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Prevalence, Patterns and Associated Factors of Self Medication among Nursing Students: A Cross-Sectional Study

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Abstract

Background: Self-medication is the use of medicines without a prescription to treat self-recognized illnesses or symptoms. Inappropriate self-medication may result in adverse drug reactions, misuse of medicines, and other health risks, particularly among students.

Objective: To assess the prevalence, patterns, and factors associated with self-medication among nursing students.

Methods: A descriptive cross-sectional study was conducted among 105 nursing students from four different private nursing colleges in Lahore. Data were collected using a structured questionnaire and analyzed using SPSS. Frequencies, percentages, and the chi-square test were used for data analysis.

Results: Most students (99.0%) were aged 18–25 years. Overall, 63 (60.0%) students reported self-medication during the previous three months. The most common conditions treated through self-medication were cough (21.0%), headache (19.0%), and runny nose (13.3%). The leading reasons were having an old prescription (22.9%), saving time (21.0%), and pharmacist's advice (20.0%). Most students used allopathic medicines (78.1%), while 72.4% considered the pharmaceutical company when selecting medications. Although 71.4% checked prescribing information, only 48.6% fully understood the instructions. Adverse events were reported by 33.3% of students.

Conclusion: Self-medication was common among nursing students. Educational interventions emphasizing rational medication use, appropriate interpretation of prescribing information, and potential adverse effects are recommended to promote safer medication practices.

Keywords: Self-medication; Prevalence; Nursing students; Medication practices; Adverse events

Introduction

Self-medication, the practice of individuals using non-prescription medications to treat self-recognized ailments or symptoms (1). Using self-medication can cause differences between how medicines are normally prescribed and how diseases are spreading. Changes in disease patterns

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throughout the year could also affect how people later choose to self-medicate (2). Regular self-medication is often in the practice of ordinary people; because they don't know enough about the potential side effects of the medicines. Globally, the rate at which people practice self-medication ranges from 7.3% to 85.59%, with an average prevalence of 42.64% among various countries (3). The rates of self-medication vary in various countries and among different groups of people. Countries like India and Nepal have high rates of self-medication, while Indonesia and Bangladesh have lower rates. In India, the frequency of self-medication changes in different regions. For example, around 55% of self-medication cases were found in Meghalaya, with more males using self-medication than females (4). In other countries, Malaysia has a self-medication rate of 77%, Brazil has a rate of 84.4%, and China has about 50% of its population practicing self-medication. In Italy, around 69.2% of people have tried self-medication. In Sri Lanka, using medicine without a prescription was seen in 33.9% of urban areas and 35.9% of rural areas. In Pakistan, the prevalence of self-medication was reported at 84.8%, with more males (88.4%) than females (81.2%) practicing it (5). In recent times, people want to be more involved in taking care of their health. They often manage common and long-lasting illnesses with proper diagnosis and occasional help from professionals (6). For instance, they use medicines like antifungal creams, antibiotics, birth control pills, skin creams, and acid reducers (7). They do not want to go to the doctor unless it's really necessary because they believe they can handle these situations themselves. Many people around the world are choosing to treat themselves with medicines (8). This is happening because of money, politics, and culture. This is becoming a big health issue, and it's especially common among students studying medicine (9). The prevalence of self-medication among nursing students varies and is influenced by a range of factors. Understanding these patterns is crucial as it sheds light on the motivations and behaviors that drive nursing students to take their health into their own hands (10). Several factors contribute to the prevalence of self-medication among nursing students. Firstly, the demanding nature of nursing education often leads to students experiencing common health issues such as headaches or minor infections. In response, they may turn to self-medication as a quick fix due to time constraints (11). Secondly, the familiarity nursing students' gain with medical knowledge might lead to self-diagnosis, adopting the belief that they can treat themselves effectively. This empowerment can either positively promote responsible self-care or lead to inaccurate decisions (12). However, there are major problems associated with self- medication associated with self-medication practice such as wastage of resources, increased resistance of pathogens and serious health risks like adverse reactions and prolonged suffering (13). So, this study purpose is to find out the prevalence, pattern and associated factors of self-medication practice among nursing students; that how they do it, and what reasons make them do it. By studying their self-medication habits, the kinds of medicines they use, and the things that influence their choices, we can learn more about why they do it. This information is important to create educational programs, actions, and rules that teach nursing students to use medicines safely and responsibly. This helps not only nursing students but also the whole healthcare field.

Material and Method

The study used a descriptive cross-sectional design over a period of 4 to 6 months. A total of 105 nursing students from four different private nursing colleges in Lahore were selected using convenience sampling. The sample size of 105 participants was calculated using Cochran's formula. Inclusion criteria included students aged 18 to 28 from all academic years who

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voluntarily agreed to participate, while exclusion criteria eliminated those with incomplete data, withdrawals, or communication difficulties. After obtaining ethical approval, participants completed a self-structured questionnaire with five demographic and seventeen self-medication habit questions, taking about 25 minutes. Data were analyzed using SPSS version 25 and MS Excel, with results presented in graphs and tables, and inferential statistics analyzed through the chi-square test at $p<0.05$ to examine the relationship between self-medication patterns and associated factors among nursing students.

Results

Table 1: Demographic Variable of the students

		Frequency	Percent
Student's gender	Male	14	13.3
	Female	91	86.7
Age in years	18-25	104	99.0
	25-31	1	1.0
Religion	Hindu	7	6.7
	Muslim	83	79.0
	Christian	15	14.3
Family members in your house	2-5	27	25.7
	6-9	61	58.1
	10-13	11	10.5
	>14	6	5.7

Analyzed by frequency ‘’n’’ and percentage ‘’%’’

Table 1 presents the demographic details of student participants by frequency ("n") and percentage ("%"). Among them, 14 students (13.3%) are male and 91 (86.7%) are female. Most participants (104, or 99.0%) are aged 18-25, with 1 student (1.0%) aged 25-31. In terms of religion, 7 students (6.7%) identify as Hindu, 83 (79.0%) as Muslim, and 15 (14.3%) as Christian. Family size varies, with 27 respondents (25.7%) in households of 2-5 members, 61 (58.1%) in households of 6-9 members, 11 (10.5%) in households of 10-13 members, and 6 (5.7%) with more than 14 members.

Table 2: presents the patterns of self-medication among students in the last three months

Variable	Response	n	%
Self-medication in the last 3 months	Yes	63	60.0
	No	42	40.0
Reasons for self-medication	Old prescription	24	22.9
	Saves time	22	21.0
	Pharmacist’s advice	21	20.0
	Family member’s medicine	15	14.3
	No trust in doctor	10	9.5
	Doctor busy with patients	7	6.7
	High doctor’s fees	4	3.8
	Doctor/clinic far from home	2	1.9

Analyzed by frequency ‘’n’’ and percentage ‘’%’’

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Table 2 presents the patterns of self-medication among students in the last three months, analyzed by frequency ("n") and percentage ("%"). Of the students, 63 (60%) reported having taken self-medication, while 42 (40%) did not. The most common reason for self-medication was "old prescription" (24 students, 22.9%), followed by "it saves our time" (22 students, 21%) and "pharmacist advice" (21 students, 20%). The least common reason was "doctor/clinic far from home" (2 students, 1.9%). Other reasons included "high fees of doctor" (4 students, 3.8%) and "doctor is busy with many patients" (7 students, 6.7%). Thus, "old prescription" was the main reason for self-medication, while "doctor/clinic far from home" was the least cited.

Table 3: Diseases/Conditions for Which Students Used Self-Medication During the Last 3 Months (N=105)

Disease/Condition	n	%	Disease/Condition	n	%
Cough	22	21.0	Fever	7	6.7
Headache	20	19.0	Ear pain	4	3.8
Runny nose	14	13.3	Dental pain	4	3.8
Hair fall	8	7.6	Mouth ulcer	3	2.9
Fainting	8	7.6	Dandruff	2	1.9
Migraine	8	7.6	Body pain	2	1.9
Eye infection	1	1.0	Acidity	1	1.0
Diarrhea	1	1.0	**Total**	**105**	**100.0**

Data were analyzed using frequency (n) and percentage (%)

Table 3 shows the diseases for which students took self-medication in the last three months, analyzed by frequency ("n") and percentage ("%"). The most common disease reported was "cough" (22 students, 21.0%), followed by "headache" (20 students, 19.0%) and "running nose" (14 students, 13.3%). Other diseases included "migraine" (8 students, 7.6%), "fever" (7 students, 6.75%), "dental pain" (4 students, 3.8%), "body pain" (2 students, 1.9%), "eye infection" (1 student, 1.0%), and "diarrhea" (1 student, 1.0%). Thus, the most common reason for self-medication was "cough," while "eye infection" was the least common.

Table 4: Drug Selection Criteria and Types of Medication Used for Self-Medication (N=105)

Drug Selection Criterion	n	%	Type of Medication	n	%
Pharmaceutical company	76	72.4	Allopathic	82	78.1
Price	29	27.6	Homeopathic	19	18.1
			Ayurveda	4	3.8
Total	**105**	**100.0**	**Total**	**105**	**100.0**

Data were analyzed using frequency (n) and percentage (%).

Table 4 presents the sources of self-medication and the types of medication chosen by students, analyzed by frequency ("n") and percentage ("%"). When asked what they consider while selecting a drug for self-medication, 76 students (72.4%) indicated "pharmaceutical company" as their primary source, while 29 students (27.6%) cited "price." Regarding the types of medication taken, 82 students (78.1%) reported using "allopathic" medicine, followed by "homeopathic" (19 students, 18.1%) and "Ayurveda" (4 students, 3.8%). Therefore, "pharmaceutical company" was

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the most common source for selecting drugs, and "allopathic" was the most commonly used type of medication.

Table 5: Checking Prescribing Information and Understanding of Instructions Among Students (N=105)

Checking Prescribing Information	n	%	Understanding of Instructions	n	%
Yes	75	71.4	Fully understood	51	48.6
No	30	28.6	Partially understood	46	43.8
Total	105	100.0	Not at all	8	7.6
Data were analyzed using frequency (n) and percentage (%).					

Table 5 examines whether students check prescriptions before self-medication and their understanding of prescribing information, analyzed by frequency ("n") and percentage ("%"). When asked if they check the prescribing information before self-medicating, 75 students (71.4%) answered "yes," while 30 students (28.6%) answered "no." Regarding their understanding of the instructions, 51 students (48.6%) reported that they "fully understand" the information, 46 students (43.8%) stated they "partially understood," and 8 students (7.6%) indicated that they "do not understand at all." Thus, most students check prescriptions before medication and report that they "fully understand" the instructions provided.

Discussion

The finding of this study concluded by Sinha and Ahmad that most of students 86% were female in the age between 18-25 years on the base of religion majority of students 79% were Muslims having family members 58.1%. However, 71.5% of the students engaging in self-medication. The study found that the prevalence of self-medication among medical undergraduates was 74.1%, while nursing students had a prevalence rate of 65.4% (14). The study revealed that 60% of students had self-medicated in the last three months, with 22.9% citing "old prescription" as a reason and an overall prevalence of 89.6%. Commonly used medications included those for colds, analgesics, and antibiotics, while most students sourced pharmaceutical information from pharmacists, physicians, and online platforms (5). Self-medication practices did not significantly vary by age, gender, marital status, insurance status, or residence (15). The study found that 21% of students self-medicated for "cough," while only 1% did so for "eye infection." According to Patil and Vardhamane, many students frequently treat themselves without medical advice, particularly for colds and coughs, but often do not complete antibiotic courses, risking reduced effectiveness and other health issues. The varied perspectives on self-medication among students indicate a need for education on responsible medication use (16). Specifically, the study identifies cough (21%) and eye infection (1%) as common reasons for self-medication. According to the report of Waqar, Riaz (17) the most frequently self-medicated ailments include common colds, coughs, and eye infections. Common medications used include cold pills, acetaminophen pills, and amoxicillin capsules. The widespread use of antibiotics is particularly notable, given concerns about antibiotic resistance and the importance of completing prescribed courses. Similarly, Ghamdi and colleagues reported that students obtain pharmaceutical information from various sources, including pharmacists, physicians, and online platforms. This underscores the importance of providing accurate and reliable information to

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promote safe and informed self-medication practices (18). The study found that "pharmaceutical company" is the main source for drug selection, with "allopathic" medications being the most common. Self-medication poses significant risks due to a lack of awareness about proper usage, especially in developing countries like India, raising concerns about whether to promote or discourage such practices (19). The study by Bennadi (2023) recommends a holistic approach to address self-medication issues, emphasizing the need for awareness and education, along with stricter regulations on pharmaceutical advertising (20). It also calls for improved dispensing methods through better education and regulatory strategies to enhance healthcare accessibility and cost-effectiveness (21). This study concluded that 71.4% students check prescription before medication and 48.6% students “fully understand” from the instructions of prescribing information. According to the report of Siraj, Yayehrad (22) among the respondents, 68.1% reported practicing self-medication at least once in the last six months. Additionally, 58.8% demonstrated good knowledge about self-medication, while 55.5% exhibited a positive attitude towards it. The most common reasons for self-medication were headache (33.7%) and cough (29.8%), with analgesics (37.1%) and antimicrobials (29.8%) being the most frequently self-consumed agents. Medicine students, lack of health insurance p equal to 0.002, and absence of known medical illnesses p equal to 0.010 were independently associated with good knowledge about self-medication (23). This study concluded that 33.3% students have experienced adverse events with self-medication, 14.3% students taking self -medication for chronic disease, while 36.2% students infected in last three months. According to study of araia and colleague, analgesics, antipyretic and antibacterial were the leading class of medicine used in self-medication practice while adverse drug reactions were reported by 9.2% of respondents. In this study, sex, income, and school of study were found to be the independent predictors for self-medication practice (24). A comprehensive analysis reveals a high prevalence of self-medication among students, ranging from 60% to 89.6%, driven by factors like prior experience and easy access to medications. This practice raises significant concerns, including incomplete antibiotic courses and adverse events, highlighting the urgent need for responsible medication practices (25). The varied sources of pharmaceutical information for self-medication emphasize the need for accurate dissemination and education on medication use to ensure safety and mitigate associated risks (26). Furthermore, regulatory measures are needed to improve dispensing modes and ensure healthcare accessibility and affordability. It is evident that a holistic approach is required to address the challenges posed by self-medication among students (27). This includes promoting awareness, education, and strict regulatory measures regarding pharmaceutical advertising and medication dispensation. By adopting these strategies, the healthcare system can effectively mitigate the risks associated with self-medication and ensure the well-being of individuals.

Conclusion

The study found that 86% of students were female, aged 18 to 25, with 79% identifying as Muslim and 58.1% living with family. Sixty percent reported self-medication in the last three months, mainly due to old prescriptions (22.9%) or distance to a doctor (1.9%). Common reasons included prior experience with illnesses and easy access to medications, with frequently used drugs being cold pills, acetaminophen, and amoxicillin. The sources of medication information included pharmacists, doctors, the internet, and drug companies, underscoring the need for accurate information to ensure safe self-medication practices.

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