

Self-Medication Practices in Surrounding Communities of Birat Medical College and Teaching Hospital of Eastern Nepal

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ABSTRACT

Background: Self-medication is the use of drugs to treat self-diagnosed disorders/symptoms, or the intermittent/continued use of a prescribed drug for chronic/recurrent disease/symptoms (WHO). It is the cause for antibiotic resistance, inappropriate treatment, financial burden and many deaths. WHO listed self-medication as one of the priority research area at the local context. The objective of the study was to find the prevalence and pattern of self-medication in surrounding communities of Birat Medical College and Teaching Hospital. **Methods:** A community-based cross-sectional study was conducted at the surrounding communities of Birat Medical College from 1st August 2018 to 15th December 2018. Multistage sampling was used to collect information from 348 household having family members aged 16 years and above. Ethical approval was taken from Institutional Review Committee of Birat Medical College. Pre-tested semi-structured questionnaire was used. **Results:** The mean age of the participants was 40.5±15.9 years. Prevalence of self-medication was 44.04%. Majority took self-medication for headache 43.6% followed by common cold 39.1% etc. Majority used allopathic drugs 82.7% followed by traditional healers 9.8%. Common medication were antipyretics 18.8%, antibiotics 16.5%, proton pump inhibitor 7.5%, antihistamines 6.8% etc. The reason behind self-medication were low cost 30.1%, time saving 24.1%, illness too trivial/mild 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% etc. Out of them 8.3% noticed side effects of self-medication. Out of all 59.5% felt the need of awareness program on rational use of medicines. Age, sex, marital status, ethnicity, religion, education and occupation of participants, education and occupation of head of household, poverty status, family type, house residence type, type of house has no significant association with self-medication. Participants residing in alani/rent households were 1.93 times more likely to self-medicate than those residing in their own and participants having negative attitude were 1.90 times more likely to self-medicate than those who had positive attitude and both were statistically significant. **Conclusions:** The burden of self-medication was present and allopathic drugs including antibiotics were common. Adverse drug reactions were reported but participants were unaware about the place to report. Participants had negative attitude towards self-medication which is harmful for their health. As pharmacy was the common source of self-medication, the prescription based medicine dispensary should be advocated.

Keywords: AMR; hospitals; Nepal; self-medication.

INTRODUCTION

Self-medication is defined as "the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms.¹ It is common in developing countries where it has both economic and social implications.² Antibiotics are the most commonly purchased drugs worldwide with or without prescription and are essential

treatments for developing world where infectious diseases are still the most common cause of death.³ One of the major cause of antibiotic resistance is self-medication.⁴ Various studies reported that self-medication may lead to delay in health care seeking in appropriate place which results in paradoxical economic loss due to delay in the diagnosis of underlying conditions and actual treatment.⁵ The

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inappropriate drug use practices common in self-medication are short duration of treatment, inadequate dose, sharing of medicines, and avoidance of treatment upon the improvement of disease symptoms.⁶ Different studies conducted in Nepal reported that self-medication prevalence were 59% in general population at Pokhara,⁷ 50.7% in nursing students at Chitwan,⁸ 35.1% in dental students at Kathmandu,⁹ and 26.2% in medical students at Pokhara.¹⁰ In a recent study at B. P. Koirala Institute of Health Sciences among the health sciences students self-prescription of paracetamol was seen among 90.1%.¹¹

World health organization (WHO) emphasized self-medication research in local context is one of the priority issue to reveal real scenario of self-medication.¹² Government of Nepal nominated Department of Drug Administration (DDA) in October 2004 as the focal point (National Pharmacovigilance Center) to liaison with WHO collaborating center for International Drug Monitoring, Sweden and started collecting adverse drug reactions. Nepal became a WHO Programme member in July 2006.¹³ Few research suggested to strengthen the Pharmacovigilance Programme in Nepal.¹⁴⁻¹⁶ After promulgation of new constitution of Nepal in 20 Sept 2015,¹⁷ the local governments are also responsible for federal health care system. Previous research suggested that self-medication is common and pharmacovigilance in Nepal is a propriety issue. The research on self-medication is found only on specific group of health science students. So the need to find actual status of self-medication at community setting in eastern Nepal is the most.

With the evidence form these findings, further studies can be conducted in other community settings which may be helpful to the local government to formulate their policy on rationale use of the drugs. There is need to have their own evidence based health policy. The another implication of this research is that Birat Medical College & Teaching Hospital can initiate to manage the growing burden of self-medication and adverse drug reactions (ADRs) to its surrounding communities through health education, policy advocacy and being a regional center for pharmacovigilance at Biratnagar of eastern Nepal. This study was conducted to find the prevalence and pattern of self-medication practices in surrounding communities of Birat Medical College and Teaching Hospital.

METHODS

This was a community-based cross sectional study conducted at the surrounding communities of Birat Medical College and Teaching Hospital from 1st August 2018 to 15th December 2018. Ward number

1, 2 and 3 of Budhiganga Rural Municipality were taken. Multistage sampling was used to collect information from 348 households having family members aged 16 years and above. According to research done at Pokhara valley of Western Nepal in general population, the self-medication prevalence was reported as 59%.⁷ By using a formula $N = 4PQ/L2$ with 10% permissible error sample size was $= 4 \times 59 \times 41 / 5.9 \times 5.9 = 9676 / 34.81 = 277.97$ and adding non response rate of 20% $= 278 + 56 = 334$ was the minimum sample size. We took 348 participants for the study. Ethical approval was taken from Institutional Review Committee (IRC) of Birat Medical College and Teaching Hospital. Informed consent was taken from each individual who fulfilled the inclusion criteria. Pre-tested semi-structured questionnaire were delivered through ODK Collect software. House to house visit with face to face interview was done. The collected data were extracted from the ODK software in SPSS file format. Univariate and bivariate analysis were done. The findings were presented in tables and graphs. For all statistical tests, probability of significance was set at 5% level ($p < 0.05$)

RESULTS

In this community based cross sectional study, 348 participants were taken from surrounding communities of Birat Medical College and Teaching Hospital of Budhiganga Rural Municipality of Morang district of eastern Nepal. Table 1 shows the socio-demographic distribution of study participants. The mean age of the participants was 40.5 (± 15.9) years ranged from 16-85 years. Majority of them were female 217 (62.4%), married 287 (82.5%), Janajati ethnicity 217 (62.4%) and Hindu 339 (97.4%). Majority were illiterate 161 (46.3%) and 62 (17.8%) had SLC and above academic qualification. Similarly majority of head of household were illiterate 209 (60.1%). Majority of the participants were housemaker 111 (31.9%) and head of household were daily wage worker 112 (32.2%). Majority of them belonged to nuclear family 237 (68.1%). Out of them 73.3% had their own land and rural residence 283 (81.3%). Semi-pakka house was common 158 (45.4%). The average family monthly income was 25000 NPR. The median walking distance to nearest health center/medical shop was 10 minutes. As in Table 2, among the 348 study participants, 302 had some sorts of illness. The cost of treatment varied from NPR 100 to NPR 300000. The medicine prescriber were listed in two groups viz. valid prescriber and self-medication user. Among those who had some sorts of illness, the prevalence of self-medication was found to be 133 (44.04%). The

Table 1. Socio-demographic characteristics of the study participants. (n=348)

Variables	Frequency	Percent
Age in years		
16-35	154	44.3
36-55	120	34.5
56-85	74	21.3
Mean age in years ± SD	40.5 ±15.9	
Sex		
Male	131	37.6
Female	217	62.4
Marital status		
Married	287	82.5
Unmarried	35	10.1
Widow/widower/divorcee/separated	26	7.4
Ethnicity		
Dalit	44	12.6
Janajati	217	62.4
Madhesi	45	12.9
Muslim	2	0.6
Brahman/Chhetri	33	9.5
Others	7	2.0
Religion		
Buddhist	5	1.4
Christian	2	0.6
Hindu	339	97.4
Muslim	2	0.6
Education of participant		
Illiterate	161	46.3
Informal	13	3.7
1-5 Class	40	11.5
6-10 Class	72	20.7
SLC & Above	62	17.8
Education of Head of household		
Illiterate	209	60.1
Informal	12	3.4
1-5 Class	45	12.9
6-10 Class	54	15.5
SLC & Above	28	8.0
Occupation of participant		
Agriculture	82	23.6
Business/shopkeeper	29	8.3
Carpenter	8	2.3
Daily wage worker	53	15.2
Driver	6	1.7
Foreign Employment	3	0.9
Government Job	1	0.3
Health care provider	2	0.6
Housemaker	111	31.9
Office	8	2.3
Student	20	5.7
Teacher	7	2.0
Unemployment	18	5.2
Occupation of Head of household		
Agriculture	97	27.9
Business	43	12.4
Carpenter	13	3.7
Daily wage worker	112	32.2
Driver	14	4.0
Foreign employment	11	3.2
Housemaker	29	8.3
Office	25	7.2
Teacher	4	1.1
Family type		
Nuclear	237	68.1
Joint	111	31.9
Land status		
Ailani	84	24.1
Own	255	73.3
Rent	9	2.6
House residence type		
Rural	283	81.3
Semi Urban	63	18.1
Urban	2	0.6
Type of house		
Kachha	141	40.5
Pakka	49	14.1
Semi pakka	158	45.4

Table 2. Medicine prescribers. (n=302)

Valid prescriber (169)	Frequency	Percent
Consultant Doctor	117	69.2
Medical officer	26	15.4
Health Assistant	17	10.1
CMA	9	5.3
Self-medication user (n=133)		
Pharmacy	90	67.7
Buy own self	17	12.8
Traditional healer	13	9.8
Street vendors	6	4.5
Family members/relatives	4	3
Friends	3	2.3

mean age at first self-medication is 28.3±14.2 years. The pharmacy was the major source of self-medication 90 (67.7%). As in table 3, the common symptoms/disorder were headache 58 (43.6%), common cold 52 (39.1%), fever 47 (35.3%), cough 28 (21.1%), muscular pain 19 (14.3%), pain abdomen 16 (12%), diarrhea 16 (12%), common flu 12 (9%), constipation 11 (8.3%), allergy 10 (7.5%), skin problems 5 (3.8%), menstrual problems 4 (3%), high blood pressure 3 (2.3%),

Table 3. Indications for self-medication. (n=133)
*Multiple responses

Variables	Frequency	Percent
Headache	58	43.6
Common cold	52	39.1
Fever	47	35.3
Cough	28	21.1
Muscular Pain	19	14.3
Pain abdomen	16	12.0
Diarrhea	16	12.0
Common flu	12	9.0
Constipation	11	8.3
Allergy	10	7.5
Skin problems	5	3.8
Menstrual problems	4	3.0
High blood pressure	3	2.3
Jaundice	1	0.8
Asthma	1	0.8
Chest pain	1	0.8
Ear discharge	1	0.8
Throat problem	1	0.8

Jaundice 1 (0.8%) etc. As in table 4, majority of the participants 110 (82.7%) used allopathic drugs followed by traditional healers 13 (9.8%) and ayurvedic drugs 10 (7.5%). Antipyretics 25 (18.8%), antibiotics 22 (16.5%), proton pump inhibitors 10 (7.5%) etc. are the common drugs. The most common form of medicines used was tablet 104 (78.2%) followed by syrup 16 (12%), powder 8 (6%) and ointment 5 (3.8%). Table 5 shows reason to practice self-medication. They were using self-medication because low cost 40 (30.1%), time saving 32 (24.1%), illness too trivial/mild illness for consultation 25 (18.8%), quick relief 24 (18.1%) etc. Table 6 shows side effects noticed after self-medication. Of them, 11

Table 4. Categories of drugs commonly used for self-medication. (n=133)

Types of drugs	Frequency	Percent
Allopathic	110	82.7
Antipyretics	25	18.8
Antibiotics	22	16.5
Proton Pump Inhibitor	10	7.5
Antihistaminic	9	6.8
Analgesics	8	6.0
Tonics/vitamins	8	6.0
Antitussives/ Cough syrups	6	4.5
Antidiarrheal	5	3.8
Topical corticosteroids	5	3.8
Medicines for mental health problems	3	2.3
Medicine for non-communicable disease	3	2.3
Antiemetic	2	1.5
Antispasmodic	2	1.5
Sedatives	1	0.8
Steroids	1	0.8
Ayurvedic	10	7.5
Traditional healers	13	9.8

**Table 5. Reason to practice self-medication. (n=133)
* Multiple responses**

Variables	Frequency	Percent
Low cost	40	30.1
Time saving	32	24.1
Illness too trivial/Mild illness for consultation	25	18.8
Quick relief	24	18.1
High doctor fee	20	15.0
Lack of awareness	18	13.5
Familiar with treatment options	17	12.8
Long waiting line in hospital	16	12.0
Belief of traditional healer	13	9.8
Old prescription for same illness	10	7.5
No doctors nearby	10	7.5
Thought pharmacists are also doctors	9	6.8
Fear of investigation at hospital/health center	8	6.0
Privacy	7	5.3
Internet search	6	4.5
Fear of not being able to take medicine regularly	4	3.0
Long process at hospital/health center	3	2.3
Avoid crowd at OPD	2	1.5
Academic knowledge	2	1.5
Rude behaviour of Health care providers	2	1.5
Drug advertisement	1	0.8

(8.3%) reported some sorts of side effects. The common side effects were allergy 2 (18.2%), diarrhea 2 (18.2%) etc. Majority of them 5 (45.4%) consults with pharmacist followed by stop taking medicine 3 (27.3%) etc. Figure 1 shows reason for avoiding self-medication. Among the study participants having some sorts of illness 169 (55.96%) consulted. They are avoiding self-medication because of risk of using wrong medicine 91 (53.9%), risk of adverse drug reaction 42 (24.9%) and risk of wrong diagnosis 36 (21.2%). Table 7 shows attitude of participants towards self-medication. Majority had neutral attitude 179 (51.4) followed by positive attitude 116

Table 6. Side effects after Self-medication and action taken. (n=133)

Variables	Frequency	Percent
Yes	11	8.3
Allergy	2	18.2
Diarrhea	2	18.2
Headache	2	18.2
Vomiting	2	18.2
Weakness	1	9.1
Nausea	1	9.1
No	122	91.7
Action taken after having side effects (n=11)		
Consult with pharmacist	5	45.4
Stop taking medicine	3	27.3
Switch to another medicine	3	27.3

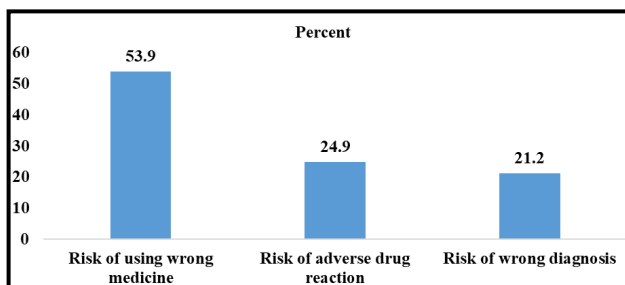


Figure 1. Reason for avoiding self-medication.

Table 7. Attitude of participants towards self-medication. (n=348)

Variables	Frequency	Percent
Neutral Attitude	179	51.4
Positive attitude	116	33.4
Negative Attitude	53	15.2

(33.4%) etc. Figure 2 shows need of awareness program on self-medication or rational use of medicine. Majority 207 (59.5%) need awareness

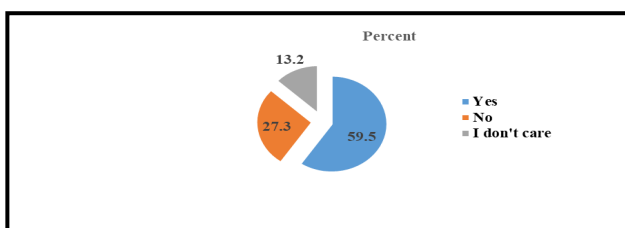


Figure 2. Need of awareness program on self-medication.

program. The association of different variables with self-medication were analysed. The bivariate analysis showed in table 8. Age, sex, marital status, ethnicity, religion, education and occupation of participants, education and occupation of head of household, poverty status, family type, house residence type, type of house, need awareness program has no significant association with self-medication. The status of land has significant association with self-medication. The participants residing in alani/rent

Table 8. Association of self-medication with different variables.

Variables	Categories	History of self-medication		OR	CI	p
		Yes	No			
Age	16-35 yrs	53 (42.7%)	71 (57.3%)	0.9	0.6 - 1.5	0.7
	≥ 36 yrs	80 (44.9%)	98 (55.1%)			
Sex	Female	88 (46.8%)	100 (53.2%)	1.4	0.8 -	0.2
	Male	45 (39.5%)	69 (60.5%)		0.2	
Marital status	Married	109 (43.8%)	140 (56.2%)	0.9	0.5 -	0.8
	Unmarried	24 (45.3%)	29 (54.7%)		1.7	
Ethnicity	Janajati	90 (48.45)	96 (51.6%)	1.6	1- 2.6	0.5
	Other	43 (37.1%)	73 (62.9%)			
Religion	Hindu	128 (43.7%)	165 (56.3%)	0.6	0.2 -	0.5
	Other	5 (55.6%)	4 (44.4%)		2.4	
Education of the participants	Illiterate	59 (41.5%)	83 (58.55)	0.8	0.5 -	0.4
	Literate	74 (46.3%)	86 (53.8%)		1.3	
Education of the head of household	Illiterate	81 (47.1%)	91 (52.9%)	1.3	0.8 -	0.2
	Literate	52 (40%)	78 (60%)		2.1	
Occupation of the participants	Professional	22 (45.8%)	26 (54.2%)	1.1	0.6 - 2	0.9
	Non professional	111 (43.7%)	143 (56.3%)			
Occupation of the head of household	Professional	39 (45.9%)	46 (54.1%)	1.1	0.7 -	0.7
	Non professional	94 (43.3%)	123 (56.7%)		1.8	
Poverty status (18)	Above	62 (48.1%)	67 (51.9%)	1.3	0.8 -	0.2
	Below	71 (41%)	102 (59%)		2.1	
Family type	Joint	40 (41.2%)	57 (58.8%)	0.8	0.5 -	0.5
	Nuclear	93 (45.4%)	112 (54.6%)		1.4	
Status of land	Rent/Alani	38 (56.7%)	29 (43.3%)	1.9	1.1 -	0.0
	Own	95 (40.4%)	140 (59.6%)	3	3.3	2*
House residence type	Rural	108 (43.7%)	139 (56.3%)	0.9	0.5 -	0.9
	Semi Urban	25 (45.5%)	30 (54.5%)		1.7	
Type of house	Kachha	56 (47.9%)	61 (52.1%)	1.3	0.8 -	0.3
	Semi/pakka	77 (41.6%)	108 (58.4%)		2.1	
Attitude towards self-medication	Negative/Neutral	98 (49.2%)	101 (50.8%)	1.9	1.2 - 3.1	0.0
	Positive	35 (34%)	68(66%)			1*
Need awareness program	Yes	82 (44.3%)	103 (55.7%)	1	0.6 -	0.9
	No/I don't care	51 (43.6%)	66 (56.4%)		1.6	

household had 1.93 times more use of self-medication than those who resides in own household. The attitude towards self-medication has significant association with self-medication practice. The participants having negative attitude has 1.9 times more use of self-medication than those who had positive attitude.

DISCUSSION

In this community based cross sectional study 348 participants were taken from surrounding communities of Birat Medical College and Teaching Hospital of Budhiganga Rural Municipality of Morang district of eastern Nepal. In this study the median walking distance to nearest health center/medical shop was 10 minutes which is similar to another research at Pokhara.⁷ Self-medication is common in developing countries where it has both economic and social implications.² Antibiotics are the most commonly purchased drugs worldwide with or without prescription and are essential treatments for developing world where infectious diseases are still the most common cause of death.³ One of the major cause of antibiotic resistance is self-medication.⁴ The medicine prescriber were listed in two groups viz. valid prescriber and self-medication user. Among 348 study participants, 302 had some sorts of illness and among those who had some sorts of illness, the prevalence of self-medication was found to be 44.04%. The mean age at first self-medication is 28.3±14.2 years. Different studies conducted in Nepal reported that self-medication prevalence were 59% in general population at Pokhara,⁷ 50.7% in nursing students at Chitwan,⁸ 35.1% in dental students at Kathmandu,⁹ 26.2% in medical students at Pokhara,¹⁰ 90.1% in health sciences students at B. P. Koirala Institute of Health Sciences for paracetamol¹¹ and 82% among medical students of western Nepal.¹⁹ Studies from India reported that 11.9% at urban Pondicherry,⁵ 31.3% at urban Delhi²⁰ and 57.05% among medical students at West-Bengal.²¹ Studies from Sri Lanka also reported 12.2% and 7.9% prevalence of self-medication to allopathic drugs from urban and rural areas.²²

In this study, pharmacy was the major source (67.7%) of self-medication. Study from India with similar socio-demographic characteristics found that pharmacists and pharmacy attendants play an important role in fostering self-medication among the public.²³ Telling the symptoms to pharmacist (38.1%) was the commonest method adopted to procure drugs by the users.⁵ The medical shop was the commonest source of medicines.²⁴ Of them 65% of respondents used OTC medicines because the pharmacy was near from their homes.²⁵

In this study, the common symptoms/disorder for self-medication were headache (43.6%), common cold (39.1%), fever (35.3%), cough (21.1%), muscular pain (14.3%), pain abdomen (12%), diarrhea (12%), common flu (9%), constipation (8.3), allergy (7.5%), skin problems (3.8%), menstrual problems (3%), high blood pressure (2.3%), Jaundice (0.8%) etc. Similar finding reported from other studies where headache and

fever (60%),⁷ common cold (53.3%),²⁶ fever (92%),²⁵ fever (31%), headache (19%), and abdominal pain (16.7%) were most common illnesses for self-medication.⁵ Even though prevalence of self-medication tends to vary in different studies, determinants and patterns of self-medication is similar.

In this study drugs used for self-medication were allopathic drugs (82.7%) followed by traditional healers (9.8%) and Ayurvedic (7.5%). Antipyretics (18.8%), antibiotics (16.5%), proton pump inhibitors (7.5%) etc. were the common drugs. Similar findings reported in studies where paracetamol and antimicrobials,⁷ paracetamol 41.3%,²⁴ antibiotics 38.4%²⁷ and NSAIDs (33.33%), antibiotics (10.32%), vitamins (14.08%) and Gastro intestinal tract ailment drugs (13.61%) are most commonly used.²⁸

In this study major reasons for self-medication were low cost (30.1%), time saving (24.1%), illness too trivial/mild illness for consultation (18.8%), quick relief (18.1%) etc. Similar findings were reported as mild illness, previous experience of treating a similar illness, non-availability of health personnel⁷ and were simple illness, previous experience of treating a similar illness and medicinal herbs were easily available in the courtyard of the house.²⁴ In the rational use of drug workshops held on 1997-1999 in different parts of Nepal, similar factors were reported for self-medication and are still relevant in present context of Nepal.²⁹

In this study 55.96% consulted for their illness. They are avoiding self-medication because of risk of using wrong medicine 53.9%, risk of adverse drug reaction 24.9%, risk of wrong diagnosis 21.2%. Among those who did self-medication, 8.3% reported some sorts of side effects. The common side effects were allergy (18.2%) and diarrhea (18.2%) etc. In a study at a tertiary center of New Delhi India, the most frequently seen ADRs were diarrhea, gastritis, abdominal pain followed by nausea and vomiting even in hospital setting.³⁰ In a study from Nepal Medical College Teaching Hospital, Kathmandu, ADR is commonly reported in their pharmacovigilance center.³¹

In this study 59.5% felt the need of awareness program on rational use of medicine but majority had negative or neutral attitude (66.6%) which is similar study from Pondicherry, India.⁵

In this study different socio-demographic variables has no significant association with self-medication which signifies that this is a common problem in all age, sex, education level, occupation status and

any family type etc. The status of land has significant association with self-medication. The participants residing in alani/rent household had 1.93 times more use of self-medication than those who resides in own household. The attitude towards self-medication has significant association with self-medication practice. The participants having negative attitude had 1.9 times more use of self-medication than those who had positive attitude. This means people who were more careless are prone to self-medication.

Government of Nepal nominated Department of Drug Administration (DDA) in October 2004 as the focal point (National Pharmacovigilance Center) to liaison with WHO collaborating center for International Drug Monitoring, Sweden and started collecting adverse drug reactions. Nepal became a WHO Programme member in July 2006.¹³ Few research suggested that time has come to strengthening the Pharmacovigilance Programme in Nepal.^{14-16, 32} Nepal is determined to strengthen its pharmacovigilance activities.^{13, 33} After promulgation of new constitution of Nepal in 20 Sept 2015,¹⁷ the local government should be more responsible for self-medication issues and ADR reporting to the pharmacovigilance centres. DDA suggested to report ADR through ADR reporting form.³⁴

CONSLUSION

The burden of self-medication was present in surrounding communities of Birat Medical College & Teaching Hospital. Allopathic drugs including antibiotics were the common medicines used for self-medication. Adverse drug reactions were reported but participants were unaware the place to report. Participants had negative attitude towards self-medication which is harmful for their health. As pharmacy was the common source of self-medication, the prescription based medicine dispensary should be advocated.

Recommendations

This evidence may be helpful for the local government to formulate their policy on rationale use of the drugs. Birat Medical College & Teaching Hospital can initiate to manage the growing burden of self-medication and adverse drug reactions (ADRs) to its surrounding communities through health education, policy advocacy and being a regional center for pharmacovigilance at Biratnagar of eastern Nepal. This type of research work in other local bodies can be done. We recommend to conduct research on effect of an educational intervention on knowledge, attitude and practice of self-medication in the local bodies.

Limitation of the study

The consumption of different medication could not

be confirmed in all the study participants as the prescription or cover of medication was not available.

ACKNOWLEDGEMENTS

The authors would like to thank all the study participants, local health centers and concerned

authorities for their support. The authors would like to thank Samir Dahal and Hom Parajuli for their contribution.

Conflict of interest: We declare no conflict of interest.

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Citation: Parajuli SB, Mishra A, KC H, Bhattarai P, Karki S, Pandit R, Dahal P. Self-Medication Practices in Surrounding Communities of Birat Medical College and Teaching Hospital of Eastern Nepal. JCMS Nepal. 2019;15(1):45-52.