



Prevalence, knowledge and associated factors on self-medication practice among the community of Lalitpur Metropolitan City, Nepal: a cross-sectional study

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ABSTRACT

Self-medicine has become one of the important components in day-to-day life to treat mild ailments. If not used rationally, it may lead to serious public health issues. The aim of this study is to explore the prevalence, knowledge, and associated risk factors of self-medication practice among the community of the Lalitpur Metropolitan City of Nepal. A cross-sectional community based prospective study was conducted among 1,004 participants of the Lalitpur Metropolitan City using a pretested and validated questionnaire. The collected data were analyzed using descriptive and inferential analysis with an alpha level of 0.05 by using SPSS. The prevalence of self-medication was 45.20%. The three most common ailments for practicing self-medication were fever, headache, and cough/cold. The top reason for self-medication was minor illness. The study indicated that overall knowledge scores were significantly associated with self-medication ($P < 0.001$). Multiple logistic regression showed the elderly are more oriented towards self-medication practice [AOR=5.22 (95%CI: 2.73-9.98)]. The health professional families have a high affinity towards self-medication practice [AOR=2.82 (95%CI: 1.68-4.75)]. Likewise, storing medicine at home [AOR= 7.01 (95%CI: 5.10-9.64)] and poor knowledge of medicine use were [AOR=1.81 (95%CI: 1.14-2.88)] more likely to prefer self-medication. The prevalence of self-medication was high, mostly due to the poor knowledge about appropriate medicine used. Self-medication is unavoidable in many situations; therefore, implementation of action plans to improve awareness about the consequences of self-medication is needed, thus facilitating its responsible use by the community.

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INTRODUCTION

No one should be deprived of the medical treatment one should receive. However, it is not true, especially in developing countries, where access to health care is difficult and unaffordable, leading to self-medication (Shankar *et al.*, 2002). World Self-Medication Industry and World Health Organization (WHO) have recognized self-medication (SM) as the key aspect of primary healthcare with an aim to increase accessibility and affordability of medication (WHO, 1998; WSMI, 2010). SM being

a part of self-care where people use medicine for themselves in order to prevent disease or maintain health (WHO, 1998). It is defined as using the medicine by individuals to treat self-recognized ailment without the prescription of the licensed medical practitioner (WHO, 1998). The irrational practice of medicine may lead to various unwanted effects ranging from wastage of resources, resistance towards microorganism, adverse effect and prolongs suffering (Bennadi, 2014). Moreover, it will increase the treatment cost (Ali, 2015).

The prevalence of SM has increased worldwide and its share is high, mostly in developing countries (Shankar et al., 2002; Kassie et al., 2018). In developing countries, prevalence varies from 8.3% to 87% (Parulekar et al., 2016). In the case of Nepal, few studies conducted in different regions of the country reported a prevalence rate in the range of 38.2% to 94.9% (Paudel and Aryal, 2020; Parajuli et al., 2019; Baral et al., 2019). The willingness of SM practice has been attributed to the unaffordability of treatment, easy access to medicine, the time factor, unawareness, previous experience, etc. (Karmacharya et al., 2018).

Inadequate knowledge about medicine use may influence the rate of misuse by the community. This further leads to serious consequences like adverse drug reaction, delayed in diagnosis due to incorrect treatment choice, interaction, risk of dependence etc. (WHO, 1998; Atsbeha and Suleyman, 2008).

Taking into account of high prevalence rate and lack of studies on self-medication among the general population of the country, this study investigates the prevalence, knowledge and associated factors of SM practice among the community of the Lalitpur Metropolitan City of Nepal. The findings of the study are expected to guide the policymakers while developing a strategy on educating and increasing awareness of the public on self-medication and its responsible use in the country.

METHODOLOGY

A semi-structured questionnaire based on a cross-sectional community based prospective approach was used for the survey among the households in the community from September to December 2019 with a recall period of three months. The study population comprised adults above 18 years of age and who had been residing in the city at least for six months.

The sample size was calculated by using the single population proportion formula following (Shankar et al., 2002):

$$N = Z^2 (PQ) / B^2$$

Where N is the sample size, Z is the standardized normal distribution value at 95% confidence interval level, i.e. 1.96, P is the proportion of SM, i.e. 59%, $Q=100-59=41$, and B is the margin of error taken as 5.2%.

$$N = 987$$

The final sample size was 1,004, with approximately 2% contingency considered.

A pre-tested semi-structured questionnaire was developed to assess the prevalence of SM among the population, their practices, the reason for practicing it without prescription, knowledge and their belief regarding SM and socio-demographic characteristics. Pretesting of the questionnaire was done among 50 participants. Minor modifications of the questionnaire were made after receiving feedback from experts and the pilot survey.

A probability proportionate sampling technique was used, resulting in a random selection of 17 out of the 29 wards of the city for a questionnaire survey among participants with their written informed consent. The dependent variables were self-medication and independent variables were socio-demographic characteristics like age, gender, marital status, education, income, occupation and knowledge regarding SM.

The knowledge regarding SM was analyzed using nine questionnaires generated from the extensive literature review and expert opinion. The reliability of the questionnaire was determined through Cronbach's alpha, giving the value of 0.89 after the pilot study. Assessment of the population's knowledge of SM was done by three possible response: "yes", "no", and "do not know". The item answered correctly was given "1" point and that with the incorrect answer was given "0" points which also includes "do not know". These are then added to get the total knowledge score as there was 9 statements, the knowledge score range from 0 to 9. To measure the level of knowledge of the population, it was further sub-categorized into "high-level knowledge" and "low-level knowledge", for which the third quartile was used as a cut off point.

The collected data was enter and analyzed using SPSS version 21 (SPSS, Chicago, IL, USA). The association between the SM and different demographic characteristics were explored by using the Chi-square test. Logistic regression analysis was used to identify the factors that are associated with SM considering p values of <0.05 as statistically significant.

Ethical Approval

Ethical clearance was obtained from the Nepal Health Research Council (NHRC), Kathmandu, Nepal

(Reg. no. 519/2019). The participants were informed regarding the purpose of the study and all the data will be kept confidential. Written informed consent was taken from all individual participants who participated in the study.

RESULTS

Socio-demographic characteristics of the participants

1,004 study participants were involved from the Lalitpur Metropolitan City. The participants were of Nepalese origin and living in their respective places permanently or at least for six months. Most of the participants were female (51.1%) and the age group is dominated by 31-40 years (29.3%). Further, most participants were married (62.3%) and had attended at least a higher school level education (69.9%). The employment status was mostly services (45.6%), and the income group most (34.7%) lies in the range of NRs. 35,000-50,000 (USD 288-412). Detail regarding socio-demographic characteristics is given in Table 1.

Prevalence and practice of self-medication

It shows that there exists a significant prevalence of self-medication with 454 out of 1,004 household participants (45.2%) using SM. Most of the participants who practice SM usually take it to treat own-self (66.1%) and they mostly obtained medicine/s from a pharmacy store (68.3%). The study had shown that previous medication experience is the main source of information for self-medication (47.6%), followed by pharmacist advice (27.8%). Most participants practice self-medication for fever (17.8%), headache (13.4%), and cough/common cold (11.9%). Detail SM practices among the community are presented in Table 2.

Table 3 represents medicines commonly used, which consisted of group antipyretic (23.3%), antimicrobials (22.1%) and non-steroidal anti-inflammatory drugs (NSAIDs) (20.3%). Among them, the most common individual medicine use was paracetamol (23.1%) followed by anti-cold preparations (9.9%). Among the medicine used for SM, almost half of them were prescription medicines (47.2%). It shows that 40.4 % of them stored medicine at home for emergency and future use.

Analyses were done to assess the preference of SM practice and the study found that two hundred and two participants (44.5%) practice SM as soon as symptoms arise, as shown in Figure 1. One hundred and forty-four (31.7%) preferred SM practice if the condition lasts for more than two days. Hundred and

four participants had mentioned that they prefer SM practice for preventive measures.

Reasons for SM practice were analyzed and shown in Table 4. The most common reasons for SM practice were "minor illness" (n=419, 92.3%), "previous experience with same disease" (n=384, 84.6%) and "access to pharmacy" (n=363, 80%), "time saving" (n=361, 79.5% and "money saving" (n=286, 63%).

Knowledge regarding the self-medication use

Of the nine statements measuring knowledge of appropriate use of SM, 3 were answered correctly by over 70% of the participant. The statement having the highest portion of correct responses was "Self-medication is medicating one-self without consulting a doctor for minor illness." (89.9%) and the statement having the lowest response of correct answer was "In pregnancy, one should avoid self-medicate." (5.8%). Table 5 lists the individual knowledge of self-medication among the community. Finally, the overall knowledge of the respondents indicated poor knowledge (71.2%) about the appropriate SM practice.

Factors associated with Self-medication use

Chi-square test shows the following factors consisting of the participant's age ($p < 0.001$), marital status ($p = 0.025$), education level ($p < 0.001$), employment status ($p < 0.001$), income per month ($p < 0.001$), storing practice of medication ($p < 0.001$) and family belonging to a health professional ($p < 0.001$) were significantly associated with SM.

Similarly, the binary logistic analysis also shows the association of the participant's age, education, employment status, income, family belonging to a health professional, medicine storing practice and knowledge about the medical use with SM practice [Table 6].

The age group of 41-50, 51-60 and above 60 years had an odds ratio of COR=2.04 (95% CI:1.38-3.01), COR= 3.27 (95% CI:2.15-4.97) and COR=6.02 (95% CI:3.67-9.88) respectively, which indicates that as the age increases, there is the likelihood that SM practice also rises. Married participates more likely to practice self-medicate than unmarried participants with the odds ratio of COR=1.4 (95% CI:1.09-1.87).

The study participants who have a monthly income of <5,000 were 4.03 times more likely to practice SM than those with a monthly income of more than >50,000. This indicates that the lower the monthly income, the more chances of practicing self-medication. On the contrary, those study participants whose education background is school level

Table 1: Socio-demographic characteristics of participants among the community of Lalitpur Metropolitan City from September to December 2019.

SN. No.	Demographic Characteristics	Frequency	Percentage (%)
1	Gender		
	Male	491	48.9
	Female	513	51.1
2	Age in years		
	18-30	245	24.4
	31-40	294	29.3
	41-50	193	19.2
	51-60	156	15.5
	>60	116	11.6
3	Marital status		
	Single	340	33.9
	Married	625	62.3
	Separated	15	1.5
	Divorced	11	1.1
	Widow/widower	13	1.3
4	Education level		
	Illiterate	57	5.7
	School-level	248	24.7
	High school level	290	28.9
	University graduates	412	41
5	Current employment status		
	Unemployed (Housewife, Jobless, student)	147	14.6
	Business	291	29
	Service (Government and Private)	458	45.6
	Others (Retired, Daily wages, Housemaid)	108	10.8
6	The income per month (in Nepalese currency)		
	>50000	187	18.6
	<50000-35000	348	34.7
	<35000-20000	271	27
	<20000-5000	146	14.5
	<5000	52	5.2
7	Health Professionals		
	Yes	125	12.5
	No	879	87.5

COR=0.59 (95% of CI:0.43-0.82) and high school level COR=0.36 (95% of CI:0.26-0.50) were less likely to practice SM than university graduates. Likewise, the study participants who were related to health professional were more likely to practice SM by COR=2.60 (95% of CI:1.74-3.90) times than those who do not belong to health professionals.

Similarly, those who have a tendency to store the medicine at home had shown more likelihood of practicing SM by COR=7.19 (95% of CI:5.41-9.54) than those who do not store the medicine at home. The study also indicated that those participants who

had a low level of knowledge regarding the medicine use were more likely to practice SM by COR=1.92 (95% CI: 1.32-2.81) than those who had a high level of knowledge.

Finally, after obtaining statistically significant variables at $p \leq 0.05$ in binary logistic regression analysis, multiple regression analysis was carryout to see the independent predictor of SM practice of participants [Table 6].

Accordingly, those participants whose age were 41-50, 51-60 and above 60 years had an adjusted odds ratio (AOR) of 1.74 (95% CI:1.03-2.95), AOR=4.17

Table 2: Practices related to SM among the community of Lalitpur Metropolitan City from September to December 2019.

Variables	Frequency	Percentage (%)
Ownself	399	66.1
Spouse	83	13.7
Children	53	8.8
Other family members	42	7.0
Other (Friends, colleague)	27	4.5
Medicine Obtained From		
Pharmacy/ medicine store	310	68.3
left-over-medicines	107	23.6
Friends/ Family	37	8.2
Source of information (multiple responses)		
Previous experience	216	47.6
Pharmacist	126	27.8
Prescribers without the prescription	88	19.4
Friends/relatives/ neighbor	73	16.1
Media/ promotional materials	14	3.1
Internets	7	1.5
Health problem/Symptom/s		
Fever	81	17.8
Headache	61	13.4
Cough/common cold	54	11.9
Gastric/Abdominal Pain	41	9.0
Tonsillitis	28	6.2
Toothache	26	5.7
Joint pain	19	4.2
Diarrhea	18	4.0
*Others	87	19.2
#Combination of Symptoms/illness	26	5.7
Did not mentioned	13	2.9

*Allergy, Asthma, Earproblem, Dysmenorrhea, Oral Contraception, Skin-Problem, UTI, Constipation, Hypertension

Fever and cough, Feverand allergy, Cough and abdominal pain, Toothache and infection, Cough and tiredness, Skin infections, contraception and dysmenorrhea, Diarrhea and abdominal pain, Joint pain and acidity, Common cold and fever, headache and abdominal pain, Cough and joint pain, common cold with sputum.

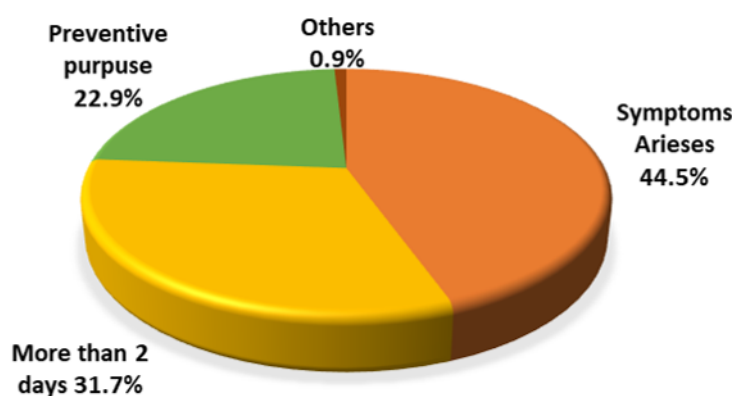


Figure 1: Percentage of participants showing medicines preferred for self-medication among the community of Lalitpur Metropolitan City from September to December 2019.

Table 3: Mostcommonly used medicine for self-medication among the community of Lalitpur Metropolitan City from September to December 2019.

Variables	Frequency	Percentage
Medicine used		
Paracetamol	105	23.1
Anti-cold Preparation	45	9.9
Paracetamol + Ibuprofen	34	7.5
Azithromycin	28	6.2
Pantoprazole	27	5.9
Amoxicillin	27	5.9
Mefenamic Acid	17	3.7
Oral-Contraception	13	2.9
**Others	114	30.9
Combination	27	5.9
Categories of medicine used		
Antipyretic	110	23.3
Antibiotics	104	22.1
NSAIDs	96	20.3
Anti-cold Preparation	50	10.5
Medicine reducing acidity	42	8.9
Antihistaminic	21	4.4
Oral-Contraception	15	3.2
***Others	34	7.2
Do not remember	13	2.9
Prescription categories of Medicine		
Non-prescription medicine	243	50.1
Prescription-only medicine	229	47.2
Drug not mention	13	2.7
Storing medicine at home		
Yes	406	40.4
No	598	59.6

**Nimesulide, Cetirizine, ORS, Naproxen, Ibuprofen, Ciprofloxacin Eye drop, Amoxicillin+Clavulanic Acid, Metronidazole, Cefixime, Salbutamol, Hyosine Butylbromide, Diclofenac, Antacid, Levocetirizine, Omeprazole, Fexofenadine, Pyroxidine, Vitamin B complex, Hydrocortisone, Cholecalciferol, Ciprofloxacin, Tobramycin, Rabeprazole, Promethazine, Prednisolone, Lactulose, Isabgol husk, Doxycycline, Clobesterol, Amilodopine, Aceclofenac.

***Antiasthmatic agents, Smooth muscle relaxant, Steroids, Cholecalciferol, Vitamins, Constipating agents, anti diarrheal agent.

(95% CI:2.41-7.22) and AOR=5.22 (95% CI: 2.73-9.98) respectively, indicating more likely to practice self-medication as age increases. High school graduates were less likely to practice self-medication than university graduates AOR=0.58 (95% CI:0.28-1.21).

The participants who have a tendency to store medicine were more likely to practice SM by AOR=7.01 (95% CI:5.10-9.64). Those who were related to health professional were more likely to self-medicate by AOR= 2.82 (95% CI:1.68-4.75). The participants who had a lower level of knowledge about self-medication were more likely to practice SM than those who have a high level of knowledge with AOR=1.81 (95% CI:1.14-2.88).

DISCUSSION

The prevalence of SM in this study was 45.2%. The prevalence rate was in agreement with earlier studies done in Nepal for Pokhara (38.2%) and Morang (44.04%) (Paudel and Aryal, 2020; Parajuli *et al.*, 2019). The studies done in India showed a prevalence rate of 53.57% (Rashid *et al.*, 2020) and that for Yemen reported as 77.3% (Alshakka *et al.*, 2019). The global prevalence rate was reported as 10% to more than 90% (Shaamekhi *et al.*, 2019; Ayalew, 2017). The reasons for high prevalence were mentioned as easy availability of both over-the-counter (OTC) and prescription medicine without prescription and minor condition of the disease.

Table 4: Reason for SM practice by the study participants among the community of Lalitpur Metropolitan City from September to December 2019.

Reason for SM practice	Yes (%)	No (%)	Do not know (%)
Minor illness	419 (92.3)	10 (2.2)	25 (5.5)
Previous experience with the same disease	384 (84.6)	25 (5.5)	45 (9.9)
Access to Pharmacy	363 (80.0)	90 (19.8)	1 (0.2)
Time-saving	361 (79.5)	84 (18.5)	9 (2.0)
Money-saving	286 (63.0)	154 (33.9)	14 (3.1)
Unnecessary medicine prescribed by the doctor	156 (34.4)	237 (52.2)	61 (13.4)
Doctors likely to prescribe the same type of medicine	157 (34.6)	181 (39.9)	116 (25.6)
Unavailability of the doctor	154 (33.9)	230 (50.7)	70 (15.4)
Bad experience with the doctor	83 (18.3)	347 (76.4)	24 (5.3)
Uncomfortable in shearing disease condition	83 (18.3)	351 (77.3)	20 (4.4)
Hospital/Clinic quite far from where I leave	82 (18.1)	370 (81.5)	2 (0.4)

Other reasons could be poor knowledge about medicine, non-availability of medical facilities, and other determinants of health.

This study indicated that there is a statistically significant association between storing medicine at home and self-medication practice. Similar results were reported in Iran (Karimy *et al.*, 2019) and China (Yu *et al.*, 2013).

In this study, most of the medicines used for SM were obtained from the pharmacy stores. Similar findings were reported in other studies carried out in Nepal, India, Ethiopia and Nigeria (Parajuli *et al.*, 2019; Divya *et al.*, 2016; Okolo and Nwankwo, 2019). This could be due to weak enforcement of regulation regarding drug handling and dispensing (Suleman *et al.*, 2009) and lack of time and affordability to pay the healthcare expenses.

Most of the participants in this study reported that the main source of information to practice SM was a previous experience similar to other studies in developing country like Ethiopia, Uganda and Nigeria (Divya *et al.*, 2016; Ocan *et al.*, 2014; Abdulraheem *et al.*, 2016). The three most common health problems found in this study were fever, headache, cough/common cold. This outcome has been supported by other studies done for Nepal, Iran, Uganda and Nigeria (Karimy *et al.*, 2019; Ocan *et al.*, 2014; Abdulraheem *et al.*, 2016).

Categories of medicine use for SM were antipyretic followed by antimicrobials, NSAIDs, anti-cold preparation, drugs used in acidity, antihistaminic and oral contraception. A similar drug used pattern was mentioned in other studies (Bhattarai *et al.*, 2014;

Paudel and Aryal, 2020; Parajuli *et al.*, 2019). A significant proportion of study participants used antimicrobials for SM, which is in agreement with the earlier study (Karmacharya *et al.*, 2018). One of the major problems related to antimicrobials use is that it may lead to antimicrobial-resistant (Awad *et al.*, 2005; Girma *et al.*, 2011).

Further categorization of medicines into prescription and non-prescription shows almost half of the medicine used for the SM in the study was a prescription medicine, which is one of the alarming problems in Nepal. Therefore, the use of prescription drugs for SM should be discouraged. This will be only possible when there will be strict regulation of dispensing medicines and conduction of health education program by all concerned institutions in order to promote the awareness of the community on appropriate medicine utilization in general and antimicrobials use particular (Shafie *et al.*, 2018).

The majority of the study participants stated that they preferred self-medicine because of the minor nature of the illness followed by easy accessibility to pharmacy store, time-saving, previous experience with the same disease and less cost for self-medication than visiting health facilities. Similar findings were reported in other studies (Baral *et al.*, 2019).

Previous studies have reported that socio-demographic characteristic such as age, education level, income and family background (belonging to health professionals) were the important factors on the likelihood of SM (Ansari *et al.*, 2020; Azami-Aghdash *et al.*, 2015).

Table 5: Individual knowledge of SM among the community of Lalitpur Metropolitan City from September to December 2019.

Q. No.	Statement	Total (N=1004)	Self-medication		p-value
		N (%)	Yes N (%)	No N (%)	
K1	Self-medication is medicating one-self without consulting a doctor for a minor illness.				
	Correct	903 (89.9)	404 (89.0)	499 (90.7)	0.361
	Incorrect	101 (10.1)	50 (11)	51(9.3)	
K2	Non-prescription medicines are also called as over counter medicine (OTC)				
	Correct	444 (44.2)	202 (44.5)	242 (44.0)	0.876
	Incorrect	560 (55.8)	252 (55.5)	308 (56.0)	
K3	Only OTC medicines can be used for self-medication.				
	Correct	383(38.1)	174 (38.3)	209 (38.0)	0.916
	Incorrect	621 (61.9)	280 (61.7)	341 (62.0)	
K4	Medicine preferred for self-medication does not have any harmful effect.				
	Correct	326 (32.5)	129 (28.4)	197 (35.8)	0.013
	Incorrect	678 (67.5)	325 (71.6)	353 (64.2)	
K5	Knowledge of illness is necessary for self-medication.				
	Correct	750 (74.7)	350 (77.1)	400 (72.7)	0.113
	Incorrect	254 (25.3)	104 (22.9)	150 (27.3)	
K6	Storing condition of the medicines need not be considered for those medicines that used for self-medication.				
	Correct	311 (31)	134 (29.5)	177 (32.2)	0.363
	Incorrect	693 (69)	320 (70.5)	373(67.8)	
K7	In pregnancy, one should avoid self-medicate.				
	Correct	58 (5.8)	13 (2.9)	45 (8.2)	<0.001
	Incorrect	946 (94.2)	441 (97.1)	505 (91.8)	
K8	OTC Medicine do not interact with concurrent medicine I have been taking.				
	Correct	178 (17.7)	80 (17.6)	98 (17.8)	0.935
	Incorrect	826 (82.3)	374 (82.4)	452 (82.2)	
K9	Medicine used for self-medication does not have any effect on underlining condition/s.				
	Correct	736 (73.3)	76 (16.7)	192 (34.9)	<0.001
	Incorrect	268 (26.7)	378 (83.3)	358 (65.1)	
	Overall knowledge outcome				
	High Level of knowledge	289 (28.8)	110 (24.2)	179 (32.5)	<0.001
	Low Level of knowledge	715 (71.2)	344 (75.8)	371 (67.5)	

Table 6: Multiple logistic regression analysis of knowledge and other associated factors with SM among the community of Lalitpur Metropolitan City from September to December 2019.

Variables	No SM N=550	SM N=454	P-value	Odds Ratio	
				Crude (CI)	Adjusted (CI)
Gender					
Male	275 (50)	216 (47.60)	0.445	1	1
Female	275 (50)	238 (52.40)		1.10 (0.86-1.41)	1.07 (0.78-1.48)
Age in years					
18-30	166 (30.2)	79 (17.4)	<0.001	1	1
31-40	195 (35.5)	99 (21.8)		1.07 (0.74-1.53)	0.88 (0.56-1.39)
41-50	98 (17.8)	95 (20.9)		2.04 (1.38-3.01)*	1.74 (1.03-2.95)*
50-60	61 (11.1)	95 (20.9)		3.27 (2.15-4.97)*	4.17 (2.41-7.22)*
>60	30 (5.5)	86 (18.9)		6.02 (3.67-9.88)*	5.22 (2.73-9.98)*
Marital status					
Single	204 (37.1)	136 (30.0)	0.025	1	1
Married	320 (58.2)	305 (67.2)		1.4 (1.09-1.87)*	1.08 (0.75-1.58)
Separated	12 (2.2)	3 (0.7)		0.37 (0.10-1.35)	0.37 (0.09-1.49)
Divorced	7 (1.3)	4 (0.9)		0.86 (0.25-2.98)	0.55 (0.13-2.35)
Widow/widower	7 (1.3)	6 (1.3)		1.28 (0.42-3.91)	0.89 (0.23-3.38)
Education level					
University graduates	179(32.5)	229 (50.4)	<0.001	1	1
High School level	198 (36.0)	92 (20.3)		0.36 (0.26-0.50)*	0.58 (0.28-1.21)*
School Level	141 (25.6)	107 (23.6)		0.59 (0.43-0.82)*	1.17 (0.77-1.78)
Illiterate	32 (5.8)	26 (5.7)		0.63 (0.36-1.10)	0.60 (0.29-1.25)
Current employment status					
Unemployed	92 (16.7)	55 (12.1)	<0.001	1	1
Business	182 (33.1)	109 (24.0)		1.00 (0.66-1.51)	0.84 (0.47-1.51)
Service	218 (39.6)	240 (52.9)		1.84 (1.26-2.70)*	0.97 (0.50-1.62)
Others	58 (10.8)	50 (11.0)		1.44 (0.87-2.39)	0.77 (0.38-1.55)
The income per month (in Nepalese currency)					
>50000	124 (22.5)	65 (14.3)	<0.001	1	1
<50000-35000	204 (37.1)	137 (30.2)		1.25 (0.86-1.80)	0.98 (0.57-1.66)
<35000-20000	140 (25.5)	117 (25.8)		1.58 (1.08-2.32)*	1.06 (0.61-1.83)
<20000-5000	61 (11.1)	79 (17.4)		2.23 (1.43-3.47)*	1.36 (0.72-2.59)
<5000	21 (3.8)	56 (12.3)		4.03 (2.08-7.80)*	1.45 (0.63-3.33)
Family Background					
Non-healthcare Professionals	506 (92.0)	371 (82.2)	<0.001	1	1
Healthcare Professionals	44 (8.0)	81 (17.8)		2.60 (1.74-3.90)*	2.82 (1.68-4.75)*
Storing Medicines at home					
No	438 (79.6)	160 (35.2)	<0.001	1	1
Yes	112 (20.4)	294 (64.8)		7.19 (5.41-9.54)*	7.01 (5.10-9.64)*
Knowledge level					
High Level of Knowledge	179 (32.5)	110 (24.2)	0.004	1	1
Low level of knowledge	371 (67.5)	344 (75.8)		1.92 (1.32-2.81)*	1.81 (1.14-2.88)*

In the current study, older populations were more likely to practice SM may be due to a lack of awareness regarding SM practice and previous experience about similar conditions. Participants related to health professionals are more likely to practice SM may be due to their medicinal experience.

The study shows that a lower level of knowledge about medicine induces self-medication, similar to the findings in Sudan (Awad *et al.*, 2005). More than half of the participants were unaware of the harmful effects of the medicine.

Most of the participants had no idea regarding storing condition of medicine, avoidance of medicine during pregnancy, and its interaction, which is similar to other studies (Azhar *et al.*, 2013). This may be due to the absence of adequate knowledge regarding the potential harm of improper medicine use.

CONCLUSION

This study was done among the community of the Lalitpur Metropolitan City of Nepal. It showed a high prevalence rate for self-medication. Three of the most common ailments where SM was preferred include fever, headache and the common cold. The top reason for SM practice was the minor nature of the disease. The rate of SM showed an increasing trend with respect to the growing age of participants. The families belonging to health professionals have a high affinity towards SM and likewise, participants who store the medicine at home were more likely to practice SM. It showed that poor knowledge of medicine was an influencing factor for SM. As SM is unavoidable in many situations, medicine counselling, raising public awareness and regulation of medicine dispensing can be beneficial in reducing the prevalence of uninformed SM practices. The study would recommend the government or policymaker to implement strategies for stricter regulation of prescription-only medicine. It is highly desirable to design and implement action plans to improve the level of awareness about the consequences of SM and facilitate responsible use of SM in the country. Further, it recommends considering other factors that might affect SM practice like insurance, health behaviours like smoking, drinking etc. and quality of health services.

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Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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