Original Research Paper

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Management

A STUDY OF PHARMACY AT A TERTIARY CARE TEACHING HOSPITAL IN NORTHEAST INDIA TO PROVIDE SUGGESTIONS FOR REORGANIZATION AND OPERATIONAL IMPROVEMENTS

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KEYWORDS :

The pharmacy services in a hospital can be defined as "Premises licensed for the retail sale or supply to the hospital out patients department and/or inpatient areas of drugs which have qualified licensed person(s) and indulge in compounding of drugs."[1]

The functions of the hospital pharmacy service are as follows[2]:

1. Provisioning, purchasing, storing and distributing drugs, medicinal preparation, chemical and pharmaceutical sundry items.
2. Ensuring potency and quality of drugs during their storage in hospital.
3. Dispensing prescriptions to inpatients and outpatient, making preparations to be used in dispensing prescriptions, ensuring quality control.
4. Maintaining information regarding quality, cost and sources of supply of all drugs, chemicals and other items for information of medical, nursing and other staff.
5. To investigate pharmaceutical problems arising in the use of medications.
6. Ensuring adherence to the laws, acts, rules and regulations applicable to pharmacies and dispensing.
7. To promote economy in the use of medicines and establishing accounting procedures for pharmacy charges and supplies.
8. To keep a watch on the adherence by all concerned to hospital formulary.

The study was done at a 700-bedded tertiary care private teaching hospital. The management felt the need to improve Pharmacy services in the hospital by identifying areas with scope of improvement. The department was observed for a period of one month and suggestions were made based on them.

AIM:
To study the Pharmacy department in a tertiary care teaching hospital in Northeast India and provide suggestions for reorganization and operational improvements.

OBJECTIVES:
1. Observe the Infrastructure, manpower, policies and processes in the Pharmacy department.
2. Suggestions for the improvement of the services.

METHODOLOGY:
1. Observation of infrastructure, manpower, procedures
2. Interview of staff
3. Review of documents

PERIOD OF STUDY:
One month

OBSERVATION AND RESULTS:
Pharmacy was divided into the following departments:
1. Bulk
2. Retail
3. A new Inpatient pharmacy was proposed

BULK PHARMACY
- **Physical facilities:**
- Walk-in cooler: 1
- Computers: 2
- Printer: 1
- Telephone: 1
- Table: 1
- Chairs: 4

Manpower in Pharmacy (Bulk + Retail)
- **Total: 23**
- In-charge (operations): 1
- Pharmacist: 18
- Jr. Pharmacist Grade I: 2 (Experience - 14 years)
- Jr. Pharmacist Grade II: 1 (Experience - 10 years)
- Jr. Pharmacist Grade III: 15 (Experience - 1month to 3 years)
- Clerk: 1
- Attender: 1
- Technician Grade I: 1
- General Duty Worker: 1

Manpower posted shift wise:
- 0800 – 1600: 1 pharmacist
- 0900 – 1700: 1 pharmacist, 1 attender, 1 clerk
- 1000 – 1800: 1 pharmacist

Processes:
Purchase request (PR)
- PR is generated based on the stock shown in the Software. If the stock shown is close to or at reorder level PR is generated. Also if there is request by clinician for the purchase of drug then it is generated.
- PR is generated for the vendor and is sent for approval to Finance dept. and Medical Superintendent.
- Finance allots a number to the request and approves it if budget available
- Purchase order generated – approved by MS
- Purchase Order (PO) sent to vendor

Vendor other than state
- Waybill has to be sent to the vendor
- During entry of items in the state this way bill is checked and approved by authorities
- Waybill might not get approved by authorities due to various reasons. In case it is not approved Hospital policy prohibits payment to the vendor.

Receiving of drugs
- Items are received from vendors with the invoice
- Inspection of the items done for quantity/expiry by Pharmacy staff
- Goods Received Note (GRN) is made after receival
- Copy of GRN sent to Finance
- Stock is updated in the system
- Drugs are stocked alphabetically

Distribution to Retail
- Online Indent is raised from retail everyday
- Request is received in Bulk and drugs are sent to Retail on an issue voucher
- Stock updated in the system accordingly

Suggestions for Bulk pharmacy:
License
- Currently all retail licenses are up-to-date.
- However, there is no Form 20 B and 21 B (license for Bulk) because only retail license is sufficient.
- But since another outlet is in the pipeline a Bulk license (wholesale) should be procured for internal distribution.
- Otherwise both the retail outlets would have to be shown as procuring directly from the vendor. There wouldn't be internal

distribution.

- RS2 and DL3: License for Rectified spirit and denatured spirit should be kept in pharmacy/general stores

Receival of drugs from Vendor

- When ordered drugs are received from the vendor verification against the Purchase Order should be done to check whether the quantity of the ordered items have actually arrived.
- As of now the Pharmacy staff is responsible for this. It would be better to give this responsibility to security Personnel or any staff not belonging to the Pharmacy.
- The receival of drugs will still be done by Pharmacy staff, only verification and counter check of ordered and received goods will be done by Security.

Narcotics

- There has to be better documentation for Narcotics.
- Documentation of opening stock, closing stock, amount used.
- This register has to be endorsed by the Excise dept.

Reorder level

- Calculation of reorder level should be calculated by taking average of last three months.
- $\frac{\text{Amount used in last 3 months}}{3} \times \frac{(n+l)}{30}$ - Global stock

  n = no. of days of inventory , l= lead time
- The amount will have to be modified accordingly by In-charge before ordering
- Idea is to reduce the inventory
- Lead time should be maintained for the supplier.
- Monitoring of receival of ordered drug should be done by the In-charge to check arrival within lead time.
- Ex: Avil was ordered but not received for 25 days causing a stick out.
- If a lead time of, for instance 20 days was documented supplier could have been called before stock out and alternative arrangements made.

Suppliers

- There is ONLY ONE major local supplier
- More suppliers have to be registered for swift procurement, prevent stock outs and better rates.
- More local suppliers have to be kept in loop even on compromise of rates to prevent stock outs.
- If the local supplier gets items from other state issuing Way bill will not be a cause of concern.

Space

- Various non-pharmacy items are stored in the Bulk pharmacy. Ex- Paper rolls, crutches
- Non-pharmacy items should be stored at a different place like General stores.
- Huge space is being taken up by condemned items (computers, printers etc.)
- Huge amount of expired condemned drugs are lying in the Bulk. They have to be disposed off or returned to vendor as soon as possible.

Dialysis unit

- This unit indents worth 6 – 7 lakhs per annum from Pharmacy.
- However, stock verification and control is not present resulting in pilferage.
- Designated person from Pharmacy can be allotted the responsibility of stock verification.
- Alternatively sister in-charge can be given the responsibility of daily stock verification.
- Another option is not to keep stock in dialysis and indent from the Pharmacy on package basis, that is each package for dialysis will carry NS, heparin, fistula, needle, syringe, iv set, dialysis tubing.

Syringes and gloves

- Syringe and gloves will be A items (a/c to ABC analysis).
- Their utilization can be shown as consumables if directly indented from ward or if stock is maintained in the ward.
- Ex- Existing price of Rs. 2.83 can be negotiated to Rs. 2.40 and a carrying cost of 10-20% can be levied on it. Thus the patient does not pay VAT and the carrying cost brings revenue to the hospital.
- For procedures like endoscopy, Cath. lab as well as in wards for IP patients and departments like Pathology the syringes and gloves should be indented from Stores.
- That is only some stock of syringes and gloves should be kept in Retail for selling to Out patients with VAT.
- Rest of the stock should be maintained in General Stores and wards.
- This will create space in the Bulk Pharmacy, eliminate storage at two places (Bulk as well as Stores) and also add revenues in form of carrying cost.

Expiry monitoring

- One day in a month (ex- 1st Saturday) has to be designated for "Expiry monitoring" under the supervision of In-charge.
- The ERP has a window for displaying all the drugs that are about to expire. All drugs expiring in the next three months should be removed off the shelves and sent back to vendor.
- Currently there are many drugs which have expired or are about to expire which are still on the shelves.
- Ex- System showed about 200 Cap. Pantocid in Retail on 30th April 2015 with expiry on April 2015.
- Note: As of now also expired drugs cannot be dispensed to patient as they will no be billed.

Fire Safety

- Pharmacy is a fire hazard area.
- Ideally sprinklers should be installed in the area.
- As of now fire extinguishers (BC type) can be placed placed in the area.
- Floor maps should be placed at prominent places both in Bulk as well as Retail Pharmacy.

Training

- Senior staff should be sent for training in ABC/VED/FIFO system in inventory management.
- This can be undertaken in two ways.
- Either by calling Pharmacy in-charge, from other established hospital or sending senior pharmacist from here to there.

Retail Pharmacy

- Physical facilities:
- Billing counters: 4; One for Insurance, 2 cash and 1 refund counter
- Computers: 5
- Printers: 4
- Refrigerator: 2
- Steel racks: 4
- Cupboard: 1
- Cot: 1

Manpower shift wise

- 0800 - 1400: 3 -4
- 0800 - 1600: 1
- 1000 - 1800: 1
- 1400 - 2000: 4
- 2000 - 0800: 2
- Attender: 3
- Technician: 1

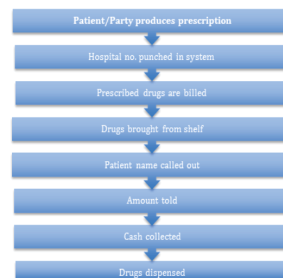
Indenting to Bulk

- Everyday online indent is sent to Bulk for transfer of items from Bulk to Retail.
- Issued against an Issue voucher.

Arrangement of drugs

- **Alphabetically**

Drug purchase process from counter



Schedule H1 drugs

- **Schedule H1 drugs namely:**
- Alprazolam
- Cephalosporin injectables
- Diazepam
- Codein syrup
- Imipemen
- Anti-TB
- Ketamine
- Moxifloxacin
- Tramadol
- Zolpidem

Suggestions for Retail pharmacy:

- Schedule H1 drug warning:
- It is dangerous to take these drugs except in accordance with medical advice.
- Not to be sold in retail without prescription of medical practitioner.
- Documentation of Schedule H1 drugs with the following details has to be maintained in register for a period of three years.
- Patient name
- Quantity
- Doctor's name
- Address

Stock audit to update stock in system

- Stock audit should be done manually once for all drugs on the shelf in Retail. This number should be taken as baseline to be fed into the system.
- This will resolve problems observed like excess drugs present. Ex- The ERP system displayed 0 stock for Pericet 2ml on a particular day. However about 100-150 vials were kept in the Retail pharmacy. Since stock was zero it could not be given to patients.
- Such discrepancy will not occur if one count of all drugs is done and then with the help of IT stock is updated.
- A discrepancy in the amount displayed after billing on the computer screen and the amount printed was noticed.
- On manually calculating the amount again difference was noted.
- The problem was intimated to MS and IT dept.
- It is due to difference in truncation and approval from Finance has to be obtained.

Query about prescription

- Being a teaching hospital prescription is written by various doctors. Errors and discrepancies cannot be avoided completely.
- In case there is difference in drug dose prescribed and available pharmacist should explain the same to the patient and dispense the drug at his discretion.
- For ex - a certain drug was prescribed for 700 mg when 750 mg is available. Pharmacist should have given the 750 mg dose instead of getting doctor's approval by sending the patient back.
- Loose change should be made available in the counters.
- Some of the cash from previous day's collection should be kept at the counter to be used as change for next day.
- Change for higher denomination notes should be made available.

Other suggestions:

- Conversation across the glass at counters becomes difficult. The glass counter should be further cut for better audibility.
- Refund policy: No refund of cut strips. Various items like used iv lines, masks come for refunds. Nursing staff have to be vigilant.
- The summary of list of drugs sent to MS everyday should also include opening and closing stock of each drug for monitoring and control. The list, which is circulated now contains only the number of drugs sold and returned.
- Names of pharmacists with their photograph approved from the Drug controller should be prominently displayed.

Suggested Organogram

Salient features

- Apart from Chief Pharmacist and Dy. Chief Pharmacist, staff next in line should be given responsibility of stock verification of Dialysis and OT.
- Alternatively it can also be given to Sister in charge of particular department.
- Pharmaco-Therapeutic committee (PTC) and Hospital Formulary must be established in the hospital.
- Hospital Formulary should contain 3 drugs of the same molecule
- Generic drug: Cheapest to be prescribed to scheme patients
- Mid level: Common brand agreed upon by consensus of department concerned
- Consultants have to agree upon the brand names of the same molecule
- Adding or removing a particular drug will be discretion of PTC after approval of HOD of department.

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1. Pharmacy services. Diagnostic and Therapeutic services. IGNOU modules.
2. B.M. Sakharkar. Principles of Hospital Administration and Planning. 2nd ed. New Delhi. Jaypee publishers Pvt. Ltd. 2009.