

Experiences of Operating Room Nurses in Promoting Quality Perioperative Patient Care

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Abstract This grounded theory research is focused on the perceived difficulties and problems of operating room nurses during the perioperative phases of nursing care (e.g., preoperative, intraoperative, and postoperative) and their most significant experiences in the operating room. This study was conducted in two hospitals in Naga City, Philippines. A total of 23 OR nurses were asked to participate in the semi-structured interviews. Methods of qualitative data analysis described by Polit and Beck (2012) and Bernard and Ryan (2010) were used to analyze the qualitative data. Three themes emerged from the problems and difficulties experienced by the OR nurses: “Anticipating the patient,” “Striving to succeed” and “Wishing for the best” in relation to OR nurses’ preoperative, intraoperative and postoperative nursing care experiences. For the significant experiences of the OR nurses, we derived 45 codes which we collapsed into six themes: “Learning to improve one’s performance,” “Fulfillment for the recognition and gratitude,” “Dealing with stressful and challenging tasks,” “Striving for professionalism all the time,” “Seeking help from superiors,” and “Feelings of exhaustion, dissatisfaction and burn-out.” Based on the findings, it can be inferred that OR nurses have rich experiences during the perioperative phase of nursing care. All their experiences are part of the larger picture of a health professional who must strive to assimilate in their duties and responsibilities the following: leadership, teamwork, communication and conflict resolution.

Keywords Operating room nurses, Perioperative Patient Care, Nurse Competence

1. Introduction

The operating room (OR), also known as operating room complex or surgical theatre, is a unit within a hospital which is designed and equipped to provide care to patients with range of conditions. It is a sterile environment where surgical procedure is carried out. The operating room is considered as one of the most complex department of the hospital, as it requires sensitive, intensive and critical inter-departmental interaction. The surgical team is composed mainly of the chief surgeon, the assistant surgeon, the anesthesiologist, co-management doctors (only if necessary), the perioperative nurses and various support staff. The operating room works closely with post-anesthesia care unit (PACU) also known as recovery room (RR) unit and is typically located near or just within the OR. This serves as an interim station for patients (Abramovitch et al., 2014).

The perioperative phases of surgical care process include management preoperative (before), intraoperative (during) and postoperative (after) phases of surgery. OR nurses are

referred to as perioperative nurses to precisely reflect their specific duties. As a descriptive term, ‘perioperative’ is a better label than ‘operating room’ because the term reflects all the aspects of the patient’s surgical experience. The OR nurses renders sustained care during the perioperative phase guided by acceptable norms and practices with the goal of addressing the needs of the patient who undergoes surgical intervention.

To be an OR nurse in the Philippines, one must obtain a license as a Registered Nurse (RN) and perform within the legislation of professional regulation relevant in the perioperative setting. The OR nurse should demonstrate and apply an accurate and comprehensive understanding of the core domains competencies and ethical principles within the scope of nursing practice, especially in the delivery of perioperative nursing care (Buhat, 2015). They must have the ability to perform the core domains of competencies for the perioperative nurses: (a) professional, legal and ethical perioperative practice, (b) nursing and perioperative care practice, (c) interpersonal relationship and communication, (d) organizational, management and leadership skills, (e) education and professional development. At all professional levels, a successful OR nurse should be physically fit to adapt to the environment including the chance of standing for long periods (Brannagan, 2015).

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Published online at <http://journal.sapub.org/cp>

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A nurse partakes in the mission of transforming lives, for both ill and well. This is illustrated by the OR nurses who perform both sterile and unsterile tasks inside the operating room (Lewis et al., 2011). OR nurses act as the scrub nurse, circulating nurse, and recovery room nurse according to their respective function in the surgery. He or she assists the surgeon in the sterile field when using instruments, scrubbers, and other items required during the surgical operation. The circulating nurse works outside the sterile field and manages the nursing care within the OR through observation and creation and maintenance of a safe and comfortable environment. At the recovery room or also called post anaesthesia care, nurses care for the patient after the surgery and ensures that the patient is stable and free from surgical complications before transfer to room.

In the nursing profession, competency is described as the ability to successfully apply professional knowledge, skills and attitude to new situations as well as the unfamiliar ones. Competency identifies the gap between education and practice. By continually using the standards of practice, outcome protocols, competency statements, experiences encountered, the OR nurse practicing in today's operating rooms should ensure the delivery of quality patient care (Tilley, 2008). In the OR context, competency means the ability to perform required tasks as safe practitioners with an adequate knowledge, skills and attitude to render quality perioperative nursing care.

Thus, the perioperative area is in many ways a world unto itself. The operating room unit in nature is a special area that is highly complicated and intensely technical in which a fundamentally competent and skilled efforts from the surgical staff is a prerequisite. The OR nurses must be able to assimilate in their duties and responsibilities leadership, teamwork, communication and conflict resolution.

It is in this context that this study was conducted. It aims to explore the experiences of promoting quality perioperative patient care by OR nurses. These experiences were derived from their encounters with difficulties and problems as OR nurses during perioperative nursing care. Their most significant experiences of as OR nurses were also examined. Results of the study can be used as bases for competency review in the perioperative nursing which is crucial in identifying and guiding clinical and professional behaviours to uphold and preserve quality and safe perioperative nursing care.

2. Methods

2.1. Research Design

This study used the grounded theory tradition of qualitative research which “aims to discover theoretical precepts grounded in data” (Polit and Beck, 2012, p. 268).

2.2. Research Setting and Population Sampling

This study was conducted in two hospitals in Naga City,

Philippines. A total of 23 OR nurses were asked to participate in the study. These OR nurses are permanent or regular hired nursing employee in the OR for no less than 6 months. They had equally rotated as a scrub, circulating and recovery room nurses who performs the perioperative roles and responsibilities. Supervisor of the unit were not included in the study due to the scope of responsibilities they handle. Nurse trainees were not also included as participants in the study.

The first hospital is a 150-bed capacity with a total of 7 operating theatres: five ORs, two Delivery Rooms and a 4-bed capacity Recovery Room which are equipped to accommodate the care of patients for elective and emergency surgery related to major specialties. Fourteen (14) nurses from this hospital participated in the study, ten of them are senior nurses and four are junior nurses. They are rotated respectively in early shift (7am to 3pm), afternoon shift (3pm to 11pm), night shift (11pm to 7pm). They have direct interaction with the surgical patients and work in collaboration with the surgeons, doctors, nurses and ancillary personnel and other members of the health care team.

The second hospital is a 100-bed private hospital with a total of three operating theatres: one Operating Room, one Ophthalmology Room and one Delivery Room which are equipped to accommodate and deliver the care of patients for elective and emergency surgery related to major specialties. Likewise, their post-operative care management is transferred to the post- anaesthesia care unit (PACU) adjacent to the OR unit. A total of nine OR nurses from the second hospital participated in the study. The nine nurses are all senior nurses who rotated respectively in early shift (6am to 2pm), afternoon shift (2pm to 10pm), night shift (10pm to 6pm). Accordingly, these OR nurses have direct interaction with the surgical patients and work in collaboration with the surgeons, doctors, nurses, ancillary personnel and other members of the health care team.

2.3. Research Instrument

Semi-structured interview was used to collect the needed data. An interview protocol which composed of ten open-ended questions was formulated for the research.

Five questions were asked regarding the perceived problems and difficulties OR nurse in providing perioperative nursing care:

1. What are the common problems you encounter as you provide preoperative care? How do you feel about these?
2. Describe your experience working together with the members of the surgical team (surgeon, anesthesiologist, nurse, etc.) during the intraoperative phase?
3. What are the common problems you encounter as you provide intraoperative care? How do you feel about these?
4. What are the common problems you encounter as you provide postoperative care? How do you feel about

these?

5. How do you address or solve these problems?

Five questions were asked regarding the significant experiences of as an OR nurse:

1. Describe your experience after the 8 hours of rendering perioperative nursing care to your patient.
2. What do you think is the implication of these experiences to your own personal and professional growth as a nurse?
3. What is the most difficult part of being an Operating Room nurse?
4. What recommendations can you suggest addressing these problems?
5. Have you ever been burned- out? If yes, what led you to it? What did you do about it?

2.4. Ethical Considerations

Permission and clearance was secured to conduct the study from the Nursing Service authorities of the hospitals. Basic principles guiding ethical considerations for research were explained to the respondents to fully inform them about the aims, methods and benefits of the research and to secure their consent to participate in the study.

A invitation letter explaining the aim and objectives of the research was provided. Anonymity and confidentiality with regards to the information to be obtained was distinctly emphasized.

Respondents were informed that they may decline or withdraw from participating at any time, and that responses will not be in any way linked with them as an individual or as an employee of the institution they are working for. They were asked to affix signature over their print name to signify their informed consent as participants of the study.

2.5. Data Analysis

Methods of qualitative data analysis described by Polit and Beck (2012) and Bernard and Ryan (2010) were used to analyze the qualitative data from the semi-structured interviews. The whole process which involved coding and bottom-up approach of analysis and constant comparative method were used to determine data saturation and identify core categories and central themes. The third author conducted the audit trail of the data as a form of validation.

3. Results

3.1. Problems and Difficulties of the Operating Room Nurses in the Perioperative Phases of Care

Figures 1 and 2 show the overall summary of the results of the qualitative study. The results revealed significant insights on the OR nurses’ perceived difficulties and problems in perioperative nursing care and their significant experiences as OR nurses. Three themes emerged from the data (also called Level II Codes): “Anticipating the patient,” “Striving to succeed” and “Wishing for the best” in relation to preoperative, intraoperative and postoperative nursing care experiences. Presented in Tables 1 to 3 the representative quotes and the Level I Codes for each of the three Level II codes.

3.2. Significant Experiences of Nurses in the Operating Room

Figure 2 shows the collapsed thematic analysis of the significant experiences of an operating room nurses. Overall, the themes that emerged include: “Learning to improve one’s performance,” “Fulfillment for the recognition and gratitude,” “Dealing with stressful and challenging tasks,” “Striving for professionalism all the time,” “Seeking help from superiors,” and “Feelings of exhaustion, dissatisfaction and burn-out.”

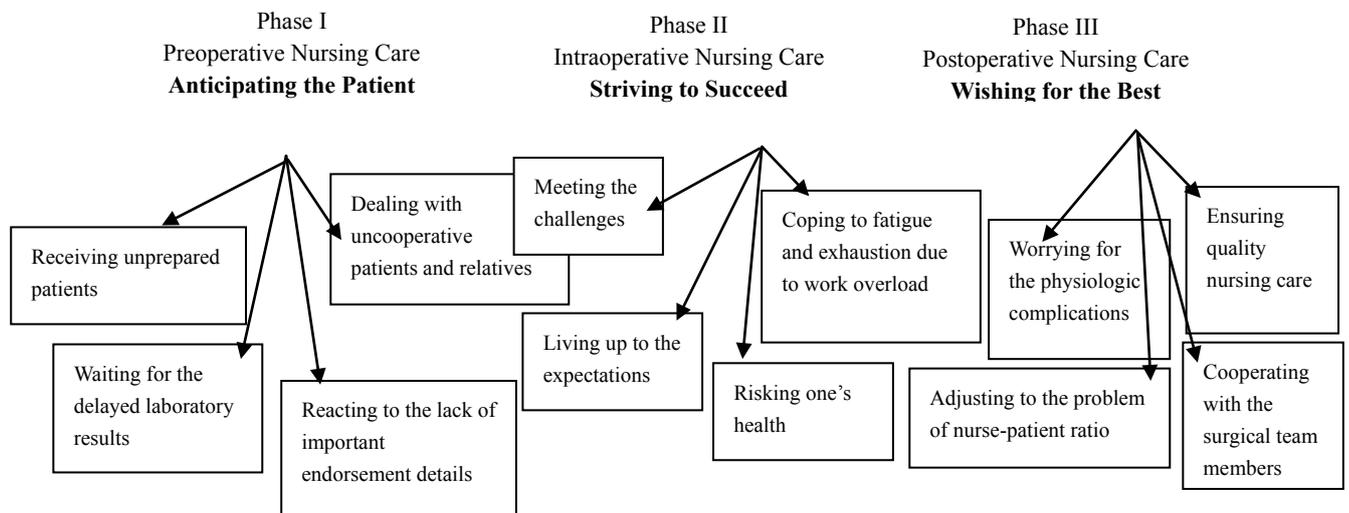


Figure 1. Problems and difficulties of the Operating Room nurses in perioperative phases

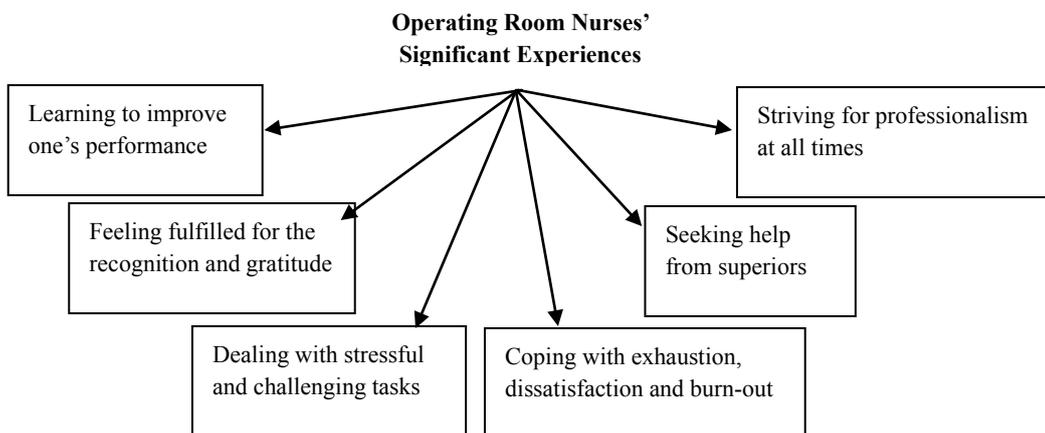


Figure 2. Significant experiences of operating room nurses

Table 1. Collapsing Level I Codes into the Level II Code of “Anticipating the patient”

QUOTE	Level I Codes
... “sometimes, some patients are not prepared by the endorsing nurse on duty for instance, patient still having dentures, nail polish, jewelries, underwear even if instructions were given ”	Receiving Unprepared Patients
... “laboratory results that are not yet done that hampers the surgery and causes delay”	Delayed Laboratory Results
... “sometimes, the endorsing nurse fails to accomplish preoperative task, medications, treatment, requests etc.” ... “fails to endorse important details and overlooked doctor’s order; ... “intravenous access lines that are out and other contraptions which are not patent or in place”	Lack of Important Endorsement Details
... “some patients are stubborn and very uncooperative, even their relatives” ... “it can be observed from patients with background in medical or health field”	Dealing with Uncooperative Patients and Relatives

Table 2. Collapsing Level I Codes into the Level II Code of “Striving to succeed”

QUOTE	Level I Codes
... “there are occurrences when instruments, equipment, machines and supplies are not only malfunctioning but also unavailable” ... “these are considered essentials in providing the intraoperative nursing care”	Meeting the Challenges
... “during the surgery the mood, preferences, demands and expectations from different doctors and colleagues seemed to be a concern”	Living up to the Expectations
... “once in a while, there are breaks in the sterility, needle pricks, splashes and exposure to communicable diseases. ... “it causes fear and places not only the patient’s lives but our lives as well at risk”	Risk to One’s Health
... “we experience understaffing and work overload. We feel pressured, exhausted and drained”	Fatigue and Exhaustion due to Work overload

Table 3. Collapsing Level I Codes into the Level II Code of “Wishing for the best”

QUOTE	Level I Codes
... “after the operation, oftentimes, we encounter unexpected postoperative physiologic complications with the patient”	Physiologic Complications of the Postoperative Patient
... “there is the impact of understaffing in a great load of work. At times OR nurses extend more than their duty hours to attend to their surgical patients”	Nurse- Patient Ratio
... “due to unavailability of needed medications, its administration is delayed” ... “lack of supplies/ monitoring devices in supplies in caring for postoperative patients”	Quality Nursing Care
... “some doctor’s handwriting is unreadable and we find it hard in carrying out the orders immediately” ... “referral of patient’s condition postoperatively to different doctors involved in the care”	Cooperation of the Surgical Team Members

4. Discussion

4.1. Problems and Difficulties of the Operating Room Nurses in the Perioperative Phases of Care

Operating room nurses explained that problems and difficulties they encounter preoperatively is about “*Anticipating the patient.*” Some of them mentioned about the lack of needed preoperative preparation that created interruption in providing preoperative nursing care. These incidents caused feelings of frustration, disappointment and inconvenience on their part as OR nurses.

According to Wolf (2011), the word ‘anticipation’ is rarely used in the nursing literature. However, anticipation is a daily essential part of skilled nursing care. Over the years, the significance of nurses anticipating for the needs of the patients raises the idea that the focus should be about excellent care of patient from the very beginning, especially on the phase wherein necessary preoperative preparations must be completed before the patient is wheeled in the operating room.

Martinez, (2008) stressed that it is a disappointment when professional nurses have not fully acquired skills that will allow them to provide effective nursing care. Since patients typically are dependent on their daily activities due to their medical conditions, nurses who attend to the patients before operation should optimize the functions of the patients. When the patient before the operation are not trained to maximize their functions, the OR nurses are usually blamed.

In general, patients have needs, and anticipating for them is a key for their positive therapeutic experience. Anticipating their needs is like minding the gap on their health experience prior to it taking place at all. There are situations where patients complain or do not complain, even if they are physically and emotionally crashing. However, if nurses give very close attention to them— really stopping, looking and listening to their needs, it will be unlikely that things will not go well with the administration of perioperative nursing care.

The problems and difficulties that the OR nurses encounter intraoperatively are clustered into the theme: “*Striving to succeed.*” This reflects the general understanding that it is the duty of an OR nurse to do best in the process of dealing with what is expected of him or her during the surgery. Intraoperative phase is the critical period where the surgery is being performed. It is a must for an OR nurse to accomplish tasks skillfully and efficiently. In this crucial perioperative phase, best effort is expected for everyone involved.

These findings support the study of Vera (2014) which showed that OR nurses recognize the needs, demands and expectations of the entire surgical team yet there are times when the demands and needs of the patient, doctors, colleagues and situations change. This change considerably affects their performance in the intraoperative work. Challenges and stressors may arise especially when technical resources fail and errors occur. Hence, OR nurses feel the need to work hard and succeed in these trying times to keep

up with the surgical team and the responsibilities excellently.

On the other hand, the findings of the study somehow differ from the results of Greenwood (2012) which demonstrated that OR nurses are expected to possess a comprehensive understanding of the fundamental principles of the surgery, perioperative nursing, scrub and circulating activities, sterile technique, patient safety, accountability and documentation. These are the events in the operating room that at times are affected by the unexpected circumstances and scenarios that may occur.

Overall, in the intraoperative phase, OR nurses are challenged, pressured, frustrated and exhausted but they thrive to end successful in these. Like what the respondents of the present study emphasized, whenever problems take place, the surgical team are very much willing to help and impart knowledge which improves each other’s performances for a positive surgical outcome.

At the postoperative phase, OR nurses explained that there are still many difficulties and problems hence they are “*Wishing for the best.*” After the surgery, all the members of the surgical team yearn for the best in terms of the outcome of the operation. It is the period where all the hard part of the surgical process is shifted to waiting for the best result. The OR nurses wish for the best in this phase because they are prompted to provide an utmost postoperative nursing care (e.g. monitoring physiologic changes, administering medications and re-establishing recovery of the patient). Most of the recovery room (RR)/post anaesthesia care unit (PACU) nurses expressed that postoperative care should not be neglected because this is a decisive part of the perioperative process. The goal of this phase is to return the patient to a state of health. It is not surprising that based on the findings of the present study, it can be noted that that OR nurses long for a well-grounded training and experience so that they can provide competent postoperative nursing care.

Mesa (2009) explained that postoperative evaluation requires that all members of the surgical team, surgeons, anaesthesiologists, and nurses are cautious. All surgical, medical, and anaesthetic-related problems that require prompt attention should be addressed and direct intervention should be given before the patient is safely discharge from the operating room. Consequently, it is the RR/ PACU nurse who stays longer with the patient and performs appropriate interventions. But problems are inescapable according to Joginder (2015). The foregoing may be true to the OR nurses included in the present study, hence they explained that even in a noted seamless perfect unit such as an operating room, unavoidable events happen. However, it can be predicted and foreseen and everyone should be prepared to face it. Identifying the precise root of the problem and going through the events are crucial steps to understand and resolve them.

Similarly, Vera (2014) stressed that postoperative nursing care should be focused on re-establishing the patient’s optimum condition, managing patient’s pain and avoiding impending complications. The OR nurses as shown in the present study, expressed that they themselves consider the postoperative phase as the culmination of the effort of the

entire surgical team and that the goal is to establish a positive postoperative outcome.

In summary, perioperative nursing is a blend of cognitive and behavioural care. It centralizes on critical thinking, which is demonstrated with the knowledge, skills, and experience of being in the service and caring for multitude of patients. An OR nurse accomplishes a crucial job during the surgical operation by providing interventions, ensuring patient safety and comfort, planning care, and managing many aspects of patient's condition after the surgery. Preventing complications, promotion of recovery and assisting the patient to a state of health are some of the most important goals this perioperative phase entails. Although there might be inescapable inefficiencies among the team and in the operating room system, such problems had to be dealt with straightforwardly.

4.2. Significant Experiences of Nurses in the Operating Room

The theme "Learning to improve one's performance" can be summarized by what one of the OR nurses remarked during the interview;

"Experiences gained from being OR nurses have great impact in our personal and professional growth. There is always the room for improvement, whether good or bad experiences. It drives us to become better and best. Reliable decision-making skills, conflict resolution and professionalism are of top-priority. We continuously enhance our learning curve that helps in developing our knowledge, skills and attitude not only to be worthy of our licenses but also to be better individuals of this society."

This response describes the OR nurses' determination to improve their nursing care performance and strive for professionalism constantly. According to them, there is no difficult part of being an OR nurse if one gives his or her best always and seize every opportunity to learn and develop ways to improve oneself. This finding is like the results of Ramvi (2015) which pointed out that nursing is one of the noblest profession because it focuses on patient care. Like other nurses, OR nurses should continuously strive to improve their work and that is reflected cohesively in their nursing practice.

Benner's theory of clinical competence (1984) stipulated that expert nurses develop skills and understanding of patient care through a gradual and continuous process. It is not about how to do nursing but on "how do nurses learn to do nursing?" Going through the five stages of clinical competence from novice to expert helps the nurses realize that expertise in nursing field is an unhurried and uninterrupted process that is learned and improved over time.

One OR nurse explained:

"Rendering perioperative nursing care to patients from their birth to death respectively provides a sense of fulfillment, satisfaction and gratitude for us OR nurses after every shift. Being able to help in saving

human lives is a great privilege for us because not all professions have this opportunity. It helps us become productive professionally and personally."

Apparently, paramount to OR nurses' fulfillment is delivering excellent perioperative nursing care to their patients, working with different doctors and colleagues and performing responsibilities as an OR nurse. Overall, they described their OR experience to be positive and rewarding because of having the opportunity to be a part of a remarkable team who can change the life of an individual in their most critical and momentous time.

Nurses should be scientifically-trained professionals capable and willing to render excellent nursing care. This was captured by the theme: "Striving for professionalism all the time." Professionalism and compassionate care is more demanded among OR nurses during the perioperative phases of nursing care. This is what of the OR nurses said also:

"Being an OR nurse is intensely challenging and exciting because you encounter different experiences in the operating room setting. The pressure in meeting the expectations of different medical practitioners and keeping up with their demands while rendering perioperative nursing care to the patients is both stressful and taxing. We also experience overworking, understaffing and undervaluing, hence many of us express burned out but we try our best to get through and we deliver great results."

Indeed, working with the different members of the surgical team that has different preferences, expectations, demands and personalities can be source of stressors and challenges that OR nurses unavoidably face in a day to day basis. According to Hubbs (2010), surgery is like a concert where people work together comfortably. Equipped by quality education, training, experience and behaviour, OR nurses can surely provide orchestrated perioperative nursing care like a well-performed symphony.

Because of the problems and difficulties that OR nurses experience, OR nurses must have good stamina and physical strength, are problem solvers, critical thinkers and team workers. The theme: "Dealing with stressful and challenging tasks" encapsulates the idea the although they are working under the supervision of a surgeon, they still must be able to function independently. Being detail-oriented are distinctive skills that OR nurses possess because minor errors in the operating room can have a significant consequence on a patient's life.

Hans (2008) also highlighted the experience of frustration and burned out at work. The perioperative nursing is one of the most demanding nursing jobs because of having to constantly experience complicated operations that go on for many hours, amid sometimes inadequate number of staff and undeserved remarks from superiors. Doctors and surgeons should not only be the people who deserve the appreciation and admiration for their surgical work. OR nurses also deserve appreciation and admiration for the contribution they provide during the perioperative phases of care.

As shown by the results of this study, the outcome of perioperative care according to the OR nurses may be influenced by the surgical staff who know very well the procedure, know their roles and the roles of others in the team, familiar with the necessary skills needed and the resources essential to perform the task and the communication processes with the team. Thus, operating room manual and policies should be regularly checked for updates and should be accessible for audits. Continuous performance appraisal, skills assessment, evaluation, review, feedback, individual conferences and unit meetings must be implemented unflinching. It is also recommended that training program on perioperative nursing should cover all there is to know in the operating room environment. This should be a hospital policy particularly on the provision of in-service education. The training module should be flexible to suit the learning capacity of different OR nurses. It should be conducted, supervised and evaluated by an experienced and expert OR mentor (e.g. supervisor, in-charge, heads).

Hospital institution in coordination with the professional nursing organizations should foster opportunity for nurses to attend acclaimed and certified trainings, conferences and seminars. Moreover, OR nurses should continue the enthusiasm for pursuing continuing program of education. These endeavours can uplift the morale of the nurses which in return can expand their career ladder opportunities. Also, nursing supervisors and heads in the operating room should be available and dependable during emergencies and complications. They should possess basic and supplementary education, training, licenses like: (basic life support (BLS), intravenous therapy (IVT), advance cardiac life support (ACLS), etc. suitable to deal with difficult situations and crises.

It would be proper also to maximize OR resources through coordinated use of the OR space, equipment, facilities, and staff. It should be routinely performed every shift. OR nurses are not just care providers alone but they are also part of the capital of the hospital. Workload should properly be delineated to an appropriate ratio of nursing personnel. There should also be a foreseeable strategy and alternative approach on how to address understaffing and work overload in a shift to avoid drawbacks and inadequacies.

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