Patient's Medicine Cabinet Composition Study in Tilahar VDC, Parbat

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ABSTRACT

Household stocking of drugs for self-medication is high in Nepal. Irrational use of drug and drug non-compliance is often associated with self-medication by stocking drugs at home. Study of the household medical cabinet is significant especially in context to Nepal, owing to low literacy of patients, easy accessibility of prescription drugs without prescription and poor housing standard especially in the rural areas. Thus, this study aims at analysing the composition of household's medicine cabinet.A cross-sectional descriptive study using quantitative research method was conducted in purposively selected Tilhaar VDC of Parbat district using close and open structured questionnaire for an interview. Data entry was done in MS–Excel program. Data editing, coding, and analysis were done in IBM SPSS 16 (SPSS Inc. Chicago IL, USA). Descriptive statistics in terms of frequency, proportion, mean, standard deviation, confidence interval were calculated. Most of the household (84.31%) had at least one medicine in their cabinet as stock. In an average, the household had 2.53 (95% CI, 2.18–2.88 and SD=1.78) medicines in their cabinet. Analgesics were the most commonly stocked medicine, followed by antibiotics. Most of the drugs stored in thehousehold were manufactured in Nepal and were obtained from the private sector. Of the total drugs inquired, respondents had correct knowledge on 68.22% of the total drugs and most of the medicines (90.2%) were within their shelf life period. The drug investigation study at Ramjha Tilhar VDC showed that most of the community people in the VDC stock medicines at home and were found to have correct knowledge on stocked drugs. The private sector was thepreferred source of medicine rather than the governmental health post, indicating some barriers to utilization of public sector services.

Keywords: Drug stock, medical cabinet, Tilahar VDC

INTRODUCTION

In developing countries, medicine may account for 30-40% of health expenditure, the majority of which are accounted by the consumers themselves for self-medication. Essential medicines are one of the vital tools needed to improve and maintain health.[1] However, for many people, especially in the developing world, medicines are still unaffordable and unavailable; if available, they are sold inappropriately and used incorrectly.[2] Therefore, understanding the choices made by consumers is the critical first step to intervening to ensure that these precious resources are spent as safely and productively as possible.

Rational use of drugs as defined by WHO is, "Patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community".[3] The concept of rational use of drugs has been vigorously promoted by WHO and is considered as a fundamental principle of health service quality and management in both the public and private sectors.[1] Not using the medicine in the way intended by the prescriber is a common problem that has drawn significant attentions.[4] Another factor contributing to inappropriate medicines use is the practice of self-medication with prescription drugs; a problem specifically encountered in developing countries where pharmacies freely supply medicines over-the-counter.[1] In most of the developed countries, the majority of the drugs cannot be purchased without a prescription.[5] On the other hand, in context to Nepal over the counter (OTC) drugs are frequent as they are readily available and are a more convenient and economical way of medication compared to visiting physicians.[6, 7] Self-medication using OTC drugs may raise issues of drug misuse and health safety. Improper use of drugs, self-medication, and neglect of directions of prescribed drugs by the patients are shown by various investigations.[8] Administration of too much medication, using it for anextended period of time or misuse of drugs may lead to unwanted health risks. OTC drugs are over-prescribed and overused in self-medication for the treatment of minor disorders such as simple diarrhea, coughs, and colds.[1] Storage of medicines in the domestic cabinet may encourage people to self-medicate with prescription drugs or medicate on the advice of traditional healers. People may also distribute the unused medicines to their neighbors or relatives who

request them.[1] As many drugs taken for self-medication may have adrug interaction with other drugs and food items, or may aggravate the certain medical condition and can result to even death, knowledge and cautions are necessary. Particularly, elderly, young, pregnant, breast feeding mothers and people with certain medical conditions are most vulnerable to the risk of self-medication.[9] Medication misuse does not only lead to patient harm but incur additional health care costs. An important issue associated with the irrational use of the drug in self-medication is the emerging cases of drug resistance, which is a significant challenge to healthcare in the 21st century. International studies have shown the use of antibiotics in mild childhood illness.[10, 11] In Nepal, nearly 40% of the people are illiterate and cannot read and write the information labeled on the medicine.[9] Literacy determines the extent to which people have access to written information on medicines so that some people may suffer from the problem in administrating right medicine for appropriate illness within its shelf life.[1] Hence, there is a chance that people may take wrong medication at wrong time and dose. Drug storage conditions at household are also a significant determinant of drug effectiveness. Improper storage of drugs can result in sub-strength products which can cause treatment failures.[12] The presence of high levels of expired drugs in health facilities may suggest asimilar scenario in residential settings.[13] Study of the household medical cabinet is signifi cant especially in context to Nepal, owing to low literacy of the population, easy accessibility of prescription drugs without prescription and poor housing standard especially in the rural areas. Thus, this study aimed to examine the composition of household's medicine cabinet.

MATERIALS AND METHODS

A cross-sectional, descriptive study using quantitative research method was conducted in purposively selected Tilhaar VDC of Parbat district. In the first stage of sampling, ward number 5 was purposively chosen due to proximity to the health post and ward number 6 was purposively selected because of local medical, retail shops nearby. In the next stage of sampling, 76 and 37 households from ward number 6 and five respectively were randomly selected. Thus, the total number of households for the study was 113 (sample size calculation was based on finite population size). Each selected household was approached and interviewed with his/her consent. The information was collected from the head of the household and in the case of his/her absence, next to him/her was interviewed. Close and open structured questionnaire for the interview was adapted from WHO manual 'How to investigate drug use in community' and revised after field testing in one of the communities in Kathmandu.

The household interview form included socio-demographic characteristics, sources of drug (private or health post), the manufacturer (Nepali or foreign), expiry date, type of drug stocked in each household and correct knowledge on stocked drug in household individual.

After filling the household interview form, it was checked for its completeness, correctness, and internal consistency. The collected information was scrutinized by research objectives. Data entry was done in MS–Excel program. Data analysis were done in IBM SPSS 20 (SPSS Inc. Chicago IL, USA). Standard statistical methods were applied for data analysis. Descriptive statistics in terms of frequency, proportion, mean, standard deviation, confidence interval were calculated. Findings were presented through texts and tables.

RESULTS

Eleven out of 113 households did not participate in the study. Out of 102 households, about 39.2% of respondents were from ward number five and 60.8% from ward number six. Among the total respondents, 66.7% were female, and 33.3% were male. The mean age of respondents was 42.45 years (95% CI, 38.59–46.32 and SD=19.67). Mean age was slightly higher 48.41 years (SD=21.07) in male than in female 39.47 years (SD=18.38).

Drug store and its types

About 84.3% of household had at least one medicine in their cabinet as stock. In an average household had 2.53 (95% CI, 2.18–2.88 and SD=1.78) medicines in their cabinet. The number of medicine in their stock ranged from 0 to 8 medicines (Interquartile range 3). The percentage of household having at least one medicine in their cabinet as thestock was higher in ward number six (88.7%) compare to ward number five (77.5%). Among the households having drug stock, most of the drugs were analgesic followed by antibiotics, antiulcer and anti-diarrheal. (Table 1)

Table 1. Types of medicine

Medicine types	Ward Five (%) n=40		Ward Six (%) n=62	
	≥1	>1	≥1	>1
Vitamin	32.5	7.5	11.3	1.6
Anti-diarrheal	25.0	7.5	11.3	1.6
Antibiotics	25.0	12.5	50.0	8.1
CVS drugs	10.0	7.5	11.3	3.2
Antiulcer	37.5	0	19.3	1.6
Antifungal	5.0	2.5	4.8	0
Analgesic	42.5	7.5	50.0	8.1
Antipsychotic	2.5	0	3.2	1.6
RTI	17.5	7.5	45.1	14.5
OTC drugs	70.0	50.0	75.8	30.6

Sources of drugs

The main source for purchasing drugs for most of the household (63%) was private sector; similar findings were observed for both the wards. The majority (61.63%) of the drugs used by the household were manufactured in Nepal. Stratification of the manufacturer onwards reveals that drugs manufactured by Nepali Manufacture Company were popular in both the wards. (Table 2)

Table 2. Source of drugs

	Ward Five (%) n= 107	Ward Six (%) n= 151	Total (%) n= 258
Source of drug			
Private	72.0	56.9	63.0
Health Post	28.0	43.7	37.0
Manufacturer company			
Nepali	55.1	66.2	61.6
Foreign	44.9	34.4	38.8

Quality and Knowledge on drug

Of the total drugs observed, about 90.2% of the drugs had their shelf life. The proportion of expired drugs was slightly greater in Ward five. Of the total drugs inquired, respondents had accurate knowledge on 68.22% of the total drug. (Table 3)

Table 3. Quality and Knowledge on drug

	Ward Five (%) n= 107	WardSix (%) n= 151	Total (%) n= 258
Shelf life expired	6.5	3.3	9.8
Correct Knowledge on Drug	66.4	69.5	68.2

DISCUSSION

Most of the household (84.31%) had at least one medicine in their cabinet as stock. In this study, drug stocking at domestic level may be governed by various factors such as hilly terrain of Tilhar VDC, thepoorsocioeconomic status of the rural people to meet the high cost of modern medicines, non-availability of doctors in rural areas, difficulties in accessing modern healthcare and burgeoning pharmacies in rural areas. Pharmacists and pharmacy attendants were also key role player in fostering self-medication among the public in India.[14]

Analgesics were the most commonly stocked medicine, which is similar to findings in the literature which reported that paracetamol and other NSAIDs are the most commonly used drugs for self-medication.[6] Other similar studiesreported that analgesics (17.3%) and analgesics (16.8%) were the most requested and most leading groups of drugs for self-medication.[15,16] A probable justification for stocking analgesics in house may be due to the physical, pain imposing strenuous work of rural people in the hilly area. Antibiotics were another class of drug frequently stocked at household. A probable reason for this may be due to easy accessibility of antimicrobials in developing countries.[15] Most of the drugs stored in household were obtained from theprivate sector. The finding was consistent with the study conducted in the United Kingdom.[16] Drug retail shops frequently serve as the public's first point of contact with the healthcare system.[17] People show inclinations to private sector healthcare delivery in low and middle-income countries as they are considered to be more efficient, accountable, and sustainable than public sector delivery.[18] The common reasons for choosing a private health facility by households may include: to avoid crowd in public health facility and have fast service, not having the opportunity to be treated in public health facility, better treatment at private facility, good quality of medicines, long distance to reach the public health facility and the proximity of private health facility.[19]

Respondents had correct knowledge on most of the drug. The finding was similar to the study conducted in Oman which revealed adequate knowledge on correct route of administration and dosage among the surveyed households.[19]A study conducted in India also showed that most of the respondents (88.63%) had correct knowledge of dosage of the medicines at homes.[20]The knowledge associated with medicine dosage among the respondents may be due to the instructions on dosages from the prescriber or dispenser. In the current study, most of the medicines (90.2%) were within their shelf life period. Similar results were obtained in studies conducted in Saudi Arabia and other Arabian Gulf countries.[21] The good knowledge level of the respondents may be associated with household drug stock within their shelf life period.

The drug investigation study at RamjhaTilhar VDC shows that most of the respondents in the VDC stock medicines in their home. The private sector was the preferred source of medicine than the governmental health post, indicating some barriers to utilization of public sector services. Analgesics were the most common drug in the household medical cabinet. Most of the drugs in the medical cabinet were within shelf life period.

CONFLICT OF INTEREST: None

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