PriMera Scientific Medicine and Public Health Volume 4 Issue 1 January 2024 DOI: 10.56831/PSMPH-04-109

ISSN: 2833-5627



# Self-Medication Practice among the Community People of Dhangadhi Sub-Metropolitan City, Nepal

Type: Original Article
Received: December 07, 2023
Published: December 26, 2023

#### Citation:

Uma Awasthi., et al. "Self-Medication Practice among the Community People of Dhangadhi Sub-Metropolitan City, Nepal". PriMera Scientific Medicine and Public Health 4.1 (2024): 08-16.

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## Uma Awasthi1\*, Suruchi Godar1 and Amrit Bist2

<sup>1</sup>Valley College of Technical Sciences, Kathmandu, Nepal

<sup>2</sup>Patan Academy of Health Sciences, Lalitpur, Nepal

\*Corresponding Author: Uma Awasthi, Valley College of Technical Sciences, Kathmandu, Nepal.

#### **Abstract**

**Background:** Self-medication (SM) is practice of using medication without professional guidance which is prevalent across communities worldwide. Without visiting or communicating with a healthcare provider, many people self-diagnose a physical or mental illness in the hopes of alleviating their symptoms. Without seeing a doctor, taking medication can be risky and even result in addiction or dependence.

*Methods:* This cross-sectional survey was conducted in the chosen wards of Dhangadhi sub-metropolitan city among 291 community people using a pretested and validated questionnaire. The study was conducted from March 2023 to August 2023. Data was analyzed by using SPSS V.25 and presented in tables.

**Result:** The mean age of the participants was 33.15±12.25 years. Majority of participants (77.7%) practiced self-medication within last three months. Antibiotics, analgesics, and antipyretics were the most common drug classes used in self-medication. The common symptoms/conditions for self-medication were a common cold, headache, and fever. The most frequent justifications for self-medication were minor illness 197 (87.2%), followed by lack of time to visit doctors 92 (40.7%), and due to high fees of doctors 86 (38.1%).

*Conclusion:* Self-medication was found to be common in Dhangadhi sub-metropolitan city. Government should enhance education and information about the dangers of self-medication if not done appropriately and improve the control of selling prescription drugs in pharmacies.

Keywords: Self-medication; Community-based; Drug use; Practice; Prevalence; Nepal

## Introduction

Self-medication is "the use of medications, plants, or home remedy one's own initiative or on the suggestion of another person without seeing a doctor" [1]. People increasingly trust it as a dependable technique because it relieves stress, saves time, money, and money while treating minor illnesses [2]. Furthermore, it can save time spent on waiting for a doctor, save lives in a critical situations, and contribute to lower healthcare costs [3]. According to recent studies, the most common reasons for people to self-medicate are the convenience of going to a pharmacy rather than seeing a doctor and avoiding the need to go to a hospital for treatment [4]. Self-medication with OTC medicines is referred as 'responsible' self-medication, but using a prescription medicine without a doctor's supervision is an 'irresponsible' form of self-medication [5]. The prevalence of antibiotic select was found to be higher in low-income countries. According to several other research, the most prevalent reasons for self-medication with antibiotics are fever, common cold, sore throat, and diarrhea [6]. Some people may take analgesics to treat pain and inflammation without seeking advice from their primary care physician since they can easily obtain them, not recognizing that self-medication frequently may have side effects. The inappropriate and excessive use of antibiotics in the community, in primary, and hospitals may be the result of a complex interaction between several factors, including, for instance, the practices of doctors, the attitudes, beliefs, and knowledge of antibiotic use held by patients as well as their use of self-medication, self-medication, and patient-physician interactions. Consequently, limiting the use of antibiotics calls for a complex strategy involving informed healthcare professionals, pharmacists, health authorities, and consumers [7].

It has become widely accepted that self-medication is important in the health care system. Recognition of the responsibility of individuals for their own health and awareness that professional care for minor ailments is often unnecessary have contributed to this view. Improvements in people's general knowledge, level of education, and socioeconomic status in many countries form a reasonable basis for successful self-medication [8]. The government should take the necessary steps to regulate responsible self-medication. This can be done by making the availability of safe drugs along with proper instructions about its use and, if needed, consulting a physician [9]. Both developed, and developing nations frequently use self-medication as a form of treatment for minor illnesses [10]. The case of developing countries, a significant number of people do not have accessible and affordable healthcare services resulting in self-medication practices [11]. Prevalence rate for self-medication was found to be 38.8% and 75.7% in Asia and Africa [12]. Due to the inappropriate use of antibiotics, including self-medication and inadequate dosage, antibiotic resistance has become a severe public health concern worldwide. As a result, it is necessary to assess self-medication at the population level. Self-medication is a global issue for many developing nations, including those in South Asia, including Pakistan, India, Nepal, and Afghanistan, as well as Sudan, Trinidad and Tobago, and Brazil [13]. In many developing countries, antibiotics and potentially habit-forming medicines are easily available in every pharmacy sold without a prescription. Accordingly, new forms of resistant pathogens can easily spread between continents, and this is considered "nightmare bacteria" that "pose a catastrophic threat" to people in every country in the world [14].

Drug monitoring systems are extremely weak in poorer nations, and purchasing any medication with or without a prescription is quite simple. Globally, the prevalence of SM ranges from 11.2% to 93.7%, depending on the country being analyzed and the target population [15]. Antibiotic resistance is currently a problem, particularly in underdeveloped nations where medications are sold over the counter [16]. Globally, self-medication practice has been increasing in different developing countries for several years among community people, and the prevalence of self-medication practice is 40.6% in Vietnam, 12.7% to 18% in Spain, 32 to 45.4% in China, 53% in Mexico, 75% in Chile and UK and 69% in Italy [17, 18].

In the majority of poor countries, nearly 60 to 80% of health-related problems are treated through self-medication as a lower-cost alternative. Self-medication, particularly with antimicrobials, is a phenomenon of increasing global relevance. The utilization of antibiotics without prescription is motivated by a complex set of factors worth mentioning: unchecked sales, economic and time constraints, the influence of family and friends, consumer attitudes and expectations, and media campaigns [19]. Studies have consistently documented all over the world that the inappropriate and excessive use of antibiotics are the predominant factors that cause the emergence and selection of resistant bacteria, with the result of antibiotic resistance that represents one of the most significant worldwide issues for global public health and patient safety [20]. In a recent survey on self-medication practice among the Peri-urban Households of

Two Communities in the Dharan Sub-metropolitan city of Eastern Nepal, the Prevalence of self-medication was found 73.23%. The most prevalent symptoms for which self-medication was used were headache and fever [21]. The Prevalence of SM in our study was 38.2% in a study carried out in Pokhara Valley. The high prevalence may be attributable to the medication's wide availability. Developing and developed nations continue to have significant rates of self-medication, with developing nations having a greater rate than developed nations. The young population is on the rise, and university students frequently follow this trend. People who self-medicate frequently do so for a variety of reasons, including socioeconomic factors, lifestyle choices, easily accessible drugs and therapies, higher medical consultation costs, time-consuming clinical procedures, lack of nearby access to health care, prior experiences, extensive advertising, and simple access to OTC medications [22].

## Methods

A cross-sectional, descriptive study was conducted among community people of Dhangadhi sub-metropolitan city, Nepal in order to assess prevalence of self-medication practice. The sample size was 291. It was calculated by using the formula for finite population developed by Cochran,  $z^2pq/d^2$ . A pretested semi-structured questionnaire was used for data collection from sample community. The wards were selected by using Simple Random Sampling while the participants were selected by using Proportionate Random Sampling. Ethical approval was taken from the college and from the municipality where this study was conducted along with sample area. After data collection, the collected data were cleaned manually, coded and entered in a data entry software. Data entry and analysis were carried out through Statistical Package for Social Sciences (SPSS) version 26. All the collected data were reviewed, checked and rechecked for its completeness. Descriptive analysis was used to describe background characteristics and prevalence. Chi-square was used to test the difference between the categorical variables, and P < 0.05 was considered statistically significant.

#### Results

Table 1 represents the socio-demographic information of respondents. The mean age of the respondents was (33.15±12.25) years, most of the respondents 95(32.6%), were in the age group of 18-25 years, and 93(32%) were in the age 26-35 years. Most of respondent were female i.e., 164(56.4%) as compared to Male i.e., 127(43.6%).

The study shows that most of the respondents regarding ethnicity were 127(43.6%) Brahmin, 124 (42.6%) Chhetri, 27(9.3%) Janajati, and 13(4.5%) Dalit, respectively. Regarding religion, most of the respondents were 272(93.5%) Hindu. The least of respondents 10(3.4%) were Christian followed by 9(3.1%) Islam. Regarding Marital status, 190(65.3%) were married followed by 91(31.3%) Unmarried and 10(3.4%) Widow.

Similarly, regarding the educational qualification of the respondent's majority of the respondents had bachelor-level education, i.e., 132(45.4%). Among the literate, most of the respondents had Intermediate level education, i.e., 73(25.1%), 33(11.3%) respondents had Primary level education, 25(8.6%) respondents had Higher level education, and only 13(4.5%) respondents had informal education. 15(5.2%) were illiterate.

Variables	Frequency	Percentage	
Age of respondents (in years)			
Mean age (in years	(33.15±12.25)		
18-25	95	32.6	
26-35	93	32.0	
36-45	64	22.0	
46-55	24	8.2	
56-65	6	2.1	
66+	9	3.1	

Gender of respondents		
Male	127	43.6
Female	164	56.4
Ethnicity of respondents		
Brahmin	127	43.6
Chhetri	124	42.6
Janajati	27	9.3
Dalit	13	4.5
Religion of respondents		
Hindu	272	97.9
Christian	10	3.4
Islam	9	3.1
Marital status		
Married	190	65.3
Unmarried	91	31.3
Widow	10	3.4
<b>Educational level</b>		
Illiterate	15	5.2
Informal education	13	4.5
Primary level	33	11.3
Intermediate level	73	25.1
Bachelor level	132	45.4
Higher (master/Ph.D)	25	8.6

Table 1: Socio-demographic characteristics.

The table 2 shows that 181(62.2%) respondents know about self-medication, and 110(37.8%) don't. and the prevalence of self-medication was 226(77.7%). 65(22.3%) participants claimed that they did not self-medicate during the last three months.

Variables	Frequency	Percentage
Knowledge about self-medication		
Yes	181	62.2
No	110	37.8
Taken medications without prescription in the last 3 months		
Yes	226	77.7
No	65	22.3

Table 2: Knowledge about self-medication.

Table 3 shows that the most common symptom demanding self-medication was headache 145(64.4%), followed by Common cold 143(63.6%), fever 79(35.1%), cough 43(19.1%), Gastritis 42(18.7%), and 28(12.4) Other signs that prompted self-medication included bodily aches, menstrual pain, sore throats, diarrhea, constipation, and skin issues, among others. Regarding the reason for self-medication, 197(87.2%) of them reported that they used self-medication because they had minor illness, and 92(40.7%) of them used it due to not having time to see a doctor. Similarly, 86(38.1%) of people self-medicate due to the high fees of doctors, 23 claimed that they

don't have trust in doctors, and 17(7.5%) said that they used medicine by suggestion of their family/friends(others). Regarding the means for receiving medicines for self-medication and methods adopted for procuring medicines, 133(59.9%) of them received the medication directly from a pharmacy outlet without a prescription, followed by 41(18.5%) who received the medicine from leftover medicine at home, 36(16.2%) who received medicine from pharmacy outlet with previous prescription and 20(9.0%) claimed that they received medicine from their friend, family in other option.

Likewise, regarding methods adopted to get medicines, 156(71.2%) people got their medicines by mentioning their symptoms/complaints, followed by 49(22.4%) by mentioning the name of the medicines and 15(6.8%) and 4(1.8%) of people received it by showing the paper with the name of medicine written and medicine package, respectively.

Also, Regarding Categories, routes, and dosage forms of drugs used in self-medication, the majority of individuals 163(73.4%) used antibiotic medications, followed by analgesics 88(39.6%), Gastrointestinal 32(14.4%), Antihistamines 20(10.8%) and others 13(5.9%). The most common routes for self-medication are oral 202(97.1%) and were in tablet (97.7%). Most respondents stopped taking medication and visited doctors when symptoms were not relieved 175(81.4%). Others, 17(7.9%) switched to alternative medicine after self-medication failed to reduce their symptoms, 14(6.5%) increased the dosage, and 13(6.0%) stopped taking medication and seeking advice from local pharmacists.

Variables	Frequency	Percentage (%)
Common symptoms/complaints for self-medications		
Common cold	143	63.6
Headache	145	64.4
Fever	79	35.1
Cough	43	19.1
Gastritis	42	18.7
Others	28	12.4
Reasons for self-medication		
Due to the high fees for doctor	86	38.1
No trust in doctors	23	10.2
No time to see doctors	92	40.7
Minor illness	197	87.2
Others	17	7.5
Means for receiving medicines		
Pharmacy outlet without a prescription	133	59.9
Pharmacy outlet with the previous prescription	36	16.2
Left-over medicines	41	18.5
Others	20	9.0
Method adopted to get medicines		
By mentioning the symptoms/complaints	156	71.2
By mentioning the name of medicines	49	22.4
By showing the paper with the name of medications written	15	6.8
By showing the medicine package	4	1.8
Class of medicines		
Antibiotics	163	73.4

	1	
Analgesic	88	39.6
Antihistamines	24	10.8
Gastrointestinal	32	14.4
Others	13	5.9
Routes of drugs		
Oral	202	97.1
Tropical	10	4.8
Ophthalmic	8	3.8
Nasal	4	1.9
Inhalation	3	1.4
Dosage forms of drugs		
Tablet	209	97.7
Syrup	37	17.3
Powder/granule	15	7.0
Capsule	30	14.0
Suspension	5	2.3
Solution	5	2.3
Ointment	5	2.3
Participants' anticipated behavior if symptoms do not resolve		
Stop the medicine and consult a doctor	175	81.4
Stop the medicine and consult a pharmacist	13	6.0
Use alternative medicines	17	7.9
Increase dose	14	6.5

Table 3: Practice of self-medication.

## Association of socio-demographic variables with self-medication practice

Table 4 displays the association between socio-demographic variables and the self-medication practice of respondents. Pearson Chisquare and Fishers exact test was applied at 5% CI to measure the association. Results show that the age of respondents, sex, ethnicity, religion, and educational level of respondents were not associated with the prevalence of self-medication practice where (P= 0.051, 0.060, 0.054, 0.906, and 0.359). Marital status was significantly associated with self-medication use (P-value=0.032), meaning Married people reported more frequent self-medication use than unmarried and widows.

Variables	Categories	Self-medication		Chi-square	P-value
		Yes (n, %)	No (n, %)		
Age	18-25	65(68.4)	30(31.6)	10.426	0.051
	26-35	79(84.9)	14(15.1)		
	36-45	53(82.8)	11(17.2)		
	46-55	16(66.7)	8(33.3)		
	56-65	5(83.5)	1(16.7)		
	66+	8(88.9)	1(11.1)		

Sex	Male	92(72.4)	35(27.6)	3.543	0.060
	Female	134(81.7)	30(18.3)		
Ethnicity	Brahmin	96(75.06)	31(24.4)	7.404	0.054
	Chhetri	95(76.6)	29(23.4)		
	Janajati	26(96.3)	1(3.7)		
	Dalit	9(69.2)	4(30.8)		
Religion	Hindu	210(77.6)	62(22.8)	0.450	0.906
	Christian	8(80.0)	2(20.0)		
	Islam	8(88.9	1(11.1)		
Marital status	Married	156(82.1)	63(21.6)	6.757	0.032*
	Unmarried	62(68.1)	29(31.9)		
	Widow	8(80.0)	2(20.0)		
Educational status	Illiterate	13(86.7)	2(13.3)	5.428	0.359
	Informal education	10(76.9)	3(23.1)		
	Primary level	30(90.9)	3(9.1)		
	Intermediate level	56(76.7)	17(23.3)		
	Bachelor	97(73.5)	35(26.5)		
	Higher	20(80.0)	5(20.0)		
	Intermediate level Bachelor	56(76.7) 97(73.5) 20(80.0)	17(23.3) 35(26.5) 5(20.0)		

\*Statistically significant at a P-value of <0.05.

**Table 4:** Association between Socio-demographic characteristics and self-medication practices.

## Discussion

The findings of this study revealed that the prevalence of self-medication practice among the participants was found to be 77.7%, which was comparable with the 73.23% prevalent rate reported by the study conducted among the Peri-urban Households of Two Communities of Dharan [23] and 78% of community people in Kathmandu [12]. However, our study findings were higher than the prevalence reported among various types of research on self-medication conducted among the community of Lalitpur Metropolitan City (45.20%)[24], and Urban slum dwellers in India (47%)[25]. This difference in the prevalence of self-medication practice may be due to different sample sizes, the population, cultural differences, healthcare systems, infrastructures, and sociodemographic characteristics. On the other hand, the finding of this study was lower than those studies carried out on university students in Nepal (95.4%) [26] and India (92.8%)[27]. This difference might be due to the variation in socio-demographic and economic characteristics, the different research locations, study time variation, the accessibility of OTC medications, and another possible justification might be because these studies were conducted among medical students rather than the broader population who might know the risk of self-medication.

According to the study, common cold 143(63.6%), headaches 145(64.4%), fever 79(35.1%), Cough 43(19.1%), and gastritis 42(18.7%) were the most common symptoms of self-medication, which is consistent with research from Nepal [23], and India [27] who reported these to be the frequent health complaints. The present study showed that the most common reason for self-medication was minor illness 197(87.2%), followed by lack of time to visit doctors 92(40.7%) and due to high fees of doctors 86(38.1%), which is similar to the study among university students in Nepal, showed the common reason was a minor illness, and the prescriptions which were previously used to treat the similar disease conditions [26] and also the community of Lalitpur Metropolitan City, Nepal [24].

The means of receiving self-medication was pharmacy outlets without prescription 133(59.9%) in the study. The main reasons for choosing pharmacy outlets might be convenience, time limitation, and no consultation charges for receiving medication for the

participants. The methods adopted for procuring the medicines without prescription in the present study were by mentioning the symptoms/complaints and by mentioning the name of the medicines.

The category of medication mostly used in SMP in this study was antibiotic medications 163(73.4%) followed by analgesics 88(39.6%), Gastrointestinal 32(14.4%), and Antihistamines 24(10.8%). Antibiotics are most commonly purchased drugs with or without a prescription. One of the major causes of antibiotic resistance is self-medication [27], stopping taking medicine and preceding doctor consultations 175 (81.4%) would be their possible steps if their symptoms do not relieved. This demonstrates the sincere attitude of the participants toward rational self-medication practice.

This study showed that marital status was significantly associated with self-medication practice. Other sociodemographic factors like age groups, gender, ethnicity, and educational level were not found to be associated with self-medication.

## Conclusion

This study was done among the community of the Dhangadhi sub-metropolitan city of Nepal. It showed a high prevalence rate i.e. 77.7% for self-medication. Common ailments like cold, headache, fever, cough, and gastritis were frequently self-medicated, reflecting regional health trends. The primary reasons behind self-medication included minor illnesses, time constraints, and the cost of doctor consultations. Pharmacy outlets emerged as the primary source of self-medication, often due to convenience and the absence of consultation fees. Antibiotics were the most widely self-administered category, raising concerns about antibiotic resistance. Encouragingly, participants exhibited responsible behavior by considering doctor consultations if symptoms persisted. Marital status emerged as a significant factor linked to self-medication, whereas other sociodemographic variables showed no such correlation. This research highlights the importance of specific actions to encourage sensible self-medication behaviors. It considers the many different factors that affect this common practice. We need to do more detailed research with many people to understand how self-medication affects our country. Moreover, it is essential to strengthen national recommendations concerning the availability of medications to prevent the potential negative consequences associated with the widespread practice of self-medication among the general public.

## **Conflict of Interest**

No any competing conflict of interest.

## **Funding**

None.

#### Acknowledgement

Authors would like to acknowledge the public health faculties of Valley College of Technical Sciences, all the study participants and every helping hands.

## **Author Contributions**

UA contributed for conception and design, acquisition of data, or analysis and interpretation of data. SG drafted the article or revising it critically for important intellectual content and AB reviewed the manuscript and final approval of the version to be published.

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