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Use of Unannounced Standardized Patient to Assess Quality of Care in Community Pharmacies / Medicine Shops: A Pilot, Cross-Sectional Study

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ABSTRACT

Background: Community pharmacies are the most accessible healthcare providersl which plays a key role in primary healthcare services managing minor ailment and ensure the quality use of drugs. Our study aimed to assess the quality care from community pharmacies using unannounced standardized patient.

Methods: All community pharmacies from three municipalities of Kavrepalanchowk district were visited by unannounced standardized patients presenting with acute dysentery, seasonal influenza, acute gastritis, acute diarrhea and pulmonary tuberculosis. Responses were audio-recorded and checked using standard checklist. Descriptive analysis was performed and data were presented as frequencies and percentages.

Results: A total of 40 visits were performed for each case of acute dysentery, seasonal influenza and acute gastritis and 41 visits for acute diarrhea and pulmonary tuberculosis. During visits, on average, 17.7% (±12.3) of recommended questions were asked by the community pharmacies. Among the drug dispensed, on average, 1.9 (± 0.6) drugs were dispensed. All the community pharmacies 40 (100.0%) provided correct drugs in acute gastritis followed by 34 (85.0%) in acute dysentery, 31 (77.5%) in acute diarrhea and 21 (52.5) in seasonal influenza, whereas no pharmacies provided correct drug in the case of pulmonary TB. None of the pharmacies counseled on potential adverse effects.

Conclusions: The study showed a high rate of drug dispensed without sufficient inquiry of the recommended symptoms for proper diagnosis and counseling regarding drug use was low. The study recommends a need for continuous training by concerned bodies to improve the quality of professional practice in the community pharmacies.

Keywords: Community Pharmacies; simulated visits; unannounced standardized patients

INTRODUCTION

Community pharmacies (CPs) are the most accessible healthcare providers in the communities.[1] It plays a key role in primary healthcare services including minor ailment management and ensuring the quality use of drugs.[2] The remedies provided by CPs are only safe if used correctly. The use of unannounced standardized patient (USP) is a gold standard and validated study method to assess the performance and quality of care in pharmacy practice.[3] The use of USPs is increasingly used in low and middle-income countries to assess the quality of medical care.[4] So using USPs in CPs would help to evaluate the healthcare quality in various settings. In addition, valid research using USPs to assess the quality of health care in Nepal is limited despite several

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studies being conducted in other countries. Therefore, we attempted to assess the quality of care provided by the CPs to the patients visiting them using the USP for various simulated case scenarios.

METHODS

A cross-sectional study was conducted in the community pharmacies/ medicine shops of Dhulikhel, Banepa and Panauti municipality of Kavrepalanchowk district. Kavrepalanchowk district is located in a Bagmati Province with a population of 3,66,879. These municipalities are relatively more developed than other areas of the district with a wider geographical area. There is a relatively higher number of facilities such as educational institutes, hospitals, health centers and community pharmacies. As the number of healthcare facilities is also higher compared to other areas of the district, these cities also cover the population from a rural part of the district. Therefore, in this semi-urban setting, the risk of detecting USPs is less. The study was conducted from July 2020 to October 2021. The ethical approval was obtained from Nepal Health Research Council (216/2022P).

The Census method was used where all the community pharmacies / medicine shops of Dhulikhel, Banepa and Panauti which provided the written consent to participate in the study were included. The district and the municipalities were purposively selected for the following reasons: the investigator was well acquainted with the district and had a well-established network with the local stakeholders, and had a high number of facilities including community pharmacies. Written consent was taken two months before initiation of the study stating there will be a survey to assess the quality of the CPs in the future without disclosing about the USP visit. All the community pharmacies were included in our study. There was a total of 41 registered pharmacies; 20 in Banepa, 11 in Panauti and 10 in Dhulikhel.

Recruitment and training protocols were designed to ensure that the USP conformed closely to the providers' regular patient populations. USPs were recruited from MBBS first-year students. At initial, total of 54 students applied for the application of USP. The interview was conducted with the criteria of language expression skills, memory ability, performance ability, physical condition and participation time as USPs. Based on interviews and scoring checklist, 25 students were finalized to portray the role of USP but one of them withdrew after training. Therefore, 24 USPs were consigned to CPs (Figure 1).

Selected USPs were trained for 8 hours (1 day) by a multidisciplinary team consisting of a researcher and a medical consultant to consistently portray the emotional, physical, and psychosocial aspects of the cases and to accurately recall interactions with providers. They were also trained to avoid invasive examinations and to skip the drugs as possible. The USPs were instructed not to provide and/or request additional information unless specifically requested to ensure that the information provided is consistent across all visits. The extensive training led to low detection rates of USPs by sampled providers.

All of the selected USPs were given 5 days' time period to become familiar and capable of performing the assigned case scenarios. They gathered in a hall on the sixth day to practice the case with one another. The practice session was also recorded and cross-checked by the research team. USP's were given feedback and suggestions for improvement and further trained until the satisfactory portrayal.

All the 24 USPs were divided into 5 groups and each group was assigned with the case of acute dysentery, seasonal influenza, acute gastritis, acute diarrhea and pulmonary TB (referral case). These cases are suitable for this study because there are no clear physical symptoms and low danger of USP being exposed to invasive procedures or tests.

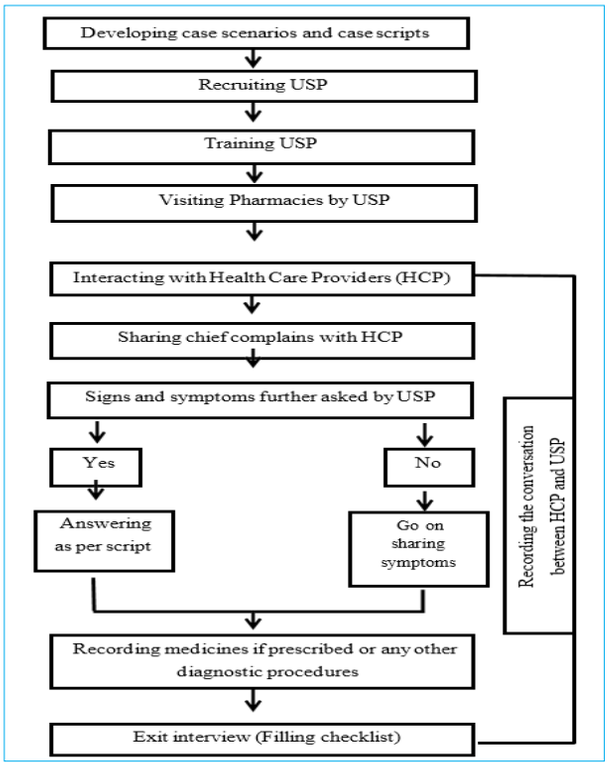

Figure 1. Flowchart depicting the selection of USPs for this study.

The trained USPs followed scripts for each case. Each script included the background story for each case and a checklist with the symptoms and history of the disease. These scripts and checklists were prepared after a review of the previous studies done in Ethiopia, China and India.[5-7] The symptoms in the checklist were prepared as per the Integrated management of adolescent and adult illness (IMAI) World Health Organization (WHO) guideline [8] and were reviewed and approved by community medicine practitioners, general practitioners, pharmacists and public health officer from Kathmandu University School of Medical Sciences/ Dhulikhel Hospital. The simulation checklists were then translated into the local language i.e. Nepali and validated by back translation by public health officer from Dhulikhel Hospital. A pilot study was carried out among five CPs to validate the checklist and checked the suitability of points included in the checklist.

USPs were instructed to visit allocated pharmacies during the evening time (more chance that pharmacies are open). There was at least 2 weeks interval between visits of the same case and five days interval for different cases to reduce the chance of being recognized by the pharmacy personnel.

All simulated visits were audio-recorded to mitigate recall bias[9], which has been cited as a potential shortcoming of the USP methodology. Immediately after each simulated visit, the USPs filled out a form containing a checklist of items that were intended to assess the overall practice of pharmacist's/ pharmacy personnel in the management of minor ailments. For quality assurance, two of the investigators independently compared and validated the data from the checklist against audio recordings.

We assessed the quality of care provided by the CPs by measuring adherence to the case-specific checklist and the appropriateness of drugs dispensed (treatment at CP level) by community pharmacy personnel. The adherence was measured and presented in terms of the percentage of the questions asked as per the checklist and the percentage of correct and incorrect drugs dispensed by the community pharmacies. A treatment checklist was also prepared as per the IMAI WHO guideline.[8]

Drugs dispensed/ treatment were classified as 'correct' if all the drugs given by CPs are correct, 'partially correct' if any one of the incorrect drugs are dispensed with a correct drug by CPs and 'incorrect' if all the drugs provided are incorrect as per the checklist. The working procedure of this study is shown in Figure 2.

Data were entered and analyzed using Microsoft Office Excel 2013 and Statistical Package for the Social Sciences (SPSS) for windows version 20.0. Descriptive analysis was done and data was presented in frequency and percentages.

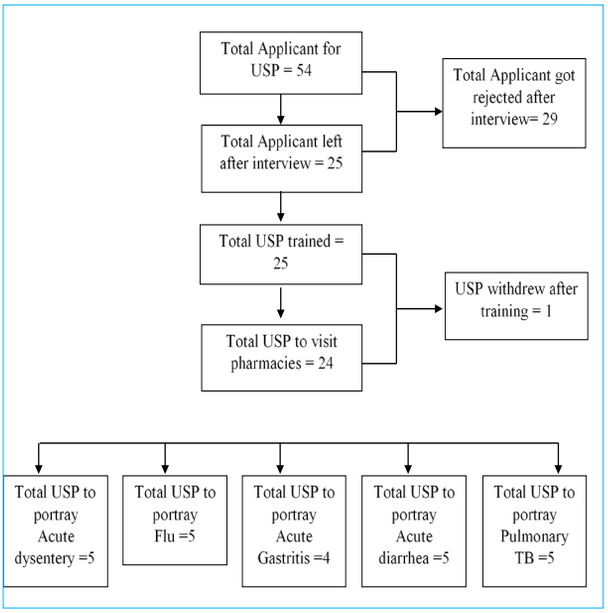

Figure 2. Flow chart showing step-wise working procedure of USPs.

RESULTS

A total of 40 simulated visits by 24 SPs were performed for each case of acute dysentery, seasonal influenza and acute gastritis and 41 visits for acute diarrhea and pulmonary TB. The visits were completed between July 2020 and October 2021.

Table 1. Measures of quality of service provided by CPs to USPs.

Case Scenario	Average number (%) of recommended questions asked	Number (%) of CPs dispensing drugs	Average number of drugs dispensed
Acute Dysentery	2.2 (17.1)	40 (100)	1.7
Seasonal Influenza	1.1 (15.4)	40 (100)	2.4
Acute Gastritis	2.2 (17.9)	40 (100)	1.7
Acute Diarrhea	1.4 (13.9)	40 (97.5)	1.4
Pulmonary Tuberculosis	3.5 (24.7)	41 (100)	2.0

During USP visits, the average percentage of recommended questions asked was higher at 24.7%

(Pulmonary TB) followed by 17.9% (Acute gastritis), 17.1% (Acute dysentery), 15.4% (Seasonal Influenza) and 13.9% (Acute Diarrhea) (Table 1). None of the CPs inquired about all the symptoms given in the recommended checklist. In acute dysentery, the majority 19 (47.5%) of the pharmacies inquired about the frequency of stool and in seasonal influenza, the duration of the fever/cough/cold 17 (42.5%) were the most frequently asked questions. Likewise, duration of pain 18 (45.0%), frequency of stool 28 (68.3%), and history and duration of cough 25 (60.9%) were the questions asked by most of the CPs in acute gastritis, acute diarrhea and pulmonary TB respectively (Table 2).

Very crucial symptoms like the presence of blood and mucus in case of acute dysentery, the intensity of fever and chest pain in case of seasonal influenza, use of non-steroidal anti-inflammatory drugs (NSAIDs) and bloating in case of acute gastritis, stool color and presence of blood/ mucus in stool in case of acute diarrhea and sputum color, appetite, recent weight loss and prescription by a physician in pulmonary TB were inquired by fewer numbers of CPs (Table 2).

Table 2. Recommended questions inquired by community pharmacies in five different case scenarios.

Acute dysentery N=40		Seasonal Influenza N=40		Acute gastritis N=40		Acute diarrhea N=41		Pulmonary TB N=41	
Asked questions	n (%)	Asked questions	n (%)	Asked questions	n (%)	Asked questions	n (%)	Asked questions	n (%)
Frequency of stool	19 (47.5)	Duration of cough/cold/ fever	17 (42.5)	Duration of pain	18 (45.0)	Frequency of stool	28 (68.3)	Cough history & duration	25 (60.9)
Consistency	12 (30.0)	Intensity of fever	14 (35.0)	Vomiting	12 (30.0)	Stool nature	10 (24.4)	Sputum present	22 (53.7)
Blood	9 (22.5)	Medication history	5 (12.5)	Medication history	11 (27.5)	Blood/ mucus in stool	5 (12.2)	Medication history	22 (53.7)
Volume of stool	6 (15.0)	Chest pain	4 (10.0)	Nausea	9 (22.5)	Food habit	3 (7.3)	Fever	21 (51.2)
Nausea and vomiting	5 (12.5)	Headache	3 (7.5)	Have sour or oily food	9 (22.5)	Stool color	0 (0.0)	Throat/chest pain	18 (43.9)
Pain while defecation	4 (10.0)	Nausea and vomiting	0 (0.0)	Ate yesterday	6 (15.0)	Appetite	0 (0.0)	Runny nose/ common cold	13 (31.7)
Mucus	3 (7.5)	Appetite	0 (0.0)	About lunch	5 (12.5)	Fever intensity	0 (0.0)	Wheezing chest	8 (19.5)
Medication history	3 (7.5)			Bloating	4 (10.0)	Fever present	0 (0.0)	TB suspect & referral	4 (9.8)
Fever	2 (5.0)			Experienced pain before	4 (10.0)	Medication history	0 (0.0)	Headache	3 (7.3)
Color	2 (5.0)			Bowel and Bladder habit	4 (10.0)			Recent weight loss	2 (4.9)
Stomach pain	1 (2.5)			Use NSAID	3 (7.5)			Sputum color	2 (4.9)
Appetite	1 (2.5)			Fever	1 (2.5)			Appetite	2 (4.9)
								Prescription present	1 (2.4)
								Family/locality history of TB	0 (0.0)

Table 3. Number of community pharmacies dispensing correct, partially correct or incorrect drugs.

	Acute dysentery (N=40) n (%)	Seasonal Influenza (N=40) n (%)	Acute gastritis (N=40) n (%)	Acute diarrhea (N=41) n (%)	Pulmonary TB (N=41) n (%)
Correct drug	34 (85.0)	21 (52.5)	40 (100.0)	31 (77.5)	0
Partially correct drug	6 (15.0)	7 (17.5)	0	8 (20.0)	4 (9.8)
Incorrect drug	0	0	0	1 (2.5)	36 (87.8)

Different classes of pharmacotherapeutic agents were dispensed in all cases. All the CPs dispensed medicine in response to symptoms of USP except in the case of acute diarrhea as shown in Table 1. Also, on average, a higher number i.e. 2.4 drugs (Seasonal Influenza) followed by 2.0 (Pulmonary TB), 1.7 (Acute gastritis and Acute dysentery) and 1.4 (Acute Diarrhea) were dispensed from CPs. The maximum number of drugs provided by CPs was 6 (2.5%) which was dispensed in case of seasonal influenza and pulmonary TB. Drug given by the CPs has been classified as correct, partially correct and incorrect as per the standard checklist. These drugs were categorized as per their pharmacological activity. Most CPs have dispensed correct drug except in the case of pulmonary TB. All the community pharmacies 40 (100.0%) provided correct drugs to the USPs in case of acute gastritis. Whereas 36 (87.8%) CPs in case of pulmonary TB have dispensed incorrect drugs as given in Table 3.

The majority of CPs dispensed nitroimidazole class of antimicrobials alone for acute dysentery 20 (50.0%) and acute diarrhea 24 (60.0%), a combination of anti-cold and antihistamine drug 5 (12.5%) for seasonal influenza and proton pump inhibitors (PPIs)17 (42.5%) for acute gastritis (Table 4) which was the correct treatment. In the case of pulmonary TB only the referral case was the correct response by CPs as per our study protocol. In this study, none of the pharmacies provided the correct response (treatment) for a pulmonary TB case. However, 4 (9.7%) recommended referral to the hospital in combination with oral drugs, which was classified as partially correct treatment in our study.

Amongst drugs given by CPs, the incorrect drug was given in the case of acute diarrhea 1 (2.5%) and pulmonary TB 36 (87.8). The antimotility agent was the incorrect drug dispensed by 1 (2.5%) of the CP in case of acute diarrhea and anti-cough agent 11 (26.8%) was majorly dispensed incorrect drug in case of pulmonary TB.

Along with the drug dispensed, information regarding the dose of the drug was provided by almost all the CPs. USPs presented with acute dysentery 39 (97.5%), seasonal influenza 40 (100.0%), acute gastritis 34 (85.0%), acute diarrhea 37 (90.2%) and pulmonary TB 36 (87.8%) were counselled regarding dose of drugs. But none of the pharmacies counseled about the adverse effects of the drug as shown in Table 4.

Table 4. Different drug dispensed to USP by community pharmacies.

Acute dysentery N=40		Seasonal Influenza N=40		Acute Gastritis N=40		Acute diarrhea N=41		Pulmonary TB N=41	
Drugs	n (%)	Drugs	n (%)	Drugs	n (%)	Drugs	n (%)	Drugs	n (%)
Diloxanide Furoate + Metronidazole	20 (50.0)	Phenylephrine + Paracetamol + Chlor-pheniramine	32 (80.0)	Pantoprazole	27 (67.5)	Diloxanide Furoate + Metronidazole	21 (52.5)	Dextro-methorphan+ Chlor-pheniramine+ Phenylephrine	15 (36.6)
Metronidazole	17 (42.5)	Chlorpheniramine + Phenylephrine + Dextro-methorphan	28 (70.0)	Aluminium Hydroxide+ Magnesium Hydroxide+ Simethicone+ Sodium Alginate	11 (27.5)	Metronidazole	15 (37.5)	Fexofenadine	9 (22.0)
Hyoscine	7 (17.5)	Levocetirizine	11 (27.5)	Hyoscine	10 (25.0)	Loperamide	6 (15.0)	Azithromycin	8 (19.5)
ORS	5 (12.5)	Ibuprofen+ Paracetmaol	6 (15.0)	Domperidone	6 (15.0)	Oral Rehydation Salt (ORS)	3 (7.5)	Levocetirizine	5 (12.2)
Digestive enzyme	4 (10.0)	Fexofenadine	5 (12.5)	Omeprazole	3 (7.5)	Pantoprazole	2 (5.0)	Bromohexine+ Terbutaline sulphate	7 (17.1)
Loperamide	3 (7.5)	Azithromycin	5 (12.5)	Ondansetron	3 (7.5)	Digestive enzyme	2 (5.0)	Codeine+ Paracetamol	3 (7.3)
Ciprofloxacin	3 (7.5)	Pantoprazole	3 (7.5)	Domperidone+ Pantoprazole	3 (7.5)	Probiotics	1 (2.5)	Amoxicillin	3 (7.3)
Drotaverine	2 (5.0)	Codiene Phosphate+ Paracetamol	2 (5.0)	Sodium Bicarbonate+ Esomeprazole	2 (5.0)	Hyoscine	1 (2.5)	Cetirizine	3 (7.3)

Paracetamol	2 (5.0)	Acetaminophen	1 (2.5)	Esomeprazole	1 (2.5)	Drotaverine	1 (2.5)	Guaifenesin+ Terbutaline+ Ambroxol	3 (7.3)
Tinidazole	2 (5.0)	Montelukast	1 (2.5)	Promethiazine	1 (2.5)	Ciprofloxacin	1 (2.5)	Ibuprofen+ Paracetamol	3 (7.3)
Ranitidine	1 (2.5)	Ascorbic Acid	1 (2.5)	Drotaverine	1 (2.5)	Ornidazole	1 (2.5)	Cefixime	2 (4.9)
Rabeprazole	1 (2.5)	Prednisolone	1 (2.5)			Tinidazole	1 (2.5)	Herbal cough remedies	2 (4.9)
Probiotics	1 (2.5)	Cefexime	1 (2.5)			Secnidazole	1 (2.5)	Phenylephrine+ Paracetamol+ Chlor-pheniramine	1 (2.4)
Domperidone	1 (2.5)							Paracetamol	1 (2.4)
Ornidazole	1 (2.5)							Nimesulide+ Paracetamol	1 (2.4)
Albendazole	1 (2.5)							Montelukast+ Levocetirizine	1 (2.4)
								Codeine	1 (2.4)
								Montelukast	1 (2.4)
								Chlor-zoxazone+ Paracetamol	1 (2.4)
								Amoxicillin+ Clavulanic acid	1 (2.4)
								Vitamin D	1 (2.4)

Table 5. Type of advice provided by community pharmacies.

	Acute dysentery N=40	Seasonal Influenza N=40	Acute gastritis N=40	Acute diarrhea N=41	Pulmonary TB N=41
	n(%)	n(%)	n(%)	n(%)	n(%)
Dose	39 (97.5)	40 (100.0)	34 (85.0)	37 (90.2)	36 (87.8)
Duration	17 (42.5)	19 (47.5)	25 (62.5)	28 (68.2)	18 (43.9)
Non pharmacological counsel	1 (2.5)	4 (10.0)	6 (15.0)	20 (48.8)	3 (7.3)
Adverse effect	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

DISCUSSION

To our knowledge, this is the first study from Nepal that assessed the quality of care provided by CPs using USPs. The information from the study is relevant for bridging the gap between decisions making on strengthening the rules and regulations of the sale of drugs from the CPs and improving the service provided by them and implementation. The findings of our study showed a high rate of drug dispensing without sufficient inquiry of the recommended disease symptoms required for proper diagnosis of the disease. Lack of counseling regarding dispensed drugs was also found in this study.

None of the pharmacy personnel asked all of the questions in the checklist prepared for the five different case scenarios used in this study. Only primary symptoms like frequency of stool in acute dysentery and acute diarrhea, duration of cough/ fever in seasonal influenza and pulmonary TB and duration of pain in acute gastritis were inquired about by most of the CPs in the respective cases. Assessment of the primary and associated symptoms is vital for diagnosing any disease.[10] Missing out the inquiry of important symptoms may lead to misdiagnosis of disease and most importantly, missing out on the differentiation from complex cases that require referral to specialists like in the case of pulmonary TB

can result in detrimental clinical outcomes.[11]

Only 9.7% of the simulated visits of pulmonary TB were referred in this study. Early diagnosis and prompt effective therapy are crucial for preventing pulmonary TB transmission.[12] Missing prompt diagnosis and referral in such cases may lead to the development of multi-drug resistant cases and even moderate to severe harm (death) to the patient.[13] Also, since the study period coincide with the COVID-19 outbreaks, the symptoms of seasonal influenza and COVID- 19 are almost similar thus there were chances of the misdiagnosis of the seasonal influenza case as COVID-19.[14]

Almost all the simulated visits in all cases were dispensed drugs. The use of nitroimidazole antimicrobials like metronidazole and diloxanide-furoate in most of the simulated visits of acute dysentery in this study is as per the treatment guidelines and based on the pharmacological knowledge of the respective drugs. This is the mainstay of the treatment of acute dysentery with high efficacy and low failure rates in clinical practice.[15] It is also well known that oral Rehydration Solution (ORS) also helps complement the management which has been dispensed to a few of the USPs in our study. There was rational use of a fixed-dose combination of antipyretics and antihistamines (common anti-cold drugs) in most of the simulated visits by CPs in case of seasonal influenza. Such a combination has proven to have additional benefits in treating the common cold and seasonal influenza because of their synergistic pharmacological actions.[16] All the USPs received correct treatment for acute gastritis in our study. The most frequently dispensed drug was PPIs followed by antacids which show better quality of care provided by the CPs. PPIs are more potent and efficacious drugs with more tolerable adverse effects in reducing gastric acid secretion.[17] Similar to acute dysentery, in simulated visits of acute diarrhea also, metronidazole and diloxanide-furoate (nitroimidazole antimicrobials) combination were most frequently dispensed drugs by majority of the CPs. WHO recommends treating diarrhea with antibiotics only if the symptoms last at least 14 days and organisms are detected in stool tests.[18] In the simulated visits of pulmonary TB, only 4 (10%) of the CPs suggested to go for further evaluation like blood test and sputum test to get a proper diagnosis of the disease. It was expected the case be referred to the concerned specialty and asked for a detailed history.

Among the correct treatment provided by the CPs, some of the drugs were prescription-only medicines. In the case where USPs presented with the acute onset of loose stool without other additional symptoms inquired were treated with antimicrobials which were beyond the rules. As per Drug Act 1978, in Nepal antimicrobials can only be sold by pharmacists in presence of prescription by doctors.[19] Antimicrobials were also dispensed in the case of seasonal influenza, acute diarrhea and pulmonary TB. Previous study also concluded that non-prescription use of antimicrobials is the most prevalent form and poor knowledge about antimicrobial use plays a significant role in irrational antimicrobial use.[20]

There was also irrational use of Over the Counter (OTC) medicine like dispensing anti-cold with antihistamine drugs together in case of seasonal influenza and pulmonary TB. The irrational use of OTC medicines has been reported seriously in many developing countries and the most common class of drugs primarily concerning life-threatening issues belong to opioid analgesics, antihistamines, NSAIDs inducing gastrointestinal bleeding, antitussive and sedative products.[21] Irrational use of OTC drugs increases the chances of poly-pharmacy in a patient which is considered one of the major predisposing factors for adverse drug reactions (ADRs). Similar to this study, another study also listed the problems of irrational drug use. These include excessive use of antibiotics and anti-diarrheal for non-specific diarrhea, over-prescribing of NSAIDs, prescribing by trade name rather than generic name, excessive unnecessary use of antibiotics and self-medication by a public.[22] Irrational use of NSAIDs is not only linked with cost of therapy but also associated its ADR.[3] In developing countries like Nepal, health treatment is generally paid out-of-pocket. Thus, irrational use of drugs also increases the unnecessary economic burden on patients. The costs of such irrational drug use are enormous for patients and the community in particular who have scarce financial resources. Very few CPs dispensed ORS, the most essential therapy in acute diarrhea, which shows the poor quality of care provided by CPs. Few of the CPs also dispensed drugs like antispasmodics and anti-motility agents in this case. British National Formulary (BNF) treatment guideline for the treatment of acute diarrhea recommends that antispasmodics should not be used for primary treatment and the anti-motility drugs have a very limited role as adjuncts to ORS only.[23]

For the case of pulmonary TB, the low percentage of referrals for medical evaluation indicates how pharmacists are missing out on early case detection chances.[24] Lack of response to the symptoms in such cases can lead to misdiagnosis as well as irrational dispensing of the drugs.[25, 26] This might be the plausible explanation for the irrational use of NSAIDs, antihistamines and cough suppressants in simulated cases of pulmonary TB

in our study.

Our study showed that the majority of USPs were informed about drug dosage, but not all of the SPs were advised about duration and other non-pharmacological measures while dispensing drugs. Also, none of them were counselled about the potential adverse effects of those drugs in any of the simulated visits in our study, which is consistent with other studies.[27] Similarly, another study revealed that nearly two-thirds of pharmacists gave dosing instructions to the simulated patients and only 5.9% of the simulated patients were warned by the pharmacists about potential drug and food interactions.[22]

Counselling on potential adverse drug reactions is crucial for preventing and reporting the incidence of ADR by the patient and affects patient adherence to treatment. Drug counselling improves the patient health literacy on disease conditions, rational use of drugs, potential adverse effects, and drug interactions. In return, an informed patient would have an improved outcome of therapy with enhanced adherence to the therapy.[28] Counselling on potential adverse effects also helps report ADRs and thus in pharmacovigilance. There is an association between the occurrence of certain ADRs and patients' lack of knowledge and poor perceptions about drugs.[29] Moreover, a previous study has shown that the pharmacist-led pharmacovigilance working model significantly increased the quantity and quality of adverse drug events (ADE) reporting and promoted pharmacovigilance.[30] Moreover, the findings of the study will allow stakeholders to understand the real-world scenarios of quality of care in community pharmacies, which in turn would help inform the concerned authorize body.

This study is the first of its kind in Nepal which used the USP to assess the quality of care provided by CPs. First, as this study was done using trained standardized patients portraying the real case scenarios without letting the CPs know who they are, it is more likely that the real response to the case is well analysed in the real scenarios. Second, we can achieve an assessment of professional practice in CPs that is free from observation and recall bias. Finally, valid quality comparisons can be assured as all the case presentations were standardized. This kind of study can be of help to make recommendations on the improvement of the quality of care provided by the CPs.

However, as this study was conducted only in 3 cities of Kavrepalanchowk district with only five simulated case scenarios, the findings cannot be generalized among all the CPs of whole the country. Hence, further study in a wider setting is warranted.

CONCLUSIONS

The overall findings of this study showed that the management of minor ailments like acute dysentery, seasonal influenza, acute gastritis and acute diarrhea and referral case pulmonary TB was sub-optimal. No comprehensive history taking, lack of proper drug counselling and dispensing of prescription-only drugs without prescription were frequently observed in all the simulated visits. This suggests the quality of care by community pharmacies in the Kavrepalanchowk district needs remarkable improvement.

Similar studies with in-depth evaluation are to be conducted nationwide in the future. In addition to the policy and government regulation, community pharmacists should also be supported by academic institutions with continuous educational training regarding good pharmacy practice (GPP) to endow them with the knowledge necessary for providing quality pharmacy services to patients. This would also help in improving the patient perceptions about the CPs.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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