

# INVESTIGATION OF SELF-MEDICATION PRACTICES OF MEDICINES AMONG BIOLOGICAL SCIENCE STUDENTS OF DHAKA UNIVERSITY IN BANGLADESH

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**Abstract:** Self-medication, as one element of self-care, is the selection and use of medicines by individuals to treat self recognized illnesses or symptoms. It is practiced significantly worldwide even though its type, extent and reasons for its practice may vary. Descriptive cross sectional study was conducted on 180 Bioscience students in University of Dhaka from April to June 2012. Pre-tested and validated questionnaires were employed as tools for data collection. Study populations were determined by using two stages stratified random sampling methods. Among the 165 respondents (students), 104(63.03%) were male students whereas 61(36.36%) were female students aged between 20-25(87.87%). Only 12.12% were aged below 20. Headache 70(42.42%) was the most frequently reported symptoms for taking self-medication followed by Fever 62(37.57%). Prior experience 93(56.36%) and In emergency use 84(50.91%) were the two major reasons pr for self-medication. The most common classes of drugs used in self-medication in the current study were analgesics, in particular, Paracetamol, which was reported by 92(51%) of the respondents followed by Antacids 32(17%). Self-decisions 109(66.06%) followed by relatives 34 (20.61%) were the two most frequently reported source of drug information for self-medication in this study. Out of 165 respondents, most of them 122(74%) agreed with the practice self-medication while only 43(26%) disagreed.

**Keywords:** Self-medication, practices, students, bioscience, respondents, Dhaka University.

## Introduction

Self-medication is the treatment of common health problems with medicines especially designed and labeled for use without medical supervision and approved as safe and effective for such use<sup>1</sup>. Medicines for self-medication are often called 'nonprescription' or 'over the counter'(OTC) and are available without a doctor's prescription through pharmacies.

Recent development of the pharmaceutical industry contributes to a widespread availability of over-the- counter (OTC) medications - which in turn promote self-medication. The most commonly available OTC medications are pain-killers, cough and cold remedies, anti-allergy medicines, vitamins and energy tonics. Although these medications are considered risk-free and useful for the treatment of common health problems, their excessive use can also lead to serious side-effects and unfavorable reactions.

Self-medication is now increasingly being considered as a component of self-care<sup>2</sup>. Encouragement of self-care is seen as giving patients' every opportunity to take responsibility and build confidence in their ability to manage their own health. Unlike other aspects of self-care, self-medication involves the use of drugs and drugs have the potential to do good as well as cause harm. This is particularly relevant in countries where there is lack of enforcement of regulations leading to availability of prescription medicines over the counter. This results in widespread use of such medicines which is associated with serious adverse effects. Several studies have reported that inappropriate self-medication results in wastage of resources and entails serious health hazards such as adverse drug reactions, prolonged suffering and drug dependence<sup>3</sup>.

In the present study about 180 Bioscience students from Dhaka University were included in the study. The present study aims to provide basic information on self-medication practices among bio-science students in Dhaka University, Bangladesh. It also estimates the prevalence of self-medication in the study population.

## Materials and Methods

**Study population and sampling:** This was a cross-sectional descriptive study carried out at University of Dhaka in Bangladesh. 180 students of Bioscience students including Pharmacy, Biochemistry, Microbiology, Genetic Engineering & Biotechnology, Botany and Zoology were taken as Study population. It considered 95% confidence interval, 5% margin of error and 5% contingency for loss.

**Study tools;** Pre-validated questionnaires containing open-ended and close-ended questions were developed and used for the study. The questionnaires contained two sections. The demographic section was the first one and contained information regarding age, gender, name of department, academic level, and place of residence. The second section of the questionnaire consisted of questions related to self- medication practices.

**Consents;** The objectives of the study were explained to the participants before data collection. They filled the questionnaires with interest.

**Method of data input and analysis:** All data were coded, entered, and analyzed using statistical package for social sciences program (SPSS) version 13. Descriptive results were expressed as frequency, percentage. *P*-values < 0.05 were accepted as statistically significant. The entered data were presented in absolute figures as depicted in Tables, Figures and Chart

## Result

A total of 180 questionnaires were supplied to the participants. Of them, 165 were filled completely and collected with a response rate of 91.67%. 15 were rejected due to incomplete information. Data including socio-demographic characteristics of respondents who had episodes of illness are shown below:

**Table 1: Socio- demographic characteristics of students who reported illness from February to April 2011 in DU (University of Dhaka), N=165.**

| Variable   |              | Frequency | Percentage |
|------------|--------------|-----------|------------|
| Age        | Below 20     | 20        | 12.12      |
|            | 20-25        | 145       | 87.87      |
|            | Above 20     | 0         | 0          |
| Sex        | Male         | 104       | 63.03      |
|            | Female       | 61        | 36.96      |
| Department | Pharmacy     | 71        | 43.03      |
|            | Biochemistry | 7         | 4.24       |
|            | Botany       | 37        | 22.42      |
|            | Zoology      | 18        | 10.90      |
|            | Genetics     | 16        | 9.69       |
|            | Microbiology | 15        | 9.09       |
|            |              |           |            |
| Study year | First        | 8         | 4.84       |
|            | Second       | 43        | 26.06      |
|            | Third        | 43        | 26.06      |
|            | Fourth       | 71        | 43.03      |

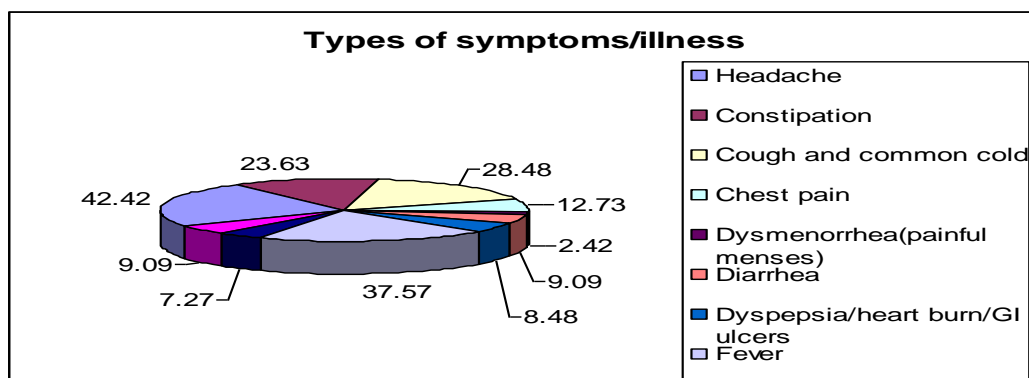
The types, extent and reason for self-medication can vary from country to country which might be due to study methodologies utilized and also the different socioeconomic and Socio-demographic factors.

**Self-medication practice assessment data:** Headache was the most frequently reported symptoms for taking self-medication; Fever and Cough and common cold were the second and third most common reported symptoms, with a frequency of 70 (42.42%), 62 (37.57%), and 47 (28.48%), respectively. Other episodes of illness included Constipation 39 (23.63%), Chest pain 21(12.73%), Diarrhea 15 (9.09%).

**Table 2: Frequency of reported symptoms/conditions for those self-medicated from February to April 2012 in DU, (N=165).**

| Types of symptoms or illness   | Frequency | Percentage |
|--------------------------------|-----------|------------|
| Headache                       | 70        | 42.42      |
| Constipation                   | 39        | 23.63      |
| Cough and common cold          | 47        | 28.48      |
| Chest pain                     | 21        | 12.73      |
| Dysmenorrhea(painful menses)   | 4         | 2.42       |
| Diarrhea                       | 15        | 9.09       |
| Dyspepsia/heart burn/GI ulcers | 14        | 8.48       |
| Fever                          | 62        | 37.57      |
| Skin problems                  | 12        | 7.27       |
| Others                         | 15        | 9.09       |

Some questions had multiple options respondents could select and hence the sum of the percentages is not always 100%.



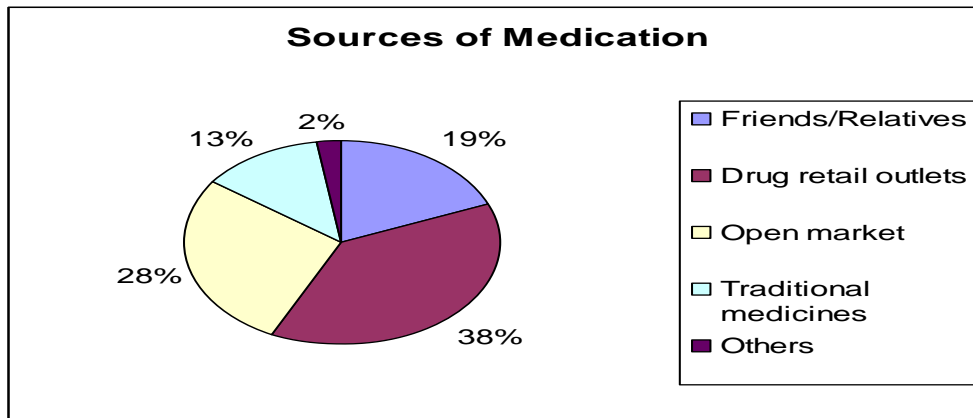
**Figure 1: Types of symptoms /illness reported by respondents.**

On the other hand, The most common types of ailments for which the respondents reported to have practiced self-medication were headache, followed by cough/common cold, dysmenorrhea, and dyspepsia with the respective episode prevalence of 33(51.56%), 28(44.80%), 13(20.30%), and 11(17.20%) in the study conducted in ACMU (Ayder Campus of Mekelle University).

**Table 3: The reasons for self-medication given by respondents who self-medicated from February to April 2012 in DU, (N=165).**

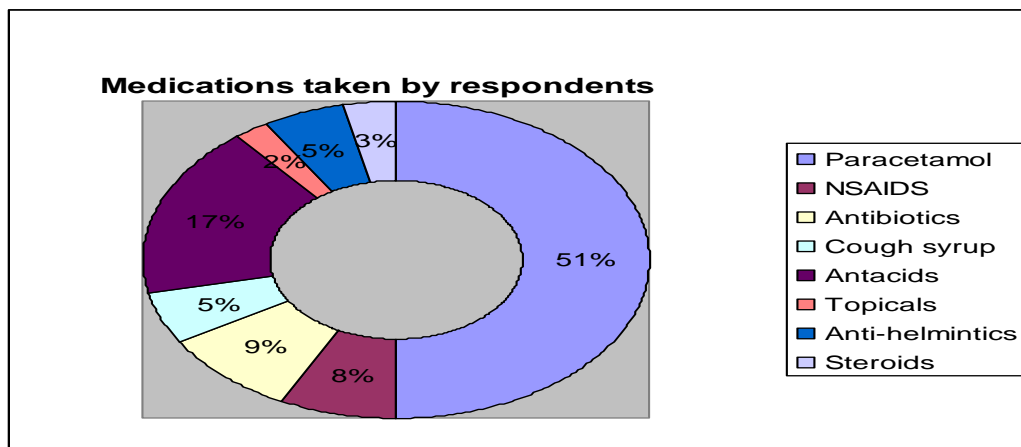
| Reasons                              | Frequency | Percentage |
|--------------------------------------|-----------|------------|
| Prior Experience                     | 93        | 56.36      |
| Mildness of illness                  | 21        | 12.72      |
| Long waiting time                    | 12        | 7.27       |
| Less costly                          | 20        | 12.12      |
| Lack of interest in medical services | 24        | 14.54      |
| In emergency use                     | 84        | 50.91      |
| Others                               | 7         | 4.24       |

The main source of medication for self-medication was Drug retail outlets (38%), followed by open market(28%) and friends and relatives (19%) whereas in ACMU (Ayder Campus of Mekelle University), Drug retail outlets (40.63%) was the main source of medication, followed by friends and relatives and open market.



**Figure 2: Sources of medication as reported by respondents.**

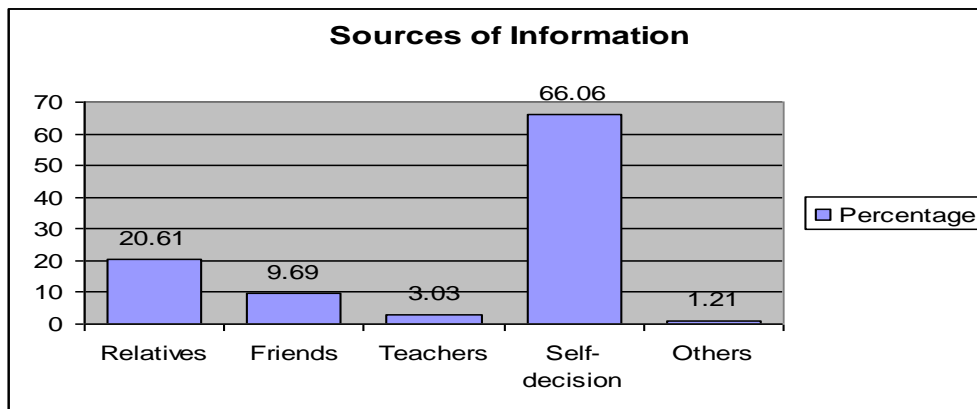
In another study in Jimma<sup>7</sup>, Drugs retail outlets (52.40%), open market (19.00%) and drugs left over past prescription (11.00%) were reported as sources of medication. The most common classes of drugs used in self-medication in the current study were analgesics, in particular, Paracetamol, which was reported by 92(51%) of the respondents followed by Antacids as reported by 32(17%). Other common types of medications reported were antibiotics 16(9%), NSAIDS 14(8%).



**Figure 3: Classes of medications taken by respondents.**

Analgesics (non-narcotics) especially NSAIDs were the most common class of medications used in the self-medication practices as reported in many studies in other areas<sup>4,6,8</sup>. This is because such drugs are used to treat simple common illness, example, headache, fever and pain. However, NSAIDs have their own possible adverse effects if they are misused and abused, mainly hepatic dysfunction and renal failure as reported earlier<sup>8</sup>.

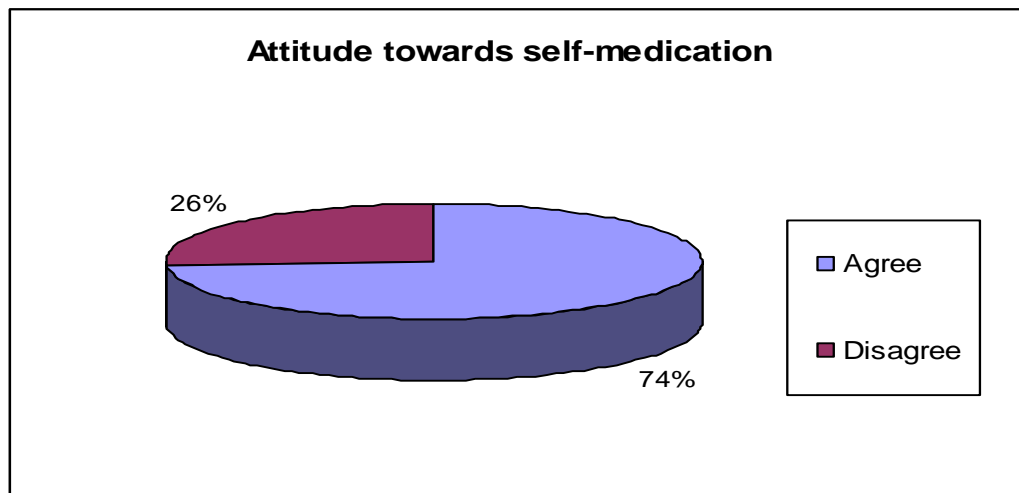
The most common source of information for self-medication reported was Self-decision 109(66.06%), followed by relatives 34 (20.61%) and friends 16(9.69%)



**Figure 4: Sources of information for those who self-medicated from February to April 2012 in DU.**

#### Attitude towards self-medication practices

Out of 165 respondents, most of them 122(74%) agreed with the practice self-medication while only 43(26%) disagreed as shown in fig-5:



**Figure 5: Attitude of respondents towards self-medication practices.**

In ACMU (Ayder Campus of Mekelle University), Out of 283 respondents, only 104(36.70%) agreed with the practice of self-medication while majority of them 148(52.30%) disagreed Unexpectedly, 31(11.00%) of the respondents had no comment on practice of self-medication.

## Discussion

Among the 165 respondents (students), most of them were aged between 20-25 (87.87%). Only 12.12% were aged below 20. Out of 165 participants, 104 (63.03%) were male students whereas 61(36.36%) were female students. Self-medication was practiced by 71(43.03%) of Pharmacy students, 37(22.42%) of Botany students. And also 18(10.90%), 16(9.69%), 15(9.09) and 7(4.24%) were from Department of Zoology, Genetics, Microbiology and Biochemistry. In terms of their study year distribution, 8(4.84%), 43(26.06%), 43(26.06%) and 71(43.03) were from First, Second, Third and Fourth year students. In this study, males(63.03%) practiced self-medication more frequently than female(36.36%) where in the study conducted in ACMU (Ayder Campus of Mekelle University) , females practiced self-medication more frequently than males.

The most prevalent symptoms reported in Gondar University in 2010 were Headache, followed by cough and common cold. Another study conducted on the Palestinian University students also reported that headache (76.60%), flu (46.20%) and menstrual pain (34.70%) were the commonest reported symptoms for self-medication<sup>4</sup>. However, a study conducted in India indicated that fever, headache; and cough/common cold were the most frequently reported illnesses for the practice of self-medication<sup>5</sup>. Thus, as reported in different findings, headache, fever, cough/common colds are the commonest minor ailments/symptoms for which University students get treatments by practicing of self-medication.

Prior experience (56.36%) and In emergency use (50.91%) were the two major reasons provided by the respondents for self-medication in this study.

In another study in ACMU (Ayder Campus of Mekelle University), two major reasons for self-medication were Prior experience (39.10%) and mildness of the illness (37.50%). The same reasons were also reported in a similar study in Gondar<sup>6</sup>. Only, 15.80% of the respondents reported self-medication for emergency in the study conducted in Gondar<sup>6</sup>. However, mildness of disease (58.00%) and previous experience (29.00%) were the two major reasons reported in the study conducted in Palestine<sup>4</sup>, even though the other reason, “less costly” was majorly reported in other study conducted in Jimma<sup>7</sup>.

In ACMU (Ayder Campus of Mekelle University), self-decision 41(64.00%), family/friends 20 (31.25%) and media and reading material 9 (14.10%) were the most common information sources for self-medication. Similarly, self-decision (47.00%), and advice from family/friends (41.00%) were the two most common sources of information to practice selfmedication in study among medical and non-medical students in Palestine<sup>4</sup>. However, reading material was the main source of information (30.50%) while advice from herbalist/traditional healers accounted least (3.70%) in another study reported<sup>6</sup> in Gondar University.

## Conclusion

Self-medication is one of the components of self-care as adopted by WHO. A large number of students, 76%, practiced self-medication in DU . Headache, fever were two

most frequently reported symptoms for taking self-medication. The major reason for self-medication was prior experience. Paracetamol, Antacids, Antibiotics, NSAIDS were the most commonly reported medications. Most of them were purchased from drug retail outlets. The most common source of information for self-medication reported was Self-decision followed by relatives and friends. Although the self-medication practice is inevitable; drug authorities and health professionals need to educate students about the pros and cons of self medication.

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