



Attitude and Practice of Pharmacists towards Drug Take Back Programme.

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Abstract

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The aim of the study was to evaluate the opinion and practice of pharmacists towards the drug take back programme of unwanted/ left out medicines. A total of selected 40 pharmacies/ pharmacists completed the survey about drug take back programme and its practice. It was a questionnaire survey based study. Most of the participants were ready to encourage drug take back programmes in India, but only about 25% of the pharmacies were ready to repay the amount for drugs returned. The accepted duration of time for returning the drugs to the pharmacy was varied and 59.9% were ready to take the drugs back within one month of the dispensed date from the pharmacy. The study indicates that there is a major role of pharmacists in educating safe disposal methods and role of pharmacies/ pharmacists towards implementation of drug take back programme. Hence regulations on safe disposal of unwanted medicines are required and an organized programmes/ methods of collecting unwanted or left out medicines are need to be introduced.

Key words: Unwanted medicines, drug takes back programme, safe disposal practice, pharmacists, and pharmacies.

INTRODUCTION

Depending on the source and ingredients, there are various ways by which public can dispose of unwanted/ left out pharmaceuticals. Among the methods, the most environmentally safe disposal method is to take advantage of a community drug take-back programs that collect drugs at a central location for proper disposal. The presence of pharmaceuticals in the environment has become a significant environmental issue [1]. There are various ways of its occurrence and among them improper disposal practice also the contributing to the problem and is becoming a problem of concern for environmental loading of pharmaceuticals [2].

The common practices of drug disposal are by throwing in trash in trash, flush them down the toilet as a result, some components of these drugs end up in our lakes, streams and water supplies [3,4]. Thus disposing medicines in environment unfriendly routes contaminate waterways, finally ends up into a municipal waste water treatment plant and most of these waste water treatment plants cannot remove most of the chemicals and other compounds in pharmaceuticals that pollute the water. The improper disposal of unused medications by flushing them or pouring them down the drain may be harmful to fish, wildlife and their habitats [1,5]. Improper storage and improper disposal practices like throwing medications away in the garbage may be dangerous since they can end up in the mouths of children or household pets [6,7].

In addition to the growing concerns about human health risks from pharmaceutical and personal care products via environmental exposure, the development of antibiotic resistance have been speculated. Many studies identified various group of antibiotics in sewage treatment effluents, surface water and sediments [8]. The presence of antibiotics at a concentration higher than the minimum inhibitory concentration of a species of pathogenic bacteria, a selective pressure would be exerted as a result antimicrobial resistance would be selectively promoted [9]. Several government and private agencies are been educating about various safe disposal practices, among all medicine take back programs for disposal are a good way to remove expired, unwanted or unused medicines from households and reduce the hazards of improper disposal [10]. Knowledge, attitude and practice towards disposal is been improving is been improving and events like drug take back programmes are been well established in certain countries. Unfortunately issues concerned with disposal of pharmaceuticals is still been an ignored one in developing countries.

There are guidelines available for safe disposal of pharmaceuticals [11], but are less advertised and less practiced. Among the proper practice, reverse distribution network or drug take-back programs which provide a safer avenue for disposal of medications from homes. In these systems, the public is requested to return unwanted medications to local community pharmacies, from where pharmaceutical distributors or approved agents collect and dispose of them. In the United States, many state and local governments have pharmaceutical collection programs which are aimed at decreasing the quantity of unwanted medicines polluting the environment and reducing g the quantity of drugs

available for accidental poisoning, theft or diversion. These programs provide the legal support and resources to allow the public return unwanted medicines to be disposed of safely [12].

Currently several drug collection campaigns at the national, state or local levels is implemented in about 30 countries and the methods used for the collection of unwanted medicines vary among them, but in general, pharmacies play a central role [12]. The drug take back or collection programs are aimed at reducing the quantity of unused unwanted medicines entering the environment and reducing the amount of drugs available for diversion, theft or accidental poisoning. These initiatives provide the legal framework and the logistic resources required to allow the general public to turn in unwanted medicines to be disposed of safely.

Characteristically, collections for household medicines accept unwanted or expired medicines, including both prescription and over-the-counter medicines and these drug collections are beneficial because: Unwanted medicines accumulating in the household present a public safety hazard, diverting medicines from the toilet or trash can decrease the environmental pollution from wastewater treatment discharge and unlined solid waste landfills, to educate the general public about the environmental impact of improper medicine disposal, provides the opportunity to inventory unused drugs and can yield wastage data that could prove valuable to physicians in better managing their prescribing practices. There by the current topic was chosen and the aim of the study was to determine the attitude and practice of pharmacists regarding drug take back programme and its implementation. This study also assessed whether pharmacists were ready to receive the unwanted medicines and their willingness to repay the amount for returned medicines.

MATERIALS AND METHODS

This was a description cross sectional survey conducted from January 2015 to March 2015 for a period of 3 months among 40 pharmacies. All participants were provided an introductory informed consent statement describing the study and benefits of participation. This was an extension work carried out in continuation of previous study to elicit the attitude and practice towards drug take programme. This study was conducted among the participants who knew about drug take back programme and were already agreed to have their pharmacy as a collection point for unused medicines. This study was carried out among South Indian pharmacies. The study population who fulfilled the who fulfilled the inclusion criteria were selected. The results were analyzed and represented in percentage.

Inclusion Criteria

Pharmacies/ pharmacists known about drug take back programme and willing to take back medicines

Exclusion Criteria

Pharmacies/ Pharmacists not ware about the drug take back programme.

RESULTS AND DISCUSSION

Among the selected participants, all were cooperated to complete the study. All most all expressed that drug take programme could be a safe medication disposal practice. Among the participants, 80% were willing to implement the drug take back programme and 20% were not willing (Figure 1). Regarding the refund of money for take back drugs, 25% were ready to repay the amount (Figure 2) for the medicines that were returned to the pharmacy and 75% were not ready to repay the amount.

The percentage of money refund to the drug donors was also assessed; among the willing participants 79.1% were ready to pay 30% of the original medicine cost, 12.5% and 8.4% were ready to pay 40% and 50% respectively (Figure 3). Regarding the time duration for returning the medicines, 59.9% were agreed to take back the drugs within one month period of medicines purchased from that pharmacy, 28.5% were agreed to take within 2 months period and 11.6% were ready to take within 3 months period of medicines purchased form the pharmacy (Figure 4).

Figure 1: Opinion for implementation of drug take back programme

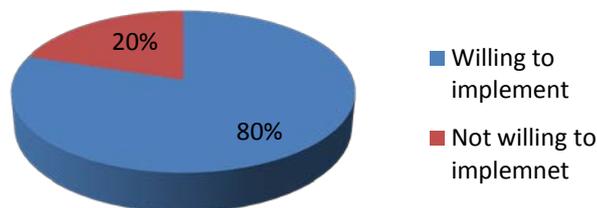


Figure 2: Percentage of willingness for refunding the money

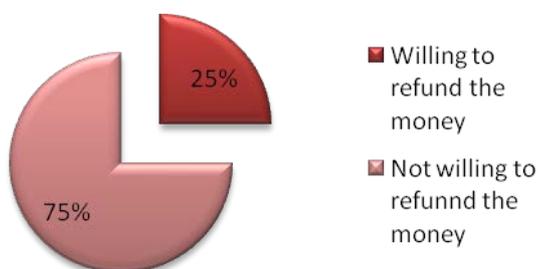


Figure 3: Opinion of pharmacists for refund in percentage

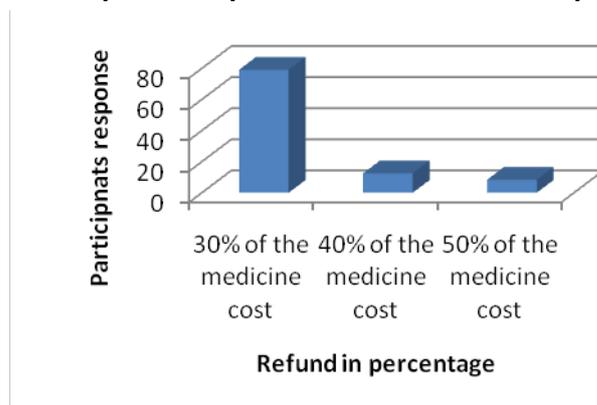
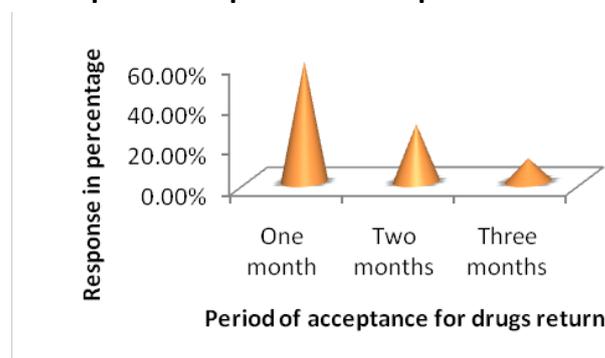


Figure 4: Opinion for period of acceptance for drugs return



Pharmacists and pharmacies are a well-respected source of drug information and are very good source for providing advice of including methods for disposal of unused or expired medication. The occurrence of unwanted/ left out medicines is a common among households or from healthcare activities and therefore, there are different factors that generate pharmaceutical waste like non-compliance by patients, promotional practices by manufacturers, physicians prescribing practices or dispensers practices [13]. Adverse consequences due to the accumulated unwanted medicines include their diversion to those for whom they were not intended, accidental poisoning or their improper disposal into trash or sewage, from where they may enter the environment creating risks for humans and wildlife.

The proper collection and disposal of unwanted medicines by a well-run disposal system and collection programs are paramount in ensuring safety of humans and the natural environment. Drug take-back programs are well established in certain countries where the pharmacy and the pharmacists have significant roles as collection points and as advocates for proper drug disposal respectively [12,14]. The present study sheds light on the opinion, attitude and practice of pharmacists towards drug take back programme with regard to disposal of unwanted medicines returned from the public. The participated pharmacists

agreed that drug take back programmes are in need for ensuing safe disposal of pharmaceuticals.

The pharmacists were also reported that they were concerned about what to do with these unwanted medicines in the absence of policies allowing pharmacists to accept returned medicines from the public. This might be common in different parts of the world, where reverse distribution systems to take back unwanted medicines from the public are not available [15,16,17] even to the practicing pharmacists who encounter the problem in daily basis. All the participants were accepted to have their pharmacy as a collection point for unused medicines, but most of them were not nor ready to refund the money for drugs which got collected only about 25% were accepted to pay the money. Although the practice is not optimal, these results show good awareness toward protecting the environment from improper disposal of unwanted medicines. The majority agreed that drug take back programme is one of the safe disposing practices.

Some of the previous reports have indicated that the adaptation of dispensing may have lead to a significant amount of medication with a large monetary value being return to pharmacies [18]. Studies have suggested that the volume and the cost of medications that are returned to pharmacies represents only a small portion of unwanted medication that are dispose of annually or remain in the community unused. The take back programs provide the legal framework and the logistic resources required to allow health care facilities, patients and the general public to return unused or expired pharmaceuticals so that they can either be reused or disposed of safely by different methods. However, in India such Programme run in the goodwill of pharmacist patient relationship, but implementation has yet been imposed [19].

These findings positively support the establishment of drug take-back programs. However, before an efficient and effective drug take-back program to be implemented there are several barriers such as lake of information on the quantities and types of the returned unwanted medicines from the public. Greater awareness of the extent of the problems has to be created among the public and healthcare professionals and the government officials. Cooperation from various sectors would be required such as law enforcement agencies, etc. to implement an efficient drug take back program.

There were some limitations in this study. The sample size was selective and small; the responses of pharmacists might have been distorted due to the sensitivity of the topic and the need to give a socially desirable response. The poor response for financial encouragement of drugs return might have been looked at by the pharmacist as an indicator of their unprofessional conduct, therefore, some of the pharmacists might have been reluctant to state the actual practice and therefore an underestimation of inappropriate disposal might have resulted.

CONCLUSION

The study highlighted the opinion of pharmacists towards drug take back programme and its related issues. The current practices of the pharmacist for the collection and disposal of

unwanted medicines returned from the public are not optimal in India. To make the positive attitude towards one of the safest disposal practice of unwanted medicines (drug take back programmes), policies and programs need to be established to organize the collection of returned unwanted medicines using pharmacies and subsequent disposal in an environmentally friendly manner.

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