Assessing delays in Operation Theater activities for quality improvement in Wockhardt Hospital, South Mumbai

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OBJECTIVES OF STUDY

- To measure average time of operative procedure starting from Pre Operative to Post anesthetic care unit in Operation Theater.
- To estimate inter-operative average time in the operation theatre between subsequent operation from patient is wheeled out of operating room to next patient.
- To find reasons for delay in each process and to provide recommendations to improve these processes.

RESEARCH QUESTION :

Q1 What are the possible reasons/factors for delay's in-between the processes of Operation Theater ?

- **METHODOLOGY :**

- **STUDY DESIGN**: Descriptive cross sectional

- **SAMPLE TECHNIQUE :** Convenient sampling

- **DATA COLLECTION :**

- Primary data : Direct observation technique

a) The time of patient enters pre operative to Post anesthetic care unit

b) Patient being wheeled out of Operating room to operating Room being ready for next scheduled surgery

- Secondary data: Collected from HIS system of hospital

STUDY AREA : Operating theater rooms of Wockhardt Hospital, South Mumbai

DURATION : February - May 2019

SAMPLE SIZE :

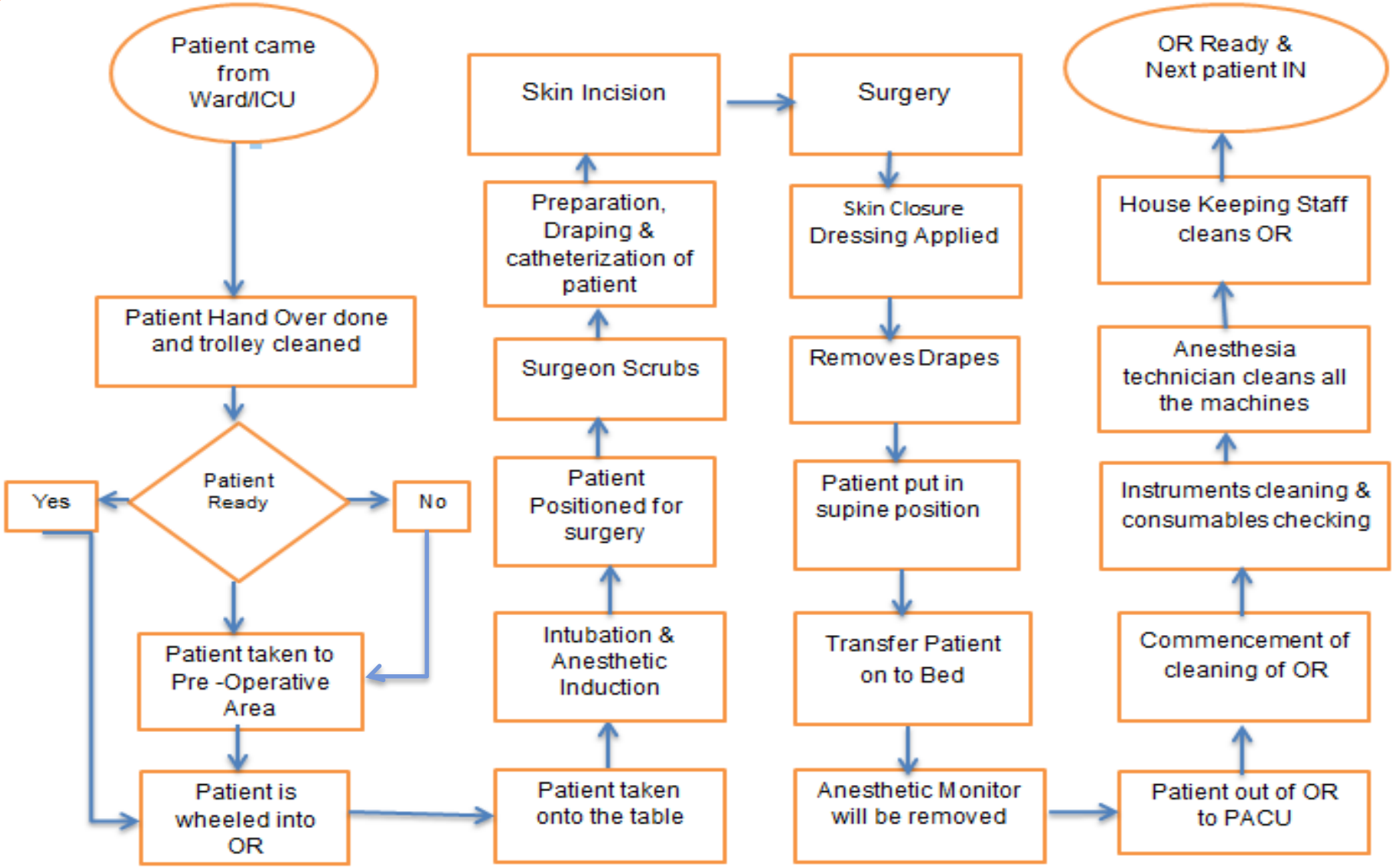
- 232 patients for data from pre operative to Post anesthetic care unit
- 71 (30%) patients selected to study OT preparation

INCLUSION CRITERIA :cases starting from 8:00 am to cases ending by 6:30 pm each working day

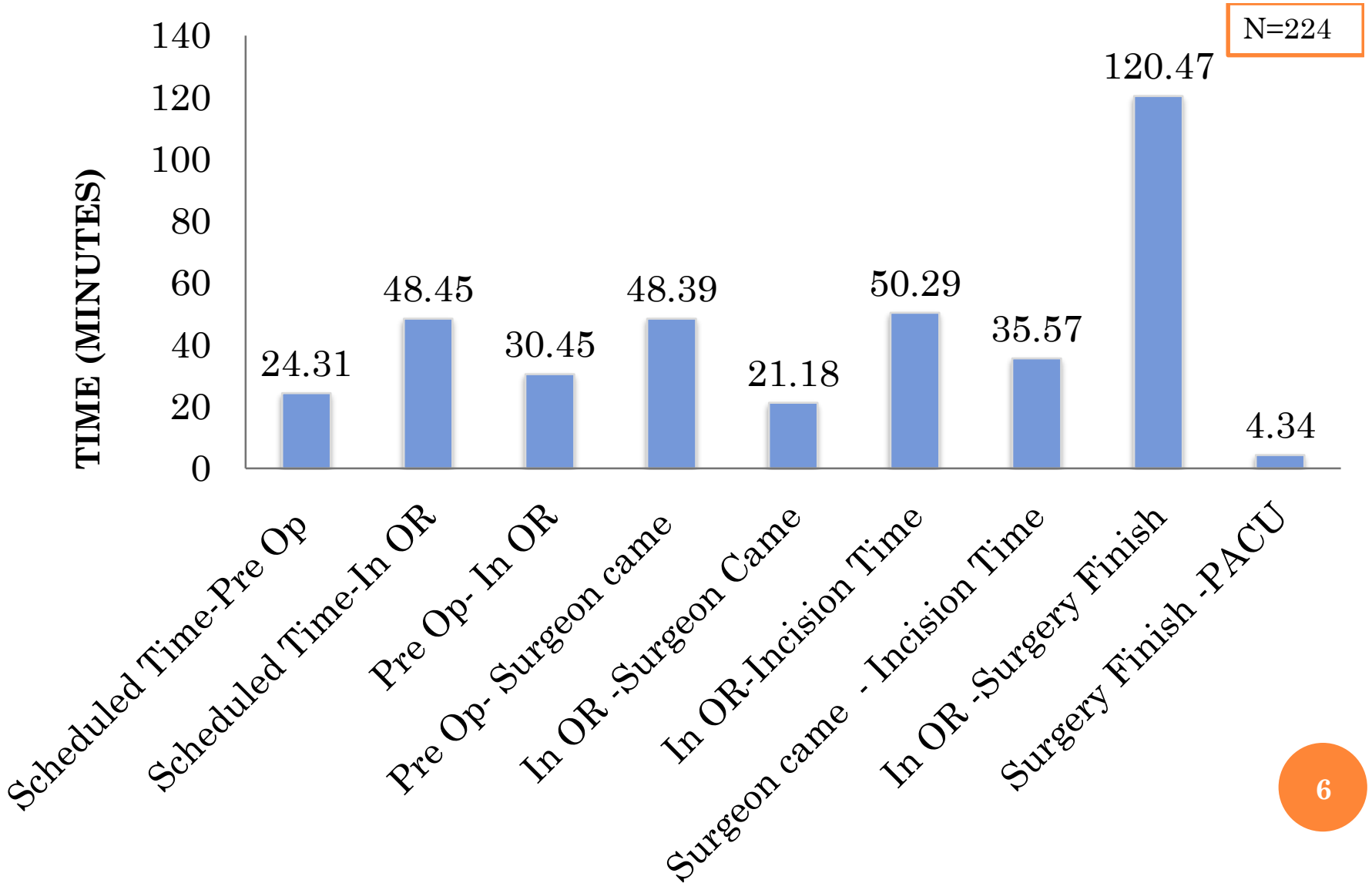
EXCLUSION CRITERIA : Surgeries after 6:30 pm, emergency and on Sundays.

STATISTICAL METHODS : SPSS and MS excel

PROCESS FLOW CHART



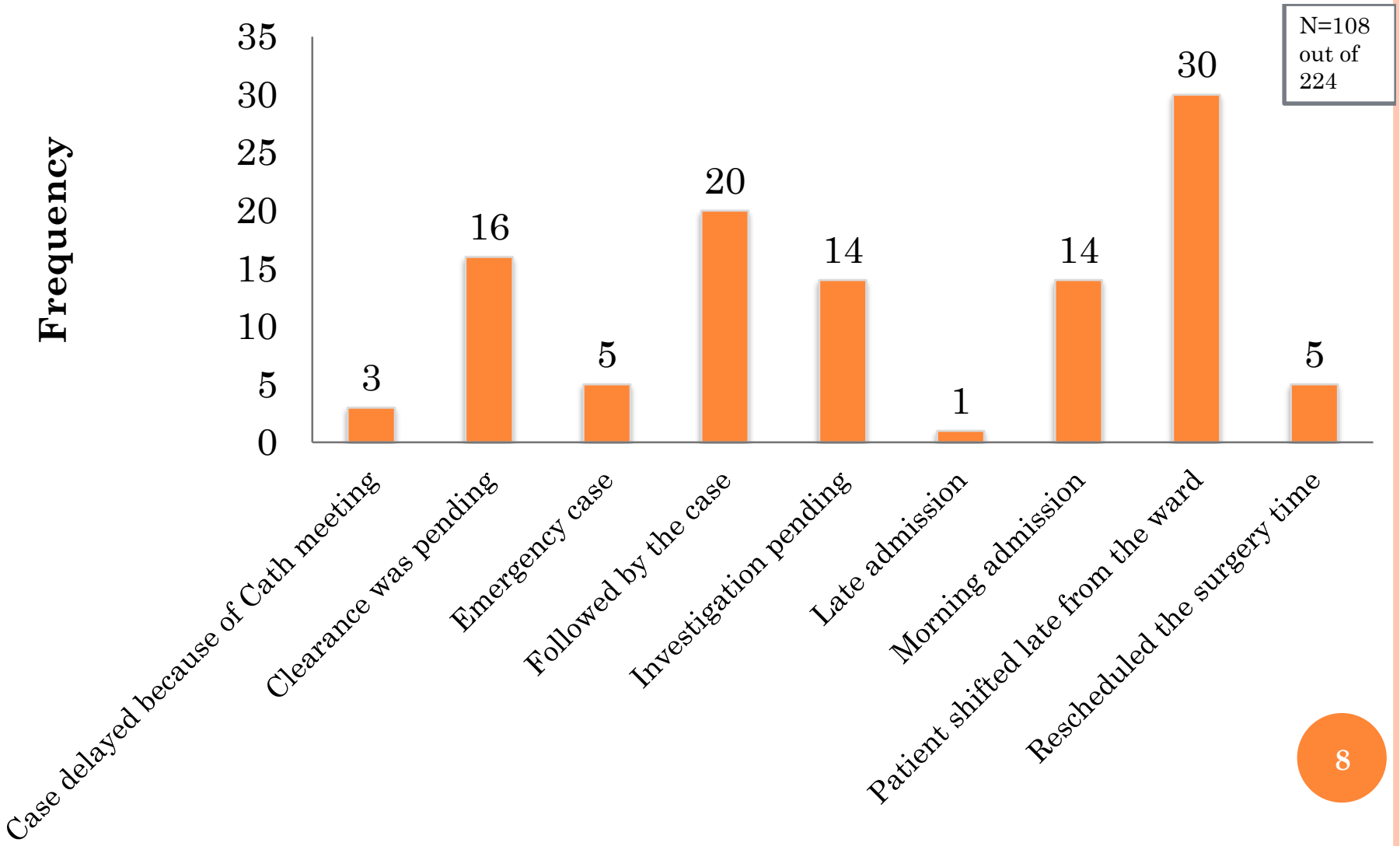
AVERAGE TIME TAKEN IN EACH PROCESS



GAP ANALYSIS

ACTIVITIES	AVG TIME	HOSPITAL BENCHMARK	Delay	RESULTS
Scheduled Time-Pre Op	24.31	0	24.31	Delay
Scheduled Time-In OR	48.45	0	48.45	Delay
Pre Op- In OR	30.45	5 min	25.45	Delay
Pre Op- Surgeon came	48.39	10	38.39	Delay
In OR -Surgeon Came	21.18	0	21.18	Delay
In OR-Incision Time	50.29	20+30	-	No Delay
Surgeon came - Incision Time	38.57	30-40	-	No Delay
In OR -Surgery Finish	120.47	Not fixed	-	No Delay
Surgery Finish - PACU	4.34	5	-	No Delay

REASONS OF SCHEDULED TIME TO PRE-OP AND TO IN OPERATING ROOM DELAYS



Reasons for Delays

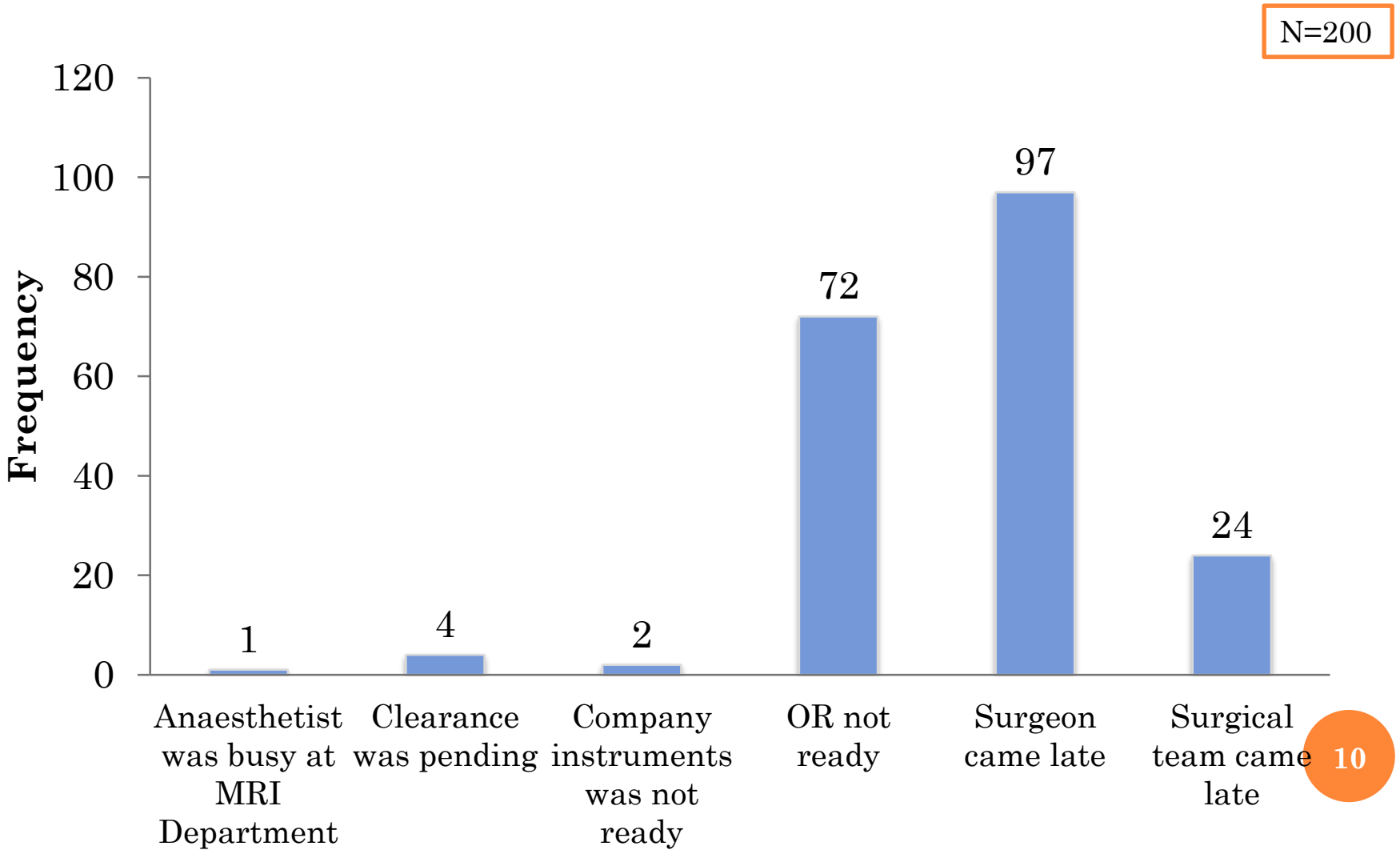
WARD DELAYS

- All consent preparation pending.
- All pre operative preparation's are pending
- Delay due to unavailability lift
- International patient so unavailability of translator for taking consent.
- Patient relatives were not present
- Patient is not willing to all pre operative preparation's.
- Patient taken as per surgeon's order
- Patient wanted to go washroom
- PC was not available to scrub patient
- Pc was not available to transfer patient
- Clearance pending

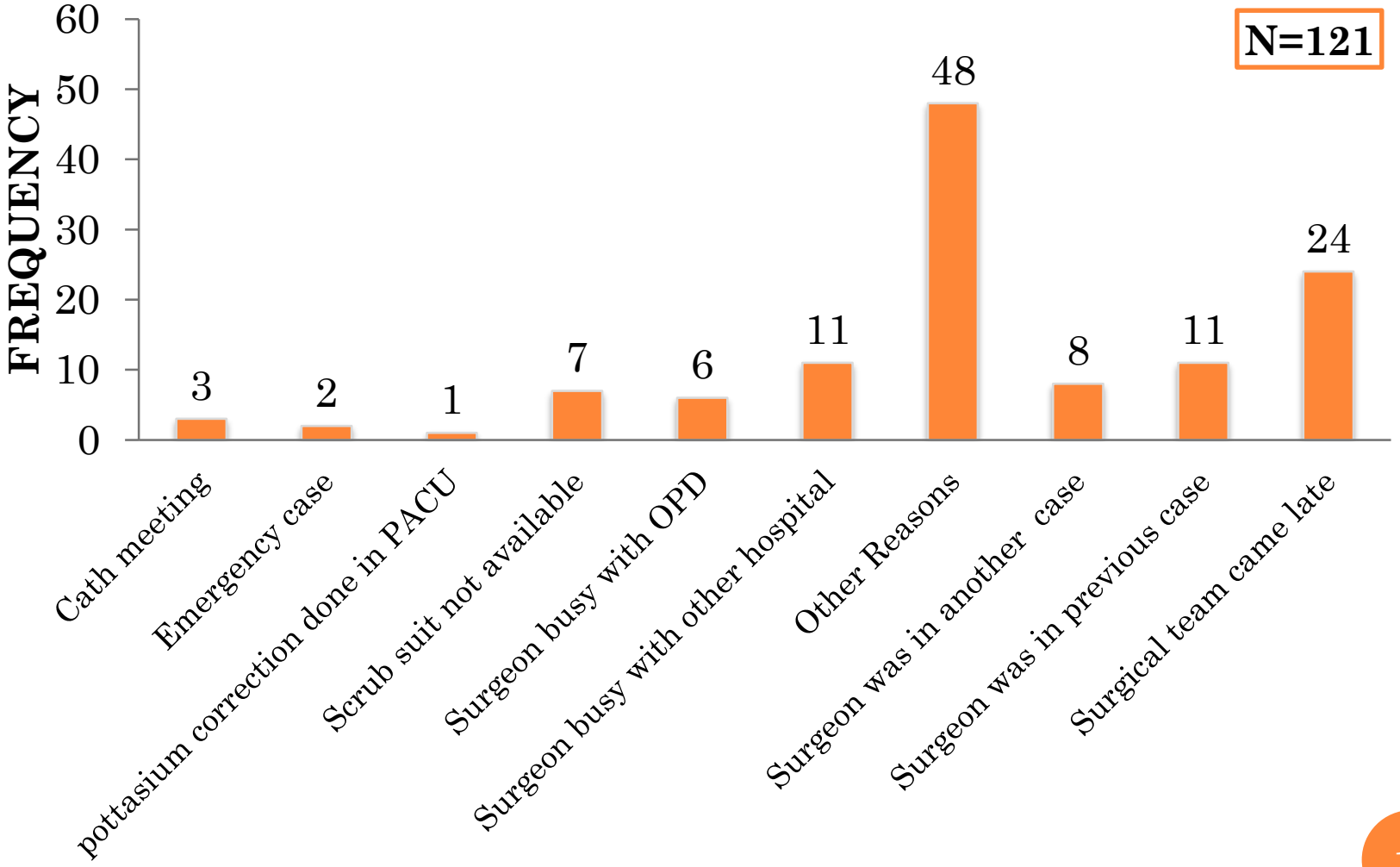
INVESTIGATIONS PENDING

- Physician fitness pending
- Pulmonary fitness pending
- Patient was waiting for Cardiac fitness
- Patient went for 2D ECHO
- PAC Pending
- Neuro consultation pending
- Patient went to MRI Department
- Nephrology consultation was pending
- Cardiac fitness pending

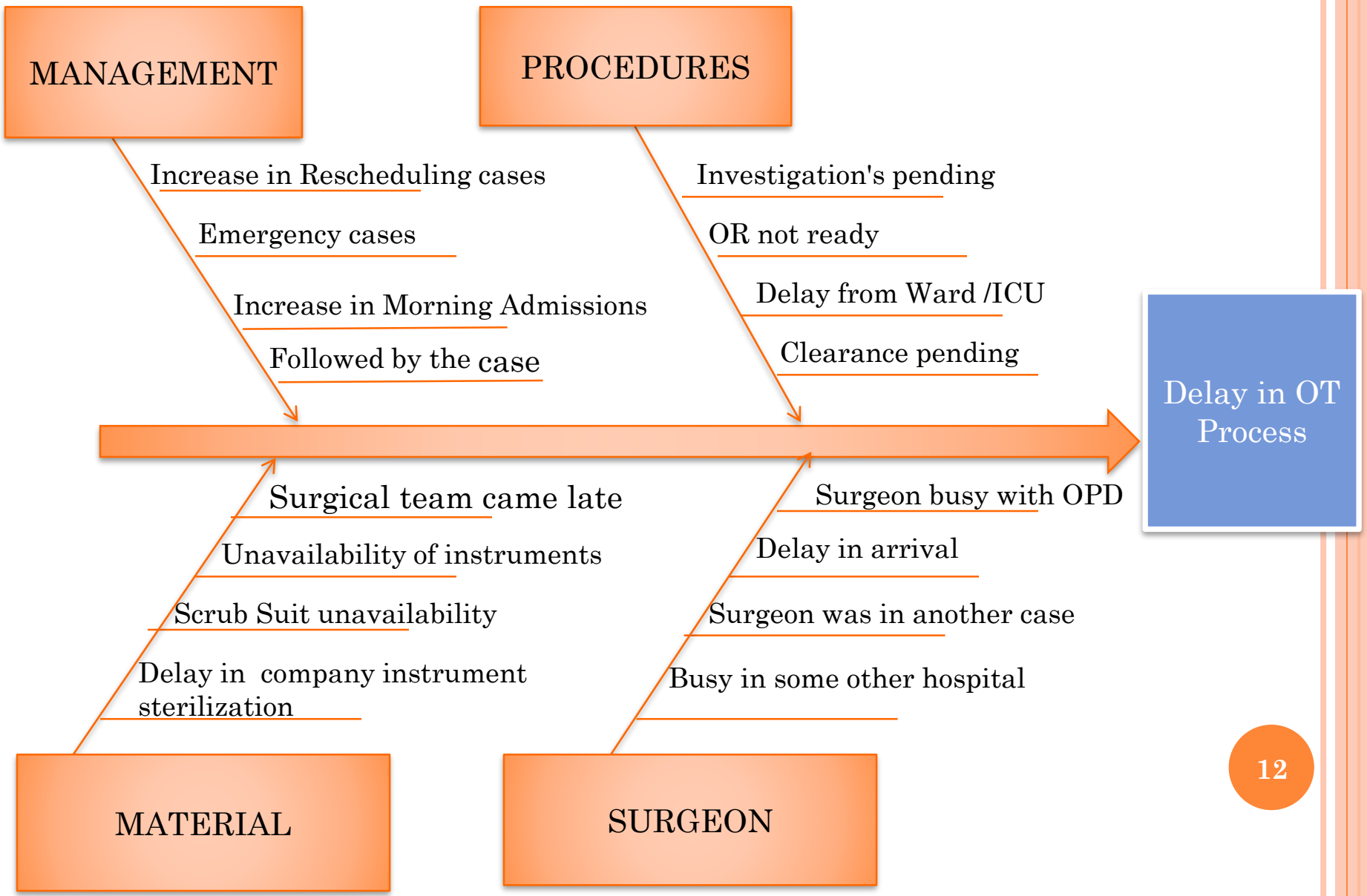
REASONS OF PRE OPERATIVE TO IN OPERATING ROOM DELAY



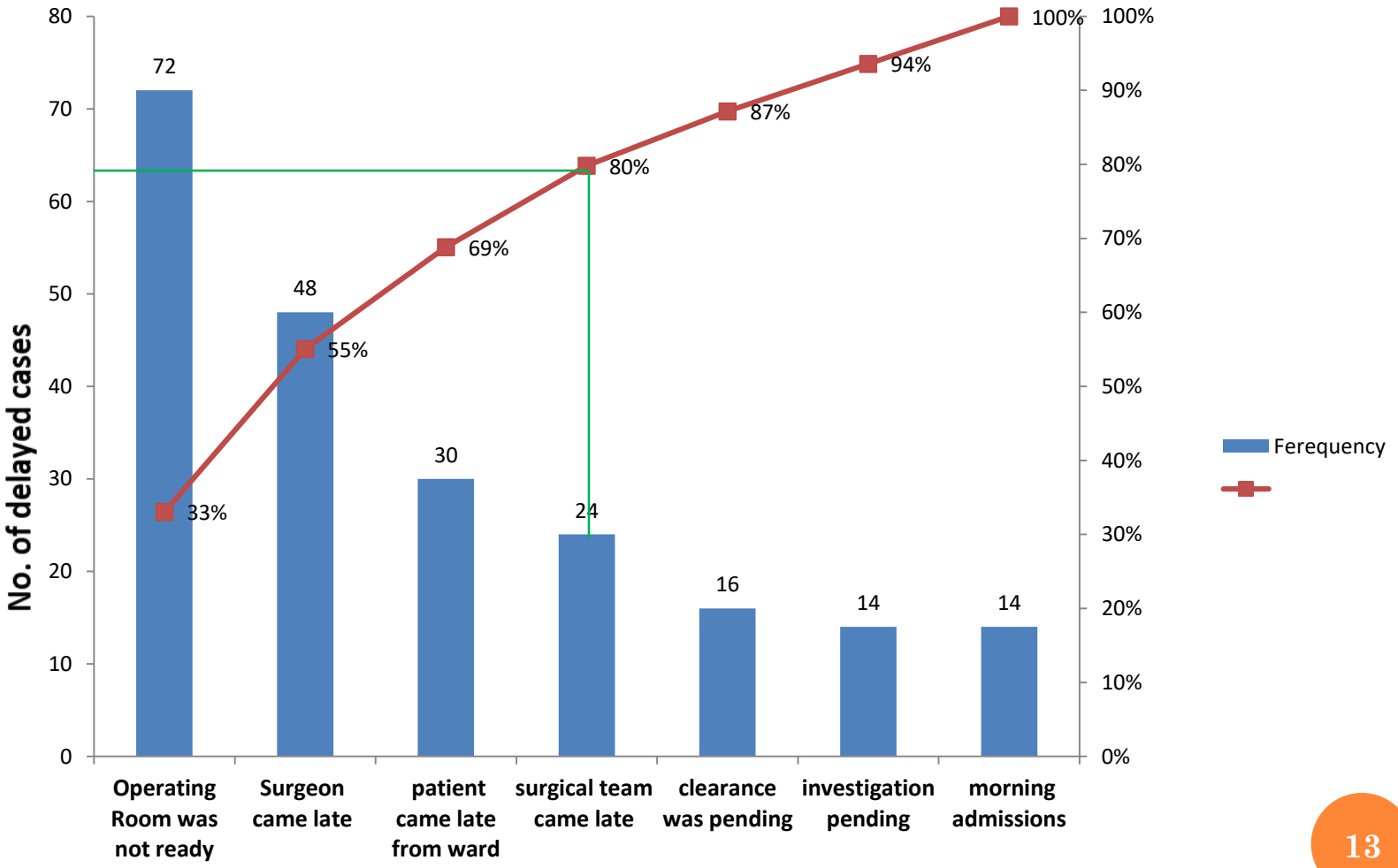
REASONS OF SURGEON TO IN OPERATING ROOM AND SURGEON TO PRE-OP DELAY



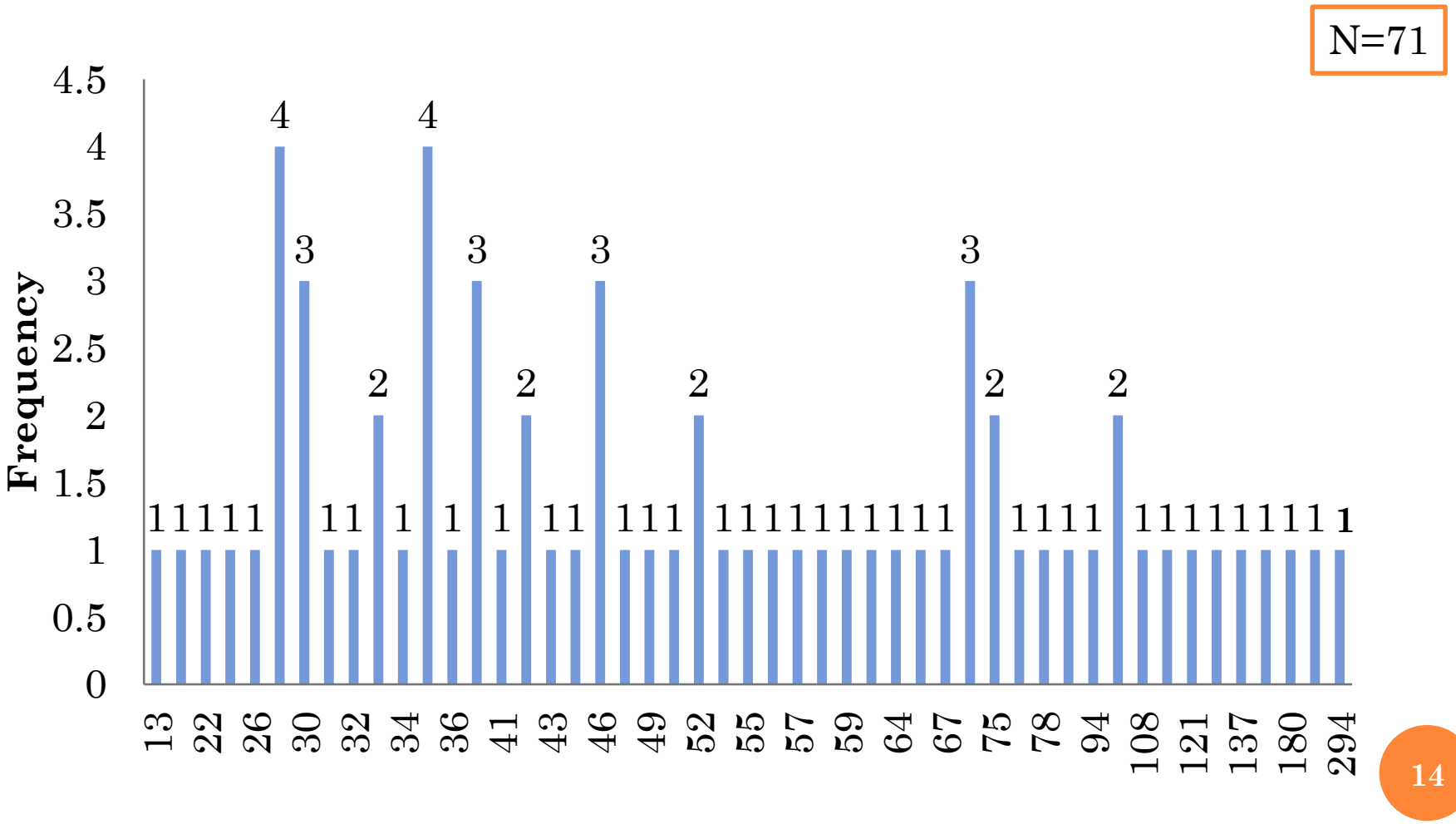
CAUSE-EFFECT DIAGRAM: OPERATION THEATER DELAYS



PARETO ANALYSIS

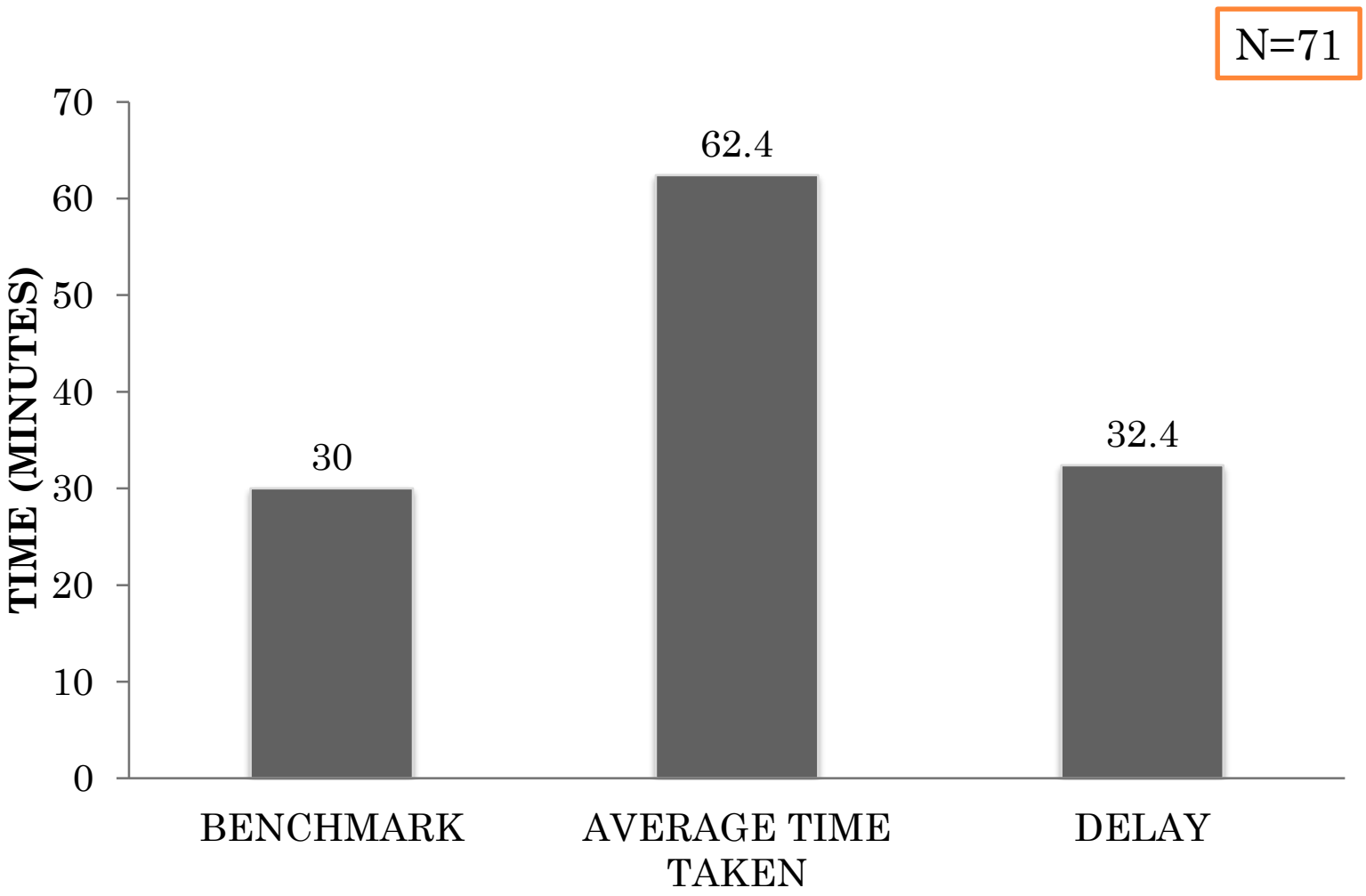


TIME TAKEN TO PREPARE OPERATING ROOM (POST SURGERY)

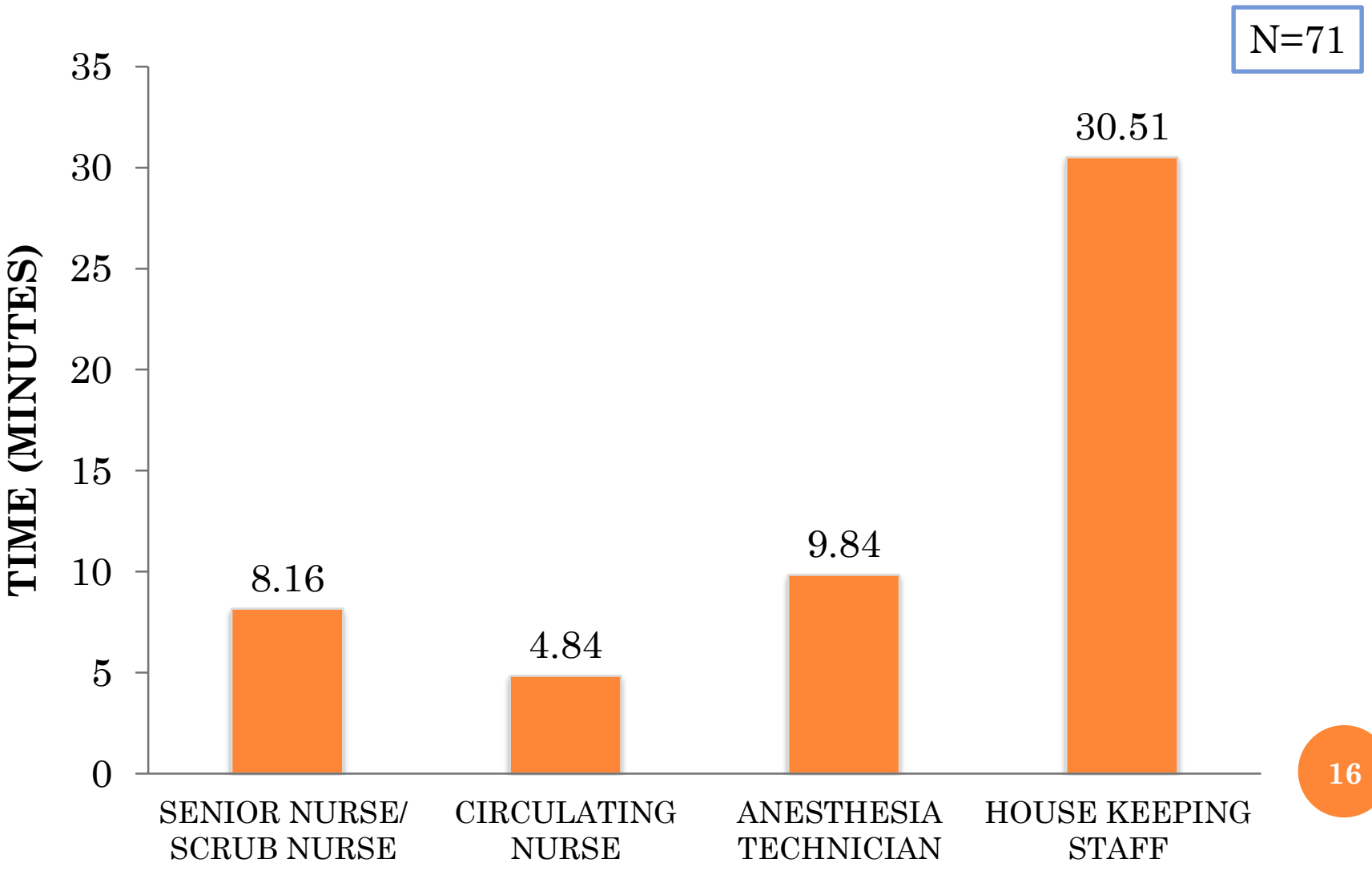


*ONLY 12 CASES ARE UNDER 30 MINUTES OUT OF 71 CASES

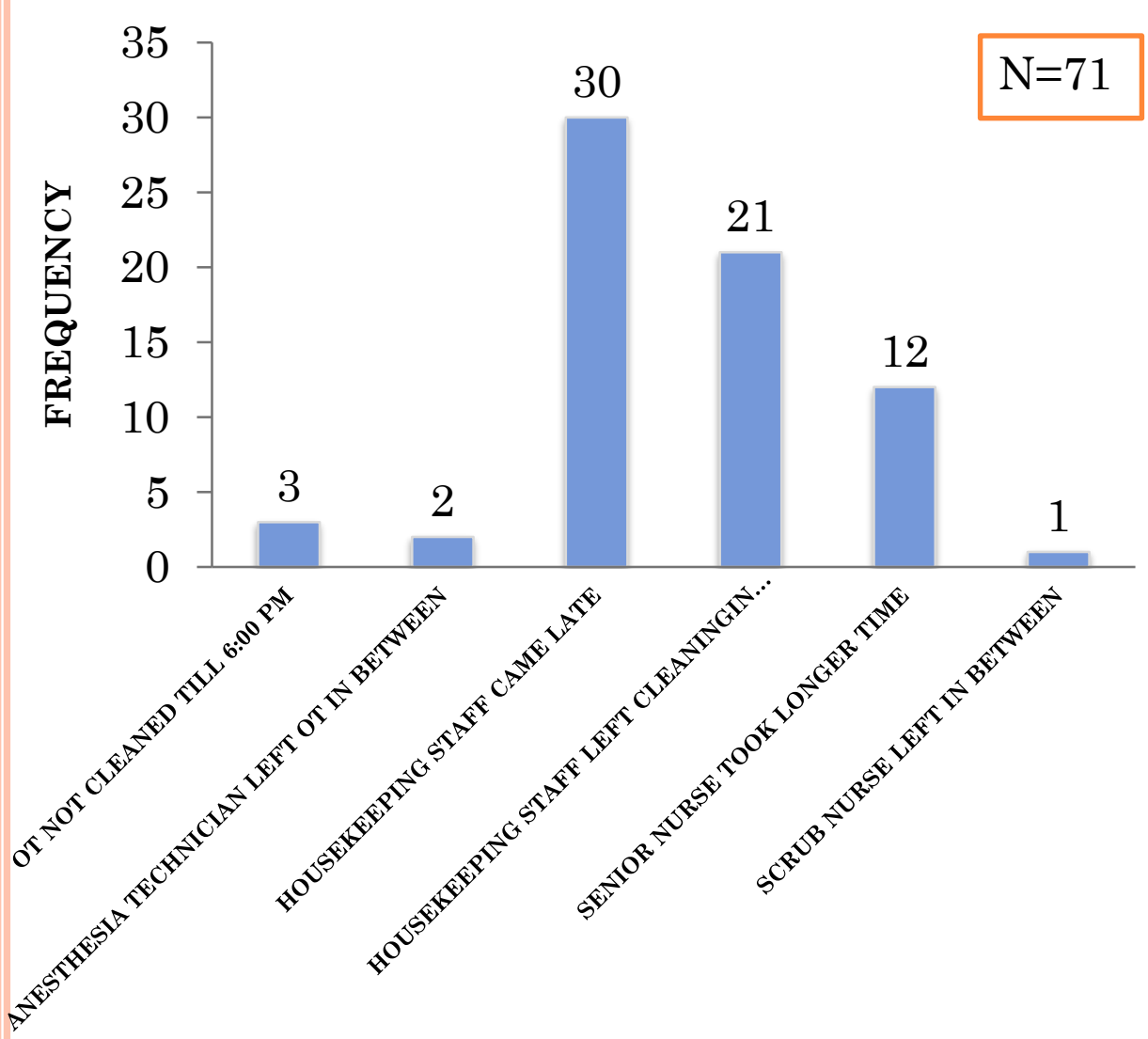
AVERAGE TIME TAKEN WHEN PATIENT IS WHEELED OUT OF OPERATING ROOM TO THE SAME OPERATING ROOM BEING READY FOR NEXT SURGERY.

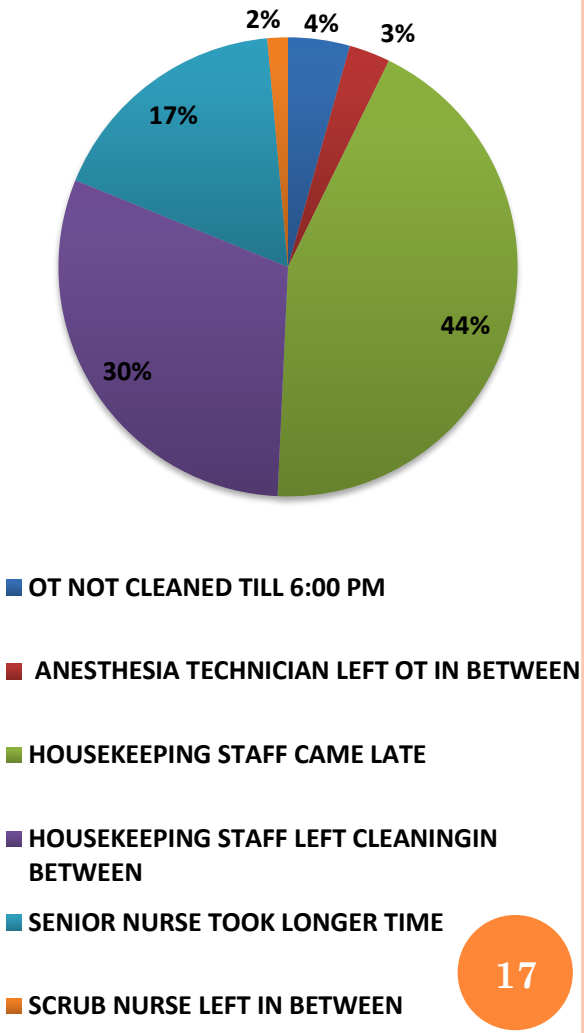


AVERAGE TIME TAKEN IN EACH ACTIVITIES POST SURGERY

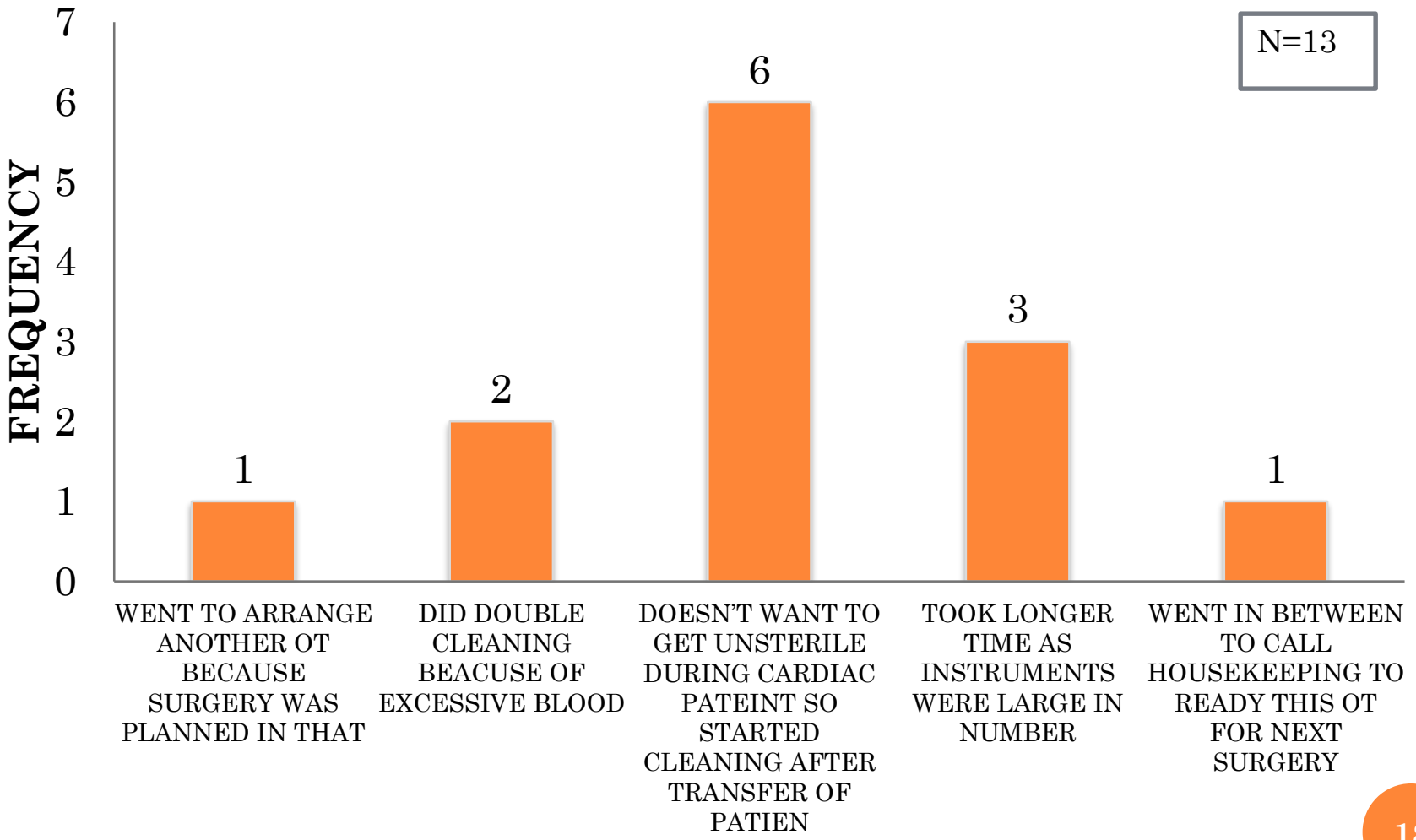


OPERATING ROOM PREPARATION DELAYS

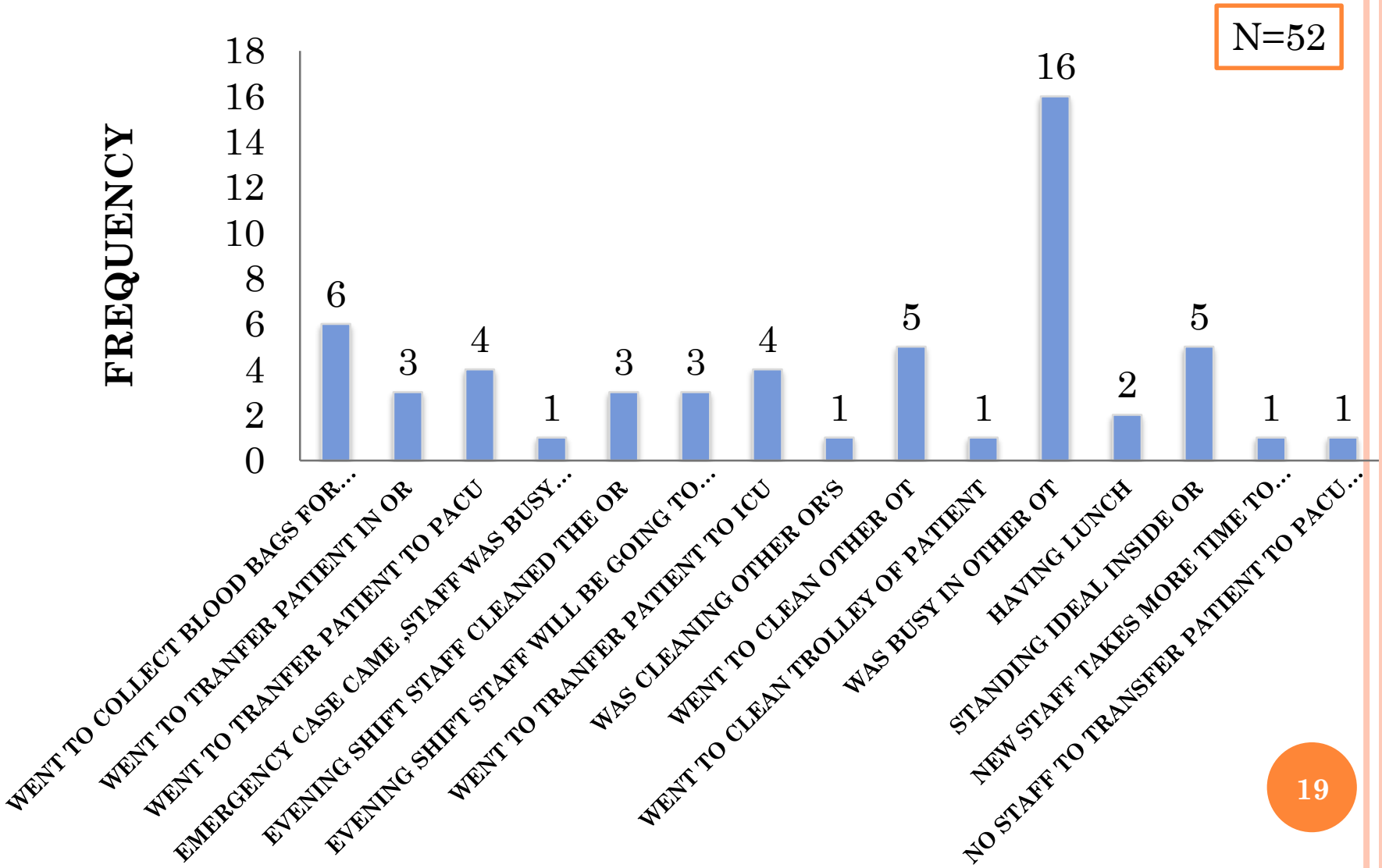




SCRUB NURSE REASONS

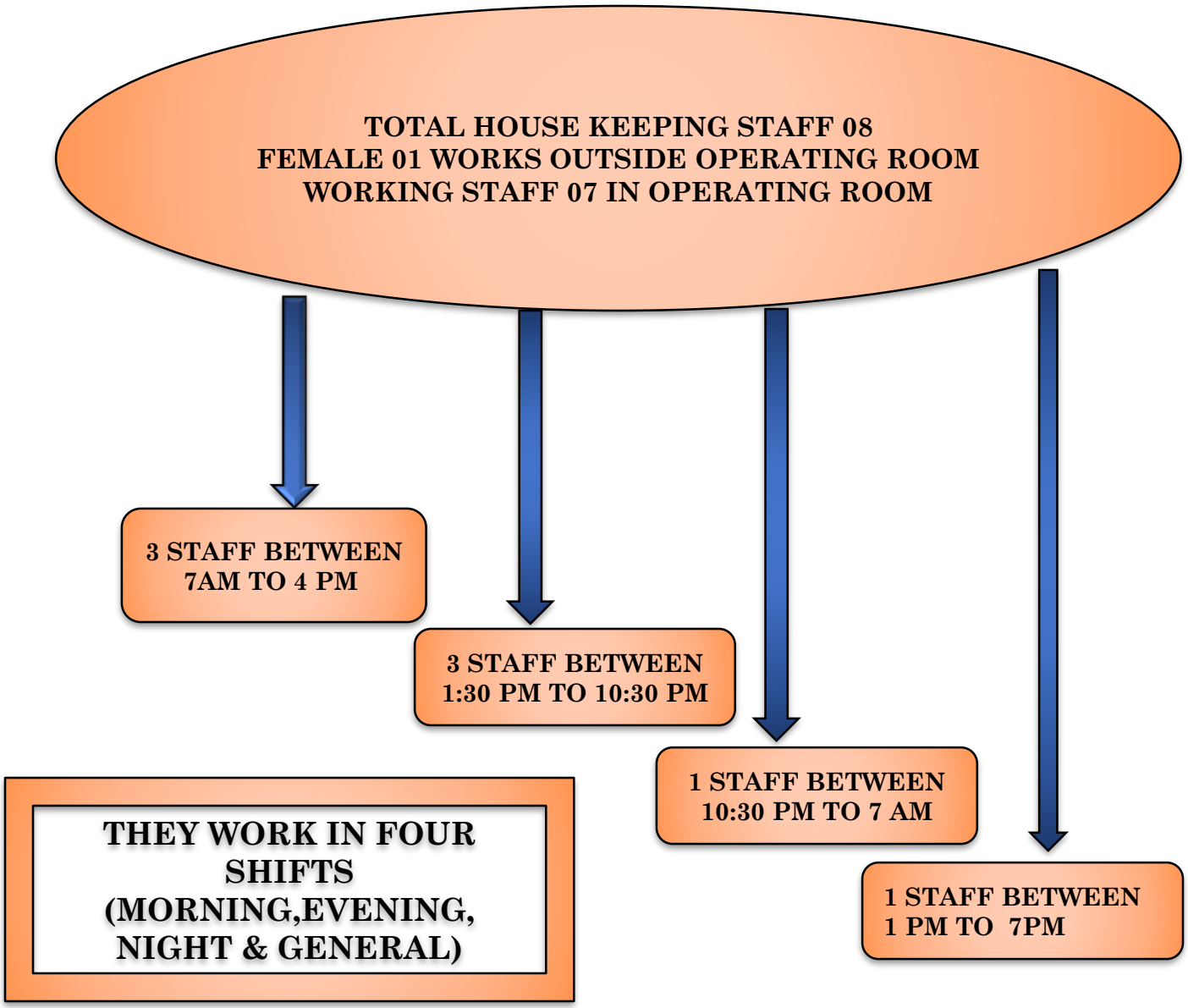


HOUSE KEEPING DELAY REASONS

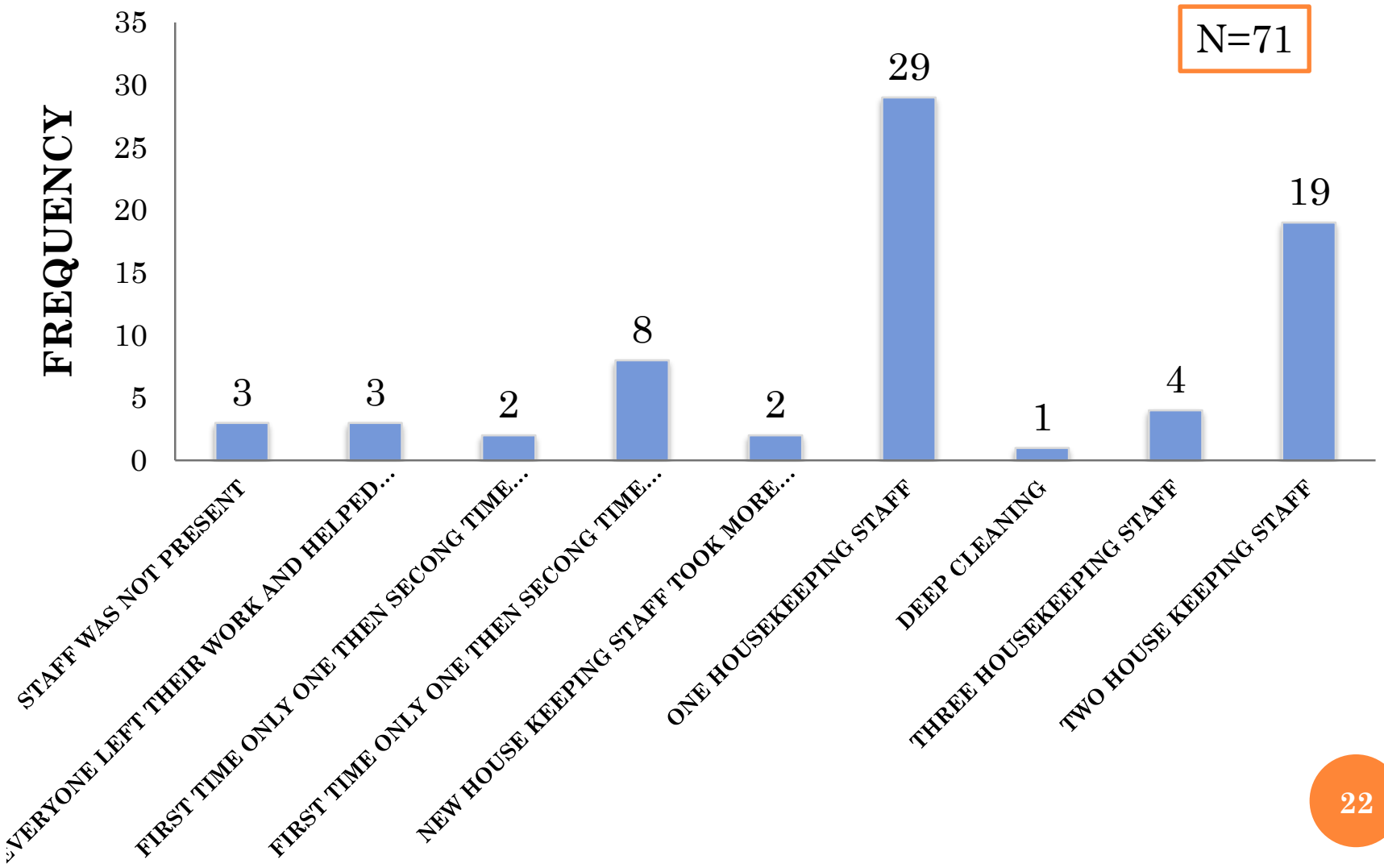


Count	VAR00009							
VAR00010 * VAR00009 Cross tabulation	HOUSE KEEPING STAFF LEFT CLEANING IN BETWEEN TWICE	HOUSEKEEPING STAFF AND ANESTHESIA TECHNICIAN LEFT OT IN BETWEEN	HOUSEKEEPING STAFF CAME LATE	HOUSEKEEPING STAFF CAME ON TIME	HOUSEKEEPING STAFF LEFT CLEANING IN BETWEEN	OT NOT CLEANED TILL 6:00 PM	SCRUB NURSE LEFT IN BETWEEN	Total
TO ARRANGE ANOTHER OR	0	0	0	0	0	0	1	1
HOUSE KEEPING STAFF WENT TO COLLECT BLOOD BAGS FOR PATEINT	0	2	0	0	3	0	0	5
HOUSE KEEPING STAFF WENT TO TRANFER PATIENT IN OR	0	0	0	0	3	0	0	3
HOUSE KEEPING STAFF WENT TO TRANFER PATIENT TO PACU	2	0	0	0	2	0	0	4
EMERGENCY CASE CAME HOUSE KEEPING STAFF WAS BUSY IN PREPARING OTHER OT	0	0	1	0	0	0	0	1
EVENING SHIFT HOUSEKEEPING STAFF CLEANED THE OT	0	0	3	0	0	0	0	3
EVENING SHIFT HOUSEKEEPING STAFF WILL CLEAN THE OT	0	0	0	0	0	3	0	3
HOUSE KEEPING STAFF WENT TO TRANFER PATIENT TO ICU	0	0	0	0	4	0	0	4
HOUSE KEEPING STAFF WAS CLEANING OTHER OR'S	0	0	1	0	0	0	0	1
HOUSE KEEPING STAFF WENT TO CLEAN OTHER OT	0	0	0	0	5	0	0	5
HOUSE KEEPING STAFF WENT TO CLEAN TROLLEY OF PATIENT	0	0	0	0	1	0	0	1
HOUSEKEEPING STAFF WAS BUSY IN OTHER OT	0	0	16	0	0	0	0	16
HOUSEKEEPING STAFF WAS HAVING LUNCH	0	0	2	0	0	0	0	2
HOUSEKEEPING STAFF WAS STANDING IDEAL INSIDE OR	0	0	5	0	0	0	0	5
NEW HOUSE KEEPING STAFF TAKES MORE TIME TO UNDERSTAND	0	0	1	0	0	0	0	1
NO HOUSE KEEPING STAFF TO TRANSFER PATIENT TO PACU , PATIENT WAITED FOR 7 MINUTES IN OT THEN NURSES AND TECHNICIAN BRING TROLLEY	0	0	1	0	0	0	0	1
ON TIME	0	0	0	15	0	0	0	15
Total	2	2	30	15	18	3	1	71

HOUSE KEEPING STAFFING



NUMBER OF HOUSE KEEPING STAFF CLEANING

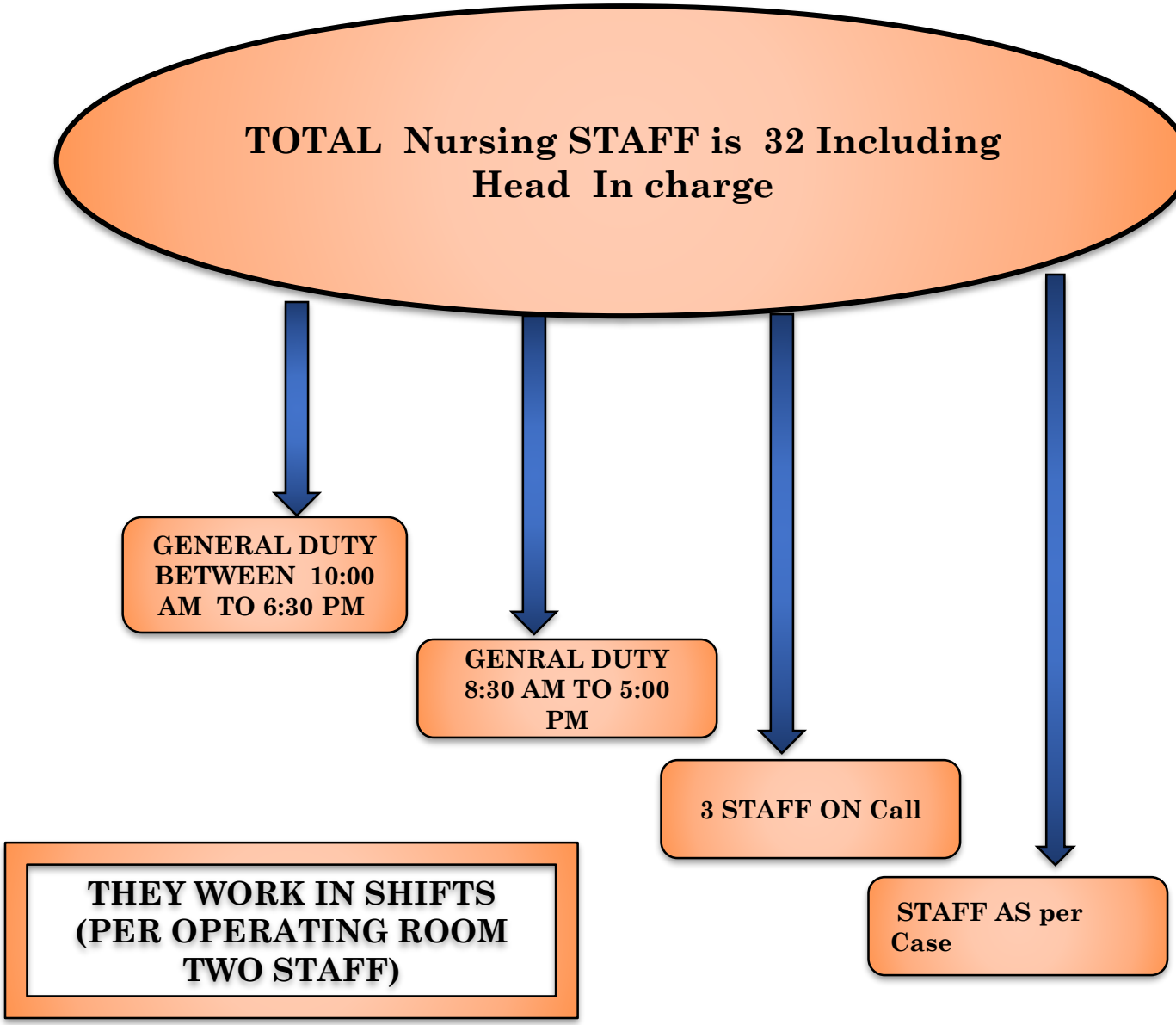


TIME DISTRIBUTION

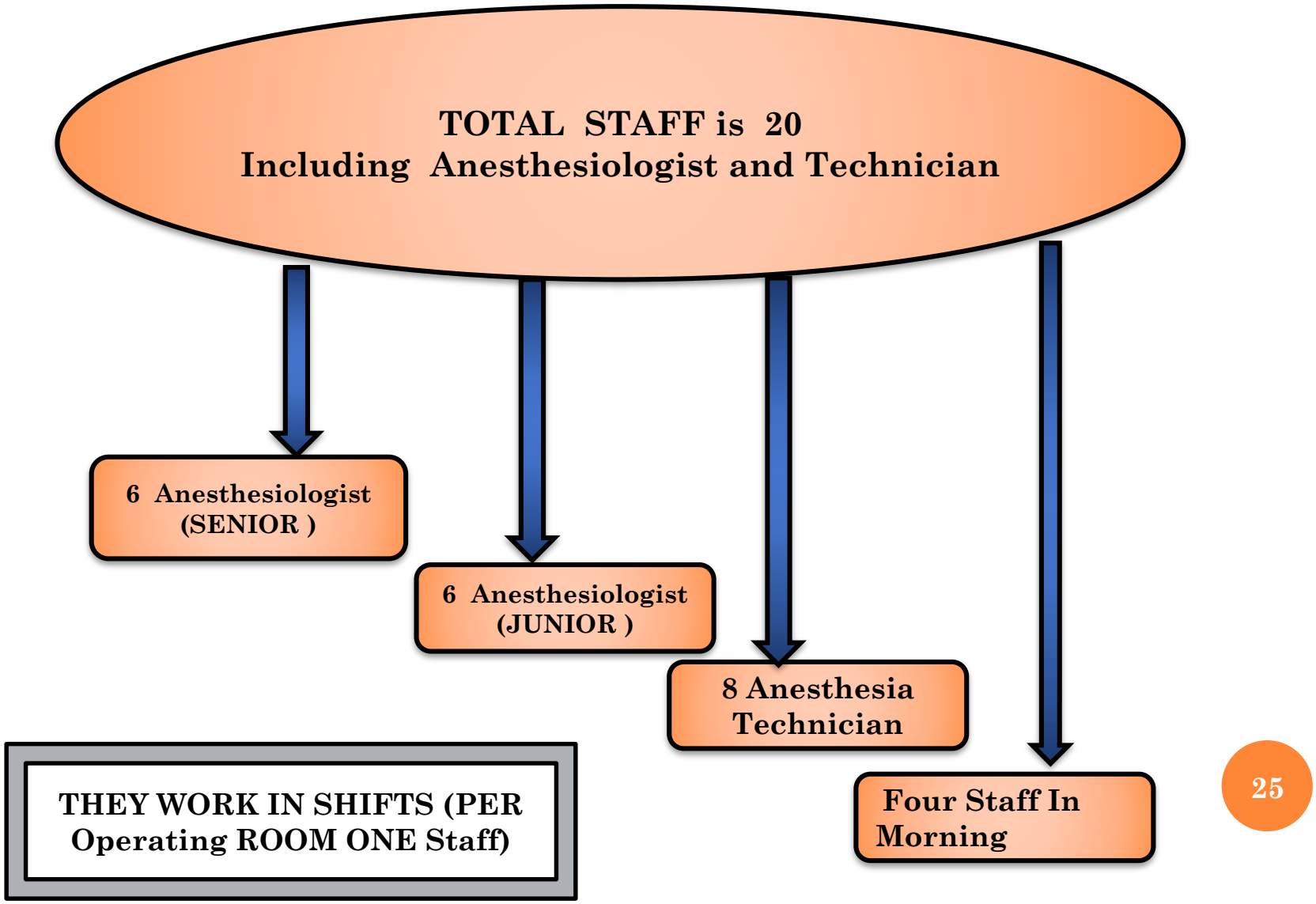
	ONE HOUSEKEEPING STAFF	THREE HOUSEKEEPING STAFF	TWO HOUSE KEEPING STAFF
0	1	0	0
13.00	0	0	0
15.00	0	1	0
16.00	0	1	0
19.00	0	0	0
20.00	0	2	0
22.00	0	0	1
23.00	0	0	2
24.00	0	0	1
25.00	0	0	3
26.00	0	0	1
27.00	0	0	3
28.00	0	0	4
29.00		0	1
30.00	5	0	2
31.00	4	0	1
32.00	3	0	0
33.00	3	0	0
34.00	1	0	0
35.00	3	0	0
36.00	1	0	0
37.00	1	0	0
39.00	2	0	0
41.00	1	0	0
44.00	1	0	0
46.00	2	0	0
56.00	1	0	0
60.00	0	0	0
62.00	0	0	0
77.00	0	0	0
	29	4	19

- Three Housekeeping staff cleans OR with in 20 Minutes
- Two staff cleans within 22 to 30 minutes
- One staff takes more than 30 minutes to clean

NURSES STAFFING



ANESTHESIOLOGIST AND TECHNICIAN STAFFING



SUGGESTIONS

- Proper communication among surgeons, anesthesiologist , nurses and ward RMO's at night before the surgery is planned regarding consents and clearances , this will help in reducing morning delays

- Keeping a dedicated Theater for emergency cases this can avoid rescheduling of cases due to the last moment entry of emergency cases.

- Scheduling of OT cases in morning can be late by an hour as in the morning surgeons have to visit in wards to see their operated patients. So it will decrease the number of surgeon related delays and patients on both sides will not suffer.

- Displaying Dash Boards: Early communication to the OT Staff when any surgery is about to be finish, so that all involved staff are ready to do their part

- House keeping Staff can keep new color coded BMW bags outside the Operating rooms early then bringing them after patient is wheeled out of OR , this will save there time.

- Using a More Efficient Cleaning Agent that has a faster dry time and is more effective.

- Increase in the housekeeping staff as the result shows one house keeping staff takes more than 30 minutes to clean one operating room and moreover they are involved in other necessary activities too except for cleaning the OR.

- Surgeons, Anesthetist, OR staff and hospital administration should form a team and clearly identify roles which will determine which activities may be safely carried out simultaneously without compromising the safety of both patients and staff .


thank
you