

## KNOWLEDGE, ATTITUDE, AND PRACTICE REGARDING OVER-THE-COUNTER MEDICINE AND SELF-MEDICATION AMONG STUDENTS AT MEDICARE HEALTH PROFESSIONALS COLLEGE. A CROSS-SECTIONAL STUDY.

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### ABSTRACT.

#### Study objectives:

The general objective of this study was to assess the Knowledge, Attitude, and Practice of self-medication and over-the-counter medicine use while the specific objectives were to assess the knowledge, attitude, and practice self-medication and use of over-the-counter medications among students of Medicare health Professionals College.

#### Methodology:

A descriptive cross-sectional study was conducted with data collected from 115 respondents selected by simple random sampling using printed self-administered questionnaires. The data was then analyzed using Microsoft Excel version 2010 and presented in tables, pie charts, and graphs.

#### Results:

Out of 115 respondents, 99(86%) knew that the use of medicines with unknown substances was dangerous to people with liver and kidney diseases, and 58(50%) of them got information from the internet and social media. About 113(98%) thought that self-medication was part of self-care, 82(71%) thought self-medication was acceptable, 94(82%) had practiced self-medication only once in the past 3 months, 40(35%) practiced self-medication because they had a headache, 10(45%) adjusted the dose because of not getting better.

#### Conclusion:

The majority of the students had considerable knowledge concerning self-medication and the majority had self-treated themselves for mild health conditions. The internet and social media were the most used sources of information among the students. However, their attitude about the safety and effectiveness of self-medication and over-the-counter medicines is not satisfactory.

#### Recommendations:

The government and other concerned stakeholders should have a more intense sensitization of the general population about mindset change and advice on how to safely practice self-medication. Health promotion and sensitization campaigns should also be channelled to the internet and social media since is the audience mostly used by youths in the country.

*Keywords: Knowledge, Attitude, Practice, over-the-counter medicine, self-medication.*

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### BACKGROUND OF THE STUDY.

Over-the-counter (OTC) Medicines' are drugs that are legally allowed to be sold by pharmacists without the need for a prescription (Marathe, et al, 2020).

(Loni et al., 2023) Self-medication involves the use of medicinal products by the consumer to treat self-diagnosed

disorders or symptoms, or the intermittent or continued use of medication prescribed by a physician for chronic. or recurrent diseases or symptoms. (Araia, et al, 2019)

Globally Self-medication with over-the-counter (OTC) medicines is becoming an increasingly popular practice around the world. The global prevalence rate of self-

medication ranges from 11.2% to 93.7%, depending on the target population and country. (Sineenart, 2021)

In Africa, the prevalence of self-medication was (41.5%) lower than that in America (47.8%) in 2022. By dividing the target population, the findings showed that the highest and lowest prevalence of self-treatment was related to students (54.5%) and healthcare workers (35.5%) due to the psychological stress and significant fear caused by academics and other issues. (Kazemioula, 2022)

In Uganda, OTC drug use increased from 7 percent in 2012/13 to 14 % in 2016/17 and to 18% in 2019/20 while 34% of the population seeks care from government health facilities and this proportion has remained the same over the three recent surveys at three in every ten sick persons. (UBOS, 2021)

The study aims at assessing Knowledge, Attitude, and Practice of self-medication and over-the-counter medicine use among students at Medicare Health Professional College.

## METHODOLOGY.

### Study design.

A descriptive cross-sectional study was conducted at Medicare Health Professionals College where only selected students were enrolled because it was cheap and saved time,

### Study area.

This study was conducted at Medicare Health Professionals College located on Plot 975, Balintuma Road P.O Box 16476, Kampala. The institution is accredited by the Ministry of Education and Sports to train Health professionals at Diploma and certificate levels of education in Clinical Medicine, Community Health, Public health dentistry, and Laboratory technology because the institution is easily accessible and trains health students who are more likely to practice self-medication. The study focused on Knowledge, attitude, and practice of over-the-counter medicine use and self-medication among students of Medicare Health Professionals' College from 01 April 2023 to 31 October 2023.

### Study population.

This was conducted among students of Medicare Health Professionals College.

### Sample size determination.

The sample size was determined using the formula of Kish and Leslie for the descriptive studies

$$n = z^2Pq$$

(e)<sup>2</sup>

Where: **n** = the desired sample size

**Z** = the standard normal deviation usually set at 1.96 which corresponds to a 95% confidence level

**p** = the proportion in the target population estimated to have particular characteristics and, in this study,

**P** was estimated to be 0.05 (Niwandinda,2020)

$$q = 1-p$$

**e** = the degree of accuracy desired, usually set at 0.04

$$n = (1.96)^2 (0.05) (1-0.05)$$

$$(0.04)^2$$

$$n = (3.8416) (0.05) (0.95)$$

$$0.0016$$

$$n = 114.0475 \text{ which was approximately equal to } 115.$$

Therefore, the sample size was 115 respondents.

### Sampling technique.

The study was conducted using a simple random sampling technique that allows a random selection of respondents based on their accessibility, this method was easy and convenient to use because it was cheap and saved time.

### Sampling Procedure.

A simple random sampling technique was used. The researcher reached out to each class and voluntarily asked all students who had ever practiced self-medication to raise their hands, write all their names on individual pieces of paper, fold them, put them in a box, and shuffle them well. 10 papers were randomly picked from the box, and the students whose names were written on the ten-picked papers were then selected to participate in the study. This was done once in each class of every program. Each day only one class of a particular program was enrolled, 10 participants were obtained from each class and informed consent was sought from each of the participants until the required 145 participants had been randomly obtained with each year and program randomly represented without enrolling a class twice.

### Data collection methods.

Semi-structured Questionnaires were used to collect the data since was cheap and saved time since all the respondents were able to read and write.

### Data collection tool(s).

Semi-structured self-administered questionnaires were used to collect data. Questions that respondents answered provided data. Students used their pens, and Printed questioners provided by the researcher were used to record and store the collected data.

### Data collection procedure.

Printed self-administered questionnaires were given to each of the respondents, and given enough time to write their answers. The filled questionnaires were then collected and data from each of them were compiled in the form of tables, charts, and graphs.

### Study variables.

The dependent variable was self-medication while the independent variables were. Knowledge, Attitude, and Practice of the respondents.

### Pilot study.

A pilot study was conducted among 10 students of Meno School of Nursing and Midwifery since they possessed similar characteristics to their fellow students at Medicare Health Professionals College to test the tools.

### Quality control.

The questionnaires were printed in a convenient font size to allow easy reading and answering. The respondents were given enough time to answer the questionnaires to ensure that the required data was collected.

### Data Analysis and presentation.

Data was entered into Microsoft Excel 2010 for data analysis and results were presented in the form of graphs and tables.

### Ethical considerations.

A formal approval to conduct research was submitted to the Principal of Medicare Health Professional College for permission. Confidentiality of information, the right to withdraw from the study, and privacy were maintained at all levels. The consent of the respondents was obtained after the purpose and objectives of the study had been identified and explained to the respondents. The study was purely intended for academic purposes and all the information gathered was handled with confidentiality. Numbers instead of names were used to identify the respondents.

## STUDY FINDINGS.

### Demographic characteristics.

**Table 1: Distribution of respondents by demographic characteristics (n=115)**

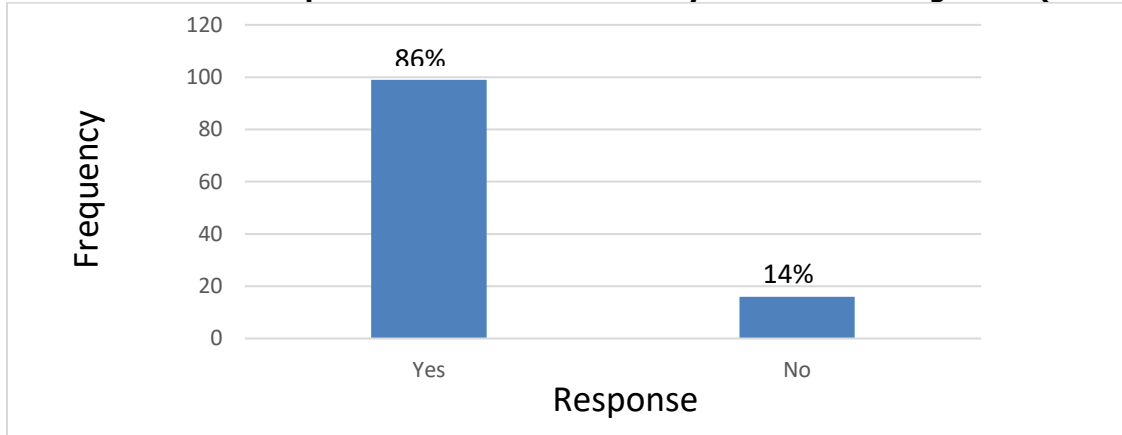
Characteristic	Frequency	Percentage (%)
<b>Age (years)</b>		
16-20	23	20
21-25	51	44
26-30	22	19
Above 30	19	17
<b>Gender</b>		
Male	51	44
Female	64	56

Findings showed that of the 115 respondents who had practiced self-medication in the past three months majority, 51(44%) were between the ages of 21 and 25 years, while the minority, 19(17%) of the respondents were above 30 years. The majority, 64(56%) of the respondents were female while the least, 51(44%) were Male.

**Knowledge of students about self-medication and over-the-counter medications.**

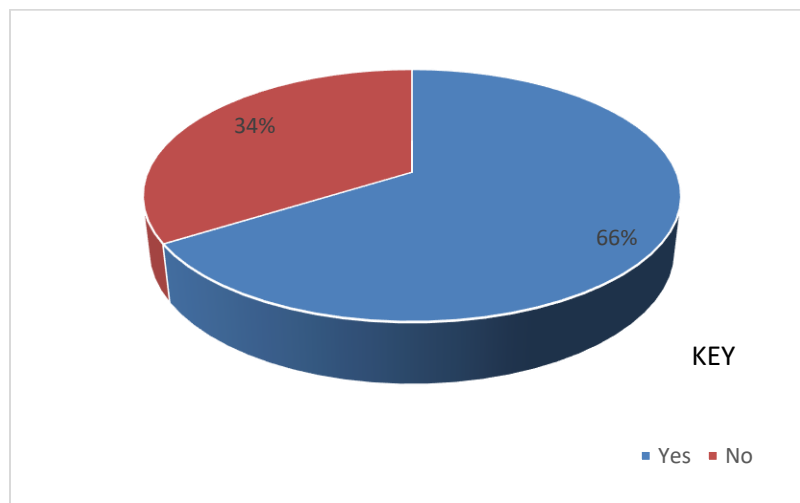
**Figure 1: Distribution of respondents by their knowledge on whether Using medications with unknown substances in patients with liver and kidney disease was dangerous. (n=115)**

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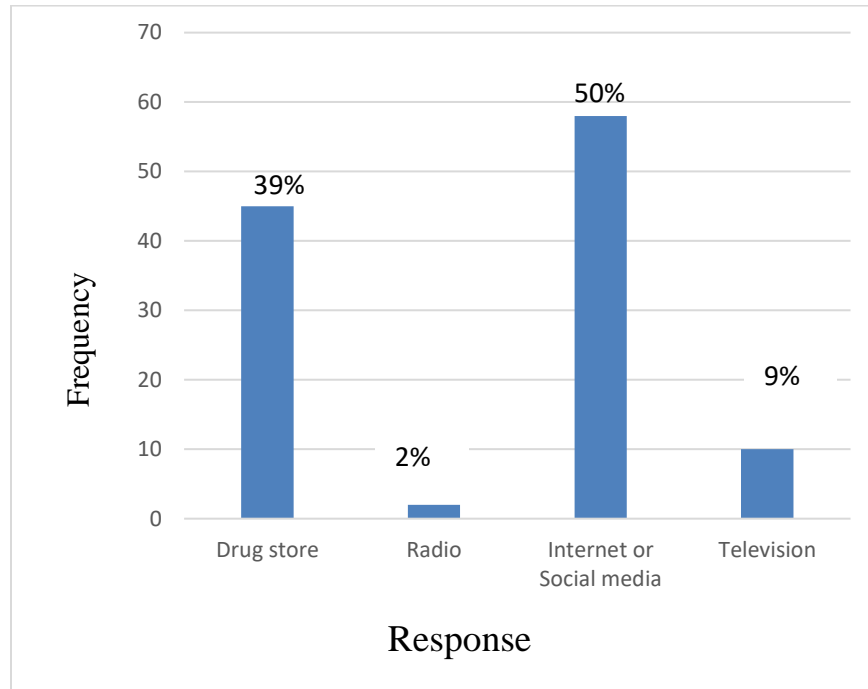
Results revealed that the majority, 99(86%) of the respondents knew that the use of medicines with unknown substances was dangerous in patients with liver and kidney diseases while the minority, 16(14%) of the respondents it was not dangerous.

**Figure 2: Distribution of respondents by whether they knew any information about the concept of self-medication and rational drug use (n=115)**



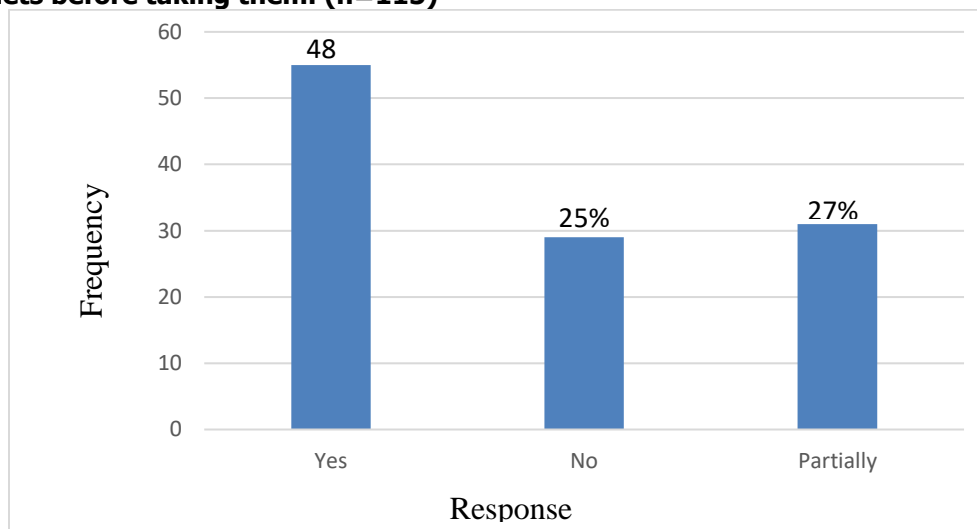
The majority, 76(66%) of the respondents had information about the concept of self-medication and rational use drug use while the minority, 39(34%) of the respondents did not.

**Figure 3: Distribution of respondents by source information concerning the drugs they took (n=115)**



The majority, 58(50%) of the respondents received information about the used medicines from the Internet or social media, while the minority, 2(2%) received information from radio broadcasts.

**Figure 4: Distribution of respondents by whether they read the information written on the drug leaflets before taking them. (n=115)**



The majority, 55(48%) of the respondents read the information on the drug leaflets before taking the medicine, while the minority, 29(25%) did not read the information on the drug leaflets before taking the medicine.

**Attitude towards self-medication and use of over-the-counter medicines.**

**Table 2: Distribution of respondents by their attitude towards self-medication (n=115)**

Question	Response	
	Yes	No
Do you think self-medication is part of self-care?	113	2
Do you think there is a need for training and guidance before practicing self-medication?	59	56
Do you think overall self-medication without proper knowledge is harmful?	53	62
Do you think self-medication is acceptable?	82	33
Do you think self-medication can worsen your health?	91	24

According to Table 2,

The majority, 113(98%) of the respondents thought that self-medication was part of self-care while a minority, 2(2%) of the respondents thought it was not.

The majority, 59(51%) of the respondents thought there was no need for training and guidance before practicing self-medication while the minority, 56(49%) of the respondents thought there was a need.

Results showed that the majority, 62(54%) of the respondents thought overall self-medication without proper

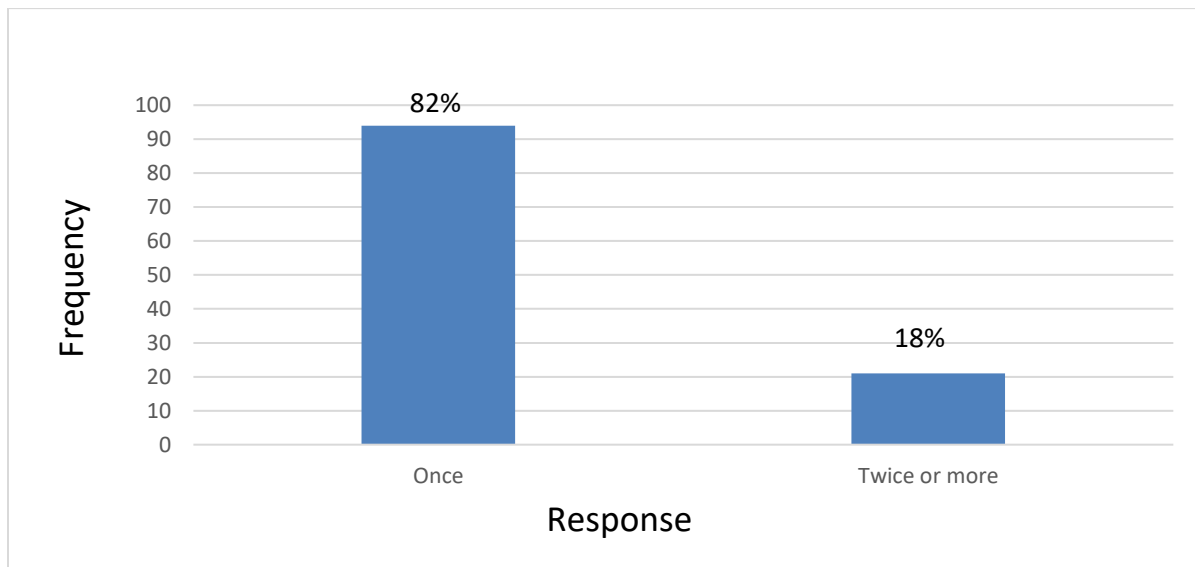
knowledge was harmful while the minority, 53(46%) of the respondents thought it was harmless.

Results showed that the majority, 82(71%) of the respondents thought self-medication was acceptable while the minority, 33(29%) of the respondents thought it was not acceptable.

Results showed that the majority, 91(79%) of the respondents thought self-medication could worsen their health while the minority, 24(21%) thought it would not.

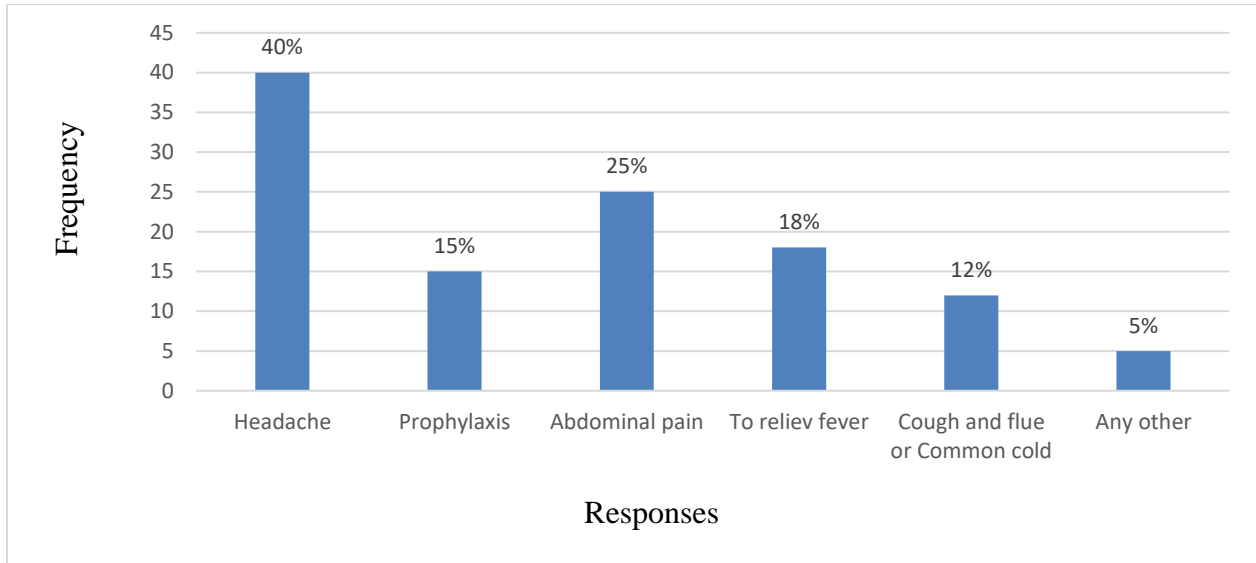
**The practice of self-medication and over-the-counter medicine use.**

**Figure 5: Distribution of respondents by number of times they had practiced self-medication in the past 3 months. (n=115)**



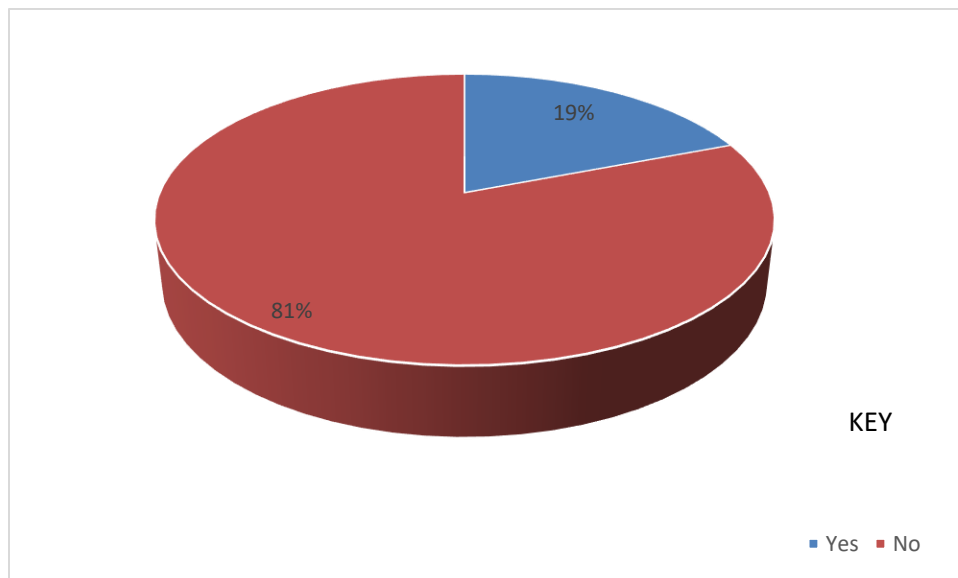
The majority, 94(82%) of the respondents had practiced self-medication once in the past 3 months while the minority, 21(18%) of the respondents had practiced self-medication more than once in the past 3 months.

**Figure 6: Distribution of respondents as to reason for taking the drugs. (n=115)**



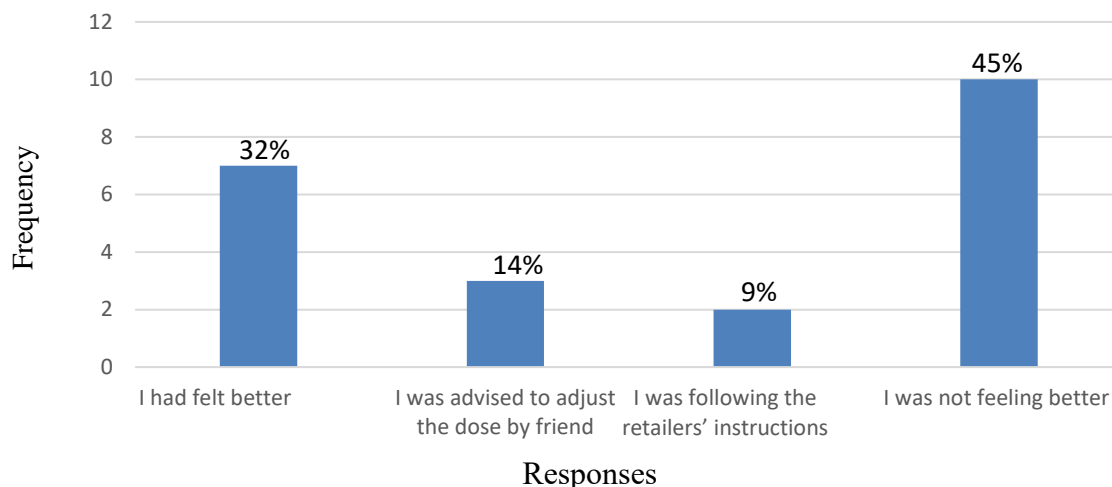
Results showed that the majority, 40(35%) practiced self-medication because they had headaches, while the minority, 5(4%) of the respondents took the medicines for other unspecified reasons.

**Figure 7: Distribution of respondents as to whether they adjusted the dose during treatment (n=115)**



Results showed that the majority, 93(81%) did not adjust the dose during the course of treatment while the minority, 22(19%) adjusted the dose.

**Figure 8: Distribution of respondents as to the reason why they adjusted the dose (n=22)**



Results showed that most, 10(45%) of those who adjusted the dose did so because they felt they were not getting better, while a minority, 2(9%) adjusted the dose on the advice of the drug retailer.

## DISCUSSION OF RESULTS.

### Knowledge of students about self-medication and over-the-counter medications.

Study findings revealed that the majority 99(86%) of the respondents knew that the use of medicines with unknown substances was dangerous in patients with liver and kidney diseases probably because all the respondents were health students and had received this information from their regular studies as per their curriculum or from their fellow informed health students and during their industrial training in health gazetted Hospitals. This corresponds to a study that was conducted among medical and pharmacy students at Qassim University, Buraydah, Saudi Arabia which revealed that a total of 308 (97.5%) students were aware that using medications with unknown substances in patients with liver and kidney disease is dangerous (Alduraibi, et al,2022).

Furthermore, findings showed that the majority 76(66%) of the respondents had information about the concept of self-medication and rational drug use while the minority 39(34%) of the respondents did not. This is probably because there is always an ongoing sensitization of the health students by their tutors about the concept and dangers

associated with self-medication since the tutors presume that students in higher institutions of learning are prone to the vice of self-medication. This corresponds to the findings of a study conducted Among the working-age population in Metropolitan Areas of Thailand revealed that the majority (74.3%) knew rational drug use and antibiotic stewardship (Sineenart, et al, 2021).

More findings showed that the majority 58(50%) of the respondents received information about the used medicines from the internet or social media, this is probably due to an increased rate of advertisements and promotions by pharmaceutical companies about their new brands of medicines through the internet and social media which is the most widely used platform by students in tertiary institutions. This differs from the findings of a study carried out in Thailand which showed that the most common sources of information for participants who knew about rational drug use and antibiotic stewardship were hospital publicity boards and brochures 80.6% (Chautrakarn, et al, 2021).

Also, findings showed that the majority 55(48%) of the respondents read the information on the drug leaflets before taking the medicine, this is probably because these health students are curious to know more information about most medicine brands for future application in their practice. This corresponds to the findings of a study conducted in Kenya which revealed that the number of respondents who read the manufacturer's manual/leaflet all the time before purchasing



medicines increased from 58.8% before the outbreak to 72% (Onchonga, 2020).

### Attitude towards self-medication and use of over-the-counter medicines.

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Study findings revealed that the majority 113(98%) of the respondents thought self-medication was part of self-care. This was probably due to prolonged use of over-the-counter medications with desired outcomes which convinces them that it is beneficial to their health. This corresponds to the findings of a Study conducted Among Undergraduate Medical Students at Najran University, Saudi Arabia revealed Majority of 37% replied no to the statement "Self-medication is a Part of Self-Care" (Al-Qahtani, et al 2022).

Also, the study revealed that the majority 59(51%) of the respondents thought that there was a need for training and guidance before practicing self-medication probably because most of the respondents had regularly practiced and witnessed many other non-trained people in their communities and schools practicing self-medication with positive health outcomes. This corresponded to the findings of a study conducted at Zabol University of Medical Sciences in Iran which revealed that the Majority 62 (36.5%) agreed with the statement "Need No Training on the Disadvantages of Self Treatment?" (Hashemzaei, et al 2021) Furthermore, findings showed that the majority 62(54%) of the respondents thought overall self-medication without proper knowledge was harmful probably because the respondents had limited knowledge and experience about the possible dangers associated with self-medication since they were still new to the medical field with limited experience. This corresponds to the findings of a study conducted Among Undergraduate Medical Students at Najran University, Saudi Arabia which revealed that the majority 70.1% replied no to the statement "Overall self-medication without Proper Knowledge is Harmful". (Al-Qahtani, et al 2022)

More Results showed that the majority of 82(71%) of the respondents thought self-medication was Acceptable. This is probably because they feel it is an available opportunity for individuals who cannot access formal medical services in hospitals because of economic challenges. This corresponded to similar findings in a study majority among the general population in India which revealed that 171(79.17%) respondents think that self-medication is acceptable in some circumstances. (Pathak, et al 2021). Results showed that the majority 91(79%) of the respondents thought self-medication could worsen their health. This was probably because most of the respondents had never in their lifetime witnessed or been hospitalized following an unsuccessful period of self-medication. This

corresponds to findings of a study conducted which revealed that the Majority 300(43.8 %) agreed with the statement "Self-medication can worsen your health status" (Al-Qerem,2023).

### The practice of self-medication and over-the-counter medicine use.

Study findings showed that the majority 94(82%) of the respondents had practiced self-medication only once in the past 3 months. This differs from the results from a study conducted in Lyamutundwe Village, Busiro County, Wakiso District which revealed that 41% had taken medicines without prescription more than thrice (Munyambabazi, 2022).

The study also found out that the majority 40(35%) practiced self-medication because they had headaches. This is probably because they are students and therefore prone to circumstances like inadequate sleep and stress that usually cause headaches. This however contradicts with findings of a study conducted in Bangladesh which revealed that Self-prescribed medications were mostly used for diarrhea and food poisoning (60.6%) (Saha, 2022).

Further results showed that the majority 93(81%) did not adjust the dose during treatment probably because they take medicines according to previous experience without considering the severity of the health condition or the health worker or manufacturers' instructions. These findings correspond to the results of a study conducted among students of Asmara College of Health Sciences which revealed that a significant number (69.6%) of respondents stated that they did not change the doses during self-treatment (Araira, 2019).

More findings showed that Most 10(45%) of those who adjusted the dose during treatment did so because they felt they were not getting better. This was probably triggered by the discomfort caused by the disease which made them adjust to make the outcomes better this also corresponds to the findings of a study conducted among students of Asmara College of Health which revealed that the reasons that lead to dosage change, worsening illness was mentioned by majority 30.0% (Araia, et al 2019).

### CONCLUSION.

The study concluded that the majority of the students had considerable knowledge concerning self-medication and that the majority had self-treated themselves for mild health conditions. The internet and social media were the most used sources of information among the students. However, their attitude about the safety and effectiveness of self-medication and over-the-counter medicines is not satisfactory. The

presence of this attitude even among students in health training institutions gives an impression of a much more unsafe attitude among non-medical students and a more worrying attitude among the general public. Self-medication is vital to the general public but can also be a danger to their lives if not well-regulated and practiced.

## RECOMMENDATIONS.

The government and other concerned stakeholders should be more intense sensitization of the general population about mindset change and advice on how to safely practice over-the-counter medications since most individuals believe it is part of their health care.

Health promotion and sensitization campaigns should also be channeled to the internet and social media since is the audience mostly of youths in the country.

## ACKNOWLEDGMENT.

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## LIST OF ABBREVIATIONS AND ACRONYMS.

MHO: Ministry of Health

OTC: Over the Counter medicines

SM: Self-Medication

SMPs: Self-Medicated Participants

UBOS: Uganda Bureau of Statistics

UNMS: Uganda National Medical stores

WHO: World Health Organization

medical students regarding self-medication, a study in Zabol University of Medical Sciences; Sistan and Baluchestan province in south-east of Iran. *BMC Medical Education*, 21(1), 49. <https://doi.org/10.1186/s12909-020-02374-0>

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