study showed homogeneous attributes like more than a moiety of self-medicated respondents 52.0% reported that they did so because they did not have time to visit formal health care facilities.<sup>13</sup> The study results showed that the most common source of medicine was pharmacy (74.16%) for self medication. Respondents got their medicine from pharmacies easily without any prescription where the regulatory entities were relaxed about to enforce the subsisting laws to stop selling medicine without doctors' prescription. The study findings are similar to a study conducted at Tabuk city in Kingdom of Saudi Arabia where the common source of self medication was the private pharmacy (including pharmacists), which reported by (63.8%).<sup>1</sup> There is homogeneous attribute of getting medicine from pharmacies for self medication in a study conducted in Riyadh, Saudi Arabia. The study showed over the counter drugs purchased from private pharmacies was the most commonly used source of self medication, reported by the majority of self medicated patients (79.1%).<sup>13</sup>

It was found that more than a moiety (58.37%) respondent got information about the dosages of medicine from pharmacist. Education of the respondents is considered as the most important factor in determining the utilization of self medication. There was statistically significant association between educational level and self medication ( $p \leq 0.05$ ). The result was consistent with a study conducted in Nigeria where there was a positive correlation between the education level of the respondents and the tendency to obtain medications from the hospital/ pharmacies.<sup>14</sup>

### Conclusion

People were getting medicine from pharmacies without prescription, so that existing laws should be implemented strongly to stop selling medicine by the pharmacist without prescription of physician. Furthermore, awareness should be developed about the dangers of sharing prescription to others, inappropriate and irrational use of medicine and its adverse effects by using appropriate communication tool.

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