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DISPOSAL OF UNUSED MEDICINES -A REVIEW

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ABSTRACT

Pharmaceutical wastes have been detected throughout the environment where at least in some cases, they have been shown to have a detrimental effect. Many result from improper disposal of pharmaceutical wastes via environmentally-unfriendly routes, such as the sink, toilet or rubbish bin. Improper disposal methods of unused drugs or have become an important public health issue. IDM may cause as rates of prescription drug abuse, accidental poisoning, and the incidence of drugs or PW found in the drinking water have gained the nation's attention. Now day's consumers are eager to learn how they can prevent leftover prescription drugs from falling into the wrong hands or polluting the environment. This review article explains the drug disposal methods.

KEY WORDS: Pharmaceutical waste, Improper disposal methods.

INTRODUCTION

A drug is a chemical substance used in the treatment, diagnose, cure, or prevent disease. A small number of medicines may be especially harmful if taken by someone other than the person for whom the medicine was prescribed. Patients may not use all the medications dispensed to them due to side effect intolerance, dosage changes, discontinuation of the medication, or medications reaching the expiration date. Therefore, it is not uncommon for patients to be in possession of unused or expired medications. When this happens, patients need clear guidance on how to dispose of these medications. Consumer education materials are available with recommendations for disposing unwanted medications. The extent to which the public is aware of and adherent to these guidelines has not been well studied [1].

Many of these potentially harm -full medicines have specific disposal instructions on their labelling or patient information to immediately flush them down the sink or toilet when they are no longer needed. We can all now agree that flushing unused prescription and over-the-counter drugs that may be sitting around your home is not the right way to get rid of them. But people may hear some confusing advice lately about what they should do with

leftover medicines. Some say drugs should be thrown in the trash, mixed with kitty litter or coffee grounds. The most popular methods for medication disposal were in the garbage, toilet or sink. Liquid medications were more likely to be rinsed down the sink, as opposed to solid tablets and capsules which were more likely deposited in the rubbish bin. Furthermore, some pharmacies around the world refused to accept unused medications or discouraged the practice. Patients with knowledge about the impact of pharmaceuticals in the environment were more likely to return medications for proper disposal and destruction. It is concluded that it is of paramount importance that a formalized protocol for patient disposal and destruction of pharmaceuticals be implemented around the world. Medications improperly disposed of can make their way into groundwater, surface water, and even drinking water. Incineration is the best disposal option currently available for waste medications. Although a few pharmacies will facilitate proper disposal of unused and expired medications, the majority will not [2]. The bulk of human pharmaceuticals found in waterways most likely got there by way of sewage. Taking unused pharmaceuticals out of landfills may make only a small difference in the

concentrations of active pharmaceutical ingredients found in water, say critics and supporters alike of such programs. But take-back programs may help prevent leftover pharmaceuticals from being misused. For that reason and others, utilities and local governments are moving forward with a variety of pharmaceutical take-back efforts in the absence of regulations—or data indicating such programs actually work [3].

AEROSOL INHALERS & CONTAINERS

Empty aerosol inhalers can be either disposed as a solid waste or recycled. Most propellants in aerosol inhalers are ignitable, making the inhaler a hazardous waste if still pressurized. Alternative to Air Fresher Sprays – Use non-aerosol products, such as pump sprays – Set baking soda, white vinegar, or herbal mixtures in an open dish or boil herbs New York State. Department of Environmental Conservation. Managing and Disposing of Household Hazardous Waste. Aerosol Containers may explode under heat or pressure – Spreads the hazardous contents and metal throughout the area – The tiny particle size makes hazardous components easier to inhale [4].

DRUG DISPOSAL GUIDELINES AND LOCATIONS

The following guidelines were developed to encourage the proper disposal of medicines and help reduce harm from accidental exposure or intentional misuse after they are no longer needed:

- Follow any specific disposal instructions on the prescription drug labelling or patient information that accompanies the medicine. Do not flush medicines down the sink or toilet unless this information specifically instructs you to do so.
- Take advantage of programs that allow the public to take unused drugs to a central location for proper disposal. Call your local law enforcement agencies to see if they sponsor medicine take-back programs in your community. Contact your city's or county government's household trash and recycling service to learn about medication disposal options and guidelines for your area.
- Transfer unused medicines to collectors registered with the Drug Enforcement Administration (DEA). Authorized sites may be retail, hospital or clinic pharmacies, and law enforcement locations. Some offer mail-back programs or collection receptacles ("drop-boxes"). If no disposal instructions are given on the prescription drug labelling and no take-back program is available in your area, throw the drugs in the household trash following these steps:

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1. Remove them from their original containers and mix them with an undesirable substance, such as used coffee grounds, dirt or kitty litter (this makes the drug less appealing to children and pets, and unrecognizable to people who may intentionally go through the trash seeking drugs).

2. Place the mixture in a sealable bag, empty can or other container to prevent the drug from leaking or breaking out of a garbage bag.

FDA's offers a few more tips:

- Scratch out all identifying information on the prescription label to make it unreadable. This will help protect your identity and the privacy of your personal health information.
- Do not give your medicine to friends. Doctors prescribe medicines based on your specific symptoms and medical history. Something that works for you could be dangerous for someone else.
- When in doubt about proper disposal, ask your pharmacist.

FDA's says the same disposal methods for prescription drugs could apply to over-the-counter drugs as well [5, 6].

CONCLUSION

Pharmaceuticals have been detected throughout the environment where at least in some cases, they have been shown to have an unwanted effect. More studies shows that improper disposal of unused pharmaceuticals through environment and unfriendly routes, such as the sink, toilet or rubbish bin. Patients with knowledge about the impact of pharmaceuticals in the environment were more likely to return medications for proper disposal and destruction. It is concluded that it is of paramount importance that a formalized protocol for patient disposal and destruction of pharmaceuticals be implemented around the world. The pharmacist have important role in this field. Pharmacist should counsel the patient about proper drug disposal methods or returning to pharmacy. So that the unwanted effects of pharmaceutical waste or drug can be reduced

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CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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