



THE VIEWS OF PERIOPERATIVE NURSES REGARDING EFFICIENT OPERATING THEATRE ROOM PREPARATION IN A SELECTED PRIVATE HOSPITAL

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INTRODUCTION

Operating room efficiency continues to be a high priority for hospitals throughout the world. Operating theatres are valuable and costly, and require adequate human resources and appropriate design. Such theatres are expected to be well equipped for efficient, quality and safe patient care. Operating room preparation is an important factor that contributes to efficiency. Perioperative nurses must be able to ensure that equipment, supplies and instruments are readily available. The research stemmed from doctor complaints regarding preparation inefficiencies in operating rooms, which they referred to as 'Stones in the Shoes'. The concern was that this practice might lead to delays and inefficiency in utilising theatre time. After several meetings with the doctors and hospital general manager, the author saw fit to research the subject of preparing the operating room.

AIM OF THE STUDY

The study aimed to explore and describe the views of perioperative nurses regarding preparation of theatres.

RESEARCH DESIGN AND METHODS

The researcher employed a qualitative, explorative, and descriptive design for this study. Individual semi-structured interviews were conducted. Rich data was gathered and thematic data analysis was used to analyse the data.

KEYWORDS

Efficiency; Operating theatre room; Perioperative nurses; Private hospital; Theatre environment; Theatre preparations; Time

RESULTS

The findings involve four themes and additional subthemes, which are regarded as the views of perioperative nurses in the selected private hospital regarding efficient operating theatre room preparation.

SUMMARY OF THE PARTICIPANTS' DEMOGRAPHIC INFORMATION

Parti- ciple number	Gender	Age	Position	Qualifi- cation	Years in service
1	Female	39	Scrub nurse	Professional nurse (additional qualification in OR)	7
2	Female	48	Scrub nurse	Professional nurse (additional qualification in OR)	15
3	Male	37	Anaesthetic nurse	Enrolled nurse	8
4	Male	33	Scrub nurse	Professional nurse (additional qualification in OR)	10
5	Female	57	Anaesthetic nurse/ circulating nurse	Enrolled nurse	20
6	Female	30	Anaesthetic nurse	Enrolled nurse	8
7	Female	38	Scrub nurse	Professional nurse	6
8	Female	30	Scrub nurse	Professional nurse	5
9	Female	28	Scrub nurse	Professional nurse	4
10	Female	30	Circulating nurse	Enrolled nursing assistant	2
11	Male	33	Anaesthetic nurse	Enrolled nursing assistant	10
12	Male	35	Scrub nurse	Professional nurse (additional qualification in OR)	6

THEMES

THEMES	SUBTHEMES
Patient aspects	Preventing additional costs for patients Patient experience
Environmental aspects	Prevention of medical legal risks Infection control Equipment positioning and preparation Scheduling of cases Preparation time
Adhering to guidelines	Doctors' protocols
Human resource management	Sufficient staff Feeling overwhelmed

PREVENTING ADDITIONAL COSTS FOR PATIENTS

Reducing a patient's stay in theatre is paramount (Participant 5). Patients who remain in theatre for a long time will pay more as their time in theatre is lengthened (Participant 5). Preparation serves to minimise the cost to the patient due to reduced time in theatre (Participant 8). The issue of costs emerged because various surgical procedures are assigned a time limit by medical aid companies regarding what they will pay for a procedure (Samuel and Reed, 2021). A systematic review of interventions to reduce operating-time surgery reported that operating room inefficiency remains a common obstacle (Hoefsmit, Cerfolio, De Fries, Daele and Zandbergen, 2021).

PATIENT EXPERIENCE

The patient experience is the overall experience of patients from admission to discharge. It determines how patients will rate the hospital and whether they will return or refer the hospital to other patients (Participant 9). Good preparation reduces patient stress. If everything is functioning as intended, it is easier for patients to develop trust in the team that will be operating on them (Participant 2). A study of patients who had undergone surgical intervention by Gobbo, Saldaña, Rodríguez, Jiménez, García-Vega, De Pedro et al. (2020) demonstrated that all the patients experienced fear related to the operating room environment itself. The patient might feel increasingly safer if all members of the surgical team are present before induction as it affords the patient the support and attention of all the team members.

Jones, O'Neill, McLean, Wigmore and Harrison (2017) noted that the outcome of a patient's experience should be confidence and trust in their clinical team.

PREVENTION OF MEDICAL LEGAL RISKS AND CARE FOR PATIENT WELLBEING

[When] preventing medical legal risks, we have to look at the safety of the patient (Participant 2). Theatre preparation is very important before commencement of surgery. Not only does it determine the quality of the service you are about to render to the patient but also, most importantly, the safety. This is what we are most concerned about (Participant 4). An operating room that has not been fully prepared for surgery can produce unnecessary risks for patients. Sterility should be maintained, prolonged operating time limited and movement reduced (Participant 10). There appeared to be a general understanding that preparing an operating room prior to commencement of surgery helps prevent risks. Other studies have demonstrated that an increased number of patients are injured or disabled during healthcare (Donaldson, Kelley, Dhingra-Kumar, Kieny and Sheikh, 2017).

INFECTION CONTROL

Movement in and out of the theatre disrupts the airflow. This can negatively impact the patient as the risk of infection increases (Participant 9). Preparation will ensure that there is no movement in and out of the surgery, which will also reduce the likelihood of patient infection (Participant 8). Ideally, when performing an operation, movement in and out of the theatre should not be occurring as organisms are brought into the theatre from the outside (Participant 8). There is evidence demonstrating that an effective ventilation system can significantly reduce the incidences of surgical site infections (Pati and Rathore, 2022). Various studies have documented that increased personnel and frequency of opening the door can lead to an increase in the level of bacteria and airborne particles (Dallolio et al., 2018; Phillips, 2016; Mukamurenzi, 2019).

EQUIPMENT PREPARATION AND POSITIONING

One should not have to search for whatever is required for the operation (Participant 7). All machinery required during the operation should be in the theatre and must be accessible and functional (Participant 7). There have been instances where equipment that was required in one theatre was being used in another (Participant 10). Efficient preparation of the theatre requires the availability of equipment for each surgical intervention to avoid delays. Appropriate equipment in the operating theatre enhances safety during surgery and increases the quality of treatment (Michalak and Kotomska, 2021). In a study by Björn et al. (2017), the authors described delays and increased surgery time that had resulted from registered and assistant nurses having to spend time attempting to locate the right equipment and moving medical equipment during surgery. Cordier (2019) emphasised that patients put their trust in the surgeons and other members of the surgical team with an expectation that the team will do their best in rendering services.

SCHEDULING OF THEATRE CASES

When booking cases, you have to check times in between and cannot book when, for example, you only have four teams available to assist the doctors with operations (Participant 6). Another issue in theatre is clustering. When clustering occurs, there is no time to prepare (Participant 3). It is difficult to schedule time-frame allocation for cases as teams are often required elsewhere (Participant 6). Difficulties pertaining to the scheduling of theatre cases emerged as a subtheme. It has a direct impact on the manner in which preparation of the operating room is planned. Problems pertaining to the scheduling of theatre cases have received attention in previous studies (Bilal et al., 2019; Gul, Denton and Fowler, 2012; Samudra et al., 2016). According to Hartmann (2013), surgeons and anaesthetists occasionally deviate from the theatre scheduling management system, which can result in inefficiency and increased delays.

PREPARATION TIME

The staff need time to prepare to ensure that everything they require is available (Participant 3). You have 15 minutes to check your theatre - those 15 minutes are not for preparation as the theatre should be prepared already. When moving from one theatre to another, you might not even have 15 minutes available to you (Participant 1). Insufficient time is also a barrier. If you do not have enough time to prepare, you will not have everything you need for surgery (Participant 8). Efficient preparation of the operating room requires that the staff have adequate time to conduct their preparations. Sillero and Bul (2021) have also noted inadequate preparation time as a barrier to the surgical team in addition to an excessive workload.

DOCTORS' PROTOCOLS

Another consideration is the availability of protocols of doctors, which is updated and approved by the surgeons (Participant 4). It is important to prepare the theatre in accordance with the doctors' protocols (Participant 2).

Each surgeon has their own protocols, also known as preference cards, which aid the perioperative nursing staff with preparations of the operating room. Surgical interventions require a large amount of surgical stock, which is kept in a stock room and must be transported to the operating rooms before a surgery commences (Phillips, 2016).

A surgical preference card provides the perioperative nursing staff with a specific list of items that are required for each surgical procedure (Görgülü and Sarhangian, 2022).

SUFFICIENT STAFF

Staff shortages are an issue as theatres are often only run by two nurses and the shortfall will have to be addressed somehow (Participant 11). If there are sufficient nurses in the theatre, every case should have its own group, comprised of a scrub nurse, a circulating nurse and an anaesthetic nurse (Participant 6). It is common to find yourself alone in a theatre if there are staff shortages (Participant 4). Both private and public hospitals in South Africa have reported shortages of nursing staff, specifically in the operating theatre. Sekoto (2019) highlighted that operative patient care has become increasingly difficult as a result of this staff shortage.

FEELING OVERWHELMED

There are instances where a person will work more than 42 hours per week. Someone might work from 07:00 to 19:00 for three or four consecutive days. In theatre, the expectation is that you will work 12 hours, including calls, from Monday to Thursday. By Thursday, you will feel exhausted (Participant 2). There is the human factor - perhaps it might be hunger, or mental or emotional distress. Such factors can have a direct impact on your quality of work (Participant 4). Sandelin et al. (2019), who noted that perioperative nurses felt a lack of control over their allocations and delegations that hindered their ability to provide safe patient care, also reported the experience of becoming overwhelmed. The pressure and stress experienced by perioperative nurses occur due to extended working hours in the absence of adequate rest periods during complex, combined or consecutive surgical cases (Zhou and Gong, 2015).

DISCUSSION

Theme one reflected that the preparation of the operating room was important because it prevented additional costs to patients and positively enhanced patients' experiences. Theme two reflected that preparing an operating room aids in the prevention of medical legal risks, surgical site infection, and allows perioperative nurses to provide better care for patients' wellbeing. Theme three highlighted the factors that enhance efficient preparation of the operating room, such as updated doctors' protocols. Theme four displayed the role of having sufficient staff in allowing perioperative nurses to prepare the operating room adequately. The majority of participants indicated that it is important to prepare the operating room before surgery commences. Extracts from the interviews with the participants were provided to demonstrate the findings of the study. In addition to this, the findings of the study were viewed in the context of existing literature.

CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, majority of the participants agreed that it is important to prepare the operating theatre room before commencement of a surgery. The participants, in addition to the identified barriers, also outlined the factors that facilitated efficient preparations.

Recommendations for hospital management	Recommendations to the nursing practice	Recommendations for doctors
The hospital management could consider rehiring retired nurses who are still able to perform the job profile of a perioperative nurse to mentor up-and-coming perioperative nurses.	The researcher recommends that the surgical team have a briefing session before commencement of surgery, involving all surgical staff members. This session might enforce more effective communication and understanding of operative responsibilities.	The surgeons need to adhere to the scheduled time for their booked cases, which will decrease instances where the cases overlap to the next booked surgery. The spacing of cases should also give the perioperative nurses enough time to prepare.
The researcher recommends that principles of delegation and allocation be adhered to in the operating theatre as with any other nursing unit in the hospital - taking into consideration busy workflow days, the days that staff are put on call to finish the lists, and adequate allocation of rest days to prevent burnout.	The nursing staff can have meeting sessions after long and difficult days to debrief and support each other. These sessions can mitigate the feeling of helplessness and enhance comradery.	The surgeons can standardise the availability of their preference regarding the equipment and stock that they require for each surgical intervention and ensure that other surgical staff are familiar with what their preference cards entail.

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