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KNOWLEDGE AND ATTITUDE ASSOCIATED WITH SELF-MEDICATION AMONGST MEDICAL STUDENTS AT MEDICARE HEALTH PROFESSIONALS' COLLEGE. A DESCRIPTIVE CROSS-SECTIONAL STUDY.

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Abstract

Background

Self-medication is the consumption and use of medicinal products to treat disorders or symptoms of disease; it can also be the intermittent or continued use of a previously prescribed drug to treat recurring and chronic illness.

Purpose

To assess the knowledge and attitude of medical students towards self-medication in Medicare health professionals' college

Objective

To determine the prevalence, assess the knowledge determine the attitude toward self-medication among medical students at Medicare health professionals' college.

Methodology

A descriptive cross-sectional study was used which employed a quantitative method where data was collected once with no follow-up of respondents. This was a cheaper study design and it was done in a shorter period of time. Data was analysed using MS Excel package and descriptive statistics which include frequency and percentages were used and data was presented on figures, graphs, and tables.

Findings

The prevalence of self-medication was found to be high at 93% with the majority of respondent's 32% practicing self-medication five times or more. 68.4% of the respondents had good knowledge of self-medication with 89% reporting having heard about self-medication before, almost all respondents 97.9% correctly defined Self-medication as consuming a drug without a prescription from a health worker, and 64.5% of respondents had good attitude towards self-medication with up to 43% believing that self-medication is not a dangerous practice,49.3 agreeing that SM is a part of self-care and 84% admitting they would recommend Self-medication to a colleague .

Conclusion

Despite their good knowledge about self-medication and its effects, the respondents had a positive attitude towards self-medication leading to them practicing it. This is evidenced by the high incidence rate of self-medication.

Recommendation

Sensitization of students on self-medication and its effects should be implemented by the institution to promote attitude change and increase knowledge among students.

Keywords: *Self-medication, Medical students, Knowledge, Attitude, Practice, Medicare Health Professional College*
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Background of the Study

According to Rajendran et al., 2019, self-medication involves the use of medicinal products by the consumer to treat self-recognized disorders or symptoms, or the intermittent or continued use of a medication prescribed by a physician for chronic or recurring diseases or symptoms (Araia et al., 2019). In practice, it also includes the use of the medication of family members, especially where the treatment of children or the elderly is involved (Rathod et al., 2023). (Ateshim et al., 2019) Self-medication has various forms, including taking medications without a physician's prescription, using a previous prescription for a similar condition, or using drugs obtainable at home without getting a physician's advice. Self-medication can be a serious issue and can lead to several problems, such as negative pharmaceutical reactions, a possible increase in antimicrobial resistance, and can be a waste of resources (Alduraibi et al., 2022)

A global study reported the rate of self-medication at 27.7% and 69.9% in Germany and Italy respectively. In Iran, the prevalence of self-medication was 53%. In another global study on self-medication, from 41620 individuals included in the selected papers, 67% of had at least one experience of self-medication. Among the continents, Europe had the highest incidence rate of self-medication (Ghasemyani et al., 2022). In terms of supply resources, 71% of the subjects purchased drugs from pharmacies (Ghasemyani et al., 2022). Regarding the condition that led to self-medication, 48% of the patients turned to self-medication due to neurological problems (Ghasemyani et al., 2022). Among the causes of self-medication, "a previous history" and "minor nature of the disease" were the most common reasons for self-

medication. According to the results of the study, the mean incidence of self-medication was higher in Eastern Europe and Asian countries, compared to other parts of the world(Ghasemyani et al., 2022). In general, self-medication can lead to short and long-term harmful consequences for society and the healthcare systems, resulting in huge costs for countries (Ghasemyani et al., 2022). Worldwide, self-medication is a health problem with serious public health implications such as public health risks that include drug resistance, and organ damage, and contributes 2.9% to 3.7% of the deaths in the world, mainly due to drug–drug interactions. The unregulated access to both POMs and OTC drugs is likely to increase the prevalence of self-medication and its associated complications (Niwandinda et al, 2020).

In Africa, a study on self-medication carried out in Cameroon concluded that overall, 49.2% and 30.7% of respondents shared that they self-mediated after advice from a healthcare worker, or by personal motivation. Only 13.2% self-medicated with antibiotics due to the remoteness of healthcare facilities, and there was a trend for this reason to be more common among women than men. The main personal motivation for antibiotic self-medication was the recurrence of disease symptoms that had been treated before and for which the person had already received a prescription at 33.9%, drug-taking practice at 25.4%, or renewal of previous prescription at 23.7%. Only purchasing advice from a third person; at 95% and personal motivation at 95% were associated with self-medication compared to the difficulty accessing health care among women (Ekambi et al., 2019)

In East Africa, a study carried out in Kenya reported a prevalence of self-medication at 67%. The most common ailments for which self-medication were used were respiratory-related ailment symptoms fevers and headaches. Participants mostly relied on past knowledge of drugs they requested, friends' consultation, and general peer pressure coupled with internet search information. Antibiotics/antimicrobials and analgesics were the most common self-medicated drugs (Mutua et al., 2021)

In Uganda, a study on self-medication showed a 63.5% prevalence of self-medication. Self-medication reasons included considering illnesses as minor, time-saving, having old prescriptions, and high consultation fees, not self-medicating reasons included risk of using the wrong drugs, insufficient knowledge, fear of side effects, wrong drug use, and misdiagnosis. Respondents accessed drugs from pharmacies, friends/family, or private clinics Headache relievers, pain relievers, and antibiotics were most commonly self-medicated. In adjusted analysis, being female, having existing allergies, and being in advanced years of study were associated with increased odds of self-medication. No statistically significant difference existed between medical and non-medical students regarding self-medication. Self-medication likelihood increased with a lack of access to medical services (Niwandinda et al, 2020)

General objective

To determine the knowledge and attitude associated with self-medication among medical students of Medicare Health Professionals' college.

Specific objectives

- To determine the prevalence of self-medication among medical students of Medicare health professionals' college
- To assess the knowledge about self-medication among medical students of Medicare health professionals' college
- To determine the attitude towards self-medication among medical students of Medicare health professionals' college

Methodology

Study design

A descriptive cross-sectional study was used which employed a quantitative method where data was collected once with no follow-up of respondents. This is a cheaper study design and it is done in a shorter period of time.

Study area

This study was conducted at Medicare health professionals' College a medical institute located in Mengo Hill, Rubaga division, Buganda sub-region in the central region of Uganda. Data was collected between June and August 2023.

The institution was chosen because of the large number of students who are relevant to the topic of study.

Study population

The study population was composed of students pursuing any medical-related course at MHPC, and they must have met the selection criteria stated further in this paper.

Sample size determination

The calculation of the sample size was done using Kish Leslie's formula (1965)

$$n = Z^2 PQ/d^2$$

Where;
n = the desired sample size
Z = the standard normal deviation usually set at 1.96
P = prevalence of self-medication among medical students at Medicare health professionals' college is 50%.
Therefore P= 0.50
Q = (1-P)
d = absolute error allowed (10%) = 0.1
Substitution into the above equation

$$Q= (1-p) = (1-0.50) = 0.50$$

Thus, $n = \underline{(1.96)^2 (0.50 \text{ X } 0.50)}$

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$$\frac{}{(0.1)^2}$$

n = 96.04
Therefore: n = 96 Respondents.

Sampling Technique

This research employed the Simple random sampling technique since it was time-saving as well as cost-effective.

Sampling procedure

Respondents were chosen using the lottery technique of sampling; tiny pieces of paper with yes or no were folded and mixed in a small container. Students were randomly asked to choose a paper each and only those who picked papers with yes were eligible to partake in the study.

Data collection method

A self-administered questionnaire was used since the respondents are students who can read and write. This method was chosen since it gives a chance to the researcher to participate in data collection and clarify where necessary. The questionnaire was designed in such a way as to be able to obtain answers in line with the research questions and objectives.

Data collection tool

In this study, a semi-structured self-administered questionnaire made up of open-ended questions was used. The questions were set in simple- to comprehend- English which made it easy to obtain answers.

Data collection procedure

Respondents consent was sought first to ascertain their willingness to participate in the study. In agreement, the respondents were given a questionnaire to fill out. No personal information except for that which is vital to the study was collected from the respondents in a bid to maintain confidentiality and maintain their trust.

Study variables

The independent variable
This consisted of the knowledge and attitudes of medical students
The dependent variable
This was self-medication.

Quality control

Ample time was dedicated to the collection of data, The research tool was pretested using a pilot study to test its reliability as well as its efficiency and corrected/ Researcher ensured that the questionnaires were correctly and filled and explanations given when queried.

Standard operating procedures were observed as indicated.

The inclusion criteria;

The study targeted medical students in Medicare health professionals' colleges who had to voluntarily consent to partake in the study. They had to be actively enrolled and recognized by the college.

Exclusion criteria

The study excluded any students not recognized by the college, those not actively enrolled at or recognized by the college.

Data analysis and presentation

Data was analysed manually and entered electronically using the computer application MS. Excel to give meaning and presented in frequency tables and figures.

Ethical considerations

An introductory letter was drafted from the research committee of Medicare Health Professionals College and presented to the principal of Medicare Health Professionals' college. Relevant permission and approval were sought from other concerned authorities before the study. The participants were briefed about the study to ensure informed consent was provided.

Results

Socio-demographic characteristics of respondents

Table 1 shows that of 96 respondents, 52(54.2%) were male and 44(45.8%) were female, 7(7.3%) were in the 18-20 age group, 69(71.9%) lay within the 21-30 age bracket while only 20(20.8%) were in the 31-40 age group. Regarding the source of income, the majority 64(66.7%) got their income from the guardians followed by 20(20.8%) who got their income from their jobs and the least 12912.5%) who had other sources of income. Only 2(2.1%) reported having a chronic illness.

Prevalence of self-medication amongst medical students

Figure 1 shows that 89(93%) of the respondents practiced self-medication and only 7(7%) of the respondents did not practice self-medication.

Figure 2 shows that the majority of respondents 31(34%) practiced self-medication five times and more, 21(23%) four times a year, 12((15%) three times a year, 15(17%) and 10(11%) twice and at most once a year respectively.

Figure 3 shows that the mostly consumed drugs at 38(43%) are over the counter drugs for common

conditions like flue cough and pain killers, followed by antibiotics at 24(27%), then herbal medicine and nutritional supplements at 5(6%) and the least used were long term illness drugs at 2(2%). 20 (22%) respondents selected more than one medication.

Table 1 shows the respondents sociodemographic characteristics (n=96)

Characteristics	Alternatives	Frequency	Percentage (%)
Age group	18-20	7	37
	21-30	69	71.9
	31-40	20	20.8
	Total	**96**	**100**
Sex	Male	52	54.2
	Female	44	45.8
	Total	**96**	**100**
Religion	Guardian	64	66.7
	My job	20	20.8
	Other	12	12.5
	Total	**96**	**100**
Chronic illness	Yes	2	2.1
	No	94	97.9
	Total	**96**	**100**

Source: Primary data (2023)

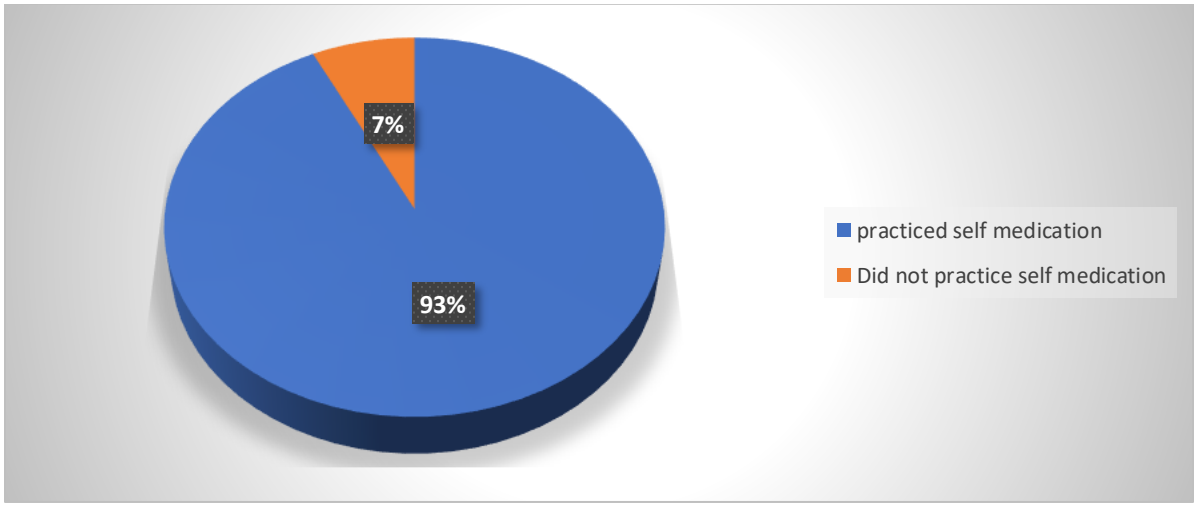
Knowledge of self-medication among medical students in Medicare

Out of 96 respondents, 85(89%) reported having heard about self-medication before and only 11(11%) reported not having heard about self-medication before.

Almost all respondents 94(97.9%) had knowledge that self-medication is consuming a drug without advice or prescription from the health worker. 61(68.8%) believed that using a previous prescription to treat a new infection is a form of self-medication. 63(65.6%) believed that self-medication is not always safe and effective. Almost all respondents,82(85.4%) respondents believed that all drugs have adverse side effects. Only 64(66.7%) believed that self-medication could mask signs of other diseases.

Figure 4 show that 39(43.8%) respondents experienced adverse side effects due to self-medication. Only 32(35.9%) reported having prior knowledge on possible side effects prior to using the drug but a mere 6(15.4%) of those who experienced side effects later visited a health worker. Almost all respondents 79(82%) believed that it is necessary to visit a health worker in the event of adverse side effects after practicing self-medication.

Figure 1 shows the number of respondents that practice self-medication (n=96)



Source: Primary data (2023)

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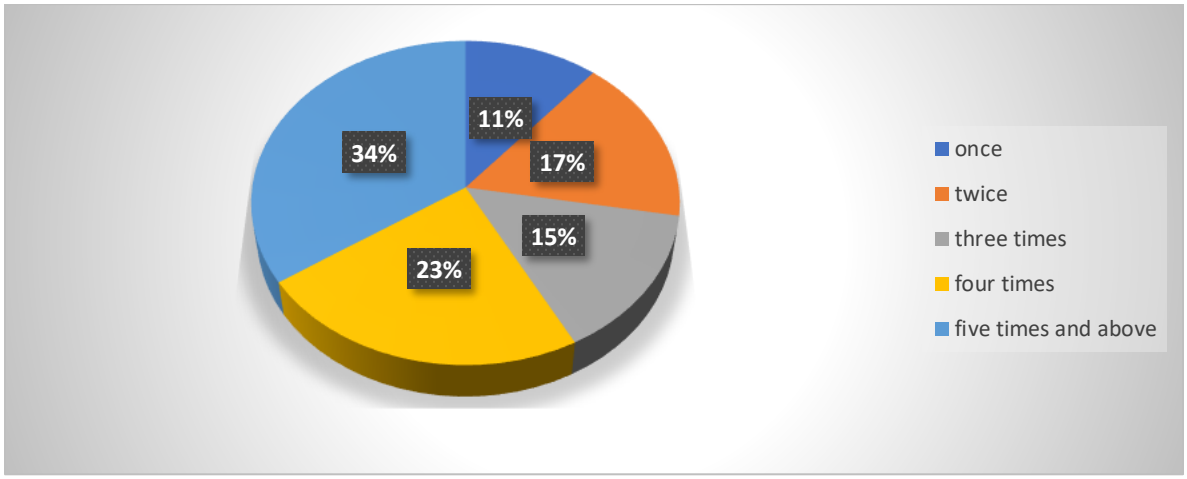
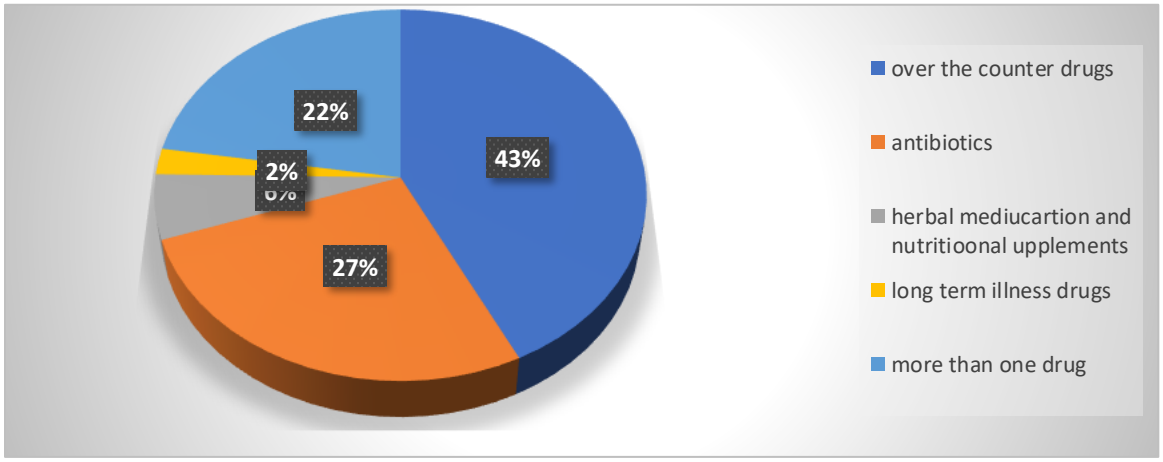
Figure 2 shows the number of times in a year that the respondent self-medicates (n=89)



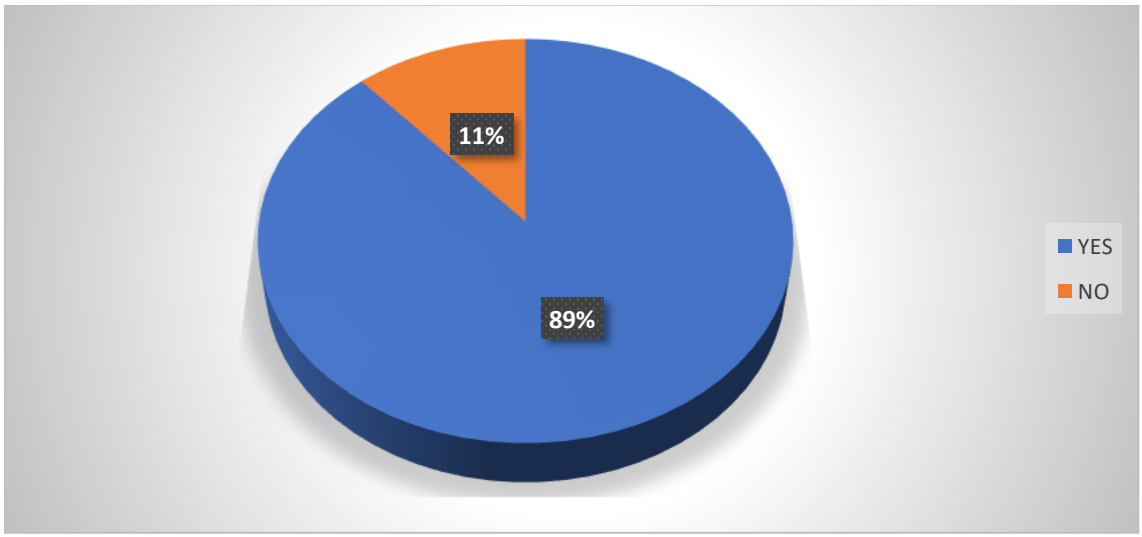
Source: Primary data (2023)

Figure 3 shows drugs usually used for self-medication (n=89)



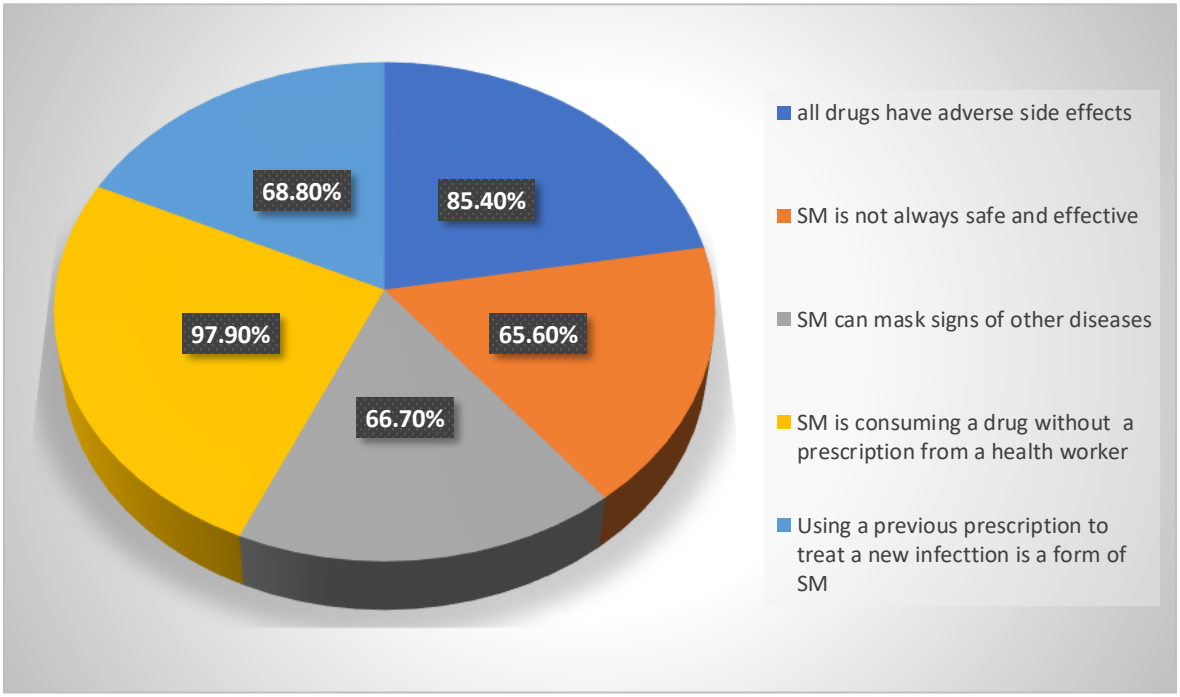
Source: Primary data (2023)

Figure 4: ***Shows knowledge of students about self-medication(n=96)***



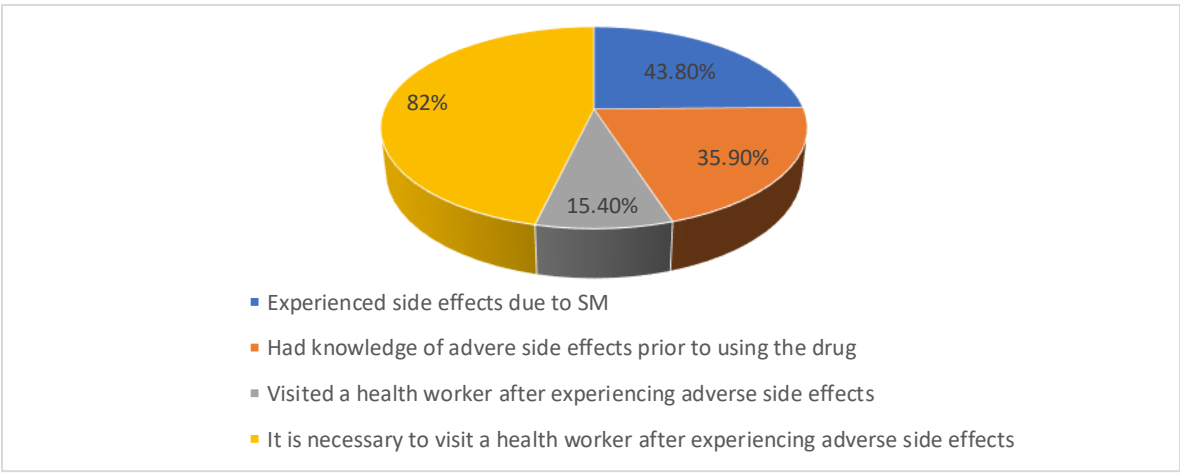
Source: Primary data (2023)

Figure 5: shows respondent's responses on knowledge of self-medication (n=96)



Source: Primary data (2023)

Figure 6: **Shows response to adverse side effects due to self-medication**



Source: Primary data (2023)

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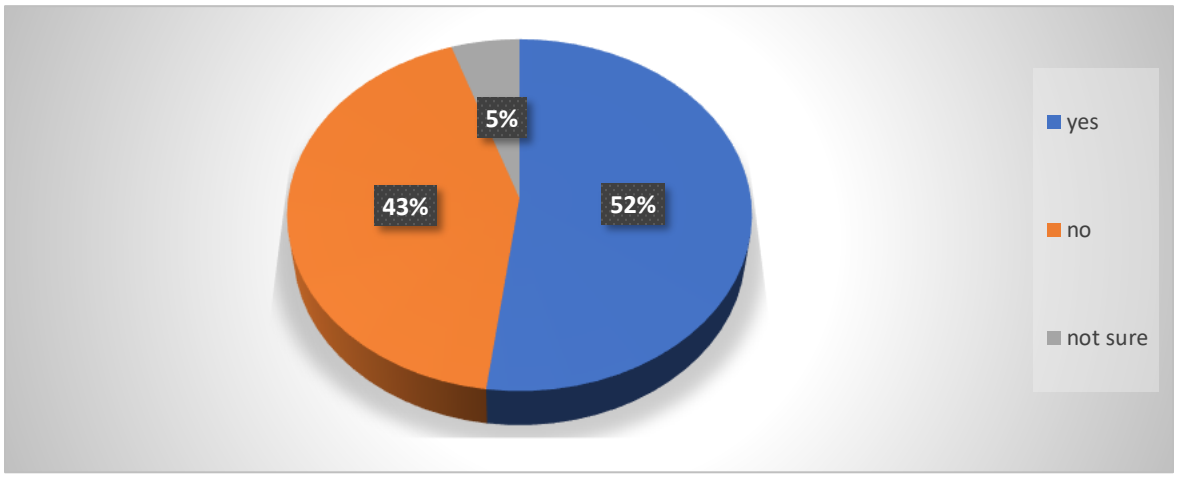
Figure 7 shows respondents' thoughts on whether self-medication is a dangerous practice (n=96)



Source: Primary data (2023)

Figure 8 shows respondents attitude towards self-medication

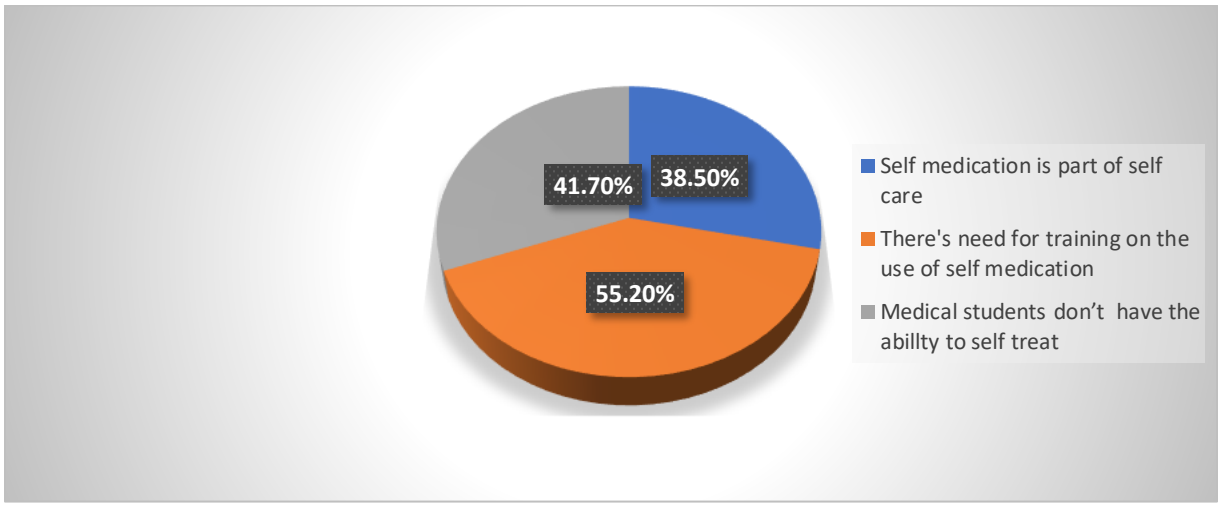
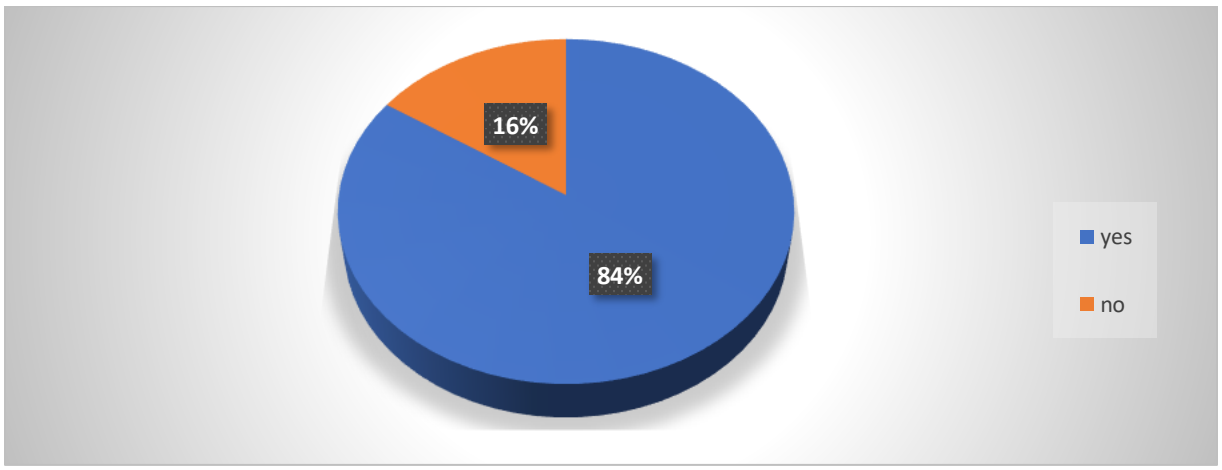


Figure 9 shows response towards recommending self-medication to colleagues (n=96)



Source: Primary data (2023)

Attitude of medical students towards self-medication

51 (52%) of respondents believed that self-medication is a dangerous practice, 41(43%) disagreed and only 5 (5%) were not sure.

Figure 8 shows 38.5% respondents agreed that SM is a part of self-care. 55.2% agreed on the need for training on use of self-medication while 41.7% disagreed on the ability of medical students to self-treat

From figure 9, only 16% of the respondents would not recommend self-medication to a colleague while up to 84% would recommend it to a colleague.

Discussion

Prevalence of self-medication among medical students

The study results show that 89(93%) of the respondents practiced self-medication. This could probably be because they may have some medical knowledge regarding medicines and the conditions they work on. This result is in agreement with results of a study carried out in Oman and Iraq that found the prevalence rate at 94% and 92.4% respectively.(Ghasemyani et al., 2022)

The findings further found that 31(34%) of the respondents practiced SM five times and more in the past year, 21(23%) four times 12(15%) three times 15(17%) two times and 10(11%) one time or less. The high number of respondents practicing self-medication more than five times a year may be accounted for by the prevalence of minor illnesses and conditions that occur throughout the year like cough, flue, and symptoms like headaches and n females menstrual related symptoms.

The most sought for drugs were over the counter drugs for common ailments like flue, cough, headaches at 38(43%) and antibiotics at 24(27%). This could be because bacterial infections and other minor ailments are commonly occurring and some are seasonal like cough and flue. Only 5(6%) sought herbs and food supplements, which could be because most respondents are not well conversant with local medicines and their uses as well as the fact that they do not have knowledge about the utilisation and need for food supplements. Up to20(22%) used more than one class of drugs, which could be due to the need to manage a different symptom but also some respondents use a variety of drugs in a kind of experimentation to see which drug works best. The results are comparable to those in a study by Mutua et al.,2021 , that reported that up to 58% respondents sought drugs for common ailments and a slightly higher figure 12% sought nutritional supplements and herbal medicines. A significantly higher number of respondents 45% used multiple medicines.

Knowledge of self-medication

Up to 68.4% of the respondents had good knowledge about self-medication. This could be attributed to presence of adequate information regarding self-medication within the community and from various sources of health-related information like the internet, health journals and mass media. These findings are higher than the results of a study by Siraj et al.,2022; that found the knowledge at 58.8% and almost equal to results from a study by Namususwa et al.,2022 which reported the prevalence of self-medication at 71.3%.

The study findings reported that 94(97%) of the respondents believed that SM is consumption of a drug without a prescription from health worker but only 61(68.8%) believed that using a previous prescription to treat a new infection is a form of self-medication. This result indicates that respondents know what self-mediation is but do not know the components and limits of self-medication. This could point to lack of comprehensive knowledge on how broad SM is and its components.

Results from the study reported that 82(85.4%) agreed that all drugs have adverse side effects with only 63(65.6%) agreeing that SM is not always safe and effective. This can be explained by the fact that people get relief from their symptoms after self-medicating and so building their trust in the practice. The result is higher than 81.6%reported by Alduraibi et al., 2022 as the number of respondents that knew that sm is consumption of a drug without prescription from a health worker. In contrast a study by Siraj et al,2022 reported only 35.9% agreed that SM may not always be safe and effective.

Study results revealed that39(43.8%) of the respondents reported to have experienced adverse side effects after self-medicating but more than a half of those,57(64.1%) did not have prior knowledge of the side effects and only 6(15.4%) of those that experienced side effect visited the health worker. This result shows that majority of the respondents lack basic knowledge on possible adverse side effects of drugs and unfortunately a minority of this report to the hospital for medical attention. This could be because then majority of side effects are self-resolving and so they see no need to invest their time and money in seeking medical attention. Contrary, to the above, up to 79(82%) of the respondents believed that it is necessary to seek medical attention after experiencing adverse side effects, possibly because they cannot manage the side effects without medical intervention. These results were lower than results from a study by Mensah et al.,2019 that showed a higher number of respondents56.2% experienced adverse side effects as well as had prior knowledge about adverse side effects 18.3% with almost a half 45% visiting he hospital to seek medical attention.

Attitude towards self-medication

The study findings revealed that 41(43%) of the respondents believed that self-medication is not a

dangerous habit, this implies that many respondents trust self-medication and find no problem with the practice probably because they get the desired effect after using the medication.

Furthermore, up to 81(84%) of the respondents reported that they would recommend self-medication to their colleagues, this could be due to the positive outcomes of prior self-medication and the advantages of the practice. This result is way higher than that that found in a study by Siraj et al., 2022 where only 46.2% would recommend self-medication to a colleague.

Study findings reveal that 37(38.5%) of the respondents agreed that self-medication is a part of self-care, implying that individuals prioritise self-medication as a basic for personal care and a core part of their wellbeing. In line with that, only 53(55.2%) of the respondents responded positively on the need for training on the use of self-medication implying that the respondents not only trust but also believe in their ability to make the right medication choices and decisions. This could be attributed to prior positive outcomes of the practice by the individuals or their peers.

On the contrary, up to 40(41.7%) disagreed on the ability of medical students to self-treat. This shows that students understand their limitations in terms medical knowledge regarding diagnosis and treatment of ailments and diseases. These findings are in disagreement with those reported by Siraj et al., 2022 which reported that only 11.0%

agreed that SM is part of self-care , 52.2% responded positively on the need for training on use of self-medication, and up to 50.1% disagreed on the ability of medical students to self-treat.

Conclusions

Study findings reveal that out of the 96 respondents 89(93%) practice self-medication of which 31(34%) practice self-medication five times and more,21(23%) four times, 12(15%) three times, 15(17%) twice and 10(11%) once a year. The most consumed drugs were over the counter drugs at 38(44%) followed by antibiotics at 24(25%) herbal medicine and nutritional supplements followed at 5(6%), long term illness drugs at 2(2%). Up to 20(23%) of the respondents used more than one medication.

Results from the study reveal that out of 96 respondents, 85(89%) had heard about self-medication before. 94 (97.9%) of the respondents correctly defined SM as the consumption of a drug without prescription from a health worker. 61(68.8%) believed that using a previous prescription for a new infection is a form of self-medication and 65.6% believed that SM is not always safe and effective while only 64(66.7%) agreed that SM could mask signs of other diseases. Of the 39(43.8%) that experienced adverse side effects after self-medicating, only 32(35.9%) had prior knowledge on possible side effects of the medication but only 6(15.4%) later visited a health facility for help. surprisingly, up to 79(82%) of the respondents believe that it is necessary to get medical assistance in case of adverse side effects.

Study findings unfortunately reveal that the majority of respondents despite their relatively good knowledge on dangers of SM had a receptive and positive attitude towards it with up to 80(84%) willing to recommend the practice to others and only 51(52%) believing that SM is a dangerous practice. 37(38.5%) of the respondents agreed that self-medication is a part of self-care while 53(55.2%) responded positively on the need for training on the practice of self-medication. Reassuringly, almost half 42(41.7%) of the respondents believed that medical students can't self-treat.

Recommendations

The government through NDA should launch public awareness campaigns about self-medication, its risks and the importance of seeking professional healthcare advice before taking any medication

The local health facilities pharmacies and drug retailers should be encouraged to offer information and guidance to patients seeking their services.

Medicare Health College should introduce health education programmes about the dangers of self-medication and the importance of seeking professional medical advice.

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List of Abbreviations and Acronyms

AMR: Antimicrobial resistance

OTC: Over the counter

POMs: Prescription only medication

SM: Self medication

UHS: Uganda Health Survey

WHO: World Health Organization

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