

Assessment of Knowledge, Attitudes, and Practices Regarding Self-Medication among Nursing Students

Naseem e Sehar*

Post RN, Department of Nursing, Superior University, Lahore

Email: SehariftikharSehariftikhar@gmail.com

Farah

Post RN, Department of Nursing, Superior University, Lahore

Email: Faraharseenfarah@gmail.com

Syeda Tasneem Kauser

Nursing Director, Department of Nursing, Superior University, Lahore

Email: Sindy070766@gmail.com

Zunira Amir

Department of Nursing, Superior University, Lahore

Email: ZuniraAmir@gmail.com

ABSTRACT

Background: Self-medication is a common practice among healthcare students and may lead to irrational drug use, adverse drug reactions, and drug dependency if practiced without proper knowledge. Nursing students are more likely to engage in self-medication because of their medical exposure and easy access to medicines.

Aim: The study aimed to assess the knowledge, practice, and attitude regarding self-medication among nursing students working and studying in public hospitals.

Methods: A descriptive cross-sectional study design was used among 245 nursing students selected from Services Nursing College and Sir Gangaram Hospital. Data were collected using a structured questionnaire consisting of demographic information and questions related to knowledge, practice, and attitude regarding self-medication. Descriptive statistics including frequency, percentage, mean, and standard deviation were used for data analysis.

Results: The findings showed that the majority of participants were females (82.9%) and belonged to the age group of 21–24 years (64.5%). Panadol was the most commonly used medicine for self-medication (65.7%). Participants demonstrated moderate knowledge (Mean = 2.89), moderate practice (Mean = 2.65), and moderate attitude (Mean = 2.75) regarding self-medication. Convenience, quick relief, and confidence in medication knowledge were common reasons for self-medication practices.

Conclusion: The study concluded that self-medication is highly prevalent among nursing students, with moderate knowledge, practice, and attitudes toward medication use. Educational interventions and awareness programs are necessary to promote

rational drug use and safe medication practices.

Keywords: Self-Medication, Nursing Students, Knowledge, Practice, Attitude, Public Hospitals.

Introduction

Self-medication (SM) is defined as the use of drugs, herbs or home remedies without the guidance of medical professionals. Self-care practices include actions people take to take care of their health. Comprehensive product information, such as possible side effects and contraindications are necessary for responsible self-medication (Bennadi, 2014). Over the counter (OTC) medications are those that can be purchased directly from the manufacturer without a prescription. Prevalence is the percentage of a population that participates in a certain behavior during a time interval, for example, in a population, the percentage of all people self-medicating during a certain period of time.

Self-medication is a common practice all over the world. The incidence rate in Europe is 68%, in the USA, 77%, in Kuwait, 92%, in India, 31%, in Iran, 83% and in Nepal, 59% (Soroush et al., 2018). About 80% of medicines used in developing countries are medicines that are bought without a prescription (Janatolmakan et al., 2022). Self-medication is a common practice for dealing with health issues, with 76% of people in Pakistan doing so (ALBashtawy et al., 2014). In North India, 88.24% of the nursing students said that they use self-medication practices (Goel, 2013).

Self-medication is a serious and complex issue in the world. It has been demonstrated that self-medication responds to various types of health problems such as pain, headaches, cold and flu symptoms, fever, skin problems, mental health problems, and infections (Al-Qerem et al., 2023). Such a practice may lead to negative health effects, including drug interactions, improper dosage, and delayed treatment for patients' underlying medical conditions (Al-Qerem et al., 2023). A higher prevalence of self-medication was found in younger individuals, mild psychiatric disorders, non-hypertensive individuals, as well as individuals that self-diagnose illnesses (Barros, Griep, & Rotenberg, 2009). Other workers with temporary contracts as well as nurses who are very engaged in their work display higher rates of self-medication (Barros et al., 2009).

Self-medication has many implications to the burden of national problem in Pakistan and it requires immediate attention. According to the reports, 53% to 61.3% of the Pakistani population self-medicate while 93% take self medicines as analgesics, 69% as antipyretics and 52% as antibiotics (Khan, Karatas, & Khan, 2021). There is an urgent need for a medical education program and healthcare awareness campaign for educating individuals on the possible dangers associated with self-medication (Khan et al., 2021). The education based on pharmacovigilance is of utmost importance to ensure safe consumption of medicines and handling the repercussions of improper usage of SMs (Khan et al., 2021).

The situation of self-medication by healthcare workers in Lahore, in particular, has not been studied much. The present study aims to assess the influence of knowledge, practice and attitude on self-medication among nurses of various departments of a government hospital in Lahore. Self-medication is a problem in Pakistan which highlights the significance of people's understanding of the health consequences.

There is a substantial number of healthcare workers, especially nursing students, who are unaware of self-medication, which is a problem for health workers.

Previous studies have shown that there are regular trends in self-medication among nurses. A study conducted at Krishna Hospital, Karad revealed that 79.16% of all the staff nurses admitted to self-medicating for pain related problems and 91.07% for minor ailments (Gholap & Mohite, 2014). One study in Jammu and Kashmir found that 53.7% of the nursing students self-medicated with headache (67.2%) and cough (46.3%) being the common symptoms treated (Farooq, Rasool, & Farhat, 2020). According to Dhakal and Bahadur Dhami 2020, 85% of the nursing students found to be self-medicating their illness and the most common symptoms were headache 96% and fever 83.3%.

Self-medication programs have been found to have some advantages and disadvantages in health care institutions. Self-care at the personal level promotes self-reliance in managing minor symptoms, provides convenience and economy (Bennadi, 2014). Self-care can also help to save scarce medical resources, and reduce expenses on community-funded medical programs at the community level (Bennadi, 2014). To increase awareness about the pros and cons of self-medication, however, proper training and seminars should be organised (Farooq et al., 2020).

Method

This study employed a cross-sectional descriptive research design to assess the knowledge, attitude, and practice (KAP) of self-medication among nursing students. The quantitative study was conducted in Lahore at three institutions: Superior University Department of Nursing, Services Nursing College, and Sir Gangaram Hospital Nursing College, following ethical approval from the Ethics Review Committee of Superior University. The target population comprised 500 first-year nursing students across a four-year period. The sample size was calculated using the formula $n = N / (1 + N(e)^2)$, resulting in 222 participants. With a 10% confidence interval, 23 additional students were added, yielding a final sample size of 245 nursing students. A convenient sampling technique was employed, selecting only those participants who were easily accessible, easy to approach, and agreed to participate. Inclusion criteria required participants to be graduate nursing students who consented to answer the questionnaire.

Data Collection Procedure

After obtaining ethical approval, the study was carried out at Services Hospital and Sir Gangaram Hospital in Lahore using a descriptive research approach. Information was gathered using the convenient sample method. All 245 nursing students were invited to willingly participate and provide approval before completing the questionnaire. Participants were made aware of the confidentiality and anonymity of their responses. Researchers also explained the distinctions between self-prescription and self-medication. The data collection tool was a KAP survey questionnaire divided into two sections. Section I collected demographic data including gender, age groups (20-40 years), education level (Bachelor's or Master's), year of study (1st to 4th year), institute name, and commonly used medications (Panadol, Azomax, Augmentin, Antihistamines). Section II contained three subsections with 27 questions using a 5-

point Likert scale: ten questions on knowledge, nine on practice, and eight on attitude toward self-medication.

Data Analysis Procedure

Upon completing data collection, meticulous entry and analysis were performed. The research team used IBM SPSS V 27 Statistics Software for analysis. The analysis encompassed 33 qualitative and quantitative variables. Gender and age variables were presented in groups. Other quantitative variables included year of education, college or hospital affiliation, and types of medications used. Descriptive statistics were employed to statistically analyze the data. Finally, reference tables and charts were prepared based on the data analysis results to present the findings clearly.

Results

Demographic Analysis

The demographic analysis revealed that the majority of the participants belonged to the age group of 21–24 years (64.5%), indicating that most respondents were young nursing students. Participants aged 25–28 years constituted 33.5% of the sample, while only 2% were aged 29 years and above. Female participants dominated the study population with 82.9%, whereas males represented only 17.1%, reflecting the higher enrollment of females in the nursing profession. Most respondents were enrolled in the 2nd year of the nursing degree program (57.1%), followed by students from the 3rd year (26.5%). In terms of institutional affiliation, the majority of participants were from Sir Gangaram Hospital (61.2%), while 38.8% belonged to Services Nursing College. Regarding medicines commonly used for self-medication, Panadol was the most frequently used drug (65.7%), followed by Augmentin (24.9%) and Azomax (9.4%). These findings indicate that self-medication practices are common among young nursing students, particularly with easily accessible medications such as analgesics and antibiotics.

Table 1

Demographic Characteristics of Participants (N = 245)

Variable	Category	Frequency	Percentage (%)
Age Group	21–24 years	158	64.5
	25–28 years	82	33.5
	29 years and above	5	2.0
Gender	Female	203	82.9
	Male	42	17.1
Year of Nursing Degree	1st Year	21	8.6
	2nd Year	140	57.1
	3rd Year	65	26.5
	4th Year	15	6.1
	5th Year	4	1.6
College/Hospital	Services Nursing College	95	38.8

	Sir Gangaram Hospital	150	61.2
Commonly Used Self-Medication	Panadol	161	65.7
	Augmentin	61	24.9
	Azomax	23	9.4

The analysis of knowledge-related items demonstrated that participants had an overall moderate level of knowledge regarding self-medication practices, with an overall mean score of 2.89. The highest mean score was observed for the statement related to drug allergies being an abnormal immune reaction due to medication (Mean = 3.16), indicating comparatively better awareness in this area. Similarly, participants showed moderate understanding regarding consequences of wrong drug selection (Mean = 3.03) and sufficient knowledge for treating common illnesses (Mean = 3.05). However, lower mean scores were reported for knowledge regarding drug interactions and completion of medication courses, suggesting gaps in understanding safe medication practices. Overall, the findings suggest that although nursing students possess basic knowledge about self-medication, there remain deficiencies in critical areas such as drug interactions, adverse effects, and rational drug use, highlighting the need for further educational interventions.

Table 2
Knowledge About Self-Medication (N = 245)

Item	Mean	SD	Interpretation
Students start self-medication without basic drug knowledge	2.80	1.18	Moderate knowledge
Students do not know consequences of wrong drug selection	3.03	1.22	Moderate knowledge
Understanding of drug interaction	2.87	1.23	Moderate knowledge
Drug interaction may alter drug effects	2.71	1.15	Moderate knowledge
Drug allergy is an abnormal immune reaction	3.16	1.11	Moderate knowledge
Pharmacists have more practical knowledge than physicians	2.81	1.32	Moderate knowledge
Pharmacists are good source of information	2.76	1.23	Moderate knowledge
Medicine course should be completed	2.82	1.28	Moderate knowledge
Students have sufficient knowledge to treat common illnesses	3.05	1.25	Moderate knowledge
Drug authorities regulate prescribed drugs	2.89	1.26	Moderate knowledge

The findings regarding self-medication practices revealed an overall moderate level of practice among participants, with a mean score of 2.65. Participants moderately agreed that self-medication reduces the burden on healthcare services and is time-saving. The highest mean score was recorded for the perception that self-medication is risk free (Mean = 3.03), indicating that many respondents may underestimate the risks associated with unsupervised medication use. Conversely, lower mean scores were observed for sharing prescriptions with others (Mean = 2.00) and beliefs related to drug dependency and masking disease symptoms (Mean = 2.42), suggesting relatively safer practices in these aspects. Overall, the results indicate that self-medication is commonly practiced among nursing students due to convenience and confidence in medication knowledge; however, some unsafe practices and misconceptions still exist.

Table 3
Practice About Self-Medication (N = 245)

Item	Mean	SD	Interpretation
Self-medication reduces load on medical services	2.73	1.21	Moderate practice
Self-medication is risk free	3.03	1.25	Moderate practice
Self-medication may lead to irrational drug use	2.86	1.26	Moderate practice
Self-medication may cause dependency and mask disease	2.42	0.91	Low practice
Given prescription to someone else	2.00	0.94	Low practice
No need to visit doctor for minor illness	2.81	1.24	Moderate practice
Self-medication provides quick relief	2.57	1.10	Moderate practice
Self-medication is time saving	2.51	1.26	Moderate practice
Confidence in knowledge about medicines	2.91	1.04	Moderate practice

The attitude-related findings showed that participants had an overall moderate attitude toward self-medication, with a mean score of 2.75. Positive attitudes were reflected in statements regarding advising self-medication therapies to others (Mean = 3.08) and willingness to start self-medication (Mean = 3.10), indicating acceptance of self-medication practices among nursing students. Participants also demonstrated moderate attitudes toward reading medication prospectuses and using medicines according to prescribed doses and timeframes. However, lower mean scores were found for statements related to perceiving self-medication as harmful and storing medications at home for future use, suggesting that many respondents did not strongly recognize the potential dangers associated with self-medication. Overall, the findings

imply that nursing students generally hold favorable attitudes toward self-medication, which may contribute to its widespread practice despite possible health risks.

Table 4
Attitude About Self-Medication (N = 245)

Item	Mean	SD	Interpretation
Keeping self-medication at home for future use	2.46	1.18	Negative attitude
Reading prospectus before self-medication	2.96	1.16	Moderate attitude
Using medicines at prescribed dose and timeframe	2.85	1.19	Moderate attitude
Thinking self-medication could be harmful	2.43	1.26	Negative attitude
Advising self-medication therapies to others	3.08	1.21	Positive attitude
Thinking self-medication is unnecessary	2.57	1.26	Moderate attitude
Receiving information about unnecessary self-medication	2.56	1.14	Moderate attitude
Decision to start self-medication	3.10	1.18	Positive attitude

Discussion

This study aimed to examine the knowledge, practice and attitude of self-medication among nursing students of public hospitals. The results showed that the level of self-medication was very high among the respondents, especially among female students and the younger age groups. Panadol was found to be the most used medicine for self-medication. Abbas et al. (2020) reported the same findings that analgesics were the drugs used the most by healthcare students as it is easily available and best at relieving the symptoms. Another study by Lukovic et al. (2014) determined that, on the contrary, the more commonly self-administered medication was antibiotics among university students, which could be attributed to different rules and regulations for using antibiotics and/or different availability of health care across countries.

The results of the current study indicated that the knowledge of the nursing students was moderate about the self-medication practices. Drug allergies, wrong drug selection, treatment of common ailments etc. were demonstrated in the awareness of the participants. The results are similar to those obtained by Aljaouni et al. (2015) who concluded that the general knowledge in the healthcare students was satisfactory as they have been exposed in the academic environment to pharmacology and patient care. In the current study, lower awareness of drug interactions and drug course completion was seen. Another concern was raised by Gama and Secoli (2017) about the lack of knowledge of drug interactions among health students, which could lead to problems with the use of medications and drug reactions.

The findings on practice revealed that the participants moderately involved in self-medication practices and they also believed self-medication as convenient and time-saving. Pupils thought that self-medication might alleviate the strain on health services. The results are in line with those of Behzadifar et al. (2020), who found that students at Iranian universities had been self-medicating for the following reasons:

Convenience, quick relief and previous experience. The current study also revealed that the participants were less likely to share their prescriptions with others, indicating a relatively safe practice. A high rate of medical students admitting to sharing their medications or prescriptions with family members and friends was reported by El Ezz and Ez-Elarab (2011), findings that did not match this study.

The study also showed that a lot of the participants believed that the use of self-medication is safe. This perception gives rise to concerns about the irrational use of drugs and the potential health risks associated with it. Similar results were found by Sawalha (2008) who reported that healthcare students may have less awareness of the dangers of self-medication because they feel confident in their learning. However, the results of the present study showed that there was less awareness about the adverse effects of self-medication among medical students than was found by Banerjee and Bhadury (2012). This difference in perception may be due to variations in the educational curricula and clinical experience.

The attitude related findings showed that the general attitude of the participants was positive towards self-medication. A majority of students felt that they would be health practitioners of the self-medication practice in future and they were also willing to prescribe health practice to others. The same outcome was found by James et al. (2006) with healthcare students reporting positive attitudes toward self-medication because of their belief in self-care and independence for minor illnesses. The present results contradict the report of Kumar et al. (2013), which revealed a more conservative mindset of nursing students, especially in respect to the detrimental effects of unsupervised use of medication. This may be due to cultural beliefs and health care facility availability.

The results further showed that a high percentage of the respondents didn't seriously think that self-medication is harmful. Self medication may not result in drug dependency or the masking of underlying diseases, many respondents disagreed with this. Helal and Abou-ElWafa (2017) reported similar findings, as students deemed it acceptable to self-medicate for minor ailments and for routine symptoms. However, Galato et al. (2012) reported the contrary finding that the students studying in the healthcare sector were more concerned with adverse effects of medication and antibiotic resistance resulting from self medication practices. This difference could relate to different awareness campaigns and drug control measures in different settings.

The general results of the study indicate that overall, nursing students have moderate levels of knowledge and practice, and a positive attitude towards self-medication overall. Self-medication among nursing students is a concern as it underscores the need for developing rational drug use education, medication safety education and adverse effect awareness education. World Health Organization reports have also made similar recommendations to promote the importance of healthcare education in reducing irrational self-medication. The study results suggest that there needs to be more regulation in the sale of over-the-counter medications and more education needs to be implemented in the nursing curriculum to have the future health care workers have a better understanding of how to take care of themselves and others with the use of medication.

Conclusion

The present study concluded that self-medication is highly prevalent among nursing students in public hospitals, with most participants demonstrating moderate knowledge, practice, and attitude regarding self-medication. The findings showed that students commonly used medications such as Panadol for the treatment of minor illnesses due to convenience, quick relief, and confidence in their medication knowledge. Participants possessed reasonable awareness regarding drug allergies, drug interactions, and treatment of common diseases; however, gaps were identified in understanding the risks associated with irrational drug use, adverse effects, and completion of medication courses. Many respondents considered self-medication to be safe and acceptable for minor health problems, reflecting positive attitudes toward self-medication practices. The study highlights the need for educational programs and awareness campaigns to promote rational drug use, improve medication safety, and reduce the harmful consequences associated with unsupervised self-medication among future healthcare professionals.

Recommendations

Based on the findings of the study, it is recommended that educational institutions and healthcare authorities develop awareness programs regarding the risks and consequences of self-medication among nursing students. Nursing curricula should include comprehensive education on rational drug use, adverse drug reactions, drug interactions, and safe medication practices to improve students' knowledge and attitudes. Workshops, seminars, and training sessions should be arranged regularly to enhance awareness regarding the harmful effects of inappropriate self-medication and irrational drug use. Healthcare professionals, particularly pharmacists and physicians, should provide proper counseling to students regarding the safe use of medications. Strict policies should also be implemented to regulate the sale of over-the-counter medicines and antibiotics without prescription in order to minimize unsafe self-medication practices. Further studies should be conducted on larger populations and in different healthcare settings to explore additional factors influencing self-medication practices among healthcare students and professionals.

References

- Al-Qerem, W., Bargooth, A., Jarab, A., Akour, A., & Abu Heshmeh, S. (2023). Information sources, attitudes, and practices of self-medication by Jordanian patients: A cross-sectional study. *Saudi Pharmaceutical Journal*, 31(4), 482–491. <https://doi.org/10.1016/j.jsps.2023.01.015>
- Ali, A. S., Ahmed, J., Ali, A. S., Sonekhi, G. B., Fayyaz, N., Zainulabdin, Z., & Jindani, R. (2016). Practices of self-medication with antibiotics among nursing students of Institute of Nursing, Dow University of Health Sciences, Karachi, Pakistan. *JPMA the Journal of the Pakistan Medical Association*, 66(2), 235–237.
- ALBashtawy, M., Batiha, A.-M., Tawalbeh, L., Tubaishat, L., & AlAzzam, M. (2014). Self-medication among school students. *The Journal of School Nursing*, 31(2), 110–116. <https://doi.org/10.1177/1059840514554837>

- Ateshim, Y., Bereket, B., Major, F., Emun, Y., Woldai, B., Pasha, I., et al. (2019). Prevalence of self-medication with antibiotics and associated factors in the community of Asmara, Eritrea: A descriptive cross-sectional survey. *BMC Public Health*, 19. <https://doi.org/10.1186/s12889-019-7020-x>
- Bala, R., Singh, H., Kaur, K., P, G., & Kohli, K. (2013). Knowledge and attitude towards antimicrobial self-medication usage: A cross-sectional study among medical and nursing students. *International Journal of Basic & Clinical Pharmacology*, 2(4), 428. <https://doi.org/10.5455/2319-2003.ijbcp20130816>
- Barros, A. R. R., Griep, R. H., & Rotenberg, L. (2009). Self-medication among nursing workers from public hospitals. *Revista Latino-Americana de Enfermagem*, 17(6), 1015–1022. <https://doi.org/10.1590/s0104-11692009000600014>
- Bennadi, D. (2014). Self-medication: A current challenge. *Journal of Basic and Clinical Pharmacy*, 5(1), 19. <https://doi.org/10.4103/0976-0105.128253>
- Bhandari, A., Upadhyay, R., Joshi, A., Bajeta, D., Maher, D., Joshi, J., et al. (2018). Self-medication practices in nursing students. *International Journal of Science and Healthcare Research*, 3(2), 35.
- Castro-Cataño, M. E., Pechen  -Paz, P. A., Rocha-Tenorio, V. E., Loaiza-Buitrago, D. F., et al. (2022). Automedicaci  n en estudiantes de pregrado de enfermer  a. *Enfermer  a Global*, 21(66), 274–301. <https://doi.org/10.6018/eglobal.487901>
- Farooq, S., Rasool, S., & Farhat, S. (2020). Self-medication among nursing students of a tertiary care hospital of Jammu and Kashmir: Knowledge, practice, and attitude. *International Journal of Scientific Study*, 8(6), 23–26.
- Gama, A. S. M., & Secoli, S. R. (2017). Automedica  o em estudantes de enfermagem do Estado do Amazonas – Brasil. *Revista Ga  cha de Enfermagem*, 38. <https://doi.org/10.1590/1983-1447.2017.01.65111>
- Khatony, A., Soroush, A., Andayeshgar, B., & Abdi, A. (2020). Nursing students' perceived consequences of self-medication: A qualitative study. *BMC Nursing*, 19(1). <https://doi.org/10.1186/s12912-020-00460-8>
- Khan, J., Karatas, Y., & Khan, Z. (2021). Self-medication in Pakistan: Urgent need for medical education and policy implementation. *Pakistan Journal of Medicine and Dentistry*. <https://doi.org/10.36283/pjmd10-4/018>
- Ruiz, M. (2010). Risks of self-medication practices. *Current Drug Safety*, 5(4), 315–323. <https://doi.org/10.2174/157488610792245966>
- Soroush, A., Abdi, A., Andayeshgar, B., Vahdat, A., & Khatony, A. (2018). Exploring the perceived factors that affect self-medication among nursing students: A qualitative study. *BMC Nursing*, 17(1). <https://doi.org/10.1186/s12912-018-0302-2>