Prevalence and Evaluation of Self-Medication Practices in Butwal, Rupandehi, Nepal

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ABSTRACT

Introduction: Use of medicine without the prescription of doctors is called self-medication, which is widespread in various countries. This becomes one of the emerging problems. The aim of study was to know the status of this type of practice in Butwal. **Materials and Methods:** Study was conducted in community pharmacies of Butwal. Minimum sample size of the study was found to be 379. From previous study, a questionnaire form was prepared and pilot study was done. Then data was collected of that patient practicing self-medication. Demographic information of patients, and information about drugs used self-medication and associated factors were recorded. **Results:** Total 811 patient were involving in study among which 385 (47.47%) were involve in self-medication practice. Among 385, 17 patients deny to response. The chief indications for this type of practice were headache, fever, and other pain (21.74%) followed by digestive disorder (17.66%) and hypertension (15.49%). Regular use, money saving and minor illness were foremost cause for self-medication. Anti-hypertensive (15.22%), Anti-gastritis (13.04%) and analgesic like Paracetamol (11.14%) were commonly used drugs. Previous prescription, previous experienced of use were the source of medication. Participants experienced very less side effects, male participants were more (51.35%) than female and majority of participants were from school level and from age group 15-30. **Conclusion:** Thus, the self-medication practice is common in Butwal. Public should be made aware about the negative consequences of this type of medication practice.

Keywords: Hypertension, Prescription, Questionnaire, Self-medication.

INTRODUCTION

Self-medication is defined as the use of medicines to treat self-identified indications or use of prescribed drug constantly or intermittently for chronic or recurring disease with or without intermittent consultation with doctors.[1] Self Medication (SM) has become the important part of patient behavior which is generally the first choice of a cure of early indications of disease and is the most significant tools because persons encounters general health troubles which do not necessitate doctor visit.[2]

SM has various prevalence rates in various areas of own country as well as foreign countries. According to study conducted in Eastern Nepal shows prevalence rate of self-medication was 44%.[3] It is vastly practiced in the several areas of Barabanki (India) ranging from 32.5% to 81.5%.[4] In India, various community-based studies on SM shows the prevalence rate range from 12% to as high as 73%.[5]

Reasonably high number of medicines were being dispensed without a health check which was due to a lack of health service provider or costly health checkup.[6] The self-medication has risen in recent years especially among adolescents and young adults worldwide which varies among countries, age, and group between the sexes.[7]

Previous studies show that several drugs were used for SM like drugs for pain, drugs for fever, drugs for several infections, drugs for cough, vitamins, and nutraceuticals.[6] A study in past shows that the reason of SM was previous experience with same health problem, getting advice from another person who encountered a similar condition, or getting advice from a community pharmacist or other health professionals.[8] The major shortfall of self-medications are health conditions are not examined by healthcare professionals.[9] Self-administer use brand name and not as much of regularly by generic name for drug description.[10]

World Health Organization (WHO) promotes the practice of responsible SM so the patient gets desired benefits without overburden the health care system.[5] The major problem associated with self-medications are wastage of resources, increased microbial resistance, adverse drugs events and prolonged illness.[6] But if practiced properly, SM put aside the time exhausted in

coming up to see doctors and this may be cheap alternative. SM can treat symptoms which do not require medical consultation and provide cheaper substitute for managing familiar health conditions.[11]

MATERIALS AND METHODS

Study Design

A multi centered cross-sectional, prospective descriptive observational study.

Study Site

The study was conducted in community pharmacies of Butwal (Nepal).

Study Period

Study was conducted from May 2022 – August 2022.

Sample Size

The adequate sample range for the study was considered by means of Cochran's formula:

$$\text{Sample size (n)} = z^2 \times p \times q / e^2$$

Were,

$$\text{Normal variant (Z)} = 1.96$$

$$\text{Expected sampling error (e)} = 0.05$$

$$\text{Prevalence proportion (p)} = 0.44$$

$$q = 1\text{-}p = 0.56$$

$$\text{Sample size (n)} = (1.96)^2 \times 0.44 \times 0.56 / 0.05^2$$

$$= (3.841 \times 0.44 \times 0.56)/0.0025$$

$$= 0.9465/0.0025$$

$$= 378.6 \sim 379$$

$$= 379$$

Study Population

The data of all patients who visited the community pharmacies in the time period (May 2022 – August 2022) regardless of age and sex and who satisfied the selection criteria were enrolled in the study.

Inclusion Criteria

Subjects of all demographic groups practicing self-medication are included.

Patient bringing previous drug used leaflets are included.

Exclusion Criteria

- Those who do not give consent are excluded.

- Those who do not give complete information are excluded.

- Those who bring prescription are excluded.

- Respondents below 18 years are excluded.

Data Collection Tools

A questionnaire form was prepared by reviewing previous study for the respondent which includes demography, drugs used, indication, side effects, and so no.

- Demographic characteristics.

- Drug used for self-medication.

- Reason for self-medication.

- Sources for self-medication.

- Indication for self-medication.

- Side effects.

RESULTS

Socio-demographic characteristics

An overall of 385, participants were involved in the study, among which 17 patients deny to response. Thus from 368 respondent's data were collected. Among 368 patients, most of the patient practicing self-medication was from age group of 18-30 (42.12%). There was approximately an identical numeral of male 51% (189) and female participant 49% (179). About 54.35% of participants are from school level followed by bachelor 32.61%, above bachelor 6.52% and illiterate 6.52%. Majority of the participants were married (77.17%) and belongs to Brahmin (57.88%) ethnic group (Table 1).

Frequently used drug for self-medication

A large number of drugs were requested for self-medication, which are classified according to their drug class, those which are rarely requested are kept in the group others. Maximum requested drug class were anti-hypertensive (15.22%), Proton Pump Inhibitors (PPIs) (13.04%), Paracetamol (11.14%), Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) (8.97%), anti-cold tablets (7.34%), anti-diabetic (7.07%), antibiotic (5.71%), anti-fungal (4.08%), anti-allergy (3.26%), anti-protozoal (3.26%), anti-thyroid (2.44%), lotion and cream (2.44%), others miscellaneous drugs totally cover 16.03% (Table 2).

Reason for self-medication

People involve in self-medication due to various reasons such as regular used (27.17%), money saving (23.37%), minor illness

Table 1: Socio demographic characteristic of respondents.

| Variables	Frequency (n)	Percent (%)
Age range		
18-30	155	42-12
31-42	123	33.44
43-54	51	13.86
>54	39	10.58
Mean age in years ± SD	35.6 ±12.8	
Gender		
Male	189	51
Female	179	49
Marital status		
Unmarried	84	23
Married	284	77
Education		
Illiterate	24	6.52
School level	200	54.35
Bachelor	120	32.61
Above bachelor	24	6.52
Ethnicity		
Brahmin	213	57.88
Chettri	70	19.02
Dalit	19	5.16
Gurung	6	1.63
Magar	33	8.97
Newar	9	2.45
Tharu	18	4.89

(21.47%), time saving (13.86%), convenience (4.89%), lack of time to visit doctor (3.81%), cure due to previous use (3.26%) and emergency (2.17%) as shown in Figure 1.

Sources of self-medication

For self-medication patient use different sources, among them previous prescription shows higher percentage (34.78%) followed by previous experience of use (18.75%), family (16.03%), friend (16.03%) and health professionals (14.41%) (Figure 2).

Indication for self-medication

The major health problem for which self-medication was accomplished were fever and pain (21.74%), digestive disorder (17.66%), hypertension (15.49%), common cold and cough (10.05%), hyperglycemia (7.06%), fungal and other infections (5.98%), asthma and allergy (3.53%), throat pain and inflammation (3.26%), psychological disorder (2.72%), menstrual disorder (2.72%), skin disorder (2.45%), eye and ear problem (1.36%) and other miscellaneous (5.98%) (Table 3).
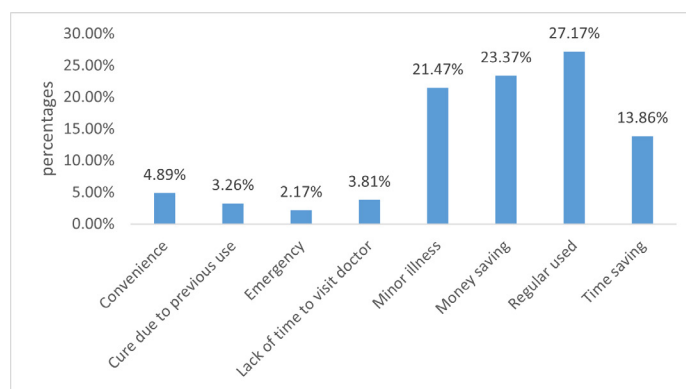
Figure 1: Reason for self-medication.
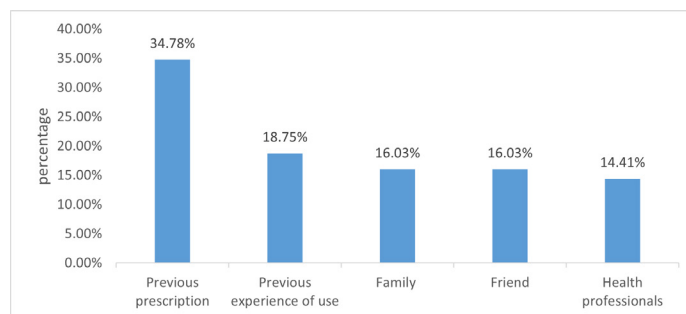
Figure 2: Sources for self-medication.

Side effects due to self-medication

Overall, 94.83% of participants did not experience any type of side effects. Only 5.17% participants experienced some form of side effects (Figure 3).

DISCUSSION

In past several studies regarding SM practice were conducted in Nepal as well in foreign country. We conduct a similar type of study in Butwal to find out the frequency of SM practice and its associated features.

The occurrence rate of SM in this study was 47.47%, this is comparable to the study carry out in government hospital of Eastern Nepal.[12] However certain variation is seen in prevalence rate at different places. Study conducted in Pokhara valley (Nepal) shows less prevalence rate and study in Eastern Nepal shows higher prevalence rate.[1,13] In another study which was conducted in Eastern Nepal shows a prevalence rate of 44.04%.[3] In a systematic review on SM practice in Nepal the average prevalence rate was found to be 63.22% with range of 38.2% to 92.4%.[14] Similarly, in neighboring country India, the prevalence rate was found to be 69.9%.[4]

The analyses of various ethnic groups involve in our study shows self-medication was more common in Brahmin followed by Chettri. The study conducted in eastern Nepal shows more prevalent in Janajati followed by Madhesi.[3] In our study, married people are more engaged in self-medication practice than

Table 2: Frequently used drug for self-medication.

List of medicine used in self-medication	Frequency (n)	Percent (%)
Anti-hypertensive	56	15. 22
PPIs	48	13.04
Paracetamol	41	11.14
NSAIDs	33	8.97
Anti-cold tablets	27	7.34
Anti-diabetic	26	7.07
Antibiotic	21	5.71
Anti-fungal	15	4.08
Anti-allergy	12	3.26
Anti-protozoal	12	3.26
Anti-thyroid	9	2.44
Others	59	16.03

(Others: anti-anxiety, anti- depressants, anti-diarrheal, anti-asthmatic, diclofenac gel, digene, folic acid, liv-52, levonorgestrol, metoclopramide, norethisteron, peptozyme syrup, phenobarbital, refresh tear, terbutaline sulphate, timolol, turpex, vitamin D, zinc tablet).

Table 3: Indication for self-medication.

Indication for self-medication	Frequency (n)	Percent (%)
Headache, fever and other pain	80	21.74
Digestive disorder	65	17.66
Hypertension	57	15.49
Common cold and cough	37	10.05
Hyperglycemia	26	7.06
Fungal and other infections	22	5.98
Asthma and allergy	13	3.53
Throat pain and inflammation	12	3.26
Psychological disorder	10	2.72
Menstrual disorder	10	2.72
Skin disorder	9	2.45
Eye and Ear problem	5	1.36
Others	22	5.98

(Others: Contraceptive, Jaundice, low level of hemoglobin, thyroid disorder, uric acid and warts).
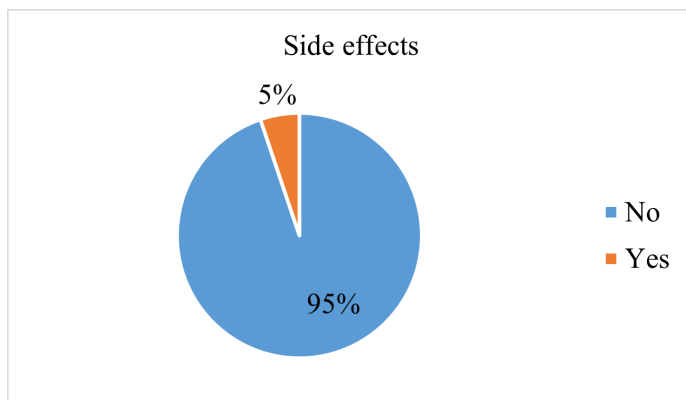
Figure 3: Side effects experienced by respondents.

unmarried people, which is similar to study conducted in Eastern Nepal.[3]

In our study, the antihypertensive drug like Amlodipine, Losartan was commonly self-medicated due to their regular use followed by proton pump inhibitor like Pantoprazole and Esomeprazole. After that analgesic like Paracetamol and NSAIDs were commonly self-medicated in our study. The reason for high use of GIT drugs were due to widespread incidence of GIT disorders in our country.[1] Similar type of result was seen in previous studies but Analgesic, NSAIDs were in the top in various other studies.[15,13] The study conducted in Barabanki (India) shows that Paracetamol and NSAIDs were most commonly used class of drug.[4]

In our study, the widespread indications for self-medication were pain and fever, digestive disorder, hypertension followed by common cold and cough. Study conducted in neighboring population of Teaching Hospital shows headache and common colds are most common symptoms of self-medication.[3] Our study is different from others in the context of drug used for high blood pressure. Study conducted in eastern Nepal shows very less prevalence rate for high blood pressure.[3] Study in Pokhara valley also shows less prevalence rate for hypertension.[1] Study from Sudan shows very less prevalence rate for hypertension with herbal remedies.[16] In a systemic review on self-medication practice in Nepal reported the common symptoms for self-medication was fever, headache, common cold and sore throat.[14] Similar type of results was seen in a study from Jordan, headache was reported at the top, followed by common cold, fever and cough as the common symptoms of self-medication.[8]

In our study, the major sources for SM are previous prescription followed by previous experience of use, family, friend, and health professionals. Study on rural area of Barabanki (India) shows previous prescription as the source of SM on the top.[4] In another study conducted in Jordan shows that higher percentage for leaflets as the source of SM.[8]

In our study, regular used of previous prescribed medicine has become the major reason for SM, followed by money saving, minor illness, time saving, convenience, lack of time to visit doctor, cure due to previous use and emergency. Study conducted in Nigerian community hospital shows the minor ailments and

financial constraint as main reason.[9] Study in Eritrea shows previous experience as the major reason of SM followed by sufficient knowledge about drugs.[6]

Among 368 respondents, 189 were male respondents and 179 were female which shows higher percentage of male. Similar type of result was seen in eastern Nepal which also shows male 59.5% and female 40.5%.[13] Whereas study conducted in Nigeria shows higher prevalence of female respondents.[17]

In our study, majority of respondents belong to age group of 15-30 years followed by 31-45 years. A study conducted in India shows majority of respondents were from age group 31-45 years followed by 15-30 years.[4]

Participants in our study are also distributed according to level of education, majority of participants were from school level, followed by bachelor, above bachelor and illiterate. In a similar type of study conducted in Dhankuta (Nepal) shows majority of participants practicing SM were from secondary level followed by illiterate, higher secondary and above and primary.[13]

In our study, majority of participants did not experienced side effect, rest respondent experienced some form of side effects like allergy, delay period, dizziness, headache, heavy bleeding, itching, nausea, sedation, stomach cramps and vomiting. Similar type of result was seen from eastern Nepal where majority of participants did not experience side effects and rest respondents experience some form of side effects like allergy, diarrhea, headache, vomiting, weakness and nausea.[3]

CONCLUSION

The incidence rate of SM practice in study population is found to be 47.47%. Anti- hypertensive drug, PPIs, analgesic, NSAIDs, anti-cold drugs etc. are commonly used drug for self-medication. Headache, fever, pain, digestive disorder, high blood pressure, common cold and cough, hyperglycemia, fungal and other infection are the most common symptoms for SM. Majority of respondent are male. Married people are more engaged in self-medication than unmarried. Most of respondent are from Brahmin and Chettri ethnic groups. Regular use, minor illness has become the main reason for SM. Previous prescription, previous experience of used has become the main source for SM. Majority of respondents do not experience side effects. Most of respondents are from school level and almost half of the respondents were from age range 18-30 years. Thus, status of SM practice in Butwal was studied and various associated factors are evaluated.

Limitations

The limitation of our study was patient feel fear to give response to our question related to demographic characteristics, patients deny to give more time and patient give incomplete response. The

result of this study cannot be generalized because this study is conducted in small area with limited number of participants.

RECOMMENDATIONS

Further study regarding self-medication can be conducted in larger area. Health education based on adverse effects of self-medication should be given. Pharmacists are recommending motivating patients for using only drugs those which are prescribed by doctors. Government should make strict policy of not dispensing drugs without prescriptions.

ACKNOWLEDGEMENT

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

SM: Self-medication; **WHO:** World health organization; **GIT:** Gastro intestinal tract; **NSAIDs:** Non-steroidal Anti-inflammatory Drugs; **PPI:** Proton Pump Inhibitors; **SD:** Standard deviation.

SUMMARY

This type of practice is very common in different parts of the world. Present study was carried out to identify the situation of self-medication in community of Butwal, Rupandehi, Nepal. A questionnaire form was prepared that contains demographic information and other details. The data analyses were done to find out prevalence and other parameters. A sum of 811 respondents was involved in the study out of which 385 were involved in self-medication. The commonest symptoms for self-medication were pain. Regular use and money saving was major reason for self-medication. Drugs like anti-hypertensive, anti-gastritis and Paracetamol were most frequently used for self-medication. The majority of the respondents involved in this type of practice were from age group 18-30. Previous prescription and previous experience of use was the main source of information regarding this type of practice. During self-medication the majority of the respondents experienced very less side effects. This type of practice has both beneficial as well as harmful effects. Participants should be aware of its harmful effects.

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