CODEN [USA]: IAJPBB ISSN : 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES
SJIF Impact Factor: 7.187
https://doi.org/10.5281/zenodo.19766285

Available online at: http://www.iajps.com A Case Report

SELF-MEDICATION PRACTICES AMONG NURSING STUDENTS AT SHAIKH ZAYED HOSPITAL, LAHORE

[1]Shazia Tabasum, [2]Shazia Nazeer, [3]Usma Sharif

[1]Charge nurse, Govt Said Mitha Teaching Hospital Lahore.
[2]Charge nurse, Chaudhary Pervaiz Elahi Institute Of Cardiology Wazirabad
[3]Charge nurse, Lady Willingdon Hospital Lahore

Abstract:

Introduction: *Self-medication is a common practice among individuals of all ages, including medical and nursing students. While it can be beneficial in certain situations, it can also lead to adverse effects and complications.*

Objective: *To assess self-medication practices among nursing students of Shaikh Zayed Hospital, Lahore.*

Materials & methods: *A descriptive, quantitative and cross-sectional study design adopted for the study. Convenient sampling techniques used to select study participants. Structured questionnaires were used to collect data from respondents contained of 2 sections: Section I: Demographic data of study participants and Section II: Statements about self-medication practices among nursing students.*

Results: *Total 120 participants having age range 18 years to 32 years old meeting inclusion criteria selected for the study. 90% reported that they were self-medicated sometimes apart from treatment prescribed by medical practitioner and only 10% participants denied. Even 97.39% study participants revealed that they reused prescribed medicine whenever they experienced similar symptoms and only 2.61% didn't. Overall, as per levels of self-medication practices, 7.50% nursing participants reported low level; 30.00% revealed moderate and remaining 62.50% disclosed high.*

Conclusion: *Overall, result findings depicted high practices found among nursing students to emphasize immediate actions to prohibit use of drugs without proper diagnoses of medical officers.*

Keywords: *Self-medication, Over-the-counter (OTC), Adverse Drug Reaction (ADR), nursing students, practices etc.*

Corresponding author:

Shazia Tabasum,
Charge nurse,
Govt Said Mitha Teaching Hospital Lahore.

QR CODE

Please cite this article in press *Shazia Tabasum* ***et al., Self-Medication Practices Among Nursing Students At Shaikh Zayed Hospital, Lahore, Indo Am. J. P. Sci, 2026; 13(04).***

INTRODUCTION:

Background:

Occurrence of self-medication in developing countries exhibits a wide range, spanning from 12.7 to 95% (Islam, B. & Hossain, M. A., 2020). It was highlighted that as much as 80% of deaths caused by infections were linked to antimicrobial resistance (Moonajilin, M. S. et al., 2020).

Arbitrary medicine might also cause delays and disruptions in disease detection, exacerbate a condition, hinder treatments, increase adverse effects, and even risk life (Nusair et al., 2021). Self-medication has been a widely acknowledged phenomenon, with numerous attempts made to identify the factors influencing this practice. Knowledge, Attitude, and Practice (KAP) model was commonly employed in this context, positing that existing knowledge shapes a favorable attitude toward self-medication, which in turn enhances the practice (Al-Qahtani, A. M. et al., 2023).

In addition, most commonly used drugs among students with symptoms of body aches, cold/flu, fever, and exhaustion were pain relievers, antipyretics, and cold tablets/ syrup. They were practicing for a variety of conditions, and majority of them were using OTC NSAIDs, most commonly paracetamol. Increased use of paracetamol corresponds with findings from Saudi nursing undergraduates (Faqihi and Sayed, 2021) and from the Peru adult population (Quispe-Canari et al., 2021) where it was also the most consumed drug. In countries like Bangladesh, there was a high prevalence of over-the-counter drug selling enhancing the convenience of self-medication (Matin, M. A. et al., 2020). A study reported that medical participants mostly used antipyretic, paracetamol and non-steroidal anti-inflammatory drugs (NSAIDs) (Bekele et al., 2020).

According to a study conducted on nursing students, around half of nursing students stored unused or leftover medicines until expiration date, and approximately 80% of participants disposed of expired medicines in household garbage, sinks or toilets (Bashatah A,Wajid S., 2020). Studies underscore the role of knowledge in promoting safe self-medication practices, preventing indiscriminate use (Al-Qahtani, A. M. et al., 2023). Lack of proper knowledge about medicines was a strong predictor of self-medication practices (Shitindi, L. et al., 2024). It was emphasized that importance of knowledge about ADR (Adverse Drug Reaction) in shaping proper attitudes and responsible self-medication practices (Gedam, S. & Kuchya, S., 2021).

In another study all nursing participants stated that self-medication was a result of their field of study and that their training education had made them knowledgeable about ailments and medications (Janatolmakan et al., 2022). Today, there was an information explosion in many sectors, including medical knowledge. A simple Google search can produce a wealth of information about various diseases and their therapies. All participants stated that they have easy access to medical information via the media, particularly the Internet (Janatolmakan et al., 2022). Furthermore, a cross sectional study was undertaken at Indus Hospital, Pakistan, a free tertiary care institution in Karachi, which revealed that fever was the most common symptom for which individuals self-medicate, followed by cough/cold and body aches. Analgesics and antipyretics were the most commonly utilized medications (Dhedhi et al., 2021).

Earlier researches has illuminated the role of medical knowledge as a contributing factor to self-medication practices among college students (Rasania S, et al., 2023). Therefore, it is needed to inculcate safe practices of medication among undergraduate nursing students and sensitize them through proper education on deleterious consequences of self-medication practices. Hence, this study was carried out to find out the practices of self-medication among undergraduate nursing students at Shaikh Zayed Hospital, Lahore to get insight into this issues among student nurses, who are considered as the future manpower of the healthcare in the country. Furthermore, nurses spend majority of their time with the people either at community or hospital and their knowledge, attitude and practices of self-mediation can largely impact the prevention of inappropriate use of medicines among common public of the country.

Problem statement

Self-medication practices are common in developing countries not only among medical students but also among non-medical students. It is really hard to collect right information regarding self-medication practices found among nursing students as they have to face lot of stress and depression being new to the field. On the other hand, might be some students will hesitate to disclose what type of medicines they have stored in the home/hostel to cure their diseases and they will unaware about adverse reactions of those medicines. Here, in this study we are collecting data from single college of Dir and cannot be conclude accurate level of self-medication practices among nursing students, however, further quantitative and qualitative studies should be conduct across the country to restrict selling of medicine without prescription of registered medical practitioner.

Significance of the study

Since nursing students would become future nurse sand may find themselves counseling patients on safe use of medicines, in this way these professionals play a significant role in patient care and safety especially regarding self-medication practices. Therefore, understanding the practice and self-beliefs related to self-medication is crucial. Present study was therefore, conducted with a view to generate data on self-medication practices of among nursing undergraduates. Data generated during this study would be of highly significance to implement educational awareness programs and policies to limit this health negligence. As well as attract more researchers at national and international level to conduct more studies in order to minimize self-medication practices among not only medical students but also among general public of Pakistan.

Study variables

- **Independent variables**
  Participants demographic data e.g., Age, marital status, place of residence, program level, economic status considered as independent variables of the study.
- **Dependents variables**
  Self-medication practices taken as dependent variable of the study.

Research objectives

- To assess level of self-medication practices among nursing students of Shaikh Zayed Hospital, Lahore.
- To explore corrective actions to minimize self-medication practices among nursing students of Shaikh Zayed Hospital, Lahore.

Research questions

- What was the level of self-medication practices among nursing students of Shaikh Zayed Hospital, Lahore?
- What type of corrective actions should be taken to minimize self-medication practices among nursing students of Shaikh Zayed Hospital, Lahore?

Key term definition

- **Self-medication (SM)**
  It is the process by which people choose and apply medications (including herbal and traditional goods) to self-identified ailments or symptoms.
- **Practices**
  To perform a task frequently or repeatedly in order to get more proficient to at it.
- **Over-the-counter (OTC)**
  It refers to a medication that is available for purchase without a prescription from a doctor. Acetaminophen and aspirin are two examples of analgesics, or painkillers.

MATERIALS & METHODS:

Study design

A descriptive cross-sectional, quantitative design employed in this research investigation because a descriptive study requires a researcher to observe, describe, and record many aspects of an event (Sousa, et al. 2007). Quantitative research describes an array of methods, approaches, and presumptions that are employed in the investigation of numerical patterns to analyze psychological, social, and economic phenomena. A variety of numerical data is gathered for quantitative study.

Study population

Total population was 384 nursing students enrolled in BSN program.

Study setting

This study was conducted at Shaikh Zayed Hospital, Lahore.

Study duration

The study was continued for the period of 8 weeks from 1st Sep, 2024 to 31st Oct, 2024.

3.5. Sample size

Cochran formulae used to calculate sample size as under:

$$n = \frac{z^2.p.q}{e^2}$$

Where,
e= Margin of error= 5%= 0.05
p= Estimated proportion of the population= 0.5
q= 1-p= 1-0.5= 0.5
z= A 95% confidence level gives z-value= 1.96

$$n = \frac{(1.96)^2.(0.5).(0.5)}{(0.05)^2}$$

$$n = \frac{0.960}{0.0025}$$

$$n = 384$$

Here, it was hard for us to collect data from 384 nursing students, so, as per our feasibility we recruited 120 nursing students.

Sampling technique

Non-probability, convenient sampling technique.

Sample selection criteria

a. **Inclusion criteria**

Participants recruited on behalf of under below inclusion criteria:

- Having age range from 18 years to 32 years.

- Those who were self-medicated in the last 6months.
- Those who enrolled in BSN (1st year, 2nd year).

b. **Exclusion criteria**

Participants excluded on behalf of under below exclusion criteria:

- Nursing students <18 years and >32 years.
- Those who didn't take self-medication in the last six months.
- Students who had any type of medical conditions or requiring routine intake of prescribed medication.
- Students other than BSN program.

Data collection procedure/Instruments

After approval of IRB to conduct study for the period of 8 weeks, researcher met with the hospital administration and cleared about the subject of research. After permission of hospital administration, researchers continued study for the stipulated period. Prior collecting data, all the study respondents will be cleared the objectives of the study and make sure to maintain privacy and confidentiality of collected data. For data collection, structured questionnaires were used contained of 2 sections; Section 1: it represented demographic/general characteristics e.g., age, marital status, place of residence, program level, economic status, reasons/factors influencing self-medication etc. Section II: it was consisted of 15 questions to assess self-medication practices with multiple choice questions.

Ethical consideration

Research protocol of this study reviewed and approved by the Institutional Review Board and Ethical Review Committee of Dir College of Nursing & Allied Health Sciences, Lower Dir, Timargara. Informed consent forms was read aloud in English and Urdu by researchers to all participants. Participants either signed the consent forms or gave their fingerprint to indicate consent. Participants were informed about the objectives of the study and all their queries were answered before taking their written consent for participation in the study. There was no physical, psychological, legal, political, religious and social harm occurred during the study. Privacy of all data guaranteed and maintained by researchers at all stages of study.

Data analysis

SPSS (Statistical Package for Social Sciences) 2024 was used to analyze research data. Descriptive analysis used to display data in frequencies and percentages. On the other hand, for better clearance and accuracy of data, Microsoft Excel utilized in which data was represented in in tables and graphs.

RESULTS:

A descriptive, quantitative cross sectional study undertaken at Shaikh Zayed Hospital regarding self-medication practices among nursing students in which total 120 participants having age range 18 years to 32 years old meeting inclusion criteria selected for the study. There were 33.33% respondents belonged to age group (18-20) years old; 20.83% were between ages (21-23) years; 12.50% nursing students had an age group (24-26) years; 18.33% participants were from (27-29) years and rest of 15% study participants belonged to age group (30-32) years old as shown in table 4.1. & figure 4.1.

Table 4.1.: Demographic/General characteristics of study respondents (n=120)

Variables	Frequency (f)	Percentage (%)
Age (Years)		
18-20 years	40	33.33
21-23 years	25	20.83
24-26 years	15	12.50
27-29 years	22	18.33
30-32 years	18	15.00
Total	**120**	**100.00**

Marital status		
Single	102	85.00
Married	18	15.00
Total	**120**	**100.00**
Place of residence		
Hostel	114	95.00
Home	6	5.00
Total	**120**	**100.00**
Program level		
1st year BSN	80	66.67
2nd Year BSN	40	33.33
Total	**120**	**100.00**
Economic status		
Balanced Income-Expenditure	14	11.67
Less Income-Expenditure	97	80.83
More Income-expenditure	9	7.50
Total	**120**	**100.00**
Reasons/factors influencing self-medication		
Minor ailment	22	18.33
Financial constraint	45	37.50
Enough knowledge	9	7.50
Previous experience	9	7.50
Time saving	21	17.50
Ignorance	7	5.83
Advertisement	7	5.83
Total	**120**	**100.00**

Family members behaviour of using medication without consulting a physician		
Yes	111	92.50
No	9	7.50
Total	**120**	**100.00**

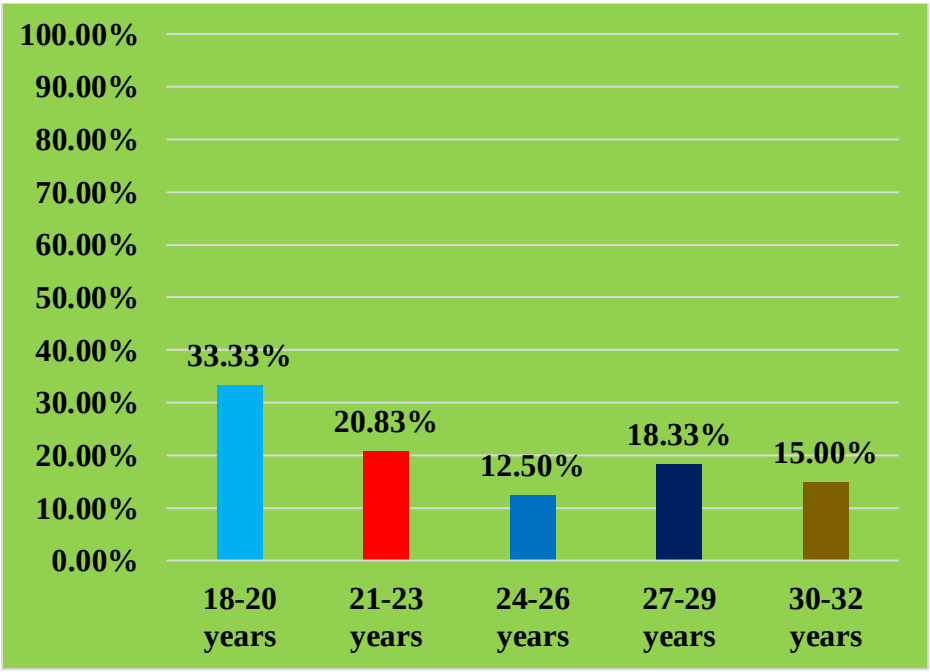

Figure 4.1.: Age of study participants

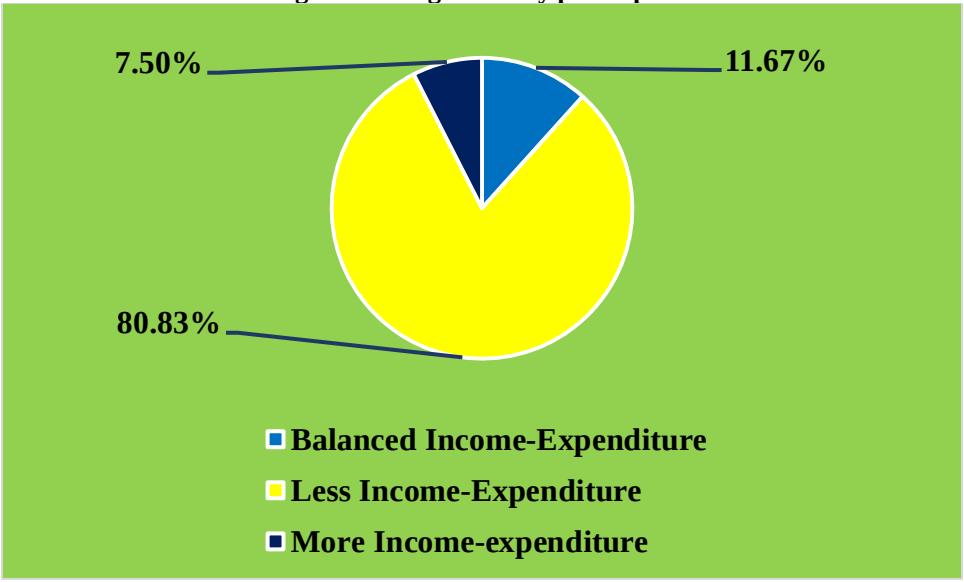

Figure 4.2. : Family income status of study participants

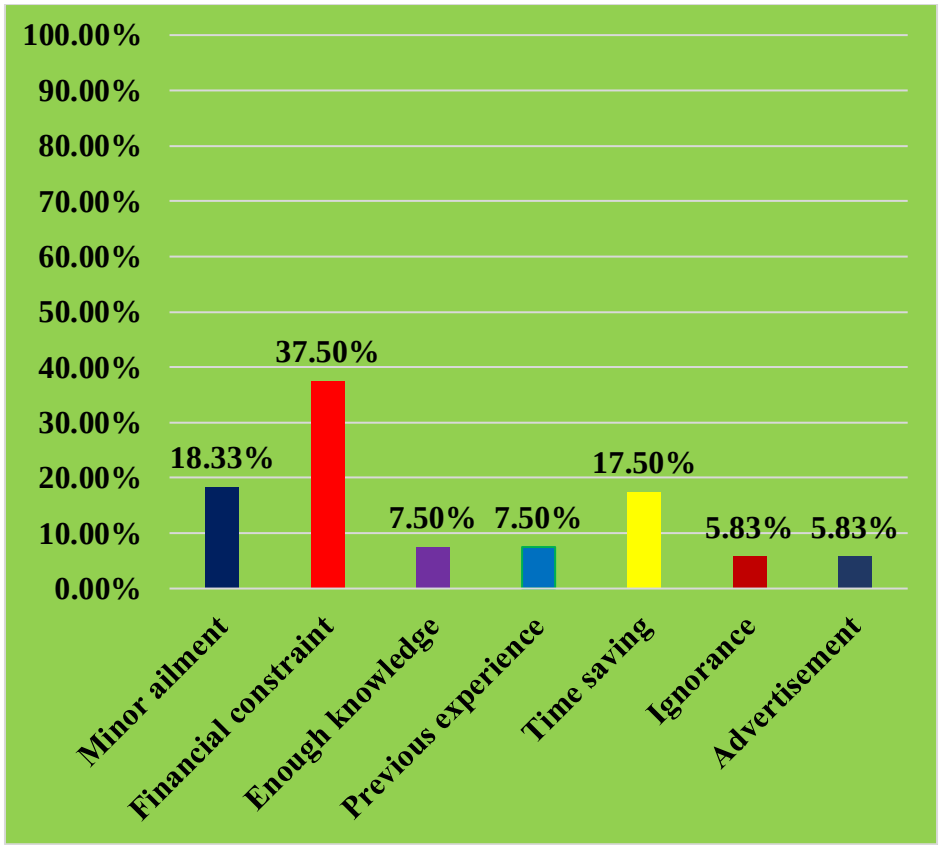

Figure 4.3. : Reasons/factors influencing self-medication among study participants

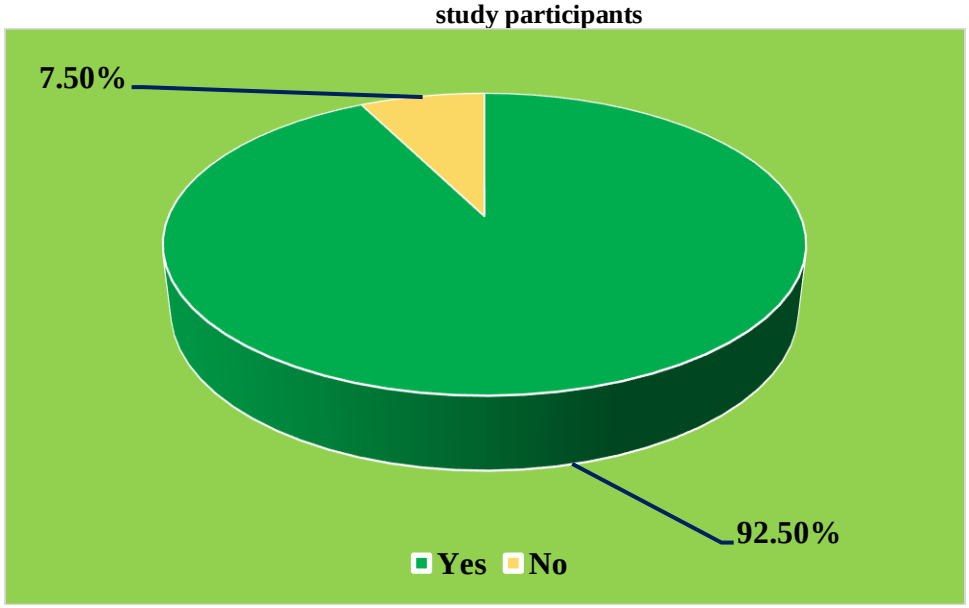

Figure 4.4. : Family members behaviour of using medication without consulting a physician

In the sample of 120 nursing students and as per their economic status11.67% having Balanced Income-Expenditure; 80.83% Less Income-Expenditure and remaining 7.50% More Income-expenditure. Regarding seasons/factors influencing self-medication among study respondents, 18.33% said minor ailment; 37.50% replied financial constraint; 7.50% disclosed that they had enough knowledge and previous experience too; 17.50% said that to save the time while 5.83% revealed due to ignorance and advertisement they were self-medicated. When study participants asked about self-medication practices found among their family members, 92.50% replied “Yes” while only 7.50% said “No” as depicted in table 4.1. & figure 4.2.-4.4.

Table 4.2.: Assessment of self-medication practices among nursing students (n=120)

Sr. no.	Statements	Responses	Frequencies (f)	Percentage (%)
1	Apart from treatment(s) prescribed by your practitioner, do you sometimes take medicine to treat yourself?	a. Yes	108	90.00
		b. No	12	10.00
Total			**120**	**100.00**
2	Do you reuse the prescription when experienced with similar symptoms?	a. Yes	112	97.39
		b. No	3	2.61
Total			**115**	**100.00**
3	Do you increase the drug dose on yourself when symptoms are not relieved?	a. Yes	80	66.67
		b. No	40	33.33
Total			**120**	**100.00**
4	Do you discontinue the medicines by yourself when symptoms are relieved?	a. Yes	114	95.00
		b. No	6	5.00
Total			**120**	**100.00**
5	Do you give your prescription/drugs to someone who is having similar symptoms as yours before?	a. Yes	108	90.00
		b. No	12	10.00
Total			**120**	**100.00**
6	Do you combine herbal medicine and western medicine?	a. Yes	60	50.00
		b. No	60	50.00
Total			**120**	**100.00**
7	I normally check the labels in my drug pack before using them?	a. Yes	5	4.17
		b. No	115	95.83
Total			**120**	**100.00**
8	I am willing to practice self-medication whenever the need arises?	a. Yes	114	95.00
		b. No	6	5.00
Total			**120**	**100.00**
9	When was the last time you self-medicated?	a. Currently	54	45.00
		b. Last month	60	50.00
		c. Last 6 months	4	3.33
		d. Last 12 months	2	1.67
Total			**120**	**100.00**
10	What kind of signs and/or symptoms triggered you to self-medicate?	a. Fever	9	7.50
		b. Cough	21	17.50
		c. Nausea	15	12.50
		d. Stomach pain	11	9.17
		e. Stress/depression	34	28.33
		f. Tiredness	12	10.00
		g. Headache	9	7.50
		h. Others	9	7.50

Total			**120**	**100.00**
11	Common reason(s) for self-medication	a. Time saving	40	33.33
		b. Low cost	36	30.00
		c. Safe and well-tolerable	12	10.00
		d. Easy accessibility	32	26.67
Total			**120**	**100.00**
12	Have you ever experienced adverse effect from self-medication?	a. Yes	85	70.83
		b. No	35	29.17
Total			**120**	**100.00**
13	What did you do after the adverse-effect of self-medication?	a. Immediately stop using drug	11	9.17
		b. Take low dose until adverse effects subside	19	15.83
		c. Continue taking the drug regardless the adverse effect	75	62.50
		d. Consult a doctor or pharmacist	15	12.50
Total			**120**	**100.00**
14	How often do you check the expiry date?	a. Always	32	26.67
		b. Occasionally	20	16.67
		c. Rarely	52	43.33
		d. Never	16	13.33
Total			**120**	**100.00**
15	Do you have habit of reading medication leaflet?	a. Yes	32	26.67
		b. No	88	73.33
Total			**120**	**100.00**

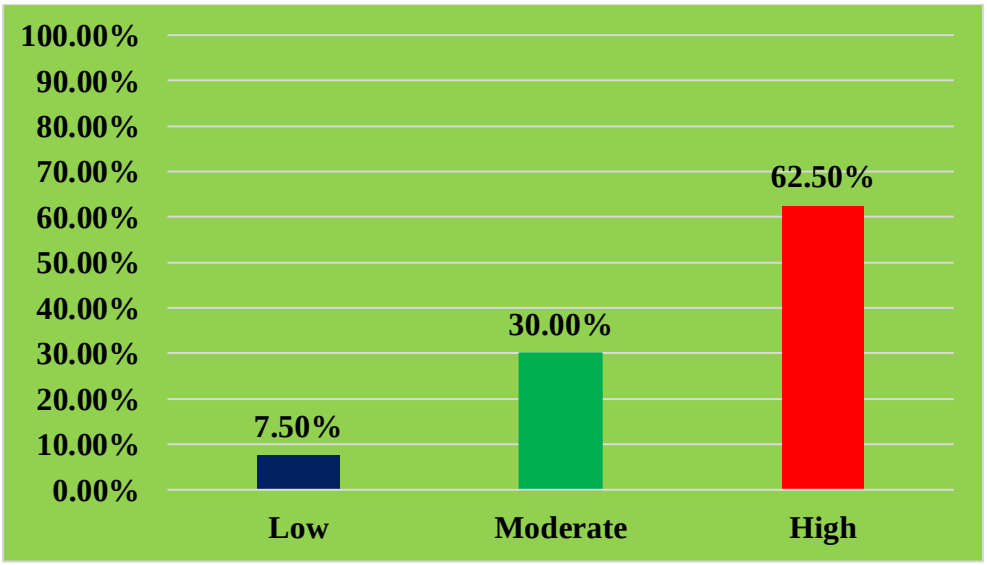

Figure 4.5 : Level of self-medication practices among nursing students

Regarding self-medication practices among nursing students, 90% reported that they were self-medicated sometimes apart from treatment prescribed by medical practitioner and only 10% participants denied. Even 97.39% study participants revealed that they reused prescribed medicine whenever they experienced similar symptoms and only 2.61% didn't. As there were 120 nursing participants were selected out of 384 study population, 66.67% respondents reported that they also increase dose of prescribed medicines when symptoms were not relieved whereas 33.33% didn't as recorded in table 4.2.

In the sample of 120 study respondents, 50% replied that they were combining herbal medicine with western medicine and 50% opposed to the statement. When participants were asked about when they were self-medicated, 45% said currently; 50% said last month; 3.33% revealed that before last 6 months and only 1.67% said before 1 year. Even 70.83% said that they experienced adverse effects during self-medication while 29.17% said they didn't.

As there were 120 nursing students meeting inclusion criteria selected for the study, when they were asked what they did if they experienced adverse effects of self-medication only 9.17% said that they immediately stopped using that drug; 15.83% reported that they took low dose of that drug until adverse effects subside; 62.50% participants continued that drug regardless of adverse effects of self-medication and rest of 12.50% visited to doctor as displayed in table 4.2. Overall, as per levels of self-medication practices, 7.50% nursing participants reported low level; 30.00% revealed moderate and remaining 62.50% disclosed high as displayed in figure 4.5.

DISCUSSION:

Current study conducted regarding self-medication practices among nursing students of Shaikh Zayed Hospital, Lahore in which total 120 participants selected. Result findings depicted that nursing students encountered high practices of self-prescribed medication. On the contrary, majority of nursing students revealed they were self-medicated because of tiredness and stress/depression elaborating that they have surplus responsibilities and inability to perform them effectively and efficiently. On the one hand, they are new to the medical field and their academic assignments, medical rotation in departments, irregular sleep patterns causing them to self-medicate and deteriorating their mental and physical health.

Likewise, current study is consistent with the findings of (Andres et al., 2021) who revealed that frequency of using non-prescription drugs was high among nursing students. Current study result is dissimilar to the finding of (Shuleta-Qehaja S, Kelmendi N., 2022) who disclosed in their study that 70% of nursing students having practices of self-medication whereas current study depicted that 62.50% nursing students having high practices while 30% reported moderate and 7.50% having low level of non-prescribed medicines.

Current study result in consistent with the findings of (Faqihi et al., 2021) who discovered that self-medication practices were high among nursing students. On the other hand, this research result seems to be quite similar to the findings of Sinha et al. (2023) who showed that 65.4% of nursing students self-medicate and take drugs. However, (Paul et al., 2023) findings are in accordance with this study result as self-medication was common practice among nursing students. Overall, literature indicated high level of practices found among nursing students. But in our perception, self-medication is not only common among medical students but general public without any discrimination of education, age, economic status, marital status is using drugs on the suggestions of family\friends\neighbours even we noticed that during travelling strangers also prescribe medicine to each other on asking the condition from other person which is quite alarming. It is very crucial to prescribe medicine to other humans without taking complete medical and physical history. Healthcare commission in Pakistan should take positive steps to control selling drugs without registered health practitioner.

CONCLUSION:

Findings revealed that majority of study participants were single and living in hostels as well as they having financial constraint. Even majority of nursing students didn't check leaflet and expiry dates of drugs. Common reasons for self-medication among nursing students were time saving, low cost, safe and well-tolerable and easy accessibility and even they didn't discard drugs even encountered with its adverse effects. Might be nursing students were well aware about adverse effects of drugs. Overall, result findings depicted high practices found among nursing students to emphasize immediate actions to prohibit use of drugs without proper diagnoses of medical officers.

OUTCOMES & UTILIZATION

None of the study indicating accurate quantitative information about self-medication practices found among nursing students, which is very shocking. This study disclosed primary data regarding self-medication practices among undergraduate nursing students which can be utilized in future to take remedial action for the reduction of selling drugs without a physician prescription. It is really

imperative to disseminate health information among general public of Pakistan because self-medication is causing surplus mental and physical disorders among population of developing countries.

RECOMMENDATIONS

- Circulate a written order to medical pharmacies indicating prohibit selling of drugs without a registered medical practitioners.
- Educate nursing students about adverse effects of self-medication.
- Add curriculum in nursing degree regarding balancing work-life activities which will not only prepare them for workplace challenges but improve their mental and physical health.
- Nursing instructors should show concern to their students so that they may feel comfortable in the class-room because a well-satisfied and healthy human perform better throughout his/her life.
- Instruct nursing colleges to provide flexible hours as well as recreational activities to reduce stress/depression among medical students as they are new to this field and require social support to move on in life.

IMPLICATION FOR FUTURE RESEARCHES

No doubt, this study result will be fruitful to improve quality of life of nursing students as majority of nursing students were taking medicines for stress/depression indicating difficult time schedule, irregular sleep pattern and chronotype, less time management skills exploiting mental and physical health of nursing students. Hereby, this study will attract national and international researchers to conduct more study to minimize self-medication practices not only among medical students but also among general public across the world.

LIMITATIONS OF THE STUDY

Since, it is cross-sectional and descriptive in nature and result of this study cannot be applied geographically. This is findings of sole nursing institute and we cannot determine same result of other institutes of same province. So, further studies should be conduct with large sample size in order to determine accurate level of self-medication practices among medical students to take proactive steps in this regards.

REFERENCES:

1. A.H.M.A. Faqihi, S.F. Sayed. (2021). Self-medication practice with analgesics (NSAIDs and acetaminophen), and antibiotics among nursing undergraduates in University College Farasan Campus, Jazan University, KSA. *Annales Pharmaceutiques Françaises,* 79, 275-285.
2. Abdelwahed, R. N., Jassem, M. & Alyousbashi, A. (2022). Self-Medication Practices, Prevalence, and Associated Factors among Syrian Adult Patients: A CrossSectional Study. *Journal of environmental and public health*.
3. Al-Qahtani, A. M. et al. (2023). Self-medication related knowledge, attitudes, and practices among residents of Riyadh, Saudi Arabia: A community-based cross-sectional study in healthcare. *MDPI 11*(23), 30–40.
4. Alves, R. F., Precioso, J. & Becona, E. (2021). Knowledge, attitudes and practice of self-medication among university students in Portugal: A cross-sectional study. *NAD Nordic Stud. Alcohol Drugs, 38*, 1.
5. Andres, M. I. G., Blanco, V. G., Verdejo, I. C., Guerra, J. a. I., & García, D. F. (2021). Self-Medication of Drugs in Nursing Students from Castile and Leon (Spain). *International Journal of Environmental Research and Public Health*, *18*(4), 1498. https://doi.org/10.3390/ijerph18041498
6. Bashatah A,Wajid S. (2020). Knowledge and disposal practice of leftover and expired medicine: A Cross-Sectional Study from Nursing and Pharmacy Students Perspectives. *Int J Environ Res Public Health, 17*:2068. doi:10.3390/ijerph17062068
7. Bekele, K. M., Abay, A. M., Mengistu, K. A., Atsbeha, B. W., Demeke, C. A., Belay, W. S., & Yimenu, D. K. (2020). Knowledge, Attitude, and Practice on Over-the-Counter Drugs among Pharmacy and Medical Students: A Facility-Based Cross-Sectional Study *Integrated Pharmacy Research and Practice*, *Volume 9*, 135–146. https://doi.org/10.2147/iprp.s266786
8. Dhedhi, N. A., Ashraf, H., Ansari, N. B. & Iftikhar, S. (2021). Self-medication among people visiting outpatient clinics of a Tertiary care hospital, Karachi. *Journal of Family Medicine and Primary Care*, *10*, 773.
9. Gedam, S. & Kuchya, S. (2021). An educational intervention to assess knowledge, attitude, and practice of pharmacovigilance and adverse drug reactions among undergraduates in an Indian tertiary care teaching hospital. *Natl. J. Physiol. Pharm, Pharmacol*. 11.
10. Islam, B. & Hossain, M. A. (2020). Prevalence of self-medication practice among students of a medical college. *Bangladesh Med. J. Khulna*, *52*, 1–2.
11. Janatolmakan, M., Abdi, A., Andayeshgar, B., Soroush, A. & Khatony, A. (2022). The

Reasons for Self-Medication from the Perspective of Iranian Nursing Students: A Qualitative Study. Nursing research and practice.
12. Khalid, S., Ali, Q., Hafeez, M. & Malik, A. (2021). Perception regarding selfmedication of antibiotics in general public sector university of southern Punjab: a comparison between medical and non-medical students. *Biological and Clinical Sciences Research Journal*.
13. Matin, M. A. et al. (2020). What infuences antibiotic sales in rural Bangladesh? A drug dispensers' perspective. *J. Pharmaceut, Policy Pract*, 13.
14. Moonajilin, M. S. et al. (2020). Prevalence and drivers of self-medication practices among savar residents in Bangladesh: A cross-sectional study. *Risk Manag. Healthc Policy*, *13*.
15. National Journal of Physiology, Pharmacy and Pharmacology [Internet]. Njppp.com. 2019 [cited 11 May 2019]. Available from:.https://www.njppp.com/?mno=30403
16. Nusair, M. B., Al-Azzam, S., Alhamad, H. & Momani, M. Y. (2021). The prevalence and patterns of self-medication with antibiotics in Jordan: a community-based study. *International Journal of Clinical Practice*, *75*, e13665.
17. Paul, R., Dhuya, M., Datta, A., & Pal, A. (2023). A comparative study of knowledge, attitude, and practice of self-medication among medical and nursing students in a government medical college of Eastern India. *National Journal of Physiology Pharmacy and Pharmacology*, *0*, 1. https://doi.org/10.5455/njppp.2023.13.03139202326032023
18. Quispe-Canari, J. F., Fidel-Rosales, E., Manrique, D., Mascaro-Zan, J., HuamanCastillon, K. M., Chamorro–Espinoza, S. E., Garayar–Peceros, H., Ponce–López, V. L., Sifuentes-Rosales, J. & Alvarez-Risco, A. (2021). Self-medication practices during the COVID-19 pandemic among the adult population in Peru: A crosssectional survey. *Saudi pharmaceutical journal*, *29*, 1-11.
19. Rajeev Ranjan Sinha, Ishteyaque Ahmad, Rohit Agrawal , Bibhash Datta. (2023). Exploring self-medication practices and patterns among medical and nursing students: A cross-sectional study. *Journal of Population Therapeutics & Clinical Pharmacology*, *30*(18), 2324-2330). DOI: 10.53555/jptcp.v30i18.3443
20. Rasania S, Dambhare D, Priyanka, Srivastava A, Rasania P. (2023). A study of self-medication practices among medical students. *International Journal of Research in Medical Sciences*, *11*(5), 1741–5.
21. Shitindi, L., Issa, O., Poyongo, B. P., Horumpende, P. G. & Sangeda, R. Z. (2024). Comparison of knowledge, attitude, practice and predictors of self-medication with antibiotics among medical and non-medical students in Tanzania. *Front, Pharmacol. 14*(13).
22. Shuleta-Qehaja S, Kelmendi N. (2022). Pharmacy and nursing students' knowledge and practices concerning the disposal of unused and expired medicines in Kosovo. *Pharmacy (Basel)*,10:145. doi:10.3390/pharmacy10060145
23. Tila, S., Shams, H., Jamil, M., Sajawal, A., Javed, N., Shuja, M. I., & Khalid, S. (2023). Practices and determinants of self-medication among undergraduate medical students of Peshawar, Pakistan. *International Journal of Health Sciences*, *7*(S1), 1127–1140. https://doi.org/10.53730/ijhs.v7ns1.14327