



# USE OF NON-PRESCRIPTION MEDICATION AMONG STUDENTS OF A UNIVERSITY IN THE U.A.E.

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## ABSTRACT

**Key words:** Non-prescription, Over the Counter (OTC), Students, university, UAE

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**Plan:** The study aimed to assess the use, knowledge and practice of OTC medications by students of a University in the UAE

**Preface:** Over the Counter (OTC) drugs, also known as non-prescription medication are medications directly accessible to consumers without a physician's prescription. They are commonly used for ailments like pain, cough and cold, fever, allergies, diarrhea, constipation etc.

**Methodology:** A cross sectional survey using a validated self- assessment questionnaire was conducted. Data was analysed by SPSS version 20. Chi square test determined the association between the determinants.

**Outcome:** Of a total of 228 participants, 189 students (82.9%) reported the use of non-prescription medication. Analgesics were found to be the most consumed class of OTC medications, followed by cough and cold medications. Majority participants displayed responsible use of OTC medications.

## 1. INTRODUCTION

Over The Counter (OTC) drugs, also known as non-prescription medication are medications which are directly accessible to consumers without a physician's prescription<sup>1</sup>. They are broadly classified into 12 broad therapeutic classes<sup>2</sup>: Analgesics (Non-Steroidal Anti-Inflammatory Drugs) , Cough and Cold Medications, Skin (Dermatological) products , Nicotine replacement products , Topical products , Menstrual products ,Contraceptives, Gastrointestinal products , Ophthalmic products , Oral health-care products , Night sleep-aids, and Weight loss adjuncts.

Non-prescription medicines are most commonly used by the general public for ailments like pain, cough and cold, fever, allergies, diarrhea, constipation etc. They are not only easily available but they are also more economical and cut down on time that would otherwise be needed to visit a physician. The consumer in most cases has little knowledge regarding the use of the drug. Studies have shown an increase in self-medicating trends especially among the youth. This can be attributed to life style changes, socio-economic and socio-demographic factors, an increased potential to treat some illnesses through self-care, ready access to drugs, a greater availability of medicinal products, a higher level of education and the exposure to advertisements<sup>3</sup>. Higher self-medication among pharmacists and physicians was reported to be due to their greater knowledge of drugs<sup>4</sup>. Though the FDA's Center for Drug evaluation & Research, which is responsible for regulating OTC medications for effective utilization helps to ensure appropriate and proper labeling with therapeutic benefits outweighing their risks<sup>5</sup>, there still may be several risks<sup>2</sup> associated with OTC medications. These may include drug-drug/herb/food interactions, the risk of adverse reactions and the probability of misuse, dependence or abuse. In most cases medical advice is sought only after the complication arises<sup>2</sup>.

Appropriate use of self-medication could lighten the burden on doctors, while at the same time increasing a health conscious attitude. However, improper usage of OTC medications could hamper proper diagnosis and the choice of appropriate treatment for the ailment. Many studies have assessed the use of non-prescription medication among various populations worldwide but there is limited information on its use among educated communities. This study assesses the use, knowledge and practice of OTC medications by students of a University in the UAE.

## 2. MATERIALS AND METHODS

2.1. *Research design.* : A Cross Sectional Survey.

2.2. *Study population:* 228 students of a University in the UAE belonging to the College of Medicine (MBBS and BBMS), College of Pharmacy (Pharm.D), College of Dentistry (DMD) and College of Allied Health Sciences (BPT and BHS).

2.3. *Inclusion criteria-* Students above 18 years studying in the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> years of the University

2.4. *Exclusion criteria-* Students from classes other than year 1, 2 and 3; students; students with chronic and acute diseases.

2.5. *Period of study.*

October 2014 to December 2014 (3 months)

2.6. *Study instrument and validation procedure.*

A self-administered questionnaire including both open ended and closed ended questions, validated by a preliminary pilot study was used as the study instrument. The questionnaire addressed the following:

- A. Sociodemographic variables such as age, gender, nationality, work.
- B. Pattern of use of non-prescription medication.
- C. Sources of information relied upon for self-medication
- D. Knowledge of safety and efficacy of non-prescription medication.

### 2.7. Consent and Ethical approval

Ethical approval was obtained from the University Ethics committee before commencing the study. Only those signing a written consent were permitted to participate in the study. Anonymity and confidentiality of all participants were ensured.

### 2.8. Data analysis.

Data was first entered onto an Excel sheet and then analysed by SPSS version 20. Chi square test was used to determine the association between the determinants. A statistical significance level of 0.05 was used to determine the association between variables.

## 3. RESULTS AND DISCUSSION

The sociodemographic characteristics of participants are depicted in Table 1. A total of 228 students participated in this study of which 28.1% were males and 71.9% females; 70% were below the age 20 while the remaining 30% were above 20 years of age. 35.1% students were from College of Medicine, 24.1% were Pharm.D students, 7.9% were students of College of Dental Surgery (DMD) and 32.9% Allied health students (BPT and BHS).; Of the total participants, 57.9%, 20.6% and 21.5% were university students of the first, second and third years respectively; 8.8% participants were smokers and 91.2% were non-smokers; Ethnicity reported was 51.8% Asians, 19.7% Arab, 24.1% Africans and 4.4% belonging to other ethnicities.

Table 2 shows the relation between sociodemographic characteristics and consumption of non-prescription medication. Among the total participants of 229, 189 students (82.9 %) reported the use of non-prescription medication of which more were female (72%) than male (28 %). This finding is in agreement with the study done, by *Solomon and Abebe* (2003), that identified females as the fundamental elements in the consumption of OTC drugs and employment of self-medication<sup>6</sup>.

In our study, 72% participants were aged  $\leq 20$ ; Of the participants, 34%, 26%, 7% and 32% were students of College of Medicine, Pharmacy, Dental Surgery and Allied health respectively and 58%, 21% and 22% were first, second and third year students respectively. The majority (90%) who used OTC medications were non-smokers. Maximum usage of OTC medicines was observed among the Asians (51%), followed by Africans (24%), Arabs (21%), and other ethnicities (4%). The higher comparative use by Asians may be because of their more educated lineage which mostly makes them better informed regarding the medications and their side effects.

The consumption pattern and usage of different therapeutic classes are given in Figs 1 and 2. The consumption pattern was assessed by asking the participants to prioritize their consumption of over the counter medication from a list of broad therapeutic classes. Each participant prioritized their usage of nonprescription medication marking it as 1, 2, 3, 4 and 5, in which 1 represented the most commonly consumed and 5 the least consumed by the participant. Analgesics were observed to be the most consumed medication followed closely by cough and cold medications.

Among the 189 participants, 73 students (38%) prioritized analgesics as the most commonly consumed, followed by 66 students (35%) cough and cold, 16 students (8%) skin products and 6% most commonly using OTC menstrual products. The least used medications were the Ophthalmic, topical and weight loss adjuncts with only a total of 3 students (17%) opting for it. Our findings were similar to a Malaysian study conducted in the Klang Valley where the most common non-prescription medications used were analgesics (35.9%), followed by cough preparations (17.2%) and systemic nasal decongestants (11.7%)<sup>7</sup>

Fig 3 represents the source of information reported for self-medication. The influence of family members (31.4%) was found to be the commonest source of information, followed by the pharmacist (16.6%), self-decision (13.4%), physician (10.4%), Family/ friend who is a Health care professional (9.78%) and the Internet (6.5%). Advertisements (0.26%) were the least used source of information for the use of non-prescription medicine. Our findings were similar to that of a study in an Iranian university on the pattern of self-medication with analgesics, where families and friends (54.7%) and self-medication (13.3%) were the most reported sources of information<sup>8</sup>. However contrary to this were the results of a study on self-medication practices in the Mekelle University, which reported the most common sources of information as self-decision (64%) followed by family and friends recommendation (31.25%)<sup>9</sup>.

Table.3 depicts the knowledge of safety and efficacy among users of non-prescription medication. In addition to beneficial effects, medicines in most cases exhibit side effects as well. In this study among the 189 participants who used non-prescription medicine, 95.2% reported beneficial effects; Side effects, as shown in Fig 4 were experienced by 9% participants, of which the most common included headache (23%), nausea (12%), stomach discomfort (35%), diarrhea (12%), fatigue (6%), and pain (12%). Storage conditions required for the medications have to be adhered to, for maintaining the stability of medicines. Of the 189 participants 26 students (13.8%) were unaware of their OTC medicine storage conditions. With regard to proper usage and information about the medicines sought for consumption, 119 participants (63%) requested assistance from their pharmacists and of them 95% reported satisfaction with their assistance.

The majority of the participants reported using non-prescription medications as frequently as once a month (36%) as against 17.5% who used them as often as once a week and 6.9% twice a week. (Table 4)

#### 4. CONCLUSION

Self-medication is one of the components of self-care adopted by the WHO. Responsible use of OTC medications can help in the prevention and treatment of diseases that do not necessarily need medical consultation and would therefore be a more economical alternative for treatment of common ailments. The challenge before Government bodies and Health Care Authorities is to evolve a framework for responsible use of these medications.

A significant number of students reported the use of OTC drugs in our study. However as this survey was carried out among students of a Health University, it is probable that majority of them had an adequate background knowledge about the adverse reactions and side effects of OTC drugs and hence displayed responsible use of these medications.

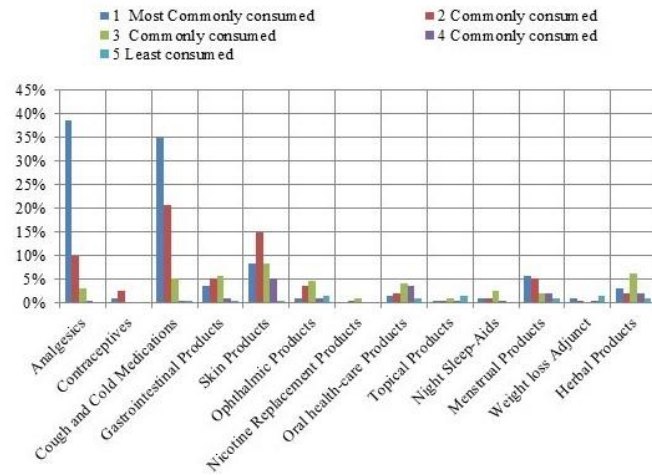


Fig 1. Consumption Pattern and Usage of Non-prescription Medication

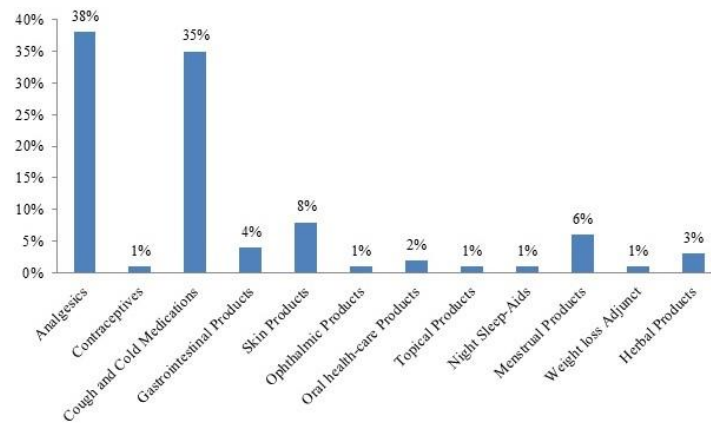


Fig 2. Most Commonly Consumed

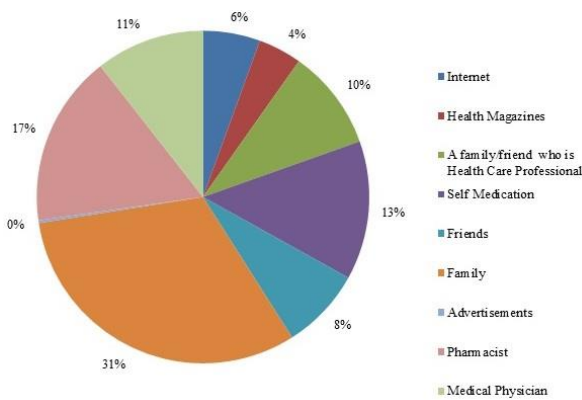


Fig 3. Sources of Information for Use of Non-Prescription Medicine

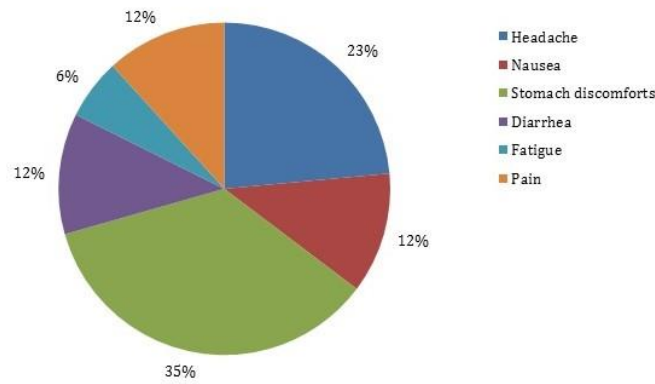


Fig 4. Side effects experienced by Users of Non-prescription Medicine

Table1.Sociodemographic characteristics of participants

<i>Characteristics</i>		<i>No</i>	<i>%</i>
Gender	Male	64	28.1
	Female	164	71.9
Age	<= 20	159	70
	>20	69	30
College	CoM (MBBS,BBMS)	80	35.1
	CoP (PharmD)	55	24.1
	CoD (DMD)	18	7.9
	CoAHS (BPT,BHS)	75	32.9
Year of study	1st year	132	57.9
	2nd year	47	20.6
	3rd year	49	21.5
Smoking status	Smoker	20	8.8
	Non-Smoker	208	91.2
Ethnicity	Asian	118	51.8
	Arab	45	19.7
	African	55	24.1
	Others	10	4.4

Table 2. Relationship between Sociodemographic characteristics and Consumption of Non-prescription medication.

Characteristics		Consumption of Non-prescription Medication			
		Yes	%	No	%
Gender	Male	52	28%	12	31%
	Female	137	72%	27	69%
Age	</= 20	136	72%	23	59%
	>20	53	28%	16	41%
College	CoM (MBBS, BBMS)	64	34%	16	41%
	CoP (PharmD)	50	26%	5	13%
	CoD (DMD)	14	7%	4	10%
	CoAHS (BPT, BHS)	61	32%	14	36%
Year of study	1st year	109	58%	23	59%
	2nd year	39	21%	8	21%
	3rd year	41	22%	8	21%
Smoking status	Smoker	18	10%	2	5%
	Non-Smoker	171	90%	37	95%
Ethnicity	Asian	96	51%	22	56%
	Arab	40	21%	5	13%
	African	46	24%	9	23%
	Others	7	4%	3	8%

n=189

Table 3. Knowledge of safety and efficacy among users of non-prescription medications

	Non-prescription users				Total
	Yes	%	No	%	
Beneficial effects	180	95.2	9	4.8	189
Side effects	17	9	173	91	189
Awareness about storage conditions	163	86.2	26	13.8	189
Asked pharmacy assistance	119	63	70	37	189
Satisfied with pharmacy assistance	113	95	6	5	119

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