



Study the Drug Dispensing Practices in Pharmacy

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ABSTRACT

Good pharmacy practice is the process of supplying the accurate drug to the right patient for an adequate period of time with the lowest cost to the patient and the community. Pharmacists have a crucial role in promoting good pharmacy practice. The pharmaceutical practices of the resources involved in patient care up to point of dispensing may be wasted if dispensing does not address the right patient receiving an effective form of the correct drug, appropriate pack-aging and with the correct dose and advice. Hence, the objective of this study was to assess the dispensing practice and pharmaceutical service in drug retail out let. Cost factors inevitability lead to the use of packaging that is less than ideal the packaging used must be compromise.

Keywords: Pharmacist, Dispensing medicine, Drugs, Cost of packaging.

INTRODUCTION

Dispensing is the provision of drugs or medicines as set out properly on a lawful prescription. The dispensing of drugs should be carried out by trained pharmacists. Dispensing is the provision of drugs or medicines as set out properly on a lawful prescription. Set out properly on a lawful prescription [1].

An automated medication dispensing system minimizes medication errors

These systems help physician practices and other clinical settings extend safe dispensing to as many patients as possible at the point of care. It builds a strong barrier against medication errors by combining the sound judgment of pharmacists with features such as:

- Screenings for lookalike/sound-alike (LASA)
- Prescription drug pairs
- Medication dose checking
- National Drug Code (NDC) numbers
- Dispensing quantities
- Days' supplies
- Absolute minimum and maximum safe dosing
- Clinical significance scoring
- Medication dose screening for pediatric (age 12 and under) and geriatric (age 65 and older) patients.
- Real-time medication safety messaging for pharmaceutical manufacturers, physicians, and patients at the point of dispense.
- Risk evaluation and mitigation strategies (REMS) programs to ensure dispense select medications select medications.

Dispensing environment premises and facilities

The premises on which a dispensing service is provided would reflect the quality of service and inspire confidence on patients in the nature of pharmaceutical service delivered. Therefore, working conditions are recommended to take into considerations the safety and health of the public and people working on the premises[2].

- The walls, floors, windows, ceiling, and all other parts of the premises should be as per the requirement set by the regulatory body.
- Rooms (with minimum area specified) are required for dispensing, storing and compounding medicines.

- Toilet with water supply and drainage system is also a requirement.
- All parts of the premises should be maintained in an orderly and tidy condition.

Pharmaceutical products should be protected from the adverse effect of light, freezing or other temperature extremes and humidity.

The dispensing environment should possess

- Appropriate temperature
- Sufficient lighting
- Optimum humidity control
- Cold storage facilities
- Adequate number and type of shelves
- Lockable cabinet for Narcotic medicines, Psychotropic substances and poisons dispensing. Environment and Stock Management.
- Patient/care provider waiting area
- Dispensing aids, etc.

Careful consideration is to be given to the overall security of the dispensary and the stores. Special attention must be paid to controlled medicines and flammables, which must be kept separately from other medicines and be locked properly. Hygiene and Sanitation the physical surroundings must be maintained as free of dust and dirt as possible. Although the dispensary must be accessible to patients, care should be taken to locate it in a protected place and not beside, or open to, a road or other area where dust, dirt, and pollution are common. Maintaining a clean environment requires a regular routine of cleaning shelves and a daily cleaning of floors and working surfaces. There should be a regular schedule for checking, cleaning, and defrosting the refrigerator. Spills should be wiped up immediately, especially if the liquid spilled is sticky, sweet, or attractive to insects and flies. Food and drink must be kept out of the dispensing area, with the refrigerator used strictly for medicines [3]. Dispensing equipment used for measuring liquids or counting tablets or capsules should be kept clean at all times. For example, uncoated tablets normally leave a layer of powder on any surface they touch, which can easily be transferred to other tablets or capsules counted on the same surface. This is called cross contamination and could be dangerous if the contaminating substance (e.g. aspirin or penicillin) is one to which a patient is sensitive. All persons engaged in dispensing should observe high standards of personal cleanliness and wear protective cloths that should be laundered regularly [4].

Medicines good dispensing practice should be prohibited in any area where medicines are dispensed, sold or supplied. Direct contact between the operator's hands and the dispensed products should be avoided.

Dispensing equipment, the facility should make sure that the equipment's on the premises are adequate and suitable for all the operations that have to be carried out. All equipment should be kept clean and should be checked for cleanliness prior to each use. With the exception of non-returnable containers, equipment must be of such material and be kept in such good repair and condition as to enable it to be thoroughly cleaned to prevent any risk of contamination [5].

Medication error

While there is no uniform definition of a medication error, The National Coordinating Council for Medication Error Reporting and Prevention defines a medication error as: any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use." However, there is no widely accepted uniform definition. Unfortunately, untoward medical errors and underreported medication errors result in significant morbidity and mortality. In order of frequency: medication errors, motor vehicle accidents, breast cancer, AIDS and medication errors [6].

Functions of medication errors

Medication errors can occur at many steps in patient care, from ordering the medication to the time when the patient is administered the drug. In general, medication errors usually occur at one of these points:

- Ordering/prescribing.
- Documenting.
- Transcribing.
- Dispensing
- Administering
- Monitoring

Medication errors are most common at the ordering or prescribing stage. Typical errors include the healthcare provider writing the wrong medication, wrong route or dose, or the wrong frequency. These ordering errors account for almost 50% of medication errors.

Data show that nurses and pharmacists identify anywhere from 30% to 70% of medication-ordering errors. It is obvious that medication errors are a pervasive problem, but the problem is preventable in most cases [7]

Use of stainless steel and glass is recommended.

Equipment should include:

- A dispensing bench of adequate size having a smooth, impervious working surface.
- Tablets and capsules counting devices.
- A refrigerator equipped with a maximum/minimum thermometer
- A suitable range of dispensing containers for pharmaceutical products with separate sets for internal and external use.
- Adequate shelves, lockable cabinet etc.

Normal storage conditions

It's Storage in dry, well-ventilated premises at temperatures of 15-25°C or, depending on climatic conditions, up to 30°C. Extraneous odors, other indications of contamination, and intense light must be excluded. Medicine products that must be stored under defined conditions require appropriate storage instructions. Unless otherwise specifically stated (e.g. continuous maintenance of cold storage) deviation may be tolerated only during short-term interruptions, for example, during local transportation. The use of the following labeling instructions is recommended:

On the label means

1. "Do not store over 30°C" from +2°C to +30°C
2. "Do not store over 25°C" from +2°C to +25°C
3. "Do not store over 15°C" from +2°C to +15°C
4. "Do not store over 8°C" from +2°C to +8°C
5. "Do not store below 8°C" from +8°C to +25°C

"Protect from moisture" no more than 60% relative humidity in normal storage conditions; to be provided to the patient in a moisture resistant container. "Protect from light" to be provided to the patient in a light-resistant container Unless special storage conditions are stated, it is vital that medicines be stored Dispensing Environment and Stock Management in a dry, adequately ventilated shady and cool store room. Efforts should be made to maintain the specified storage conditions with regard to exposure to humidity, sun light, heat, etc.

When a product label states "Protect from moisture" "store the product in a space with no more than 60% relative humidity. Free air circulation by opening windows, using fans or air conditioners can be considered to reduce the effects of humidity. Some products are photosensitive and will be damaged if exposed to light.

METHODOLOGY

The dispensing process

Step one: Receive and Validate. As soon as you receive the prescription, you need to validate it.

Step two: Understanding the Prescription.

Step three: Label and Prepare the Medication.

Step four: Final Check.

Step five: Record Your Work.

Step Six: Delivery and Patient Consultation

Step one: Receive and validate

As soon as you receive the prescription; you need to validate it:

As soon as you receive the prescription, you need to validate it. Confirm the patient's name and personal information to be sure that you have matched the prescription to the correct patient. Remember, families often use the same pharmacy, and you could easily have two or more patients with the exact same name. You should also make sure that the prescription is not outdated. Some states prohibit prescriptions after a certain number of days from issue [8].

Supply is not expired. To prevent unnecessary waste, fill the prescription from the oldest supply that is not expired. If the medicine is a liquid, pour into a clean container while keeping the label of the stock bottle pointed up. This way, if anything dribbles, it does not damage the label. You don't want that information to ever become covered or unreadable. If the medication is a capsule or tablet, you can count out the number with a counting device or by hand, as long as you are wearing gloves. Never touch a medication with your bare skin. You could contaminate the medication or even contaminate yourself with certain potent drugs [9].

Step two: Understanding the prescription

Once you've validated the prescription, you next need to make sure you understand exactly what it says. This can sometimes be difficult if the prescriber has poor handwriting or if there are several abbreviations.

You also need to check that the prescribed dosage is fairly typical for the type of medication and for the patient's age and sex. If you have any questions or uncertainty when reading the prescription, or if the dosage is unusual, call the prescriber and ask them clarify. Do not ever assume or guess. Even if the prescription arrives electronically, you should still check the dosage and look at the patient's other medications to identify drug interaction issues. Verbal orders should only be taken in emergencies [10].

Step three: Label and prepare the medication

A great way to avoid errors is to create the label for the medication as soon as you have everything validated and clarified.

By printing the date of issue, the drug's name, the dosage, and the patient's name and address and labeling the bottle the patient will receive, you can keep track of what you are dispensing and to whom if you are in a busy pharmacy with many customers. The bottle should also note if any refills are allowed. Next, select the medication from the stock on your shelves. If you take the bottle with the label you just created, you have an easy reference in your hand to be sure you grab the correct medication and dosage. Even if it seems unnecessary, compare the prescription and the medication label twice to be absolutely sure you have the right drug. Also, check that your stock supply is not expired. To prevent unnecessary waste, fill the prescription from the oldest supply that is not expired. To prevent unnecessary waste; fill the prescription from the oldest supply that is not expired. If the medicine is a liquid, pour into a clean container while keeping the label of the stock bottle pointed up. This way, if anything dribbles, it does not damage the label. You don't want that information to ever become covered or unreadable. If the medication is a capsule or tablet, you can count out the number with a counting device or by hand, as long as you are wearing gloves. Never touch a medication with your bare skin. You could contaminate the medication or even contaminate yourself with certain potent drugs [11,12].

Drug dispensing cycle

Pharmacy error prevention: Many adverse drug events are preventable, as they are often due to human error. Common causes of error related to the pharmacists include failure to:

- Deliver the correct dosage
- Identify contraindication to drug therapy.
- Identify a drug allergy.

- Monitor drugs with narrow therapeutic indexes
- Recognize drug interaction
- Recognize knowledge deficits

Often these errors can be avoided by spending time talking speaking to the patient and double-checking their understanding of the dose, drug allergies, and reviewing any other medications they may be taking. Barriers to successful communication include the inability to reach prescribers, unclear verbal and written orders and time constraints make it challenging to check drug interaction.

A pharmacist's responsibilities often include supervising patients' Medication treatment and notifying the healthcare team when a discrepancy is found. Most medication discrepancies are found at discharge, highlighting the need for a pharmacist to assist in the discharge process (Figures 1 and 2).



Figure 1: Dispensing process.

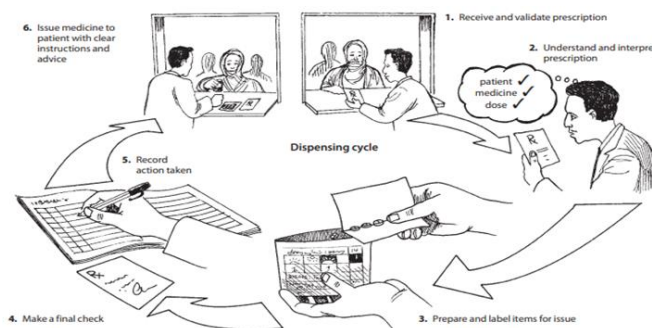


Figure 2: Drug dispensing cycle.

RESULTS AND DISCUSSION

The results of this study show that the levels of knowledge and skills of drug dispensers with regard to dispensing prescription only medicines are not adequate, especially among the non-pharmaceutical personnel who are the majority of dispensers. Due to increasing treatment of malaria outside government facilities, strategies to control irrational dispensing and use of antimalarial drugs is necessary.

Since the majority of the dispensing personnel were trained pharmaceutical personnel, the Pharmacy Council of India should ensure that only trained non-pharmaceutical personnel are allowed to dispense medicines in the pharmacies. The Pharmacy Council should also devise mechanisms to enforce on job training and professional development among drug dispensing personnel in order to build their capability with changing technology, emerging diseases and new drug information and treatment guidelines.

The observed lack of skills and knowledge among drug dispensers for dispensing prescription only medicines can be partly due to the fact that the majority of the drug dispensers are non-pharmaceutical personnel with no formal training as drug dispensers.

As per regulation, medicines should be dispensed under the supervision of a qualified and registered pharmacist.

CONCLUSION

Iron deficiency anemia affects hundreds of millions worldwide has to be taken on serious note and experts from diverse fields such as clinical research, biochemistry, microbiology, genetic and computational engineering, imaging and modelling should work jointly to evolve new strategies and develop novel therapeutics to address the global elimination of this problem.

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