Study on Quality indicator for OT related to Surgeries in a tertiary care hospital

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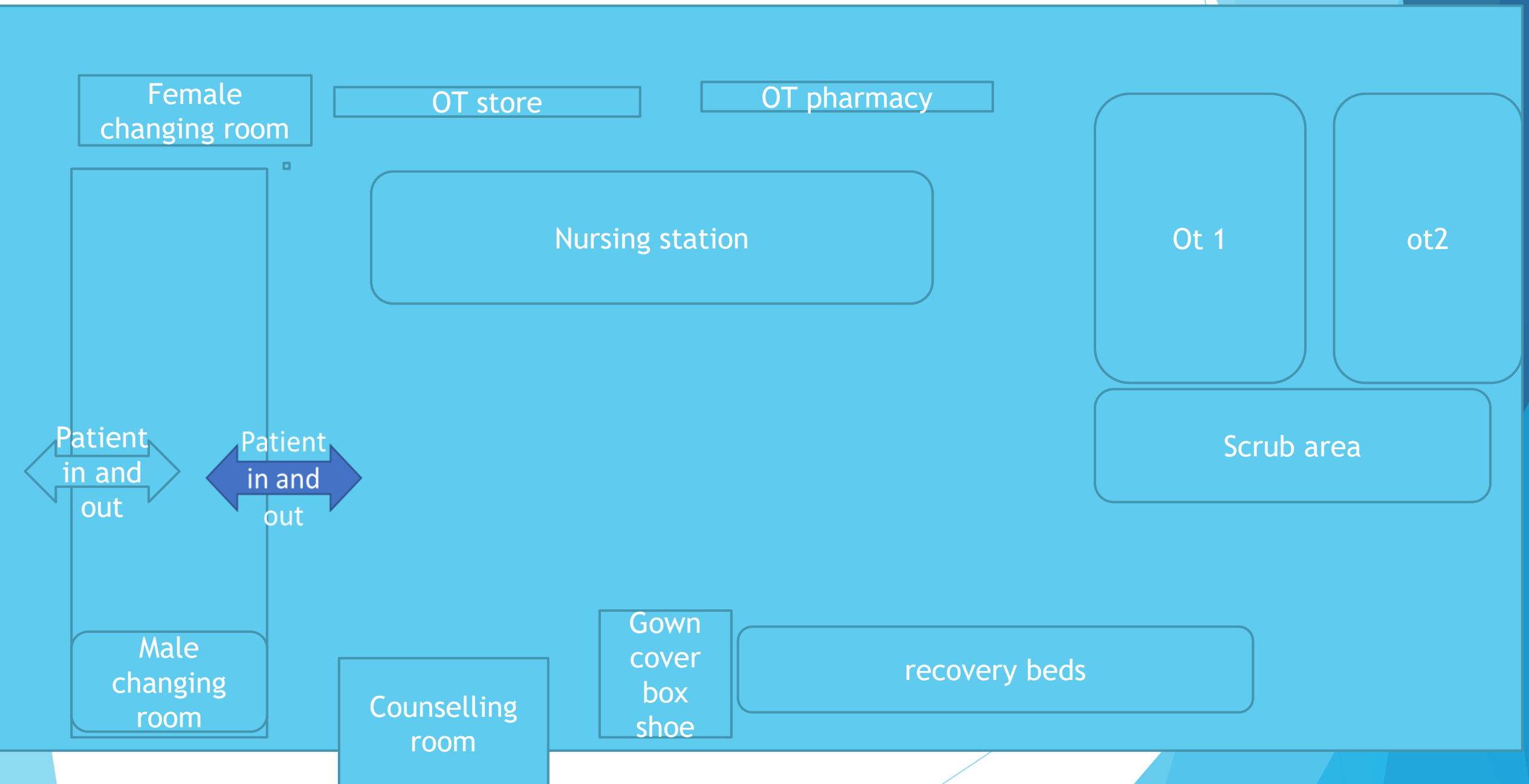
About hospital

- Hospital was established by Dr. B. S. Ajai Kumar in2005 under the name of healthcare Global Enterprises ltd, headquarters in Bangalore.
- Now there are 26 branches . This hospital is India's largest cancer care provider .
- HCG also deals with clinical research and R&D
- Started with cancer now HCG has moved to multispecality and infertility clinic also.

Introduction

- OT is a sensitive and curial area of the hospital , which should have all the protocal followed .
- Its a place where all the major and minor surgeries happen .
- This place should be aseptic with adequate space , light and proper ventilation, controlled temperature and humidity.
- Key equipment consist of Operating table and anesthetic cart plus the surgical equipment with appropriate staff and doctors.
- OT has been changed from open therate to closed environment as per the advancement of the era.

OT Layout


Female changing room
OT store
OT pharmacy
Nursing station
Ot 1
ot2
Scrub area
Patient in and out
Patient in and out
Male changing room
Counselling room
Gown cover box shoe
recovery beds

Aim.

- To sensitize quality indicators of OT related to surgeries as per the benchmark.

Objective

- To find the quality indicators of OT related to surgeries.
- To find the indicators achieving benchmarks.
- To do the RCA and CAPA of indicators that are not achieving the benchmark.

Quality indicator include

1. Percentage compliance to WHO surgical safety checklist
2. Percentage of unplanned return to OT
3. Percentage of rescheduling of surgeries
4. Percentage of re-exploration of surgical sites
5. Percentage of modification of anaesthesia plan
6. Percentage of unplanned ventilation following anaesthesia
7. Percentage of adverse anaesthesia event
8. Anaesthesia relate mortality rate

Problem statement

- To find the quality indicator followed in OT regarding the surgeries and if any gap

Research question

- Is quality indicator in OT related to surgeries achieving benchmark?

Methodology

- Study setting: The study would be conducted in HCG Hospital Bhavnagar unit.
- Study duration: The duration of study would be 3 months from 2ND Feb 2020 to 1ST MAY 2020.
- Study design: Prospective observational study.
- Study methodology: Convinent sampling was done in the population.Here population is the patient had surgeries in hospital.
- Study population: Patient had surgeries in hospital in given period of time.
- Sample size: Total sample size was taken 203 as a whole for 3 months data, 96 cases in February, 86 cases in March and 21 cases in April month. The February and March cases were analyzed and RCA was done on these cases and in April 21 cases all the CAPA was done .

Data collection:

Two ways data was collected

- OT master register which was placed in OT
- Quality department regarding the benchmark plus the RCA and CAPA details.

DATA ANALYSIS:

- The data analysis technique was using MS excel. All the graphs and tables were made in excel.
- Interpretation:
- According to study the gaps were

•Percentage of re scheduling surgeries in February was14%, march was 8.1%

•Percentage of re- exploration February was3.1%, march was 2.3%

•Percentage of unplanned OT February was 0 %, march was 2.3%

- • RCA was that data was not mapped properly, change in policy and quality indicators due to newly NABH accreditation.
- • CAPA was to have training of staff, making reduction in time frame of rescheduling from nearly 8 to 10 hours to less than for 4 hours. Rescheduling was mainly due to not avail of financial issues. So, on admission it was done was the expenses and all the counselling were done.

- Inclusive cases: All cases of OT
- Exclusive cases: ICU, ward & ER patients
- Nature of data: Quantitative data collection through monthly data prepared by OT staff and verified by quality department.

- Type of Data:

1.Collection through files of patients those who had surgeries (as and when required).

2.Interacting with doctors, nurses and surgeons.

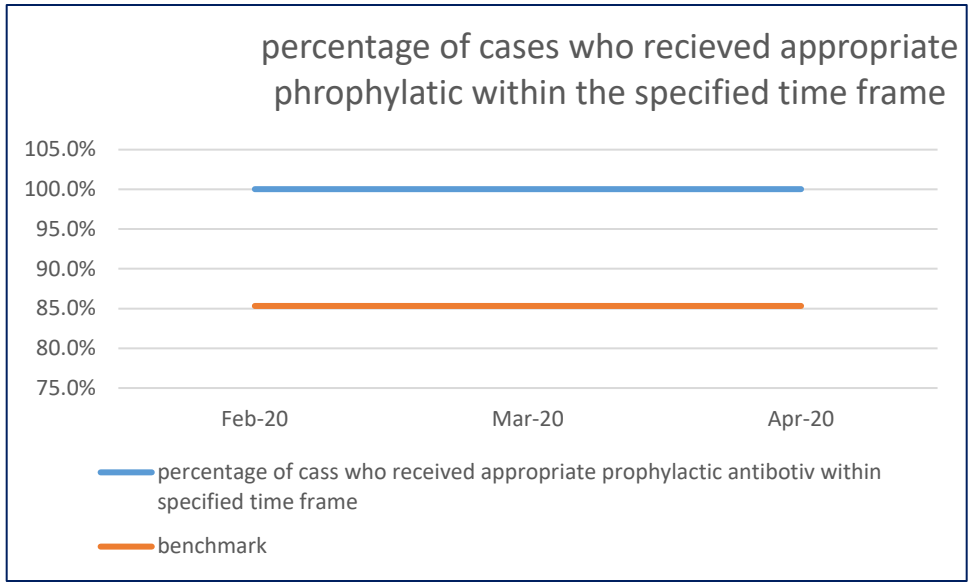
3.Collection through direct observation.

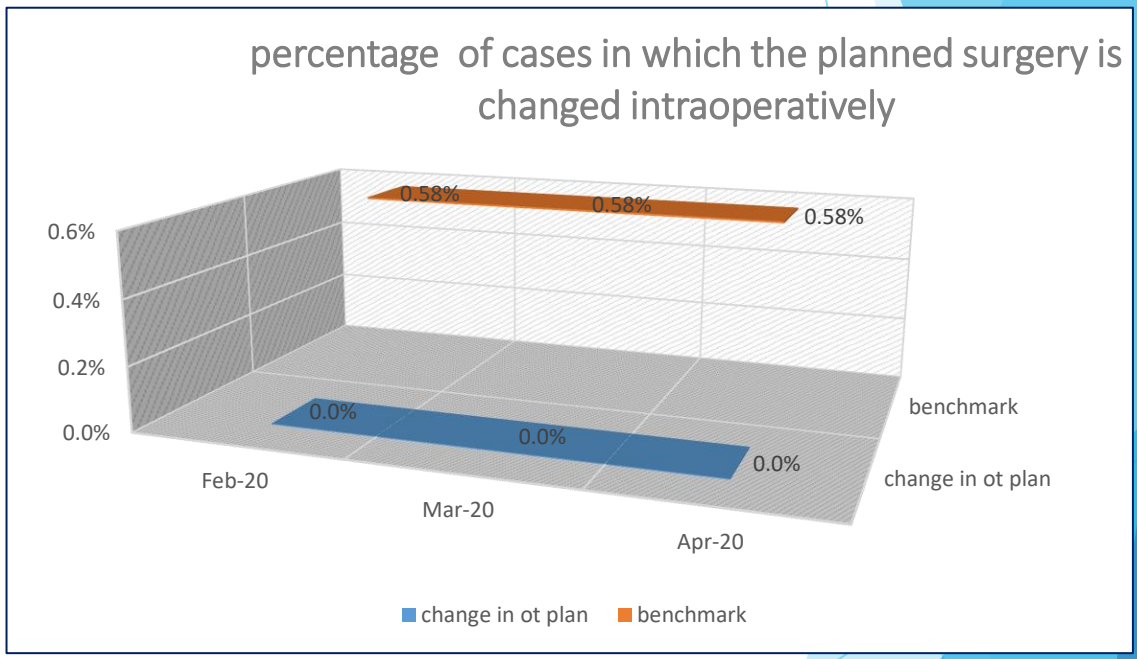
4.Information through other sources for the topic related things

Contd..

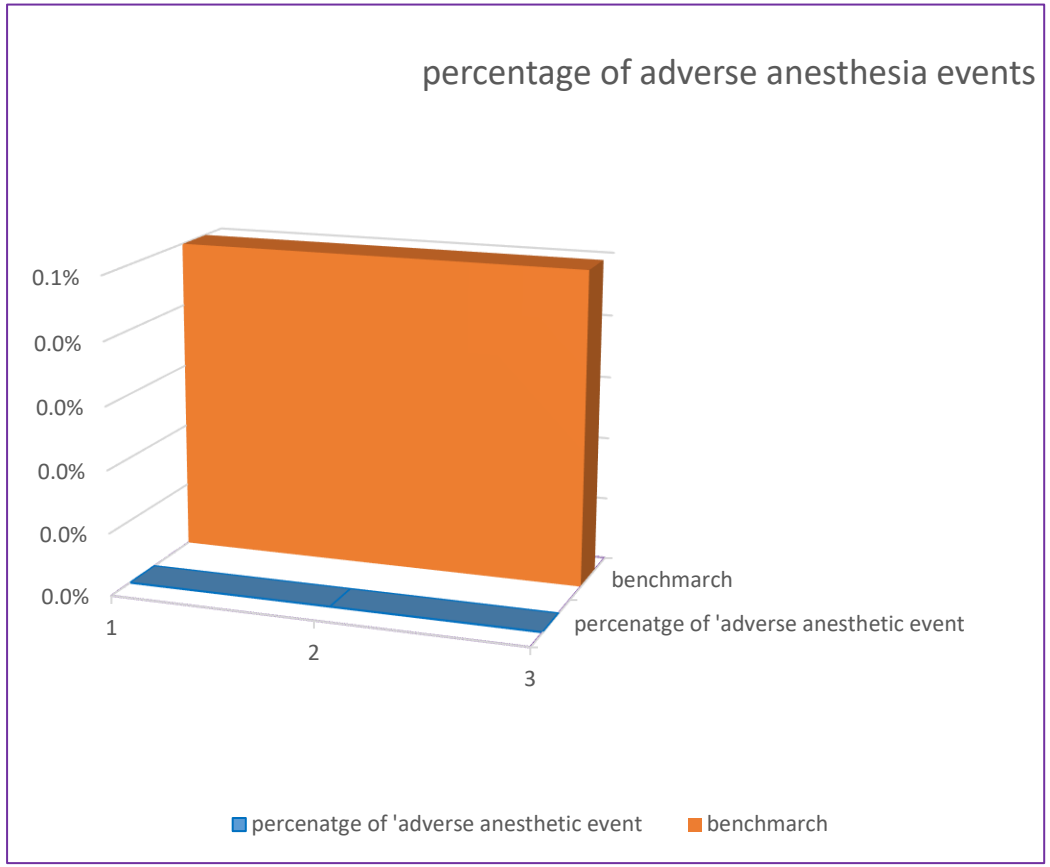
- Study technique and tools: According to NABH guideline the master sheet was prepared by OT team verified by nursing head and head clinical services at last the Quality head put all the data together and see the deviation in the benchmark .
- Data collection: According to NABH guideline the master sheet which was prepared by OT team collected with the help of Nursing head. All this was done in MS EXCEL.
- Ethical considerations: None were found

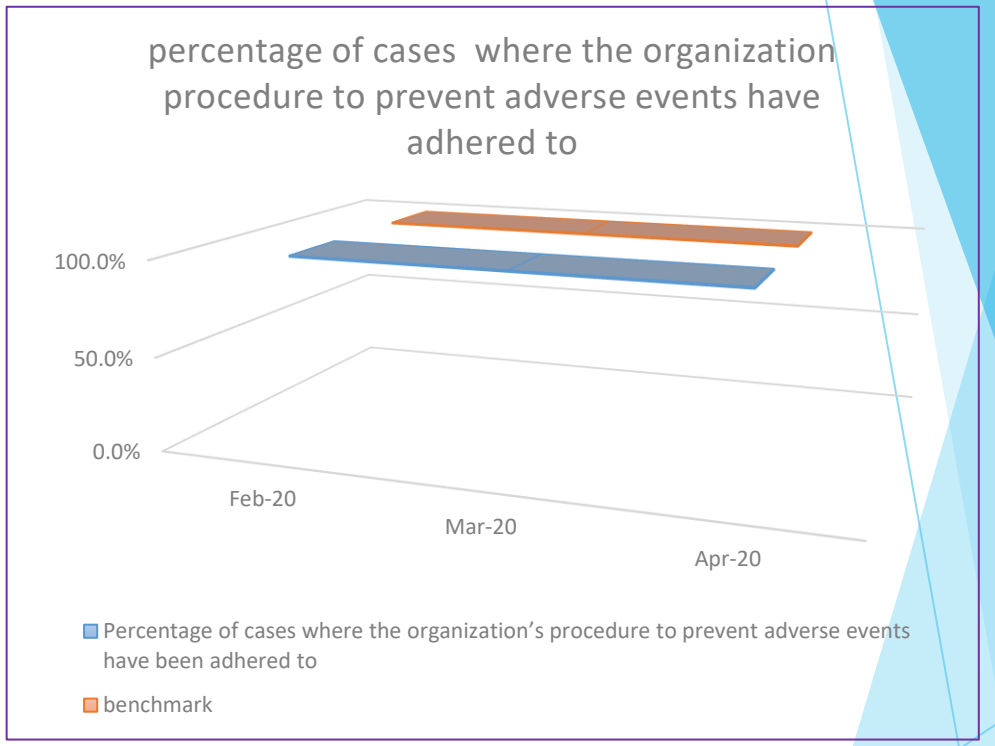
GRAPHS


percentage of cases who recieved appropriate phrophylatic within the specified time frame
105.0%
100.0%
95.0%
90.0%
85.0%
80.0%
75.0%
Feb-20
Mar-20
Apr-20
percentage of cass who received appropriate prophylactic antibotiv within specified time frame
benchmark

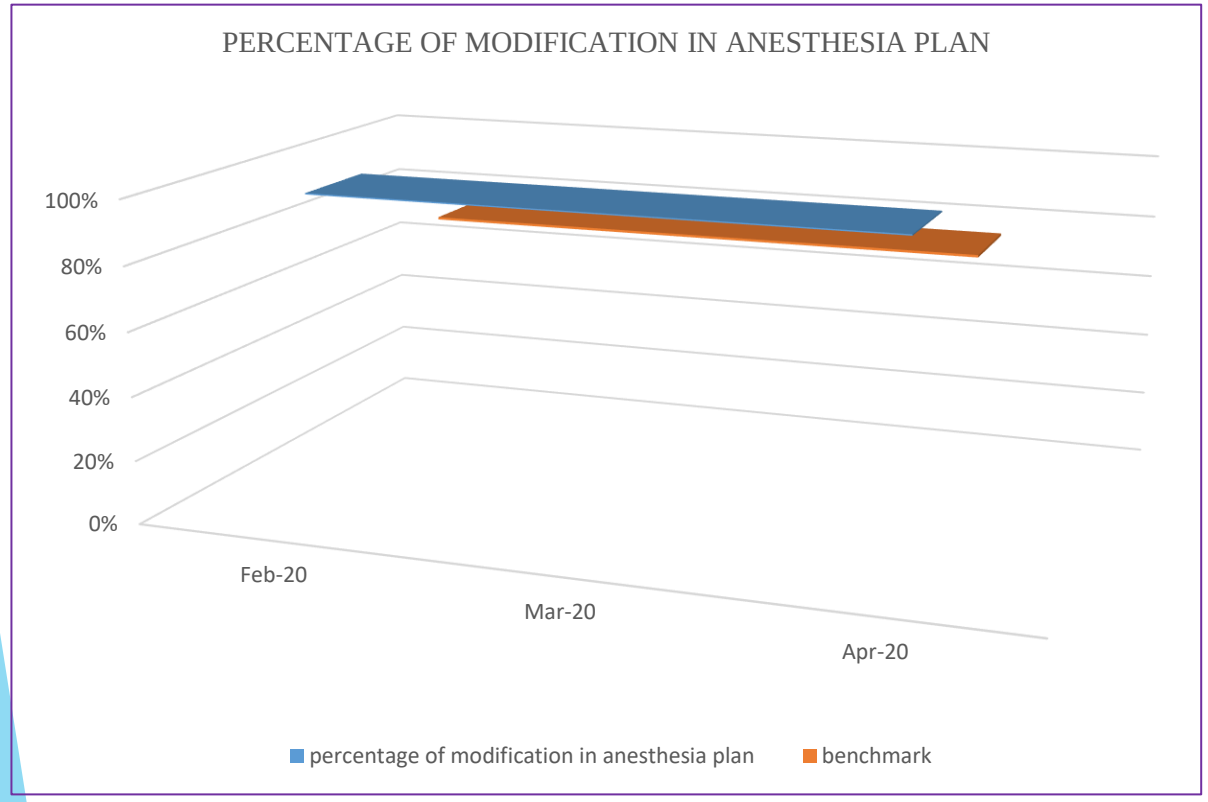

percentage of cases in which the planned surgery is changed intraoperatively
0.6%
0.4%
0.2%
0.0%
0.58%
0.58%
0.58%
0.0%
0.0%
0.0%
Feb-20
Mar-20
Apr-20
benchmark
change in ot plan
change in ot plan
benchmark

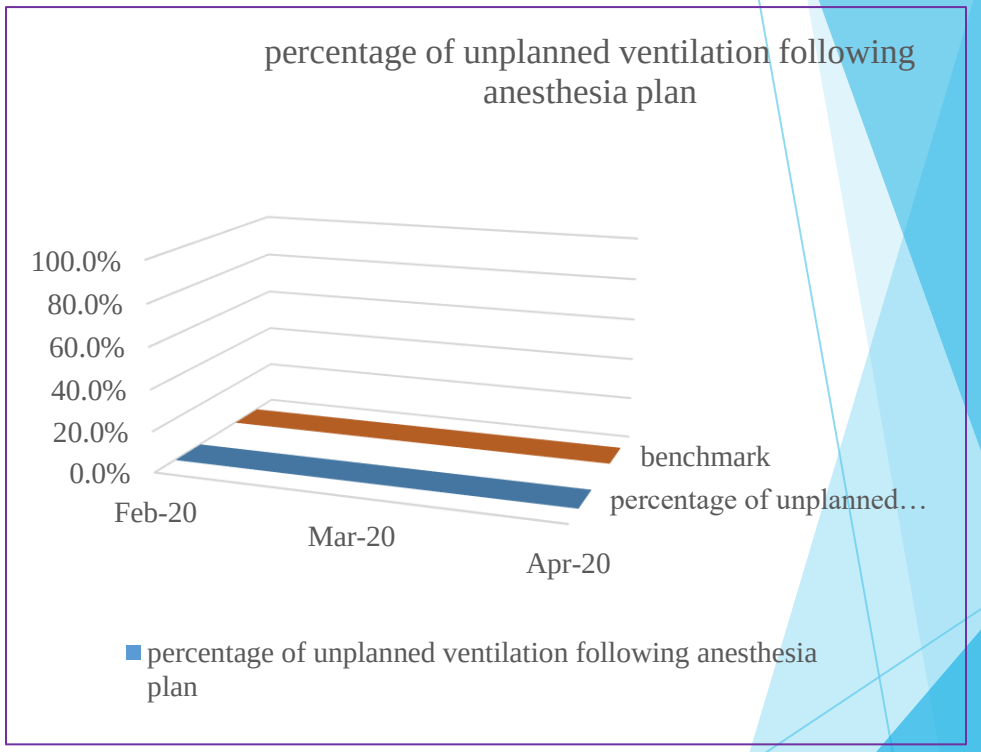
GRAPHS


percentage of adverse anesthesia events
0.1%
0.0%
0.0%
0.0%
0.0%
0.0%
1
2
3
benchmarch
percenatge of 'adverse anesthetic event
percenatge of 'adverse anesthetic event
benchmarch

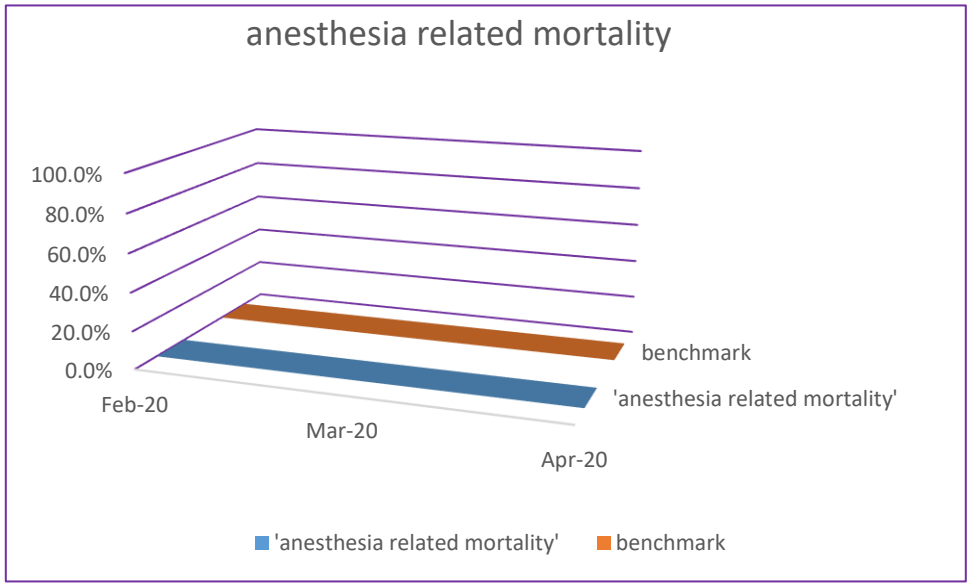

percentage of cases where the organization procedure to prevent adverse events have adhered to
100.0%
50.0%
0.0%
Feb-20
Mar-20
Apr-20
Percentage of cases where the organization's procedure to prevent adverse events have been adhered to
benchmark

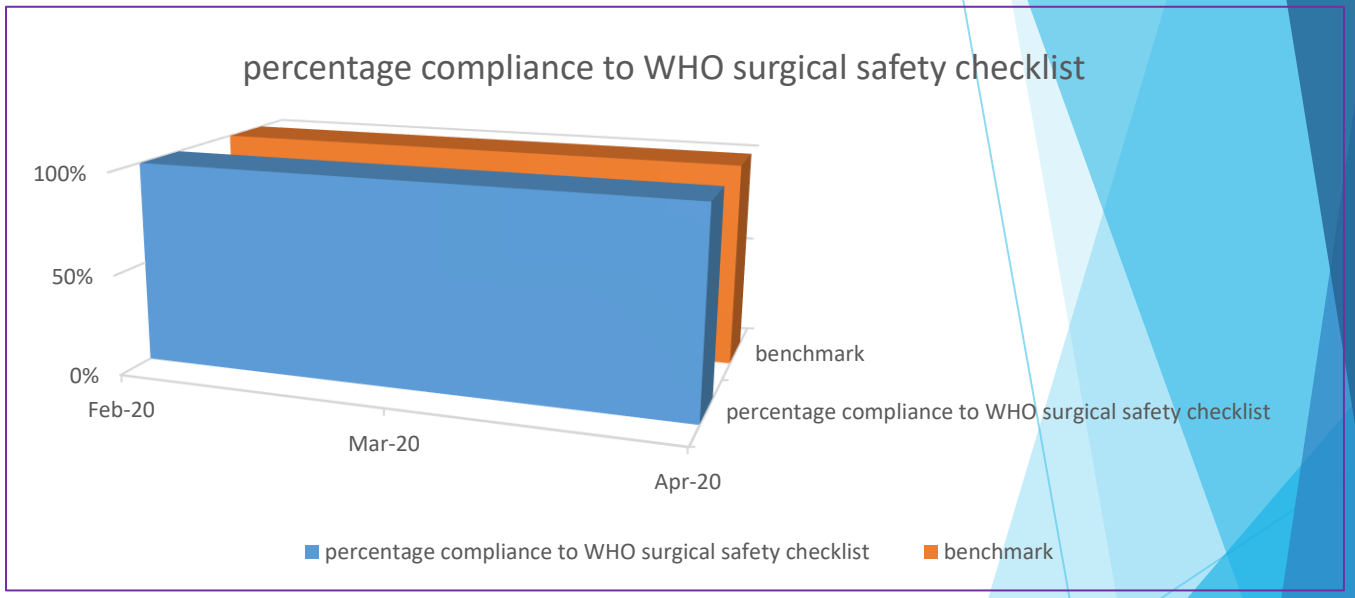
GRAPHS


PERCENTAGE OF MODIFICATION IN ANESTHESIA PLAN
100%
80%
60%
40%
20%
0%
Feb-20
Mar-20
Apr-20
percentage of modification in anesthesia plan
benchmark

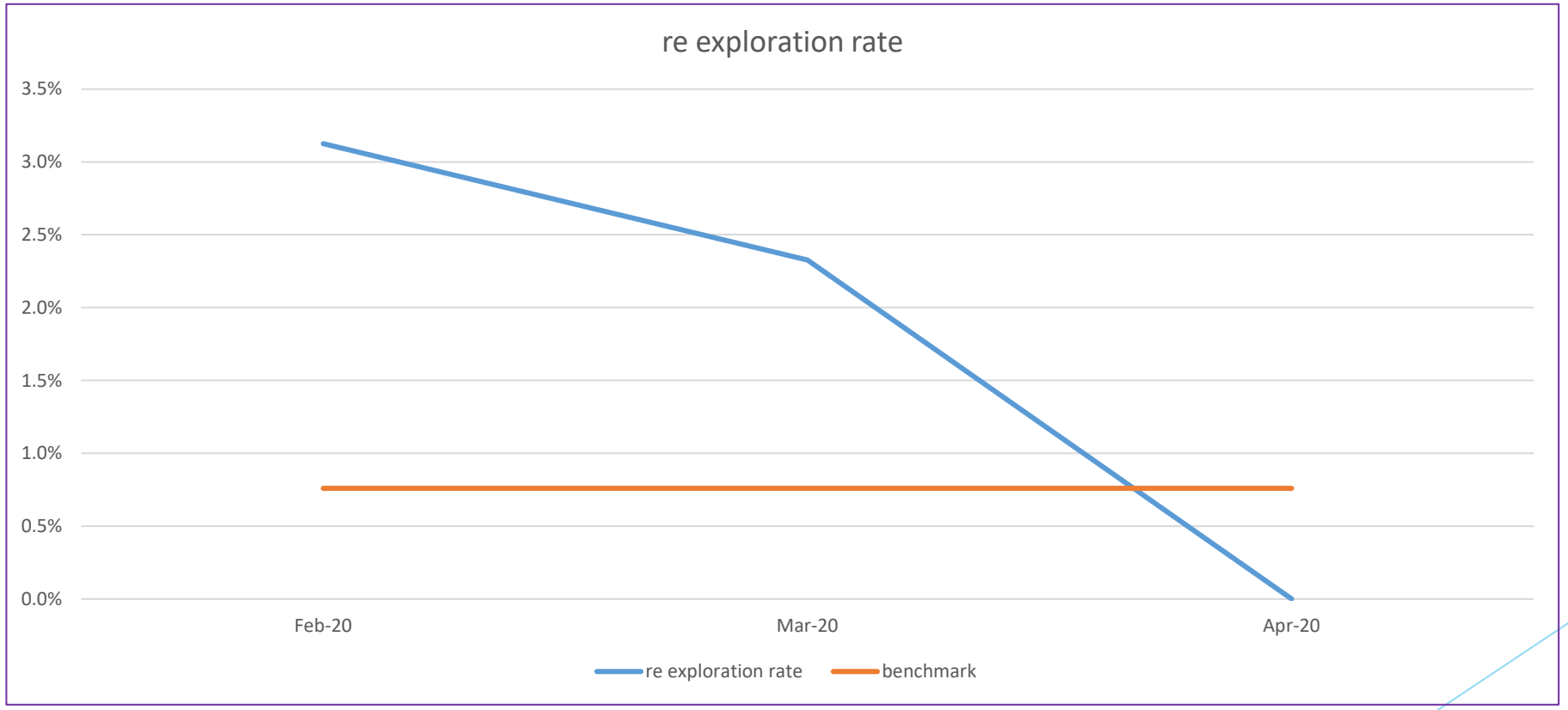

percentage of unplanned ventilation following anesthesia plan
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
Feb-20
Mar-20
Apr-20
benchmark
percentage of unplanned…
percentage of unplanned ventilation following anesthesia plan

GRAPHS

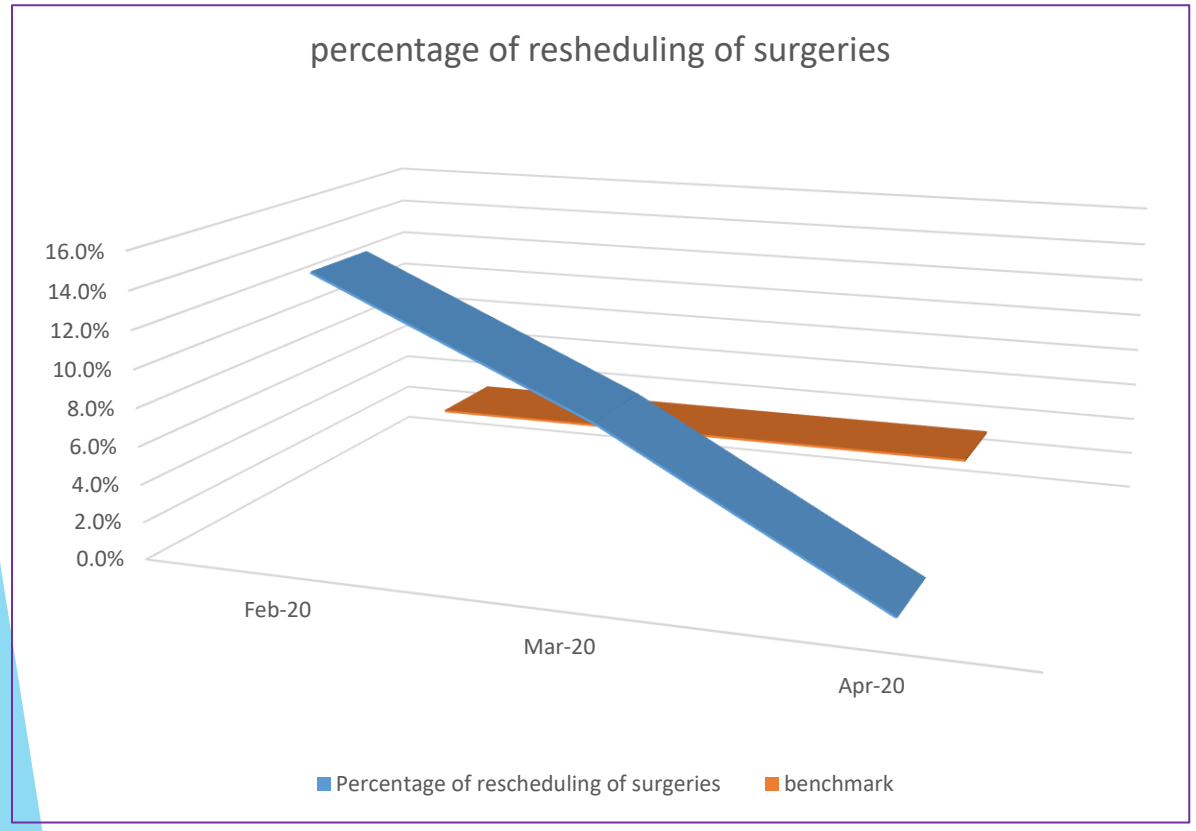

anesthesia related mortality
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
Feb-20
Mar-20
Apr-20
benchmark
'anesthesia related mortality'
'anesthesia related mortality'
benchmark

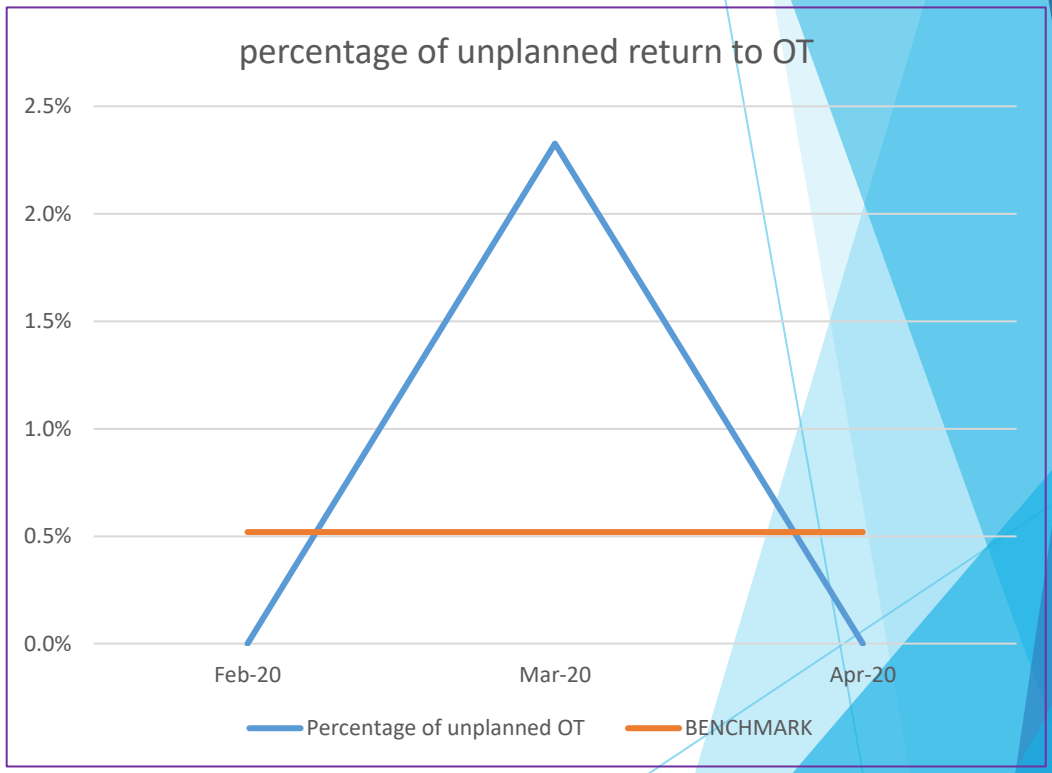

percentage compliance to WHO surgical safety checklist
100%
50%
0%
Feb-20
Mar-20
Apr-20
benchmark
percentage compliance to WHO surgical safety checklist
percentage compliance to WHO surgical safety checklist
benchmark

graphs


re exploration rate
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
Feb-20
Mar-20
Apr-20
re exploration rate
benchmark

GRAPHS


percentage of resheduling of surgeries
16.0%
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
Feb-20
Mar-20
Apr-20
Percentage of rescheduling of surgeries
benchmark


percentage of unplanned return to OT
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
Feb-20
Mar-20
Apr-20
Percentage of unplanned OT
BENCHMARK

RAW Table

- RAW SHEET.xlsx

Results:

- When the study was conducted for three months many quality indicators were followed according to NABH guideline and the hospital benchmark both, but few were slightly deviating through the benchmark.
- Total sample size was taken 203 as a whole for 3 months data, 96 cases in February, 86 cases in March and 21 cases in April month.
- The February and March cases were taken together and then the RCA and CAPA was done on these cases and in April 21 cases all the corrective actions were taken thus reduction on non-compliant data was seen
- In initial phase (for the month of February and march) of study the data was collected to find the noncompliance of the indicators. Out of 11 indicators there were on 3 indicators which were noncompiled and rest 8 were complained to the benchmark and NABH.
- The indicators which were not following the compliance were:

  - Percentage of re scheduling surgeries in February was14%, march was 8.1% which reduced to 0% in April.
  - Percentage of re- exploration February was3.1%, march was 2.3% which reduced to 0%
  - Percentage of unplanned OT February was 0 %, march was 2.3% which reduced to 0%

- These reduction in data was due to the RCA and CAPA done during the period of study.

conclusion

- To conclude the study which was done over the period of my internship that there were 11 quality indicators taken according to NABH 5th edition . These indicators where taken to study if they are near to the benchmark or not . Only 3 indicator were out of the benchmark range . Overall suggested that all should be under benchmark as the OT is a sterile place and a place where maximum life altering thing happens therefore should be under all the supervision also all the benchmark should be accomplished. But there in the hospital showed a commendable job that maximum indicators were in benchmark range or above that . Studies have shown that if the OT is not sterile that can lead to SSI leading , the increase ALOS of the patient other serious issuse,.

Limitation

- Limited sample size due to COVID19 as reduction in the number of surges happened in last month
- Limited visit to OT
- Limited time to conduct the study

References:

1. Wikipedia and another internet source
2. IIHMR library portal
3. Medical Books
4. Hospital policy