

Preliminary Study on Knowledge, Attitudes and Practices on Selling Over-the-Counter Oral Medicines by Pharmacy Workers in Colombo District

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ABSTRACT

Over-the-counter is also known as non-prescription medicine. Although, OTC can be bought without a prescription, self-medication and overusing the medications can cause many side effects. Hence, responsible selling of drugs with recommendations on proper and safe use is a key role of pharmacists and other pharmacy workers. The aim of this study was to investigate knowledge, attitudes and practices of selling orally administered OTC medicines by pharmacy workers in the Colombo district. A descriptive cross-sectional study was performed among pharmacy workers in the Colombo district, including pharmacists and non-pharmacists using a structured questionnaire. The ethical clearance was obtained from Ethics Review Committee, CINEC Campus. Out of 100 participants, 45 were males and 55 were females. As a percentage, 15% were pharmacists, 37% were assistant pharmacists and 48% were supporting workers in the pharmacy. Although Paracetamol is an OTC drug that is commonly sold in pharmacies, only 42% of the participants know the maximum adult daily dose as four g/day. The remaining 58% were not aware of the correct daily adult dose for Paracetamol and among those 13.79% were pharmacists. Further, 86% of the participants were aware that generally antacids should be taken 30 minutes before the meal to get effective action and 14% were unaware. Out of this, 14.28%, 35.71% and 50% are pharmacists, pharmacy assistants and other support staff respectively. Although antibiotics are not OTC medicine, 17% disagreed with the statement that "Antibiotics should not dispense for the common cold on patient demands". Among the participants, 47% believe pharmacists are only responsible for dispensing and counselling patients on the drug prescribed by physicians. Although 44 % of participants never

issued non-OTC medicine without a prescription, 48% have issued prescription-only drugs without a prescription occasionally, while 8% have issued non-OTC medicine without a prescription. According to the results, some workers were still unaware of the correct information regarding the OTC. It is concluded that some of the healthcare workers at pharmacies require further knowledge of OTC oral medicines.

Index Terms: *Over-the-counter, OTC, Paracetamol*

INTRODUCTION

The preliminary study on knowledge, attitudes, and practices on selling OTC oral medicines by pharmacy workers in the Colombo district brings out the main concept of ensuring the safety of drug dispense and concern about the patient safety by community pharmacy workers.

A drug product may be marketed as nonprescription or OTC if the Food and Drug Administration (FDA) determines it is safe and effective for use by a consumer without the guidance of a trained healthcare professional and have a very low probability of being abused or mistreated [1]. For frequently occurring illnesses, OTC medicines provide consumers with secure and efficient treatments, saving them time and money that might otherwise be spent on other, more expensive healthcare services.

It has been found that around the world self-administration and overusing of drugs has led to many unavoidable and challenging situations due to drug misuse and carelessness when administering a drug. Improper use of OTC medicines can lead to drug interactions, overdose, and adverse effects.

This study assessed the knowledge, attitudes and practices of pharmacy workers including pharmacists, assistant pharmacists and other pharmacy workers.

There are so much related literature which emphasises the importance of considering this.

Considering the use of antibiotics, it is found that antibiotics should not be dispensed in patient demand. According to the facts found, it can be resistant to the drug within our body and the effect of the drug will not be gained due to in taking antibiotics with patient demand [2].

The awareness of the maximum daily adult dose for Paracetamol is another important concern as studies have found that giving Paracetamol in overdoses has led to many drug interactions within adult patients in hospitals due to the careless and irresponsible actions of the medical workers including pharmacies in the hospitals [3].

Generally, antacids were taken 30 minutes before a meal, preventing heartburn, and acid reflux and indigestion. Depending on the age and intended use antacid dosages and doses can vary.

Assessing the responsibility of the pharmacy workers to ensure patient safety is not just identified as dispensing, it includes interpreting drug interactions, counseling and updating the awareness of society regarding new medicines as well [0]. Also, in a pharmacy, providing prescription needed medicines without a prescription is a violation of the rule and goes against the ethics of a pharmacist [5][6]. A community pharmacy worker is always responsible for dispensing the correct drug, dosage and dose even though a physician or consultant has prescribed the drugs. It's the responsibility of a pharmacy worker to concern on drug interactions and indications and contra-indications before dispensing a drug. Therefore, pharmacy workers have a significant role in providing the required knowledge to the general public in order to enhance their awareness of potential risks and encourage responsible self-care. Also, the patient should be advised to make them acknowledged about the correct way of administering a drug to get its' proper therapeutic effect.

RESEARCH METHODOLOGY

The study population was the pharmacy workers working in the Colombo district, 20-60 years of age and given their consent to participate in the study and those free of any physical or mental disabilities that may hinder them from responding to the questionnaire. Participants who did not wish to provide data for the research and those who did not comply with the relevant admission recommendation were excluded. The sample size was calculated using a standard formula and $n=100$ used for the preliminary study.

Ethical clearance for this study was taken from the Ethics Review Committee of the CINEC Campus, Malabe, Sri Lanka.

The study was a cross-sectional study and the study instrument was a structured questionnaire made by authors and approved by Ethics review committee of CINEC Campus. A Google form was shared on social media platforms openly inviting pharmacists, assistants and other pharmacy workers who work at pharmacies in the Colombo district. Those who had consent to participate in the study filled out the consent form and the questionnaire.

The questionnaire consisted of four categories.

1. Socio- demographic characteristics
2. Knowledge of participants toward selling OTC oral medicines
3. Attitudes of participants toward selling OTC oral medicines
4. Practices of participants toward selling OTC oral medicines

The data was analyzed using SPSS version 26. Descriptive statistics, mean \pm SD, frequencies and percentages were computed. The normality is assessed using graphical representations and Kolmogorov statistics. The continuous variables were compared using ANOVA and categorical variables by Chi-square statistics. $p < 0.05$ was significant.

RESULTS

The knowledge, attitudes and practices of pharmacy workers on selling over the counter oral medicine were evaluated by analyzing the data collected through the questionnaire.

A. Socio demographic characteristics

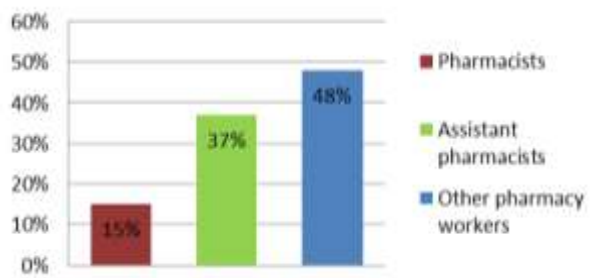


Figure 1: Employment positions of pharmacy workers

Under the socio demographic characters, gender, age, educational level, employment position and working experience were considered. According to the responses, 45 were males and 55 were females. The employment positions of pharmacy workers are shown in Figure 1.

B. Antacids

The question of whether antacids should be taken 30 minutes before the meal to get effective action, was asked by the participants of the study.

Antacids reduce heartburn by neutralizing the acid in the stomach as well as inhibiting pepsin enzyme which is proteolytic enzyme. Antacids dosage forms include suspensions, chewable tablets, powders, capsules and tablets. Taking antacids before meals can reduce stomach acidity. Most people are accustomed to taking antacids 30 minutes before. It is also confirmed by the data we have received so far.

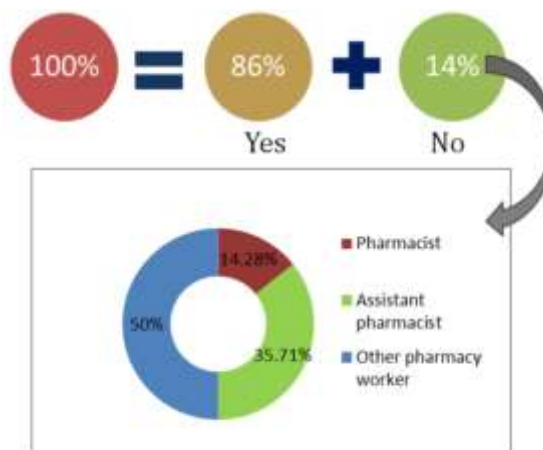


Figure 2

Accordingly, 86% agreed to take antacids 30 minutes before. But 14% did not agree with this. 14.28% of them are pharmacists (Figure 2). This may be due to the fact that taking antacids 2 hours after eating can provide long-term relief. But the best results are obtained by taking antacids before meals.

C. Paracetamol

Paracetamol is a commonly used medicine. It is available in the market in various dosage forms such as syrups, tablets, caplets, capsules, suppositories, oral suspensions, oral-disintegrating tablets, extended-release caplets, Gel caps/ gel tabs etc. which are having different strength levels. So this should be used in different doses for infants, children and adults. The dosage of one tablet of Paracetamol is 500mg and the maximum daily dose of oral Paracetamol for an adult is generally prescribed 4g/day in divided doses [7].

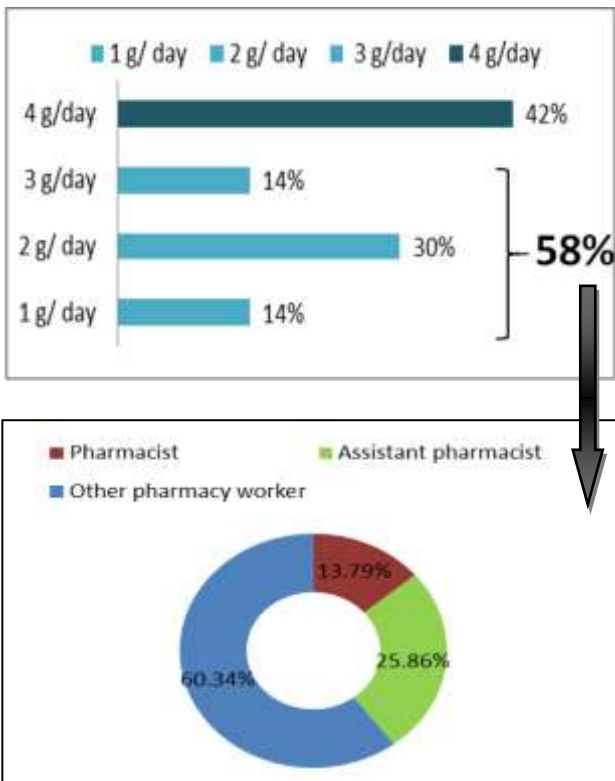


Figure 3

The question of “*What is the maximum adult daily dose of Paracetamol*” was asked from the participants.

According to the results, 42% of them were chosen exact answer as 4g per day. However it can be seen that 58% were not aware of this (Figure 3). Tragically, even 13.79% of pharmacists were under the category that does not have this basic knowledge.

D. Antibiotics

Although antibiotics are not OTC, people are used to asking antibiotics for the common cold, from pharmacies, without a prescription.

The common cold is mostly caused by a viral infection with symptoms include cough, runny nose and mild fever. In spite of the fact that antibiotics work against bacteria, they do not respond effectively against viruses. Since a virus causes common cold, it is not very effective to give antibiotics as medicine [8]. Nevertheless, antibiotics may respond effectively to a cold caused by a bacterial infection. Due to the lack of

knowledge, people are also used to getting antibiotics for the common cold. Misuse of antibiotics can cause adverse results.

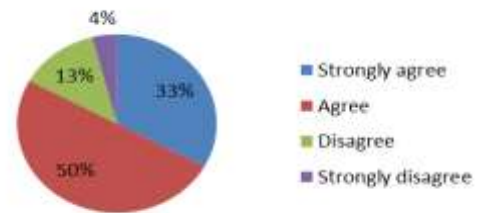


Figure 4

In the study, agreement with the statement “*Antibiotics should not dispense for the common cold on patient demands*” was evaluated.

The percentage of people who strongly agreed or agreed with the statement is 83 % (Figure 4). In actual fact, most of the pharmacy workers were aware about this. Lamentably, people tend to ask for antibiotics without a prescription and even pharmacies are support this unethical approach.

E. Practices

Non- OTC medicine are medicines that cannot dispense without a prescription. Any medicine can be poisonous if misused or over dosed. It can be caused for necrosis, brain damage and even fatal conditions. Regardless of how, it is pharmacy workers’ responsibility to check the prescription before issuing non- OTC medicines.

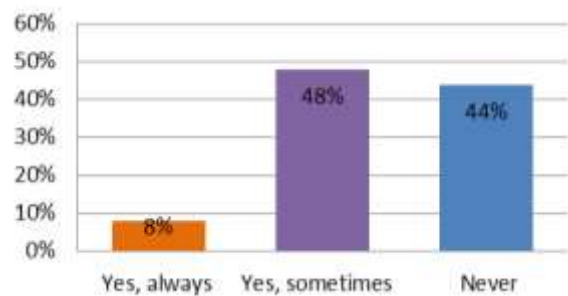


Figure 5

To assess the practices, the question of, “*Do you provide prescription needed medicine to patients when they ask for it without a prescription?*” Was asked.

It was found that 8% of the participants were always selling non- OTC medicines to the general public when they ask without a prescription while 48% sell sometimes on patients’ demand (Figure 5).

F. Attitudes

Attitudes of pharmacy workers regarding their responsibilities

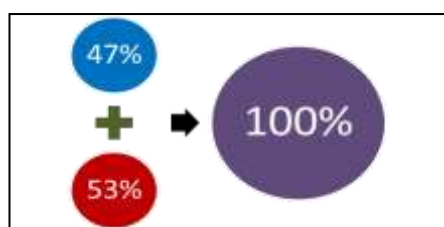


Figure 6

The study evaluated the attitudes of the pharmacy workers. The question of, “*Is the pharmacist only responsible for dispensing and counsel the patients on the drug prescribed by the physicians?*” was asked from the participants.

According to the results, it showed that 47% has said ‘Yes’ agreeing to the above statement and 53% said ‘No’ (Figure 6). It was observed that there was a considerable percentage of pharmacy workers who have the attitude as dispensing and counseling is the only responsibility of a pharmacy worker.

DISCUSSION

Working as a pharmacist or a pharmacy worker is challenging since they deal with patients’ lives. It is a profession in the health care sector that contributes to improving and maintaining the health of the citizens in a country. Especially pharmacists need to have a good knowledge regarding drugs, their mode of action, indications

and other interactions without exceptions. Pharmacists, assistant pharmacists and other pharmacy workers have a huge role in raising general public’s awareness about the medicines they are taking [9]. When dispensing medicine, it is required to administer how to use, when to use, dosages and the storing of the drugs to protect the medicinal value for a particular period. And it is necessary to dispense the required amount and the accurate drug to a patient to not receive any adverse effect from the drug used by the patient. In fact, verifying the accuracy of prescription that the physician has prescribed is the major duty of pharmacists not just dispensing what is prescribed? Going through the drugs, they should find out whether there are any drug interactions for the patient, and checking that the patient will not suffer from any adverse effects after taking these medications concerning his or her health history is a must. Advising about the potential side effects is also necessary as the patient may get confused when he pretends to experience the effects. And precautions that should be taken to overcome them are also should be advised by the pharmacists [10]. Additionally, overseeing the pharmacy management and pharmacy interns and technicians is essential to manage a favourable working environment. A pharmacy in-charge also should keep a record book as it will be required for anyone to observe the process which had been in the pharmacy during working time.

CONCLUSION

With the ultimate aim of contributing to patient safety in country, we have planned this research to investigate the current level of knowledge, attitudes and practices toward selling orally administered OTC medicines by pharmacy workers in the Colombo district.

The results concluded that awareness an average low level than expected. Even some pharmacists lacked knowledge and practices regarding OTC medicines. The analyzed results confirmed that pharmacy workers are still violating the law, leading to a profound malpractice in retail pharmacies. Raising knowledge, attitudes and practices is essential to protect the lives of the general public with maximum effort to avoid the misuse of medications. Therefore, it is important to provide sufficient knowledge and training to

pharmacy workers on selling and dispensing OTC oral medicines.

As post- research activities we can conduct new programs and plans to raise their awareness as it will lead to patient safety in future. Furthermore, these findings will be helpful for any authority to be concern on the supervision given to new pharmacy workers and implement new rules and regulations as a part of a plan to uplift their knowledge and awareness.

DECLARATIONS

A. Study Limitations

This study was limited to 100 pharmacy workers in Colombo district, Sri Lanka.

B. Acknowledgements

Authors would like to thankful to all participants who had volunteered to the study.

C. Funding source if any

None.

D. Conflict of Interests

No conflict of interests exists in this publication.

E. Ethical Approval

This study was reviewed and approved by the Ethics Review Committee of CINEC Campus, Malabe, Sri Lanka.

F. Informed Consent

Informed consent which was approved by the Ethics Review Committee of CINEC Campus, Malabe, Sri Lanka was shared to the participants prior to the questionnaire.

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