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RESEARCH ARTICLE

STANDARDS OF PATIENT MANAGEMENT IN ANAESTHESIA AND SURGICAL DEPARTMENT IN A TERTIARY CARE HOSPITAL IN SOUTH INDIA.

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Key words:-

Anaesthesia, surgery, adherence, unplanned ventilation.

Abstract

Background: Health care quality is meant for survival and to bring excellence in hospitals. It is the demand of all stakeholders (i.e., patients, health care providers, governments, regulators, and competitors). Excellent services can be used as a competitive strategic tool. Anaesthesia is a speciality in medicine which deals with the safety of the patient who is undergoing a surgical procedure.

Aim and objectives: To estimate quality of patient management in aspects like prophylactic antibiotic adherence, modification of anaesthesia and surgery plan, management of adverse events and control of mortality rates.

Methods: It is a prospective observational study conducted in a sample size of overall 3868 patients in which 1252 patient's undergone surgery following anaesthesia during the period of January – November in 2016.

Results: In this study, we measured the highest percent of patients non adherence to prophylactic antibiotics is seen in month of November (8.1%) followed by October (3.1%)., A highest percent of unplanned ventilation is seen in month of October (1.55%). the organization's procedure to prevent adverse events like wrong site, wrong patient and wrong surgery have been (100%) from January to august, a highest percent of 1.31% of patients in April had changed the planned surgery intra operatively. There were no adverse events & mortality rates observed in our study.

Conclusion: To increase the quality of patient management care must be taken in improving the patients prophylactic antibiotic adherence, continuous monitoring of vitals and maintaining check lists by physicians or medical staff, to prevent the situations like unplanned ventilation during surgery, Multidisciplinary simulation training in anaesthetic emergencies may be beneficial for better patient safety.

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Introduction:-

Anaesthesia is a medical specialty that is particularly concerned with the safety of the patient who is undergoing a surgical procedure. ^[1]This is a prerequisite in order to provide quality of care, which is based on good clinical practice, on a sound organization, on an agreement on best practice and on adequate communication with other

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healthcare workers involved. ^[2, 3] Providing a safe environment for those working in healthcare is at least as important as other factors serving that objective.

Health care quality is meant for survival and to bring excellence in hospitals. It is the demand of all stakeholders (i.e., patients, health care providers, governments, regulators, and competitors) ^[4]. Excellent services can be used as a competitive strategic tool. Doctors, nurses, and other social workers agree that excellent quality provision in the hospital is directly linked with the positive signs on the patients' health and achieving desired patients' outcomes. ^[5, 6]

Methodology:-

In this prospective observational study, anaesthesia-trained study staff (anaesthesiologists/nurse anaesthetists) observed randomly selected operations at a 350 bed tertiary care hospital to identify MEs and ADEs over a period of 11 months (January to November) in a sample size of overall 3868 patients in which 1252 patients undergone surgery following anaesthesia.

All events subsequently underwent review by two independent reviewers.

The inclusion and exclusion criteria for choice of health care professionals undergoing surgery are

Inclusion Criteria:-

Patients who had undergone surgeries and willing to participate in the study

Exclusion Criteria:-

Patients who are unwilling for the procedure, in ASA physical status III and above, pregnant women, with diabetic neuropathy, psychiatric patients, patients with history of allergy to local anaesthetics, with infection / swelling at proposed site of injection were excluded from the study.

Measure Of Outcomes:-

Primary outcomes:

Incidence of MEs and ADEs.

Secondary outcomes:

Is there any planned surgery changed, Unplanned ventilation following anaesthesia, organization's work to prevent adverse events, patients non adherence to prophylactic antibiotics

Results and discussion:-

Modification of anaesthesia plan.

Month	Number of Patients who underwent anaesthesia	Modification of Anaesthesia Plan
Jan 2016	66	0
Feb	56	0
Mar	82	1
April	76	0
May	107	0
June	107	0
July	103	0
Aug	95	0
Sep	89	1
Oct	129	0
Nov	81	0

Table no 1:- Out of 991 patients undergone anaesthesia between the periods of January – November 2016, only two persons got their anaesthesia plan modified in March and September.

Unplanned ventilation following anaesthesia

Month	Number of Patients who underwent anaesthesia	Unplanned Ventilation Following Anaesthesia	%
Jan 2016	66	0	0%
Feb	56	0	0%
Mar	82	0	0%
April	76	1	1.31%
May	107	0	0%
June	107	0	0%
July	103	0	0%
Aug	95	1	1.05%
Sep	89	0	0%
Oct	129	2	1.55
Nov	81	1	1.23

Table 2:-Out of 991 patients underwent anaesthesia between January –November 2016, a highest percentage of 1.55% of patients were subjected to unplanned ventilation in the month of October followed by April (1.31%), November (1.23 %) and august (1.05%).

Adverse events of anaesthesia.

Month	Number of Patients who underwent anaesthesia	Adverse Events	%
Jan 2016	66	NIL	NIL
Feb	56		
Mar	82		
April	76		
May	107		
June	107		
July	103		
Aug	95		
Sep	89		
Oct	129		
Nov	81		

Table 3:-Out of 991 patients undergone anaesthesia between the period of January –November 2016, no adverse events were reported.

Anaesthesia related mortality rates.

Month	Number of Patients who underwent anaesthesia	Mortality
Jan 2016	66	NIL
Feb	56	
Mar	82	
April	76	
May	107	
June	107	
July	103	
Aug	95	
Sep	89	
Oct	129	
Nov	81	

Table 4:- Out of 991 patients undergone anaesthesia between the period of January –November 2016, no case of mortality was reported.

Percentage of unplanned return to OT

MONTH	Total Number Of Surgeries	Unplanned Return To OT	%
Jan 2016	66	1	0%
Feb	56	1	0%
Mar	82	1	1.21%
April	76	0	0%
May	107	0	0%
June	107	0	0%
July	103	1	0.97%
Aug	95	0	0%
Sep	89	0	0%
Oct	129	0	0%
Nov	81	0	0%



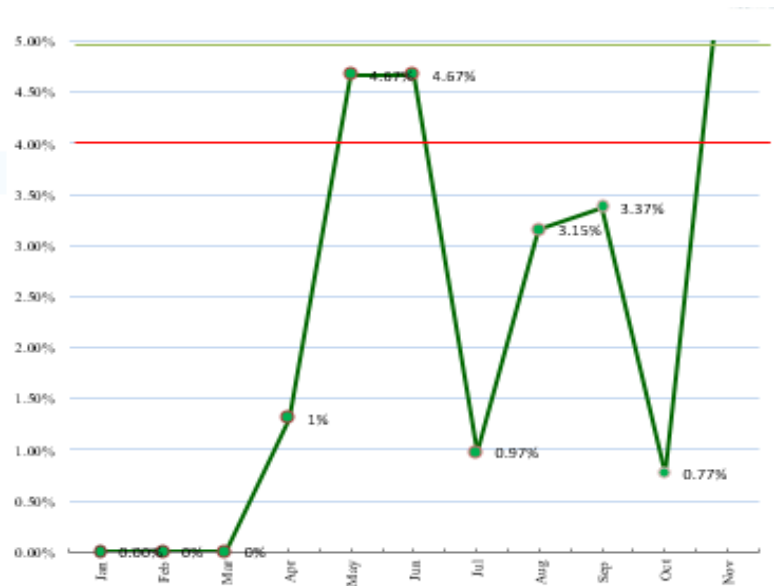
Table 5:-

Figure 1:-

Out of 991 patients underwent surgeries between January – November 2016, only 1.21% patients returned unplanned to OT in March, followed by 0.97% in July.

Percentage of rescheduled surgeries

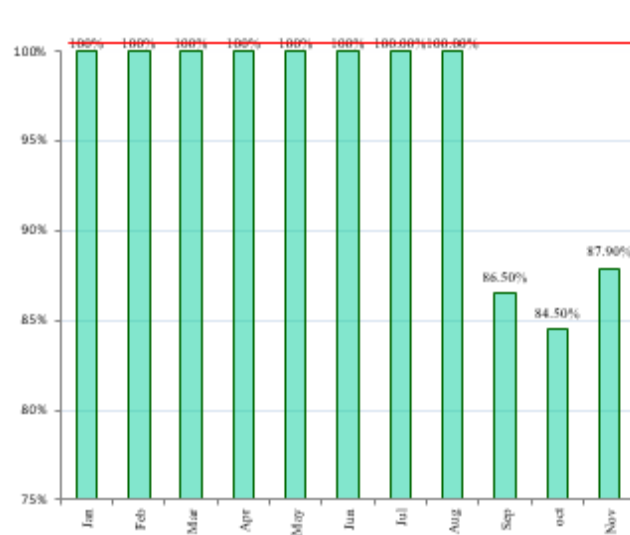
MONTH	Total Number Of Surgeries	Number of re-scheduling	%
Jan 2016	66	0	0
Feb	56	0	0
Mar	82	0	0
April	76	1	1.31%
May	107	5	4.67%
June	107	5	4.67%
July	103	1	0.97%
Aug	95	3	3.15%
Sep	89	3	3.37%
Oct	129	1	0.77%
Nov	81	5	6.17

**Table 6:-**

Out of 991 patients undergone surgeries between January – November 2016, a highest number of surgeries were scheduled in November (6.17%), followed by May & June (4.67%), September (3.37%), August (3.15%), April (1.31%), and October (0.77%).

Figure 2:-**Percentage of cases where the organization's procedure to prevent adverse events like wrong site, wrong patient and wrong surgery have been adhered to.**

MONTH	Total Number Of Surgeries	Non Adherence	Adhered
Jan 2016	66	NIL	100%
Feb	56		
Mar	82		
April	76		
May	107		
June	107		
July	103		
Aug	95		
Sep	89	12	86.5%
Oct	129	20	84.5%
Nov	62	8	87.9

**Table 7:-**

Out of 991 patients undergone surgeries between January – November 2016, a 100% patient adherence is reported in between January – August, followed by November (87.9%), September (86.5%), October (84.5%).

Figure 3:-

Percentage of cases who did not receive prophylactic antibiotic within the specified time frame.

MONTH	Total Number Of Surgeries	Non Adherence
Jan 2016	66	NIL
Feb	56	
Mar	82	
April	76	
May	107	
June	107	
July	103	
Aug	95	
Sep	89	
Oct	129	4(3.1%)
Nov	62	5 (8.06)

MONTH	Total Number Of Surgeries	Timeliness
Sep	89	8 (>3 Hrs Before Surgery)
Oct	129	19
NOv	62	17

Table 8:-Out of 991 patients a highest percent of non-adherence to prophylactic antibiotics is seen in the month of November (8.06%) followed by October (3.1%).

In the month of September, about 8 out of 89 patients did not receive prophylactic antibiotics in time.

Percentage of cases in which the planned surgery is changed intra-operatively.

Month	Total no of surgery performed	changed Intraoperatively	%
Jan 2016	66	0	0
Feb	56	0	0
Mar	82	0	0
April	76	1	1.31%
May	107	0	0
June	107	0	0
July	103	1	0.97%
Aug	95	0	0%
Sep	89	0	0%
Oct	129	0	0%
Nov	81	0	0%

Table 9:-Out of 991 patients underwent surgeries between January – November 2016, a highest percent of 1.31% of patients in April, the planned surgery is changed intra operatively.

Conclusion:-

As per the study, the anaesthesia and surgical services being provided in tertiary care hospital are quite satisfactory in preventing adverse events and controlling mortality rates. But, care must be taken in aspects like providing unplanned ventilation, modifying anaesthesia plan and surgery plans to enhance the quality of patient management in anaesthesia and surgical department.

To obtain the prophylactic antibiotic adherence in patients undergoing surgery, care must be taken such that patients receive all the necessary prophylactic antibiotics in the recovery room itself in the right time under proper authorization. Anaesthetist and anaesthetic support worker in ensuring that all the required equipment, airway adjuncts and medications were ready and available prior to Induction. Continuous monitoring of vitals to prevent the situations like unplanned ventilation during surgery usefulness of a checklist give an indication of improved patient safety. .

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