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Access to Health Service and Social Support Related to Self-Medication

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ABSTRACT

Background: In developing countries including Nepal, medicine is easy to purchase with or without prescription over the counter. People's self-medication practice is a leading cause of antibiotic resistance. The purpose of this study was to assess self-medication practice and its influencing factors among rural people of Nepal.

Methods: A cross-sectional survey was conducted from total 62 wards in rural Rolpa district of Nepal. The probability proportional to size was applied to select 6 wards, then 115 households from each ward was selected by applying systematic random sampling. Data collection was done by interviewing 720 household heads age 18 to 70 years old using a structured questionnaire in Nepal

Results: The proportion of regular self-medication practice was 54.6%. Among them, 96.4% practiced self-medication when they got diarrhea/dysentery and 94.2% when they got a stomach ache. The factors associated with self-medication practice included gender (OR=2.24,95%CI=0.23-0.42), age (OR=5.59,95%CI=3.68-8.47), religion(OR=0.57,95%CI=0.42-0.77), family type (OR=4.00,95%CI=2.93-5.47), average income (OR=7.31,95%CI=5.04-10.56), decision making (OR=0.6,95%CI=0.44-0.82, health insurance(OR=1.64,95%CI=1.22-2.22), overall access to health service (OR=3.53,95%CI=2.55-4.90), and appraisal support(OR=2.24, 95%CI=1.66-3.02)

Conclusions: Prevalence of self-medication in rural areas of Rolpa district was high among female, older people Accessibility to health service should be improved to reduce risk of self-medication practice. The health promotion related with benefit and side effect from self-medication are important for high risk group i.e. people over 30 years .

Keywords: Access to health service; rural Nepal; self-medication; social support

INTRODUCTION

The self-medication or use medication without prescription can introduce the problem of drug resistance, drug interaction and mortality. According to World Health Organization (WHO),[1] self-medication can be 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. The prevalence rates of self-medication were more all over the world; nearly 68% in European nations and 57% in the USA, through greatly more in developing nations with the highest 92% of the adolescent in Kuwait.[2, 3] Similarly, the prevalence rates of self-medication were 59% in Nepal, 51% in Pakistan, and 31% in India.[2,4] Formal access to primary health care was not sufficient to ensure health care utilization.[5] Storing of medicine in the home increased the use of self-medication.[4,6] The important source of information for practicing self-medication was from family, friends, and neighbours.[7,8] The purpose of this study was to assess self-medication practice and its influencing factors among rural people of Nepal.

METHODS

The study adopted a cross-sectional design that was conducted in rural areas of Rolpa district, Nepal. A total of 720 household heads aged between 18 to 70 years were included in the study. Data collection was done from April to July 2019. In this study, we applied probability proportional to size and systematic random sampling. Primary sampling was done to select six wards name wards and later systematic random sampling was

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applied for the selection of household head.

The questionnaires constructed from concept of PRECEED model composed with five parts; part one: general characteristics (11 items), part two: perception of self-medication (15 items), part three: access to health service (30 items), part four: social support (13 items), and part five: self-medication practice (19 items).

The trained research assistant conducted a face-to-face interview. More detail about method of training. The Cronbach's alpha coefficient for perception about self-medication practice was =0.899, access to health service =0.897, social support and self-medication practice were equally =0.898.

To apply some part of the Health Belief Model,[9] perceived benefits and perceived barriers on self-medication were included. Perceived benefits refer to a person's perception of the effectiveness of various actions available to reduce the threat of illness or disease (or to cure illness or disease). While perceived barriers refer to a person's feeling on the obstacles to performing a recommended health action. There is wide variation in a person's feelings of barriers or impediments. The persons weigh the effectiveness action against the perception that it may be expensive, dangerous (e.g. side effects), unpleasant (e.g. painful).

Operational definition of access to health service means way of approaching, reaching or entering a place, as the right or opportunity to reach, use or visit in terms of affordability, availability, accessibility, accommodation and acceptability of health service. According to Penchasky and Thomas the measurement of access were classified in three level and cut off point were need to improve (<60% of total score), moderate (60-79% of total score) and good (>80% of total score). [10]

The social support theory of House in 1981,[11] social support is associated with how networking helps people cope with stressful events. Besides, it can enhance psychological well-being. Social support distinguishes between four types of support. Emotional support is associated with sharing life experiences. It involves the provision of empathy, love, trust, and caring. Instrumental support involves the provision of tangible aid and services that directly assist a person in need. It is provided by close friends, colleagues, and neighbors. Informational support involves the provision of advice, suggestions, and information that a person can use to address problems. Appraisal support involves the provision of information that is useful for self-evaluation purposes like constructive feedback, affirmation, and social comparison.

The measurement of perception of self-medication and social support were in Likert's rating scale of strongly agree, agree, uncertain, disagree, and strongly disagree. For access to health service and self-medication practice, we measured in both the rating scale of Yes-always, Yes-sometimes, No-never, and dichotomous Yes, No. According to Bloom's classification the cutoff point for all variables was defined in three levels, need to improve level (<60%), moderate level (60-79%), and good level (≥80% of total score). [11]

This study received ethical approval from Mahidol University (27/2562) and the Nepal Health Research Council (Reference number 2583). Written consent was taken before starting the data collection. SPSS statistical for windows version 18.0 (SPSS inc, Chicago, II, USA) Copyright of Mahidol University. Descriptive results were expressed in frequency, percentage, and mean ± S.D. p-values <0.05 was considered statistically significant association. Multivariate logistic regression analysis was used to determine the association between the independent and dependent variables. It was used backward elimination.

RESULTS

The results form 720 respondents, 54.6% experienced self-medication. The factors associated with self-medication were

Table 1 depicts the general characteristics of 720 respondents. About half were females (52.4%) and practiced self-medication higher than males. The average age of the respondents was 39 years ranging from 20 to 66 years old. About 91.7% were in the labor force. About two-thirds of the respondents (63.5%) were Hindu.One-fifth of the respondents (20.4%) were farmers, and self-employed at 20.3%. Most of the respondents (84.6%) were married. Findings of this study showed 56.8% were extended family and having ≥ 5 household members. The results of this study showed that 63.9% were low income (<20000 NPR)[12]. Finding of this study showed that 59.7% had National Health Insurance and 35.3% decided for treatment on their own. The results showed that 54.6% of the respondents practiced self-medication regularly, while the rest 45.4% practiced self-medication for sometimes.

Table 1. General characteristics and self-medication of rural Rolpa district Nepal (n=720)

General Characteristics	Number	Percent (%)
Gender		
Male	343	47.6
Age (Years)		
< 30	251	34.9
30-49	285	39.6
>49	184	25.5
Religion		
Hindu	457	63.5
Buddhist/ Christian	263	36.5
Marital Status		
Married	609	84.6
Family types		
Extended Family	409	56.8
The average income per month in NPR		
Low Income (<20000)	460	63.9
Middle/High Income (20001-26000/) (>26000)	260	36.1
Making the decision for treatment (n=719)		
Self- decision	254	35.3
Family/Friends/Neighbors members	465	64.7
Health Insurance		
National Health insurance	430	59.7
Self-Medication Practice		
Sometime	327	45.4
Regular	393	54.6

** 1 USD=123.282 NPR*

Table 2 shows more than half (59.3%) of the respondents practiced self-medication when they were severe illness. Among the severe illness, 92% practiced regular self-medication.

The main reasons for self-medication were saving time (59.4%), storing medicine in the home for an emergency and got it from family members (53.9%), and the hospital was far from home (51.7%). 36.1% of the respondents (260/720) experienced adverse events with self-medication. Among them, 82.7% had a skin rash. The results of this study showed 33.6% of the respondents (242/720) had chronic health problems with 88.4% of them had hypertension. When we considered causes of illness for regular self-medication, we found that 96.4% practiced once they got diarrhea or dysentery. Out of 720 respondents, 94.2% practiced self-medication when they got a stomach ache. Medicine that they used most for self-medication was cetirizine (86.1%); which is an anti-allergic drug, amoxicillin (81.3%), and ciprofloxacin (78.6%); which both are antibiotic (table not shown).

Table 2. Perceived health condition and level of self-medication.

Health Condition (n)	Total		Self-medication: Sometime		Regular	
	%	n	%	n	%	
Mild illness	125	17.4	125	100	0	0
Moderate illness	168	23.3	168	100	0	0
Severe illness	427	59.3	34	8	393	92

Table 3 shows that there were associations between female (aOR=0.10, 95%CI=0.04-0.24), age>49years (aOR=19.27,95%CI=9.32-39.84), non-Hindu (aOR=3.16, 95%CI=1.43-7.01), extended family (aOR=25.05, 95%CI=11.89-52.78), middle/high income (aOR=5.30, 95%CI=2.27-12.36), decision making by others (aOR=4.19, 95%CI=1.78-9.86), and having National Health Insurance (aOR=12.06, 95%CI=5.80-25.09) were statistically significant with self-medication practice.

Table 4, perceived benefits and perceived barriers were not significantly associated with self-medication practice and emotional support was unavailable to do statistical analysis. However, overall access to health service at a good level (aOR=7.47, 95%CI=4.16-13.42) and appraisal support at a good level (aOR=2.26, 95%CI=1.01-5.13) were statistically significant associated with self-medication practice.

Table 3. Multivariate logistic regression analysis of self-medication practice and general characteristics.

Variables	Unadjusted			Adjusted		
OR	95% CI	p-value	OR	95% CI		p-value
Gender						
Male	1	0.23-0.42	<0.001	1		<0.001
Female	2.24			0.10	0.04-0.24	
Age (Years)						
< 30	1			1		

30-49	4.18	2.91-6.01		9.35	4.82-18.11	<0.001
>49	5.59	3.68-8.47		19.27	9.32-39.84	
Religion						
Hindu	1			1		
Buddhist/Christian	0.57	0.42-0.77	<0.001	3.16	1.43-7.01	0.005
Family types						
Single-family	1		<0.001	1		<0.001
Extended Family	4.00	2.93-5.47		25.05	11.89-52.78	
The average income per month in NPR						
Low Income (<20000)	1			1		
Middle /High Income (20001-26000/>26000)	7.31	5.04-10.56	<0.001	5.30	2.27-12.36	
Making the decision for treatment						
Self-decision	1			1		
Others e.g. Family members, friends, and neighbors	0.6	0.44-0.82	0.001	4.19	1.78-9.86	0.001
Health Insurance						
No insurance	1			1		
National Health Insurance	1.64	1.22-2.22	0.001	12.06	5.80-25.09	<0.001

Table 4. Multivariate logistic regression analysis of self-medication practice

Variables	Unadjusted			Adjusted		
	OR	95% CI	p-value	OR	95% CI	p-value
Perceived benefits						
Low	1			1		
Moderate	0.87	0.57-1.34	<0.001	0.79	0.41-1.53	0.492
High	0.51	0.35-0.75		0.66	0.33-1.31	
Perceived barriers						
Low	1			1		
Moderate	0.9	0.55-1.50	0.042	0.64	0.30-1.36	0.505
High	0.63	0.38-1.05		0.74	0.32-1.68	
Overall access to health service						
Need to improve/Moderate	1			1		
Good	3.53	2.55-4.90	<0.001	7.47	4.16-13.42	<0.001
Instrumental support						
Need to improve/Moderate	1			1		
Good	1.68	1.25-2.26	0.001	0.75	0.29-1.91	0.547
Informational support						
Need to improve/Moderate	1			1		
Good	1.71	1.28-2.30	<0.001	0.67	0.27-1.63	0.379
Appraisal support						
Need to improve/Moderate	1			1		
Good	2.24	1.66-3.02	<0.001	2.26	1.01-5.13	0.049

DISCUSSION

The prevalence of self-medication practice in rural Rolpa district Nepal was 54.6%, which was higher than other neighboring developing countries like Sri Lanka, India, Pakistan, (35.3%, 7.7%, and 5.2% respectively)[13,4,14] Regarding the health condition, 59.3% practiced self-medication at the stage of perceived severe illness. Among them, 92% of the respondents practiced regular self-medication. This might be related to causes of illness as 96.4% regular practiced once they got diarrhea/dysentery, and 94.2% got stomach ache which needed urgent treatment and also due to health facility was not easily reachable, cost-saving, decision making from friends, family, and neighbors. Self-medication among rural Rolpa district was higher than some of the developing countries have used the self-medication practice even in the mild stage like Pakistan and Ghana 21.2%and 17.7%.[14,15]

Considering general characteristic factors, females practiced self-medication more than males (52.4% and 47.6% respectively) which corresponds to the study conducted in Ghana and Vietnam showed that females practiced more than males (58.4% and 57.9%).[15,16] This study found that older age of 49 years and over practiced 19.27 times higher than age less than 30 years (aOR=19.27, 95%CI=9.32-39.84). The study corresponds to one study in Sri Lanka which showed that older age over 40 years practiced more self-medication compare to less than 20 years[13]. Generally, an increase in age has caused difficulty in walking in mountain parts in Nepal and roads were not in good condition. Due to the problem of access to health facilities from home then it was unavoidable that older people had to practice self-medication. One study in Ethiopia[17] showed that family members, relatives, neighbors, and friends influenced the decision for self-medication practice, and also having extended family could support the decision which was consistent with this study that decision making from others was significantly associated with self-medication practice.

Considering the results from multivariate logistic regression, perceived benefits and perceived barriers had no association with self-medication practice (p>0.05),and also emotional support was not applicable in the analysis. However, the result showed that the respondents who had overall access to health service at a good level practiced self-medication 7.47 times higher than those who accessed at the need to improve/moderate level (OR=7.47, 95%CI=4.16-13.42). This could be explained that even some rural people could access to the health facility, they might face with a long waiting line, unpleasant providers' manners, the cost for transportation, and others although medical service in Nepal was free of charge. So the alternatives could be self-medication. One study in Saudi Arabia showed that accessibilities of medicine in pharmacy or online stores were widely accepted reasons for self-medication,[18] however, this approach has not yet been implemented nationwide in Nepal. The respondents who had a good level of appraisal support which was a part of social support practiced 2.2 times more than the need to improve/moderate level (OR=2.26, 95%CI=1.01-5.13). One study in the USA showed that there was a need to understand how social support influenced self-medication practice.[19] The results of this study showed that they got the appraisal support from neighbors followed by the family which was useful for their self-evaluation to practice self-medication.In multivariate model the confident interval of some variables increased due to the low variation of the variable when controlling with other variables.

CONCLUSIONS

This study highlighted a considerable high prevalence of self-medication in the rural area. Family, friends, and neighbors played important roles in making the decision. Waiting time for service Is it significant and causes of illness were significant factors in self-medication practice. Access to health service and social support were significant factors that affected the self-medication practice. Improving accessibility in terms of waiting time and geographical access was necessary to be considered. Information about adverse effects from self-medication and taking medicine from others should be educated to people in a rural area with focusing on the labor force of over 30 years. Self-medication should be considered as a part of self-care with some reasonable conditions in the future.

CONFLICT OF INTEREST

In this study all the authors were agreed to submit the manuscript and did not have any conflict of interest. Signature were given as permission for submission of this paper.

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