

SELF-MEDICATION PRACTICE BY FUTURE DOCTORS: TEST OF VIRTUE

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**ABSTRACT**

Introduction: As a global phenomenon, self-medication represents a significant public health concern, driving antimicrobial resistance and adverse clinical outcomes. The objective of this study is to assess the prevalence of self-medication and its associated factors among medical students at the Manipal College of Medical Sciences, Nepal.

Materials and Methods: This is a cross-sectional study which was conducted among 411 undergraduate medical students. Data were collected via a structured, pretested questionnaire, including the PHQ-9 for depressive symptoms. Descriptive and inferential statistical analyses were performed using SPSS v17.

Results: The prevalence of self-medication was 67.2%. NSAIDs, antibiotics, cough syrups, PPIs, vitamins, and antihistamines were the most commonly used medications. Key sources of information included the internet and textbooks. Self-medication was significantly associated with male gender, being a Nepali student, being in a relationship and psychoactive substance use. Depression (PHQ-9) scores were not significantly associated with self-medication.

Conclusion: Self-medication practices, especially with prescription drugs are highly prevalent among medical students, highlighting the need for educational interventions to promote responsible medication use.

Keywords: Antibiotics, Depression, Drug Abuse, ECPs, Self-medication, PHQ-9, Psychoactive Drugs

INTRODUCTION

Globally on the rise, self-medication is a critical public health issue that significantly drives antimicrobial resistance. The World Health Organization (WHO) defines the practice as utilizing medicinal products to treat self-recognized symptoms, or prolonged use of prescribed medication without clinical oversight. This behavior encompasses not only conventional pharmaceuticals but also the self-initiated use of herbal and traditional home remedies based on anecdotal or non-professional advice.¹

Today, self-medication is conceptualized as an extension of self-care, particularly regarding the management of minor health issues. This shift highlights a growing societal inclination and ability among individuals to play an autonomous, intelligent, and well-informed role in addressing their own everyday health concerns.²

Conversely, when practiced inappropriately, self-medication can cause adverse drug reactions, dangerous drug interactions, and antimicrobial resistance. It also risks compromising treatment adherence and overall patient quality of life.

Worldwide self-medication rates fluctuate dramatically from 12.7% to 95%, spanning both high- and low-income countries.³ Documented prevalence rates include 59% in Nepal,⁴ 51% in Pakistan,⁵ and 81.3% among youth in Bangladesh.⁶ Meanwhile, European nations report rates around 68%, compared to roughly 42% in America.⁷ Medical students exhibit notably high frequencies of this behavior, with rates reaching 65.2% in Bangladesh and 88.18% in India.⁸

Individuals frequently obtain medications for self-use

from various sources, including family, friends, previous prescriptions, pharmacists, and advertisements. However, even when pharmaceuticals are utilized correctly, unsupervised administration can lead to detrimental outcomes. Such practices carry an inherent risk of adverse drug events and elevate the probability of drug-drug or drug-alcohol interactions. Furthermore, unmonitored self-medication can negatively impact treatment adherence and diminish overall patient quality of life.

We conducted this study to assess how widely self-medication is practiced among first- through third-year medical students of Manipal College of Medical Sciences, Pokhara, Nepal, and to evaluate the behavioral and psychosocial variables driving this behavior.

MATERIALS AND METHODS

After receiving ethical clearance from the Institutional Review Committee (IRC), a cross-sectional study was conducted among undergraduate students from the first to fourth years of Manipal College in Pokhara. The study aimed to assess the prevalence of self-medication and its associated factors over a four-month period from November 2022 to February 2023.

Inclusion criteria included willingness to participate and absence of chronic illness under treatment. A total of 411 students (111 first, 137 second, 95 third, and 68 fourth years) were included.

Data were collected using a pretested questionnaire comprising both open- and closed-ended questions, along with the PHQ-9 for assessing depressive symptoms. The questionnaire was piloted among 25 students for clarity and reliability.

To evaluate the prevalence and severity of depressive symptoms among participants, we included the standardized Patient Health Questionnaire (PHQ-9). The tool comprises nine primary items, each rated on a scale from 0 to 3, and a tenth global item that measures how heavily these symptoms have disrupted the respondent's daily functioning. A cumulative score is obtained by summing the points across the nine core items.⁹

The PHQ-9 cumulative scores were categorized into five distinct severity levels: scores of 0–4 indicated no depression, 5–9 represented mild depression, and 10–14 signified moderate depression. Scores ranging from 15–19 were classified as moderately severe depression, while any score of 20 or greater denoted severe depression.

Data were initially compiled using Microsoft Excel 2016 and subsequently transferred to SPSS version 17 for statistical analysis. To evaluate associations between categorical variables, the chi-square test was employed.

RESULTS

The study sample comprised 411 participating students. Females accounted for 52.6% (216) of the study, while more than two-thirds of the respondents (67.4%, $n = 277$) were between 20 and 22 years of age. More than 57% (235) were Nepali students followed by Indian students 23.1% (95), 15.1% (62) students were from Sri Lanka and 4.6% (19) students were from Maldives. Among them 78.8% (324) were single at the time of study and 21.2% (87) were in relationship. None of them were married at the time of study.

Of this sample, 62.0% (255) lived in hostel, 29.7% (122) in rented single room, nine students (2.2%) had partners in their rented room and 6.1% (25) lived in their own house. Ninety-six (23.4%) of the participants had a box or a shelf, dedicated for medicines for self-consumption. Majority of participants (41.8%) had one of their parents completed post-graduation, with 32.8% were undergraduates, rest being lower than that. Parents of 2.2% of the participants had no formal education.

Overviewing the living habits of students, 127 (30.9%) students claimed to consume alcohol but only 5 (1.2%) on daily basis, out of whom 2 were females. Rest of them consume occasionally. Out of 411 participants, 89 (21.7%) students were found to be smokers among whom 15 (3.6%) male and 12 (2.9%) female were regular smokers. Diving deeper, 24 students (5.8%) were in habit of using psychoactive substances. Among them 19 (79.1%) used marijuana almost equal in numbers both in males and females.

The overall prevalence of self-medication in this study was

found to be 67.2% (n = 276). Among them, 131(47.4%) were female (Fig 1). Nationality wise, out of 253 Nepali students, 169 (66.8%) self-medicated and out of 95 Indian students, 54 (56.8%) self-medicated. Similarly, out of 62 Sri Lankan and 19 Maldivian students, 43 (69.3%) and 10 (52.6%) respectively self-medicated.

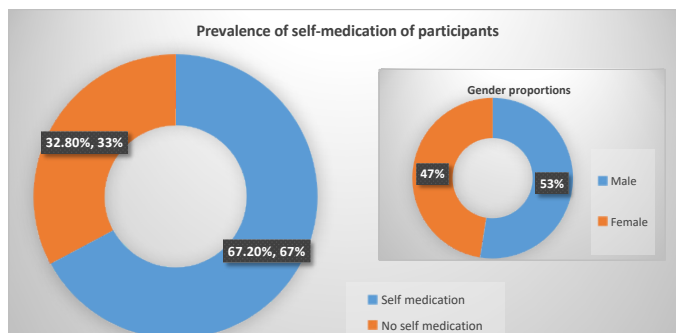


Figure 1. Prevalence of Self-medication of participants

Figure 2 displays the most common types of medicines utilized by students for self-medication. Among them the most frequently used drugs are NSAIDs (95.3%) followed by Antibiotics, cough syrup, PPIs, antihistamines, vitamin supplements and others. More than 6.0% of female respondents had used Emergency Contraceptive pills (ECPs). Out of consumed medications, almost half the medications were (47%) were prescription drugs (Figure 1). For the source of information about the drugs, most of students read it in the internet (91%) followed by in medical books to self-medicate themselves. Many of them took it for fever (92%), cough/cold (78%), abdominal pain (67%), minor injuries, allergies and others (Figure 3).

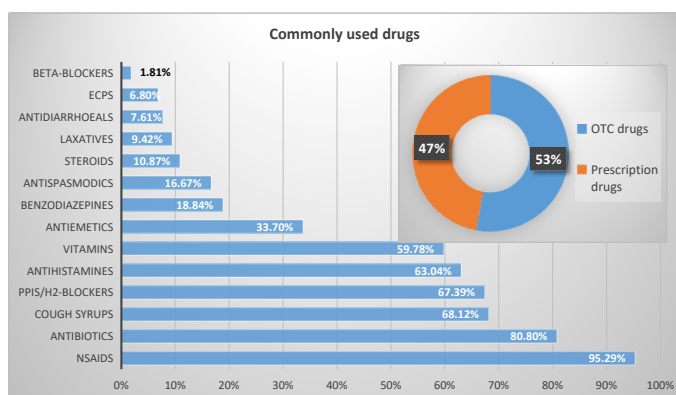


Figure 2. The most common types of medicines utilized by students for self-medication.

(Note: Percentages total more than 100% due to multiple-choice options where respondents could select more than one answer. ECPs among female students only)

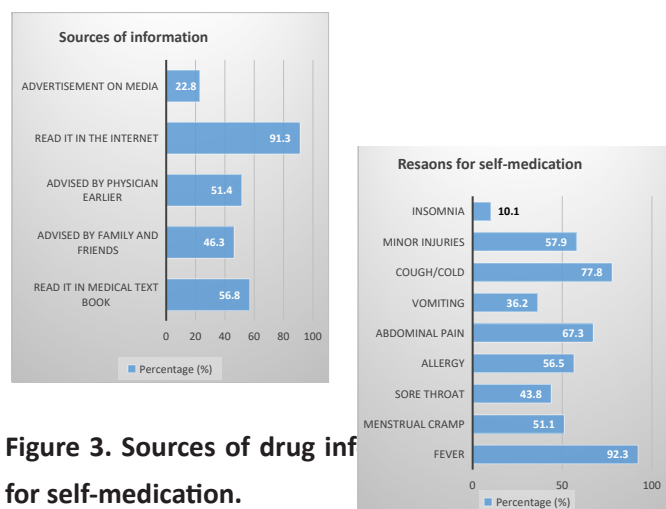


Figure 3. Sources of drug information for self-medication.

Depressive symptoms were evaluated using the PHQ-9 questionnaire. The mean score for the overall sample was 6.62 ± 5.04 (range: 0–27). Based on standard diagnostic thresholds, the prevalence of depression was 60.3% (n = 248). Among these, 38.4% (n = 158) exhibited mild depression, 19.7% (n = 81) had moderate-to-moderately severe depression, and 2.1% (n = 9) suffered from severe depression (Figure 4). While female students demonstrated a slightly higher mean score (6.94 ± 4.99) compared to their male counterparts (6.26 ± 5.08), this variation was not statistically significant. Furthermore, no statistically significant association was observed between PHQ-9 scores and self-medication practices (Table 1).

In this study, self-medication by medical students was significantly associated to male gender, being Nepali national, being in a relationship and using one of the psychoactive drugs. (Table 1).

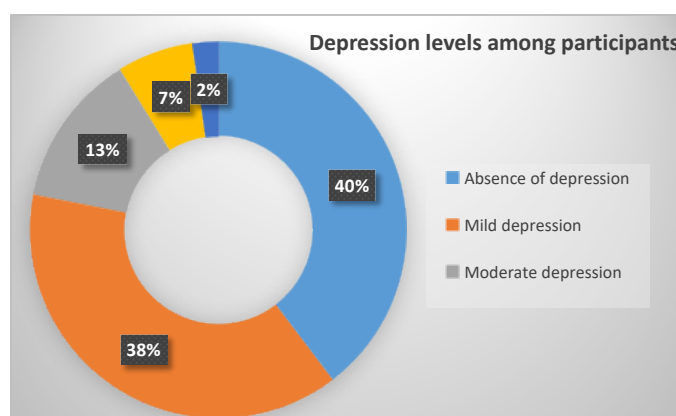


Figure 4. Depression levels among medical students

Table 1. Distribution of self-medication by baseline characteristics and behavioral habits

Characteristics		Self-medication		Total	χ^2 value	p- value	Odds ratio
		Yes	No				
Gender	Male	145(74.3%)	50 (25.6%)	195	8.734	0.003	1.8
	Female	131 (60.6%)	85 (39.4%)	216			
Age	17-19	41 (66.1%)	21 (33.8%)	62	1.017	0.601	
	20-22	183 (66.0%)	94 (33.9%)	277			
	23-25	52 (72.2%)	20 (27.7%)	72			
Nationality	Nepali	169 (71.9%)	66 (28.0%)	235	5.641	0.018	1.6
	Foreigner	107 (60.7%)	69 (39.2%)	176			
Study year	First year	78 (70.2%)	33 (29.7%)	111	1.523	0.6	
	Second year	89 (64.9%)	48 (35.0%)	137			
	Third year	61 (64.2%)	34 (35.8%)	95			
	Fourth year	48 (70.6%)	20 (29.4%)	68			
Father's education	No formal education	6 (50.4%)	5 (49.6%)	11	0.352*	0.275	0.7
	Formal education	270 (67.5%)	130 (32.5%)	400			
Mother's education	No formal education	20 (60.6%)	13 (39.4%)	33	0.697*	0.404	0.7
	Formal education	256 (67.2%)	122 (32.8%)	378			
Father's age in years	40-50	136 (67.6%)	65 (32.4%)	201	0.562	0.7	
	51-60	130 (67.3%)	63 (32.7%)	193			
	61-70	10 (58.8%)	7 (41.2%)	17			
Mother's age in years	30-40	32 (66.6%)	16 (33.4%)	48	0.156	0.9	
	41-50	179 (67.8%)	85 (32.2%)	264			
	51-60	65 (65.6%)	34 (34.4%)	99			
Living in	Hostel	165 (64.7%)	90 (35.3%)	255	4.070	0.2	
	Rented single room	84 (68.8%)	38 (31.2%)	122			
	Rented room jointly	6 (66.6%)	3 (33.4%)	9			
	Own house	21 (84.0%)	4 (16.0%)	25			
Having partner	No	226 (69.7%)	98 (30.3%)	324	4.690	0.03	1.7
	Yes	50 (57.4%)	37 (42.6%)	87			
Psychoactive substance use	No	265 (68.4%)	122 (29.7%)	387	5.252	0.02	2.6
	Yes	11 (45.8%)	13 (54.2%)	24			
Smoking	No	210 (51.1%)	112 (27.3%)	322	2.526	0.1	0.6
	Yes	66 (16.1%)	23 (5.6%)	89			
Alcohol	No	189 (66.5%)	95 (33.5%)	284	0.152	0.6	0.9
	Yes	87 (68.5%)	40 (31.5%)	127			
Depression Levels	Absence	108 (66.2%)	55 (33.8%)	163	4.934	0.2	
	Mild	106 (67.0%)	52 (33.0%)	158			
	Moderate	33 (61.1%)	21 (38.9%)	54			
	Moderately severe	23 (85.1%)	4 (14.9%)	27			
	Severe	6 (66.6%)	3 (33.4%)	9			

*Based on fisher's exact test

DISCUSSION

Self-medication is a wide spread phenomenon. As per the various sources the global prevalence ranges from 11.2 to 93.7% depending on the target population and country.¹⁰ Several studies conducted on the general public reported this rate between 40-90%.¹⁰⁻¹² In case of medical students, in several studies, it ranged from 76-89%.¹³⁻¹⁶ In this study, the prevalence of self-medication was at 67.2% which is lower with narrow margin to the prevalence of self-medication in aforementioned studies.

It is pretty much clear to us from these data that it has already become a part of our civilization. Though some governments are increasingly encouraging self-care of minor illnesses, including self-medication because of the

help to reduce the cost of treatment, travelling time as well as doctor's time i.e., consultation time.² There is no doubt self-medication is creating wastage of resources, increased resistance of pathogens and also causing serious health hazards such as adverse reaction and prolonged suffering.²

When categorized by gender, self-medication was more commonly practiced among male students—a difference that proved to be statistically significant. This trend mirrors the results obtained in previous studies conducted by IB et al. and Patil et al.¹⁷⁻¹⁸ whereas in several other studies,^{11,14,15,16} The finding was opposite. Giving further validity to this phenomenon of being widespread not sticking only to specific gender or a group. Majority of students were Nepali in compare to students from other counties were taking self-medication. Maybe this is because of the sheer number of Nepali students in the college.

The five most common groups of medicine students had consumed were NSAIDs, antibiotics, cough syrups, PPIs/H2-blockers and antihistamines. Across the literature, the specific classes of drugs utilized for self-medication vary considerably. In line with these global trends, analgesics/NSAIDs¹⁹⁻²⁵ and antipyretics²⁶⁻²⁹ emerged as the most prevalent medication categories. Cough and cold preparations,^{20,27,28} anti-allergic/antihistamine drugs,²⁷ antacids and anti-reflux drugs,^{27,28} muscle relaxant drugs,²⁰ antimicrobial drugs,^{22,23,26} and traditional remedies²³ follow the trend Overall, the most commonly used group of medicine was analgesic followed by antibiotics.

The prevalence of Emergency Contraceptive Pill (ECP) used was 6.8% among the female respondents. The estimate was slightly high in compare to the study carried out in Kathmandu, 4.6% had ever used Emergency Contraceptive Pill.²⁹ Whereas, as per the Nepal Demographic Health Survey 2006, among reproductive age group, it was only 0.1%.³⁰ In various other study carried out in different countries (ECP among Spanish) it ranged from 8.0% to 30.0%.³¹ In Nepal, Emergency Contraceptive Pills (ECPs) were first introduced through a social marketing program in 2004. Initially, ECP sales experienced only a modest increase until mid-2009, which may explain the discrepancy observed in the current study.

In this study, the internet was the most frequent information source guiding respondents' self-medication decisions, followed by medical textbooks and previous physician prescriptions. Advice from friends and family

members ranked fourth (Figure 3). These findings are consistent with prior literature,¹⁴ which indicates that medical students rely on a diverse array of sources, including previously prescribed medications, medical textbooks, independent decisions, opinions from family and friends, online resources, and pharmacy staff.

In the bivariate analysis, the association with self-medication was found with factors like being a male gender, being Nepali national, not having partner and pupils using psychoactive substances (Table 1). There was no association with other factors including various levels of depression measured by using PHQ-9 questionnaire. This finding contrasts with a study carried out in Serbia,¹⁶ where students who self-medicated exhibited significantly higher PHQ-9 scores than those who did not. In that same study, factors statistically associated with self-medication included having a home pharmacy, female gender, older age, lower maternal or paternal education levels, alcohol consumption, and lower levels of physical activity.

CONCLUSION

In conclusion, prevalence of self-medication is high in medical students, characterized by the frequent utilization of critical drug classes such as NSAIDs and antibiotics. This practice poses a formidable threat to public health, actively accelerating antimicrobial resistance (AMR) and increasing the risk of severe complications like organ failure. Our findings indicate that self-medication is significantly associated with being male, holding Nepali nationality, being in a relationship, and engaging in substance use. Although often conceptualized as an autonomous extension of self-care, unsupervised drug consumption carries substantial clinical risks. Consequently, there is an urgent need for targeted institutional awareness programs to promote rational prescribing principles, encourage responsible healthcare utilization, and mitigate the adverse outcomes of self-medication among future physicians.

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CONFLICT OF INTEREST: None declared.

REFERENCES

1. World Health Organization. Guidelines for the regulatory assessment of medicinal products for use in self-medication. WHO, 2000.

2. Bennadi D. Self-medication: A current challenge. *J Basic Clin Pharm.* 2013 Dec;5(1):19-23. doi: 10.4103/0976-0105.128253. PMID: 24808684; PMCID: PMC4012703.
3. Ghasemyani, S., Roohravan Benis, M., Hosseinifard, H., Jahangiri, R., Aryankhesal, A., Shabaninejad, H., Rafiei, S., & Ghashghaee, A. (2022). Global, WHO Regional, and Continental Prevalence of Self-medication from 2000 to 2018: A Systematic Review and Meta-analysis. *Annals of Public Health.* <https://doi.org/10.55085/aph.2022.585>
4. Shankar PR, Partha P, Shenoy N. Self-medication and non-doctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. *BMC Fam Pract.* 2002 Sep 17; 3:17. doi: 10.1186/1471-2296-3-17. PMID: 12236905; PMCID: PMC130019.
5. Afridi MI, Rasool G, Tabassum R, Shaheen M, Siddiquillah, Shujaiddin M. Prevalence and pattern of self-medication in Karachi: A community survey. *Pak J Med Sci.* 2015 Sep-Oct;31(5):1241-5. doi: 10.12669/pjms.315.8216. PMID: 26649022; PMCID: PMC4641291.
6. Tohan MM, Ahmed F, Juie IJ, Kabir A, Howlader MH, Rahman MA. Knowledge attitude and convenience on self-medication practices among university students in Bangladesh exploration using structural equation modeling approach. *Sci Rep.* 2024 May 12;14(1):10837. doi: 10.1038/s41598-024-60931-9. PMID: 38735980; PMCID: PMC11089040.
7. Yeamans S, Gil-de-Miguel Á, Hernández-Barrera V, Carrasco-Garrido P. Self-medication among general population in the European Union: prevalence and associated factors. *Eur J Epidemiol.* 2024 Sep;39(9):977-990. doi: 10.1007/s10654-024-01153-1. Epub 2024 Sep 18. PMID: 39294527; PMCID: PMC11470884.
8. Alam N, Saffoon N, Uddin R. Self-medication among medical and pharmacy students in Bangladesh. *BMC Res Notes.* 2015 Dec 9; 8:763. doi: 10.1186/s13104-015-1737-0. PMID: 26652176; PMCID: PMC4675016.
9. Kroenke K, Spitzer RL, Williams JBW. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med.* 2001;16(9):606-13
10. Chautrakarn S, Khumros W, Phutrakool P. Self-Medication With Over-the-counter Medicines Among the Working Age Population in Metropolitan Areas of Thailand. *Front Pharmacol.* 2021 Aug 11; 12:726643. doi: 10.3389/fphar.2021.726643. PMID: 34456738; PMCID: PMC8385363.
11. Okay RA, Erdoğan A. Self-medication practices and rational drug use habits among university students: a cross-sectional study from Kahramanmaraş, Turkey. *PeerJ.* 2017 Nov 1; 5:3990. doi: 10.7717/peerj.3990. PMID: 29109916; PMCID: PMC5671114.
12. Paudel S, Aryal B. Exploration of self-medication practice in Pokhara valley of Nepal. *BMC Public Health.* 2020 May 19;20(1):714. doi: 10.1186/s12889-020-08860-w. PMID: 32429936; PMCID: PMC7236217.
13. Banerjee I, Sathian B, Gupta RK, Amarendra A, Roy B, Bakthavatchalam P, Saha A, Banerjee I. Self-medication practice among preclinical university students in a medical school from the city of Pokhara, Nepal. *Nepal J Epidemiol.* 2016 Jun 30;6(2):574-581. doi: 10.3126/nje.v6i2.15165. PMID: 27774346; PMCID: PMC5073175.
14. Tomas Petrović A, Pavlović N, Stilinović N, Lalović N, Paut Kusturica M, Dugandžija T, Zaklan D, Horvat O. Self-Medication Perceptions and Practice of Medical and Pharmacy Students in Serbia. *Int J Environ Res Public Health.* 2022 Jan 21;19(3):1193. doi: 10.3390/ijerph19031193. PMID: 35162213; PMCID: PMC8834465.
15. Sajith M, Suresh SM, Roy NT, Pawar A. Self-Medication Practices Among Health Care Professional Students in a Tertiary Care Hospital, Pune. *The Open Public Health Journal.* 2017; 10:65-70.
16. Lukovic JA, Miletic V, Pekmezovic T, Trajkovic G, Ratkovic N, Aleksic D, Grgurevic A. Self-medication practices and risk factors for self-medication

- among medical students in Belgrade, Serbia. *PLoS One*. 2014 Dec 11;9(12):e114644. doi: 10.1371/journal.pone.0114644. PMID: 25503967; PMCID: PMC4263675.
17. Biswas M, Roy MN, Manik MIN, Hossain MS, Tapu ST, Moniruzzaman, et al. Self-medicated antibiotics in Bangladesh: a cross-sectional health survey conducted in the Rajshahi City. *BMC Public Health*. 2014; 14:847.
 18. Patil SB, Vardhamane SH, Gouripura KC, Patil BV, Bant DD, Santoshkumar J. Self-medication practice and perceptions among undergraduate medical students: a cross-sectional study. *J Clin Diagn Res*. 2014 Jul; 8(7):HC20-3.
 19. Woźniak-Holecka J, Sobczyk K, Jarząbek-Bielecka G, et al. Health behaviour of Polish pharmacy and medical students in light of the health belief model. *Rocz Panstw Zakl Hig*. 2012;63(4):509-16.
 20. Arrais PS, Fernandes ME, Pizzol TD, Ramos LR, Mengue SS, Luiza VL, et al. Prevalence of self-medication in Brazil and associated factors. *Rev Saude Publica*. 2016;50(suppl 2):13s.
 21. Fernando D, Weerasinghe M, Dassanayake P, Palihawadana T, Fernando I. Self-medication practices among health-care students in a university in Sri Lanka. *J Educ Health Promot*. 2017; 6:92.
 22. Aziz MM, Masood I, Yousaf M, Saleem H, Ye D, Fang Y. Pattern of medication selling and self-medication practices: a study from Punjab, Pakistan. *PLoS One*. 2018;13(3):e0194240.
 23. Shafie M, Eyasu M, Muzeyin K, Worku Y, Martín-Aragón S. Prevalence and determinants of self-medication practice among selected households in Addis Ababa community. *PLoS One*. 2018;13(3):e0194122.
 24. Tesfamariam S, Anand IS, Kaleab G, Berhane S, Weldemariam AG, Habte E, et al. Self-medication practices among health-care students in the University of Asmara, Eritrea. *Pharmacoepidemiol Drug Saf*. 2019;28(2):155-61.
 25. Chapagain P, Rauniyar A. Self-medication practice among medical students in a teaching hospital. *J Nepal Health Res Counc*. 2020;18(1):139-43.
 26. Fernando D, Weerasinghe M, Dassanayake P, Palihawadana T, Fernando I. Self-medication practices among health-care students in a university in Sri Lanka. *J Educ Health Promot*. 2017; 6:92.
 27. Håkonsen H, Hedenrud T, Björnsdóttir I, Almarsdóttir AB, Ekedahl A. Self-medication with over-the-counter analgesics: a survey of patient characteristics and concerns about pain medication. *J Pain Res*. 2016; 9:177-87.
 28. Tesfamariam S, Anand IS, Kaleab G, Berhane S, Weldemariam AG, Habte E, et al. Self-medication practices among health-care students in the University of Asmara, Eritrea. *Pharmacoepidemiol Drug Saf*. 2019;28(2):155-61.
 29. Khanal V, Joshi C, Neupane N, Karkee R. Emergency contraceptive pill use and its impact on contraceptive practices in Kathmandu, Nepal. *J Nepal Health Res Counc*. 2013;11(24):157-61.
 30. Ministry of Health and Population (MOHP) [Nepal], New ERA, and Macro International. *Nepal Demographic and Health Survey 2006*. Kathmandu, Nepal: Ministry of Health and Population, New ERA, and ICF International; 2007.
 31. López LM, Guerra E, Pérez-Campos E, Lete I, Duenas JL, Serrano I, et al. Emergency contraception use and attitudes among young women in five Spanish cities. *Eur J Contracept Reprod Health Care*. 2014;19(1):40-9.