Coordination Difficulties in the Management of Operation Theatre in Children Hospital Lahore.

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Abstract:
An operation theatre is any facility within a hospital domain where the surgical procedures are carried out in a strict sterile cosmos. Management of the operation theatre requires the coordination of humane and material resources in such a way that surgery can be performed safely, efficiently and cost effectively.

Objective:
To identify the difficulties in coordination of operating room management and find out their solutions for better patient outcomes.

Methods:
This descriptive study was conducted in Main Operation Theatre of Children Hospital and Institute of Child Health Lahore. Data was collected by using Convenient Sampling Technique. This was a hospital-based study in which staff members of both genders were included. The study population divided into four strata; doctors (surgeons and anesthetists), nurses, operation theatre technicians and anesthesia technicians. A total of 51 cases were observed and checked by a checklist about coordination difficulties in the management of operation theatre.

Results:
A total of 51 cases were studied to determine the difficulties in management of operation theatre. 25.22% cases showed difficulty in proper management of Operation Theater. This result showed that there are still some difficulties like insufficient and old equipments, absence of proper sterilization, lack of proper leadership, work overload, no quality check of equipments, no teaching program, and unpunctuality of staff, improper timing and organization in the operation theater.

Conclusion:
There are many difficulties in management of operation theatre regarding staff members, equipments, timings and sterilization. A proper leadership and organization can sort out these problems.

Keywords: operating room, coordination, patient safety.

Introduction:
An operation theatre is any facility within a hospital domain where the surgical procedures are carried out in a strict sterile cosmos.¹ Management of the operation theatre requires the coordination of humane and material resources in such a way that surgery can be performed safely, efficiently and cost effectively.²

The effective management of operation theatre depends on whole staff of operation theatre including: Surgeons, Anesthetists, Theatre nurses, Operation theatre technologist, Technicians, Sweepers. Effective leadership confers significantly to safer patient care. Surgical team wants a leader who understands clinical and personal needs of patients and will manage the team to fulfill those needs. Both technical and non-technical skills are demanded for better patient safety. Bad leadership causes conflict between team goals and personal goals. It affects environment of operation theatre...
Communication is a process by which information is transferred and shared. The Association of Operating Room Nurses (AORN) enlists coordination of care for surgical patients as the first item in their outline of the responsibilities of perioperative nursing practice. AORN specifically mentions communication skills as prime component in coordination process. Sonneberg advises operation room nurses to communicate for a successful Coordination. Cooperation and good interaction among surgical team members leads to better environment of operation theatre. Poor coordination causes conflict in team. Conflict occurs when one team member assigns a task to someone else who does not have knowledge or time to complete the task. Poor coordination of operation theatre staff leads to compromise the patient safety. Some major problems regarding operation theatre management are: Lack of proper leadership, Limited resources, Insufficient and old equipments, Shortage of staff, Inexperienced staff, Unpunctuality of staff, Poor coordination of operation theatre staff, Excess of workload, Timing problems, Improper organization, Fault of technique, Absence of infection control committee, Inappropriate monitoring of operation theatre, Inattention of staff, Non implementation of wearing complete surgical attire, No periodic check of equipment for their quality, Improper ventilation, Unavailability of proper anesthesia gases, Improper sterilization, Delay in sampling and fumigation, No continuous medical education activities for operation theatre staff. The objective of this study is to identify the difficulties in coordination of operating room management and find out their solutions for better patient outcomes.

Methods:
This Observational study was conducted in the Operation theatres of Children Hospital Lahore for six months from March 2019 to October 2019. An Operation list of pediatrics general surgery units were included in our study. The exclusion criteria comprised of ENT, Cardiac, Neurosurgery, Orthopedic and Gynecological operation theaters. A total of 51 cases from the pediatrics general surgery operation theatres were involved. Data was collected by administering checklist from medical and paramedical personnel of Children Hospital, Institute of Child Health Lahore. Proper approval of the study was taken from IRB committee of the hospital. This research was analyzed by using software SPSS version 24. Data was described in terms of frequencies and percentages.

Results:
Figure 1 shows that 90.2% Nurses shared patient specific requirements with anesthetists and surgeons, 100% Nurse communicated problems and difficulties with setups, provisions and staffing to team, 100% Nurse confirmed swabs, needles and instruments count, 80.4% Nurse cooperates with any last-minute request from a surgical group.

Figure 1: Percentage of nurses' coordination in operation theatre management

<table>
<thead>
<tr>
<th>Percentage of nurses' coordination in operation theatre management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse confirms patient specific requirements with anesthetist and surgeon</td>
</tr>
<tr>
<td>90.2%</td>
</tr>
<tr>
<td>9.8%</td>
</tr>
</tbody>
</table>
27.5% Surgical group remained active to help with safe patient transfer to trolley.

**Percentage of surgeon coordination in operation theatre management**

![Percentage of surgeon coordination in operation theatre management](image)

**Figure 2: Percentage of surgeon coordination in operation theatre management**

Table 1 shows that 86.3% Anesthetist confirms surgeons either the patient positioning is OK or NOT, 96.1% Anesthetist informs patient's condition and drugs administered to the patient to recovery nurse., 100% Anesthetic group respond to surgeons requests immediately, 100% Operating room practitioners and anesthetists remains in room when patient enters.

Table 1: Descriptive statistics of flaw variables

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthetist confirms surgeons either the patient positioning is OK or NOT</td>
<td>86.3%</td>
<td>13.7%</td>
</tr>
<tr>
<td>Anesthetist informs patient's condition and drugs administered to the patient to recovery nurse.</td>
<td>96.1%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Anesthetic group respond to surgeons' requests immediately.</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Operating room practitioners and anesthetists remains in room when patient enters.</td>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 2: Descriptive statistics of flaw variables

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>The operating department practitioners provides assistance to anesthetic groups while giving anesthesia reversals.</td>
<td>86.3%</td>
<td>13.7%</td>
</tr>
<tr>
<td>Operation department practitioners helps in equipment handling and preparing drugs for anesthesia so that it works remains smooth and mannered,</td>
<td>84.3%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Operating room practitioners remains available to help anesthetic assistants to transfer patients to trolley.</td>
<td>78.4%</td>
<td>21.6%</td>
</tr>
<tr>
<td>Surgical assistants staff remain active to provide support while transferring patient to trolley.</td>
<td>19.6%</td>
<td>80.4%</td>
</tr>
</tbody>
</table>

**Discussion:**

Operation theatre plays a vital role in medical health sciences, as the world is progressing in complex medical sciences, the importance of Operation theatre cannot be exempted. Currently, almost every surgical position performs in the settings of operation theatre. Coordination difficulties has always been so challenging in the cosmos of operation theatre as every working that is being performed in operation theatre needs proper attention. Operation theatre is a complex system in a hospital where invasive and non-invasive procedures are performed under sterile techniques. There are lots of problems in operation theatre regarding management, organization, instrument, staff time management and sterilization. These problems affect patients badly. Patient safety compromised because of these problems. If we find solution of these problems, we would be helpful to enhance patient safety and better patient prognosis.

A study conducted on communication failures in the OR room: an observational classification of recurrent types and effects. The purpose of this study was to identify the feature of communication failure in the setting of operating...
room and to sort out their effects. The duration of study was 90 hours of observations for 48 surgical procedures from general surgery and vascular surgery. There were 94 team members from surgery, anesthesia and nursing. The ethnographic field note method and checklist system were used to collect data. The observers noted 421 communication events, out of which 129 were due to communication failure. They concluded that poor communication in operating room deduce from lack of standard and team unity. In our study communication failure was also found in 14 (27.45%) cases out of 51 were due to communication failure and poor coordination among the staff members which reduce the outcome.

A previous study was conducted on "Structured team communication in a simulated operation". The efficient communication among operation theatre staff is a necessary element that participate to patient outcomes. The aim of Structured communication practices is to increase the patient safety in operating room. They used structured communication tool for data collection. There were 120 participants. The ethnographic approach was used for data analysis. Effective communication is essential for patient safety and welfare. The application of structured communication tool is helpful for the exchange of mind ideas. In our study 51 cases were studied 69.45% cases the effective communication plays a major role in coordination of operation theatre staff and provide better patient outcome.

A study was conducted on enhancing the safety in Operation theatre's domain, the aim of the study was to identify the perspective of experienced nurses to improve the quality and safety of patient who undergoes a surgery. In this phenomenological study 14 individuals were interviewed, that included thirteen women and one man, the results showed that managing the risk is the key to patient's safety in the domain of operation theatre. So, it's very essential to identify the risk factors, that somewhat cause hinderance.

Another study was conducted on Reducing Preoperative Waiting-time in a Pediatric Eye Operation Theater by Optimizing Process Flow: A Pilot Quality Improvement Project. The objective of the study was to reduce the preoperative waiting time in pediatrics eye operation theatre. The average time was approximately around 221 and 390 minutes respectively. Right after two rapid plans do study act cycle, this digit has reduced to 87% with 29 and 52 minutes from baseline. It was an achievement. In our study we found the difficulties that basically caused a problem in the coordination of operation theatre.

**Conclusion:**

The conclusion of this study is that there are a lot of problems in management of operation theatre including limited resources, infection in OT, timing issues, organizational failure and absence of teaching programs in OT. These problems reduce patient outcomes.

**References:**


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