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REVIEW ON DRUG DISTRIBUTION IN HOSPITAL PHARMACY

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ABSTRACT-

Effective drug dispensing in hospital pharmacies is a critical component of patient care, ensuring that prescribed medications are accurately and safely provided to patients. This process involves various stages, including medication order review, preparation, labeling, and distribution, which require coordination among healthcare professionals, including pharmacists, physicians, and nurses. In hospital settings, the pharmacist plays a pivotal role in ensuring the appropriateness of the prescribed medications, verifying dosages, and identifying potential drug interactions or contraindications. Additionally, modern hospital pharmacies are increasingly integrating advanced technologies such as automated dispensing systems and electronic health records (EHR) to enhance efficiency, reduce medication errors, and improve patient safety. This abstract explores the key aspects of drug dispensing in hospital pharmacies, the challenges faced, and the role of technology in optimizing the process. Emphasis is placed on the importance of quality assurance practices, patient counseling, and ongoing professional development to ensure the safe and effective use of medications in a complex hospital environment.

Keywords: drug dispensing, hospital pharmacy, medication safety, pharmacist role, technology, patient care, medication errors, quality assurance.

INTRODUCTION :-

Towards development of new and improved drug distribution system, traditional methods of distributions are now recognised into new system In hospital, the procedure of drug distribution may be categorised into two groups :

- * Ambulatory / Outpatient Services
- * Inpatient Services
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DISPENSING OF DRUGS TO INPATIENT

In patient : In patients are those who get hospitalized for purpose of treatment of the diseases, surgery and rehbitation. Drug distributions to inpatients falls within four categories are as follows :

- * Individual prescription order system.
- * Complete floor stock sysem (Charging policy)
- * Combination of above.
- *Unit dose dispensing method

Individual Prescription Order System :-

This system is generally used by the small or private hospital because of the less manpower requirement and the appeal for individuallized service.

Advantage :-

- * All medication order are directly reviewed by the phamacist.
- * Easily interaction of pharmacist, doctor, nurse and patient in the medication matters.

Disadvantage :-

- * Possible delay in obtaining the required medication and the increase incost to the patient.
- * This system cannot be used in big hospitals.
- * Difficulty in Dispensing of drug in absence of pharmacist.

1. Complete Floor Stock system (Charging Policy)

Under this system, both pharmacy and nursing are responisble for drug distribution to patient. According to this system, the drug are stored at the nursing station and administered by nurse according to the order of physician.

Drug which are dispensed in complete floor stock system are categorised as :

1. Charge floor stock drugs.
2. Non-charge floor stock drugs.

a) Charge Floor Stock Drug :-

- * Charge floor stock drugs are those where patient is charged for every single dose administered to him.
- * Selection of the drugs in various wards is decided by pharmacy.

Method of dispensing charge Floor Stock Drugs :-

Envelop Method : In this system, pharmacist fills a prelabelled envelopes with needed drugs and gives it to nursing ward. The nurse after receiving the envelopes, writes the name and room number of patients on the envelope and put it into her out basket and sent to pharmacy for costing and forward to billing section of accounting office.

b) Non-Charge Floor stock Drugs :

Drugs are dispensed to all patients on floor on non-Charged basis.

Method of Dispensing non-charge floor stock drugs :-

Drug Basket Method : The method is adapted where nurses verify the availability of medicines in all rooms as well as in the refrigerator and accordingly prepare a master list of pharmacy. Nurses fill demand form for delivery of drug at the floor.

Mobile Dispensary Unit : It consists of specially constructed stainless- steel trolley which is mounted on bottom tiers. Accordingly to requirement, patients get the medicine via this unit.

Advantage of complete floor stock system :-

Disadvantage of Complete floor stock system :

- * Medications errors may increase.
- * Increased drug inventory on the porches.
- * Increased hazards associated with drug deterioration.
- * Lack of proper storage facilities on the ward may require capital outlay to provide them.

c) Combination of individual prescription order system and complete Floor stock system.

It is used in those hospital, where patient have to pay for their hospitalization. In this system, their primary mean is to dispense the drugs according to individual prescription order system. Today most of the hospital uses this system. Some hospital modifies it to include the use of unit dose medications.

d) Unit Dose Dispensing :-

Unit dose medications are those which are ordered, packaged and administered in single or multiple units containing predetermined amount of drug and doses.

Advantages of Unit dose system

- * Patients receive better health, service and have to charge for those drug and doses which are administered to them.
- * To reduce the medication errors pharmacist allow checking a copy of the physician original order.

a) **Centralized unit Dose system :-**

In this system, all the drugs are stored in central area of pharmacy and the drugs are dispensed to all inpatients in unit doses. To operate the delivery system effectively, various medication carts are used to transport unit doses to the patients and to forward a copy of the physician original medications order to the pharmacy for the direct explanation and filling.

b) **Decentralized Unit Dose System :-**

- * Unlike the centralized system, decentralized unit dose system function through small satellite pharmacies which are located on floor .

DISPENSING OF DRUG TO OUTPATIENT / AMBULATORY PATIENTS

It is also called ambulatory services and refers to those patients who are not occupying beds in hospitals or in clinics, health center and other places when they come for consultation and diagnosis, treatment.

Categories of Ambulatory Services :

1. **Emergency Outpatients :** For emergency outpatient, 24 hours services are given who requires immediate care for the survival.
2. **Referred Outpatient :** These patients are referred to the hospital for a specific purpose due to lack of facilities available with the private clinic practitioners or patient needs extra care.
3. **Special outpatient :** After compilation of general check up the patients are asked to go for accurate diagnosis by the clinical, pathological or radiological examination. After receiving the test report of examination medicine is given to him.
4. **General outpatient :** These patients come for the general checkup and medicines are prescribed to him. They may either undertake minor surgery, superficial surgery or dressing at hospital.

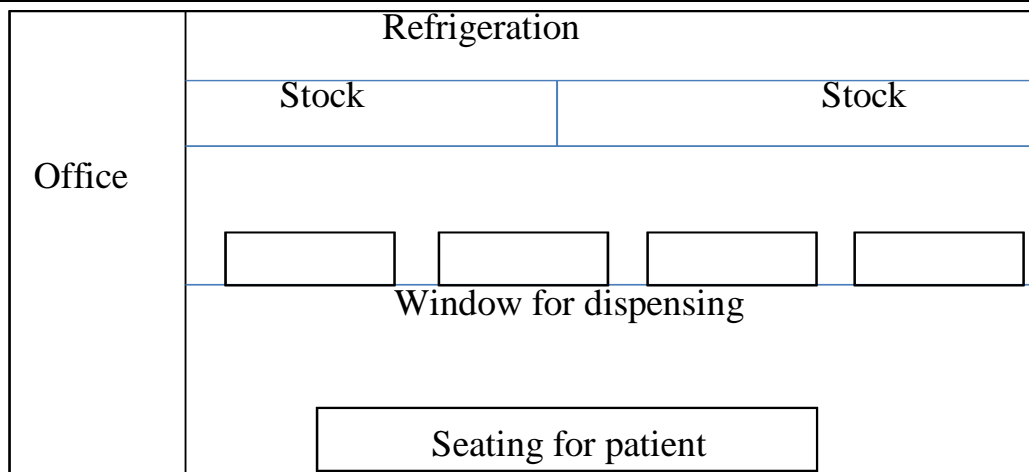


Fig.1 Typical layout of an O.P.D.

Routine Dispensing Out-Patient :-

- * Patients take written prescription by the physician, which is given to the pharmacist where it is dispensed.
- * Pharmacist guarantees that patient gets right medication.
- * Pharmacist gives instructions to patient about dispensed medicine.
- * Labelling of medicine.
- * Manufacturing of payments by pharmacist.
- * Finally, Payment medicine.

SATELLITE PHARMACY SERVICES :-

- * Multi-speciality hospitals are generally design for the diagnosis and treatment of number of diseases so the concept of saellite pharmacy is adopted in such hospital which have multi-stored building in a single premises.

Advantages :-

- * Efficiently drugs can be distributed.
- * Time of drug distribution could be reduced.

Disadvantage :-

- * Effect on the financial statement of hospital.
- * Additional manpower is required.

Dispensing of Controlled drugs :-

Controlled substances is a drug or chemical which ownership, manufacture or use is the absolutely regulated by a respective government of country such as illegally used drugs or prescription medications.

SCHEDULE :

* **Schedule 1 :** The drugs under this schedule have high potential for abuse and have no accepted medical use in the treatment (e.g. Marijuana, raw opium).

* **Schedule 2 :** The Drugs under this schedule have less as compare to above potentials for abuse, accepted for medical treatment and have less physical dependence and psychological dependence (e.g.) benzodiazepine and painkiller, phenobarbitone codeine, steroids).

* **Schedule 3 :** The drugs under these schedules have less as compare to above potentials for abuse, accepted for medical treatment and have less physical dependence and psychological dependence (e.g. benzodiazepine and painkiller, phenobarbitone low strength codeine steroids etc.)

CONCLUSION :-

The hospital can buy only the amount of medication strictly necessary for the management of their patients. This allows a scrupulous and careful use of public funds.

Stocks of medicines are unnecessary, so the value of stock will be reduced to a minimum, allowing the hospital to move funds from pharmaceutical spending to other areas which may be lacking in resources.

Vastly reduces the risk of waste of public money by eliminating the possibility that the drugs. Purchased in excess then expire unused. At the same time, however, therapies will be guaranteed for all patients.

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