

Survey Analysis



## STUDENT'S BEHAVIOR TOWARDS USE OF OVER THE COUNTER (OTC) MEDICINES DURING EXAMINATION IN DHAKA CITY OF BANGLADESH

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Submitted on: 20.02.2016

Revised On: 04.03.2016

Accepted on: 07.03.2016

### ABSTRACT

The main objective of this study was to observe the students' behavior toward use of Over the counter (OTC) medicines during examination in Dhaka city of Bangladesh. A cross-sectional study was designed; using a self-administered questionnaire for the students' convenience and easy response disclosure. A total of N =110 students participated in this survey, of whom 65 (59.09%) were university students and 45 (40.9%) were high school students. Overall, 70.0% of the respondents disclosed the use of OTC non-steroidal anti-inflammatory drugs for headache and pain relief. Most of the respondents are known to the side effects of OTC medicines but they take these medicines because of its availability. Headache and mild pain is the main reason to take OTC medicine during examination. OTC medications are cheap and easily available in Bangladesh that is why everyone uses them.

**KEYWORD:** Over the Counter, Dhaka city, Headache, Pain relief.

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Indian Research Journal of Pharmacy and Science; 8(2016) 388-392;  
Journal home page: <https://www.irjps.in>

**INTRODUCTION:** Self medication is the use of medicine without medical supervision to treat one's own ailment. It is often seen as gaining personal independence from established medicine. Self-medication plays a major role in the irrational use of medicines<sup>1</sup>. Self-medication practices are more frequently observed for the over the counter (OTC) medicines in the worldwide<sup>2</sup>. Drugs that are safe and effective for use by the general public without a prescription are defined as over-the-counter (OTC) drugs. Peoples take a medicine without an appropriate diagnosis and surveillance of the medical therapy because of their social and economical crisis<sup>3</sup>. It is really exceptional to see someone purchasing an OTC product with a prescription<sup>4</sup>. In some developing countries, poor implementations of drug policies make many non-OTC products available from a pharmacy without a prescription. However, sometimes certain situations also act as compelling factors to request an OTC product or a non-prescription medicine. Tight job schedules, high job responsibilities, academic burden and exams are some of the situations that result in the use of certain medicines to improve work concentration and alertness. During exams, many students use different OTC and non-OTC medicines to improve their concentration or alertness while studying. Substances like stimulants, antidepressants, OTC and non-OTC analgesics, anti-histamines and some traditional and alternative medicines like Ginko Biloba are all substances commonly abused by students, in general and during exams<sup>5-7</sup>. Developed and developing nations face a great challenge for irrational use of medicine. In developed nations like the US, there are growing concerns about the use of OTC and non-OTC medicines by the students during exams. In the same way, among the developing nations like Taiwan and Pakistan, the self medication of a variety of painkillers, vitamin and sedatives has been reported among high school and university students<sup>6</sup>. For the drug safety concerns among the Bangladeshi youth, the current study aims to explore the misuse of medication by high school and university students in Dhaka City.

## METHODS

### *Setting and participants*

A cross-sectional study was conducted to achieve the study objective. Students from the Southeast University and a high school in Dhaka City were invited to participate. A questionnaire format was provided to the university and high school students. During the content selection, the questions were

limited to the use of Aspirin, Paracetamol, Ibuprofen and Anti-histamines.

### **Study tool**

A twenty-two item questionnaire was used to attain the study objectives. The questionnaire was mainly composed of four sections. Section one: This section was composed of four items with the main focus on respondent demographic information. Section two: The main aim of this section was to evaluate student general knowledge toward safety and toxicity of the OTC products. A nominal scale (Yes/No) was used for the purpose of evaluation using eight items as shown in Table 2. Section three: This section evaluated respondent views on the sale and use of OTC products in Dhaka city. Six items were provided for the respondent's to disclose their views using a two item nominal scale (Yes/No) (Table 3) Section four: The core section of this study tool evaluates the use of OTC products by the respondents during the exam time. This section was comprised of five items that reflect respondent justification for the use of OTC products during exam time (Table 4). The five items had two response options (Yes/No).

### *Statistical analysis*

Analysis was conducted by calculating proportions and means for discrete and continuous data.

It is important to be highlighted here that the survey was descriptive and most results are summarized in counts and percentages, some of the questions had multiple options to choose from, total of percentages is not always 100%.

## RESULTS

A total of N= 110 students participated in this survey, of whom 45 (40.9%) were high school students and 65 (59.09%) were university students. Overall, higher

participation was observed from the male respondents. In the majority, or 82 (74.54%) of the cases, the family income of the respondents were over 10000 BDT. Details of the demographic profile of the respondents are shown in Table 1. Most of the students were aware of OTC medication safety concerns. A majority 68 (61.81%) were aware of the fact that long term use of OTC medicine like Aspirin, Ibuprofen and Paracetamol will result in serious side

effects. In addition, 82 (74.54%) of the respondents were also familiar with the side effects of Ibuprofen in the kidneys. However, approximately 68 (61.81%) of the respondents agreed that herbal and natural products for memory and attention would not result in any adverse effects on the human body. Responses in this section of questionnaire were to reveal that most of the respondents 105 (95.45%) confirm that easy access to OTC medicines and cost effective is a potential reason for the use of OTC medications. Advertisements are not major cause to take OTC drugs because Bangladeshi peoples are not known to advertisements of drugs. The availability of OTC medicines and their belief on its safety leads to use them a lot during the exam period. Detailed findings

are shown in Table 3. The main aim of this section was to identify the group with a higher use of OTC medicines. In addition, this section also explored student justifications for the use of OTC medications. Generally, it was found that the use of Non-Steroidal Anti- Inflammatory Drug (NSAIDs) drugs was highest during exams. Nearly 65% and 70% of the respondents disclosed the use of NSAIDs to obtain relief from headaches and moderate pain respectively that may interfere with their sleep schedule during exams. Other commonly used OTC product during exams was Energy Drinks (10.0%). 52.72 % of respondents take this OTC drug by their colleague's suggestion. Details about the OTC medication use are shown in Table 4.

**Table 1: Socio-demographic characteristics of participants (N= 110)**

Demographic information of respondents	Frequency (%)
<b>Institution of students</b>	
University level	65 (59.09)
High school	45 (40.9)
<b>Gender</b>	
Male	67 (60.9)
Female	43 (39.09)
<b>Age</b>	
<18	36 (32.72)
19–21	62 (56.36)
>22	12 (10.9)
<b>Family Income per month</b>	
<5000	6 (5.45)
5000–10000	11 (10.0)
>10000	82 (74.54)
Not mentioned	11 (10.0)

**Table 2: Respondents' knowledge about the safety of OTC medicines.**

Question	Response	N (%)
Over using Paracetamol is very safe during exam period	Yes	86 (78.18)
	No	24 (21.81)
Use of herbal/natural products for memory and attention will not cause negative effects to human body	Yes	68 (61.81)
	No	42 (38.18)
Long term use of OTC medications will cause serious side effects	Yes	59 (53.63)
	No	51 (46.36)
Overusing Paracetamol will cause liver toxicity	Yes	73 (66.36)
	No	37(33.63)
NSAID (ibuprofen) may cause harm to your kidneys if they are misused	Yes	82 (74.54)
	No	28 (25.45)
NSAID (ibuprofen) cause stomach ulcer	Yes	69 (62.72)
	No	41 (37.27)
I read medication leaflet before using any medication	Yes	36(32.72)
	No	74 (67.27)
To decrease the risk of serious side effects from antihistamines (flu medications), users should carefully follow all dosage directions	Yes	88 (80.0)
	No	22 (20.0)

**Table 3: Respondents' view toward use and purchase of OTC products during exams**

Question	Response	N (%)
OTC medications are cheap and easily available in Bangladesh that is why all people use them	Yes	105 (95.45)
	No	5 (4.54)
Advertising is the main cause that people use OTC medicine	Yes	12 (10.9)
	No	98 (89.09)
I feel convenient with the use of OTC medicines because of the consultation provided by the pharmacist	Yes	63 (57.27)
	No	47 (42.72)
The sedative effect of antihistamines (flu medications) makes people misuse them typically during exam period	Yes	41 (37.27)
	No	69 (62.72)
During exam period many try medicines according to friend's suggestion	Yes	71 (64.54)
	No	39 (35.45)
The availability of OTC medicines and the belief on its safety leading me to use them a lot during the exam period	Yes	89 (80.9)
	No	21 (19.09)

**Table 4: Respondents' use of OTC products during exam**

Question	Response	N (%)
I Usually use OTC medicines during exam period	Yes	68 (61.81)
	No	42 (38.18)
I use OTC medicines during exam period to relieve my headache	Yes	71 (64.55)
	No	39 (35.45)
I note the use of OTCs by my colleagues	Yes	58 (52.72)
	No	52 (47.27)
I use Paracetamol to relieve mild to moderate pain such as headaches, that cause sleeping disturbance during my exam period	Yes	78 (70.91)
	No	32 (29.09)
I use energy drinks during exam period	Yes	11 (10.0)
	No	99 (90.0)

**CONCLUSION**

Our study findings showed a higher incidence of OTC medication use during exams. In general, approximately 70.0% of the students disclosed the use of NSAIDs during exams. Most of the students are very much frustrated about their examination. So, they are suffering from headache, moderate pain etc. To relief these problems, they are intended to use the OTC drugs.

**ACKNOWLEDGEMENT**

We express our gratitude to the respondents who answered the required questions. Our special thanks to the Department of Pharmacy, Southeast University, Banani, Dhaka.

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Conflict of Interest Reported: Nil;

Source of Funding: None Reported