

A Systematic Review on Self-Medication Practice in Nepal

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ABSTRACT

Self-medication practice is still prevalent mostly in developing countries where healthcare system is not affordable and accessible for low-income people, further depends on many factors. This study focused on providing an over view of the literature on self-medication practices in Nepal. Various search engines namely PubMed, PubMed central, Google Scholar and ResearchGate were used. Selection of the articles were done based on the year of publication, originality of primary data, recall period, study objectives, and study location.

The literature from various database provided 602 studies. After adjustment for duplicates and exclusion criteria, 19 articles were found suitable for the review. The average reported prevalence rate of a self-medication practice was 63.22% with a range from 38.2% to 92.4. Commonly used class was analgesic/antipyretics. Source of information for self-medication were obtained from previous experience. Common illness was fever. Reasons of self-medication practice were illness being mild. The self-medication practice was found to be prevalent in Nepal based on the reviewed studies and it varied in different populations and regions of the country. Emphasis should be given for educating the public on the type of illnesses that can be self-diagnosed and self-treated and the type of drugs to be used for self-medication.

Keywords: Self-medication, self-care, OTC drug, Nepal

INTRODUCTION

Health is an important element of any individual. If anything wrong happens with own's health, there is a tendency to seek help either by visiting the health facility or by treating own-self so that one can be free from the suffering as soon as possible. This type of behavior most of the time leads to self-medication practice in order to address the discomfort due to the illness. World Health Organization (WHO) defines self-medication as individual practice to treat self-recognized ailments with the use of medicinal product without the prescription of the medical practitioners. [1, 2]

Self-medication is one of the widely practice treatment method for the minor ailment both in developed and developing countries. [3] The uninformed and irrational use of this practice has led to the major public health problems mostly in the developing world. [4] Various studies have revealed that self-medication practice depends upon several factors like socioeconomic characteristics, severity of illness, access to health facility, medicine depending policies, health policies and soon. Self-medication is not always a problem if used responsibly. It has many

advantages in different levels of the individual as well as in the community such as access to medication for emergency treatment in remote area and reduction in the cost of treatment and so on. [3,5-7] In the developing countries like Nepal, where the geographical condition has made access to healthcare system more challenging, rational self-medication can play an important role by relieving the demand of the healthcare professionals and make locals more conscious towards their health. [8] However, if practiced irrationally may lead to different level of consequences ranging from minor adverse drug reaction to wastage of resources due to development of antimicrobial resistance, which is one of the biggest concerns in today's scenario. [3, 9, 10] Furthermore, it also leads to delayed in diagnosis of the disease by masking the symptoms of the disease and may prolong the suffering. [11, 12]

Self-medication in many condition are difficult to terminate because it is a human behavior that whenever one feel sick, they self-treat themselves. Therefore, it is more important to teach the consumers regarding use of medicine in more responsible way. In order to focus on solution, one must understand the real problem behind self-medication practice.

Pattern of self-medication may vary among different study population and are influenced by various associated facts like socioeconomic status [3.], education level, knowledge regarding the medication, cultural factors [13], access to healthcare [14], health insurance [15], and strict regulation policy.[16,17] Reason of self-medication may vary according to the distribution of the location of the study which may further depends on the rate and extend of self-medication practice.

Many studies have been conducted to seen the practice of self-medication in various parts of Nepal. However, there has not been any comprehensive review on self-medication practice in Nepal. Therefore, this study was conducted to have in depth review to express the self-medication practice in Nepal. This allows, in which situation the country is in, in case of self-medication practice. Further, it helps to identify different intervention measures like education intervention, access to healthcare, capacity building programs, implementation of health insurance policies in order to reduce and improve the inappropriate self-medication practice.

The aim of this review is to find the literature on self-medication practice in Nepalese population and to have a comprehensive review on prevalence, reason of self-medication practice, medicine use for self-medication, source of information and medicine obtained from during the practice. Finally, to see what are the associated factors involve in self-medication practice.

METHODOLOGY

Search Strategy

Various search engines namely PubMed, PubMed central, Google Scholar and ResearchGate were used in order to search the published article between January 2015 to December 2020. Primary terms used were “self-medication”, “self-care”, “self-treatment”, “self-administered”, “OTC medicine used”, “Nepal”. Some studies were also abstracted by using manual Google search. Selection of the articles were done based on self-medication practice in Nepal and were set for the review.

Data Abstraction

The authors screened the articles based on the inclusion and exclusion criteria. The following details were used for the abstraction of the data: Year of publication, originality of the primary data, recall period, must meet the objectives, study must be done in context to Nepal.

Assessment of Methodological Quality

The validation of the method was based on the inclusion criteria of sample size, sampling method, validity of collection of data and various outcomes of the research including prevalence and its factor related to practice in Nepal.

RESULTS

Literature Search

The literature from various database provided six hundred and two studies. One hundred and fifty-five articles were remained after adjustment for duplication. Remaining one hundred and twenty-seven were discarded after the titled and abstract screening, as they did not meet the objectives. The full text of remaining 28 studies were reviewed in detailed out of which nine were further discarded as the information were insufficient. Thus, remaining nineteen articles were included in the study as shown in Figure 1.

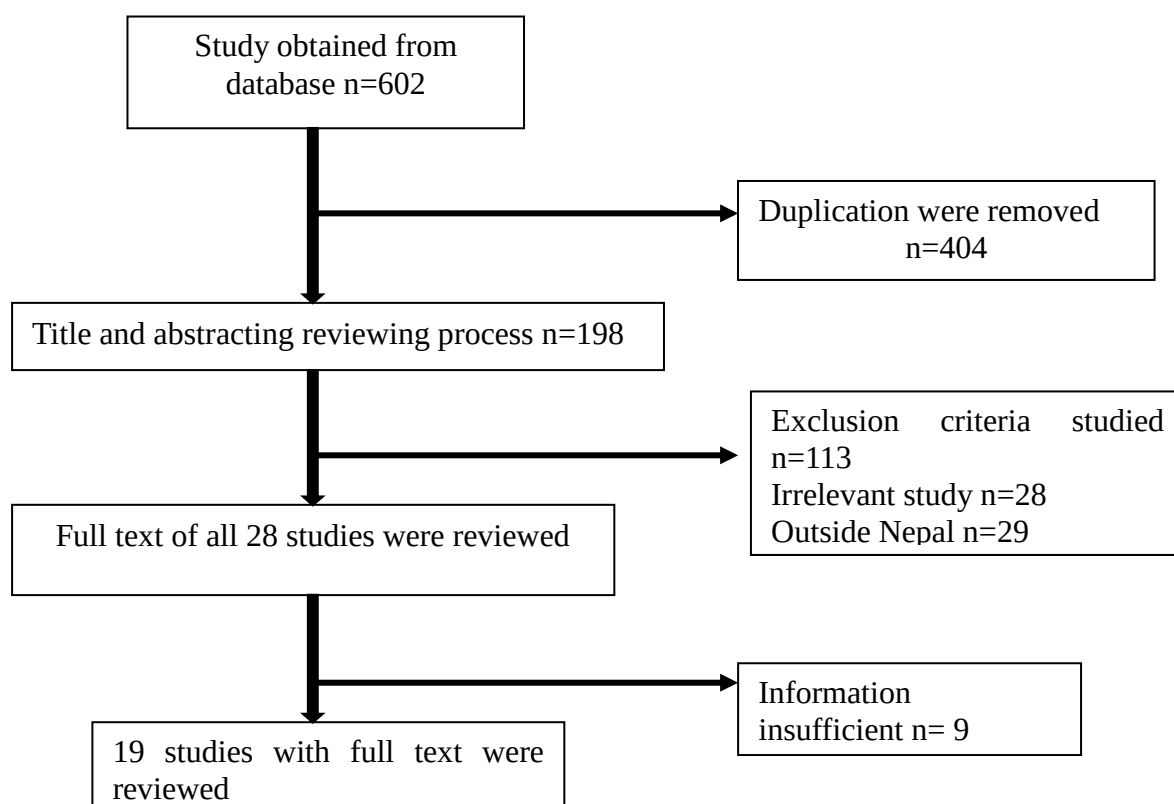


Figure 1. Flowchart of literature search result

Study Characteristics

The 19 studies in different publication years differ considerably in sample size, location and recall period. All articles included in the study are based on self-medication practice in Nepal.

Among them five studies were done in the community level, ten in university students of different fields of both medical and nonmedical students. Remaining three involved out patients of different hospitals and one reports self-medication practice in pregnant women. The sample size considered by the reviewed studies range from 76 to 1058 individuals. All the studies that are included for review are cross-sectional. Majority have used convenience sampling techniques followed by random sampling and multistage sampling techniques and remaining seven has not mention (NM) the sampling techniques. Details regarding the study characteristics are shown in Table 1.

Table 1. Study characteristics

Study	Site of Study	Study Population	Design	Sampling Technique	Sample size
Shrestha et al. [18]	Kathmandu	Dental undergraduate students	Descriptive cross-sectional study	Convenience sampling method	180
Yadav et al. [19]	Dharan	Undergraduate Students	Cross-sectional study	Systematic random sampling	570
Sah et al. [20]	Chitwan	Pregnant Women	A cross-sectional study	NM	225
Sah et al [21]	Chitwan	Nursing Students	A cross sectional questionnaire-based study	Stratified sampling	327
Karmacharya et al.[22]	Palpa	Medical undergraduate Students	A cross sectional study	Convenience sampling	356
Khadka and Kafle [23]	Kathmandu	Medical undergraduate Students	A descriptive cross-sectional study	Convenience sampling	76
Singh et al. [24]	Chisapani Nepalgunj	Preclinical medical students	A cross-sectional study	NM	200
Yadav et al [25]	Dhankuta district.	Community household	A community-based cross-sectional study	NM	376
Shrestha et al. [26]	Dhulikhel	Medical and dental Undergraduate students	A descriptive cross-sectional study	NM	199
Chapagain and Rauniyar [27]	Dharan	Peri-urban community	A descriptive cross-sectional study	Random Sampling	426

Mandal et. al [28]	Dharan	Medical and dental undergraduate students	A descriptive cross-sectional study	NM	558
Shrestha et al. [29]	Kathmandu Valley	Management Students	A cross-sectional exploratory study	NM	386
Pokharel and Chapagain [30]	Biratnagar	Outpatient of Koshi Zonal Hospital	A cross sectional descriptive study	NM	1058
Bhattarai et al. [31]	Kathmandu	Outpatient of Kantipur dental Hospital	Hospital-based, descriptive cross-sectional study	Convenience sampling	265
Paudel and Aryal [32]	Pokhara	Patient attending screening program	A cross sectional survey.	Convenience sampling	201
Sarraf et al.[33]	Dharan	Undergraduate students	A cross sectional survey.	Convenience sampling	520
Deo, et al. [34]	Kathmandu	Community consumers	A descriptive cross-sectional	non-probability convenience sampling	384
Mishra et al. [35]	Rolpa	Head of household of the community	A cross-sectional survey	A systematic random sampling	720
Parajuli et al. [36]	Budhiganga Ruler Municipality	Local Community	Community based cross sectional study	Multistage sampling	348

Abbreviation: NM-Not mentioned

Prevalence of Self-medication in Nepal

Among the nineteen studies reviewed, eighteen had reported the prevalence of self-medication, and in one study, it was not reported. The average reported prevalence rate of a self-medication practice was 63.22% with a range from 38.2% (patients visiting health screening program in Pokhara) to 92.4% (in the community of Basundhara, Kathmandu). Detailed regarding the prevalence is mentioned in the Table 2

Table 2. Prevalence of Self-medication in Nepal

<i>Study</i>	<i>Study Population</i>	<i>Prevalence of Self-medication (%)</i>
<i>Shrestha et al. [18]</i>	Dental undergraduate students	83.30
	Undergraduates Students	83.50

Yadav et al. [19]	Pregnant Women	41.30
Sah et al. [20]	Nursing Students	50.70
Sah et al. [21]	Medical undergraduate Students	83.30
Karmacharya et al. [22]	Medical undergraduate Students	76.60
Khadka and Kafle [23]	Preclinical medical students	61.50
Singh et al. [24]	Community household	70.20
Yadav et al. [25]	Medical and dental Undergraduate students	50.30
Shrestha et al. [26]	Peri-urban community	73.23
Chapagain and Rauniyar [27]	Medical and Dental undergraduate students	NM
Mandal et. al [28]	Management Students	76.40
Shrestha et al. [29]	Outpatient of Koshi Zonal Hospital	47.30
Pokharel and Chapagain [30]	Outpatient of Kantipur dental Hospital	62.60
Bhattarai et al. [31]	Patient attending screening program	38.20
Paudel and Aryal [32]	Undergraduate students	48.30
Sarraf et al. [33]	Community consumers	92.40
Deo, et al. [34]	Head of household of the community	54.90
Mishra et al. [35]	Local community	44.04

Medicine use, source of information and medicine obtained from for self-medication

As shown in Table 3 the commonly used class of drugs for self-medication were analgesic/antipyretics, antimicrobial and drug use in cough and cold remedies with an average value of 54%, 27.8% and 20% respectively. The source of information for the use of medicine for SM were obtained from previous experience (37.35%), from a pharmacist (25.86%) and from friends and relatives (24.4%). They obtained medicine from pharmacy for the same practice.

Table 3. Medicine use for self-medication, where they obtain from, and source of information.

Study	Medicine used	Obtained from	Source of information
Shrestha et al.	analgesic	Own-self	Previous experience
Yadav et al.	Paracetamol 83.82 %	- Left over tablet 12.1% - Pharmacy and retailers 81.4% - Friends 26.0%	- Own Experiences 56.6% - Internet 15.1% - Advice from patents 14.1% - Advice from friend 13.8%

<i>Sah et al.</i>	• Paracetamol 28% • Cough remedies 18% • Analgesics 10% • Antiemetics 15% • Antibiotic 9%	• NM	• Friends 28% • Health professionals 23.6% • Neighbour 12.9% • Social network 11.8% • Husband 8.6%
<i>Shrestha et al. [18]</i>	• Amoxicillin 33.9% • Azithromycin 14.9% • Ciprofloxacin 13.7%	• NM	• Previous experiences of same illness 45% • Previous doctor prescriptions 30.8%
<i>Yadav et al. [19]</i>	• Painkillers 60% • Skin Ointment 32.1% • Fever 53% • Anti-allergic 28.5% • Vitamins and tonics 29.4%	• NM	• NM
<i>Sah et al. [20]</i>	• analgesic-antipyretic 56.5% • cough syrups/ antitussives 33.3% • antacids 25% • antihistaminic 25% • antimicrobials 16.7% • antispasmodics 13.9% • antidiarrheal 8.3%	• private pharmacies 58.3% • left over medicines 22.2% • friends and relatives 19%	• NM
<i>Sah et al. [21]</i>	• Paracetamol 83.71% • NSAIDs 56.44% • Cough remedies 28.40% • Anti-acidity drugs 24.62% • Vitamins and tonics 6.06% • Eye/ear drop 1.14% • Anti-diarrheal 12.12% • Antibiotics 3.79	• NM	• NM
<i>Karma charya et al. [22]</i>	• Paracetamol 83.71% • NSAIDs 56.44% • Cough remedies 28.40% • Anti-acidity drugs 24.62% • Vitamins and tonics 6.06% • Eye/ear drop 1.14% • Anti-diarrheal 12.12% • Antibiotics 3.79	• NM	• NM
<i>Khadka and Kafle [23]</i>	• Analgesics 62% • Antipyretics 52% • Antihistaminics 28% • Antitussives 28% • Antacids 24% • Vitamins 16%	• NM	• NM
<i>Singh et al. [24]</i>	• Analgesics and antipyretics 88.14%	• NM	• Opinion from the Pharmacist 35.89% • Family/friend 34.61% • Previous prescription 34.61% • Own initiatives 20.19%

Yadav et al [25]	• Azithromycin 28.1% • Ciprofloxacin 14.7% • Amoxicillin 17.2% • Amoxicillin+Clavulonic acids 4.6%	• NM	• NM
Shrestha et al. [26]	○ NA	• Pharmacies 57.3% • Leftover medicines 22.6%	• Pharmacist advice 57.3% • Pharmacology learning 44.7% • Expertise from previous illness 35.2% • Family and friends 30.2%
Chapagain and Rauniyar [27]	• Analgesics and antipyretics 35.8% • cough/ cold remedies 24.5% • antibiotics 22.1%	• Old prescriptions 26.8% • Unused drugs at home (17.3%)	• family members, friends and relatives 30%
Mandal et al [28]	• Analgesics 72.3% • Antibiotics 9.6% • Native herbs 9.6% • Others 8.5%	• Pharmacy shop 73.5% • Hospital pharmacy 22.3% • Traditional home 4.2%	• Relatives 21.1% • Friends 13.9% • Personal knowledge 42.8% • Pharmacist 18.1% • Mass media 4.2%
Shrestha et al. [29]	• Paracetamol 16 • Nimesulide 11 • Ibuprofen 6 • Ayurvedic oil 6 • Ibuprofen+Paracetamol 2 • Pantoprazole 2 • Ranitidine 2 • Cefixime 1 • Amoxicillin 1 • Azithromycin 1 • Topical steroid ointment 1	• NM	• paramedics most commonly consulted for medication 60%
Pokharel and Chapagain [30]	• NSAIDs 78.9% • Antimicrobial agents 19.2% • Anti-allergic 15.5% • Anti-peptic ulcer 13.1% • Cough syrup 2% • Sedatives/hypnotics 1.6% • Multivitamins 1.2%	• family members, friends, neighbors 33.5%	• Seniors 50.2% • Textbooks 37.1% • Pharmacist 20.3% • Internet 11.6% • Family members 7.2% • Earlier prescription 2.4% • Past experiences 2%
Bhattarai et al. [31]	• Supplements/vitamins 69.8% • Antipyretics 47.9% • Analgesics 45.6% • Antibiotics 26% • Antacids 21.9% • Antiemetics 17.4%	• NM	• Friends and family 73.2% • Previous experience 80.2%
Paudel and Aryal [32]	• cetirizine 86.1% • amoxicillin 81.3% • ciprofloxacin 78.6%	• NM	• NM

<i>Sarrafa et al.[33]</i>	• antipyretics 18.8% • antibiotics 16.5% • proton pump inhibitors 7.5% • antihistaminic 6.8% • Analgesic 6% • Tonic/vitamins 6% • Antitussive 4.5% • Antidiarrheal 3.8% • Topical corticosteroids 3.8% • Medicine for mental health problem 2.3% • Medicine for non-communicable disease 2.3% • Antiemetics 1.5% • Antispasmodic 1.5% • Sedatives 0.8% • Steroids 0.8%	• Pharmacy 67.7% • Buy oneself 12.8% • Family members/relatives 3% • Friends 2.3%	• NM
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Common illness, reason leading to self-medication practice and Factors associated

The common illness that has been reported in the studies were fever, headache, common cold and sore throat with an average share of 38.76%, 38.42%, 31.39% and 28.53% respectively. The two major reasons of self-medication practice were illness being mild and time saving with an average share of 37.81% and 36.82% respectively. Majority of studies included for the review did not address the factors associated with self-medication. Those who have addressed the factors show that there is an association between self-medication and access to health facility and sociodemographic characteristic. The recalled period considered for the study ranges from 2 months to 12 months.

Table 4. Recalled period, reason to practice self-medication, common illness for use of self-medication and factors associated with self-medication

<i>Study</i>	<i>Recall Period</i>	<i>Reason to practice self-medication</i>	<i>common illness</i>	<i>factors associated with self-medication</i>
<i>Shrestha et al. [18]</i>	• 6 months	• NM	• cold and cough	• NM
<i>Yadav et al. [19]</i>	• NM	• Prescription Not Necessary 33.4% • Avoid time wasting 33.6% • I have good Knowledge 33.0%	• NM	• significance difference: Between • Dose and the year of study. • Year of study with self-medication

<i>Sah et al. [20]</i>	• NM	• Disease were not serious 46.2% • High cost to visit doctor 29% • It is time saving 19.3% • Drugs are easily available 5.4	• Headaches 31.2% • cough 22.6% • vomiting 14% • urinary tract infections 11.8%	• NM
<i>Sah et al. [21]</i>	• NM	• doctor advise is not needed for common illness 32% • save time and money 21.3%	• fever 35.7% • sore throat 20.2% • rhinitis 12.5%	• NM
<i>Karmacharya et al. [22]</i>	• 12 months	• NM	• NM	• NM
<i>Khadka and Kafle [23]</i>	• 2 months	• Not willing to visit doctors 22.2% • Exposure to drug advertisements 16.7% • Non-serious nature of illness 13.9%	• Sore throat 23.5% • fever 19.1% • Diarrhea 14.9% • Allergy 12.8% • acne 12.8% • menstrual pain 8.5% • nausea and vomiting 4.3% • dry eyes 2%	• NM
<i>Singh et al. [24]</i>	• NM	• Mild nature of illness 44.72% • Time saving 24.39% • Cost effective 23.58% • Urgency 7.32%	• fever 18.70% • headache 17.89% • cough & common cold 16.26% • abdominal pain 13.01% • allergies 11.38% • diarrhea 8.94% • heartburn/peptic ulcer 8.94%	• NM
<i>Yadav et al. [25]</i>	• 12 months	• Saving time • No need to consult doctors for minor illnesses • Ease and convenience • Pharmacy near the home • Unavailability of doctors • Prior experience of the illness	•	• Higher secondary education tend to self-medicate less compare to illiterate (p=0.004) • Multivariate analysis of gender, marital status, medical visit, perception and self-medication were found to be associated with the individual's self-medication practices.

Shrestha et al. [26]	6 months	- Minor illness 64% - Previous exposure from disease 39% - Instant relief 33% - Knowledge from pharmacology teaching 28%	- Headache 47% - Fever 39% - Runny nose 31% - Menstrual Problems 25% - Acidity 24% - Cough 22%	NM
Chapagain and Rauniyar [27]	NM	- Lack of time 39.10% - comfort 40.70% - Mild illness 28.52% - knowledge of medicine 8.01% - Pharmacist advice 29.80% - Previous prescription experience 26.6%	- Headache 64.42% - Fever 43.26%) - Gastrointestinal complaints 29.8% - Respiratory symptoms 27.88%	NM
Mandal et al. [28]	12 months		- Sore throat with runny nose 45.3% - Fever 31.6% - Tonsil infection 20.4% - Skin wounds 14.0% - Diarrhea 10.9% - Ear and eye infection 4.6% - Sinusitis 0.5%	NM
Shrestha et al. [29]	6 months	- Quick symptomatic relief 77% - Economical 77% - Time saving 68% - Easy and convenient (61%).	- Throat pain 56% - Headache 54.7% - skin rashes 54.1% - Stomach ache 53.9% - Fever 48.4% - Cough and cold 46.9% - Diarrhea 49.7% - Muscle cramp 48.7% - Allergy 48.4%	NM
Pokharel and Chapagain [30]	NM	- lack of time 31.4% - previous experience 28.1% - money constraint 27.7% - mild illness 24.4% - Quicker 10.6%	- fever 15% - cough and common cold 14.9% - headache 14.6%)	NM
Bhattarai et al. [31]	NM	- Lack of time 27.7% - Lack of money 4.2% - Previous experience of treating similar illness 60.8% - Traditional belief 2.4% - Unavailability of doctor 1.2%	- Fever 55.29% - headaches 52.35% - cough 47.06% - Cold 41.17% - Acidity 30.58 - Diarrhea 42.35% - Pain condition 29.92%	NM

<i>Paud el and Aryal [32]</i>	• 6 months	• self-knowledge in 22%	• Ache (headache, body ache) 50% • cough and cold 31% • Gastritis 23%	• Significance difference was seen between age and SMP (p=044) • No significance with education level
<i>Sarra f et al.[33]</i>	• 6 months	• Mild disease 64.5% • Lack of time 17.1% • Good knowledge of pharmacology 9.6% • Suggested by others 7.6% • Privacy 1.2%	• Common cold 53.3% • Headache 48.3% • Fever 39.2 % • Pain 23.8 % • Heartburn 18.8% • Diarrhea 13.3 % • Anxiety 11% • Insomnia 9.1%	• NM
<i>Deo, et al. [34]</i>	• NM	• Lack of time to consult doctor 71.2% • Minor illness 62% • Save time 57% • Quick relief 53% Inability to afford health care fee 36.7% • Similarity of previous illness 14.5%	• Fever 57.8% • Headache 62.5% • Mild abdominal pains 27.3% • Cough 38.8% • Dysmenorrhea 27.1% • Sore throat 27.1% • Rashes 14.3% • Tingling sensation 14.1%	• NM
<i>Mishr a et al. [35]</i>	• 6 months	• Saving time 59.4% • Storing medicine in the home for an emergency Family members 53.9% • Hospital was far from home 51.7%	• NM	• Overall access to health service significant associated with self-medication practice. • Gender, ethnicity, extended family, income, National Health insurance were significantly different with SM practice

Shrestha et al. [18]	• NM	• Low cost 30.1% • Time saving 24.1% • Mild illness for consultation 18.8% • Quick relief 18.1% • High Doctor fee 15% • Lack of awareness 13.5% • Familiar with treatment options 12.8% • Long waiting line in Hospital 12% • Belief of traditional healer 9.8% • Old prescription for same illness 7.5% • No doctor near by 7.5% • Thought pharmacist are also doctors 6.8% • Fare of investigation at hospital/health center 6% • Privacy 5.3% • Internet search 4.5% • Fare of not being able to take medicine 3% • Long process at hospital/ health center 2.3% • Avoid crowd 1.5% • Academic knowledge 1.5% • Rude behavior of health care providers 1.5% • Drug advertisement 0.8%	• Headache 43.6% • Common cold 39.1% • Fever 35.3% • Cough 21.1% • Muscular pain 14.3% • Abdominal Pain 12% • Diarrhea 12% • Constipation 8.3% • Allergy 7.5% • Skin problem 3.8% • Menstrual problem 3% • High blood Pressure 2.3% • Jaundice 0.8% • Asthma 0.8% • Chest pain 0.8% • Ear discharge 0.8% • Throat Problem 0.8%	• Participants residing in Alani/rent household and negative attitude are more likely to self-medication.

DISCUSSIONS

The study was conducted to have a comprehensive in depth review of self-medication practice Nepalese population and highlight the prevalence, reason , medicine use , source of information and where the medicine are obtained form along with the associated factors that promotes self-medication practice.

In the reviewed studies, the prevalence of self-medication range from 38.2% to 92.4%. The main reason for wide range of variation in the prevalence of self-medication practice may be due to various determinant factors like geographical location, cultural difference, access to health facility, distance of pharmacy. The method used to collect the information might affect the outcome of the research which may give to variation in prevalence rate among the review study. Similar review article done in Ethiopian population shows variation in prevalence of self-medication practice ranging from 12.8% to 77.1% . [37] Prevalence rate of self-medication of university students slightly higher than that of the general population. Most of the study involving university students in the review study were medicinal students as a result, higher chance that they had the knowledge regarding symptoms and

medicine use better, compare to the other population involved in the review. [38]

Common class of medicine use for the self-treated ailments were analgesics and antipyretics followed by antimicrobial and cough and cold remedies. The study conducted in the Nepalese population have shown that the use of antipyretics and analgesics are more commonly consumed.[39] The use of antimicrobials as OTC use, is an alarming situation. Studies mainly conducted in low and middle-income level countries had addressed the higher prevalence of use of antimicrobials without prescription. [40] Overuse of antimicrobials will result into antimicrobials resistance, which further create a havoc in future treatment. Therefore, there is a need for a strict action to be taken particularly in the distribution of the antimicrobials by the government as well as nongovernment organization. [41] the common source of information regarding the medicine was consumers' previous experience followed by pharmacist advice and family and friends. It is important to make consumer understand that it is not always necessary that previous experience will helpful. Rather most of the time it may lead to wastage of resources, poly-pharmacy and delay in treating serious medical condition. Therefore, it is very important to make aware regarding the issues to the consumers by conducting the awareness program in coordination with government organization time to time. Pharmacist is a focal person in giving advice to the consumers regarding the drug use. Therefore, regular updates by conduction capacity development program of the community pharmacist can be helpful. [42] In the review studies it has been reported that the medicine that are used for the self-medication practice are usually obtained from pharmacy Shop. In China, Mao et al. reported, implementation of strict regulation regarding prescription and non-prescription dispensing practice can improve inappropriate self-medication practice. [17]

The common illness for which self-medication are practiced were fever, headache common cold and sore-throat similar finding are also seen in other studies. [43] The most important reason for self-medication to occur was illness was mild and similar findings were obtained in other developing country [37, 43]

Current review study indicate that there was an association between sociodemographic characteristic like age, income, marital status, access to healthcare with that of self-medication practice. [44-47]

CONCLUSION

The self-medication practice was found to be prevalent in Nepal with average prevalence rate of 63.2% based on the reviewed studies and it varied in different populations and regions of the country. Some of the self-medication practices shows uninformed and irrational use of medicine posing risk to the general public health. In order to mitigate risk there should be a mechanism for implementing and monitoring effective drug dispensing. Emphasis should be given for educating the public and health care providers on the type of illnesses that can be self-diagnosed and self-treated and the type of drugs to be used for self-medication.

LIMITATIONS AND FUTURE STUDIES

Even though this study has done elaborate literature review on self-medication practices and critically appraising the selected studies, it is not without limitations. As all of the studies selected

for detail review were cross-sectional, the inherited limitation of this type of study can be expected. Some studies did not report information about some criteria of comparison considered in this study. The recall periods used to assess self-medication practice were not same for all the studies considered, which made difficult to compare among prevalence rates. There was also high heterogeneity among the studies reviewed due to a lack of standardized criteria for data-collection tools.

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