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# SELF-MEDICATION PRACTICE AMONG HEALTH SCIENCE STUDENTS IN INTERNATIONAL UNIVERSITY OF AFRICA (IUA), KHARTOUM, SUDAN

**Farhan Hassan Furreh[1], Alia Abdelmonem Mohamed Eltayeb[1], Mayadah Hamza Mohamed Ahmed[1], Asma Noureldaim Mahmoud Mohamed[2], Shayoub M. E.[3] and Hisham Mohamed Osman[4*]**

[1]International University of African, Faculty of Pharmacy.
[2]Dean of Faculty of Pharmacy, International University of African
[3]Department of Pharmaceutics, Faculty of Pharmacy, University of Khartoum
[4]Faculty of Pharmacy, National Ribat University.

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***Corresponding Author**
**Dr. Hisham Mohamed Osman**
Faculty of Pharmacy,
National Ribat University.

## ABSTRACT

Self-medication can be defined as the use of drugs to treat self-diagnosed disorders or symptoms or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms. The self-medication option is usually selected by consumers for symptoms that they regard as sufficiently troublesome to require drug therapy, but not serious enough to justify a physician consultation. Objectives: To determine the reasons, extent and correlates of self-medication among health science students in IUA. Methodology: This was a descriptive retrospective cross-sectional study done (n=241) health science students in IUA, Khartoum from November 2015 to April 2015. It is a questionnaire based study and the history of self-medication for the last six months was collected. Result: Both positive attitude towards self-medication and prevalence of self-medication were high in the study as reported by 49% and 74% respectively. Mildness of illness was the main reason for self-medication. Headache was the main condition and accordingly paracetamol was the highest reported drug used as self-medication. Pharmacy was the main source of medication and self-decision was the leading source of information for self-medication. The majority of the students fully relieved after self-medication. No association between self-medication and study year was found ($p>0.05$). Pharmacy students practiced self-medication more than the non-pharmacy students. Conclusion: The study

shows high positive attitude towards self-medication and high prevalence of self-medication. Our study highlights the need to improve self-medication awareness.

**KEYWORDS:** Self medication, drugs, over the counter.

## INTRODUCTION

Self medication is a major form of self-care. It involves the use of medicinal products by the consumer to treat self recognized disorder, symptoms, recurrent disease or minor health problems. It is independent of age for both males and females. Medicines for self medication are often called Over the Counter (OTC) drug, which are available without a Doctor's prescription through pharmacies, mostly in the less developed countries.[1] Self medication is different from country to country, and might be affected by nutrition, lifestyle, environmental factors, socioeconomic factors and education. Moreover, self medication does not mean the use of modern medicines but also of herbs.[2] This type of habit is common from long past time.[3] It is clear/common not only in developing countries but also in under developed countries. However, WHO is making issues telling that self medication should always be taken in the right way and it must be controlled.[4] Because error/wrong use of self-medication can create many problems like wastage of resources, adverse drug reactions, worsening of existing pathology, drug dependence and antimicrobial resistance.[5] Many previous studies revealed that self-medication practice is common among the students. They should be educated for proper use of self-medication drugs from the beginning of their curricular activities.[6] Therefore, this study is aim to find reasons for self medication among students.

## MATERIALS AND METHODS

The study was a descriptive retrospective cross-sectional study that collected self-medication data for six months prior the study period (from November 2014 to April 2015) from students of International University of African (n=241). In this study we used specific questionnaire for this purpose.

### Statistical analysis

The data collected was tabulated and analyzed using manual calculator, Microsoft excel and SPSS statistical software version 16. Chi square was employed to assess the significance among variables. A p-value of $<0.05$ was considered to be significant.

## RESULTS

Attitude of students towards self-medication was shown in Table 1, out of the 241 selected students 119(49%) agreed to the self-medication and 93(39%) disagreed. There were also 29(12%) who had no comment.

**Table 1: Attitude towards self-medication practice among students.**

| Parameter | Agree | Disagree | No comment | Total |
|---|---|---|---|---|
| **Self-medication attitude** | 119 | 93 | 29 | 241 |
| **Percentage (%)** | 49% | 39% | 12% | 100% |

Prevalence of self-medication among the students was shown in Figure 1. The study revealed that 178 (74%) of the participated reported as self-medication for the last six months. Moreover, 48 (20%) did not self-medicate at all and 15 (6%) did not remember their self-medication.

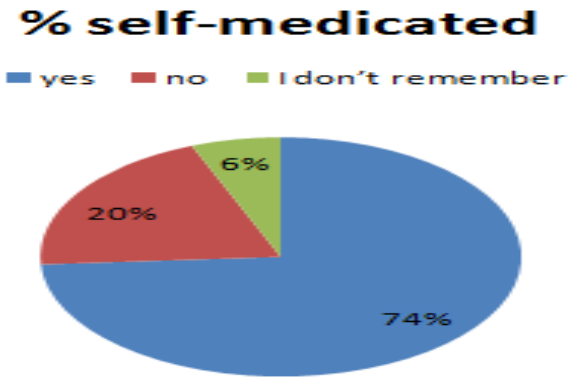



**Figure 1: Frequency of self-medication for the last six months (from November 2015 to April 2015) (n=241)**

Reasons for self-medication was shown in Table 2, the results revealed that 87(49%), 73 (41%) and 55 (31%) of the students reported that they used self-medication because they had mildness of illness, prior experience and in emergency use, respectively.

**Table 2: The reasons for self-medication given by those who self-medicated.**

| Reasons | frequency | Percentage |
|---|---|---|
| Prior experience | 73 | 41% |
| Mildness of illness | 87 | 49% |
| Long waiting time | 8 | 4% |
| Less costly | 13 | 7% |
| Lack of interest in medical service | 16 | 9% |
| In emergency use | 55 | 31% |
| Other | 7 | 4% |

N.B: some questions had multiple options respondents could select; thus, the sum of the percentages is not always 100%. (n=178).

The study revealed that common symptoms for self-medication as the following: headache, followed by cough and common cold, fever and dysmenorrheal with the respective episode prevalence of 148(83%), 106(60%), 59(33%) and 54(30%) as shown in the figure below. Other like dyspepsia, diarrhea, constipation, cough and chest pain and skin problem were also reported though few (Figure 2).

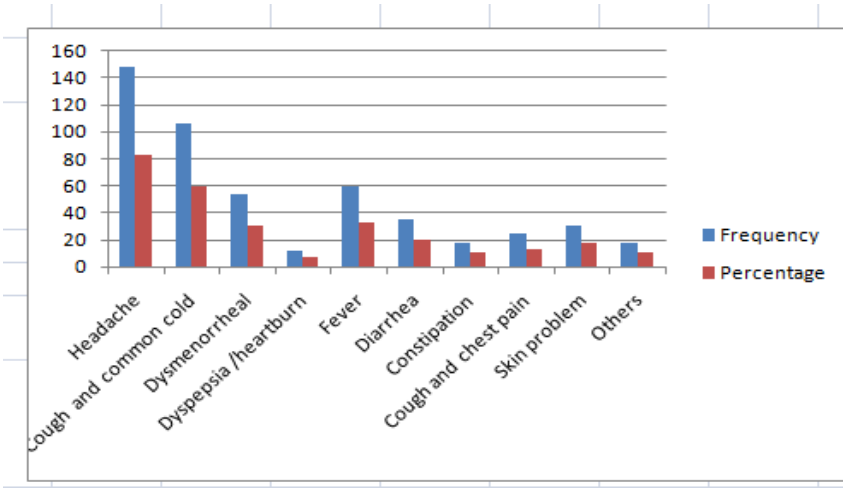



**Figure 2: Conditions or symptoms which were self-treated (n=178).**

Moreover, the study found that common drugs for self-medication included paracetamol which was reported by 137(77%) of the students followed by antibiotics, cough syrup and NSAIDs as reported by 80(45%), 45(25%), 38(21%) respectively. Other minor types of medications reported were herbal remedy 34(19%), others 21(12%), topical agent 14(8%), antacid 13(7%) and anthelmintics 3(2%) (Figure 3).

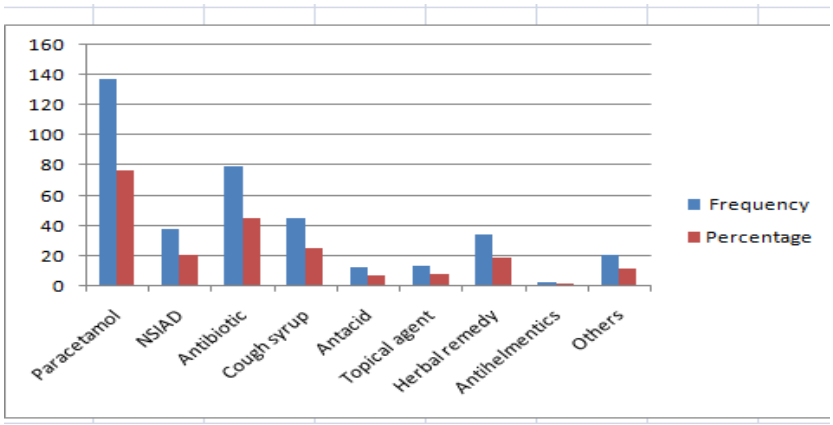



**Figure 3: Drugs (drug classes) used for self-medication (n=178).**

N.B: some questions had multiple options respondents could select; thus, the sum of the percentages is not always 100%.

Also the study found drug source as the following: 158 (89%), 40(22%), 31(17%) and 30(17%) of the students reported that they obtained the drugs for self-medication from pharmacy, drug left over, friend/relative and traditional medicine, respectively as shown in the Table 3.

**Table 3: Source of medicines for self-medication**

| Source of medicine | Total frequency | Percentage |
|---|---|---|
| Pharmacy | 158 | 89 |
| Friend/relative | 31 | 17 |
| Open market | 14 | 8 |
| Drug left over | 40 | 22 |
| Traditional medicine | 30 | 17 |
| Small shop | 13 | 7 |
| Others | 1 | 0.6 |

N.B: some questions had multiple options respondents could select; thus, the sum of the percentages is not always 100%. (n=178).

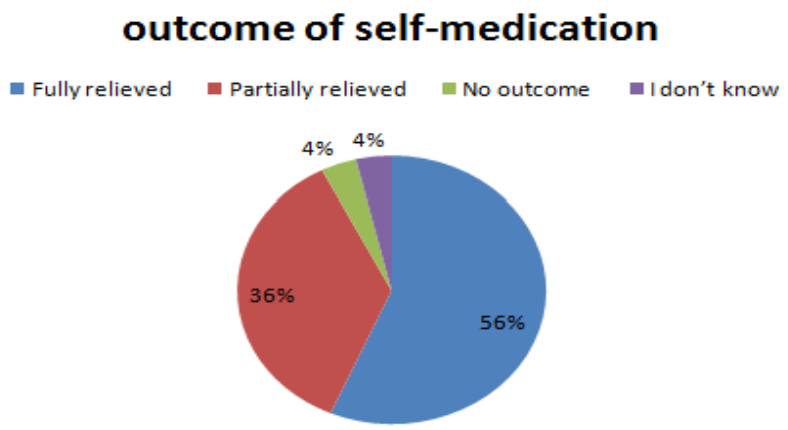
On the other hand, the source of information for self-medication was found from self-decision 86(48%), pharmacist 81(46%), friend/relative 61(34%), physician 45(25%) and media/reading 32(18%). Herbalists were the least source of information as reported by 5(3%) (Table 4).

**Table 4: Source of information for self-medication (n=178).**

| Source of information | Total frequency | Percentage |
|---|---|---|
| Self decision | 86 | 48 |
| Friend/relative | 61 | 34 |
| Media and reading | 32 | 18 |
| Pharmacist | 81 | 46 |
| Physician | 45 | 25 |
| Herbalist | 5 | 3 |
| Others | 1 | 0.6 |

N.B: some questions had multiple options respondents could select; thus, the sum of the percentages is not always 100%.

However, the outcome of self-medication was found 108(61%) fully recovery, 69 (39%) partially relieved, 7 (4%) reported no outcome and 7 (4%) don't know their outcome (Table 5).




Moreover, the self-medication status of each study year was tabulated in the spss version 16 and overall increase in self-medication with study year. A p value of greater than 0.05 was found (Table 5).

**Table 5: Self-medication in different academic years and their p-value.**

**studyyear * selfmedicationstatus Crosstabulation**

Count

| | | selfmedicationstatus | | | |
|---|---|---|---|---|---|
| | | yes | no | I dont remember | Total |
| studyyear | first year | 56 | 14 | 6 | 76 |
| | second year | 32 | 13 | 2 | 47 |
| | third year | 33 | 9 | 6 | 48 |
| | fourth year | 29 | 8 | 2 | 39 |
| | fifth year | 28 | 3 | 0 | 31 |
| Total | | 178 | 47 | 16 | 241 |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 9.998[a] | 8 | .265 |
| Likelihood Ratio | 11.700 | 8 | .165 |
| Linear-by-Linear Association | 2.119 | 1 | .145 |
| N of Valid Cases | 241 | | |

a. 4 cells (26.7%) have expected count less than 5. The minimum expected count is 2.06.

The study found that the association of self-medication and pharmacy school is higher than other faculty (Table 6).

The self-medication profile in different medical faculties is presented here. The p value is 0.04 (Table 6).

**Table 6: The self medication status between different faculties in UIA.**

**students * selftreated Crosstabulation**

Count

| | | selftreated | | | |
|---|---|---|---|---|---|
| | | yes | no | i dont remember | Total |
| students | pharmacy | 39 | 1 | 1 | 41 |
| | non pharmacy | 141 | 45 | 14 | 200 |
| Total | | 180 | 46 | 15 | 241 |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 11.073[a] | 2 | .004 |
| Likelihood Ratio | 14.693 | 2 | .001 |
| Linear-by-Linear Association | 8.478 | 1 | .004 |
| N of Valid Cases | 241 | | |

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.55.

## DISCUSSION

Out of 241 respondents, a majority of 119(49%) agreed with the practice of self-medication while 93(39%) of them disagreed. Similarly, many respondents reported positive attitudes towards self-medication like 86% in Sharja and 55.6% in Gondar.[7] The prevalence of self-medication in our study was (74%) of the 241 selected students. Self-medication studies carried out in different countries concluded prevalence of self-medication as low as 21% in rural areas of Portugal to as high as 98% in An-Najah University in Palestine. This indicates that self-medication is practiced both in developed and under developed countries. Mildness of the illness (41%) and prior experience (49%) were the two major reasons for self-medication in this study. The same reasons were also reported in a study in Palestine.[8] However, prior experience (35.4%; 39.1%) and mildness of illness (30.5%;37.50%) were the two major reasons reported in the studies conducted Gondar.[7] Headache and cough and common cold were the most common ailments in self-medication (83%; 60%) respectively. The majority of the studies reported in their findings headache, fever and cough/common colds as the commonest minor ailments. Paracetamol (77%) and antibiotics (45%) were the most commonly reported therapeutic drugs/classes used for self-medication. This is in consistent with the common reported ailments in the study. Paracetamol (59.6%) and antibiotics (54.5%) were the top drugs used in a similar study in Papua New Genie.[9] The main source of medications was pharmacy (89%). Pharmacy was the main source of drug in the rest of the studies. The most common source of information reported in self-medication

was self-decision (64.00%). Self-decision was the leading source of information in most of the studies. Most of the self-treated students (56%) reported full recovery, followed by partial recovery (36%) after the treatment. Relieve rate of self-medication was reported as high as 85% in Brazil [10] and as low as 14% in Tanzania.[11] The study shows slight increase in self-medication with study year, but the difference was not significant ($p>0.05$) unlike other studies in Gondar.[7] which found strong and significant association between the study year and self-medication. Moreover, our study found that pharmacy students practiced self-medication highly than the other non-pharmacy students.

## CONCLUSION

The majority of the students had shown positive attitude towards self-medication with a very high majority of them reporting self-medication. Mildness of illness and prior experience were the top reasons that led to self-medication. Headache and cough/common cold were the main ailments which were at same time self-treated with paracetamol and antibiotics as reported by most of the students. Most of these drugs were obtained from pharmacy store and the information and advice of self-medication was mainly by self-decision. A high number of students reported full recovery after they self-medicated. Unexpectedly, self-medication did not increase significantly with the study year while self-medication had strong association with school type where pharmacy students practiced self-medication more than non-pharmacy students.

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