# Exploratory Study of Self-Medication Practices among Students

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*Abstract*-Self-medication is the use of medications by a person without consulting a physician to address a suspected or actual health condition. A headache, coldness and a cough, gastritis, and fever are the usual reasons for self-medication. The purpose of the present exploratory study was two-fold. Firstly, among management students of Nepal, it was to evaluate self-medication practices. Secondly, it was aimed at estimating the prevalence in the sample population of self-medication. The study employed a cross-sectional exploratory study design. The study population was the management students studying in the colleges of Kathmandu Valley. A self-administered questionnaire was administered to 386 management students to gather demographic information and the specifics of the use of self-medication. The prevalence of self-medication was 76.4% among the management students. The most prevalent self-medicated health condition was throat pain (56%), headache (54.7%), skin rashes (54.1%), and stomach ache (53.9%). The majority (51.6%) of the students reported that they had sought medication directly from pharmacists. Recurrent episodes of the same symptoms over time (68%) and the waiting line in the hospital (57%) were the most common factors that contributed to self-medication among the students. The prevalence of self-medication among the management students indicates that to reduce the adverse effect of self-medication, it is important to incorporate health education on self-medication in the academic curriculum.

*Keywords- Self-medication, Management Students, Prevalence, Exploratory Research, Cross-sectional Study*

## I. INTRODUCTION

Self-medication encompasses the use of medicinal products by the purchaser to handle self-recognized disorders or symptoms, or the discontinued or continued use of a medication prescribed by a doctor for chronic or recurring diseases or symptoms [1]. It is a human behavior associated with the self-recognized symptoms in which an individual uses a medicine or a substance to self-administer treatment [2]. In South Asian countries, there is a practice of self-medication with the continued improvement in people's awareness, general knowledge, and Internet access. The most commonly self-medicated substances are over the counter drugs and dietary supplements which are available in supermarkets which are available in supermarkets and convenience stores [2, 3]. The practice of self-medication has been studied among students of medical colleges in Bangladesh [4], India [5], and Nepal [6,7, 8, 9]. The previous studies have revealed that students have tendency to the practice of self-medication due to their knowledge on self-medication, save time, save doctor's fees, family and relatives suggestions, and provide quick relief. The data analysis on self-medication revealed that most frequently utilized self-medicated drugs used for headache, cold and cough, gastritis, and fever [4, 8, 9, 10].

There are many studies of self-medication practices conducted among the medical students in Nepal [6-9]. The students associated to medical ground prefer to treat common health problems without consulting a physician or medical supervision [6, 9]. The social and economic advantages of self-medication reveal the fact that students are willingly preferred to health problems where they appear attractive. This current study attempts to shed light on the self-medication practices among the students who do not belong to the medical field. The aim of the present study was two-fold. Firstly, it was to assess self-medication practices among management students in Nepal. Secondly, it aimed to estimate the prevalence of self-medication in the study population.

## II. METHOD

The sample size necessary to estimate population characteristics given 5% level of sampling error, and unknown population size for cross-sectional study is calculated as

$$ n = \frac{z^2 \ P(1-P)}{e^2} = \frac{(1.96)^2 \ (0.5 \times 0.5)}{(0.05)^2} = 384 $$

Where, n = sample size, z = standard value of z = 1.96 at α = 5% or confidence level 95% which means the researcher is confident that the results lie within a certain range. P = population proportion (50%), and e = margin of error, 5%, which shows that the survey results expect to reflect the views of the overall population [11, 12].

This study employed a descriptive cross-sectional design, and the study population was the students studying bachelor of management in Kathmandu Valley. The participants were selected using convenience-sampling method in this exploratory research where the investigator was concerned in getting a reasonable approximation of the truth [13]. 400 students of five colleges in Kathmandu Valley were approached (in equal proportion) with the help of class representatives of each college using text messaging and email. The respondent with the digital written consent for voluntary

participation, residing in the Kathmandu Valley during study period, not having serious health issue, had taken some form of self-medication in the six month period preceding the study, and age more than 18 years were the inclusionary criteria.

The survey's response rate was 96.5%, which was the proportion of participants included in the sample who actually completed the questionnaire. It means a total of 386 students were sampled with equal percentage of male and female. The questionnaire was pretested with 15 students who were not included in the sample. The ambiguous and double-barreled six questions were deleted from the questionnaire. The self-administered, questionnaire survey was conducted electronically in the month of March to April 2020 as the government of Nepal announced first lockdown on 24th March 2020 due to COVID-19 outbreak.

The questionnaire was in five sections: section I involved the socio-demographic characteristics of participants; section II contained questions on self-medication with types of conditions; section III covered questions on sources of information for self-medication; section IV enclosed questions on benefits of self-medication and section V comprised questions on factors that influence the practice of self-medication. In addition, some open-ended questions were added at the end of section V. Use of any medicine or drug from other sources without consulting a doctor was considered as a self-medication in the current study. The data were analyzed using Statistical Package for Social Sciences (SPSS) version 23. The qualitative data were measured using nominal scale in section III and IV, and ordinal scale in the IV and V section of questionnaire. The Likert type scale was used with '1' as strongly agree to '5' as strongly disagree. The data were presented in frequencies, percentages, median, and mode with the aid of table and bar diagrams.

## III. RESULTS

### A. Socio-demographic Information

The analysis and interpretation of the study was based on the entire samples. The sampling population of participants was very homogeneous with little variance. Table 1 displays the socio-demographic characteristics of the participants. The socio-demographic characteristics of the respondents show that majority (63.5%) of the participants were between ages 20 to 25 years. The male and female participants were equal in number. Out of seven federal provinces of Nepal, the permanent residences of majority of the participants were in Bagmati province (41.19%) followed by province-2 (17.36%) and Gandaki Province (13.21%). During the survey period, 44.3% participants were residing in Lalitpur district, 40.9% of them were in Kathmandu district, and the least 14.8% of the participants were residing in Bhaktapur district of Bagmati Province. Out of 386 students, 52.07% were living with their family, 38.8% were living in the rented rooms, and the least 9.07% were living in the hostel. 76.4% of the participants admitted to self-medication practice.

TABLE I. SOCIO-DEMOGRAPHIC CHARACTERISTICS.

| Variables | Categories | N | % |
|---|---|---|---|
| Gender | Male | 193 | 50 |
| | Female | 193 | 50 |
| Age (Years) | 18-21 | 101 | 26.25 |
| | 22-25 | 157 | 40.7 |
| | 26-30 | 128 | 33.2 |
| Permanent Residence of Respondents | Province 1 | 37 | 9.6 |
| | Province 2 | 67 | 17.4 |
| | Bagmati Province | 159 | 41.2 |
| | Gandaki Province | 51 | 13.21 |
| | Lumbini Province | 26 | 6.74 |
| | Karnali Province | 31 | 8.03 |
| | Sudurpaschim Province | 15 | 3.9 |
| Residing in District during Survey Period | Lalitpur District | 171 | 44.3 |
| | Kathmandu District | 158 | 40.9 |
| | Bhaktapur District | 57 | 14.8 |
| Participants Living with | Family | 201 | 52.07 |
| | Rented Room | 150 | 38.86 |
| | Hostel | 35 | 9.07 |

### B. Conditions Self-medication was used for (Multiple answers allowed)

Figure 1 illustrates the self-medication for the participants' health conditions. The most prevalent conditions needing self-medication were throat pain (56%), headache (54.7%), skin rashes (54.1%), stomach ache (53.9%), and wound (51.8%). The other health conditions were fever (48.4%), cough and cold (46.9%), diarrhea (49.7%), muscle cramp (48.7%), allergy (48.4%), and other minor (49.5%).
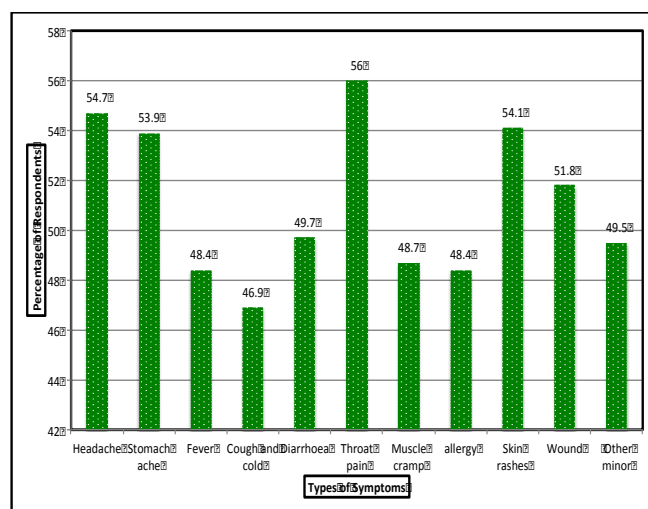


Figure 1. Self-medication for the health conditions.

## C. Sources of Supply of Medicines (Multiple answers allowed)

Figure 2 demonstrated the sources of drug supply to the participants. The most common sources that led to self-medication among students were attributed to community pharmacists (72.5%), followed by family (51.3%), previous doctor's prescription (35.8%), information of drug on the Internet (32.4%), advertisement of medicines in media (26.7%), and the friend circle (25.9%).

## D. Respondents' Perception about Benefits of Using Self-medication

Figure 3 displays that the perception of respondents related to the benefits of using self-medication and the data were measured using Likert type scale with '1' strongly agree to '5' strongly disagree. In order to get absolute consensus for the claims, the percentages of strongly agreed and agreed upon in figure 3 are summarized. The majority of respondents have believed that self-medication can provide early treatment (82%).

They thought self-medication could provide quick symptomatic relief (77%) and economical (77%) as well. More than half of the respondents considered practice of self-medication as time saving (68%), and easy and convenient (61%). The median value for each statement was obtained as '2' and hence, it can be noted that the participants were likely to agree that the self-medication was beneficial to them.
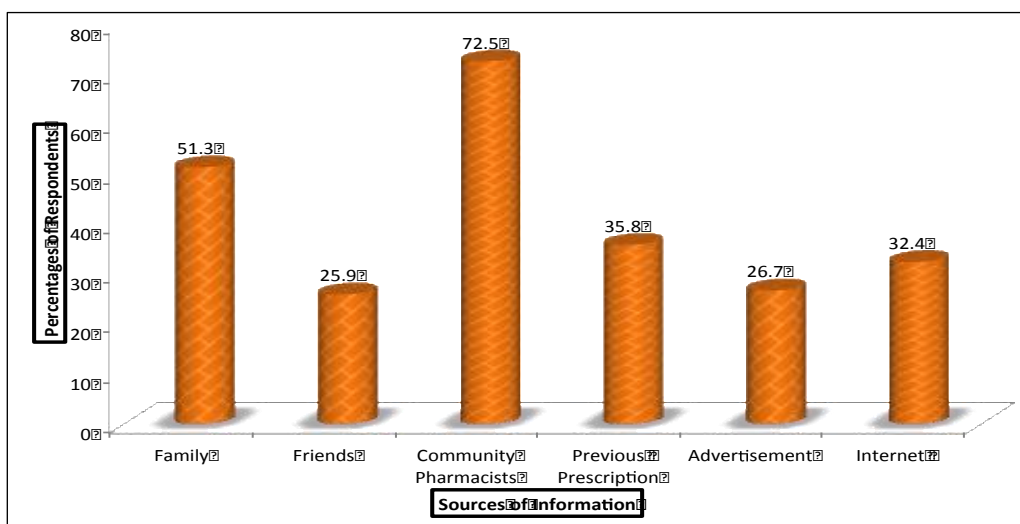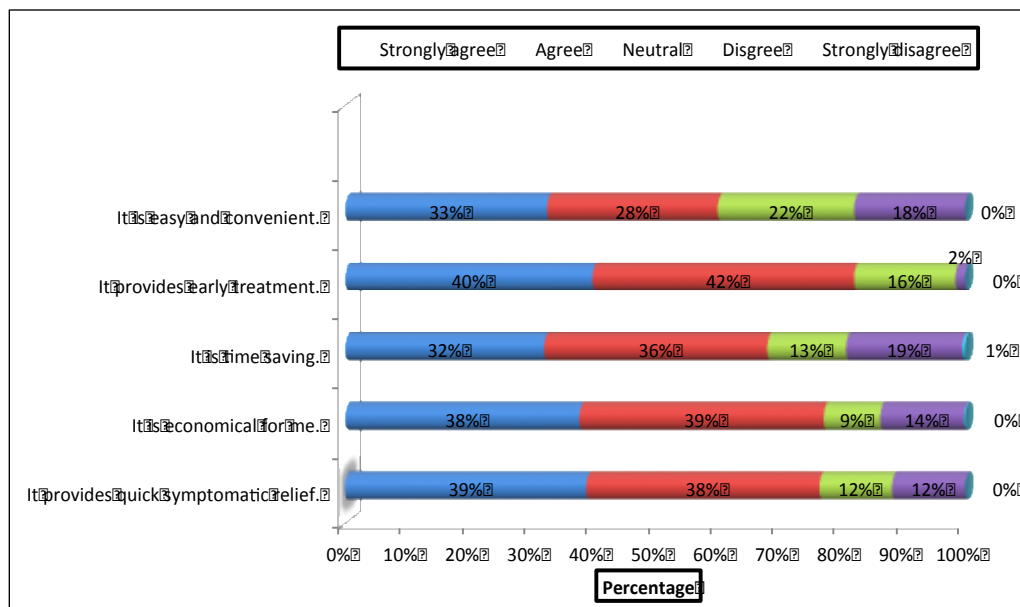


Figure 2. Sources of supply of medicines.



Figure 3. Benefits of using self-medication.

## IV. DISCUSSION

A total of 386 valid responses were obtained, giving a response rate of 96.5%. This response rate was attained probably due to leisure time of the students during COVID-19 outbreak. Since the response rate was high, the accuracy of the survey results is assumed to be higher.

### A. Prevalence of Self-medication

The findings of this study revealed that the prevalence of self-medication was 76.4% among the students studying bachelor of management. This prevalence is consistent with the study conducted with medical students in Nepal that reported 76.6% prevalence [8], 94.9% among undergraduate medical students in Kathmandu Valley [6]. Similarly, the prevalence of self-medication among the medical students in India was 53.57% (average) [5], 88.49% in Bangladesh [4], and 81.8% in Nigeria [10]. The present study is different from the previous studies conducted in Nepal as most of the studies, the participants were medical students but the present study is conducted among management students who practice self-medication without proper knowledge of medicine and medical terminology.

### B. Reasons for Practicing Self-medication

Several studies reported different motives for engaging self-medication. These includes previous experience, availability of medications, save time, unfriendly attitude of health care workers at school clinic, busy schedule of students, and clinic far away from home [6]-[10]. The motives are subject to be different due to the study population and the sampling area. The median and mode values of table 2 portray that the students were likely to agree with the reasons for practicing self-medication but disagreed with the reason 'information available on the Internet'.

TABLE II.    REASONS FOR PRACTICING SELF-MEDICATION

| Reasons | Median | Mode | Choices | | | | |
|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 |
| Suggestion of family members and relatives | 2 | 2 | 28% | 29% | 23% | 20% | 0% |
| Recurrent episodes of the same symptoms | 2 | 1 | 38% | 30% | 32% | 0% | 0% |
| Waiting line in the hospital | 2 | 2 | 28% | 30% | 19% | 23% | 0% |
| Difficulties to access clinic and hospital | 2 | 2 | 25% | 27% | 24% | 24% | 0% |
| Access to online medicine shopping | 2 | 1 | 32% | 23% | 19% | 26% | 0% |
| Information available on the internet. | 3 | 4 | 24% | 24% | 24% | 28% | 0% |

(1- strongly agree, 2- agree, 3- neutral, 4- disagree, 5- strongly disagree)

The most common factors that led to self-medication among the students were attributed to suggestion of family and relatives (57%), recurrent episodes of same symptoms over the time (68%), difficulties to access clinic and hospital (52%), waiting line in the hospital (58%), and access to online medicine shopping (55%). These values were obtained by summing up the percentage of strongly agreed and agreed upon to achieve absolute consensus.

According to Central Bureau of Statistics (2011), 41% of rural households of Nepal did not have access to a health post or sub-health post, and 79.6% of rural households did not have access to a public hospital within half an hour of their home. In addition, 92% of the rural households could not access healthcare with public bus (40%) or as pedestrians (50%) [14]. There is lack of health facilities and uneven distribution of the existing ones in each province of Nepal [15]. This bitter truth could force respondents to practice self-medication because 73% of the respondent's permanent residence belongs to rural area and 27% of them have their permanent residence in urban area of Nepal.

### C. Medicines Used for Health Condition

The study participants were the students from management faculty and hence, they were not familiar with the medical terminologies. When they were asked to name the medicine they used for particular health condition, most of them reported that it depends on the availability of medicines at home or in the nearby pharmaceutical shop. The common medicines they have used for various health conditions were Paracetamol, Nimesulide, Pudinhara pearls, Digene, Metronidazole, Eno, Aciloc, Avomine, Cough syrup, Strepsils, Ibuprofen, Sinex, Antibiotics, Flexon, Betadin, and Ointment.

The question 'How did you get medicine for your health condition?' was part of questionnaire. Majority (51.6%) of the participants reported that they directly requested to the pharmacists, 28.2% mentioned they used left over or stored drugs at home, 12.2% of them stated they used past prescription written for them, 4.4% specified sometimes they used prescription written for a family member, and the least (3.6%) revealed that they used drugs brought for a family member. Majority (48.4%) of the participants mentioned the name of the medicines to the pharmacists and purchased the medicine. 40.9% of them purchased medicine by telling the symptoms of their health condition and taking advice of the pharmacists. 5.7% of the participants mentioned the group of medicine and 4.9% of them used previous prescription to purchase the medicines.

The practice of self-medication can have an adverse effect on the health of the participants, but the influence of self-medication on the health of respondents was not analyzed in this cross-sectional study. Less than half of participants (39.4%) confirmed that they complete the dose of drugs according to the requirement, but 60.6% of the students reported that they did not complete the dosage when they felt

their health condition was improving. The participants did not report any major adverse health problems due to self-medication but confirmed that they will visit and consult with doctors for major health problems.

### D. Limitation of the Study

This study used a cross-sectional exploratory study design and hence, causal relationships between the variables cannot be established. The sample was selected using convenience-sampling method and hence, the degree to which the sample differs form the population remains unknown. The research findings were based on the data obtained from the self-administered questionnaire. Therefore, the findings of the current study cannot be generalized to a broader population of the students in Nepal.

## V. CONCUSION

The present study concluded that majority of the management students practiced self-medication and this was majorly attributed to recurrent episodes of the same symptoms followed by waiting line in the hospital and suggestion of family members and relatives. Self-medication can enable access to medicines and decrease health care costs.

The studies that are more specific are required to evaluate the impact of self-medication among the students. Health education on self-medication should be introduced in academic curriculum to minimize the adverse effect of self-medication. Basic quality healthcare services should be accessible to the people in each federal province of Nepal.

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