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Exploring The Novice Nurses' Perceptions Of Communication Dynamics In The Operating Room

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EXPLORING NOVICE NURSES' PERCEPTIONS OF COMMUNICATION DYNAMICS IN THE OPERATING ROOM

A DISSERTATION

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF DOCTOR OF PHILOSPHY IN NURSING

THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON

CIZIK SCHOOL OF NURSING

BY

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August 2023

Approval Form D-3

The University of Texas Health Science Center at Houston
Cizik School of Nursing
Houston, Texas

6/20/2023
Date

To the Dean of the Cizik School of Nursing:

I am submitting a dissertation written by LaSandra Brown and titled "Exploring Novice Nurse's Perceptions of Communication Dynamics in the Operating Room." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Nursing.

Cathy Rozmus, PhD, RN, FNAP, FAAN Committee Chair

We have read this dissertation and recommend its acceptance:

Accepted

Dean of the Cizik School of Nursing

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Exploring the Novice Nurses' Perceptions of Communication Dynamics in the Operating Room

August 2023

Abstract

Background

Communication among the multidisciplinary team members in an operating room setting is essential for effective and safe patient care. Studies have previously addressed communication breakdowns among team members, and miscommunications have been demonstrated to significantly challenge efficiency in the operating room. Novice nurses play an integral role in the success of operating room procedures and must possess strong communication skills that facilitate optimal patient outcomes.

Purpose

The aim of this study was to explore novice nurses' perceptions of factors that influence the dynamics of team communication in the operating room setting.

Methods

An inductive thematic, qualitative analysis of 11 semi-structured interviews with novice nurses working in an operating room was conducted to investigate communication dynamics as perceived by these participants and to suggest solutions to improve communications in this setting.

Findings

From the novice nurses' perspectives, effective communication exists when multidisciplinary team members are informed about the cases and procedures they are assigned, work cooperatively as a team, and show respect for their patients and one

another. Nurses identified situations where tension existed among multidisciplinary team members, which impacted patient care.

Conclusions

The novice nurses perceived that their comfort levels of communication increased as they worked longer, gained more experience, and developed positive relationships with members of the multidisciplinary team. The participants suggested increasing communication training during orientation to enhance communication in operating room settings.

Keywords: novice nurse, operating room, multidisciplinary team, communication

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Summary of the Study

Studies have previously addressed communication breakdowns among team members, and miscommunications have been evidenced to significantly challenge efficiency in the operating room. Novice nurses play an integral role in the success of operating room procedures and must possess strong communication skills that facilitate optimal patient outcomes. The review of literature discussed communication failures in the operating room and novice nurses transitioning to practice, but I was unable to find literature including all my stated variables together. Therefore, the primary aim of this study was to explore novice nurses' perceptions of factors that influence navigating the dynamics of verbal team communication in the operating room setting.

A generic qualitative approach was utilized to gain an understanding about the novice nurses' perception of navigating communication in the operating room, because little was known about the subject of the study, using individual interviews. The dissertation includes the research proposal and manuscript of findings. Recruitment and interviews were conducted from May 2021 until May 2022 after receiving IRB approval. Interview sessions were scheduled for one hour and recorded utilizing Webex platform. Inclusion criteria were: (1) registered nurse prepared at the associate or bachelor's degree level with one year or less nursing experience at any organization; and (2) currently working in the operating room full time. Eleven novice nurses participated in the study and no further recruitment was necessary as data saturation was achieved.

Interview transcripts and video recordings were re-reviewed for themes associated with the research aim. After reviewing the data in detail many times and thematic content analysis process, the final 5 themes were: Perceived Competency in Communicating with the Multidisciplinary Team, Perceived Comfort Level of Communicating with

Multidisciplinary Team Members, Communication During Adverse Events in the OR, Ineffective Communication Dynamics in the OR, and Effective Communication Dynamics in the OR. The novice nurses perceived that their comfort levels of communication increased as they worked longer, gained more experience, and developed positive relationships with members of the multidisciplinary team. The participants suggested increasing communication training during orientation to enhance communication in operating room settings. Tables 1-2 include themes and demographic characteristics of the study sample. Appendices A-E include interview questions, demographic form, verbal screening and consent form, IRB approval, and recruitment flyer.

Exploring the Novice Nurses' Perceptions of Communication Dynamics in the Operating Room

Proposal

Abstract

Background

Communication among healthcare providers in an operating room setting is essential for effective and safe patient care. Miscommunications have been recognized as a key vulnerability for patient safety and efficiency in the operating room (Christian, et al., 2006). Communication in an operating room is particularly challenging given the variety of healthcare professionals, personal culture, and experience within the team. Novice nurses (nurses with one year or less of experience) may be particularly vulnerable to communication breakdowns due to their inexperience. There is a gap in the literature addressing how novice nurses navigate communication, particularly in the operating room.

Specific Aim

The aim of the proposed qualitative study is to explore novice nurses' perceptions of factors that influence the dynamics of team communication in the operating room setting.

Approach

This qualitative research study will utilize individual interviews employing a generic qualitative approach to explore the novice nurse's experiences and perceptions in the operating room setting as it relates to team communication. A generic qualitative approach will be used, as very little is known about the topic of team communication experienced by the novice nurse in the operating room setting. Purposive sampling will

be utilized initially and supplemented with snowball sampling and professional network. The initial interview guide will contain 10 questions and evolve as needed during face to face or videoconference interviews. The participants will be given a $10 Starbucks gift card for their participation.

Conclusion of significance/innovation

This qualitative study will describe novice nurses' perceptions of operating room communication with the long-term goal of improving communication and exploring how effective communication influences retention, turnover, patient outcomes, and patient advocacy.

Keywords: communication; novice nurse; operating room; interview

Specific Aim

The operating room suite is a unique department within a healthcare facility where surgical procedures are performed. It is a multifaceted, high-pressure environment where it is essential that all team members utilize aseptic technique, sterilization, and technological advances, as well as specialty standards and guidelines of practice, which influence the goal of optimal patient outcomes. There is typically a multidisciplinary team in the operating room including a nurse, surgical technician, surgeon, and anesthesia provider, and sometimes a radiology provider and/or a medical resident.

Communication among the multidisciplinary team in the operating room is vital for patient safety and optimal patient outcomes. To be an effective healthcare team member, one must possess a high level of communication skills (Hecimovich & Volet, 2009). Effective communication skills are especially paramount in the operating room setting since most patients receive some type of anesthetic, often rendering them unconscious. In all cases, the nurse retains the role of patient advocate, and thus possesses an integral part of communication among the multidisciplinary team.

Miscommunications are common among team members in the operating room. It has been estimated that communication breakdowns occur in 30% of exchanges among the team members, and includes late communication; inconsistent, incomplete, and inaccurate content; failure to include key stakeholders; and unresolved issues (Lingard, et al., 2004). Miscommunications have been recognized as a key vulnerability for patient safety and efficiency in the operating room (Christian et al., 2006); and one study found that 56% of operative related complications were a result of ineffective communication (Hu et al., 2012).

Novice nurses experience a range of situations, which are professionally and emotionally challenging (ten Hoeve et al., 2018). According to Hezaveh and colleagues (2014), one group of novice nurses did not feel prepared to communicate with colleagues and physicians at the beginning of their careers, but gradually improved over time. Many novice nurses in the operating room have no perioperative nursing exposure or education, which can be anxiety provoking (Foran, 2015). Enculturation as a novice nurse in the operating room is important for success and ultimately benefits the unit, facility, and patients in their care (Wilson, 2012).

Information on how novice nurses navigate communication in the operating room is limited. This qualitative research study will be conducted to establish an understanding of communication experiences of novice nurses (those with one year or less nursing experience) with team members in the operating room. The knowledge gained from this study will assist in developing potential solutions for miscommunication. A long-term objective is to evaluation of how effective communication influences retention, turnover, patient outcomes, and patient advocacy in the operating room setting. Therefore, the specific aim of the study is to explore novice nurses' perceptions of factors that influence navigating the dynamics of verbal and nonverbal team communication in the operating room setting.

Objectives

The objectives of this qualitative study are to: (1) examine the factors that contribute to how the novice nurse interprets communication in the operating room, and (2) explore how the novice nurse responds to the dynamics of communication in the operating room.

Research Question

This study aims to answer the following research question: What are novice nurses' perceptions of their experiences with team communication in the operating room setting?

Background and Significance

Significance

Throughout much of the U.S., the demand for nurses is greater than the supply, especially in highly complex areas such as the operating room (Monahan, 2015). Further, it was estimated that nearly 20% of nurses currently practicing in the perioperative specialty will be retiring within 5 years (Ball et al., 2015), thus demand is likely increasing. This shortage is problematic considering there are 51.4 million ambulatory surgeries and 48 million inpatient surgeries completed in the United States annually (Lyons & Popejoy, 2014).

According to Lyons and Popejoy (2014), one half to two thirds of medical errors and adverse events are credited to surgical care. Surgical departments account for as much as 60% revenue in a healthcare facility (Ball et al., 2015). Both from an economic and quality of care perspective, issues that hinder optimal functioning of the surgical setting must be addressed. In one study, in 30% of the operating room team member exchanges, communication failures such as occasion failures (too late to be effective), content failures (not consistently complete and accurate), audience failures (key individuals not included), and purpose failures (issues not resolved) were observed (Lingard, et al., 2004).

The Joint Commission reported that 40 major surgical errors referred to as "never events" occur in the United States every week (Sadler, 2016). Never events include such situations as: retained foreign objects, wrong patient/site procedures, nerve damage, and anesthesia errors (Sadler, 2016). In the operating room, communication failures have been determined to be one of the root causes of 80% of sentinel events (Kenawy & Schwartz, 2018). A sentinel event is "a patient safety event that results in death, permanent harm, or severe temporary harm; and are debilitating to both patients and health care providers involved in the event (The Joint Commission, 2021). According to Haynes et al. (2009), complications associated with surgical procedures include death, acute renal failure, blood loss requiring transfusion of four or more units of red blood cells (RBC), cardiac arrest, coma of 24 hours duration or more, deep vein thrombosis, myocardial infarction, unplanned intubation, ventilator use for 48 hours or more, pneumonia, pulmonary embolism, stroke, major disruption of wound, infection of surgical site, sepsis, septic shock, systemic inflammatory response syndrome, unplanned return to the operating room, and vascular graft failure.

All patients undergoing a surgical procedure have the potential of being affected by medical errors and adverse events in the operating room. Likewise, families of patients and the perioperative team may suffer because of medical errors, depending on the untoward outcomes. With the high volume of surgical procedures performed, it is vital that measures are in place to ensure surgical patients stay safe.

Communication "encompasses meanings, including the internal responses that people make to the message stimulus as well as the internal stimulations that these responses produce" (Berlo, p. 278). Miscommunication is defined as "an exchange

during which information was either incomplete or inconsistent, or key personnel were not included (Gillespie et al., 2012). Effective communication among healthcare providers ensures all members of the multidisciplinary team effectively manage their roles and responsibilities, set expectations for the delivery of safe patient care, and measure and assess outcomes; this includes the effective, appropriate and timely exchange of information (Garrett, 2016).

It is essential the entire operating room team communicates well for optimal patient outcomes, and the novice nurse must learn to communicate effectively. Competence in verbal communication is a prerequisite to personal and professional career success (Morreale et al., 2000). To be an effective healthcare practitioner, one must possess a high level of effective communication skills which encompass both verbal and non-verbal elements (Hecimovich & Volet, 2009).

Prior research on communication in the operating room suggests that increased errors result from communication failures such as occasion failures (too late to be effective), content failures (not consistently complete and accurate), audience failures (key individuals not included), and purpose failures (issues not resolved) were observed and occur in approximately 30% of procedurally relevant exchanges among team members (Lingard, et al., 2004). This information was derived from observations and field notes from 90 hours of recordings from 48 surgeries and included 94 team members (anesthesia, staff, and nursing) (Lingard, et al., 2004). According to Lingard et al. (2004), 129 of recorded communication events were categorized as communication failures. In recognition of the potential problem, a longitudinal study by Haynes et al. (2009) found a decline in complications and deaths after implementation of a standardized

communication tool. A survey among surgeons and non-surgeons by Kenawy and Schwartz (2018) suggested that communication failure is a major factor contributing to medical errors. The results revealed surgeons and non-surgeons saw the importance of communication among team members during a procdure but the perception of communication quality varied with non-surgeons rating communication lower compared to the surgeons (Kenawy & Schwartz, 2018).

Communication and collaboration skills are essential to guarantee patient safety, improve outcomes, and reduce costs (Garrett, 2016). According to Hecimovich and Volet (2009), developing students' abilities in communication and clinical skills prior to the transition to practice is vital. A qualitative study conducted on novice nurses' experiences on unpreparedness at the beginning of work consisting of 21 people (17 novice nurses, 2 supervisors, and 2 experienced nurses), revealed functional defects (skills and primary nursing procedures); communication problems (communicatin with colleagues and patients); and managerial challenges (ability to function as charge of the care team and leader) themes (Hezaveh et al., 2014). These challenges affected the novice nurse's ability to apply the learned knowledge in practice (Hezaveh et al., 2014). Novice nurses encounter a variety of physical, emotional, intellectual, and developmental changes in the first year of practice (ten Hoeve et al., 2018).

The intent of this study is to address the gap in knowledge regarding how novice nurses navigate team communication dynamics in the operating room and identifying related outcomes of the novice nurses as a result of their experiences.

Theoretical Framework

Limiting the sample group to one year of experience is based on Benner's Novice to Expert Model. According to Benner (1982), a novice nurse (Level I) has no experience with the tasks expected to perform and an advanced beginner (Level II) exhibits minimal experience while requiring assistance from the competent nurse. Competent nurses (Level III) have been in their current roles for two to three years (Benner, 1982). According to ten Hoeve et al. (2018), novice nurses' identity in the beginning of their career involves various elements including competence, development, organizational context, autonomy, fit, relatedness, existential, and goals. Emerging into the workforce, novice nurses must balance their personal life and demands of a new career; and they influence each other (ten Hoeve et al., 2018). As previously mentioned, the OR is a demanding specialty where decisions are time sensitive among the multidisciplary team; and the nurse serves as the patient advocate. This environment can also influence the novice nurse's decision to speak up in a stressful situation.

Transition to practice programs assist the novice nurse in adjusting from being a graduate nurse to a healthcare professional incorporating their theoretical and professional knowledge (Mellor & Greenhill, 2014). Novice nurses' transition to practice with knowledge gained through their curriculum including didactic, simulation, and precepted clinicals. They experience different phases as they transition to practice including doing, being, and knowing stages (Jewell, 2013). Novice nurses enter their career in the doing stage (honeymoon phase) during the first four months, when they are seeking expectations and are task oriented (Jewell, 2013). After the doing phase, the novice nurse spends five months in the being stage. The being phase is when novice

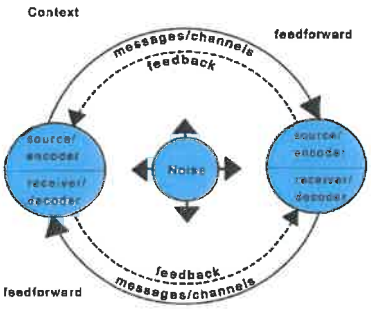
nurses become more comfortable with their respoonsibilities, skills, and knowledge while feeling less overwhelmed (Jewell, 2013). The phase in the final three months of year one is the knowing stage, when novice nurses becomes more confident in their ability and integration into the profession (Jewell, 2013). To enhance the graduate nurses' transition to practice, leaders, nurse educators, and mentors must understand and acknowledge the different stages of skill attainment and transition theory (Murray et al., 2019).

The guiding theoretical framework for this study is the Dyadic Interpersonal Communication Model (Berlo, 1960). The model addresses communication as a process that involves a sender (source) and a receiver utilizing a channel for the message. The sender's goal is to be understood by the receiver; the receiver will then process, analyze, decode, and comprehend the information (Antai-Otong & Wasserman, 2003). This model is beneficial to the novice nurse, as she/he navigates communication in the operating room, to ensure verbal and nonverbal messages are received as intended. Initially, the model's purpose was technical communication and morphed into countless avenues. The basis of the Dyadic Interpersonal Communcation Model focuses on the process of communciation and ensuring the message is decoded as intended from the sender. The start of the model is the sender (source), where the coding of message occurs to be sent to the receiver (Berlo, 1960). There are many factors that may affect the sender including attitude, knowledge, culture, and communication skills (Berlo, 1960). In relation to the study, the sender is considered the novice nurse and/or any of the multidisciplinary team. The message is the content of the information to be delivered to the receiver, and consists of verbal and non-verbal communication. The delivery of the message is included as well. The message can include verbal, body language, and other non-verbal

communication in the operating room. The channel is the mode of how the message is delivered utilizing all senses (Berlo, 1960). The receiver in the study could be the novice nurse and any member of the multidisciplinary team in the operating room suite.

Figure 1

Dyadic Interpersonal Communication Model (Bajracharya, 2018)



Innovation

This study will examine the novice nurse's perception of communication dynamics in the operating room. This study will introduce the perceptions of communication in the operating room among the novice nurses and their response to such perceptions. The study aims to identify common themes that may contributed to miscommunication. This information will serve as a foundation to develop or modify interventions to counteract or combat miscommunication and lead to further research on outcomes of communcation breakdowns.

Approach

Study Design

This research study will utilize a generic qualitative approach to gain an understanding about the novice nurse's perception of navigating communication in the operating room. A generic qualitative approach utilizing individual interviews is chosen

since little is known about the topic. This approach generally describes the understanding of an experience or an event of the subject (Caelli et al., 2003). According to Percy et al. (2015), a generic qualitative approach examines one's opinions, beliefs, or attitudes about experiences. The study will be exploring the novice nurses' perceptions of their experiences with verbal and non-verbal communication in the operating room setting.

Setting and Sample

The participants in this study will be recruited from the Association of Perioperative Registered Nurses (AORN) national and local chapter monthly meetings at the Texas Medical Center location, utilizing my professional network of operating room colleagues, and recommendations from snowball sampling. The guidelines for use of AORN's membership database will be followed for AORN National recruitment. AORN local monthly meeting participants include nursing students, vendors, and perioperative nurses from Houston and surrounding areas. An announcement will be made at the beginning and end of the AORN local meeting and emails sent to membership (if unable to meet in person due to pandemic and meeting restrictions), regarding the study and solicitation of participants who meet the inclusion criteria. After the meeting, the primary investigator will utilize a script to meet with or contact the individuals who responded to the solicitation requests to ensure they meet inclusion criteria and to explain the research study, including expectations. Thereafter, the primary investigator will obtain potential participant contact information (email address and phone number) to set up an interview date, time, and location. The interview will occur at a mutually agreed upon location or format that allows privacy and adequate recording or videoconferencing opportunities.

Purposive sampling using the maximum variation sampling method of novice nurses will be utilized initially to recruit participants. Maximum variation involves intentionally selecting participants appropriate for the study to ensure diverse backgrounds and viewpoints (different ages, male and female, etc.) of the phenomenon are represented in the sample (Polit & Beck, 2017). The participants' perspective regarding communication in the operating room will confirm or deny any preconceived opinions of the primary investigator (Crabtree & Miller, 1999).

Inclusion criteria are: (1) registered nurse prepared at the associate's or bachelor's degree level with one year or less nursing experience at any organization; and (2) currently working in the operating room full time. Participants will be excluded if they: (1) have more than one year of nursing experience; and (2) not currently working in the operating room full-time.

Purposive sampling will be utilized initially and supplemented with snowball sampling, asking current participants to refer potential participants who meet the inclusion criteria (Polit & Beck, 2017). An estimated sample size for this study is up to 20 participants. More participants will be recruited if needed until data saturation is achieved (Polit & Beck, 2017). Participants will be interviewed until data saturation, when no new themes or additional information is obtained and redundancy is achieved (Given, 2008).

Data Collection Methods

Prior to the initial interview, a test interview will be performed by the primary investigator with two to three individuals with an operating room background in order to provide clarity to questions, explore wording and make changes as warranted (McGrath

et al., 2019). The primary method of data collection will be open-ended interviews. The initial interview guide contains 10 questions and consists of grand tour questions that will be explored (see Appendix A). From the grand tour questions and responses, probing and follow up questions will be asked based on emergent findings (Polit & Beck, 2017). Participants will be allowed to ask questions to gain further clarification. Based on the participant's responses, probing questions will be utilized to gain additional information to address the research question. The interview guide may be modified based on responses. The interviews will be recorded and scheduled for forty-five minutes to an hour in length. Each participant will receive a $10 Starbucks gift card at the end of the interview.

Demographic data including age, gender, race, degrees obtained, amount of clinical experience, time in the operating room, type of hospital, Magnet status, specialty operating room area currently employed in, and previous career(s) will be collected using a paper and pencil demographic form or electronic format if conducting an audiovisual interview (see Appendix B). The demographic form will be provided prior to conducting the interview; and the participant will be given time to complete. The study participants' demographic information will be coded, and no names will be used when analyzing the interviews. This information is important to be able to describe study participants.

Procedures

Approval from the University of Texas Health Science Center at Houston Committee for the Protection of Human Subjects (CPHS) must be received prior to the initiation of the study. The participants in this study will be recruited from the Association of Perioperative Registered Nurses (AORN) national and local chapter

monthly meetings at the Texas Medical Center location or videoconference meeting; professional network; and by recommendations from snowball sampling.

Permission to recruit participants will be obtained from AORN national and the local chapter president. Approved recruitment flyers with a summary of the study, criteria for participation, and contact information (cell phone number and email address) of the primary investigator will be included in the local chapter monthly AORN newsletter and will be available at the AORN meetings. Individual face to face or videoconferencing semi-structured interviews will occur utilizing a general interview guide, directed by a set of open-ended questions identified through the literature (see Appendix A). The interviews will be schedule during a time that is convenient for the participant. If the participant is unable/uncomfortable to meet for a face-to-face interview, an alternative for an audiovisual conference will be offered. All interviews will be conducted by the primary investigator, recorded on a USB tape recorder or audiovisual platform, and uploaded to a password-encrypted server. The participant will be informed should he or she experience unease during the interview, he or she may choose to take a break or stop and reschedule the interview. They may also cease participation from the study. Data, in all formats collected, will be stored on the UT server in a file folder as outlined in the handbook of operating procedure policy number 92 titled "Research Data Ownership, Retention and Access" and made accessible to my advisor.

Data Analysis

Qualitative research data analysis warrants intentional and deliberate review of data (Polit & Beck, 2017). Manual and electronic methods will be utilized to organize the qualitative data for this research study. The interviews will be transcribed by a

professional transcriptionist to ensure precision and audited by the primary investigator for reliability. Interview data will be managed using ATLAS.ti 9 Windows, a qualitative data analysis software. Familiarization of the data will involve the primary investigator listening to recorded interviews and reading transcribed data. The transcribed data will be read again prior to theme identification. Open coding will be utilized for breaking down, examining, comparing, and conceptualizing data for recognition of emerging patterns and themes while examining similarities and differences (Nunkoo, 2018). The investigator will identify clearly defined categorical themes with criteria to ensure consistency with coding (Polit & Beck, 2017). Themes will be based on repeated data with similar information. Thematic content analysis will occur to recognize distinct patterns originating from novice nurses, such as themes apparent in perceptions of effective and ineffective communication; coping strategies related to ineffective communication; and how communication challenges impact the intent to continue their career in the OR. Data analysis is an ongoing process and will occur simultaneously with data collection throughout the process to allow for adjustment of the interview guide.

Rigor and validity will be considered as well, including credibility, transferability, dependability, and confirmability (Maher et al., 2018). Strategies that will be implemented to ensure credibility includes a transparent analysis of data including methodology and findings (Sundler et al., 2019). Credibility will be achieved through the primary investigator reviewing and validating the interview transcripts. Transferability will be considered to ensure the findings can be applied in other settings (Maher et al., 2018). Measures to ensure transferability will include findings being conveyed using rich descriptive information. When rich descriptions are utilized, the readers can envision the

setting and possibly relate to the findings (Polit & Beck, 2017). Every step of the study will be detailed in the protocol to ensure dependability. Memos to document context, analytic decisions, and personal reflection will be kept.

Potential limitations and alternative strategies

The study is focused on novice operating room nurses. The specific population could possibly limit the individuals who qualify for the study. Interviews have their shortcomings, as the participants must be willing to share openly and honestly. Since the operating room can be an intense environment, the nurses may be reluctant to participate in fear of potential ramifications of sharing information. Explaining the process and highlighting confidentiality in detail should alleviate concerns the participant may have. More participants will be recruited to account for potential attrition that may occur. Face to face interviews would be the method of choice, but video and teleconference will be an alternative to face-to-face interviews. Another potential limitation is researcher bias. Some strategies to combat researcher bias include adhering to a neutral attitude throughout the research process as well as awareness of verbal and non-verbal communications by practicing bracketing.

Risk and benefits

The risks associated with this study are considered minimal, as the participants' identity will be kept confidential and a rapport will be established prior to beginning the interview. While minimal risks are expected, participants may experience anxiety depending on their experience being shared. Due to the length of the interview, the participants may become tired during the session. There is no perceived immediate benefit to the participants for participating in this study. The anticipated long-term

benefits include implementing an effective communication element to the operating room orientation process. Additional studies will be conducted to evaluate the correlation between effective communication in the operating room and turnover, retention, and patient outcomes. The strengths of the study include no previous studies including the population of novice nurses in the operating room related to the communication dynamics. The approach will allow a construct perspective of novice nurses in the operating room to be built regarding the existing themes found in the literature. The study findings will serve as a basis to prepare novice nurses in the future for a career in the operating room. Upon successful dissertation defense, dissemination of information will occur through submission for publication in the AORN Journal or Perioperative Care and Operating Room Management.

Ethical Considerations

Ethical approval for the study will be pursued from the University of Texas Health Science Center at Houston CPHS (see Appendix D). Participants will give written or verbal consent to participate in the study. The research study objectives will be explained to the participant prior to starting the interview. All data collected throughout the study will be kept confidential and archived in accordance with the research governance policy of the University of Texas Health Science Center at Houston. The use of pseudonym will be utilized in reporting of data to protect the participant's identity. Each participant will be assigned an identification number. Transcripts will be stored in a password protected computer. Data will be stored using a double-lock filing system in the primary investigator's office and made accessible to CPHS. The original recordings and full transcripts will be destroyed at the completion of the study.

Budget

The budget for the study will be $3974. This will include (20) $10 Starbucks gift cards for the participants = $200; (100) Recruitment flyers = $40; Webex = $135; and ATLAS,ti. student license = $99.

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MANUSCRIPT

EXPLORING NOVICE NURSES' PERCEPTIONS OF COMMUNICATION DYNAMICS IN THE OPERATING ROOM

A DISSERTATION

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF DOCTOR OF PHILOSPHY IN NURSING

THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON

CIZIK SCHOOL OF NURSING

BY

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August 2023

Letter to the Editor of AORN Journal

Dear Editor of AORN Journal:

I am writing to you about a research study manuscript I have prepared entitled "Exploring Novice Nurse's Perceptions of Communication Dynamics in the Operating Room." This manuscript was submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Nursing at the University of Texas Health Science Center at Houston, Cizik School of Nursing. The paper has not been previously published and is not currently under consideration by another journal. It has been reviewed by the research committee, accepted by the Dean of the Cizik School of Nursing, and approved for submission to this journal.

The principal investigator of the study has over 22 years of nursing experience in the operating room as a staff nurse, charge nurse, leadership roles, nurse residency lead coordinator, and educator; and hold a current Certification in Perioperative Nursing (CNOR) and Board Certification in Nursing Professional Development (NPD-BC).

Studies have previously addressed communication breakdowns among team members, and miscommunications have been evidenced to significantly challenge efficiency in the operating room. Novice nurses play an integral role in the success of operating room procedures and must possess strong communication skills that facilitate optimal patient outcomes. However, there has been little research on communication dynamics in the operating room setting from the perspective of novice nurses. The aim of this dissertation was to explore novice nurse's perceptions of factors that influence the dynamics of team communication in the operating room setting.

A generic qualitative approach was utilized to gain an understanding about the novice nurse's perception of communication dynamics in the operating room. The manuscript includes the findings from the study that were gathered using inductive thematic analysis. Themes were described and supported by participant examples, depicting perceptions of novice nurses in the operating room setting. The results of the study are relevant to perioperative nursing practice in that they identified perceived communication dynamics occurring in the operating room as experienced among novice nurses. Implications to perioperative nursing research and practice are also included in the manuscript.

The manuscript is relevant for AORN Journal and there is no conflict of interest to report for this study. In addition, this study received no financial support. We would appreciate your consideration for publication.

Thank you again,

LaSandra Brown, PhD(c), MBA, RN, CNOR, NPD-BC

Exploring Novice Nurses' Perceptions of Communication Dynamics in the Operating Room

Abstract

Background

Communication among the multidisciplinary team members in an operating room setting is essential for effective and safe patient care. Studies have previously addressed communication breakdowns among team members, and miscommunications have been demonstrated to significantly challenge efficiency in the operating room. Novice nurses play an integral role in the success of operating room procedures and must possess strong communication skills that facilitate optimal patient outcomes.

Purpose

The aim of this study was to explore novice nurses' perceptions of factors that influence the dynamics of team communication in the operating room setting.

Methods

An inductive thematic, qualitative analysis of 11 semi-structured interviews with novice nurses working in an operating room was conducted to investigate communication dynamics as perceived by these participants and to suggest solutions to improve communications in this setting.

Findings

From the novice nurses' perspectives, effective communication exists when multidisciplinary team members are informed about the cases and procedures they are assigned, work cooperatively as a team, and show respect for their patients and one

another. Nurses identified situations where tension existed among multidisciplinary team members, which impacted patient care.

Conclusions

The novice nurses perceived that their comfort levels of communication increased as they worked longer, gained more experience, and developed positive relationships with members of the multidisciplinary team. The participants suggested increasing communication training during orientation to enhance communication in operating room settings.

Keywords: novice nurse, operating room, multidisciplinary team, communication

Exploring the Novice Nurses' Perceptions of Communication Dynamics in the Operating Room

Specific Aim

The operating room suite is a unique department within a healthcare facility where surgical procedures are performed. It is a multifaceted, high-pressure environment where it is essential that all team members utilize aseptic techniques and maintain the sterile field. In this setting, frequent technological advances, as well as specialty standards and guidelines of practice, influence the goal of optimal patient outcomes. There is a multidisciplinary team in the operating room typically including a nurse, surgical technician, surgeon, and anesthesia provider. Frequently, there are additional personnel such as a surgical assistant/medical resident or a radiology provider.

To be an effective healthcare team member, one must possess a high level of communication skills (Babiker, et al., 2014). Communication among the multidisciplinary team in the operating room is particularly vital for patient safety and optimal patient outcomes. Indeed, effective communication skills are especially paramount in the operating room setting since the nurse serves as an advocate for the unconscious patient. In all cases, the nurse retains the role of patient advocate, and thus possesses an integral role with respect to communication among the multidisciplinary team.

Miscommunications are common among team members in the operating room. It has been estimated that communication breakdowns occur in 30% of exchanges among the team members. These include late communication; inconsistent, incomplete, and inaccurate content; failure to include key stakeholders; and unresolved issues (Garosi, et

al., 2020). Miscommunications have been recognized as a key vulnerability for patient safety and efficiency in the operating room (Christian et al., 2006), and one study found that 56% of surgical-related complications were a result of ineffective communication (Hu et al., 2012).

Novice nurses experience a range of situations, which are professionally and emotionally challenging (ten Hoeve et al., 2018). According to Hezaveh and colleagues (2014), one group of novice nurses did not feel prepared to communicate with colleagues and physicians at the beginning of their careers, but gradually improved over time. Many novice nurses in the operating room have no perioperative nursing exposure or education, which can be anxiety provoking (Foran, 2015). Enculturation of novice nurses in the operating room is important for success and ultimately benefits the unit, facility, and patients in their care (Wilson, 2012).

Information on how novice nurses navigate communication in the operating room is limited in the literature. This qualitative research study was conducted to establish an understanding of communication experiences of novice nurses (those with one year or less nursing experience) with team members in the operating room. The knowledge gained from this study will assist in developing potential solutions for miscommunication. Therefore, the specific aim of this study was to explore novice nurses' perceptions of factors that influence navigating the dynamics of verbal team communication in the operating room setting.

Research Question

In order to explore how novice nurses perceive communication dynamics in the operating room, this study addressed the following research question: What are novice

nurses' perceptions of their experiences with team communication in the operating room setting?

Background and Significance

Significance

Throughout the U.S., the demand for nurses is greater than the supply; this imbalance is expected to increase as the registered nurse population ages, nursing school faculty shortages persist, and health care needs increase (AACN, 2022). This shortage is problematic considering there are more than 48 million ambulatory surgical procedures and 51 million inpatient surgical procedures performed annually (Lee, Ding, & Guzzo 2019).

The financial centers of hospitals are operating rooms, which account for 60-70% of revenue (Rothstein & Raval 2018). From an economic and quality of care perspective, issues that hinder optimal functioning of the surgical setting must be addressed. According to Lyons and Popejoy (2014), one half to two thirds of medical errors and adverse events are credited to surgical care. In one study, in 30% of the operating room team member exchanges, communication failures such as occasion failures (too late to be effective), content failures (not consistently complete and accurate), audience failures (key individuals not included), and purpose failures (issues not resolved) were observed (Garosi, et al., 2020).

According to Haynes et al. (2009), complications associated with surgical procedures range from surgical site infections and excessive blood loss, up to death. Further, it has been reported at least 4000 major surgical errors referred to as "never events" occur in the United States annually (Rodziewicz et al., 2022). Never events

include situations as wrong site surgery, wrong patient, pressure injury, and unintended retention of foreign object (Rodziewicz & Hipskind, 2020). Inadequate communication accounted for 46% of never events in surgery (Koleva, 2020).

In the operating room, communication failures have been determined to be one of the root causes of 80% of these sentinel events (Kenawy & Schwartz, 2018). A sentinel event is "a patient safety event that results in death, permanent harm, or severe temporary harm; and they are debilitating to both patients and health care providers involved in the event" (The Joint Commission, 2021, Sentinel Event section). All patients undergoing a surgical procedure have the potential of being affected by medical errors and adverse events in the operating room.

Miscommunication is often cited as contributing to patient safety incidents. However, communication "encompasses meanings, including the internal responses that people make to the message stimulus as well as the internal stimulations that these responses produce" (Berlo, 1960, p. 278). Miscommunication is defined as "an exchange during which information was either incomplete or inconsistent, or key personnel were not included" (Gillespie et al., 2012, p. 580). Effective communication among healthcare providers ensures all members of the multidisciplinary team effectively manage their roles and responsibilities, set expectations for the delivery of safe patient care, and measure and assess outcomes; this includes the effective, appropriate and timely exchange of information (Garrett, 2016).

Competence in verbal communication is a prerequisite to personal and professional career success (Morreale et al., 2000). To be an effective healthcare practitioner, one must possess a high level of effective communication skills, which

encompass both verbal and non-verbal elements (Babiker, et al., 2014). It is essential the entire operating room team communicates well for optimal patient outcomes, and the novice nurse must learn to communicate effectively in this high stress environment.

Review of Literature

Prior research on communication in the operating room suggests that increased errors result from communication failures such as occasion failures (too late to be effective), content failures (not consistently complete and accurate), audience failures (key individuals not included), and purpose failures (issues not resolved) were observed and occur in approximately 30% of procedurally relevant exchanges among team members (Garosi, et al., 2020). This information was derived from observations and field notes from 90 hours of recordings from 48 surgeries and included 94 team members (anesthesia, staff, and nursing) (Garosi, et al., 2020). According to Garosi et al. (2020), 129 of recorded communication events were categorized as communication failures.

A survey among surgeons and non-surgeons by Kenawy and Schwartz (2018) suggested that communication failure is a major factor contributing to medical errors. The results revealed surgeons and non-surgeons saw the importance of communication among team members during a procedure but the perception of communication quality varied with non-surgeons rating communication lower compared to the surgeons (Kenawy & Schwartz, 2018). In recognition of the potential problem, a longitudinal study by Haynes et al. (2009) found a decline in complications and deaths after implementation of a standardized communication tool.

Communication and collaboration skills are essential to guarantee patient safety, improve outcomes, and reduce costs (Garrett, 2016). According to Hecimovich and Volet

(2009), developing students' abilities in communication and clinical skills prior to the transition to practice is vital. Novice nurses encounter a variety of physical, emotional, intellectual, and developmental changes in the first year of practice (ten Hoeve et al., 2018). A qualitative study conducted on novice nurses' experiences on unpreparedness at the beginning of work consisting of 21 people (17 novice nurses, 2 supervisors, and 2 experienced nurses), revealed functional defects (skills and primary nursing procedures); communication problems (communication with colleagues and patients); and managerial challenges (ability to function as charge of the care team and leader) themes (Hezaveh et al., 2014). These challenges affected the novice nurses' ability to apply the learned knowledge in practice (Hezaveh et al., 2014).

Theoretical Framework

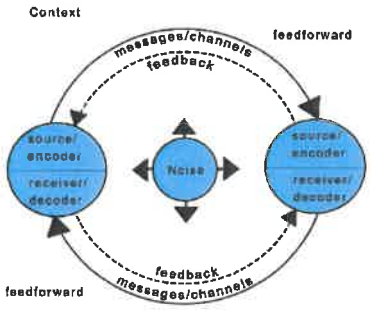
The Dyadic Interpersonal Communication Model served as the guiding theoretical framework for this study (Berlo, 1960). This model was deemed to be beneficial to the study of novice nurses as they navigate communication in the operating room to ensure verbal messages are received as intended. The basis of the Dyadic Interpersonal Communication Model focuses on the process of communication and ensuring the message is decoded as intended from the sender. The start of the model is the sender (source), where the coding of message occurs to be sent to the receiver (Berlo, 1960). There are many factors that may affect the sender including attitude, knowledge, culture, and communication skills (Berlo, 1960).

In this study, the senders were the novice nurse and/or members of the multidisciplinary team. The message was the content of the information to be delivered to the receiver(s), and consists of verbal and non-verbal communication. The delivery

included verbal communication, body language, and other non-verbal communication that took place in the operating room. The channel was the mode used to deliver the message utilizing all senses (Berlo, 1960). The receivers in this study were the novice nurse and members of the multidisciplinary team in the operating room. Using the Dyadic Interpersonal Communication Model, the study examined novice nurses' perceptions of communication dynamics in the operating room and identified common themes that contributed to effective communication, as well as miscommunication, in the operating room.

Figure 1

Dyadic Interpersonal Communication Model (Bajracharya, 2018)



Benner's Novice to Expert Model also served as a theoretical guide to identify the population for this study, and their distinct attributes. According to Benner (1982), a novice nurse (Level I) has no experience with the tasks expected to perform and an advanced beginner (Level II) exhibits minimal experience while requiring assistance from the competent nurse. Competent nurses (Level III) have been in their current roles for two to three years (Benner, 1982). According to ten Hoeve et al. (2018), novice nurses' identity in the beginning of their career involves various elements including competence, development, organizational context, autonomy, fit, relatedness, existential,

and goals. Emerging into the workforce, novice nurses must balance their personal life and demands of a new career; and they influence each other (ten Hoeve et al., 2018). As previously mentioned, the OR is a demanding specialty where decisions are time sensitive among the multidisciplary team; and the nurse serves as the patient advocate. This environment also can influence the novice nurses' decision to speak up in a stressful situation.

Transition to practice programs assist the novice nurse in adjusting from being a graduate nurse to a healthcare professional, incorporating their theoretical and professional knowledge (Mellor & Greenhill, 2014). Novice nurses experience different phases as they transition to practice including doing, being, and knowing stages (Jewell, 2013). Novice nurses enter their career in the doing stage (honeymoon phase) during the first four months, when they are seeking expectations and are task oriented (Jewell, 2013). After the doing phase, the novice nurse spends five months in the being stage. The being phase is when novice nurses become more comfortable with their respoonsibilities, skills, and knowledge while feeling less overwhelmed (Jewell, 2013). The phase in the final three months of year one is the knowing stage, when novice nurses becomes more confident in their ability and integration into the profession (Jewell, 2013). To enhance the graduate nurses' transition to practice, leaders, nurse educators, and mentors must understand and acknowledge the different stages of skill attainment and transition theory (Murray et al., 2019).

Approach

Study Design

A generic qualitative approach was utilized to gain an understanding about the novice nurses' perception of navigating communication in the operating room. A generic qualitative approach using individual interviews was chosen because little was known about the subject of the study. According to Percy et al. (2015), a generic qualitative approach examines one's opinions, beliefs, or attitudes about experiences. Purposive sampling was used to recruit the participants for the study. Demographic information was collected from the participants in Microsoft forms (see Appendix B) including age, gender, race, degrees obtained, amount of clinical experience, time in the operating room, type of hospital employed in, and previous career(s). The forms were submitted without names or any identifying information. Each participant was assigned a unique identifier.

Individual semi-structured interviews using a general interview guide with open-ended questions were conducted (see Appendix A). The sessions took place virtually although each participant had the option of in person or virtual interviews. The interviews were completed over a period of ten months. Interview sessions were scheduled for one hour. The sessions lasted an average of 43.8 minutes – the longest interview lasting 82 minutes and the shortest one lasting 19 minutes. Each interview was recorded utilizing Webex platform and uploaded to a password-encrypted server.

Each interviewee was asked the initial questions from the interview guide and allowed to ask questions and obtain clarity prior to responding. They were then asked probing questions to gain additional information that further addressed the research question. All participants followed through to completion of their interviews, so none of

them required rescheduling or cancellation. One participant was omitted from the study analysis because they did not meet the inclusion criteria due to being a nurse longer than one year. After the interviews were completed, the dialogues were transcribed by Webex along with the primary researcher.

Sample and Setting

Participants in this study were recruited from the Association of Perioperative Registered Nurses (AORN) national organization and local chapter at the Texas Medical Center location utilizing a professional network of operating room colleagues, and recommendations from snowball sampling. The guidelines for use of AORN's membership database were followed for AORN national recruitment and local chapter guidelines for local approval. Purposive sampling was utilized initially and supplemented with snowball sampling, asking participants to refer potential participants who met the inclusion criteria (Polit & Beck, 2017). Although there was an initial estimated sample size of twenty participants, eleven novice nurses participated in the study. No further recruitment was necessary as data saturation was achieved (Polit & Beck, 2017).

Inclusion criteria were: (1) registered nurse prepared at the associate or bachelor's degree level with one year or less nursing experience at any organization; and (2) currently working in the operating room full time. Participants were excluded if they: (1) had more than one year of nursing experience; and (2) not currently working in the operating room full time.

Research Subject Risk and Protection

To protect participants of the study, approval was obtained from the University of Texas Health Science Center at Houston Committee for the Protection of Human

Subjects (CPHS) prior to the collection of any data (IRB Number: HSC-SN-21-0380). A document of informed consent was emailed and presented to participants before any data were collected to ensure they understood the purpose of the study, how the study would be conducted, the key elements of the study, and their role in participating (see Appendix C). Informed consent was verbally acknowledged by participants to ensure they made informed choices to participate. Pseudonyms were used to protect participants' identities in the reporting of data. Transcripts were stored on a password protected computer. The eleven participating nurses were assigned the alpha-numeric symbols N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, and N11 to protect their identities. The original recordings were destroyed at the conclusion of the study.

Data Analysis Procedures

Manual and electronic methods were utilized to organize the qualitative data for this study. After each interview, the primary investigator reviewed and audited the transcribed Webex recordings for reliability and made notes of thoughts and observations from field notes. Interview data were managed using ATLAS.ti 9 Windows (Version 22), a qualitative data analysis software; manual review and organization were also undertaken.

Familiarization of the data involved the primary investigator listening to recorded interviews and reading transcribed data. The transcribed data were read several times prior to theme identification. Open coding was used to "break down, examine, compare, and conceptualize and categorize data" for recognition of emerging patterns and themes while examining similarities and differences (Strauss & Corbin, 1990, p. 61). The investigator identified clearly defined categorical themes with criteria to ensure

consistency with coding (Polit & Beck, 2017). Themes were based on repeated data with similar information. Thematic content analysis was conducted to recognize distinct patterns originating from novice nurses, such as themes apparent in perceptions of effective and ineffective communication; coping strategies related to ineffective communication; and how communication challenges impact the intent to continue their career in the OR.

Data analysis occurred simultaneously with data collection throughout the process to allow for adjustments to the interview guide. Common themes were identified during data analysis that contributed to the communication dynamics in the operating rooms where the eleven nursing participants were employed. These themes were inductively developed from the data that were initially coded and then indexed into categories and themes.

Rigor and validity of the data, including credibility, transferability, dependability, and confirmability, were established during data analysis to ensure that themes accurately depicted the data that were collected (Maher et al., 2018). A transparent analysis of data including methodology and findings was implemented to ensure credibility (Sundler et al., 2019). Credibility was achieved through data saturation. All interview transcripts and video recordings were re-reviewed for themes associated with the research aim, but no additional themes were identified after analysis of the novice nurses' responses. Rich, descriptive information is determined to enable readers to envision the setting and possibly relate to the findings; and ensure transferability so that findings of this study may be applied in other settings (Maher et al., 2018; Polit & Beck, 2017). Dependability and confirmability were also established by detailed translation of the data.

Documentation of research steps taken from the study beginning to the data collection and analysis occurred. All information including notes, observation, and analysis were maintained.

Results

Descriptive Data of Novice Nurses

The sample included eleven novice nurses who participated in the semi-structured interviews. The age range of the participants was 22 to 50 years, with the majority (45.4%) being 25 years and under. None of the participants were male. The sample consisted of three African American females (27.3%), four white females (36.4%), two Hispanic females (18.2%), and two Asian females (18.2%). Three (27.3%) of the eleven nurses had completed an associate degree nursing program, eight (72.7%) of the nurses had completed a Bachelor of Science nursing degree program, and one nurse had an additional bachelor's degree in history. The length of clinical experience for the eleven participants ranged from one to twelve months. The length of time each spent in the operating room ranged from one month to eleven months. At the time that the demographic information was collected, six (54.5%) of the participating nurses were employed at an academic hospital and the five (45.5%) remaining participants were employed at a community hospital. Nine (81.8%) of the hospitals were Magnet designated facilities. Most of the participants (54.5%) were working at hospitals with more than 401 beds. The specialty areas of the OR where these participants had been or currently were employed included orthopedics, cardiothoracic/vascular, gynecology/obstetrics, and urology (1 nurse in each specialty area). Six of the nurses had

worked in a combination of two or more of these areas, and one of them had also worked in neurology. (See Table 2 for detailed demographic characteristics of the participants.)

Themes

Using the Dyadic Interpersonal Communication Model as the theoretical framework for this study, novice nurses' perceptions of how well they communicate in the operating room with different members of the multidisciplinary team, with varying levels of expertise was examined. Multidisciplinary team members identified in this study included surgeons, surgical assistants, anesthesiologists, certified registered nurse anesthetists, anesthesia technicians, surgical technologists, registered nurses, perfusionists, radiology and other biomedical technicians, and vendors of medical equipment and devices.

Dyadic communication, as it refers to the quality of communication between partners, was expected to occur among all members of the multidisciplinary team. The beginning of the model is the sender. In this study, the senders were the novice nurses and/or members of the multidisciplinary team. Each theme addressed the sender's role in transmission of messages in different facets of the OR. The message was the content of the information to be delivered to the receiver, and consists of verbal and non-verbal communication.

All themes discussed different factors that contributed to the message delivered including prior communication training, comfort level with team members, distractions, and intended patient outcomes. The channels were verbal in this study. The receivers in this study were the novice nurses and members of the multidisciplinary team in the OR.

The novice nurses in this study pinpointed dyadic relationships between themselves and other members that significantly impacted their abilities to perform duties, achieve goals, and solve problems in the operating room. These data were analyzed utilizing the model yeilding five resulting themes (summarized in Table 1).

Theme one: Perceived Competency in Communicating with the Multidisciplinary Team

In this study, competency in communicating with the multidisciplinary team refers to the ability to deliver and retrieve messages in a clear, timely, and focused manner to ensure that surgical treatments are done appropriately and prevent adverse events from occurring during perioperative care. The novice nurses who participated in this study perceived having varying degrees of competency for communicating well with members of their multidisciplinary team. Those who had previously worked with hospital staff were more apt to report effective communication with their team. For example, N4 stated: "…having all those years of advocacy as a surgical tech, it was not a hard transition, being able to speak up to physicians or the multidisciplinary team." Similarly, N2 stated: "I think because I'm 50 and started in administration. I have a background in healthcare so, um, I don't have any trouble."

Other novice nurses, however, expressed feeling challenged in communicating effectively with their team members. For example, N7 stated: "I remember my first case; I was on edge, and I wanted to cry because I did not know how to be a nurse or to speak or to communicate with anybody in the operating room team." In affirmation, N6 stated: "… new nurses are typically afraid, they don't speak up or they don't know what questions to ask."

To make communication more effective in the OR, novice nurses specified the need to improve communication training during orientation by increasing the number of modules that cover communicating with OR staff and to provide practical learning experiences during orientation. In response to a question about receiving communication training during orientation, N10 stated:

"I would like to say "no," just because in all the classes that we had during the residency

program, we were taught how to perform an accurate count or how to handle specimens,

but not ever how to communicate. I think I learned that more from the people on the unit,

if that makes sense."

Similarly, N1 stated: "We've probably had maybe 25 to 30 lecture type days that included anything from devices in the OR to malignant hyperthermia. But I think in terms of communication, we may have had one lecture."

Other participants also indicated that they received very little or no practical communication training during orientation. Participants' responses to whether or not they received practical communication training during orientation were explored. One participant, N4 asserted:

> "We had critical thinking exercises. It was a lot of return demonstrations. You had to effectively communicate to be able to critically think things through, and it wasn't just things that you wrote on paper or ideas, it was interactions and actual hands on. So that effective communication for critical thinking was there with the

> instructors. It was participation and you had to be very thorough in detail with your assessment and your communications…extremely helpful. When you're taught to critically think you look at the patient as a whole and from there, you can come up with a more accurate plan of care for the patient, versus just looking at them having a procedure done and planning for the procedure."

Other participants indicated that completing modules or attending lectures that do not provide hands-on training pertaining to communicating effectively in a job setting does not adequately equip them for the actual work environment. For example, N1 stated:

> "I think that you can be lectured to all you want, but there wasn't like a practical element of that. We didn't really practice what communication is, what a stressful situation looks like or in a disagreement. It was a very small, very small lecture, but there wasn't a practicum to it. There wasn't a 'hey, this is what it could look like'."

Also, N7 affirmed:

> "So, I would say we didn't have any classroom instruction on interacting with the team, we learned that more in the clinical rotation area. So, our preceptors are actually telling us how to be one with the team. So, I am in a group of four right now, and so we can be a little timid at times."

Novice nurses with no prior experience "felt afraid to speak up and wanted to cry" as they transitioned to the operating room. Also, little to no training was offered during the orientation phase.

Theme two: Perceived Comfort Level of Communicating with Multidisciplinary Team Members

Comfort level refers to the novice nurses' state of ease, contentment, and/or well-being in communicating with members of their multidisciplinary team. Feelings of confidence, inner peace, empowerment, awareness, and satisfaction were recognized as characteristics of high comfort levels that attributed to effective communication and functionality. Low comfort levels were characterized by stress, confusion, frustration, unhappiness, and feelings of anxiety, which were attributed to poor communication and inability to learn and grow as a nurse. The explanations confirmed that comfort levels rise from low to high as the novice nurses gain more experience in the clinical setting and develop stronger relationships with their team members.

The novice nurses in this study generally agreed that communicating becomes less difficult over time as they practiced their roles and responsibilities. N6 stated:

> "Um, initially it was a little uncomfortable, just trying to learn the different dynamics and the different lingo that is appropriate to use. So, initially I was a little nervous, but with practice and with some mentoring, it got better, it normally takes about maybe three months or so to get a little comfortable, then you get better after that."

Similarly, N1 stated:

> "I am getting more and more comfortable the more I do it and the more time that I spend with a surgeon. I am now comfortable with texting a surgeon if I have a question…And again, that's only with the surgeons I've worked with so far. I can't speak for the cardiac surgeons because I haven't been in those rooms yet."

To add another example, N2 stated: "I have a good level since I've worked in healthcare

for 20 something years so I'm a little different than the normal novice nurse. I'm not intimidated by the doctors like some new nurses are. So, I feel like I have a pretty good comfort level already."

Some respondents were a little more hesitant about their comfort with communicating with the team. For example, N3 stated:

> "I'm kind of a shy person, so I think it's taking me a little longer perhaps to get my voice but I'm slowly getting there. I do find myself, like, more comfortable with certain people, but I think too, as I understand how the cases are supposed to go, I have a better sense of what I need to ask for. So that helps me to know what to anticipate even."

N8 shared:

> "So, that really depends. I know higher statuses and titles can be scary. And especially in the training, and the months that I'm in now and the training knowledge that I have now, it's definitely a little intimidating to address certain concerns to certain people. I would say my struggle right now is expressing concerns to the surgeon, simply because they are our customers and you know, you have to make the customers happy. So, I would say right now I'm still learning how to address concerns with the surgeons, but, you know, for example, our surgical technicians, I am very comfortable working with them and talking with them because they are like our go to. So, they're kind of like our middleman to the surgeon, because they're their right-hand man as well. So, whatever the

surgeon needs, you know, the surgical technicians will relay that message to us, and, you know, we will defend them, and they will defend us in any case needed. So, yeah, I would say it's definitely a learning experience right now."

In another example, N11 added:

"So, for me since I'm still relatively new, I guess I'm more comfortable addressing issues to my nurse, my scrub tech, and residents, but I guess I'm not as comfortable addressing it to a surgeon because usually they're a little farther away and it's a little harder to hear them and yeah it's usually easier to just talk to a resident, rather than the surgeon itself."

In correspondence with the participants' responses indicating their comfort level in communicating increased the longer and more they interacted and work with their team members, N7 stated:

"You have that kind of strong relationship with all your coworkers and even if you're new, they embrace you and you're only as strong as your weakest link. And being new, we are the weakest link right now. And so, they want to make sure that we're strong. So that way, when they need us, we're able to help them. So, it just goes along with that flow of teamwork. It's just one really big team, and we all can work really well together."

The participants in this study also indicated that experienced staff are more likely to call on them to assist with operating room procedures and listen to their input as they become familiar with how they work. N9 stated:

"… learn how to not be afraid. I was afraid of speaking to a surgeon, and there are some surgeons that have that higher title, or they've been there a lot longer, so it's

> harder to earn or to gain their respect so to speak. Sometimes they won't even give me the chance and they'll kick you out of the room because you're new. They don't really trust you. And so, I would say go in with confidence and try to communicate as best as you can to show that you're not timid. You know I go in there and I could be trembling inside but show that you're confident and you will be respected."
>
> The novice nurses expressed "intimidation when working with and speaking to the

surgeons" as the surgeons were viewed as higher status.

Theme three: Communication During Adverse Events in the OR

Communication during adverse events in the OR refers to interaction between the members of the multidisciplinary team in response to occurrences of undesirable incidents that cause harm to a patient. Highly effective communication enables OR staff to quickly respond to adverse events and to improve patient safety and outcomes. The participants expressed consensus that highly effective communication is needed in the OR when issues arise that need to be addressed and resolved quickly, although it may not always happen.

In an example, N3 shared:

> "I did see this when I was scrubbing, where, we actually had an airway patient, who was not ventilating very well. And so, the surgeon was getting very antsy because he could hear the anesthesia machines and was asking, 'do you know what's going on?' and anesthesia never responded. So, the surgeon kept getting more and more anxious to the point of where the surgeon's actually leaving, and

> they're putting a NG tube in and the NG tube actually ended up going down into the patient's airway, and so this, of course, got the surgeon very upset – as he would be. And so, you know he starts yelling at the circulator who then is becoming very flustered herself who's then running outside to try to grab stuff. And so, the patient ended up doing okay thankfully but a lot of that could have been avoided, and it could have gone a lot more smoothly, and not have been the emergency it turned out to be in the end if people had just kind of given a heads up like, this is what's going on. This is what I'm doing and even the surgeon, even though he was asking, he could have said, like, "hey, I'm struggling here. You know, I need to know what's going on for patient safety"…you know, at this point, the circulating nurse could have stepped up and said, "hey, how can I help?" You know so, there's sort of a lot of missteps along the way for everybody."

N3 stated "From what I've seen in my experience, yes, I think one of the nice things about this particular OR is it seems like especially between anesthesia and the circulating nurse and whoever is scrubbing, there really is a desire to work as a team and to help each other out." N11 added "If there's an error that occurred, I think I'm more comfortable confronting the team for sure…If I contaminate something or know somebody contaminated something, then I point that out and we re-gown." The remaining nurses affirmed that the members of the multidisciplinary team put any differences they may have aside to make sure patients receive the appropriate care in cases of urgency.

Theme four: Ineffective Communication Dynamics in the OR

For this study, ineffective communication dynamics refers to transmission of information, or lack thereof, that causes or succumbs to the distractions, barriers, and challenges that take place in an operating room setting. In one example, N1 stated:

> "there was a surgeon who had dropped a pair of scissors on the floor while he was scrubbed in and the case was going, and he had alerted the room like, 'hey, I just dropped a pair of Metz or something on the floor,' and the circulator was at her computer and stood up and said, 'okay, I'll grab those scissors now' and the surgeon bent over broke sterility, grab the scissors and threw them across the room. Not at anyone, but towards the dirty case cart and said, 'here I got it for you.' The circulator was like, 'okay, I'll get them over there now.'…the surgeon was obviously not happy with the nurse. The outcome was, the nurse got upset because the nurse felt like the surgeon was taking something out on the nurse and nothing affected the patient, but now that nurse doesn't want to work with that surgeon ever…I don't think that nurse has been in the room with that surgeon since. I know for a fact, the surgeon and the nurse never talked about what happened; why there was some frustration going on. That doesn't happen. If there is frustration or ineffective communication that happens, there's hardly ever a follow up about it. It's just kind of swept under the rug, you keep going and that's it…that affects the way the charge runs the board. That nurse can't be put with that surgeon. And there could absolutely become a situation where that nurse is on call, and that surgeon is on call, and they have to work together in the middle of

the night – that could happen. But, you know, again, something happened, and I know it was never talked about."

In another case, N2 explained that:

"Ineffective communication can be a total disaster. It can mean you don't have the things that you need. It's an example we had a surgery the other day that was written on the board as a laparoscopic procedure. Everything that the case cart had been pulled for was laparoscopic, all the laparoscopic instruments. I mean, everything about the case was laparoscopic and all of a sudden, the surgeon walks in and is like, we're doing this open. So, where the disconnect came from, I don't know, but all of a sudden, we had to scramble and change out instruments. Basically, you reset the room for an open procedure. So somewhere along the line, communication broke down and caused a lot of extra work that had to be undone and redone that might not have had to happened if it had been communicated properly initially."

N10 stated:

"I was scrubbed in with my preceptor, so, I wasn't by myself. It was a hernia repair…in the surgery, the physician asked for a mesh as they usually do to fix the hernia. And so, the circulator nurse grabbed the mesh; everything was good. And then he asked for a suture to suture in the mesh, but when he asked for the suture, he called it something so different that no one knew what he was talking about. And it's like that moment where someone is asking you for something and you have no idea what it is…I saw that look on my circulator nurses face, and she looked so confused. I was confused of course. My preceptor was confused, and

then the nurse asked for him to clarify and he didn't clarify…I don't know why. So the circulator went over to where we have all our resources in the core and she kind of grabbed what she thought the surgeon needed, you know, knowing she's been in that surgery for so many times…She grabs a suture that she thinks is the right one, comes back into the room and that's when the surgeon gets really mad, and says, 'it's not what I was looking for'… in this tone of voice that I didn't appreciate at all. I felt bad for my circulator and if it was me, I wouldn't have appreciated it. When she said, 'please clarify again please, I don't know what you're talking about.' That's when he finally rephrased it. He rephrased the suture for us. But it took time. It was like a minor delay in the whole procedure. I got actually really frustrated that day. Like, you know, I'm going to be truthful and honest, you know, I expressed it to my coworkers, I just felt like that was not the way to handle the situation…I think everyone's role in the operating room is to kind of like, you know, keep the patient safe and get the surgery going and make sure it's a successful surgery. And I think that day I was just kind of like, shocked at how he treated the nurse and yelled at the nurse and so I think that's a way of ineffectively communicating.

N11 stated:

"I would say when the surgeon doesn't really communicate, kind of expects you to have things last minute, or maybe when the surgeon is being very hostile to the residents, and it brings a negative energy in the room. For example, I did notice when a resident is on the console doing something wrong or not knowing how to do something, the surgeon usually kind of gets angry and starts yelling, which

kind of brings down the energy in the room. So, we kind of lower the music a little bit and kind of quiet down. But that's the only experience I have."

In a final example, N9 stated:

"I think ineffective communication is when it leaves people reasonably frustrated, and when the communication doesn't respect people's roles and doesn't respect people's responsibilities in the operating room… I think when I feel intimidated, 100% the biggest thing and when I'm nervous to ask a question, or if I feel like I'm going to be judged or disrespected."

As mentioned, many times the surgeons in the operating room "get very upset to the

point of yelling and throwing instrumentation" which exhibits ineffective communication.

Theme five: Effective Communication Dynamics in the OR

Effective communication dynamics refers to the successful transmission of time-sensitive information that is accurate and complete and that results in the achievement of goals and desired patient outcomes for the multidisciplinary team. The participants indicated that listening and paying attention constitutes effective communication. For example, N4 shared that:

"Effective communication looks great when everyone is on the same page. Everyone agrees and there's no hiccups. There is no, "oh I thought this," and everyone is on the same page. A great example of that is when you do your time out, that's effective communication, ensuring those appropriate processes are in place, and that everyone agrees, everyone stops, and everyone agrees – that's

effective communication. It's effective when everyone is on the same page, and they agree what those respective areas and centers of concentration are per se."

Similarly, N8 stated:

"I would say in our OR, our surgeons are quite open to listening to what the nurses say. It's just that you have to be confident and sure of what you're saying. So, if you bring something up, they're going to address it. … I would say our surgeons actually listen really well, they work with the nurses really well, some of them more than others, are very understanding and very, very flexible; and even the ones who are not flexible, I've seen on multiple occasions them being willing to explain why".

In another example, it was noted that making sure directives and procedures are clear and understood constitutes effective communication. N1 shared:

"The best examples I have of that is actually setting up a room; not necessarily when the case has started. I have experienced the most effective communication when I've been in a case where we have to have a quick turn over time, and there are a lot of hands in the room and my preceptor was kind of delegating tasks to everybody, like, literally had a list written out on the whiteboard of things that needed to be done before that next case rolled in the room, and next to each person's name – she said, 'hey, are you okay if I assign this to you?' 'Yep? Put her name next to that.' 'Okay, are you okay to get meds, to get the machine, to get whatever?' 'Okay. Great.' So, that was amazing, because everyone knew what their role was… But it was delegation, and it was my preceptor knowing – 'Hey, I know that you have experience in this. Are you okay with getting this ready for

> this case?' Because that made everyone efficient, because they knew what to do and everyone was comfortable because they had done that or gotten that particular piece of equipment ready before. That's the best example I have for you because that's just something that sticks out in my mind to where everyone was happy with their role. Everyone knew what their role was. Everything got done on time. We even got to take a break before the case rolled."

In a fourth example, N10 stated: "I think effective communication would look like me confirming with the surgeon exactly how he wants the patient positioned, and effective communication would also be telling the surgical tech in the room about the case." With respect to effective communication, N2 stated that communication should be:

> "Respectful at a volume loud enough for people to hear it, but not so loud like you're yelling. I mean, you want to be thorough, but not long winded. You want to get to the point, be efficient and you want it to be timely. I mean, you want to make sure that you're communicating the things you need to be communicating when you need to communicate."

In other examples, effective communication takes place when everyone is well informed, works as a team, and shows one another respect. N3 stated:

> "So, I would say that it would be a place where basically everybody feels first of all comfortable to voice their opinion. If they do or see something wrong, people can feel comfortable to express themselves openly and clearly and everybody's on the same page with what we're doing, and you know what the process is going to be, and that people do that in a timely fashion. So, not waiting until after the fact."

Finally, when describing effective communication, N11 stated "I think for my unit…everybody is very nice to each other. So, I haven't seen any like, harsh comments. I've heard surgeons be very firm and strict with what they said, but it's not always mean."

Discussion

This study found that novice nurses perceived effective communication to be important in the operating room setting as expressed in the themes. Communication and collaboration skills are essential to guarantee patient safety, improve outcomes, and reduce costs (Garrett, 2016). In this study, the nurses discussed patient outcomes and safety related to communication.

The need for new nurses to become more proficient in communication skills during training was evident in the reviewed literature and supported by the participants. This education aids in collaboration among team members that is essential to optimizing patient outcomes and in helping the new nurses to increase their confidence and advance more quickly (Arnold & Boggs, 2020; Joswiak, 2018). Many participants did not receive any communication training during the orientation phase of their employment and expressed the need to assist in transitioning to practice with communicating with the multidisciplinary team. Therefore, additional training for communicating in the OR should be strongly encouraged, and/or an increased focus should be placed on such training during orientation. Indeed, hands-on communication training was supported by the participants' responses.

Fukada (2018) listed communication, the ability to understand people and to build interpersonal relationships, as a core component of nursing competency. To support

increased communication training during orientation, studies showed that hands-on communication exercises bridge the gap between theoretical knowledge and communication competence in real clinical settings; this, in turn enhances novice nurses' job performance (Kim, et al., 2018; Williams, et al., 2020). There was a consensus among the nurses interviewed regarding an increased need for team communication training during orientation including didactic and simulation.

The comfort level of communicating with other members of their multidisciplinary team increases as the novice nurses gained experience. Literature suggests that novice nurses build their confidence and become increasingly comfortable working with their team members as they gain experience from daily practice (Frogeli, et al., 2019; Hallaran). The participating nurses explained that they become increasingly comfortable communicating as they develop positive relationships with other team members and as they grew to become a vital part of the team.

Previous literature identified becoming a competent member of their team as one of the main goals of novice nurses (Detlin, et al., 2022). Acceptance by other members of the multidisciplinary team boosts effective communication in the OR, according to Torring, et al. (2019). The literature suggested that new nurses seek to gain this respect from their superiors (Torring, et al., 2019). Additionally, it was determined from review of the literature that developing positive relationships and feeling like part of the team increases novice nurses' comfort level, providing them the confidence they need to function and succeed in the clinical setting (Frogeli, et al., 2019; Hallaran, 2023). Due to miscommunication, there is frequent tension between the novice nurses and doctors. In addition to timing issues when prepping for operations, they do not often agree on the

processes that should be followed before beginning an operation. Novice nurses alternately fulfill roles as a circulating and scrub nurse. Tension exists between those in different roles due to miscommunication or lack of communication. Tension can hinder collaborative quality, lower performance among the team and decrease employee satisfaction (Keller, et al., 2019).

Conversely, effective communication has been identified as a strategy that aids in the prevention and resolution of adverse events (Schnipper, 2021). Torring, et al. (2019) referred to the combination of these constituents as relational coordination, which is comprised of shared goals and knowledge and mutual respect that is supported by information provided in a frequent, timely, and accurate manner. When the nurses and members of their team are well-informed, working as a team, and are respected by the other team members, they perceive that communication is more effective. These responses in this work corroborated what was found in the literature regarding effective communication.

The literature revealed that ineffective communication is taking place when directives are misstated or misunderstood, roles are not being properly delegated, and team members are not showing one another respect (Kenawy & Schwartz, 2018). The nurses interviewed perceived that ineffective communication results when important information is not communicated to the team, members of the multidisciplinary team speak to each other in an escalated tone, the message may be misunderstood by the receiver, and clarifying questions are not addressed. The novice nurses identified several barriers to communication, including resistance to change, ego, insecurity, assuming someone else will take up the slack, and lack of accountability.

Limitations of the Study

The data analyzed for this study were collected from a sample size of eleven novice nurses although the recruitment communication reached over 4,000 of the 41,000 members of National AORN membership, which included nurses with 5 years or less experience. These individuals included OR nurses currently participating in the perioperative course and nurse residency. Although literature supports the benefits of nurses becoming a member of a professional organization such networking, continuing education offerings, journals, certification opportunities and more; participation of the intended population during the local professional association meetings on average is around 5% (Cline et al., 2019). Although recruitment efforts included national AORN and a local chapter, only 9% of the respondents were from national AORN so the study may not be fully representative of the perceptions of novice nurse employed in various other operating room settings in other locations. There were no male participants in the study, however, males make up around 15 percent of perioperative nurses (Rappleye, 2017). According to Jewell (2020) different phases novice nurses experience during transition to practice, 36.4% of the participants were in the doing phase, 27.3% in the being phase, and 36.4% in the knowing phase.

Implications for Practice and Research

This study examined the perceptions of communication in the operating room among the novice nurses and their response to these perceptions. This research study provided a key insight about the importance and need for consistently trained communication techniques in the operating room setting that will contribute to increased optimal patient outcomes and reduce opportunities for miscommunication and errors. The

study is novel as it presents themes and concepts related to novice nurses in the operating room for future educational programs. This information can serve as a foundation to develop or modify interventions to counteract or combat miscommunication and lead to further research on outcomes of communcation breakdowns.The next phase of research will examine how enhanced communication training will ultimately impact patient outcomes, and if there would be an effect on staff turnover and nurse retention. Some components of communication training the participants shared are components of communication, team dynamics, modalities to ensure effective communication, conflict resolution, and role play. Once the foundation and conceptual basis of communication training has been provided, it is important for novice nurses to received the appropriate guidance throughout the training phase including but not limited to trained preceptors, regular progress meetings, real time feedback, and access to resources.

Conclusion

This study explored novice nurses' perceptions of factors that influence navigating the dynamics of team communication in the operating room setting. The novice nurses perceived their comfort levels of communicating increased as they worked longer, gained more experience, and developed positive relationships with the multidisciplinary team. There was a consensus among the interviewed nurses that communication among the key players of the multidisciplinary team is highly necessary due to the urgency of addressing and resolving patient issues that arise. The participants expressed how ineffective communication can be disruptive in the operating room and could affect patient outcomes. Key to improving communication, the participants

suggested additional training for effective communication be provided during orientation and be more practical for preparing them for what they will face in the OR.

As healthcare continues to advance and the current nursing workforce is nearing retirement, it is imperative our novice nurses are equipped for success and afforded the necessary resources to care for their patients while ensuring safety. It is essential the entire operating room team communicates effectively for optimal patient outcomes. The next phase of research will consist of how communication training can increase the comfort level and confidence of novice nurses which will decrease turnover, increase retention, patient advocacy, and aid in optimal patient outcomes.

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Table 1

Themes

Themes, Descriptions, and Findings		
Themes	**Description**	**Findings**
Theme One: Perceived Competency in Communicating with Multidisciplinary Team	the ability to deliver and retrieve messages in a clear, timely, and focused manner to ensure that surgical treatments are done appropriately and prevent adverse events from occurring	▪ More experience led to increased competency in the OR ▪ More communication training is needed to improve novice nurses' communication skills ▪ Communication training during classroom orientation should be more hands-on
Theme Two: Perceived Comfort Level of Communicating with Multidisciplinary Team Members	state of ease, contentment, and/or well-being in communicating with members of the multidisciplinary team	▪ Nurses who were comfortable communicating felt confident, empowered, aware, and satisfied in their positions. ▪ Nurses who were comfortable felt they communicated effectively with other team members. ▪ Nurses who were not comfortable communicating felt stressed, confused, frustrated, and/or unhappy. ▪ Nurses who were not comfortable felt that poor communication existed between them and other team members.
Theme Three: Communication Dynamics During Adverse Events in the OR	interaction between the members of the multidisciplinary team in response to occurrences of undesirable incidents	▪ Highly effective communication is needed when adverse events occur in the OR ▪ Communication among multidisciplinary team members was highly

	that cause harm to a patient.	effective when adverse events occurred in clinical settings experienced by these novice nurses.
Theme Four: Ineffective Communication Dynamics in the OR	transmissions of information that cause or succumb to the distractions, barriers, and challenges that take place in an operating room setting	▪ Ineffective communication results when directives are misstated or misunderstood. ▪ Communication is ineffective when the roles of team members are not delegated properly. ▪ When team members do not show respect for one another, communication is ineffective.
Theme Five: Effective Communication Dynamics in the OR	the successful transmission of time-sensitive information that is accurate and complete and that results in the achievement of goals and desired patient outcomes for the multidisciplinary team.	▪ Effective communication involves listening and paying attention. ▪ Stating directives clearly and thoroughly results in effective communication. ▪ Working as a team and showing one another respect leads to effective communication.

Note. The five themes that emerged from data analysis, along with the description findings related to each.

Table 2

Demographic Characteristics of the Study Sample

Variable	Frequency	Percentage
Age (years)		
≤ 25	5	45.4
26-35	2	18.2
36-45	2	18.2
46-55	2	18.2
Gender		
Male	0	0
Female	11	100
Race or Origin		
Asian	2	18.2
African American	3	27.3
White	4	36.4
Hispanic/Latino	2	18.2
Highest Degree Obtained		
BSN	8	72.7
ADN	3	27.3
Student Participation in OR Immersion/Elective?		
Yes	4	36.4
No	7	63.6

Variable	Frequency	Percentage
Length of Clinical Nursing Experience (months)		
≤ 4	4	36.4
5-8	3	27.3
9-12	4	36.4
Length of Time in the Operating Room (months)		
≤ 4	4	36.4
5-8	4	36.4
9-12	3	27.3
Magnet Hospital?		
Yes	9	81.8
No	2	18.2
Academic or Community Hospital?		
Academic	6	54.5
Community	5	45.4
Number of Beds in Hospital		
101-250	2	18.2
251-400	3	27.3
≥ 401	6	54.5
Specialty OR Area		
Orthopedics	1	9.1

Variable	Frequency	Percentage
Cardiothoracic/Vascular	1	9.1
Gynecology/Obstetrics	1	9.1
Urology	1	9.1
Multiple	6	54.5
None	1	9.1
Previous Careers		
Heath care	6	54.5
Not in health care	4	36.4
None	1	9.1

Appendix A

Sample Interview Questions

1. Explain your role in the operating room.
2. What does a typical day look like for you?
3. Who does the multidisciplinary team consist of and what are their roles?

   Probe: Discuss your interactions with the multidisciplinary team in the operating room. *Probe:* Tell me about your comfort level when addressing members of the multidisciplinary team.
4. Explain your orientation process.

   Probe: Did your orientation include any communication training?

   Probe: If so, is it helpful in your daily interactions with the multidisciplinary team?

   Probe: If not, what would assist you in communicating effectively with the team?
5. Give me examples of patient centered care issues that occur in the operating room?

   Probe: Are the key players involved in the discussion?

   Probe: Are the issues addressed timely?

   Probe: Are the issues being addressed resolved?
6. Describe the communication dynamics in the operating room where you work?
7. What is your comfort level communicating with the team when there is an unsafe practice, or an error has occurred?

   Probe: Would you please elaborate?
8. How does effective communication look in the operating room?

   Probe: Do you have a specific example to elaborate on?

   Probe: What was the facilitator in place that aided in effective communication?

Probe: What was the outcome?

9. How does ineffective communication look in the operating room?

   Probe: What do you perceive as a barrier to combat ineffective communication?

   Probe: What was the outcome?

10. What further information would you like to share about communication in the OR?

Appendix B

Demographic Form

ID #: _____

1. Age: _____
2. Gender (choose one):
   a) Male
   b) Female
   c) Other
   d) Prefer not to answer
3. What is your race or origin? (Choose one or more number(s) from the list below):
   a) Asian
   b) Black African American
   c) White
   d) Hispanic or Latino
   e) Other
   f) Prefer not to answer
4. Nursing degree(s) and highest degree(s) Obtained

   _____, _____
5. Length of clinical nursing experience in **months**: _____
6. Length of time in the operating room (OR) in **months**: _____
7. Academic or Community Hospital: _____
8. How many beds does your current employer have?
   a) Less than 100 beds
   b) 101 – 250 beds
   c) 251 – 400 beds
   d) More than 400 beds

9. Magnet Hospital:

    a) Yes

    b) No

10. Specialty OR Area (Choose all that apply):

    a) Orthopedics

    b) Cardiothoracic/Vascular

    c) Gynecology/Obstetrics/Gynecologic Oncology

    d) General

    e) Urology

    f) Neurological

    g) Ophthalmic

    h) Oral and Maxillofacial

    i) Colon and Rectal

    j) Otorhinolaryngology

    k) Pediatric

    l) Other _____

11. As a student, did you participate in an OR immersion/elective?

    a) Yes

    b) No

12. Previous Career(s): _____, _____

Appendix C

Informed Consent

UTHealth
The University of Texas
Health Science Center at Houston

VERBAL SCREENING AND CONSENT FORM INVITATION TO TAKE PART IN RESEARCH

Study Title:	Exploring the Novice Nurses' Perceptions of Communication Dynamics in the Operating Room
Principal Investigator	LaSandra Brown, PhD(c), RN, CNOR, NPD-BC
Study Contact/	University of Texas Health Science Center at Houston
Contact Information:	Cizik School of Nursing, 281-732-0531
IRB Number:	HSC-SN-21-0380

Hello, my name is LaSandra Brown, a doctoral student at the University of Texas Health Science Center at Houston Cizik School of Nursing. I am reaching out to you concerning your interest in the research study. This study is designed to explore novice nurses' perceptions of factors that influence the dynamics of team communication in the operating room. I have several questions to ensure that you meet criteria, and I can answer any question you may have at this time.
The qualifications to participate in this study include a registered nurse prepared at the associate's or bachelor's degree level with one year or less nursing experience at any organization; and currently working in the operating room full time. Your participation in this study is completely voluntary. All information will be kept confidential. Currently, do you have any questions for me? Would you like to participate in the study?

Inclusion criteria will then be assessed. If the inclusion criteria are not met, then the PI will thank the interested participant for their time and inform them that they do not meet criteria for the study. If the participant meets the inclusion criteria, the PI will inquire if the potential participant would like to take part in the study. If the participant says no, then the PI will thank the participant for their time. If the participant says yes, then the PI will continue the rest of the script.

Thank you for agreeing to be a participant in the study. We will determine a time and date convenient to hold the interview(s). Individual interviews will be conducted over 45 mins – 1 hour in person or virtually using Webex. You will receive an email calendar invite with the meeting link. You will be assigned an ID number unique to you and linked to the demographic form. You can use your initials as a screen name. Once you enter the interview, you will receive an audio notification when the recording starts, and I will confirm your verbal consent for the recording.

All thoughts, ideas, personal experiences are encouraged to be shared. I will be asking several questions concerning information on this subject. In addition, you are welcome to share any additional information that you may have.

We will be careful to keep your information confidential and we will ask you to keep the discussion confidential as well. Please keep in mind that you will be asked to turn on your video camera as a requirement for the study. All interviews will be video/audio recorded with your permission. You do not have to share any information that you are not comfortable sharing.
You can stop participating in conversation at any time. Any notes, recordings, or transcriptions will be kept private by the principal investigator. Any digital files will be encrypted, and password protected.

While minimal risks are expected, participants may experience anxiety depending on their experience being shared. The participants may also become tired during the session due to the length of the interview. You will be provided a break if needed from the interview, or an option to reschedule. Please keep in mind that your information is private and confidential, and you will have the right to withdraw from the study at any time. Every effort will be made to protect your privacy and confidentiality by assigning a unique participant code that will only be identifiable by the researcher.

The anticipated long-term benefits include implementing an effective communication element to the operating room orientation process. Additional studies will be conducted to evaluate the correlation between effective communication in the operating room and turnover, retention, and patient outcomes.

No funding exists at this time for the research study, meaning that this study is not sponsored by any vendor or organization.

At the completion of the interview, you will receive a $10.00 Starbucks gift card.

If you have any questions or concerns at any time about the research, you can contact LaSandra Brown at Lasandra.E.Brown@uth.tmc.edu or 281-732-0531. If you have any complaints, suggestions, or questions about your rights as a research volunteer, please contact the UTHealth Committee for the Protections of Human Subjects (CPHS) at 713-500-7943.

Appendix D

Committee for the Protection of Human Subjects Approval

UTHealth
The University of Texas
Health Science Center at Houston

Committee for the Protection of Human Subjects
6410 Fannin Street, Suite 1390
Houston, Texas 77030

Dr. LaSandra Brown
UT-H - School of Nursing

May 10, 2021

HSC-SN-21-0380 - *Exploring the Novice Nurse's Perceptions of Communication Dynamics in the Operating Room*

The above named project is determined to qualify for exempt status according to 45 CFR 46.101(b)

CATEGORY #2 *: Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:*

a. information obtained is recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects; AND ,

b. any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

(NOTE: The exemption under Category 2 DOES NOT APPLY to research involving survey or interview procedures or observation of public behavior when individuals under the age of 18 are subjects of the activity except for research involving observations of public behavior when the investigator(s) do not participate in the activities being observed.)

CHANGES: Should you choose to make any changes to the protocol that would involve the inclusion of human subjects or identified data from humans, please submit the change via iRIS to the Committee for the Protection of Human Subjects for review.

INFORMED CONSENT DETERMINATION:
Waiver of Documentation of Informed Consent

INFORMED CONSENT: When Informed consent is required, it must be obtained by the PI or designee(s), using the format and procedures approved by the CPHS. The PI is responsible to instruct the designee in the methods approved by the CPHS for the consent process. The individual obtaining informed consent must also sign the consent

document. Please note that only copies of the stamped approved informed consent form can be used when obtaining consent.

HEALTH INSURANCE PORTABILITY and ACCOUNTABILITY ACT (HIPAA): Exempt from HIPAA

STUDY CLOSURES: Upon completion of your project, submission of a study closure report is required. The study closure report should be submitted once all data has been collected and analyzed.

Should you have any questions, please contact the Office of Research Support Committees at 713-500-7943.

Appendix E

Recruitment Flyer

Participants Needed

for Study Exploring Novice Nurse's Perception of Communication in the Operating Room

Researcher from the **University of Texas Health Science Center – Houston, Cizik School of Nursing** is looking for novice nurses to participate in interviews (in -person or virtual) exploring novice nurses' perceptions of their experiences with team communication in the operating room.

Who do we need?

- Registered nurse prepared at the associate's or bachelor's degree level with one year or less nursing experience at any organization
- Currently working in the operating room full time

Contact for more information:

LaSandra Brown, PhD (c), RN, CNOR, NPD -BC

281-732-0531

LaSandra.E.Brown@uth.tmc.edu

IRB Number: HSC-SN-21-0380
IRB Approval Date: 5/10/2021

Curriculum Vitae

LaSandra E. Brown, PhD(c), BSN, MBA, RN, CNOR, NPD-BC

lasandra.e.brown@uth.tmc.edu

EDUCATION:

University of Texas Health Science Center Cizik School of Nursing Houston, Texas	2023	PhD in Nursing
University of Texas Health Science Center Cizik School of Nursing Houston, Texas	2018	Post-Master's Nursing Education
Houston Baptist University Houston, Texas	2007	Master of Business Administration
Houston Baptist University Houston, Texas	2005	Certificate in Healthcare Administration
Prairie View A&M University Prairie View, Texas	2000	Bachelor of Science Degree – Nursing

LICENSURES, CERTIFICATIONS AND POST-GRADUATE CERTIFICATES

Licensed – Registered Nurse Current	2000
Texas Compact License – Registered Nurse Current	2000
Nursing Professional Development (NPD-BC) Current	2016
Certified Nurse of the Operating Room (CNOR) Current	2008
Certifications – Basic Life Support (BLS) – American Heart Association Current	1997
Surgical Services Education Certification Mastery Completion (CCI)	2015

EMPLOYMENT

University of Houston – 05/19 - Present
Adjunct Faculty
Area of practice: Perioperative

The University of Texas MD Anderson Cancer Center – 08/2021 to Present

Nursing Educator – Nursing Professional Development and Education

Areas of practice: Institutional and Perioperative Services orientation, education, and competency management

Michael E. DeBakey V.A. Medical Center – 08/2018 to 08/2021

Staff Development Coordinator – Medical Care Line

Areas of practice: Medical/Surgical, Inpatient and Outpatient Oncology, Critical Care, Hemodialysis

The Woman's Hospital of Texas – 08/2017 to 08/2018
Surgical Services Nurse Manager

Houston Methodist Hospital –04/1998 to 05/2017

Program Director, Nursing Education (1/2016 – 5/2017)
Nurse Education Specialist II – Perioperative (9/2013-1/2016)
RN III / Clinical Mentor/Charge Nurse – Operating Room (4/2009-9/2013)
Nurse Manager – Operating Room (4/2007-4/2009)
Staff Nurse – Operating Room (7/2000-5/2007)
Student Professional Nurse (4/1998-7/2000) – Medical-Surgical Unit

AWARDS / HONORS

Dr. Oz The Good Life Magazine – featured in the "How Nurses Get Their Healthy Groove Back" article – January/February 2017

Houston Methodist Nurse Magazine – featured in the "Creating a Healthy Environment" article – Fall 2016 Edition

The Houston Chronicle Salute to Nurses – recognized as Top 150 Nurse Honorees – 2015

Houston Methodist Hospital – Nominee for "I CARE" system-wide award – 2010 & 2011

Prairie View A&M University – National Collegiate Nursing Award (2000); U.S. Achievement Academy All American Scholar (1999); National Dean's List (1999-2000)

PUBLICATIONS

Brown, L., Belgard, D., Washington, N., and Grueso, S. (2018). Operating room nurse residency and specialty educators: Paramount in the success of novice nurse retention. *Journal of Nursing Education and Practice (8),* 5, 20 – 25. DOI: 10.5430/jnep.v8n5p20

Washington, N., BSN, MBA-HCM, RN, CNOR; Brown, L., BSN, MBA, RN, CNOR; and Gilmore, J., MSN, RN, CMSRN, NE-BC. AORN Journal February 2015 Edition – "Frontline innovations: Standardizing the OR to PACU patient handover."

PRESENTATIONS

Brown, L. &Washington, N. (2023). "Travel Nursing: The New Wave of Nursing Incivility." Podium Presentation, Association of Periopertive Registered Nurses Global Surgical Conference and Expo, San Antonio, Texas

Brown, L. & Woods, S. (2022). "Recovering from the nursing crisis: Overcoming disparities in staffing, educational deficits, and financial burdens." Podium Presentation, Texas Collaboration of periOperative Registered Nurses Symposium, San Antonio, Texas

Brown, L., Christy, L., Gideon, C., Nichols, A., & Sorkpor, S. (2017) "Examining the Tenth Leading Cause of Death: Suicide Ideation and Risk Factors."

Brown, L. & Christy, L. (2017) "The Benefits of Worksite Wellness for Nurses: Examining Both Sides" Webinar, American Nurses Association.

Brown, L. & Singleton. G. (2012) "Perioperative Leadership Course Financial Component" Presentation, Methodist Hospital, Houston, Texas.

Brown, L. & Moultrie, J. (2010) "A Perioperative Refresher in Circumferential Prep" Poster Presentation at the 57th AORN Congress, Denver, Colorado.

Brown, L. & Moultrie, J. (2009) "Surgical Skin Antisepsis" Poster Presentation for Perioperative Nurses Week Celebration, Methodist Hospital Houston, Texas.

McMorris, L. (2004 & 2005) "First Aid" presentation and demonstration for Safety Day Program, Riceville Mt. Olive Baptist Church, Houston, Texas.

McMorris, L. (2003 & 2004) "Code Blue" Presentation to health care providers at Scurlock Operating Room, The Methodist Hospital, Houston, Texas.

McMorris, L. (2003) "Nursing Profession" presentation, Landis Elementary School, Houston, Texas.

McMorris, L. (2002) "The Relationship Between Deep Vein Thrombosis and Knee Arthroscopy" PowerPoint Presentation, The Methodist Hospital, Scurlock Operating Room, Houston, Texas.

PROFESSIONAL AFFILIATIONS

Member, Association of Nursing Professional Development – National & Houston Affiliate – 2016 – Present

Sigma Theta Tau International Honor Society of Nursing Phi Chi Chapter, University of Houston School of Nursing

Member, Association of Perioperative Registered Nurses, Greater Houston Chapter – 2001-Present

- Chair of Bylaws Committee, 2021 – Present; Board of Directors, 2015-2017; Membership Chair, 2014-2015; Nominating Committee Chair, 2009-2011

American College of Healthcare Executives, Student Chapter – Houston Baptist University – 2001-2005

Member, American Nurses Association