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**International Digital Organization for Scientific Research** **ISSN: 2550-7931**
**IDOSR JOURNAL OF APPLIED SCIENCES 8(3) 59-72, 2023.**
**https://doi.org/10.59298/IDOSR/2023/10.2.1414**

# Assessment of Self-Medication Practices and its Associated Factors among First-Year Medical Students at Kampala International University Western Campus

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**ABSTRACT**

Self-medication in Uganda is becoming alarming and 7 out of every 10 Ugandan students practice self-medication to assess self-medication practices and its associated factors among first-year medical students of KIU-WC Bushenyi district western Uganda. This was a cross-sectional study conducted among 196 registered first-year medical students of KIU-WC who consented to participate anonymously in the study. Data was collected from them with the help of questionnaires which were coded and entered in SPSS version 25 for analysis. Data was then presented in form tables. The majority 90(45.9%) were between the ages of 21 and 24, the majority 72 (36.5%) were Catholics, and the majority 96(56.5%) were males. The prevalence of self-medication was 98.5%. Many 95 (49.2%) got information about self-medication from family and friends, that the majority 86 (44.6%) used strong pain relievers to self-medicate, and that pharmacies/drug stores were the most common source of drugs used in self-medication, as suggested by 143 (74.1%). The majority of 134 (69.4%) asked someone before self-medicating, with pharmacists being the most frequently questioned 60 (31.1%). Finally, many 99 (51.3%) of those respondents had no idea whether the drugs they purchased could treat their condition. Many 129 (65.8%) self-medicate only for minor medical conditions, the majority 129 (65.8%) say they get better when they self-medicate, many 72 (36.7%) say it is cheap, and the majority 85 (43.4%) say it is convenient. Of the 193 participants who have ever self-medicated, 62 (32.1%) experienced side effects from the drugs they self-medicated with, and the most common side effect was an allergic reaction, as reported by 26/62 (41.9%). The drugs that caused the most side effects were strong pain relievers and antimalarials, as indicated by 20/62 (32.3%) for each category of drugs. The prevalence of self-medication among first-year medical students at KIUWC Bushenyi in western Uganda is high. The common source of information were friends and family,analgesics or painkillers were commonly used drugs and they commonly asked pharmacists before self-medication. The factors associated with self-medication include being 21-24 years, being male, having easy access to drugs or cheap drugs, prior experience with the illness, medical knowledge as well as self-belief in drugs used.

**Keywords:** Self-medication, First-year medical students, Pharmacists, Drugs, pain relievers and antimalarials.

## INTRODUCTION

Self-medication can be defined as getting and consuming drugs without the guidance of a physician for diagnosis, treatment, or supervision of the treatment [1]. It involves obtaining medication without a prescription and taking medicines on the advice of and from friends and relatives. Self-medication is common in both developed and developing countries but higher in developing countries, due to a wider increase of drug availability without prescription [2]. Self-medication with antimicrobial agents (antibiotics or antimalarials) is common globally with the

prevalence differing from country to country [3] Self-medication is mostly experienced in developing countries [2]. If self-medication is practised correctly, it has a positive impact on individuals and health care systems. It also allows patients to take responsibility, build confidence to manage their own health and save time spent waiting for a doctor,and it may help to decrease healthcare costs [1]. Nevertheless, self-medication practice is highly prone to inappropriate use and has its own drawbacks resulting in wastage of resources, increased resistance to pathogens, and increased adverse reactions [4] In France, 80% of the population uses self-medication and 20% of the population suffers from rheumatic diseases [5]. In the survey conducted among fin final-medical students in Slovenia, 94.1% of students stated that they self-medicated [2]. Whereas a survey done in West Bengal,India among undergraduate medical school students indicated that 57% reported self-medicating using frequent drugs like antibiotics [31%], analgesics [23%], antipyretics [18%], and antihelmintic [4%] [6]. A meta-analysis by Montgomery et al. which included 27 published studies from different countries showed that the prevalence of self-medication among medical students and healthcare professionals was ranging from 12 to 99% [7] In sub-Saharan Africa, there is a wide range of therapeutic options, ranging from modern medicine to traditional medicine, religious cults or healing prayer, and self-medication. In this wide range, self-medication occupies an important part for social, economic, and psychological reasons [8]. The existing data mainly concern the overall self-medication rate in sub-Saharan Africa shows that it varies from 11.9% to 75.7% [9]. A study carried out in Meket District, Northern Ethiopia showed that the overall prevalence of self-medication was found to be 35.9% and the factors associated with self-medication practices included unmarried status, previous experience of self-medication, accessibility of pharmacies, peer/family pressure and presence of medication at home [10] In East Africa, though efforts have shown, there is limited knowledge about self-medication and its implications. Basing on the study of people's knowledge, attitude and practices about self-medication and its implications in Ilala municipality. In Dar es Salaam Kenya in 2013, the prevalence of self-medication was found to be 68.8% and 71.5% for under five years old children and for persons aged 5 years and aboverespectively despite the negative attitude towards the practice. Community pharmacies were found to be the major source of medicines used for self-medication. Thus, 80% (12) of the males self-medicated less than 5 years old child while for females it was 71.6%. Thus, females are nearly two times more likely to self-medicate their children than males [4] According to the study of Patterns and Predictors of Self-Medication in Northern Uganda in 2014, this study found that a high proportion (75.7%) of the respondents practised antimicrobial self-medication. Fever, headache, lack of appetite and body weakness were the disease symptoms most treated through self-medication (30.3%). The commonly self-medicated antimicrobials were coated (27.3%), amoxicillin (21.7%), metronidazole (12.3%), and cotrimoxazole (11.6%). Self-prescription (46.5%) and drug shop attendants (57.6%) mainly initiated drug use among respondents. Furthermore, a high proportion (76%) of respondents reported that antimicrobial self-medication had associated risks such as wastage of money (42.1%), drug resistance (33.2%), and masking symptoms of underlying disease (15.5%). Predictors of self-medication with antimicrobial agents included gender, drug knowledge, drug leaflets, advice from friends, previous experience, long waiting time, and distance to the health facility. Despite knowledge of associated risks, the use of self-medication with antimicrobial drugs in mana the cement of disease symptoms is a common practice in post-conflict northern Uganda [2].

**Statement of Problem**

Self-medication in Uganda is becoming alarming with the prevalence of self-medication found to be 69.4%, which indicated that 7 out of every 10 Uganda students practice self-medication [11]. Anotherstudy carried out among university students in Uganda showed that the prevalence of self-medication was 65.5% with the majority (73.2%) using painkillers

for self-medication and paracetamol was the medicine used by the majority (62%) [12]. Yet, self-medication practices can lead to incorrect self-diagnosis, delays in seeking appropriate care, dangerous drug interactions, incorrect dosage, incorrect choice of medication, and risk of dependence and drug abuse [13]. It also increases the possibility of drugabuse and drug dependency [14]. It masks the signs and symptoms of underlying diseases, hence complicating the problem, creating drug resistance, and delaying diagnosis [15] Self-medication practices were highly prone to inappropriate use and have their own drawbacks resulting in wastage of resources, and increase drug resistance to pathogens and adverse reactions [4]. Though in order to reduce irrational medication use due to self-medication, health professionals can play a key role by providing support and advice about medicines to the general public [16]. But many of the medicalstudents at KIU-WC do not get to utilize health care services but have increasingly opted to self-medicate themselves and the people around them without professional medical intervention. This could be attributed to the increase in the number of pharmacies and drug shops in the region, expensive treatment from clinics and long distances to health centres. Therefore, this research will help in assessing self-medication practices and their associated factors among medical students of KIU-WC Bushenyi district in western Uganda.

### Aim of the study

To assess self-medication practices and their associated factors among first-year medical students of KIU-WC Bushenyi district western Uganda.

### Specific objective

i. To determine the prevalence of self-medication among first-year medical students of Kampala International University Western Campus.
ii. To assess self-medication practices among first-year medical students of Kampala International University Western Campus.
iii. To determine the factors associated with self-medication among first-year medical students of Kampala International University.

### Research questions

- What is the prevalence of self-medication among first-year medical students?
- What are the self-medication practices among medical students?
- What factors influence self-medication among medical students?

## METHODOLOGY

### Study design

This study employed a cross-sectional study design. This study design was preferred because it can be usedto capture information based on data gathered for a specific point in time. Additionally, this study design is not costly to perform and does not require a lot of time which makes it the best convenient.

### Study area

Kampala International University Western Campus is located in the town of Ishaka, in Bushenyi District, Western Uganda, approximately 330 kilometres by road, southwest of Kampala, Uganda's largest city and capital. The coordinates of Kampala International University's Western Campus are 0°32'19.0"S, 30°08'40.0"E (Latitude: 0.538611; Longitude: 30.144444). The school was established in 2004 and admitted the first batch of students that year. The school is licensed to teach undergraduate and postgraduate courses in Human Medicine, Dentistry, Pharmacy and Nursing. KIU School of Health Sciences is recognized by the medical and dental licensing boards in Kenya, Tanzania and Uganda.

### Study population

The target population was all first years medical students of Kampala international university's western campus. The study population was obtained according to selection criteria, that is inclusion and exclusion criteria.

### Inclusion criteria

All registered first-year medical students of KIU-WC were included if they consent to participate anonymously in the study.

### Exclusion criteria

All first-year medical students who are not registered, not willing, and not available

during the period of the study did not considered in the study.

**Sample size estimation**

KIU-WC is estimated to have a total population of about 400 first-year medical students, using the sample size determination table formulated by [18]. A sample size of 196 respondents tookpart in this study. This is shown in the table below

**Table 1: Table showing Krejcie-Morgan table**

| Populasi (N) | Sampel (n) | Populasi (N) | Sampel (n) | Populasi (N) | Sampel (n) |
|---|---|---|---|---|---|
| 10 | 10 | 220 | 140 | 1200 | 291 |
| 15 | 14 | 230 | 144 | 1300 | 297 |
| 20 | 19 | 240 | 148 | 1400 | 302 |
| 25 | 24 | 250 | 152 | 1500 | 306 |
| 30 | 28 | 260 | 155 | 1600 | 310 |
| 35 | 32 | 270 | 159 | 1700 | 313 |
| 40 | 36 | 280 | 162 | 1800 | 317 |
| 45 | 40 | 290 | 165 | 1900 | 320 |
| 50 | 44 | 300 | 169 | 2000 | 322 |
| 55 | 48 | 320 | 175 | 2200 | 327 |
| 60 | 52 | 340 | 181 | 2400 | 331 |
| 65 | 56 | 360 | 186 | 2600 | 335 |
| 70 | 59 | 380 | 191 | 2800 | 338 |
| 75 | 63 | 400 | 196 | 3000 | 341 |
| 80 | 66 | 420 | 201 | 3500 | 346 |
| 85 | 70 | 440 | 205 | 4000 | 351 |
| 90 | 73 | 460 | 210 | 4500 | 354 |
| 95 | 76 | 480 | 214 | 5000 | 357 |
| 100 | 80 | 500 | 217 | 6000 | 361 |
| 110 | 86 | 550 | 226 | 7000 | 364 |
| 120 | 92 | 600 | 234 | 8000 | 367 |
| 130 | 97 | 650 | 242 | 9000 | 368 |
| 140 | 103 | 700 | 248 | 10000 | 370 |
| 150 | 108 | 750 | 254 | 15000 | 375 |
| 160 | 113 | 800 | 260 | 20000 | 377 |
| 170 | 118 | 850 | 265 | 30000 | 379 |
| 180 | 123 | 900 | 269 | 40000 | 380 |
| 190 | 127 | 950 | 274 | 50000 | 381 |
| 200 | 132 | 1000 | 278 | 75000 | 382 |
| 210 | 136 | 1100 | 285 | 1000000 | 384 |

### Sampling technique

This study employed a simple random sampling technique (SRS). With this method, every first-year medical student had an even chance and likelihood of being selected as a study participant. The lottery method was used in this study where each member who meets the inclusion and exclusion criteria had to number systematically and in a consequent manner which was assigned by the researcher written on a separate piece of paper [19]. These pieces of paper were mixed and put into a box and then numbers are drawn out of the box in a random manner was the participants to take part in this study. Data collection tools. The data was collected using a pre-validated questionnaire with several open-ended and close-ended questions. The respondents were briefed on how to fill out the given questionnaire form to fill on their own, then the questionnaires were administered to them to them thus saving time. This tool was chosen becauseit was cheap, easy to answer and enable the respondent to answer by ticking and writing in the spaces provided with a high degree of secrecy. Thus, its cheapness and preference made it easy to collect data from a high sample with minimum errors which improved the accuracy of the data collected.

### Study procedure

The two paged questionnaire was distributed randomly to students attending classes at different schools. Students were given the questionnaire at the beginning of the class and were asked to return them at its end. The questionnaire contained three sections. The socio-demographic section was the first one and contained information regarding age, gender, tribe, year of education, marital status and faculty/school. In addition, the second section was about prevalence and the third was about predisposing factors of self-medication.

### Data analysis

All data were coded, entered, and analyzed using Microsoft Excel 2013. The coded Excel sheet was then exported into SPSS version 20 for analysis. The analyzed data was presented in the form of frequency tables, graphs and pie charts.

### Dependent variable

- Self-medication
- Intervening variables

The intervening variables included income, health insurance, access to drugs and selling drugs and sources of information on self-medication.

### Independent variables

i. Socio-demographic factors such as education level, sex, age, marital status and place of residence.

ii. Individual factors such as Economic class, Medical knowledge, Belief in the safety of drugs, and Collectingand storing of old medication at home.

iii. Health factors such as Cost of health care services, Medical consultation, and Poor staff attitude.

### Ethical consideration

Authority to conduct the research was sought from the office of public health, Kampala International University- Western campus. The permission to conduct the study was sought for from the administration of school of Allied Health Sciences of KIU-WC. Informed consent was sought for from participants by thoroughly explaining the purpose of the study and addressing any concerns like benefits, harmful effects and any perceived risks. To ensure that the data was disclosed unreservedly, the confidentiality of respondents was assured by avoiding identifying parameters like names, and locations, among others.

## RESULTS

### Demographic data of respondents

According to Table 1, the majority 90(45.9%) were between the ages of 21 and 24, the majority 72(36.5%)were Catholics, and the majority 96(56.5%) were males.

**Table 2: Demographic data of respondents n=196**

| Variable | Frequency | Per cent |
|---|---|---|
| **Age** | | |
| 18-20 | 88 | 44.8 |
| 21-24 | 90 | 45.9 |
| 25-28 | 8 | 4.1 |
| 29-32 | 4 | 2.1 |
| > 32 | 6 | 3.1 |
| **Religion** | | |
| Pentecostal | 63 | 32.3 |
| Muslim | 23 | 12.0 |
| Catholic | 72 | 36.5 |
| Anglican | 30 | 15.1 |
| SDA | 4 | 2.1 |
| Born again | 4 | 2.1 |
| **Sex** | | |
| male | 96 | 56.5 |
| female | 74 | 43.5 |

**Prevalence of Self-Medication among study participants**

Figure 1 shows that 3 (1.5%) had never self-medicate, whereas 193 (98.5%) had. Thus, in this study, the prevalence of self-medication was 98.5%.

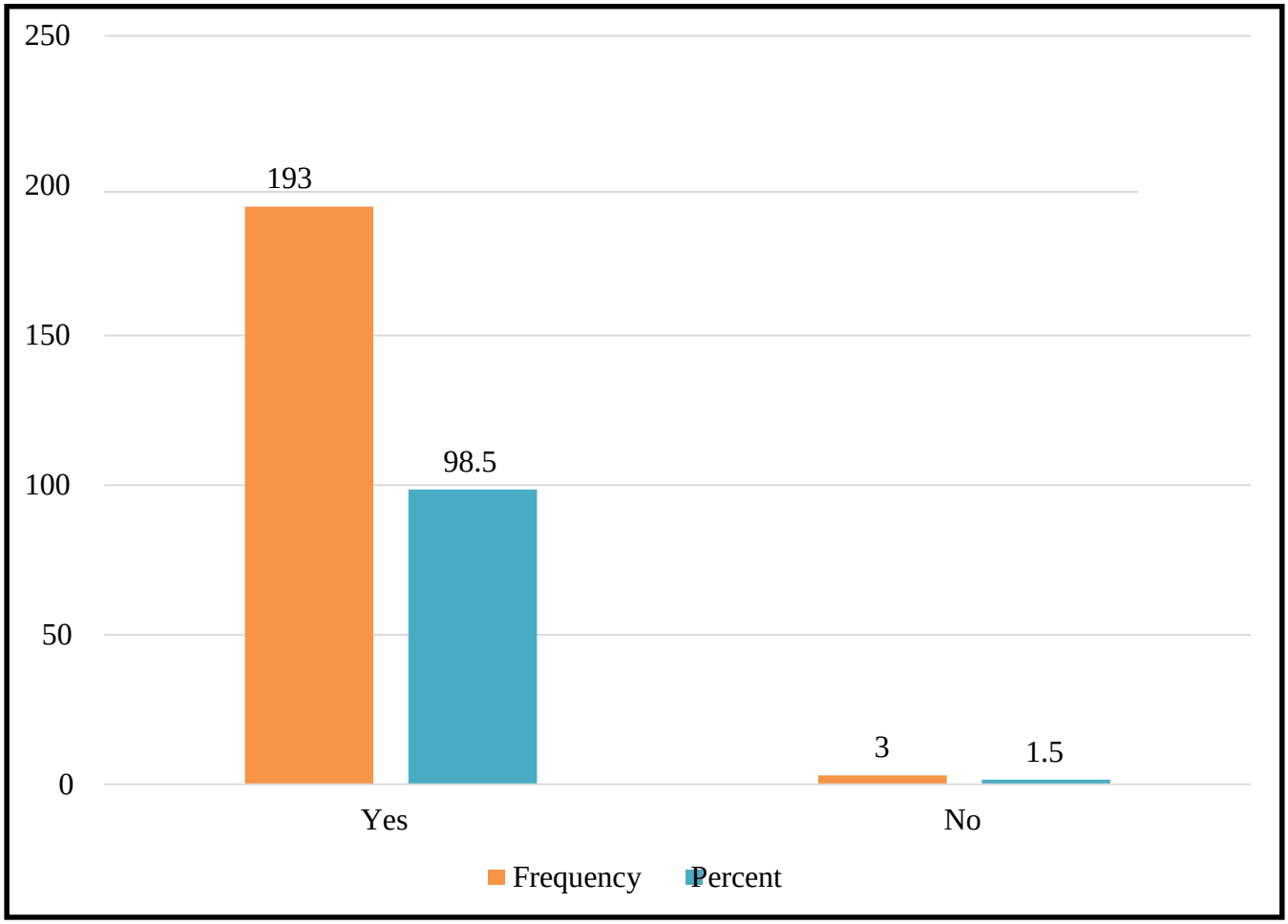


**Figure 1: Prevalence of Self-Medication among Study Participants**

**Self-Medication Practices among study participants**

Table 3 shows that 95 (49.2%) got information about self-medication from family and friends, that the majority 86 (44.6%) used strong pain relievers to self-medicate, and that pharmacies/drug stores were the most common source of drugs used in self-medication, as suggested by 143 (74.1%). The majority of 134 (69.4%) asked someone before self-medicating, with pharmacists being the most frequently questioned (60 (31.1%). Finally, many 99 (51.3%) of those polled had no idea whether the drugs they purchased could treat their condition.

**Table 3: Self-Medication Practices among study participants** **n=193**

| Statements | Frequency | Per cent |
|---|---|---|
| **Source of information on self-medication** | | |
| Media | 46 | 23.8 |
| Doctors/nurses | 48 | 24.9 |
| Family and Friends | 95 | 49.2 |
| No one | 4 | 2.1 |
| **Drugs used to self-medicate** | | |
| Strong pain killer | 86 | 44.6 |
| Anti-malarials | 50 | 25.9 |
| Antibiotics | 40 | 20.7 |
| More than one drug | 17 | 8.8 |
| **Sources of drugs used in self-medication** | | |
| Over the counter | 16 | 8.3 |
| Pharmacy/drug shop | 143 | 74.1 |
| Remains from any family member, friends | 34 | 17.6 |
| **Before you buy these drugs do you consult anyone** | | |
| Yes | 134 | 69.4 |
| No | 59 | 30.6 |
| **People consulted on self-medication** | | |
| Family and Friends | 26 | 13.4 |
| Pharmacist | 60 | 31.1 |
| Doctor | 42 | 21.8 |
| Nurse | 6 | 3.1 |
| None | 59 | 30.6 |
| **Do you know the drug you are buying will treat your Condition?** | | |
| From my pharmacological knowledge, I believe it's the correct drug for the condition | 10 | 5.2 |
| From past experience, the drug has been effective for me | 44 | 22.8 |
| Because the doctor once prescribed it for me when I had a similar condition | 40 | 20.7 |
| Don't know | 99 | 51.3 |

**Factors associated with self-medication among study participants**

Table 5 shows that many 129 (65.8%) self-medicate only for minor medical conditions, the majority 129 (65.8%) say they get better when they self-medicate, many 72 (36.7%) say it is cheap, and the majority 85 (43.4%) say it is convenient.

**Table 4: Factors associated with self-Medication among study participants n=196**

| Statement | Frequency | Percent |
|---|---|---|
| **How often do you self-Medicate?** | | |
| Always | 14 | 7.1 |
| Once in a while | 43 | 21.9 |
| Only for minor medical conditions | 129 | 65.8 |
| Never/only one time | 10 | 5.1 |
| **When you self-medicate do you get better** | | |
| Yes | 116 | 59.2 |
| Sometimes | 74 | 37.8 |
| No, or don't know | 6 | 3.1 |
| **What do you think about Self-medication?** | | |
| Good and should be encouraged | 36 | 18.4 |
| Time-saving | 39 | 19.9 |
| Cheap | 72 | 36.7 |
| Should be encouraged | 47 | 24.0 |
| No thought/idea | 2 | 99.0 |
| **Reasons for self-mediation** | | |
| Availability | 35 | 17.9 |
| Convenience | 85 | 43.4 |
| Affordability | 66 | 33.7 |
| Awareness of certain infections/medication | 5 | 2.6 |
| Not sure of the effectiveness of medication | 2 | 1.0 |
| Never self-medicate | 3 | 1.5 |

**Side effects resulting from self-medication of study participants**

Of the 193 participants who have ever self-medicated, 62 (32.1%) experienced side effects from the drugsthey self-medicated with, and the most common side effect was an allergic reaction, as reported by 26/62 (41.9%). The drugs that caused the most side effects were strong pain relievers and antimalarials, as indicated by 20/62 (32.3%) for each category of drugs. Detailed results are shown in Table 5.

**Table 6: Side effects resulting from self-medication of study participants**

| Statement | Frequency | Per cent |
|---|---|---|
| **Ever got side effects from a drug you self-medicate with (n=193)** Yes | 62 | 32.1 |
| No | 124 | 67.9 |
| **Side effects of self-medication (n=62)** Headache | 12 | 19.4 |
| Vomiting | 6 | 9.7 |
| Allergic reaction | 26 | 41.9 |
| Diarrhoea | 4 | 6.4 |
| Ulcer | 2 | 3.2 |
| Dizziness | 6 | 9.7 |
| Loss of appetite | 2 | 3.2 |
| Nausea | 2 | 3.2 |
| General body weakness | 2 | 3.2 |
| **Which drugs gave you these side effects (n=62)** Antibiotics | 18 | 29.0 |
| Strong pain killers | 20 | 32.3 |
| Antimalarials | 20 | 32.3 |
| Don't know | 4 | 6.4 |

## DISCUSSIONS

Self-medication is defined by the International Pharmaceutical Federation as the use of non-prescription medicines by individuals on their own initiative. "Self-medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms," according to the World Health Organization. Self-medication is regarded as a component of self-care. Self-care, including self-medication, has long beena part of healthcare, and people have always been eager to take more personal responsibility for their health. Self-medication has both advantages and disadvantages, depending on who and what one chooses to self-medicate. The purpose of this study was to assess self-medication practices and associated factors among first-year medical students at KIUWC Bushenyi in western Uganda.

**Prevalence of self-medication among study participants**

In this study, the prevalence of self-medication was 98.5%. This is comparable to the findings of a Jordanianstudy of 504 students (medical: 248 and nonmedical: 256), which discovered that self-medication was extremely common among medical and nonmedical students (96%) [19]. Another survey from pre-COVID times, consisting of a small segment of medical students in Pakistan found 99% ofthem to be engaged in practising self-medication

[20] However, it was high when compared to evidence revealed by a study conducted among 488 medical students in India, in which students reported self-medication in the previous year was 71.7%. [21] A study of 247 medical students in Ajman, United Arab Emirates, discovered that 48.3% of first-year students self-medicate [22] A study of 250 health sciences students in Iran discovered that 89.6% of them self-medicate [23]. A study conducted in Kenya among 282 medical students discovered that 85% of first-semester respondents, 79% of third-semester respondents, and 78% of sixth-semester respondents practised self-medication. Different factors such as accessibility of medications, access to primary healthcare services, medication-related regulations, and students' health-seeking behaviour differences across the study settings may be responsible for the difference in the prevalence of self-medication. In addition, self-medication is widely practised worldwide in urban and rural populations including developing countries because many drugs are dispensed over the counter without a prescription and it provides a low-cost alternative for people [23]

**Self-medication practices among study participants**

In this study, many 95(49.2%) got information on self-medication from families and friends. This is contrary to results revealed by a study carried out among 488 medical students in India where students reported that they commonly obtained information through reading material, and the reasons quoted were minor ailments and quick relief [24]. A study carried out in Iran among 250 health sciences students found that prior experience with the illness, non-seriousness of the illness and availability of drugs were the most prevalent reasons for self-medication [23] This study showed that the majority 86 (44.6%) commonly used strong painkillers to self-medicate. Similarly, in studies from Iran [2], Mozambique [7], and Egypt [11] analgesics or painkillers were the most common group of drugs self-medicated. A study carried out among 488 medical students in India where students reported the commonly used drugs were antipyretics and analgesics [24]. A study carried out among 247 medical students in Ajman, United Arab Emirates found analgesics and antipyretics were most commonly used [22]. A study carried out in Iran among 250 health sciences students found the most commonly used medications included common cold drugs, analgesics and antibiotics. The most frequently used medications were cold pills, acetaminophen pills and amoxicillin capsules [23]. The common source of drugs used in self-medication were pharmacies/drug shops suggested by 143 (74.1%). This is in line with findings in a study carried out among 247 medical students in Ajman, United Arab Emirates which showed the most common sources of drugs were private pharmacies and stocks at home [22] A study done in Ethiopia found most drugs for self-medication were obtained from the pharmacy or drug shops [25] This study showed a majority of 134(69.4%) asked someone before self-medicating and the most commonly asked people were pharmacists as suggested by many 60 (31.1%). Similarly, a study carried out in Iran among 250 health sciences students found most students obtained their pharmaceutical information from the pharmacist physician and online sources [23]. Pharmacists and physicians are no exception to self-medication or self-prescription. The professional exposure to drugs and knowledge of their treatment of disease remains the fundamental contributor to self-medication among pharmacists and physicians, the peculiar demands of their work environment including, excessive work schedules, issues of confidentiality as well as inadequate health care provision for these professionals and their families arefactors that further worsen the situation. The higher the practice experience, the higher the tendency to self-medicate among physicians and pharmacists. The three most commonly abused categories of drugs include analgesics, anti-malarial and antibiotics [26].

**Factors associated with self-medication among first-year medical students of Kampala International University**

In this study majority, 90(45.9%) were aged 21-24 years. Similarly, a study done by [27]

showed that the majority of students were aged between 18 and 23 years (N = 427, 94.9%) [27] In this study majority of 96 (56.5%) were males. This finding is similar to the result of a study done by [27] which showed that slightly more than half were males (N = 249, 55.3%) [27] However, a study among a total of 200 students also showed that many 121 (60.5%) were female and 79 (39.5%) were male [12] In this study, many 129(65.8%) self-medicated only for minor medical conditions, many 72(36.7%) said self-medication is cheap and lastly, majority 85 (43.4%) said they reason behind self-medication was it being convenient. Similar observations were reported in a few studies from India that is a study [28], and [12]. However, in a study from Tamil Nadu, most students practised self-medication as it was time-saving [29], whereas in Punjab the most common reason for self-medication was for quick relief. Students are prone to make unsupervised health-related decisions especially students of health sciences who feel confident in their knowledge about drugs [30], in the present study, the majority 129(65.8%) said they get better when they self-medicate. In studies from Ethiopia [31], Karachi [32], and Malaysia [33], prior experience with the illness was observed to be the most common reason for self-medication.

Previous prescription for the same illness was reported as the most common source of information about the drugs used for self-medication in the present study, which was similar to observations made in Tamil Nadu and Uttar Pradesh [36], [37], [38], [39]. Furthermore, medical knowledge and access to prescription medications increase the potential for self-treatment and although many warn of the loss of objectivity that can accompany self-prescription, it is a problem that is common among practising physicians. Self-medication is an importantissue among the population of medical students. The prevalence of self-medication could be controlled through regulatory authorities and further education [34] [35] [36] [37] [38][39].

## CONCLUSION

In conclusion, the prevalence of self-medication among first-year medical students at KIUWC Bushenyi in western Uganda is high. The common source of information were friends and family, analgesics or painkillers were commonly used drugs and they commonly asked pharmacists before self-medication. The factors associated with self-medication include being 21-24 years, being male, having easy access to drugs or cheap drugs, prior experience with the illness, medical knowledge as well as self-belief in drugs used.

### Recommendations

Basing on the study findings the researcher recommends the following

- The university to organize education programs for students on the effects of self-medication.
- The government to limit access to drugs and restrictions when establishing drug shops and pharmacies.
- There is a need for Drug shops and pharmacy workers to follow professional ethics.

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**Jemimah Daudah (2023). Assessment of Self-Medication Practices and its Associated Factors among First-Year Medical Students at Kampala International UniversityWestern Campus.IDOSR JOURNAL OF APPLIED SCIENCES 8(3) 59-72. https://doi.org/10.59298/IDOSR/2023/10.2.1414**