EURASIAN EXPERIMENT JOURNAL OF PUBLIC HEALTH (EEJPH)
ISSN: 2992-4081 ©EEJPH Publications
Volume 5 Issue 1 2024



# Prevalence and Factors Associated with Self-Medication among Health Sciences Students at Kampala International University - Western Campus

**Nakabiri Maria Gorret**

**Faculty of Clinical Medicine and Dentistry Kampala International University Western Uganda**

**ABSTRACT**

The rising issue of self-medication among university students in Kampala necessitates a deeper understanding of its prevalence and determinants. This study aims to investigate the extent and correlates of self-medication among students enrolled in health sciences programs at Kampala International University - Western Campus. A total of 294 participants from various health-related disciplines were surveyed using a structured questionnaire. Data analysis involved univariate and multivariate logistic regression. Results indicate a high prevalence of self-medication (78.6%) among the sampled students. Factors associated with increased likelihood of self-medication include age range of 20-25 years, monthly expenditure of 100,000 – 180,000 Shs, previous experience-based knowledge, anticipation of doctor prescribing a familiar drug, use of opioid analgesics, pursuit of pharmacy programs, obtaining drugs from community pharmacies, and self-medication with antibiotics. These findings underscore the urgent need for targeted interventions to address self-medication practices and promote responsible healthcare behavior among university students

**Keywords:** Self-medication, University students, Health sciences, Drugs. Pharmacy.

## INTRODUCTION

Self-medication is defined as the acquisition and use of one or more medicines without a physician's opinion or diagnosis as well as without prescription of therapeutic monitoring including the use of herbal or synthetic medicines [1]. In most illness episodes, self-medication is the first option which makes it a common practice worldwide [2]. In the treatment of minor illness, when problems are self-limited, self-medication can be used [3]. Self-medication in Uganda is becoming alarming [4]. It is imperative to assess the associated factors as a study was done by Ademola [5] to determine the prevalence and factors associated with self-medication among University students in Kampala. The results reveal that the prevalence of self-medication was found to be 69.4%, which indicated that 7 out of every 10 Uganda students practice self-medication of antibiotics [5]. Self-medication can delay accurate diagnosis and appropriate treatment, and can cause toxicity, side-effects, drug interaction and unnecessary expenditure [6]. Improper self- medication practice may lead to serious adverse drug reactions and possibly fatal consequences. Moreover, currently, there is a worldwide concern about the emergence of antibiotic resistant strains of micro-organisms which might have been highly augmented by self-medication [7]. Abay and Amelo [8] studied self-medication practices among medical, pharmacy, and health science students and found out that a remarkable amount of students had practiced self-medication. However, in Uganda, there is very minimal information about self-medication behaviour and patterns among university students hence this study amongst students at Kampala International University – Western campus. Thus, this study was designed to determine the prevalence and factors

associated with self-medication among students pursuing health sciences programmes at Kampala International University - Western Campus in Bushenyi, Uganda.

## METHODOLOGY

### Study Design

A facility-based cross-sectional study design was used to assess self-medication practice among health sciences students at KIU – WC, Bushenyi, Uganda. It was a quantitative study because it sought to measure self-medication practices among students through the use of a questionnaire. On the other hand, it is also described as a cross-sectional survey since the study involved the administration of the research instrument (questionnaires) once only to the sample and the data generated on the measured characteristics are limited only to the specific period of the study.



### Area of Study

Kampala International University - Western Campus located in Ishaka town in Ishaka – Bushenyi municipality is the Medical school section of the bigger Kampala International University family headquartered in Kansanga, Kampala. The campus hosts a Medical teaching hospital and a fully-fledged academic campus comprised of schools and faculties dedicated to Clinical medicine, Pharmacy, Nursing Sciences, Allied health sciences and biomedical sciences.

### Study Population

The study population was comprised of all students pursuing undergraduate health sciences related programmes.

### Inclusion criteria

Undergraduate students pursuing health sciences related programmes.

### Exclusion Criteria

i. Post graduate students.
ii. Students not in the health sciences faculties and schools.

### Sampling Size Determination

The sample size was determined using single population proportion formula for cross sectional survey (Kish, [9]) as follows:

$$n = \frac{(z\alpha/2)2pq}{d2}$$

Assuming that:
Proportion of self-medication practice among health care professionals P=77.6% (Ali et al. [10]).
q= (1-p) =22.4%
Confidence level = 95% = 1.96
Desired precision (d) = 0.05
Non-response rate= 10%
The total required sample size was 294.

### Sampling procedure

Convenient sampling technique was used were all willing students that met the inclusion criteria who were present at the time of data collection were considered in the population from the sample was drawn.

### Data collection methods

The data was collected from study participants by using pre-tested, structured, self-administered questionnaire adapted and modified from previous researches on similar topic (Ali et al. [10]). It was designed in such a way that to includes all the relevant variables that met the study objectives which consist of 14 questions divided into two sections that cover questions to assess socio-demographic characteristics and self-medication practice of respondents including questions which are helpful to identify their reasons for practice and the type and pattern of drugs self-prescribed among themselves. Data collection tools were distributed and later on collected by the principal investigator. Respondents were approached at their respective class.

### Data Processing and analysis

Questionnaire tools were checked for their accuracy and data completeness, then data was coded and entered into Epi info version 7, then exported into SPSS version 22.0 for analysis. Descriptive statistics was used to summarize the variables. Figures and tables were used to summarize frequencies and percentages of the variables. Univariate and multivariate logistic regression analysis were computed to determine factors associated with self-medication. Variables with a p - value of < 0.2 during a univariate analysis were incorporated in a multivariate logistic regression model to control for confounding. Adjusted odds ratio (AOR) with corresponding 95% confidence interval (CI) were

computed to see the strength of the association and a p-value of < 0.05 was considered statistically significant. Hosmer and Leme show test was utilized to test the goodness-of-fit of the final logistic regression model.

**Quality control**

The questionnaire was pretested amongst willing students from the same schools and faculties whose data was not included in the final reporting. The collected data was checked immediately after finalizing the questionnaire for completeness and consistency of information collected.



**Ethical considerations**

Ethical approval was sought from Kampala international university western campus Faculty of clinical medicine and dentistry and an introduction letter was given after to seek permission for data collection. A written and verbal consent was sought from all the students whore selected to take part in the study before they were requested to respond to the questions in the data collection tool.

## RESULTS

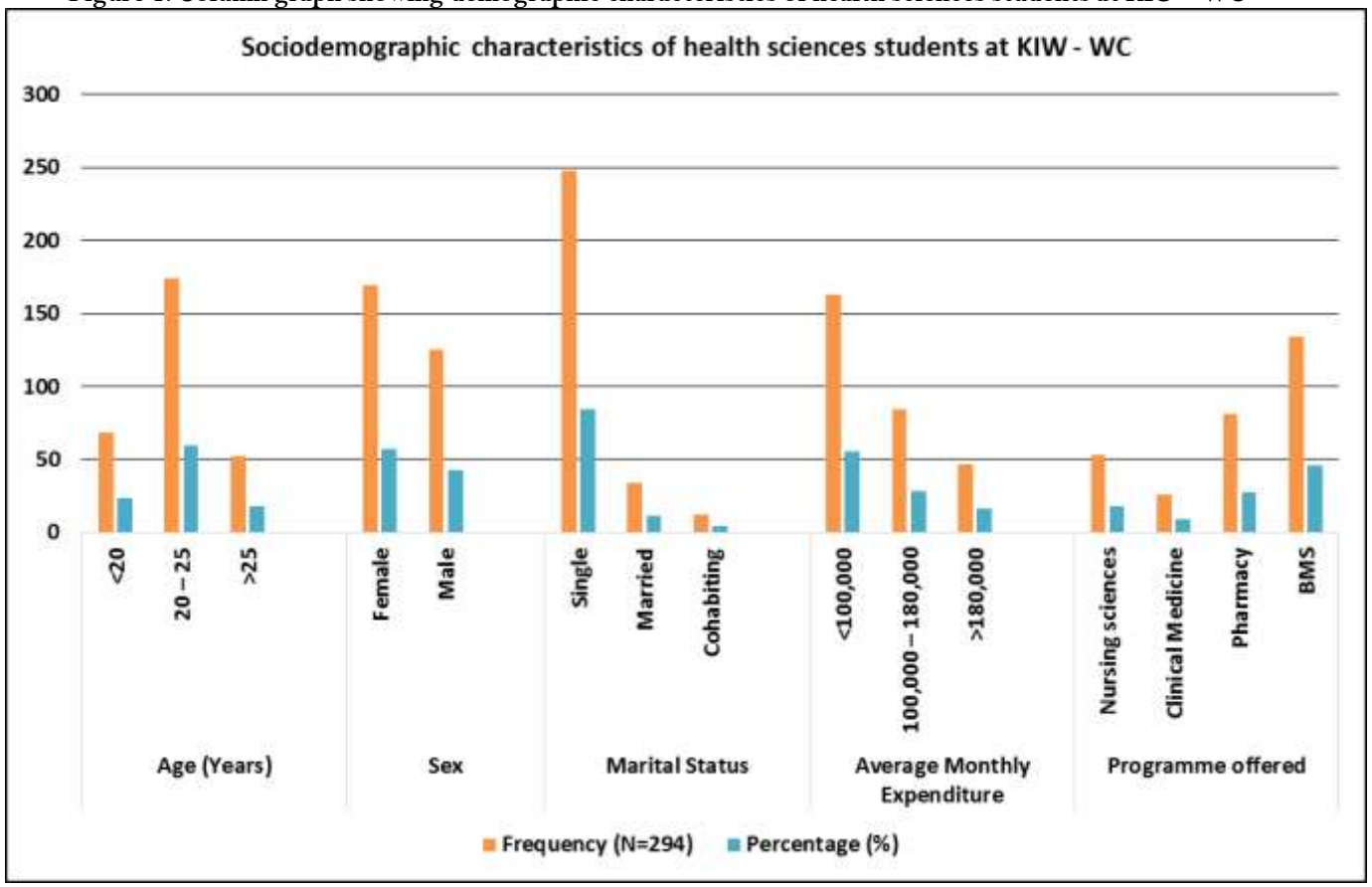
### Socio demographic characteristics of health sciences students at KIU – WC

A total of 294 students offering health sciences programmes at KIU – WC were recruited for the study. Majority of the students were aged between 20 – 25 years, 174 (59.2%) with an average age of 23±3.5, mostly female 169 (57.5%), Single by marital status 248 (84.4%), spending averagely <100,000, 163 (55.4%) and offering Bachelors of Medicine and Surgery (BMS) 134 (45.6%) as shown in Table 1 and Figure 1.

**Table 1: Socio demographic characteristics of health sciences students at KIU – WC**

| Variable | Category | Frequency (N=294) | Percentage (%) |
|---|---|---|---|
| Age (Years) | <20 | 68 | 23.1 |
| | 20 – 25 | 174 | 59.2 |
| | >25 | 52 | 17.7 |
| Sex | Female | 169 | 57.5 |
| | Male | 125 | 42.5 |
| Marital Status | Single | 248 | 84.4 |
| | Married | 34 | 11.6 |
| | Cohabiting | 12 | 4.0 |
| Average Monthly Expenditure | <100,000 (Shs) | 163 | 55.4 |
| | 100,000 – 180,000 | 84 | 28.6 |
| | >180,000 | 47 | 16.0 |
| Programme offered | Nursing sciences | 53 | 18.0 |
| | Clinical Medicine | 26 | 8.8 |
| | Pharmacy | 81 | 27.6 |
| | BMS | 134 | 45.6 |

**Figure 1: Column graph showing demographic characteristics of health sciences students at KIU – WC**






**Prevalence of self-medication amongst health sciences students at KIU – WC**

Of the 294 students recruited in the study, 231 representing 78.6% reported practicing self-medication. Majority of the self-medicating students were aged 20 – 25 accounting for 54.1%, were female 46.3%, single 66.7%, spending a monthly average of <100,000 shillings 39.1% and offering the BMS programme BMS 36.7% as shown in Table 2, 3 and Figure 2 & 3.

**Table 2: Prevalence and reasons for self-medication among health sciences students at KIU - WC**

| Self-medication variable | Frequency | Percentage (%) |
|---|---|---|
| Prevalence | | |
| **Self-medication** | 231 | 78.6 |
| **No self-medication** | 63 | 21.4 |
| Causes of self-medication (231) | | |
| **No need to visit the doctor for a minor disease** | 77 | 33.3 |
| **Knowledge from previous experience** | 182 | 78.8 |
| **The doctor will prescribe me the same drug** | 164 | 37.9 |
| **Time and money saving** | 218 | 93.4 |
| **Fast relief** | 201 | 87.0 |
| Causes for not self-medicating (63) | | |
| **Fear of adverse/ side effects** | 63 | 100.0 |
| **Lack of knowledge & experience** | 16 | 25.4 |
| **Lack of confidence** | 19 | 30.2 |
| **Prior bad experience with self-medication** | 41 | 65.1 |
| Sources for self-medication (231) | | |
| **Public health facility** | 17 | 7.4 |
| **Community pharmacy** | 231 | 100.0 |
| **Friends & classroom colleagues** | 83 | 35.9 |
| **Old prescription** | 52 | 22.5 |
| Classes of drugs commonly self-medicated (231) | | |
| **Anti-Ulcers** | 59 | 25.5 |
| **Antibiotics** | 72 | 31.2 |
| **Anti-allergens** | 46 | 19.9 |
| **Hypnotics** | 24 | 10.4 |
| **Opioid analgesics** | 106 | 45.9 |
| **NSAID analgesics** | 182 | 78.8 |

**Table 3: Self-medication of KIU – WC health sciences students by socio demographic stratification**

| Variable | Category | Frequency (N=231) | Percentage (%) |
|---|---|---|---|
| Age (Years) | <20 | 24 | 8.1 |
| | 20 – 25 | 159 | 54.1 |
| | >25 | 48 | 16.3 |
| Sex | Female | 136 | 46.3 |
| | Male | 95 | 32.3 |
| Marital Status | Single | 196 | 66.7 |
| | Married | 27 | 9.2 |
| | Cohabiting | 8 | 2.7 |
| Average Monthly Expenditure | <100,000 | 115 | 39.1 |
| | 100,000 – 180,000 | 74 | 25.2 |
| | >180,000 | 42 | 14.3 |
| Programme offered | Nursing sciences | 35 | 11.9 |
| | Clinical Medicine | 11 | 3.7 |
| | Pharmacy | 77 | 26.2 |
| | BMS | 108 | 36.7 |

**Figure 2: Line graph showing Self-medication of KIW – WC health sciences students by socio demographic stratification**



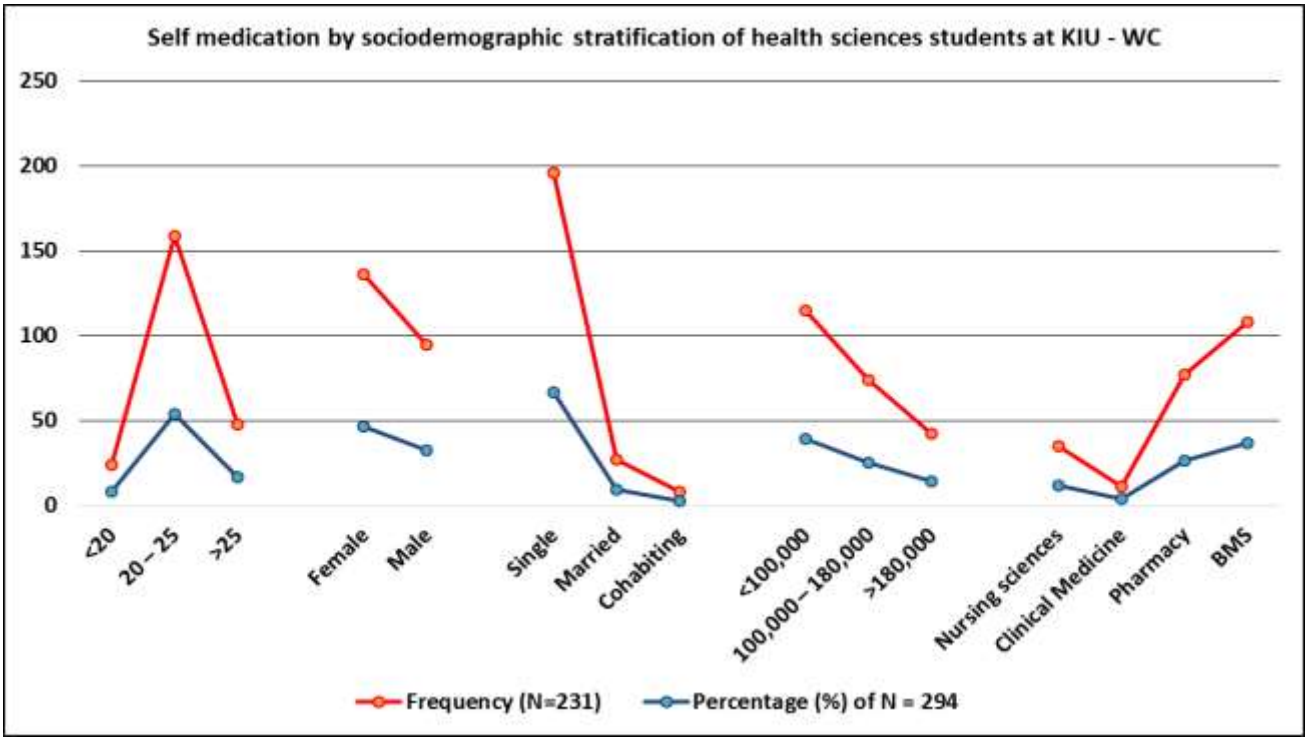
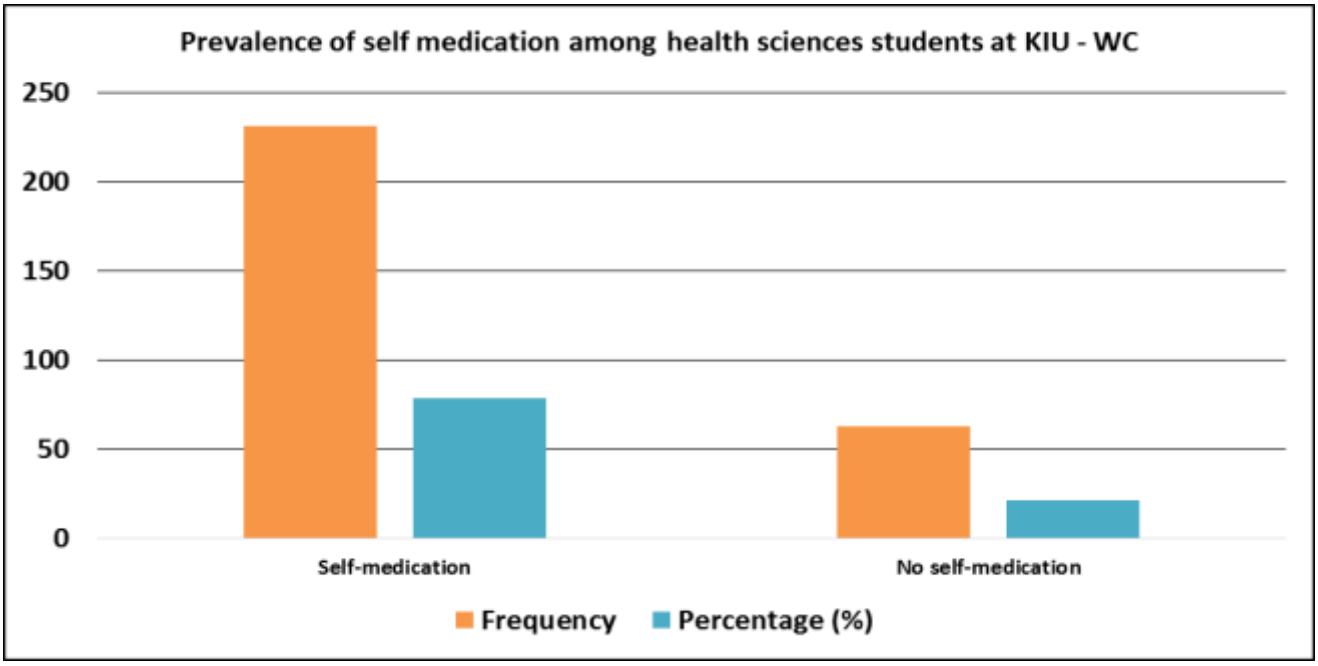



**Figure 3: Column bar graph showing prevalence of self-medication amongst KIU – WC health sciences students**



**Drugs commonly used for self-medication by health sciences students at KIU - WC**

The most commonly used drugs for self-medication by health sciences students at KIU – WC are NSAID analgesics 78.8%, Opioid analgesics 45.9%, Antibiotics 31.2%, Anti-Ulcers 25.5%, Anti-allergy drugs 19.9%, and Hypnotics 10.4% as shown in Table 2 and Figure 4.

**Reasons for and against self-medication health sciences students at KIU - WC**



Of the 231 students that reported practicing self-medication, 93.4% did it as a way of saving time, 87.0% did it as they perceived it as a way of fast relief, 78.8% did so because they had knowledge from previous experience, 37.9% expected the doctor to prescribe the same drug while 33.3 did so because they perceived their condition as minor as shown in Table 2 and Figure 5. Of the 63 that reported non self-medication, 100.0% feared side effects, 65.1% had a bad experience with self-medication before, 30.2% lacked confidence to do so while 25.4% lacked the knowledge & experience as shown in Table 2 and Figure 6.

**Figure 4: 3-D Pie chart showing commonly used drugs for self-medication by health sciences students of KIU – WC**

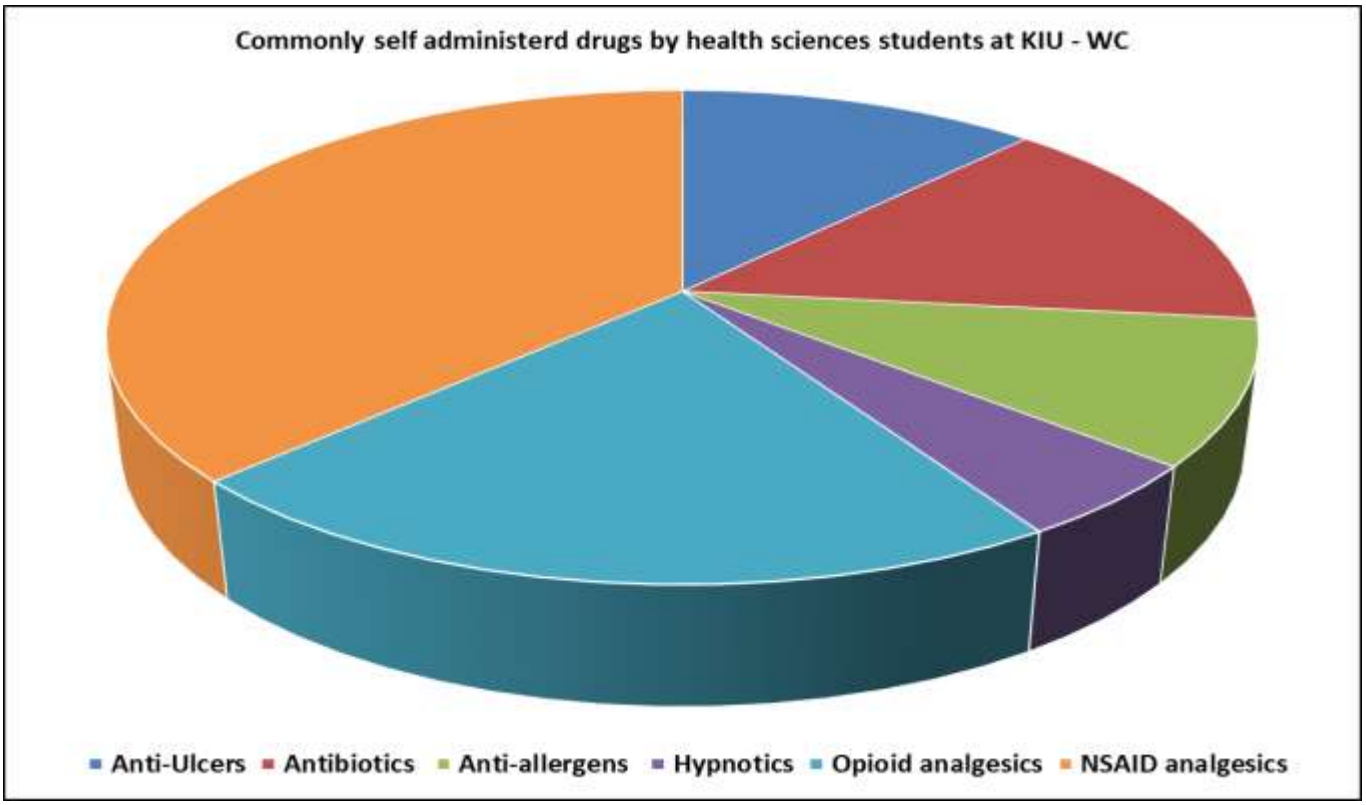


**Figure 5: Line and column bar combo graph showing for reasons self-medication by health sciences students of KIU – WC**

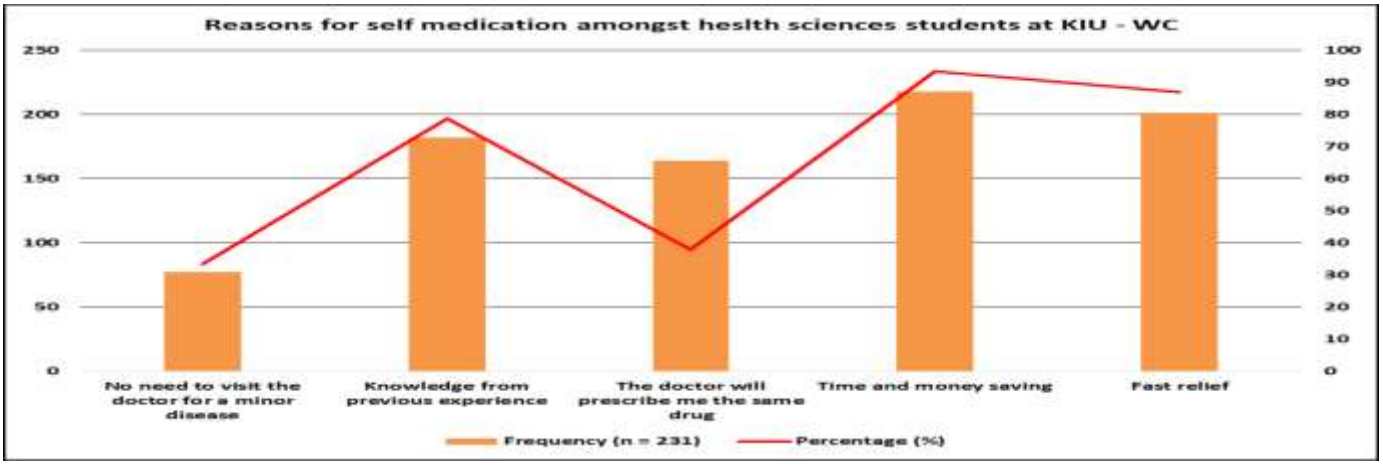
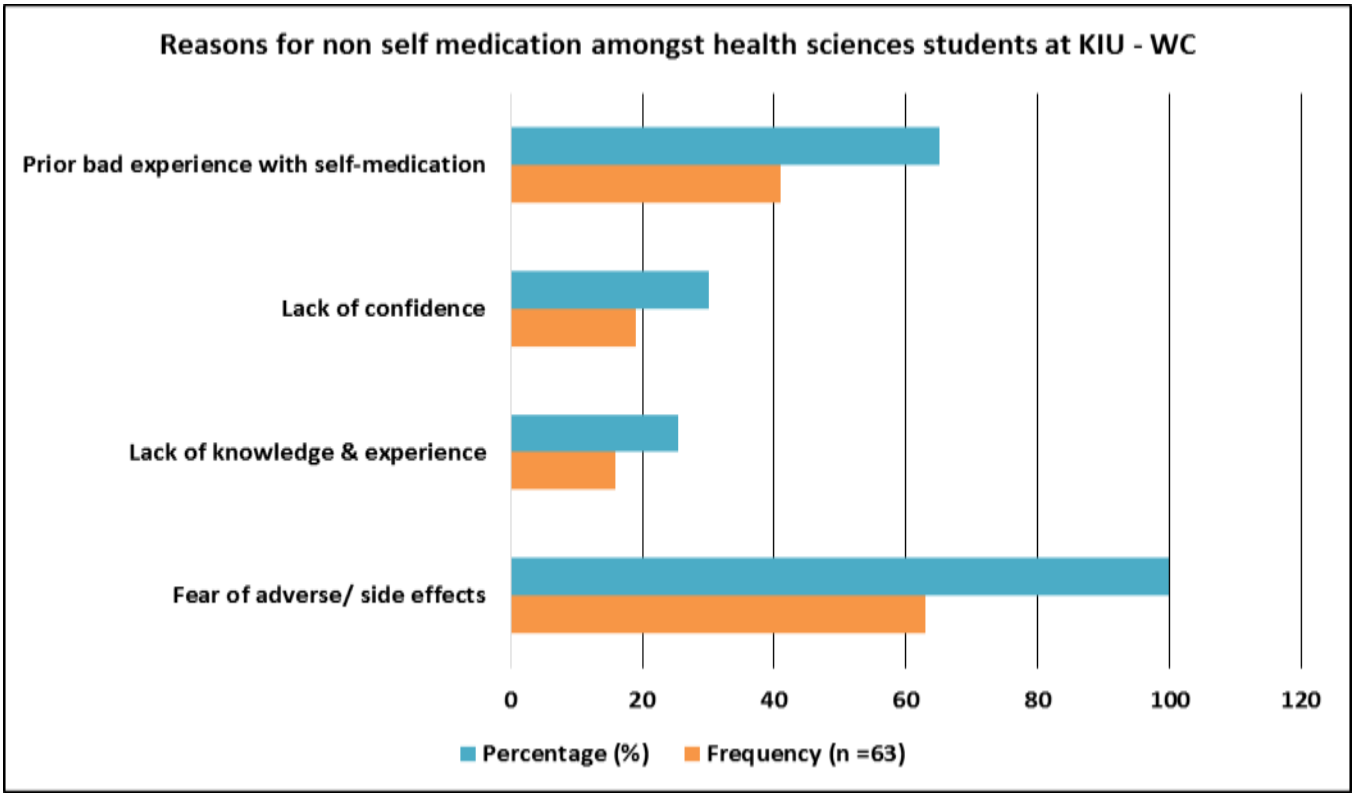





**Figure 6: Horizontal Bar graph showing for reasons non self-medication by health sciences students of KIU – WC**




**Factors associated with self-medication among health sciences students at KIU - WC**

In a univariate logistic regression model, age 20 – 25 years, average monthly expenditure of 100,000 – 180,000 Shs, knowledge from previous experience, prediction of doctor prescribing a similar drug like before, and taking opioid analgesics showed odds of a more likelihood to self-medication among the students at [cOR=1.6, 95%CI (1.2 – 2.1), p=0.001], [cOR=2.1, 95%CI (0.8 – 3.5), p=0.007], [cOR=2.4, 95%CI (0.8 – 6.2), p=0.024], [cOR=2.1, 95%CI (0.5 – 4.0), p=0.040] and [cOR=3.3, 95%CI (1.0 – 7.0), p=0.001] respectively as shown in tables 4 and 5. In a multivariate

logistic regression model after all confounders had been controlled, age 20 – 25 years p=0.001, average monthly expenditure of 100,000 – 180,000 Shs p=0.005, knowledge from previous experience p=0.025, prediction of doctor prescribing a similar drug like before p=0.040, and taking opioid analgesics p=0.001 remained independently associated to self-medication as shown in tables 4 and 5. Also in a multivariate logistic regression model after all confounders had been controlled, offering a pharmacy program [aOR = 3.0, 95% CI (1.1 – 1.9), p=0.0016], access of drugs from a community pharmacy [aOR = 1.5, 95% CI (0.3 – 5.5), p=0.041] and self-medication with antibiotics [aOR = 2.0, 95% CI ( 0.2 – 5.0), p=0.044] turned out independently associated with self-medication as shown in tables 4 and 5.



**Table 4: Socio demographic factors associated with self-medication of health sciences students at KIU - WC**

| Variable | Frequency n = 231 | cOR, 95% CI | | p - value | aOR, 95% CI | | p - value |
|---|---|---|---|---|---|---|---|
| | | 0R | CI | | 0R | CI | |
| Age (Years) | | | | | | | |
| **<20** | 24 | Ref | | | Ref | | |
| **20 – 25** | 159 | 1.6 | 1.2 – 2.1 | **0.001*** | 1.4 | 1.1 – 2.5 | **0.001*** |
| **>25** | 48 | 2.2 | 0.4 – 4.5 | 0.118 | 1.8 | 0.1 – 5.0 | 0.115 |
| Sex | | | | | | | |
| **Female** | 136 | 1.4 | 0.5 – 8.2 | 0.441 | | | |
| **Male** | 95 | Ref | | | Ref | | |
| Marital Status | | | | | | | |
| **Single** | 196 | Ref | | | Ref | | |
| **Married** | 27 | 2.0 | 0.1 – 3.5 | 0.500 | | | |
| **Cohabiting** | 8 | 1.5 | 0.5 – 5.8 | 0.358 | | | |
| Average Monthly Expenditure | | | | | | | |
| **<100,000** | 115 | Ref | | | Ref | | |
| **100,000 – 180,000** | 74 | 2.1 | 0.8 – 3.5 | **0.007*** | 2.2 | 1.0 – 3.8 | **0.005*** |
| **>180,000** | 42 | 1.0 | 0.1 – 5.4 | 0.115 | 0.8 | 0.1 – 4.8 | 0.100 |
| Programme offered | | | | | | | |
| **Nursing sciences** | 35 | Ref | | | Ref | | |
| **Clinical Medicine** | 11 | 1.0 | 0.2 – 5.0 | 0.402 | 0.8 | | |
| **Pharmacy** | 77 | 3.5 | 1.5 – 6.2 | 0.158 | 3.0 | 1.1 – 1.9 | 0.0016 |
| **BMS** | 108 | 0.5 | 0.1 – 6.5 | 0.08 | 0.7 | 0.2 – 5.2 | 0.128 |

**Table 5: Logistic regression analysis of factors associated with self-medication of health sciences students at KIU – WC**

| Variable | Frequency n = 231 | cOR, 95% CI | | p - value | aOR, 95% CI | | p - value |
|---|---|---|---|---|---|---|---|
| | | 0R | CI | | 0R | CI | |
| Causes of self-medication | | | | | | | |
| **No need to visit the doctor for a minor disease** | 77 | 1.5 | 0.2 – 4.8 | 0.100 | 2.0 | 0.5 – 5.2 | 0.113 |
| **Knowledge from previous experience** | 182 | 2.4 | 0.8 – 6.2 | **0.024*** | 2.0 | 0.9 – 5.0 | **0.025*** |
| **The doctor will prescribe me the same drug** | 164 | 2.1 | 0.5 – 4.0 | 0.040 | 2.0 | 0.5 – 4.5 | **0.040*** |
| **Time and money saving** | 218 | 2.0 | 0.1 – 5.0 | 0.505 | | | |
| **Fast relief** | 201 | 1.5 | 0.1 – 5.5 | 0.335 | | | |
| Sources for self-medication | | | | | | | |
| **Public health facility** | 17 | 3.0 | 1.2 – 6.8 | 0.518 | | | |
| **Community pharmacy** | 231 | 1.2 | 0.1 – 6.5 | 0.125 | 1.5 | 0.3 – 5.5 | **0.041*** |
| **Friends & classroom colleagues** | 83 | 1.5 | 0.1 – 6.0 | 0.500 | | | |
| **Old prescription** | 52 | 1.0 | 0.1 – 8.2 | 0.552 | | | |
| Classes of drugs commonly self-medicated | | | | | | | |
| **Anti-Ulcers** | 59 | 2.5 | 0.5 – 5.8 | 0.460 | | | |
| **Antibiotics** | 72 | 1.4 | 0.1 – 6.4 | 0.174 | 2.0 | 0.2 – 5.0 | **0.044*** |
| **Anti-allergens** | 46 | 1.0 | 0.1– 8.2 | 0.860 | 0.8 | 0.1 – 5.0 | 0.120 |
| **Hypnotics** | 24 | 1.8 | 0.6 – 4.0 | 0.250 | | | |
| **Opioid analgesics** | 106 | 3.3 | 1.0 – 7.0 | **0.001*** | 3.0 | 0.5 – 5.5 | **0.001*** |
| **NSAID analgesics** | 182 | 1.5 | 0.1 – 6.2 | 0.416 | | | |

## DISCUSSION

A total of 294 students offering health sciences programmes at KIU – WC were recruited for the study. Majority of the students were aged between 20 – 25 years, 174 (59.2%) with an average age of 23±3.5, mostly female 169 (57.5%), single by marital status 248 (84.4%), spending averagely <100,000 Uganda Shillings, 163 (55.4%) and offering BMS programme 134 (45.6%). By age, gender, marital status and average spending capabilities, this social demographic pattern is consistent with studies in Nepal, Ethiopia and Kenya. The consistency in the average spending capabilities might be because all these countries are grouped in the same economic class and their population quite similar in terms of social characteristics [11-13]. The prevalence of self-medication amongst the study population was 78.6%. This indicates that over three-quarters of health sciences students at KIU–WC practice self-medication. Other studies in Pakistan, Jordan, Nigeria and Saudi Arabia have reported a similar prevalence of over 70% university students self-medicating. In all these previous studies, the perception by students that they know what they are doing very well is associated to this high prevalence rate. Therefore, even though this study didn't study the knowledge of the students in this aspect, still offering a Pharmacy related programme turned out significantly associated with self-medication among this population [14-17]. The majority of the self-medicating students were aged 20 – 25 accounting for 54.1% and females 46.3%. studies in Ethiopia and Malaysia have reported a similar pattern were most female students and those aged between 20 – 25 years practiced the habit more than those in the opposite groupings. Females practicing self-medication more than male students are attributed to a number of conditions like light headaches, fevers, GIT disturbances etc. which cause females to respond faster by taking

medication yet they are considered minor by the males so usually let the body get back to normal order with less medical interventions [13, 18]. The most commonly used classes of drugs for self-medication by health sciences students at KIU – WC were NSAID analgesics 78.8%, Opioid analgesics 45.9%, Antibiotics 31.2%, Anti-Ulcers 25.5%, Anti-allergy drugs 19.9%, and Hypnotics 10.4%. Studies in Australia, Iran, Brazil, Uganda and a review of Gulf States university students reported analgesics, antibiotics and anti – ulcers drugs as the most used by university communities in those countries for self-medication. This pattern in classes of commonly used drugs is because naturally individuals will respond to the need to eradicate pain which causes discomfort therefore will swiftly apply analgesics. Over time the misuse of antibiotics has been reported globally and also GIT conditions like ulcers where people think of using medication earlier prescribed in case they feel any GIT disturbance like before [19-23]. For the students that didn't practice self-medication, 100.0% feared side effects, 65.1% had a bad experience with self-medication before, 30.2% lacked confidence to do so while 25.4% lacked the knowledge & experience. The fear for side effects and having an undesirable outcome in an earlier experience have been reported as deterrent factor to self-medication in previous studies in Serbia, Brazil and Iran. In the Iranian case, students reported experiences of fatalities of their colleagues due to overindulgence in the practice [24]. Being of age 20 – 25 years, ability to spend on average 100,000 – 180,000 Shs per month, knowledge from previous experience, prediction of doctor prescribing a similar drug like before, and taking opioid analgesics showed turned out to be factors related to increased odd of self-medication among the students at [cOR=1.6, 95%CI (1.2 – 2.1), p=0.001], [cOR=2.1, 95%CI (0.8 – 3.5), p=0.007], [cOR=2.4, 95%CI (0.8 – 6.2), p=0.024], [cOR=2.1, 95%CI (0.5 – 4.0), p=0.040] and [cOR=3.3, 95%CI (1.0 – 7.0), p=0.001] respectively in a univariate logistic regression model analysis. A global systematic review on self-medication by university populations reported a consistent age strata of 20 – 25 years where the odds were highest for students to self-medicate. This can be attributed to the fact the world over, the 20 – 25 age group makes up the greatest part of university students' population by average [11]. Studies in Egypt, Saudi Arabia and the United Arab Emirates also reported students that who had a better advantage in spending money with resources at their disposal were more likely to self–medicate. This can be attributed to the fact that the medicines don't come cheap, and thus it's even likely that had other students had an advantage to spend, the prevalence rates of the habit could be higher than what is reported [15, 25, 26]. KIU – WC health sciences students that practise self-medication are 3.3 more times likely to take opioid analgesics than any other classes of drugs [cOR=3.3, 95%CI (1.0 – 7.0), p=0.001]. The high likelihood of university students consuming opioids with prescriptions had been reported in Australia, China, United States, Nigeria, Egypt and other Gulf states and in all studies it was related to drug abuse rather than intending for a clinical outcome. Even though in this study intention of self-medication was not investigated, we have no reason not agree with the previous studies that concluded on abuse as the reason [19, 21, 25, 27, 28]. When all confounders had been controlled in a multivariate logistic regression model, offering a pharmacy program [aOR = 3.0, 95% CI (1.1 – 1.9), p=0.0016], access of drugs from a community pharmacy [aOR = 1.5, 95% CI (0.3 – 5.5), p=0.041] and self-medication with antibiotics [aOR = 2.0, 95% CI (0.2 – 5.0), p=0.044] turned out to be factors that increased the odds of self-medication by the students. These results are not surprising after controlling the confounders. Studies in Iran, Syria, Pakistan and Ethiopia reported students offering Pharmacy programmes to be most likely to self-medicate than others, those with easy access to community pharmacies which was attributed to weak regulations of access to drugs without prescription and use of antibiotics which was attributed to previous use and experience [8, 20, 29, 30]. However, in studies in China and Malaysia, students pursuing human medicine programmes and nursing sciences respectively were reported to be more likely to practice self-medication than in Pharmacy and other programmes. This variation could be because of the lower proportion of pharmacy students in their samples [18, 28].



## CONCLUSION

More than three quarters of KIU – WC students are reported to be practicing self-medication indicating a prevalence of 78.6%. The most commonly self-medicated classes of drugs are NSAID analgesics 78.8%, Opioid analgesics 45.9%, Antibiotics 31.2%, Anti-Ulcers 25.5%, Anti-allergy drugs 19.9%, and Hypnotics 10.4%. Factors of age 20 – 25 years, average monthly expenditure of 100,000 – 180,000 Shs, knowledge from previous experience, prediction of doctor prescribing a similar drug like before, taking opioid analgesics, pursuing a pharmacy program, access of drugs from a community pharmacy and use antibiotics significantly increased the odds of likelihood to self-medicate by the students.

## RECOMMENDATION

Under the Uganda clinical practice regulations, provision of drugs by drug outlets without a valid prescription is prohibited. However, the study indicates unacceptable high prevalence of self-medication among the university

population which in a way points to weak implementation of the clinical practice regulations. We recommend that relevant authorities strongly enforce the laws so us to curb this high prevalence. Self-medication of opioid analgesics by the university students' population is very high in a pattern that points to drug abuse. We recommend that university authorities picks this up and devises appropriate measures to control this looming problem because the dangers of opioid addiction especially in young generation is well documented.



## REFERENCES


1. World Self Medication Industry (WSMI). The Story of Self-Care and Self-Medication, 2010. http://www.wsmi.org.
2. Dare, S. S., Eze, E. D., Echoru, I., Usman, I. M., Ssempijja, F., Bukenya, E. E., and Ssebuufu, R. Behavioural response to self-medication practice before and during Covid-19 pandemic in Western Uganda. *Patient preference and adherence*. 2022; 2247-2257.
3. Dayani, G., Luciana de Mattos, G., & Graziela, Modolon Alano Silvana, C. T. Responsible self-medication: review of the process of pharmaceutical attendance. Brazilian Journal of Pharmaceutical Sciences. 2009; 45(4), 625–632.
4. Dare, S. S., Eze, E. D., Isaac, E., Usman, I. M., Ssempijja, F., Bukenya, E. E., and Ssebuufu, R. COVID-19 pandemic and behavioural response to self-medication practice in Western Uganda. *MedRxiv*, 2021-01.
5. Sulayman, A. A. Factors associated with self-medication of antibiotics among university students in Kampala. 5th International Congress on Primary Healthcare & Family Medicine. 2017.
6. Sarahroodi, S. Self-medication: Risks and Benefits. International Journal of Pharmacology. 2016; https://doi.org/10.3923/ijp.2012.58.59.
7. World Health Organization. (2018). Artemisinin resistance and artemisinin-based combination therapy efficacy. Who, August, 10. https://www.who.int/malaria/publications/atoz/artemisinin-resistance-august2018/en/
8. Abay, S. M., & Amelo, W. Assessment of self-medication practices among medical, pharmacy, and health science students in Gondar University, Ethiopia. Journal of Young Pharmacists. 2015; https://doi.org/10.4103/0975-1483.66798.
9. Wiegand, H.: Kish, L.: Survey Sampling. John Wiley & Sons, Inc., New York, London 1965, IX + 643 S., 31 Abb., 56 Tab., Preis 83 s. Biometrische Zeitschrift. 10, 88–89 (1968). https://doi.org/10.1002/bimj.19680100122.
10. Ali, A. S., Ahmed, J., Sonekhi, G. B., Fayyaz, N., Zainulabdin, Z., & Jindani, R. Practices of self-medication with antibiotics among nursing students of Pakistan. J Pak Med Assoc. 2016; 66(2), 235–237. http://jpma.org.pk/PdfDownload/7633.pdf.
11. Behzadifar, M., Behzadifar, M., Aryankhesal, A., Ravaghi, H., Baradaran, H. R., Sajadi, H. S., Khaksarian, M., & Bragazzi, N. L. Prevalence of self-medication in university students: Systematic review and meta-analysis. Eastern Mediterranean Health Journal. 2020; 26(7), 846–857. https://doi.org/10.26719/emhj.20.052.
12. Gyawali, S., Ravi Shankar, P., Poudel, P. P., & Saha, A. Knowledge, attitude and practice of self-medication among basic science undergraduate medical students in a medical school in Western Nepal. Journal of Clinical and Diagnostic Research. 2015. https://doi.org/10.7860/JCDR/2015/16553.6988.
13. Zewdie, S., Andargie, A., & Kassahun, H. Self-medication practices among undergraduate university students in Northeast Ethiopia. Risk Management and Healthcare Policy. 2020; 13, 1375–1381. https://doi.org/10.2147/RMHP.S266329.
14. Al-Ameri, R. J. K., Al-Badri, H. J. A., & Lafta, R. K. Prevalence of self-medication among university students in Baghdad: a cross-sectional study from Iraq/Prévalence de l'automédication parmi les étudiants à l'Université de Bagdad: étude transversale iraquienne. Eastern Mediterranean Health Journal. 2017; 23(2), 87.
15. Emeka, P. M., Al-Omar, M., & Khan, T. M. Public attitude and justification to purchase antibiotics in the Eastern region Al Ahsa of Saudi Arabia. Saudi Pharmaceutical Journal. 2014; 22(6), 550–554. https://doi.org/10.1016/j.jsps.2014.02.014.
16. Malak, M. Z., & Moh'd AbuKamel, A. Self-medication Practices among University Students in Jordan. Malaysian Journal of Medicine and Health Sciences. 2019; 15(2), 112–119.
17. Osemene, K. P., & Lamikanra, A. A study of the prevalence of self-medication practice among university students in southwestern Nigeria. Tropical Journal of Pharmaceutical Research. 2012; 11(4), 683–689.

https://doi.org/10.4314/tjpr.v11i4.21.
18. Ibrahim, U. I., & Lua, P. L. Self-medication practices among undergraduates of a public university. Malaysian Journal of Public Health Medicine. 2016; 16(3), 23–28.
19. Almohammed, R. A., & Bird, E. L. Public knowledge and behaviours relating to antibiotic use in Gulf Cooperation Council countries: A systematic review. Journal of Infection and Public Health. 2019; 12(2), 159–166. https://doi.org/10.1016/j.jiph.2018.09.002.



20. Azami-Aghdash, S., Mohseni, M., Etemadi, M., Royani, S., Moosavi, A., & Nakhaee, M. Prevalence and cause of self-medication in Iran: A systematic review and meta-analysis article. Iranian Journal of Public Health. 2015; 44(12), 1580–1593.
21. Babatunde, O. A., Fadare, J. O., Ojo, O. J., Durowade, K. A., Atoyebi, O. A., Ajayi, P. O., & Olaniyan, T. Self-medication among health workers in a tertiary institution in South-West Nigeria. Pan African Medical Journal. 2016; 24, 1–8. https://doi.org/10.11604/pamj.2016.24.312.8146.
22. Bassols, A., Bosch, F., & Baños, J. E. How does the general population treat their pain? A survey in Catalonia, Spain. Journal of Pain and Symptom Management. 2002; 23(4), 318–328. https://doi.org/10.1016/S0885-3924(01)00415-8.
23. Domingues, P. H. F., Galvão, T. F., de Andrade, K. R. C., de Sá, P. T. T., Silva, M. T., & Pereira, M. G. Prevalence of self-medication in the adult population of Brazil: A systematic review. Revista de Saude Publica. 2015; 49. https://doi.org/10.1590/S0034-8910.2015049005709
24. Lukovic, J., Miletic, V., & Pekmezovi, T. Self-medication practices and risk factors for self-medication among medical students in Belgrade, Serbia. In PLoS ONE. 2014.
25. Helal, R. M., & Abou-Elwafa, H. S. Self-medication in university students from the city of mansoura, Egypt. Journal of Environmental and Public Health. 2017. https://doi.org/10.1155/2017/9145193.
26. Jairoun, A., Hassan, N., Ali, A., Jairoun, O., Shahwan, M., & Hassali, M. University students' knowledge, attitudes, and practice regarding antibiotic use and associated factors: A cross-sectional study in the United Arab Emirates. International Journal of General Medicine. 2019; 12, 235–246. https://doi.org/10.2147/IJGM.S200641.
27. Brimstone, R., Thistlethwaite, J. E., & Quirk, F. Behaviour of medical students in seeking mental and physical health care: Exploration and comparison with psychology students. Medical Education. 2007; 41(1), 74–83. https://doi.org/10.1111/j.1365-2929.2006.02649.x
28. Zhu, X., Pan, H., Yang, Z., Cui, B., Zhang, D., & Ba-Thein, W. Self-medication practices with antibiotics among Chinese university students. Public Health. 2016. https://doi.org/10.1016/j.puhe.2015.04.005.
29. Haroun, M. F., & Al-kayali, R. S. Self-Medication Among Undergraduate Medical Students in Two Universities in Syria. International Journal of Pharmaceutical Sciences and Research. 2017; 8(4), 1881–1886. https://doi.org/10.13040/IJPSR.0975-8232.8(4).1881-86.
30. Zafar, S. N., Syed, R., Waqar, S., Zubairi, A. J., Vaqar, T., Shaikh, M., & Yousaf, W. Self-Medication Amongst University Students of Karachi : prevalence , knowledge and attitudes Student ' s Corner Original Article Self-medication amongst University Students of Karachi : Prevalence , Knowledge and Attitudes. November 2014.

CITE AS: Nakabiri Maria Gorret (2024). Prevalence and Factors Associated with Self-Medication among Health Sciences Students at Kampala International University - Western Campus. EURASIAN EXPERIMENT JOURNAL OF PUBLIC HEALTH 5(1):1-14.