

Exploring self-care choices: a qualitative study of self-medication insights among university students in Lira City, Northern Uganda

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ABSTRACT

Background Self-medication, the practice of treating health issues without professional medical guidance, is a widespread phenomenon among students globally, raising concerns about potential consequences. This study investigates perceptions and knowledge of self-medication among students from a university in Uganda.

Methods We conducted a qualitative study, with 20 in-depth interviews and 3 focus group discussions among students. Data were processed and analysed using NVivo V.12.

Results This study found both positive and negative perceptions of self-medication among university students. Positive views highlighted the perception that self-medication was convenient and time-efficient method for managing health concerns as access drug shops enabled students to swiftly acquire medications, bypassing prolonged wait times. Self-medication shielded female students from potential stigma and judgement, by enabling them to discretely manage their menstrual health. By bypassing the need for clinic visits and accessing medications directly from drug shops, students could avoid the discomfort and inconvenience associated with public healthcare facilities, and allowing them to allocate time more productively for academic pursuits. However, students were concerned about potential negative consequences that encompassed drug resistance, overdose, complications, and potential fatality.

Conclusion Limited access to convenient healthcare options, the concern for discrete access, particularly for potentially stigmatised conditions, coupled with the exigencies of academic life that demanded them to optimise time management, create a conducive environment for the prevalence of self-medication practices among university students. These themes demonstrate the intersection of health-seeking behaviours and contextual factors, shedding light on the pragmatic strategies adopted by students to navigate healthcare challenges, sometimes at the risk of harmful consequences. These issues also show the need for culturally and gender-sensitive healthcare approaches, regulatory oversight on medication practices and public health campaigns promoting safe medication practices among students.

WHAT IS ALREADY KNOWN ON THIS TOPIC

- ⇒ Existing scientific knowledge indicates that self-medication is a common problem among university students, and identifies the predictors and associated factors; however, most of the research is quantitative, and is limited in resource-limited settings.
- ⇒ The present study makes a noteworthy contribution by qualitatively examining the perceptions and drivers of self-medication, in a young university in resource-limited setting.

WHAT THIS STUDY ADDS

- ⇒ This research extends our knowledge of students' perception of self-medication and uncovers nuanced positive and negative perceptions, shedding light on students' responsibility and attitudes towards professional advice.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

- ⇒ The study has important implications across research, practice and policy domains.
- ⇒ First, it highlights the need for tailored educational programmes, culturally and gender-sensitive healthcare approaches, regulatory oversight on medication practices and public health campaigns promoting safe medication practices among students.
- ⇒ These findings could inform future research to evaluate effective interventions to reduce self-medication among university students.
- ⇒ Policy makers seeking to formulate relevant regulations or tighten existing ones, as well as public health professionals, may find these insights valuable in designing impactful health promotion strategies tailored to the unique contexts and needs of university students.

INTRODUCTION

Self-medication, the practice of treating health issues without professional medical guidance, is a widespread phenomenon with potentially significant consequences.¹ Misuse of medicines presents a pressing challenge

to the safe and effective utilisation of vital medications.² The accessibility of various pharmaceuticals globally has contributed to their misuse, including through self-medication.³ Defined as the procurement and consumption of drugs without medical advice, self-medication is prevalent and often involves antibiotics.⁴ This issue is particularly pronounced among college students, where prevalence rates can range from 32.5% to 81.5%.⁵

While self-medication is a widespread practice, it is of particular concern in low- and middle-income countries, including sub-Saharan Africa. East African countries, including Uganda, exhibit self-medication rates ranging from 36.2% to 76.5%.⁵ Despite efforts by various organisations to address self-medication through education, regulation and awareness campaigns, the problem persists.⁶ The region's limited literature on self-medication underscores the need for comprehensive research, in particular among university students, among whom there is a lack of clear understanding regarding self-medication prevalence and medication storage practices.³ This study investigates the perceptions and knowledge of self-medication among students from Lira University, one of the public universities in Northern Uganda. By examining these perspectives, valuable insights can be gained into the factors that influence the self-care choices made by the student population, thereby contributing to the larger discourse on responsible healthcare decision-making.⁷ Considering the potential risks associated with self-medication, such as wastage of healthcare resources, drug resistance and adverse drug reactions, the need for a comprehensive understanding of this issue is critical.^{8,9}

METHODS AND MATERIALS

Study design and setting

The study employed a descriptive cross-sectional design and qualitative data analysis methods. It was conducted at Lira University in Ayere Ward, Lira Division, Lira city, between April and September 2022, involving 1378 students across 3 faculties.

Study procedure and study population

Trained research assistants collected data from a diverse range of participants, stratified by academic faculties and year of study.

Sample size determination

We conducted a total of 20 key informant interviews (KIIs) among student leaders and 3 focus group discussions (FGDs) with other students, one at each faculty. Participants were selected based on the principle of maximum variation sampling, allowing for selection of a wide range of interviewees. FGD participants were selected based on their experience with self-medication, while the student leaders were selected on the assumption that they were aware of the extent of the practice among the students, and are likely to be a source of support to fellow students during illness and help-seeking.

Eligibility criteria (inclusion and exclusion)

Eligible participants for the study were enrolled students at Lira University, required to provide explicit consent and affiliated with the faculty under investigation. Inclusion criteria prioritised both genders, while exclusion criteria considered physiological conditions hindering meaningful participation.

Patients and public involvement statement

The public or participants (Lira University students) were involved in the design, conduct, reporting and dissemination plans of this research.

Data collection tools and procedures

Data collection for the study occurred from April 2022 to September 2022 using semi-structured topic guides to explore students' knowledge and perceptions of self-medication, as well as their views on potential long-term health consequences. The tools underwent pretesting on a small sample before actual data collection to refine them. Three trained research assistants conducted face-to-face interviews in English with 20 key informants and facilitated 3 FGDs. Both KIIs and FGDs were chosen for their ability to elicit natural responses from participants. KIIs lasted around 45 min, while FGDs lasted approximately 1 hour. Both interview formats allowed for in-depth discussions while managing time constraints. Various strategies were employed to enhance the credibility, dependability, conformability and transferability of the research findings, including interviewer training, member checking and audio recording of all data. Privacy was ensured by conducting discussions in meeting rooms within the university premises. Overall, these rigorous qualitative data collection and analysis procedures ensured robust research outcomes.

Data management

Thematic content analysis was employed to analyse data from KIIs and FGDs. KII recordings were securely stored and transcribed verbatim by research assistants. NVivo V.12 software facilitated systematic coding and analysis, with transcripts read and re-read for familiarity. A codebook detailing initial codes from participant responses was developed and refined through team consensus. Thematic coding, using both inductive and deductive approaches, identified consistent themes across data. The iterative interpretation process deepened understanding and allowed for triangulation of findings. FGD recordings were transcribed accurately and organised using participant codes to ensure confidentiality. NVivo software aided systematic coding, data management and visualisation. Member checking enhanced validity, and clear reporting of findings, including supporting quotes, was ensured. Discussions on limitations, reflexivity and potential biases were included for transparency. This rigorous approach ensured reliability and validity, providing a comprehensive and transparent representation of the research process and outcomes. [Table 1](#)

Table 1 Positive and negative perceptions

Main code	Subcode
Benefits of self-medication	Time saving for academic purposes
	Maintain privacy by female students
	Cost savings made by self-medication
	Emergency use
Risks of self-medication	Drug resistance and drug overdose
	Physical complications and death
	Drug misuse

presents the primary and secondary codes reflecting participants' perceptions of self-medication while table 2 presents the primary and secondary codes related to participants' knowledge of self-medication.

Quality control (validity and reliability)

Data collection was conducted by four research assistants with previous experience, and who underwent a 1 day training on data collection and familiarisation with the study tools. The interview tools were pretested with other students from within the university, whose data were not to be included in the final dataset for analysis. Debrief meetings allowed the team to take note of preliminary insights worth further questioning, and any inconsistencies in quality were resolved during such meetings.

RESULTS

Sociodemographic characteristics of participants

This study was conducted among 20 KIIs and 3 FGDs. Interviewees ranged in age from 19 to 40 years, with 16 being single and 12 being female. Participants had diverse academic backgrounds: six in public health, two midwives, five in education, two in computer science, two in finance and three in psychiatry. Sixteen were pursuing bachelor's degrees, and four were pursuing master's degrees. Each focus group consisted of 10 participants, balanced by gender and organised within their respective faculties. Detailed demographic and educational information is presented in table 3.

Table 2 Knowledge on self-medication

Main code/Primary theme	Subcode/Subtheme
Knowledge and awareness	Medication understanding
Information sources	Information diversity
Risk perception and awareness	Risk perception disparity
Roles of culture and beliefs	Influence of cultural beliefs
Responsibility and accountability	Varied self-accountability
Attitudes towards professional advice	Diverse attitudes towards professional advice

Table 3 Summary of social demographics

Category	Total participants
Key informant interviews	20 (12 females, 8 males)
Age range (years)	Minimum: 19; maximum: 40
Marital status	Single: 16
Academic pursuit	Pursuing bachelor's: 16 Pursuing master's: 4
Faculty break down	Health Sciences: 11
	Education: 05
	Management: 04
Profession break down	Public Health students: 06
	Midwifery students: 02
	Education students: 05
	Computer students: 02
	Finance students: 02
	Psychiatry students: 03
Focus group discussions (FGDs)	
FGD1 (Health Sciences)	10 (6 females, 4 males)
FGD2 (Education)	10 (5 females, 5 males)
FGD3 (Management)	10 (4 females, 6 males)

Perceptions regarding self-medication

The study revealed Lira University students had both positive and negative perceptions of self-medication, recognising its practical benefits and acknowledging risks like drug resistance and overdose, providing a nuanced understanding of their self-medication practices.

Positive perceptions

The positive perceptions of self-medication encompassed several themes as illustrated and explained ahead.

Accessibility and convenience

Participants perceived self-medication as a convenient and time-efficient method for managing health concerns. Accessible drug shops enabled students to swiftly acquire medications, bypassing prolonged wait times, as illustrated in the following quotations:

... it saves times for students since the drugs are accessible in the drug shops.... (KII, mid-20s)

This quotation highlights the convenience aspect of self-medication. University students, often pressed for time due to academic commitments, find it advantageous to access medications directly from drug shops. In areas where healthcare services may be scarce or congested, the accessibility of drugs in nearby pharmacies or drug shops becomes a time-saving solution for students. One participant stated:

Self-medication is like a shortcut to feeling better. When you're in a rush with classes and deadlines, popping into the drugstore is just so much quicker than waiting for a doctor's appointment.... (KII, early 20s)

Like this participant, several other students articulated the sentiment that self-medication offers a faster route to relief compared with traditional healthcare channels. With the demanding schedules of university life, waiting for a doctor's appointment can be perceived as time-consuming and disruptive. Hence, self-medication becomes an attractive option for addressing health concerns promptly. Another good example of this was a male student aged 24 years who argued:

...It's all about convenience, you know? Why spend hours in a clinic waiting room when you can swing by the pharmacy on your way home? Saves time and hassle.... (KII, mid-20s)

This statement underscores the preference for convenience among female participants. The notion of avoiding lengthy waiting times in clinics resonates strongly with university students who prioritise efficiency in managing their health. By opting for self-medication, they circumvent the bureaucratic hurdles associated with formal healthcare settings, thereby saving both time and effort.

...I don't have the luxury of waiting around for a doctor's appointment. With exams looming, I need something fast. The drugstore down the road is my go-to solution.... (FGD1, 10 participants, mid-20s)

From an FGD comprising male participants, this quote elucidated the urgency often associated with self-medication among university students. The looming pressure of academic deadlines, such as exams, compels students to seek immediate remedies for their health issues when needed. The proximity of drugstores provides a convenient avenue for obtaining medications swiftly, aligning with the exigencies of their academic pursuits.

Privacy

The theme 'Privacy' emerged as a significant factor influencing the self-medication behaviour of female participants. This theme reflected the broader sociocultural and healthcare landscape within which university students navigate their health-seeking behaviours, particularly concerning sensitive issues like menstrual health. One participant stated:

From my view, I feel the female students who are undergoing monthly periods may be prevented from being stigmatised by their male counterparts as they will not have a chance to start pointing a finger at them.... (KII, early 20s).

Another participant elaborated these issues, highlighting the importance of long lines and absence of privacy during clinic consultations as drivers of self-medication:

I believe self-medication is a viable option. It assists us, as females, in maintaining our privacy while dealing with menstruation. Additionally, it reduces the waiting time for student patients. If a student patient displays symptoms that have been diagnosed before, they can conveniently go to a nearby accessible drug shop for immediate treatment.

This eliminates the need to sit in a crowded line, waiting to be attended to by a single doctor, only to be informed later that the prescribed medicine is unavailable and they should buy it from a drug shop. I find it more efficient to save that time and allocate it to studying. (FGD3, mid-20s)

This participant emphasised the practical advantages of self-medication for female students, particularly during menstruation, by preserving privacy and optimising time management. Self-medication allows them to bypass long clinic wait times and lack of privacy, accessing medications directly from drug shops. This approach enables students to manage their health efficiently, prioritising their studies without compromising well-being. It reflects a pragmatic strategy for handling healthcare needs within academic constraints.

Cost saving

A considerable portion of respondents (n=13) highlighted that engaging in self-medication enabled them to reduce expenses incurred on consultation fees charged by private hospitals. They perceived financial relief as a benefit compared with seeking professional medical assistance. Some individuals regarded prescriptions from healthcare professionals as unnecessary inconveniences and expenses, particularly when experiencing symptoms previously diagnosed. They viewed the fees associated with professional consultations as exploitative and advocated for using cheaper local alternatives instead.

...so when someone goes for prescribed medication in most of the private hospitals here in Lira City West and they are asked for a lot of consultation fees, the patient will say (eeh), for me, I better go use my cheap local herbs instead of struggling with these munzugu drugs where we Africans are being exploited off of our limited resources.... (KII, late 20s)

The participant's statement reflects a common view among respondents about the financial challenges of seeking professional medical help versus self-medication. The respondent notes high consultation fees at private hospitals in Lira City West, highlighting a cost-saving theme where individuals seek to avoid these expenses. This reflects a broader perception of exploitation among African patients with limited financial resources. Consequently, they turn to cheaper alternatives like local herbs, which are culturally significant and more affordable. Traditional medicine holds deep roots in Northern Uganda, often seen as more accessible than Western medicine. This preference underscores a sense of agency, with individuals choosing self-medication to align with their financial capabilities and cultural beliefs. The participant's insights reveal the motivations behind self-medication, emphasising the interplay of economic factors, cultural norms and individual autonomy in healthcare decisions among university students in the region.

Why spend so much on doctors' fees when I can easily treat myself with over-the-counter medication? It's not like

they're doing anything different, just prescribing what I already know I need. (KII, late 20s)

The statement highlights a cost-saving approach to healthcare among university students, prioritising over-the-counter medications over traditional consultations. Economic factors heavily influence decisions, with a perception that professional consultations may not offer additional benefits compared with self-medication.

I used to dread going to the doctor because of the high fees. Now, I save so much by self-medicating. It's a relief not having to worry about those expensive consultations. (KII, mid-20s)

The participant highlights the financial relief from self-medication, avoiding high medical consultation fees, which is significant for financially constrained university students. This aligns with the cost-saving theme and underscores how socio-economic factors influence healthcare choices, especially among those with limited resources.

I've had the same symptoms before, and each time, the doctor just gives me the same prescription. Why waste money on that when I can get the same relief from cheaper alternatives?

The speaker is frustrated by the perceived lack of value in medical consultations, questioning the need to spend money on recurring prescriptions. This reflects a distrust in the healthcare system and a preference for self-reliance, emphasising the importance of improved patient-provider communication.

Emergency use

Both key informants (n=16) and FGDs underscored the significance of self-medication in managing unforeseen health issues at night or during periods of congestion at the university teaching hospital. One key informant justified this practice by stating:

There are instances where students experience sudden or acute illnesses, and these can occur during nighttime. In such cases, self-medication has proven valuable as it allows them to find relief before they can be transported to the teaching hospital for further treatment. This approach bridges the gap between initial symptoms and subsequent management at the hospital. (KII, 22 years)

When it's late at night and you're suddenly hit with a fever or stomach ache, you don't have the luxury of waiting for a doctor's appointment. Self-medication becomes the quickest and most practical solution to alleviate immediate symptoms and get through the night. (KII, mid-20s)

During peak times at the university hospital, the waiting lines can stretch for hours. For minor ailments like headaches or colds, it's just more convenient to reach for over-the-counter medication than to spend hours waiting to see a doctor. Self-medication offers a timely relief when you can't afford to wait. (FGD2, 10 participants, mid-20s)

The quotations depict the healthcare challenges faced by Northern Uganda university students, emphasising

the role of self-medication in coping with emergencies when professional help is unavailable. This highlights the importance of access to over-the-counter medications for immediate relief and underscores the significance of self-care decisions in managing symptoms before formal medical treatment. These insights offer valuable understanding of healthcare accessibility and decision-making among students in the region.

Negative perceptions

Contrasting the positive viewpoints, participants also shared negative perceptions related to self-medication.

Drug resistance and overdose

More than half of the key informants (n=13) expressed concerns about the potential rise in drug resistance and risks of drug overdose due to self-medication practices. These fears were also echoed in FGDs.

Self-medication may seem convenient, but it comes with risks. Over time, the improper use of medications without professional guidance can lead to drug resistance, making it harder to treat infections effectively. (KII, 30 years)

The speaker emphasises the risk of drug resistance resulting from the improper use of medications without professional guidance. This aligns with the theme of drug resistance, as the misuse or overuse of antibiotics, for example, can lead to the development of resistant strains of bacteria. This is a significant concern as it compromises the effectiveness of antibiotics in treating infections over time, posing a threat to public health.

I've seen cases where students take multiple medications without knowing the right dosage or potential interactions. This careless approach to self-medication can easily result in drug overdose and serious health complications. (KII, mid-20s)

This statement underscores the risk of drug overdose associated with self-medication. When individuals take multiple medications without understanding the correct dosages or potential interactions between them, they are at risk of inadvertently overdosing, leading to serious health complications. This relates to the theme of overdose, highlighting the dangers of self-medication practices that lack proper guidance and supervision.

We need to be mindful of the long-term consequences of self-medication. Using antibiotics indiscriminately or in inadequate doses can contribute to antibiotic resistance, posing a threat to public health and future treatment options. (FGD, 10 participants, late 20s)

The expression underscores the consequences of antibiotic resistance due to indiscriminate or inadequate antibiotic use, posing a threat to public health. It highlights the need for informed decision-making and professional guidance to mitigate risks associated with self-medication, ensuring better health outcomes.

Physical complications and death

A substantial number of participants (n=14) held the belief that self-medication had played a role in the rise of physical complications and, in some cases, even fatalities. Participants in particular identified blood clots as one 'unexplained' physical complication that they believed was due to increased use of self-administered remedies. One participant expressed,

In my opinion, self-medication has contributed to an uptick in individuals experiencing unforeseen and unexplained physical complications, such as blood clots. Unfortunately, there have been instances where people have lost their lives due to similar reasons. (FGD1, 10 participants, mid-20s)

Drug misuse

The misapplication of medications emerged as a challenge linked to self-medication. Participants highlighted cases in which students would procure medicines based on their financial constraints, resulting in incorrect dosages and misuse. One participant described:

A challenge arises concerning the proper administration of these drugs, as students tend to purchase medications based on the amount of money they have. This approach sometimes falls short of providing the appropriate dosage. For instance, Panadol has been misused by some of my acquaintances. They consume it whenever they experience a headache or any form of pain, and discontinue use once the pain subsides. (FGD1, 10 participants, early 20s)

Knowledge on self-medication among students of Lira University

Knowledge of self-medication was an important focus of this study.

Knowledge of medication and conditions

The interviews uncovered a spectrum of knowledge levels among students concerning medications and common medical conditions. While some participants demonstrated a solid grasp of over-the-counter drugs and their applications, others exhibited limited awareness. Some students accurately identified basic medications for common issues like colds, headaches and allergies, indicating a certain familiarity with self-medication for minor ailments. However, a significant portion of the participants lacked knowledge about potential side effects, contraindications and proper dosages. One participant elaborated,

As a student at Lira University, I've observed a wide range of knowledge regarding medications and common medical conditions among my peers. While some of us are well-informed about over-the-counter remedies and their uses, there are others who seem less knowledgeable in this area. Personally, I can confidently name basic medications for things like colds, headaches, and allergies—it's part of our self-care toolkit. However, it's concerning that there's a significant group that isn't familiar with potential side effects, when not to take certain medications, or even the right

dosages. This highlights the need for better understanding responsible medication use. (FDG1, 10 participants, mid-20s)

Information sources

Students' sources of information for self-medication were diverse. Many relied on internet searches and social media for quick remedies and advice. Family and friends also played a role in providing guidance on self-medication practices. However, the quality and reliability of these sources varied widely. A few students mentioned consulting medical professionals or pharmacists, highlighting a responsible approach to self-care. One participant shared,

The way we gather information for self-medication is really diverse. Some of us turn to the internet and social media to find quick fixes and suggestions. Then there are those who lean on family and friends for guidance when it comes to self-medication. But let's face it, the reliability of these sources can be hit or miss. Interestingly, I've come across a handful of students who prioritize responsible self-care by seeking advice from medical experts or pharmacists. It's a reminder that while information is easy to find, ensuring its accuracy and safety matters. (KII, mid-20s)

Risk perception and awareness

The interviews indicated that students' perceptions of risks associated with self-medication were somewhat divided. Some students acknowledged the potential dangers of incorrect medication usage, including the risk of adverse reactions and drug interactions. Others, however, seemed less concerned about these risks, viewing over-the-counter medications as generally safe. This disparity in risk perception suggests the need for improved education on the potential hazards of self-medication.

At Lira University, there's a bit of a split when it comes to how we see the risks tied to self-medication. On one side, there are those of us who recognize the possible dangers that come with using medications incorrectly—things like bad reactions or medications clashing with each other. Then there's the flip side—students who seem less bothered by these risks, probably because they consider over-the-counter meds to be safe bets. This difference in how we perceive risk definitely highlights the importance of getting better educated about what could actually go wrong with self-medication. (KII, early 20s)

Role of culture and beliefs

Cultural beliefs and practices were found to influence students' self-medication behaviours. Some participants mentioned traditional remedies passed down through generations, which shaped their approach to minor health issues. However, there was a notable difference between students who embraced these traditions and those who preferred evidence-based approaches. This suggests an opportunity for promoting informed self-medication while respecting cultural diversity.

At Lira University, our cultural beliefs really do have a say in how we handle self-medication. For some of us, it's all about those traditional remedies that have been in the family for ages—they shape how we tackle those little health hiccups. But it's interesting to see the divide between students who stick to these practices and those who lean towards methods that have solid evidence backing them up. It's like a chance to find the balance between what we know works from tradition and what science tells us is best. That's where we can really learn to respect each other's ways while making sure we're making informed choices. (FGD2, 10 participants, mid-20s)

Responsibility and accountability

Several students expressed a sense of personal responsibility for their health and well-being through self-medication. They acknowledged the importance of understanding their own bodies and making informed decisions about medication. On the other hand, a subset of participants leaned more heavily on external sources for guidance, indicating a potential lack of confidence in their own judgement. This variability in self-accountability raises questions about the need for educational interventions.

It's interesting to see the range of perspectives when it comes to taking responsibility for our health through self-medication. Some of us firmly believe in understanding our bodies and making informed choices about medications – it's a matter of personal responsibility. On the flip side, there are those who seem to rely heavily on external sources, perhaps lacking confidence in their own judgement. This variation in self-accountability makes us question whether there's a need for educational interventions to help everyone become more self-assured in managing their health. (KII, early 20s)

Attitudes towards professional advice

Attitudes towards seeking professional advice varied among participants. Some students exhibited a proactive attitude, seeking medical guidance for complex or persistent symptoms. Others, however, viewed healthcare professionals as a last resort, preferring to rely on self-diagnosis and self-medication as a first step. This highlights the need for promoting a balanced approach that values the expertise of healthcare providers.

Among the participants, you could really see a mix of attitudes when it came to seeking advice from professionals. On one side, there were those who took the proactive route, reaching out to healthcare experts for help when things got complicated or didn't go away. Then, there's the other group who sort of saw medical help as a backup plan, favoring self-diagnosis and self-medication as the first step. This split really emphasizes the importance of finding that middle ground—where we value the knowledge of healthcare providers while still being proactive about our health. (KII, mid-20s).

DISCUSSION

This study explored nuanced perceptions of self-medication among Lira University students, revealing

both positive and negative views, and assessed their understanding of self-medication practices. Students highlighted the accessibility and convenience of self-medication, noting time-saving benefits of local drug shops, similar to findings from Kampala International University Western Campus students on self-medication practices.¹⁰ The immediacy of obtaining medications without enduring long waiting times resonated with participants, aligning with the fast-paced lifestyle of university students.¹¹ This positive viewpoint underscores the practicality of self-medication in addressing immediate health concerns efficiently.

Many participants viewed self-medication as a convenient and time-saving solution for addressing health issues. This reflects the fact that students often have busy schedules and may prefer quick solutions for minor health problems.¹² The study highlights the convenience of self-medication among students at Lira University, reflecting broader socio-economic and healthcare challenges. Limited healthcare access and academic pressures foster self-medication practices. This theme reveals the intersection of health behaviours and contextual factors, offering insights into students' adaptive strategies. Female participants particularly valued self-medication for maintaining privacy during menstruation, avoiding stigma and saving time. The study emphasises the need for safe and informed self-medication practices, aiming to 'demedicalise' menstruation and reduce antimicrobial resistance. It challenges traditional medical perspectives on menstruation, urging recognition of diverse factors shaping students' health experiences and decisions.¹³

The quotations highlight female students' use of self-medication to avoid stigma and judgement, particularly from male peers, by discreetly managing menstrual health. This underscores the social and gender-related pressures in academic environments where menstruation can lead to embarrassment or discrimination. Self-medication thus serves as a practical health management strategy and a means of preserving dignity and social acceptance. The study broadens the discourse on gender, health and stigma, focusing on cultural attitudes towards menstruation. It aims to raise awareness of the diverse influences affecting menstruation experiences, including sociocultural discourses, gender dynamics, interpersonal relationships, university facilities and economic status.¹⁴

The excerpt from the FGD underscores female participants' preference for self-medication, particularly during menstruation, in Lira City, Northern Uganda. They see it as a way to maintain privacy and avoid potential stigma or discomfort associated with discussing menstrual health openly or seeking professional help. By relying on self-medication, they can discreetly address menstrual symptoms, enabling them to focus on academic responsibilities without health-related interruptions. This highlights the intricate interplay of privacy, convenience and time management in shaping healthcare decisions among female university students in resource-constrained settings. The theme of privacy in self-medication among

female university students reflects broader sociocultural norms and healthcare dynamics, particularly in Northern Uganda where menstruation is often surrounded by silence and stigma. Female participants see self-medication as a pragmatic strategy for addressing health concerns discreetly, navigating cultural challenges. This intersection of gender, healthcare access and cultural perceptions underscores the complexity of self-care decisions. Financial considerations also emerge positively, with self-medication alleviating the financial burden of private hospital consultation fees, aligning with similar findings in studies on medical students' self-medication practices. These insights contribute to understanding and tailoring interventions for promoting health among university students.¹⁵ The economic advantage of using affordable local remedies resonated strongly, revealing the pragmatic approach students take to manage their health within limited resources.¹⁶ However, it is crucial to balance cost considerations with the potential risks of self-medication, as highlighted in the 'Negative perceptions' section and numerous other studies on self-medication in Africa and the world at large.^{17 18}

The importance of self-medication in addressing unforeseen health issues, particularly during nighttime or periods of congestion at the university teaching hospital, was highlighted which is very similar to the several systematic reviews on self-medication.¹⁹ This positive perception underscores the practical role of self-medication as an initial response in emergencies, bridging the gap between the onset of symptoms and subsequent professional medical management. Self-medication was deemed crucial for promptly dealing with sudden health issues, especially during nighttime or when the university teaching hospital faced congestion. While emphasising the practicality of self-medication in emergencies, it remains essential to ensure that proper medical attention is sought afterwards.²⁰

Contrasting the positive perspectives, concerns about drug resistance and overdose due to self-medication practices emerged as significant negative perceptions. Participants, including key informants and those in FGDs, expressed apprehensions about the potential complications arising from unsupervised and uninformed use of medications. Several studies have demonstrated the detrimental effects of overdose due to self-medication to the extent some cases have ended up in intensive care units.²¹ This highlights a critical need for educational interventions to address these fears and promote responsible self-medication practices. Concerns about drug resistance and overdose due to self-medication were expressed by many participants. These concerns are well-founded, as incorrect usage of medications can indeed lead to these issues. Education on responsible self-medication practices is essential to address these fears.²²

A substantial number of participants believed that self-medication contributed to the rise of physical complications, including instances leading to fatalities which is in line with study in Iran that handled the impact of

self-medication on the Iran community.²³ This negative perception underscores the gravity of the potential consequences associated with self-administered remedies. It emphasises the need for heightened awareness among students about the risks involved and the importance of seeking professional medical advice for serious health issues.

The misapplication of medications, driven by financial constraints, was identified as a challenge linked to self-medication. Participants pointed out instances where students, due to budget limitations, might procure medicines inadequately, leading to incorrect dosages and misuse. This negative perception accentuates the importance of addressing financial barriers and promoting responsible medication practices through educational initiatives. The misuse of medications, driven by budget constraints, was identified as a challenge associated with self-medication. This aligns with concerns about inappropriate dosages and abuse. Education should address proper dosage and usage to mitigate these risks.²⁴

The study uncovered varying levels of knowledge among students regarding medications and common medical conditions. While some exhibited a solid understanding of over-the-counter drugs, others showed limited awareness. This underscores the necessity for comprehensive health education to ensure students are well-informed about medication uses, potential side effects, contraindications and proper dosages.²⁵

Students depended on a variety of sources, such as the internet, social media, family, friends, medical professionals and pharmacists, for self-medication information. The differing quality and reliability of these sources underscore the need to promote evidence-based information and responsible self-care practices. Encouraging consultation with healthcare professionals remains crucial for fostering informed decision-making. Students relied on diverse sources of information for self-medication, including the internet, social media, family, friends, medical professionals and pharmacists. The quality and reliability of these sources varied. Emphasising evidence-based information sources and promoting responsible practices can help students make informed decisions.

The study identified a divided perception among students regarding the risks associated with self-medication. While some acknowledged the potential dangers, others viewed over-the-counter medications as generally safe. This disparity underscores the importance of enhancing risk awareness and educating students about the potential hazards of incorrect medication usage, adverse reactions and drug interactions. Students' perceptions of the risks associated with self-medication were divided. This disparity suggests the need for education on the potential hazards of incorrect medication usage, adverse reactions and drug interactions. Students should understand that even over-the-counter medications can have risks if not used properly.

Cultural beliefs influence self-medication behaviours among Lira University students. Integrating traditional

remedies with evidence-based practices and educating students can foster informed decision-making while respecting cultural diversity. This highlights the need for interventions promoting self-accountability and empowering students in health decisions.²⁶

Participants had diverse attitudes towards seeking professional advice, ranging from proactive to reactive approaches. Encouraging a balanced perspective that values healthcare providers' expertise while fostering proactive attitudes is crucial. This highlights the need for interventions promoting timely professional guidance, particularly for complex or persistent health issues.

CONCLUSION

The study reveals the complex dynamics of self-medication among university students in Lira City, Northern Uganda. Despite awareness of its risks, students engage in self-medication for its convenience, privacy and time-saving benefits. While it offers practical solutions for academic and daily challenges, it also poses serious health risks, such as drug resistance, overdose, physical complications and fatalities. The study highlights the need for comprehensive health education to promote responsible self-medication. This education should focus on proper medication use, the risks of self-medication and informed healthcare decisions. Ensuring access to reliable information is essential for students to make educated health choices. Balancing convenience and safety is crucial for promoting responsible self-care among students. By equipping students with the necessary knowledge and resources, they can make informed health decisions, improving their overall health outcomes and quality of life.

Recommendations

University students should be advised to prioritise seeking proper healthcare from trained health workers and avoid self-medication in order to prevent potential health hazards like antimicrobial resistance. Institutions should have easily accessible student-friendly healthcare centres.

Strengths

This study was entirely anonymous and participant privacy was ensured. This minimised response bias. The sample size was large to yield significant findings.

Limitations

There are some limitations that need to be acknowledged. The lead researcher and the study participants were from the same university. This could have created some bias, especially among friendly participants. In addition, self-reports of their practices may be subject to reporting bias. Observations of self-medication behaviour could have provided additional insights.

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REFERENCES

- Bennadi D. Self-medication: A current challenge. *J Basic Clin Pharm* 2013;5:19–23.
- Sen S, Chakraborty R. Revival, modernization and integration of Indian traditional herbal medicine in clinical practice: Importance, challenges and future. *J Tradit Complement Med* 2017;7:234–44.
- Perrot S, Cittée J, Louis P, *et al*. Self-medication in pain management: The state of the art of pharmacists' role for optimal Over-The-Counter analgesic use. *Eur J Pain* 2019;23:1747–62.
- Yeika EV, Ingelbeen B, Kemah B-L, *et al*. Comparative assessment of the prevalence, practices and factors associated with self-medication with antibiotics in Africa. *Trop Med Int Health* 2021;26:862–81.
- Torres NF, Chibi B, Middleton LE, *et al*. Evidence of factors influencing self-medication with antibiotics in low and middle-income countries: a systematic scoping review. *Pub Health (Fairfax)* 2019;168:92–101.
- Alhomoud F, Aljamea Z, Almahasnah R, *et al*. Self-medication and self-prescription with antibiotics in the Middle East-do they really happen? A systematic review of the prevalence, possible reasons, and outcomes. *Int J Infect Dis* 2017;57:3–12.
- Yardley L, Morrison LG, Andreou P, *et al*. Understanding reactions to an internet-delivered health-care intervention: accommodating user preferences for information provision. *BMC Med Inform Decis Mak* 2010;10:52.
- Fekadu G, Dugassa D, Negera GZ, *et al*. Self-Medication Practices and Associated Factors Among Health-Care Professionals in Selected Hospitals of Western Ethiopia. *Patient Prefer Adherence* 2020;14:353–61.
- Bhojwani S. Water network optimization in Region L Texas. 2018.
- Laker P. *Knowledge, attitude and practice of self-medication among second year undergraduate medical students of Kampala*

- International University Western Campus. Kampala International University, School of Allied Health Sciences, 2017.*
- 11 Brando L. *Rehabilitating medicine: chronic pain, opioid prescribing, and telementoring technologies in the Pacific Northwest*. The New School, 2023.
 - 12 Schuckit MA. *Drug and alcohol abuse: a clinical guide to diagnosis and treatment*. 2006: Springer,
 - 13 Ngubane NP. An ecological exploration of how South African university students negotiate their menstruation within the university system. 2018.
 - 14 Robotham D. Stress among higher education students: towards a research agenda. *High Educ* 2008;56:735–46.
 - 15 Torres NF, Chibi B, Kuupiel D, *et al*. The use of non-prescribed antibiotics; prevalence estimates in low-and-middle-income countries. A systematic review and meta-analysis. *Arch Public Health* 2021;79:2.
 - 16 Sommer M, Hirsch JS, Nathanson C, *et al*. Comfortably, Safely, and Without Shame: Defining Menstrual Hygiene Management as a Public Health Issue. *Am J Public Health* 2015;105:1302–11.
 - 17 Torres NF, Solomon VP, Middleton LE. Patterns of self-medication with antibiotics in Maputo City: a qualitative study. *Antimicrob Resist Infect Control* 2019;8:161.
 - 18 Tolley EE, Robinson ET, Ulin PR, *et al*. *Qualitative methods in public health: a field guide for applied research*. John Wiley & Sons, 2016.
 - 19 Zheng Y, Liu J, Tang PK, *et al*. A systematic review of self-medication practice during the COVID-19 pandemic: implications for pharmacy practice in supporting public health measures. *Front Public Health* 2023;11:1184882.
 - 20 Mortazavi SS, Shati M, Khankeh HR, *et al*. Self-medication among the elderly in Iran: a content analysis study. *BMC Geriatr* 2017;17:198.
 - 21 Cachafeiro L, Manzanares JJ, Yus S, *et al*. Acute drug overdose in an ICU: 15 years experience. *Crit Care* 2010;14:P418.
 - 22 Ayosanmi OS, Alli BY, Akingbule OA, *et al*. Prevalence and Correlates of Self-Medication Practices for Prevention and Treatment of COVID-19: A Systematic Review. *Antibiotics (Basel)* 2022;11:808.
 - 23 Khatony A, Soroush A, Andayeshgar B, *et al*. Nursing students' perceived consequences of self-medication: a qualitative study. *BMC Nurs* 2020;19:71.
 - 24 Green DL, Keenan K, Fredricks KJ, *et al*. The role of multidimensional poverty in antibiotic misuse: a mixed-methods study of self-medication and non-adherence in Kenya, Tanzania, and Uganda. *Lancet Glob Health* 2023;11:e59–68.
 - 25 Zack J, Jacobs CP, Keenan PM, *et al*. Perspectives of patients with cystic fibrosis on preventive counseling and transition to adult care. *Pediatr Pulmonol* 2003;36:376–83.
 - 26 Kozleski EB. The uses of qualitative research: powerful methods to inform evidence-based practice in education. *Res Pract Persons Severe Disabl* 2017;42:19–32.