

PERCEPTIONS AND PRACTICES OF UNDERGRADUATE NURSING STUDENTS TOWARD SELF-MEDICATION IN PUNJAB, PAKISTAN

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Abstract

Background: Self-medication is a common global practice and is increasingly prevalent among healthcare students, including nursing undergraduates, due to their accessibility to medical knowledge and drugs. While it may provide temporary relief, inappropriate self-medication poses significant risks such as incorrect dosage, drug interactions, and masking of serious illnesses. Understanding nursing students' knowledge, attitudes, and practices toward self-medication is crucial, as these future healthcare providers may carry such behaviors into their professional practice. *Methods:* A cross-sectional descriptive study was conducted among 160 Bachelor of Science in Nursing (BSN) students at FMH College of Nursing, Lahore. Data were collected using a structured and validated self-administered questionnaire assessing students' knowledge, attitudes, and practices (KAP) regarding self-medication. Descriptive statistics were applied to analyze the data. *Results:* About 70% of students reported self-medication in the last year, most commonly relying on pharmacists (59.4%) for information, with the majority demonstrating good knowledge (92.5%) and a positive attitude (92.1%). Fever, pain, and cold/cough were the main indications treated with antipyretics, analgesics, vitamins, and antibiotics, while minor illness, quick relief, and emergency needs were key drivers, and concerns included adverse drug reactions, wrong diagnoses, and missed diagnoses. *Conclusion:* Although BSN students at FMH College of Nursing exhibited good knowledge and favorable attitudes toward self-medication, a considerable number continued to self-medicate without professional consultation. This highlights the need for targeted educational interventions to emphasize the risks of inappropriate drug use and to promote responsible health-seeking behaviors.

INTRODUCTION

Self-medication—using medicines without a prescriber's oversight—is widely reported among university students and is especially salient for future health professionals such as nurses. A global systematic review estimated that 70% of university

students self-medicate, with higher odds among women and markedly greater prevalence in medical-track students than in non-medical peers, underscoring both normalization and potential professional spillover of these behaviors (Behzadifar

et al., 2020). Beyond convenience, self-medication can delay diagnosis, foster inappropriate dosing, and—when antibiotics are involved—fuel antimicrobial resistance, making student practices a public-health concern rather than a purely individual choice (Behzadifar et al., 2020).

In Pakistan, structural drivers amplify these risks. Evidence from Punjab shows frequent over-the-counter sales of non-prescribed medicines, with analgesics/antipyretics most common and “minor illness” and media messaging cited as key reasons—conditions that facilitate self-medication in the wider community and on campuses (Aziz et al., 2018). Student surveys echo this pattern: in Lahore, a recent study found high self-medication frequency across disciplines, largely for headache, fever, and upper-respiratory symptoms (Ali et al., 2023). Within the province more broadly, non-medical undergraduates in Southern Punjab reported substantial antibiotic self-use, gaps in resistance knowledge, and reliance on metronidazole—implicating both access and knowledge as levers for intervention (Gillani et al., 2017). Together, these data point to a provincial context in which easy availability, perceived triviality of illness, and incomplete pharmacotherapy knowledge intersect to sustain self-medication.

Nursing students merit particular attention: as future prescribers’ collaborators and medication stewards, their beliefs and habits can shape bedside practice. In Karachi, over half of nursing undergraduates reported self-medicating with antibiotics, often discontinuing courses prematurely—behaviors tightly linked to resistance and adverse outcomes (Ali et al., 2016; Shah et al., 2014; Zafar et al., 2008). Yet province-specific insights for Punjab’s nursing cohorts remain limited. Investigating the perceptions and practices of undergraduate nursing students in Punjab can therefore illuminate context-specific drivers (e.g., pharmacy access, academic pressures, peer norms) and inform targeted educational and policy interventions to promote rational medicine use and antimicrobial stewardship within pre-licensure nursing education.

1. Materials and Methods

1.1 Research Design

A cross-sectional descriptive study was conducted among 160 Bachelor of Science in Nursing (BSN)

students enrolled at FMH College of Nursing, Lahore. The design was selected to assess the perceptions and practices of nursing students regarding self-medication at a single point in time.

1.2 Sampling Procedure

A non-probability convenience sampling technique was used to recruit participants. Based on a 95% confidence interval, 7% margin of error, and an assumed 50% prevalence of good knowledge and attitudes, the minimum required sample was estimated at 186. However, 160 students completed the survey, yielding an adequate response rate for analysis.

1.3 Data Collection Tool

Data were collected through a structured and validated self-administered questionnaire, adapted from previous research on self-medication practices among health sciences students. The instrument comprised four sections: (i) sociodemographic details and general information, (ii) knowledge regarding self-medication, (iii) attitudes toward self-medication, and (iv) self-reported practices. Responses were recorded using a 5-point Likert scale. Prior to data collection, a pilot test was conducted to ensure reliability, with Cronbach’s alpha calculated at 0.82.

1.4 Data Analysis

Data were entered and analyzed using IBM SPSS Statistics version 25. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were computed to summarize students’ knowledge, attitudes, and practices (KAP).

1.5 Ethical Considerations

Ethical clearance was obtained from the Institutional Review Board (IRB) of FMH College of Nursing. Written informed consent was secured from all participants. Participation was voluntary, and anonymity and confidentiality of responses were strictly maintained.

2. Results

Table 1: Demographic Characteristics of Participants (N = 160)

Variables	n	%
Age (years)		
18–20	90	56.3
21–23	50	31.3
24–26	20	12.4
Mean = 20.8 years		
Year of Study		
Year 1	40	25.0
Year 2	45	28.1
Year 3	35	21.9
Year 4	40	25.0
Mean = 2.5 years		

The majority of participants were aged 18–20 years (56.3%), followed by those aged 21–23 years (31.3%) and 24–26 years (12.4%), with a mean age of 20.8 years. Regarding academic year, 28.1% of students

were in Year 2, 25.0% each in Year 1 and Year 4, and 21.9% in Year 3, with a mean study year of 2.5 years.

Table 2: Prevalence of Self-Medication among Nursing Students (N = 160)

Items	Responses	n	%
Have you taken any self-medication in the last year?	Yes	112	70.0
	No	48	30.0
How do you gain information regarding the medications?	Pharmacist	95	59.4
	Senior/Peers	18	11.3
	Textbook/Academic Source	22	13.8
	Advertisement/Media	25	15.5

About 70% of students reported self-medication in the last year, while 30% did not. The most common source of information regarding medicines was the pharmacist (59.4%), followed by

advertisements/media (15.5%), textbooks/academic sources (13.8%), and seniors or peers (11.3%).

Table 3: Knowledge Level of Nursing Students on Self-Medication (N = 160)

Knowledge Level	n	%
Good Knowledge (≥ 35)	148	92.5
Poor Knowledge (< 34)	12	7.5

The majority of students demonstrated good knowledge regarding self-medication (92.5%), while only 7.5% showed poor knowledge.

Table 4: Attitudes of Nursing Students toward Self-Medication (N = 160)

Attitude Level	n	%
Positive Attitude (≥ 35)	147	92.1
Negative Attitude (< 34)	13	7.9

The majority of students exhibited a **positive attitude toward self-medication (92.1%)**, while only 7.9% showed a negative attitude.

Table 5: Practices Related to Self-Medication (N = 160)

Items	Responses	n	%
Immediate response when sick	Consult doctor	60	37.5
	Ask suggestion from others	10	6.2
	Self-medication	70	43.8
	Wait till symptoms subside	20	12.5
Self-medication usage pattern	For yourself only	85	53.1
	For yourself and family	60	37.5
	For family members only	10	6.3
	For others	5	3.1
Common indications	Fever	95	59.4
	Pain (head, body, tooth)	30	18.8
	Cold and cough	20	12.5
	Dysmenorrhea	10	6.3
	Others (e.g., nausea, diarrhea)	5	3.0
Commonly used drugs	Antipyretics	70	43.8
	Analgesics	45	28.1
	Vitamins	20	12.5
	Antibiotics	15	9.4
	Others (antacids, herbal, anti-allergies)	10	6.2
Reasons in favor of self-medication	Minor illness	50	31.3
	Quick relief	45	28.1
	Emergency use	40	25.0
	Prior experience	15	9.3
	Cost/time saving	10	6.3
Reasons against self-medication	Risk of adverse drug reaction	85	53.1
	Wrong diagnosis	40	25.0
	Missing actual diagnosis	20	12.5
	Drug dependence	15	9.4

When sick, **43.8% of students reported practicing self-medication**, while 37.5% consulted a doctor, 12.5% waited for symptoms to subside, and 6.2% sought suggestions from others. More than half (53.1%) used self-medication for themselves, 37.5% for themselves and family, and smaller proportions for family only (6.3%) or others (3.1%). The most

common indications were **fever (59.4%)**, pain (18.8%), and cold/cough (12.5%). Frequently used drugs included **antipyretics (43.8%)**, analgesics (28.1%), vitamins (12.5%), and antibiotics (9.4%). Key reasons in favor of self-medication were minor illness (31.3%), quick relief (28.1%), and emergency use (25.0%), while major reasons against it were the

risk of adverse drug reactions (53.1%), wrong diagnosis (25.0%), and missing actual diagnosis (12.5%).

3. Discussion

The overall prevalence of self-medication (SM) in this cohort (~70%) aligns closely with global estimates among university students (pooled 70.1%) and with regional reports from Pakistan and India, underscoring that SM is a pervasive, normative behavior in student populations. This convergence supports external validity of the present findings and suggests common drivers that cut across settings and disciplines. (Behzadifar et al., 2020; Zafar et al., 2008; Kasulkar & Gupta, 2015).

The pattern of what students treat and which products they use also mirrors prior literature. Fever, pain, and cold/cough dominate as indications, and antipyretics/analgesics are the most frequently used classes—consistent with multi-country student studies and large cross-sectional data from the Gulf region. This profile reflects the ready OTC availability of these agents and the perception that such ailments are minor and self-limiting. (Kasulkar & Gupta, 2015; Al-Omrani et al., 2023).

Your data show pharmacists as the leading information source (59.4%)—a finding echoed elsewhere, where pharmacists are not only primary advisers but also gatekeepers at the point of purchase. While this can enable safer self-care through brief counseling, it also highlights the need to consistently deliver targeted advice on dosing, interactions, and when to refer. (Al-Omrani et al., 2023; Limaye et al., Karachi multicenter study).

The very high proportions reporting good knowledge (92.5%) and positive attitudes (92.1%) are typical in health-student samples, where pharmacology exposure and clinical training increase confidence in self-care. Nevertheless, prior studies caution that confidence may outpace nuanced knowledge (e.g., safe duration, drug-drug interactions), so structured education and assessment remain important. (Gyawali et al., 2015; Kasulkar & Gupta, 2015).

Behaviorally, the split between those who self-medicate when sick (43.8%) and those who consult a doctor (37.5%) tracks with common motives for SM—minor illness, speed/quick relief, and “emergency” use—reported repeatedly in student

cohorts. These motives are not inherently unsafe; rather, risk arises when self-care extends beyond minor ailments or when labeling is not followed. (Kasulkar & Gupta, 2015; Al-Omrani et al., 2023).

The relatively modest antibiotic self-use (9.4%) in your sample is encouraging, given higher figures in many student studies; however, even low-level unsupervised antibiotic use is clinically important due to resistance selection and the risk of masking or missing serious diagnoses. Reinforcing antibiotic stewardship content and discouraging non-prescription access remain prudent. (Ruiz, 2010; Al-Omrani et al., 2023).

Finally, reasons against SM in your cohort—adverse drug reactions (ADRs), wrong diagnosis, and missed diagnoses—map directly onto well-documented hazards in the literature. These concerns justify two practical emphases: (1) pharmacist-led point-of-sale counseling (especially for multi-symptom OTCs and combination analgesics) and (2) clear “red-flag” education (e.g., persistent fever, severe pain, or symptom escalation) that should trigger clinical consultation. (Ruiz, 2010; Zafar et al., 2008).

4. Conclusion

In conclusion, this study highlights that self-medication is a prevalent practice among students, primarily for minor ailments such as fever, pain, and cold, with pharmacists serving as the main source of guidance. While students demonstrated good knowledge and a positive attitude toward self-medication, the risks of adverse drug reactions and missed diagnoses underscore the need for targeted education and stricter regulation to ensure safe and responsible practices.

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