

DEPARTMENTAL CONSUMPTION ANALYSIS IN DIALYSIS UNIT AND SCOPE FOR IMPROVEMENT

SUBMITTED BY:

SHALEEN VASISHTA

MBA-HM BATCH-19

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BACKGROUND

- ✘ Departmental consumption is calculation of overall resources that are utilized to run a department in any hospital. It is important to calculate if there is any over or underutilization of resources in order to have good revenues. It increases the revenue, decreases the holding stock, and therefore leads to proper utilizations of resources by a particular department. If each of the department performs well then it ultimately leads to an overall success of the hospital.

OBJECTIVE

- ✗ To calculate overall departmental consumption in dialysis department.
- ✗ To find out Scope for improvement.

METHODOLOGY:

- ✖ Time duration from 15th march to 15th april 2016.
- ✖ Prospective study
- ✖ Sample size- Dialysis department covered 432 patients.

DATA COLLECTION

Flow process of activities of dialysis department

Study was conducted in the following manner to address these study objectives:

- ✖ The observation period was from 15th march to 15th april, 2016
- ✖ The patient flow during the observation period was recorded for all 3 types of dialysis.
- ✖ The manpower cost was calculated which included the salaries of the main staff and the supporting staff.
- ✖ Material cost along with its consumption per patient was calculated.
- ✖ Electricity consumption and its cost to the hospital was calculated for the observation period.
- ✖ Water consumption and its cost per patient and to the hospital was calculated.

RESULT

MANPOWER COST = (NO. OF TECHNICIANS* AVERAGE SALARY PER TECHNICIANS) + (NO. OF NURSE* AVERAGE SALARY PER NURSE) + (NO. OF HOUSEKEEPING STAFF * AVERAGE SALARY PER HOUSEKEEPING STAFF)

$$= (7 * 17000) + (2 * 12000) + (3 * 9000) \\ = 1,70,000 \text{ overall manpower cost (supporting staff)}$$

No. Of nephrologists= 5

HOD- 1,00,000 (Fixed+ additional of 12% on acute & regular cases+ 36.36% on SLED cases) (calc. From 15th march to 15th april= rs. 4,80,000)

Assistant nephrologist = Rs. 1,25,000

(DNB) Students (2) = Rs. 60000+60000

DMO = Rs. 28000

Overall manpower cost of the main staff=
480000+125000+60000+60000+28000= 753000

Overall manpower consumption (main staff+ supporting staff)
= 170000+753000= Rs. 923000

ELECTRICITY CONSUMPTION=

- ✗ Machines – 8 (in no.)
- ✗ 1 machine = 4 hrs. = 4 units electricity consumption+ 1.6 Units for disinfection consumption per machine = 5.6 units
consumption for 8 machines= $5.6 \times 8 = 44.8$

17×5.6 (avg. Dialysis per day)= 95.2 units*31=
2951.2 units= $2951.2 \times 8\text{rs.} = \text{rs. } 23610$

- ✗ **tube lights** – 18 (36 watts)
average usage hours per day=14 hrs.
Approx. Units per month= 273 units

✖ **CFL bulb** – 28 (11 watts)

Average usage hours per day=14 hrs.

Approx. Units per month= 138 units

✖ **Air conditioner** – 1 (15 tons) average usage
hours per day=14 hr

Approx. Units per month= 22075 units

✖ **Total electricity consumption=**

1 unit = rs. 8 (industrial rate)

25,437.2 units = **rs. 2,03,498**

WATER CONSUMPTION:

- ✗ AVERAGE WATER CONSUMED IN ACUTE & REGULAR= **150** Lt.
- ✗ AVERAGE WATER CONSUMED IN SLED= 180 Lt.
- ✗ COST OF 1 Lt. WATER = **.25 rs** (avg. Commercial rate)
(During my observation period i.e from 15th march to 15th april, 2016)
:

No. Of patients for acute & regular =**392**

No. Of patients for SLED = **40**

WATER CONSUMPTION= (Cost of water consumption for
ACUTE®ULAR) + (Cost of water consumption for SLED)

= no. Of patients for acute & regular* avg. Water used per
patient*cost of 1 Lt. Water

= no. Of patients for sled *avg. Water used per patient*cost of
1 Lt. Water

= (392*150*0.25)+(40*180*0.25)

=14700+1800= **Rs.16500**

SCOPE FOR IMPROVEMENT:

- ✗ Optimum utilization of manpower & machines.
- ✗ Improving the efficiency of technical staff by providing advanced training skills from time to time.
- ✗ Scheduling of dialysis timings which improves no. Of dialysis cases per day.
- ✗ Minimum inventory holding based on no. Of dialysis per day.
- ✗ Preventive maintenance to be scheduled for the machines.
- ✗ Power consumption should be controlled as much as possible.
- ✗ Metre reading for each dialysis needs to be maintained. So, that misuse of material & machine is properly noted.

The background of the image is a dense, overlapping layer of bright pink rose petals. The petals are in various stages of bloom, creating a soft, textured surface. In the center of the image, there is a white rectangular card.

Thank You