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SELF-MEDICATION PRACTICES AND ASSOCIATED RISK FACTORS AMONG NURSING STUDENTS AT UNIVERSTY OF LAHORE

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Keywords

Self-medication, Nursing Students, Risk Factors, Medication Safety, Healthcare Behavior, University Students, Over-the-Counter Medicines, Drug Misuse, Public Health, Pakistan.

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Abstract

Background: *Self-medication is a common healthcare practice worldwide, particularly among university students who often possess sufficient knowledge and easy access to medications. While self-medication may provide quick relief for minor illnesses, inappropriate use can lead to adverse drug reactions, incorrect diagnoses, antimicrobial resistance, and other health complications. Nursing students, due to their healthcare knowledge and clinical exposure, may be more likely to engage in self-medication practices.*

Objective: *To assess the prevalence of self-medication practices and identify associated risk factors among nursing students at the University of Lahore.*

Methods: *A quantitative cross-sectional study was conducted among 121 nursing students enrolled in the 2nd and 3rd years at the University of Lahore. Data were collected using a structured questionnaire and analyzed using SPSS version 25.0. Descriptive statistics were used to summarize demographic characteristics, self-medication practices, reasons for self-medication, common illnesses treated, and perceptions regarding associated risks.*

Results: *All 121 participants completed the questionnaire, yielding a response rate of 100%. Female students constituted 77.7% of the sample, while 68.6% were aged 21–22 years. The most common reasons for self-medication included avoiding long waiting times at clinics (57.9%), obtaining quick relief (55.4%), managing minor illnesses (56.2%), convenience (50.4%), and greater treatment choice (66.1%). Frequently self-treated conditions included cough (61.2%), stomachache (57.9%), headache (54.5%), and fever (48.8%). Although only 18.2% of respondents considered self-medication a safe practice, most participants demonstrated awareness of potential risks such as drug interactions, incorrect self-diagnosis, inappropriate dosage, premature discontinuation of antibiotics, and adverse drug reactions. Significant associations were observed between*

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self-medication practices and demographic factors including age, gender, and educational level.

Conclusion: *Self-medication is highly prevalent among nursing students and is primarily driven by convenience, perceived minor illness severity, and time-saving considerations. Despite awareness of associated health risks, the practice remains widespread. Educational interventions, awareness campaigns, and stricter regulation of medication dispensing are recommended to promote responsible medication use and reduce potential health hazards among university students.*

CHAPTER 01

Introduction

"Taking of drugs, herbs, or home remedies on one's own initiative, or on the advice of another person, without consulting a doctor" is the definition of self-medication, a widespread self-care practice. The self-medicating behavior is very common in underdeveloped nations and can be improved by the access to medications over-the-counter (Alshogran et al.,2022).

Since medical students usually possess a solid understanding of medicine, they may be more self-assured and inclined to self-diagnose and self-treat. Nonetheless, their comprehension of the intricacies involved in healthcare could also result in an increased consciousness of the possible hazards and aftermaths linked to self-administration of medication. To better understand the motivations, behavior, and possible negative repercussions connected to self-medication, it is imperative to look into the self-medication practices and risk factors unique to this demographic.

No matter how much a prescription costs or how the health care system is structured, self-medication is a widespread practice. Both industrialized and developing nations practice self-medication(Esan et al.,2018).

In industrialized countries like Australia, Italy, and Spain self-medication is a common practice. Similarly, people in middle-class nations—like Brazil and China, for example—also choose self-medication. Unsurprisingly, self-medication is a common way of managing health difficulties in low- to middle-income countries such as Egypt, Ethiopia, India, Indonesia, Kenya, Mongolia, Nepal, Tanzania, Serbia, and Zimbabwe. Pakistan is not an exception in this regard. The ease of access to medications, a lack of healthcare knowledge, excessive marketing, a lack of enforcement of regulatory policies, the accessibility of healthcare providers, and the absence of public healthcare facilities are some of the factors that contribute to Pakistan's high prevalence of self-medication.

In Pakistan, over half of all medications are delivered without a prescription. Community pharmacies in Pakistan widely supply analgesics, antibiotics, antidiarrheal medications, antihistamines, antipyretic, cough suppressants, "tonics," and vitamins without a prescription.

Pakistan's rate of self-medication is continuously rising as a result of rising sales of over-the-counter medications.. Nevertheless, no provincial or national study exists reliance. SM is currently receiving more attention as a part of personal hygiene.(Aziz MM et al., (2018).

This study aims to explore self-medication practices among medical students by identifying common illnesses they treat themselves, the medications they use, and the reasons behind self-medication. It also examines potential risks, including incorrect diagnosis, adverse drug reactions, and negative effects on overall health and well-being.

Problem statement:

Self-medication has become a common practice among university students due to easy access to over-the-counter (OTC) medicines and the pressures of academic life. Many students diagnose and treat themselves without professional medical advice, which may lead to health risks such as incorrect treatment, adverse

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drug reactions, and delayed medical care. Despite the widespread use of self-medication, there is limited understanding of the factors that influence this behavior among university students. Therefore, this study aims to investigate self-medication practices and identify the associated risk factors to promote safer healthcare decisions and improve student well-being

Significance:

- Understanding self-medication practices among university students is important for improving their health and well-being and identifying common health issues and potential risks.
- The findings can help develop targeted educational programs that promote safe and responsible use of medicines.
- This study contributes to existing knowledge on self-medication and provides useful information for future healthcare and pharmaceutical research.
- It highlights the importance of responsible healthcare behavior and encourages ethical decision-making regarding medicine use.
- The results may assist in improving public health strategies, healthcare services, and policy development.
- The study can identify differences in self-medication practices based on factors such as age, gender, and academic field, helping to design interventions for specific groups.

Objective:

- To assess the prevalence of self-medication among university students, including the use of prescription and over-the-counter (OTC) medicines.
- To evaluate students' awareness and perceptions of the risks of self-medication, including their knowledge of possible side effects, complications, and other negative consequences.

perational definition:

Attitude :

Attitude toward self-medication will be assessed using a 5-point Likert scale. Responses will be scored as follows:

Strongly Disagree = 1 Disagree = 2
Neutral = 3
Agree = 4
Strongly Agree = 5
The total attitude score will be categorized as:
Poor Attitude: <50% (<30 out of 60)
Good Attitude: 50–70% (30–42 out of 60)
Excellent Attitude: >70% (>42 out of 60)

Knowledge about Self-Medication

Knowledge refers to awareness regarding self-medication and will be measured using Yes/No questions. Responses will be scored as:
No = 1
Yes = 2
The total knowledge score will be categorized as:
Poor Knowledge: <50% (<24 out of 48)
Good Knowledge: 50–70% (24–33 out of 48)
Excellent Knowledge: >70% (>34 out of 48)

CHAPTER 2

Literature Review

The prevalence of self-medication ranged from 7.3% to 85.59% across the papers we analyzed, with a mean prevalence of 42.64%. Differences in social class may be the primary causes of the wide variation in the prevalence of the practice of self-medication health-related factors, customs, culture, economic standing, and stage of development.(Nepal et al,. 2018)

The majority of respondents treated minor disorders in this manner; a lot of thought they knew better than doctors what to use, and other did not want to spend time at the clinic.(Sholabi W.A et al,. 2021)

In total, 297 undergraduate students (81.8%) engaged in self-medication. Within the month before the survey, around 71% of the students had taken analgesics (10.1%), antibiotics (10.5%), and antimalarial medications (33%) without a prescription. Acetamol was the most often used medication for self-medication (75.1%). Additionally, it was discovered that self-medication had a strong correlation with age ($p < 0.001$), gender ($p < 0.001$), college ($p < 0.025$), and study year ($p < 0.004$). Undergraduate students who self-medicated reported a variety of reasons, including unfriendly medical staff (26.7%), lack of time to visit the school clinic

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(26.7%), distance between the school clinic and the hostel (15.3%), and ineffectiveness of school clinic prescription drugs (15.3%). (Esan. D.T et al., 2018)

Like private pharmacies in Spain and Zimbabwe, survey in Pakistan revealed that 15.2% of consumers received medication from a drugstore without a prescription.

While the current data showed a relatively high prevalence of self-medication (95%) among students, studies of hospitalized patients and people of different ages in the general community have previously found rates that are comparable to these.

Self-medication rates in student studies ranged from 55% to 99%. Nevertheless, the majority of these research were carried out in underdeveloped nations, where self-medication is more common . Data on self-medication among students in developed countries were scarce before the current investigation, and there were no data on French students.(Gras M et al.,2020).

(74.7%), speedier alleviation (66.1%), and economical (61.2%), consumers preferred self-medication for headaches (85.8%), colds and sore throats (80.8%), coughs (75.7%), and fevers (71.8%). The reasons why people preferred self-medication were substantially correlated with their occupation ($p<0.001$). Likewise, the majority of the reasons why people choose to self-medicate were highly correlated with age, gender, and educational attainment. People were well aware of the negative effects of self-medication.

Although several studies have explored self-medication among healthcare students globally, limited evidence exists among nursing students in Pakistan, particularly in Lahore.

HAPTER 3 METERIAL AND METHODS

This chapter provide the information about study design, study setting, study population, sample size, study tools and the inclusion and exclusion criteria of the research.

Study Design:

A quantitative cross sectional study design use to conduct this study to Explore Self-Medication Practices and Associated Risk Factors Among university students.

Study setting:

This study conducted from University of Lahore.

Study population:

The study population consist of that population from where the researcher gathered all information which are relevant to research. This study population consist among medical students of university of Lahore.

Sample size

The sample size of this study is 121 participants.

Inclusion Criteria:

Students of university of Lahore from particular semester 4^{th} and 6^{th} are involved in inclusion criteria.

Excluded criteria:

Those participants who refuse to take part in the research and show not any interests are involved in excluded criteria.

Data Collection:

Data was collected by using a structured questionnaire.

Data Analysis:

Analyze the quantitative data using appropriate statistical techniques such as descriptive statistics, to examine the relationship between variables. This data will analyze by using SPSS version 25.0.

Ethical Consideration:

Ethical consideration will followed, while performing research.

Veracity:

Complete information given to the people and also informed the people about purpose of study.

Confidentiality: Personal information about study people for example their phone number, name and address not mentioned they kept in confidentiality.

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Non maleficence: Open opportunity will give to all students, no one will be forced to participate.
Autonomy: Informed consent will signed by all participants.

CHAPTER 4 RESULTS AND DISCUSSION

Out of a total of 121 students, all 121 (100%) returned and correctly completed the questionnaires. Among them, 65 students were from the second year and 56 students were from the third year. Female students participated more than male students.

The majority of respondents reported that they practiced self-medication because their illness was minor (n=68; 56.2%), to avoid long waiting times at clinics (n=70; 57.9%), for convenience (n=61; 50.4%), and for quicker relief (n=67; 55.4%). In addition, many respondents believed that self-medication provided a greater choice of treatment (n=80; 66.1%). However, some considered it expensive (n=50; 41.3%), a few experienced crowds at pharmacies (n=21; 17.4%), and about one-third were influenced by friends and relatives (n=41; 33.9%).

The reasons for choosing self-medication were significantly associated with age, gender, and educational level.

The most common health problems for which respondents preferred self-medication were fever, cough, headache, and sore throat.

Only 22 respondents (18.2%) considered self-medication a safe practice in Pakistan. Most participants were aware of the possible negative effects of self-medication. Nearly half (n=56; 46.3%) knew that taking a double dose or overdose of medication could be harmful. More than one-third (n=48; 37.9%) agreed that self-medication could lead to inadequate dosage, while only a small proportion (n=18; 14.9%) believed that self-medication could create problems in self-limiting conditions.

Overall, many respondents strongly believed that self-medication could result in a variety of health-related complications.

Discussion:

The purpose of this study was to identify the factors that encourage consumers to practice self-medication (SM), the common health conditions for which it is used, and consumers' perceptions of its potential risks. The findings revealed that although respondents had some awareness of self-medication and its possible harmful effects, the practice remained highly prevalent among them

Table 1. Demographic variables of the respondents (n = 121)

Variables	Variables	Number	Percentage
Gander	Male	27	22.3
	Female	94	77.7
Age	20-21	12	9.9
	21-22	83	68.6
	23-24	21	17.4
	Above 24	5	4.1
Marital Status	Married	110	90.9
	Single	11	9.1
Year of Study	1st	0	0
	2nd	65	53.7
	3rd	56	46.3
	4th	0	0

The incidence of self-medication and the sale of drugs without a prescription differ from place to

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place, and the country's regulations, pharmacy employees, cultural norms, and individual characteristics all influence how common self-medication is. (Aziz MM et al,. 2018).

Therefore, it is important to gauge people's knowledge and attitudes toward SM.Customers in Pakistan can therefore freely obtain any kind of medication. Customers treated POMs like regular over-the-counter medications by purchasing a range of them for self-medication.

Adults (21-22 years old) were more likely to practice SM, according to our study, which is in line with research findings from the United Arab Emirates.(Sridhar, S. B.,2018).

Variables	Number	percentage
1. Illness was minor/not serious		
Yes	68	56.2
No	38	31.4
don't know	15	12.4
2. Quick relief		
Yes	67	55.4
No	40	33.1
don't know	14	11.6
3. Convenient		
Yes	61	50.4
No	33	27.3
don't know	27	22.3
4. Time saving/avoidance of long waiting at clinic		
Yes	70	57.9
No	35	28.9
don't know	16	13.2
5. Cheaper		

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Yes	18	14'9
No	50	41.3
don't know	53	43.8
6. Embarrassed of discussing own symptoms		
Yes	47	38.8
No	41	33.9
don't know	33	27,3
7. Motivation/suggestion from friends/relatives		
Yes No		
don't know	41	33.9
	46	38.0
	34	28.1
8. An active role in my own health care Yes		
No		
don't know	61	50.4
	58	43.0
	8	6.6
9. Physician's prescribed drugs do not work well		
Yes No		
don't know		
	69	57.0
	40	33.1
	12	9.9
10. Influence of mass media/advertisement/internet		
Yes No		
don't know		
	77	63.6
	35	28.9
	9	7.4
11. Greater choice of treatment Yes		
No		
don't know	80	66.1
	29	24.0
	12	9.9
12. Fewer crowds at pharmacy Yes		
No		
don't know	21	17.4
	58	82.6

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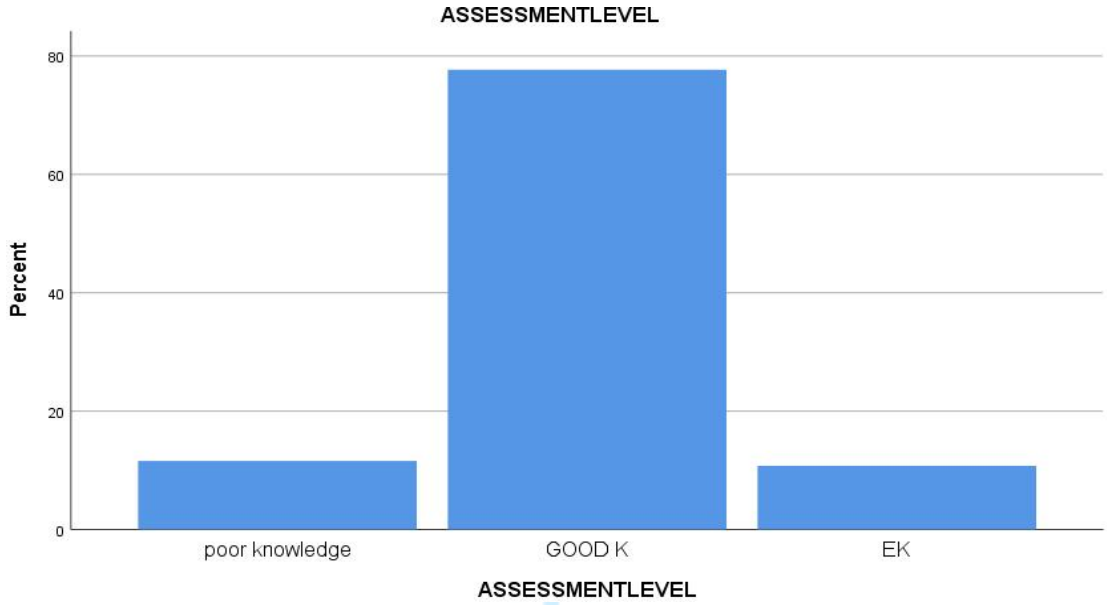
	42	34.7



The majority of SM users (54.3%) were students and healthcare workers, and the percentage was significantly higher (78% to 96.6%) in the Gulf Region.(Ansari.m et al., 2020)

Because of their expertise in medicine, healthcare professionals practiced SM more frequently. The larger percentage in the more recent research could be explained by the fact that students and medical professionals are the main subjects of attention.

A mixed population was included in this study. Individuals with monthly incomes below 10,000 SAR claimed that SM was not safer and expressed concern about potential risks even if they performed SM more frequently. (Lei, X.,2018).

Variables	**Number**	**Percentage**
1. Headache		
Yes	66	54.5
No	55	45.5
2. Cough		
Yes	74	61.2
No	47	38.8
3. Cold and sore throat		
Yes	24	19.8
No	97	80.2
4. Stomachache		

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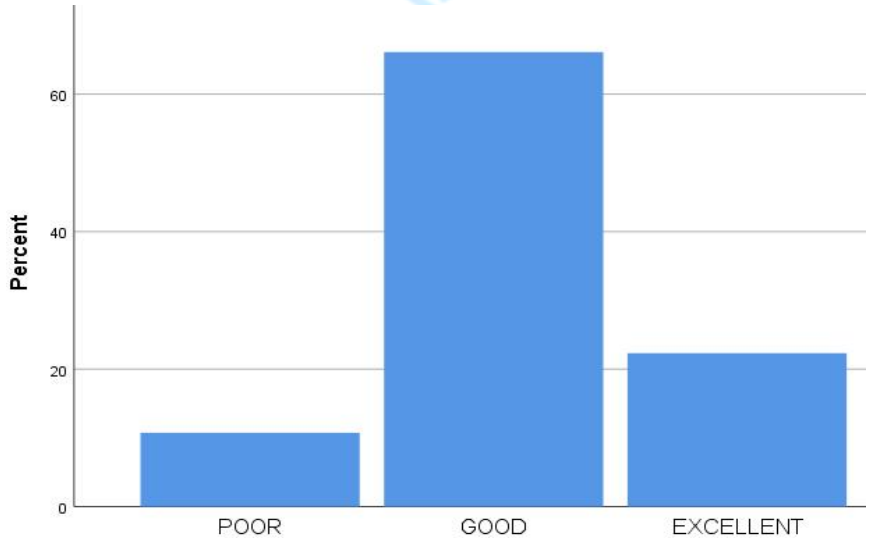
Yes	70	57.9
No	51	42.1
5. Fever		
Yes	59	48.8
No	62	51.2
6. Diarrhea Yes	47	38.8
No	74	61.2
7. Eye/ear symptoms Yes		
No	41	33.9
	80	66.1
8. Skin symptoms Yes		
No	31	25.6
	90	74.4
9. Infections		
Yes	16	13.2
No	105	86.8



The main arguments in favor of choosing SM are the non-seriousness of the sickness, the avoidance of lengthy wait times at clinics or hospitals, convenience, and faster alleviation in addition to financial benefit. They listed fewer lines at pharmacies, more treatment options, and an active personal involvement in healthcare as additional factors. Along with encouragement from friends and family, media and internet influence also pushed them to start practicing

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SM. Similar findings have been documented in additional research.

Variables	Number	Percentage
Do you think self-medication is a safe practice in Pakistan ?		
SD D N A SA	0 78 21 22 0	0 64.5 17.4 18.2 0
There is failure to recognize or report adverse drug reactions due to self-medication. *SD D N A* SA	 0 28 46 47 0	 0 23.1 38.0 38.8 0
There is risk of double medication (with two different brands of same drug) or harmful interaction. SD D N A SA	 0 12 51 58 0	 0 9.9 42.1 47.9 0
Self-medication may lead to inadequate or excessive dosage. *SD D N A* SA	 0 29 56 36 0	 0 24.0 46.3 29.8 0
Self-medication may cause use of drugs in self-limiting conditions. *SD* *D N*	 0 17 48	 0 14.0 39.7
 A SA	47 9	38.8 7.4

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Self-medication may lead to unnecessary under-use or prolonged use of drugs.		
SD D N A	0	0
SA	2	1.7
	46	38.0
	58	47.9
	15	12.4
Premature stoppage of antibiotics therapy		
SD D N A	0	0
SA	6	5.0
	35	28.9
	58	47.9
	22	18.2
Incorrect self-diagnosis (e.g. severe diseases remain unnoticed)		
SD D N A		
SA	0	0
	24	19.8
	71	58.7
	26	21.5
	0	0
Incorrect choice of therapy		
SD D N A	0	0
SA	49	40.5
	54	44.5
	18	14.9
	0	0
Failure to recognize or self-diagnose contraindications, interactions, warnings and precautions etc.		
SD		
D		
	2	1.7
	34	28.1
	53	43.8
N		
A	32	26.4
SA	0	0
Risk of dependence and abuse		
SD	0	0
D	1	.8
N	47	38.8
A	73	60.3
SA	0	0
Wastage of money if actual disease is not identified		
SD	0	0
D	61	50.4
N	58	47.9

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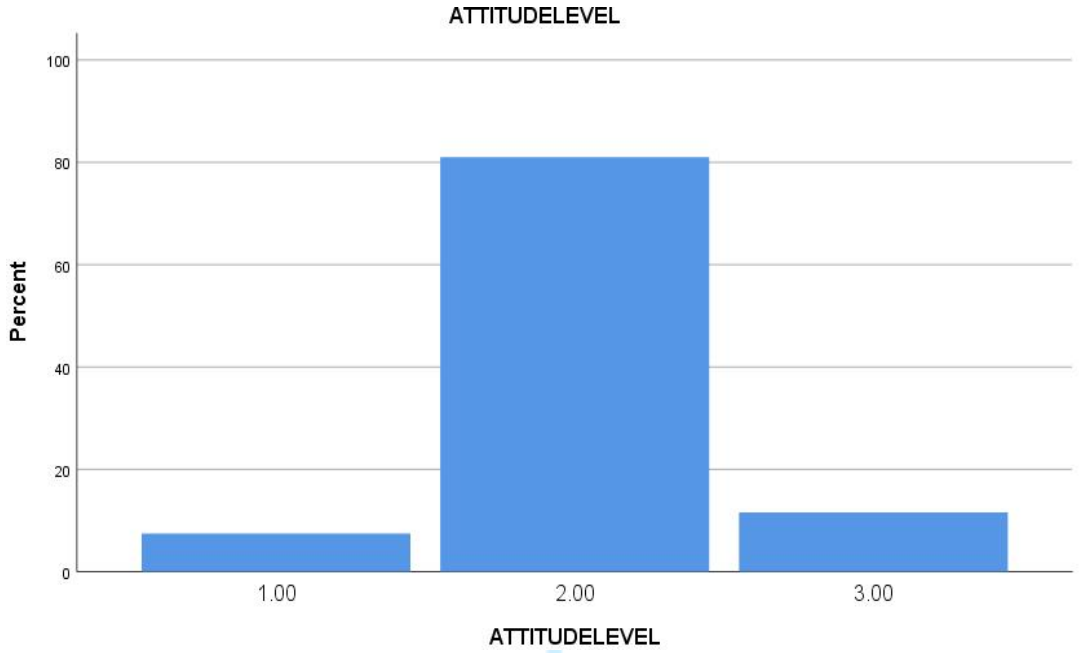
A	2	1.7
SA	0	0



Individuals who had completed high school or less education in college were roughly 2.5 times more likely to support the use of SM than those who had completed a bachelor's degree or beyond. This may be related to persons with lower educational levels having less awareness of the negative effects of SM.(Karimy, M.,2019). The study emphasized the main risks and complications associated with self-medication, such as financial loss if the true cause of the illness is not discovered, improper dosage, incorrect self-diagnosis, inappropriate therapy selection (such as using antibiotics for conditions that have self-limiting effects), potential for dependence and abuse, early termination of antibiotic therapy, and neglect to identify or report adverse drug reactions.

Study limitation:

This study has some limitations. It included only nursing students from selected academic years, which may limit the generalizability of the findings to all university students. In addition, the actual prevalence of self-medication may differ because many individuals use leftover medicines available at home. The study also relied on participants' self-reported responses, which may be influenced by personal perceptions and recall bias. Therefore, the results should be interpreted with caution

Conclusion:

Self-medication is a common practice, particularly among university students and young adults, due to its convenience, time-saving nature, and the perception that many illnesses are minor. It is frequently used for conditions such as headaches, fever, and respiratory problems. Factors such as age, occupation, and education level influence self-medication practices. Although many individuals are aware of the potential risks, self-medication remains widespread. Therefore, educational interventions and awareness programs are needed to promote responsible medicine use, improve knowledge, encourage ethical healthcare decisions, and protect the health and well-being of students.

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