Interprofessional Collaboration in the OR: A Qualitative Study of Nurses' Perspectives

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RESEARCH

Interprofessional Collaboration in the OR: A Qualitative Study of Nurses' Perspectives

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ABSTRACT

Interprofessional collaboration (IPC) in the OR enhances safe and effective patient care. The aim of this qualitative study was to explore perioperative nurses' perspectives on their contributions to IPC. We conducted a secondary analysis of 19 semistructured interviews with perioperative RNs and completed inductive thematic analysis with subsequent categorization of the themes into the Interprofessional Education for Collaborative Patient-Centred Practice Framework. Nurses expressed the importance of being heard through effective communication, feeling confident in their role, being aware of interdependent roles, and sharing a common understanding. From nurses' perspectives, use of structured processes enabled organization of interdisciplinary patient care. Nurses showed leadership skills when they anticipated the needs of the team and recognized they needed support to develop these skills. They contributed to IPC through their shared understanding of common goals, leadership skills in the OR, and active involvement in delivering structured processes.

Key words: *interprofessional collaboration (IPC), interdisciplinary teamwork, internalization, governance, formalization.*

Since 2010, there has been an emphasis on interprofessional collaboration (IPC) in health care in many countries, including Canada,[1-7] and such collaboration is a key strategy to reduce adverse events and improve patient safety.[1,7] One of the health care settings in which personnel commonly and consistently report occurrence of adverse events is the OR.[8] Twenty percent of adverse events in Canada during the 2020 to 2021 time frame were related to surgical procedures and 30% were infections, including surgical site infections.[9]

The OR is a high-risk environment with unique team dynamics among the various professionals who work together in close proximity to each other.[10-13] When interprofessional (IP) teams exhibit inadequate teamwork behaviors in the OR, patient safety can be jeopardized[14] and patients are at an increased risk for death or complications.[15] Results of a patient record review in the Netherlands showed that human factors errors—including ineffective IPC—caused 65% of surgical adverse events (eg, infections, bleeding).[16] Perioperative professionals' perception of IPC can have a direct effect on patient safety and outcomes.[17] In fact, when the roles and expectations of each professional are unclear or when the professionals perceive that the team hierarchy is a barrier, tensions can emerge and negatively affect processes and teamwork.[18]

Nurses, surgeons, and anesthesia professionals are core members of perioperative teams who directly influence the IPC dynamic in the OR.[10,19] Study findings show that perioperative nurses rate the effectiveness of IPC lower than other health care professionals (eg, surgeon, anesthesia professional) on the IP team.[20-23] However, little is known about how the nurses perceive their specific contributions to IPC in the OR. Interprofessional collaboration can directly contribute to promoting patient

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safety, quality of work, and work environment in the OR.[12]

STATEMENT OF PURPOSE

The overall aim of this qualitative study was to explore perioperative nurses' perspectives on their contribution to IPC in the OR.

RESEARCH QUESTIONS

Considering the nurses' role as members of an IP team in the OR, our research questions were as follows:

What are nurses' experiences regarding

- feeling a sense of belonging,
- sharing common goals and a common vision,
- the influence of governance, and
- the structure of clinical care in the OR?

The overall aim of this qualitative study was to explore perioperative nurses' perspectives on their contribution to interprofessional collaboration in the OR.

STATEMENT OF SIGNIFICANCE TO NURSING

The OR requires the expertise of a diverse group of professionals who collaborate closely in synergistic team dynamics.[11,13,24] Nurses are critical to the delivery of safe and effective patient care,[19] and surgical complications are higher when IPC is ineffective.[15] Little is known regarding nurse influence on IPC in the OR, and the goal of this study was to address that gap.

CONCEPTUAL FRAMEWORK

We used the Interprofessional Education for Collaborative Patient-Centred Practice (IECPCP) Framework (Figure 1) to categorize the identified qualitative themes describing how nurses contribute to IPC in the OR.[25] The framework identifies and defines the determinants and factors of interlinked educational and professional systems, of which the latter guides collaborative practice to enhance patient outcomes. Patients are the central focus of health care and their outcomes are affected by the collaborative, interdisciplinary team processes.

The determinants and processes of the IECPCP framework affect patient care outcomes in collaborative practice settings and include

- systemic factors (ie, macro level),
- organizational factors (ie, meso level), and
- interactional factors (ie, micro level).[25]

The micro- and meso-level elements of interdisciplinary collaborative patient-centered practice are interactional. These levels are in a dynamic relationship that influence and inform each other. The macro level encompasses the systemic structures influencing IECPCP. Macro-level elements include educational (eg, institutional structures) and professional (eg, regulatory bodies) systems, as well as government policies (eg, federal, provincial, regional), social values, and cultural values.[25]

Educators, practitioners, researchers, and policymakers collaborate to achieve patient-centered care.[25] The four dimensions of collaborative practice to enhance patient outcomes are

- *internalization* (eg, a sense of belonging, an awareness of interdependencies and mutual trust),
- *shared goals and vision* (eg, the existence of common aims and their appropriation by the team, the recognition of divergence that helps creates allegiances, the diversity of expectations regarding collaboration),
- *governance* (eg, leaders who support collaboration; professionals who focus on central and local leadership skills, expertise, and connectivity), and
- *formalization* (eg, documenting procedures, structuring clinical care with established rules and tools to facilitate information exchange and regulate actions).[25]

The dimensions of internalization and the shared goals and vision among the health care team members involve the interactional factors at the micro level.[25] The dimensions of formalization and governance involve organizational factors at the meso level that influence collective actions. The organizational setting is a key component

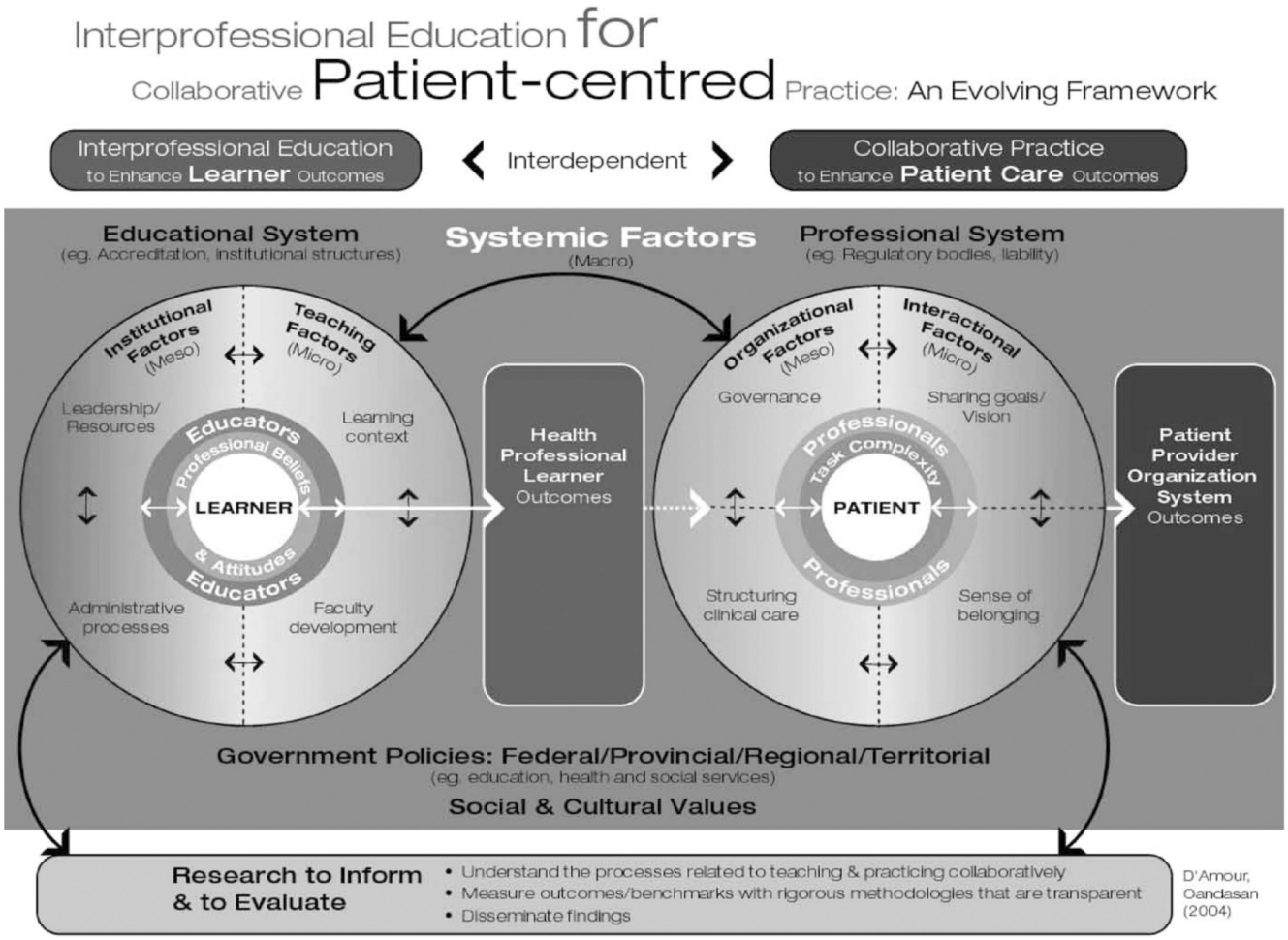

Figure 1. Interprofessional Education for Collaborative Patient-Centred Practice Framework with identified themes. *Reprinted from D'Amour D, Oandasan I. Interprofessionality as the field of interprofessional practice and interprofessional education: an emerging concept*. J Interprof Care. *2005;19(suppl 1):8-20 with permission from Taylor & Francis Ltd,* http://www.tandfonline.com.

of collaboration because several organizational determinants define the work environment (eg, structure, philosophy, administrative support, communication, coordination mechanisms).[25]

The micro factors depend on the interpersonal relationships among team members,[25] and the awareness of these interactional factors (eg, sense of bonding, willingness to work together) contributes to building mutual trust among team members. Fostering IPC in the perioperative setting assists professionals in developing competence and improving patient safety and outcomes. The IECPCP framework places a strong emphasis on interactions between multilevel factors that connect collaborative practice and patient-centered care, making it an ideal framework from which to conduct this study.

OPERATIONAL DEFINITION

The concept of IPC has been extensively studied and there are multiple concept definitions, including collaboration, interdisciplinary, multidisciplinary, interprofessional, and teamwork.[26] For the purpose of this study, IPC in health care occurs when multiple health workers from different professional backgrounds provide comprehensive services and work with patients, their families and caregivers, and communities to deliver the highest quality of care.[1] This definition is consistent with the IECPCP framework.[25,27]

DESCRIPTION OF STUDY DESIGN

We selected transcripts from 19 semistructured interviews with perioperative RNs from a multisite qualitative study[28] that aimed to determine barriers and enablers to effective teamwork. We reanalyzed the interview transcripts to specifically explore themes related to the contribution of perioperative nurses to IPC. This secondary analysis allowed our team to explore the data with a focus on nursing.

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At times, a secondary analysis of qualitative data may not be appropriate (eg, unrelated research question, extended period of time between the primary and secondary analysis). However, it was well-suited for the current study for several reasons. During the primary data collection and analysis, it became apparent that the nurses' knowledge was an important factor in shaping teamwork experiences in the OR.[28] This helped us formulate the research questions for the secondary analysis, rendering the secondary topic closely aligned to the first because these questions represent an important aspect of the primary phenomenon (ie, OR teamwork). This secondary analysis extended the primary study to further explore the contribution of nurses in the OR, used an established relevant cohort of participants, and mapped findings onto the IPC part of the IECPCP framework.[25]

Setting

Personnel from six sites were recruited to participate in interviews.[28] One site was an academic hospital located in Toronto, Ontario, Canada; the remaining sites included three academic hospitals in Ottawa, Ontario, Canada, and one of the hospitals had three campuses.

Sample

We analyzed the interviews of 19 RNs that had been conducted from January to April 2019. We excluded two registered practical nurses from this secondary analysis because their scope of practice is different from that of the RNs in Canada.

Description of Procedures for Protection of Participants

We obtained approval to conduct this research from the University of Ottawa Office of Research Ethics and Integrity and the Ottawa Hospital Research Institute Ethics Board. During the primary study, the researchers obtained either written or verbal informed consent as appropriate for the type of interview (ie, in-person or by phone) and then audio-recorded, transcribed, and deidentified the interviews before deleting the recordings after transcription.[28]

Data Analysis and Interpretation

For this data reanalysis, we used a subset of interview transcripts from a previously published study.[28] An interpretive-descriptive[29,30] qualitative approach directed our analysis of the nursing experience focused on IP team interactions in the OR. We chose a qualitative approach to gain an understanding of this phenomenon[30] and conducted a thematic analysis of the interview transcripts, which involved the identification of commonalities and differences in qualitative data. We sought to draw descriptive or explanatory conclusions clustered around themes.[31,32] Following the principles of interpretive description,[30] three research team members (M.J.L., D.S., C.E.) used a five-stage process to conduct the thematic analysis.

1. The researchers read the deidentified transcripts once to determine themes that emerged inductively from a high-level view of the data.
2. The researchers transferred all transcripts to NVivo software (version 12) to aid the analysis of the data.
3. Two researchers (M.J.L., D.S.) independently analyzed three transcripts line by line for themes reflecting the IPC contributions of nurses; M.J.L. then analyzed the remaining 16 transcripts line by line. Consistent with the interpretive description approach,[30] the researcher initially subjected the themes to broad inclusion to avoid restricting the validity of the data by premature categorization. After analyzing additional transcripts, the researcher grouped responses into subthemes and eventually clustered the subthemes under applicable broad themes.
4. M.J.L. categorized the themes using the four dimensions of collaborative practice of the IECPCP framework.[25]

5. Two researchers (D.S., C.E.) audited the themes and their categorization and summarized the demographic data descriptively.

RESULTS

During the interviews, 15 (79%) of the 19 participants self-identified as women; four (21%) participants self-identified as men. The ages of the participants ranged from 24 to 51 years (median = 32, SD = 8.3), and their experience working as RNs ranged from 2 to 23 years (median = 8, SD = 6.2). Table 1 provides additional demographic characteristics of the participants.

Emerging Themes

We identified 20 themes and grouped them based on collaborative practice topics.[25] We categorized eight themes as belonging to the topic of internalization, four themes in the topic of shared goals and vision, five themes in governance, and three themes in formalization (Supplementary Figure 1).

Table 1. Characteristics of Participants in a Study of RN Interprofessional Collaboration (N = 19)

Characteristics	Participants, n (%)
Age, y	
20-30	7 (37)
31-40	7 (37)
41-51	5 (26)
Gender	
Women	15 (79)
Men	4 (21)
Ethnicity/race	
White	10 (53)
Non-White (ie, Asian, Black)	5 (26)
Not specified	4 (21)
Nursing experience, y	
0-5	4 (21)
6-10	8 (42)
11-15	2 (11)
16-20	4 (21)
21-23	1 (19)

Themes for internalization

We identified eight themes in the internalization (or bonds between team members) category. Seventeen nurses expressed the importance of being ***heard through effective communication*** to ensure good teamwork and outcomes.

Participant 2: *I find most of the time the nurses are always trying to scream to be heard because we feel like what we have to say is also important; but most of the time surgeons do not acknowledge that.*

Participant 6: *When you have good teamwork and communication, you both are excelling at what you are doing, and when the communication is poor, it is very repetitive, because you become unsure if that person's done it … it makes cases longer.*

Seventeen nurses strongly believed that ***feeling confident in their role and aware of interdependent roles*** was essential to achieve effective teamwork.

Participant 14: *We all know what our role is, then I think it just makes things go so much easier and build confidence for everyone and make sure that we have a positive outcome.*

Participant 8: [Be]*cause nobody in the OR can do their job without anybody else. Surgery cannot do their job without anesthesia. Anesthesia cannot do their job without nursing. And surgery cannot do their job without nursing as well.*

Sixteen nurses shared the crucial merit of ***being mindful*** of the environment to ensure situation awareness and recognizing that emotions can greatly influence team dynamics and affect patient safety.

Participant 10: *You need to have surgical conscience … sometimes surgeons don't notice (eg, their scrub cap brushed the light handle cover), but the nurse notices … and advocates for the patient's safety … the nursing role, to see the bigger picture, especially as a circulating nurse.*

Participant 1: *Sometimes when anesthesia or the surgeon start to get really stressed, they start not asking for things properly … you just have to kind of remember that they are not mad at you, they are kind of mad at the situation usually.*

Fourteen nurses stated that ***feeling respected*** is crucial to promote good teamwork.

Participant 8: *I find that the tone and the language sometimes used by people can be condescending or insulting; courteousness is respect for the people in the room so that things get done and timelines are met*.

Participant 20: *If you have good teamwork, then that would mean you work collaboratively, which means your opinion's respected amongst the other people that you are working with*.

Thirteen nurses brought forward concepts related to the importance of ***feeling comfortable to speak up*** to foster efficient teamwork.

Participant 5: *I do not mind speaking up whereas like the new nurses, they do not feel as comfortable. But I literally just yell out, "Listen, we are doing this for the safety of the patient."*

Participant 2: *A lot of nurses are afraid to respond back or ask again … it just depends on everyone's personality. If the surgeon is yelling at you, you do not want to talk to them*.

Eleven nurses communicated that a ***sense of inclusion and connection*** contributes to better teamwork.

Participant 8: *Inclusiveness … you will see surgeons and anesthetists talking and they forget that nursing even exists, and they need the nurses to help them achieve it*.

Participant 13: *I think it would be helpful to get to know some of our interprofessional team members; even like our lunchrooms are segregated*.

Ten nurses identified a ***sense of trust*** is needed to strengthen teamwork and help build confidence in the team.

Participant 9: *I find having that bond strengthened by challenges helps to kind of build confidence in each other and then that helps build the team and trust*.

Participant 6: *I think a lot of it* [teamwork] *has to do with how you are in trusting the other person's actions and trusting that they are fulfilling the requirements*.

Six nurses described that a ***sense of cohesion*** is important for teamwork.

Participant 17: *It does not matter how good you are as a professional, you need to be able to work with the other team members*.

Participant 6: *If somebody is more domineering, you can become apprehensive to sort of question things. Some people are just very strong-willed, and it is just not good teamwork*.

Themes for achieving shared goals and vision

We identified four themes relating to having shared goals and vision. Responses from 15 nurses revealed it was vitally important for all team members to ***share a common understanding*** and for members of all professions on the OR team to ultimately contribute to the same purpose.

Participant 13: *In the OR, it is important to be able to talk to interprofessional teams so that you are on the same page. We come from different backgrounds and we have the same goal, which is to treat the patient*.

Participant 1: *If nursing, anesthesia, and the surgeons work as separate teams, nothing would flow through the day, no one would really get what they need. The patient would have three different care plans instead of everyone working as a team*.

Nine nurses disclosed that ***when goals are aligned satisfaction emerges***, which then positively affects teamwork.

Participant 1: *I think everyone has a better attitude when everyone is working together and feels better about their day and better about their job*.

Participant 9: *My day is good when everything goes smoothly. And it goes smoothly because everybody is working together, talking, and getting everything done*.

Five nurses described their role in ***keeping the patient central in the shared goal*** of the IP team.

Participant 2: *We are just here for the patient, so if we can work in a team setting to make sure that things run smoothly for the patient's surgery and for the patient to have the best outcome*.

Participant 10. *Be proactive and be able to advocate for the patient's safety, I think that really helps*.

Four nurses reported that to obtain a common vision, it is necessary to ***share expectations***.

Participant 3: *Different definitions, different knowledge can build on how the team can grow and work together but if*

there is no communication on what other people's expectations are or definitions, then it can be a hindrance.

Participant 19: *Everybody requires something different … open up on their needs or what they expect from you and what they're trying to achieve*.

Themes for governance

We identified five themes related to governance. Ten nurses displayed nursing leadership qualities by ***anticipating needs of the team*** as an integral part of their role for improving teamwork.

Participant 10: *I know what cases we are about to do. That way I can anticipate what the needs of the room are, like the supplies, check the anesthesia cart, and make sure everything is within reach*.

Participant 2: *The nurses must prompt. Like we must go up and ask the surgeons. Say, "Is this what you need, we want to verify, this is what we have in the room."*

Seven nurses reinforced the need for members of the management team to provide ***support to build team connectivity*** among the perioperative nurses and the OR team.

Participant 17: *I think it is important for management to give a little bit more to the nurses … like, kudos and being more open with staff. Because right now I think that management and the nursing staff are very far apart*.

Participant 13: *I feel management can certainly improve on keeping us together and maybe boosting morale through team building exercises*.

Six nurses discussed the ***competing roles of leader and trainer*** for OR nurses responsible for the integration of recently hired OR nurses into the IP team.

Participant 4: *When we are training staff, it is hands-on … you are expected to run your room as you would in a normal day with no extra time … when you are giving care, you are expected to be teaching as well*.

Participant 8: *I find that sometimes you are more focused on teaching than you are on what is going on in the room. So, sometimes teamwork might drop just because you are focused on training*.

Five nurses reported that there needs to be ***alternating leadership among OR team members***.

Participant 3: [The OR team requires] *somebody who will work as a team member and know when to be more directive when the situation calls for it, more of a leader*.

Participant 14: *Some members are just great at engaging and leading teamwork. And if they are not good leaders, it can be hard to work as a team*.

Participant 4 explained that the ***scheduling structure inhibits novice nurses from becoming leaders*** by not providing consistent shifts in an OR environment that allows junior (ie, less experienced) nurses to build their knowledge and expertise. She said,

They [management] *say their goal is not to create expert nurses but just to create a huge floating pool. And so, now we have a lot of junior nurses who … take longer for them to develop these* [leadership] *skills*.

Themes supporting formalization

We identified three themes in the formalization (structure and rules) category. Thirteen nurses highlighted the added value of using a ***structured process for the team***, such as the preoperative and postoperative briefings and strategic pauses during procedures. These tools were essential to best assist planning and improve teamwork for each procedure.

Participant 2: *Briefing with the whole surgical team present … name, allergies, demographic history, what the plan is, what the procedure is, which leg it is or which arm, make sure we are on the right side*.

Participant 19: *Everybody needs to know the plan and especially if it is a critical patient. The surgical team needs to communicate what troubles we could be running into and things that are unforeseen*.

Five nurses identified the importance of ***gaining new knowledge as a team*** and recommended structured ways to do so.

Participant 17: *Wednesday, we have a weekly inservice, and it varies in topic. Some are about anesthesia, some are about special surgeries or equipment, and I find that those really help just to bring everyone together*.

Participant 2: *It takes practice and I think that we need like a simulation lab, an environment where people are cautiously told what you need to communicate to the nurse. … Like people need to be taught* [as a team].

Two nurses described a process for ***flagging and preventing unfavorable behaviors*** to help health care professionals denounce and minimize negative behaviors (eg, harassment, violence, aggression) that impede the dynamics of the team.

Participant 2: *We have a blue form, so you can blue form any employee, any staff, which means it is a warning, any type of harassment or violence or aggression, and it is done anonymously*.

Participant 5: *There is a black box … if they think they* [surgeons] *are being watched, that is one incentive* [to reduce negative behaviors].

DISCUSSION

The aim of this secondary analysis was to explore nurses' perspectives on their contributions to IPC in the OR. Overall, the nursing experience emerged across the four dimensions of collaborative practice to enhance patient care outcomes according to the IECPCP framework. These results led to three observations.

Nurses Feeling Part of the Team

Nurses feel part of the IP team when they internalize a sense of belonging. Their assertions were that to foster a sense of trust, they need to perceive that they are heard, respected, included, and connected. When the nurses sensed they were a trusted member of the team, they felt empowered and comfortable speaking up to address patient care concerns and experienced role-related confidence. Improvements in teamwork arose from team member cohesion and awareness. These findings align with results of previous research showing that

> *communication effectiveness increased in networks in which clinicians reported interacting frequently, having close working relationships, socializing, and seeking advice and providing advice to others.*[33(p638)]

Furthermore, nurses in our study who were internalizing their role in IPC experienced barriers when members of the team displayed unfavorable behaviors (eg, harassment, violence, aggression) or acting-out behaviors (eg, yelling, displaying a bad mood, disregarding others). These findings align with study results indicating that varying perceptions of teamwork influence IP team members' roles.[28,34,35]

The OR is a complex and high-intensity environment in which ineffective behaviors can impede IPC and negatively affect the delivery of care.[14,15] According to the nurses in our study, measures to prevent and flag these unfavorable behaviors (eg, anonymous reporting mechanisms, black box recordings) were helpful and should be reinforced to promote healthy work environments for nurses to thrive and not impede delivery of patient care.

Prevalence of Nurse Advocacy Role

Nurses reported contributing to shared goals and vision to facilitate the safe delivery of patient care. They frequently mentioned advocating for a patient-centered goal, which is particularly important because patients are not able to speak for themselves during surgery. Our findings are congruent with nursing guidelines recommending that nurses initiate collaborative processes to improve patient and client outcomes, especially when the acuity of the patient is increasing.[36,37] Nurses also described fostering a preventive and protective environment in the OR in support of improved safety for patients and members of the IP team. Results of previous research have shown that effective perioperative teamwork enables nurses to advocate for patients and avoid negative consequences.[12]

Our findings are congruent with nursing guidelines recommending that nurses initiate collaborative processes to improve patient and client outcomes, especially when the acuity of the patient is increasing.

Supporting the Nursing Leadership Role

Nurses expressed a desire to develop and use leadership skills in the OR but perceived a lack support at the organizational level to accomplish this aim. Effective intraoperative nursing leaders can help perioperative teams avoid procedural problems and errors.[10] The nurses in our study described the need for a team member to take charge and lead the OR team. It appeared that the RN circulators were in a good position to function as a leader in some situations because they were present throughout the entire procedure and may have had the most situation awareness and sense of ensuring holistic care. Often, the

Key Takeaways

- The OR is a high-risk environment with unique interprofessional dynamics. Patient safety can be at risk when perioperative teamwork behaviors are ineffective.
- Researchers in Canada completed a secondary analysis of previously conducted interviews to explore perioperative nurses' perspectives related to interprofessional collaboration, including a sense of belonging, sharing common goals and a common vision, the influence of governance, and the structure of clinical care.
- Using the Interprofessional Education for Collaborative Patient-Centred Practice Framework, the researchers identified 20 themes in four categories: internalization, shared goals and vision, governance, and formalization.
- The results showed that feeling part of the team, performing the nurse advocacy role, and supporting development of the nurse leader role were important to the nurses in the study. Additional research is needed to provide evidence-based strategies for improving and supporting nurses' contributions to interprofessional collaboration.

RN circulator anticipated the IPC needs of the team. This finding is consistent with the results of another study of perioperative nurses who spent 72% to 76% of the OR time observing and performed anticipatory movements for the remainder of the procedure.[38]

Nurses in our study believed that they needed additional support to build connectivity in the IP team (micro level), and that some of the management practices (meso level) can interfere with the development of nursing competencies (eg, moving nursing staff members from one OR to another). This finding aligns with prior research that showed that perioperative nurses' preparedness (eg, the ability to react to anticipate needs) can be attributed to experience and familiarity of the team, which directly affects operating time and patient safety.[12] In addition, the nurses also reported that gaining experience and familiarity was harder to achieve when they were not allowed to build experience and relationships on a specific team. They believed that they should be provided with opportunities or spaces to promote development of familiarity, circumstances to alleviate the added responsibilities when training, and structures to help develop expertise for novice nurses.

The nurses also described meso-level pressures from the added responsibilities of providing education to recently hired staff members while concurrently performing their assigned perioperative nursing role. Feeling overworked from added responsibilities can lead to job dissatisfaction and negatively affect nurse retention.[39] Additional responsibilities likely impede nursing care and contribute to a lack of IPC and patient safety. Therefore, nurse managers should promote empowering and open work environments that foster perioperative nurses' job satisfaction.[39]

The use of structured processes to guide the IP team (eg, checklists, briefings) helped improve communication among team members and operationalize the authenticity of nurses' leadership role. Checklists[40,41] and briefings[41,42] have helped IP team members focus on the routine tasks, trigger communication, and improve patient safety. However, the nurses in our study reported that junior nurses from the float pool were less likely to be able to take on a leadership role in the OR because of their limited trusting relationships with the IP team members. Nursing leadership skills are important and need to be supported and developed[43] as novice nurses gain experience to become experts[44] and move from abstract to concrete experiences as described in the Dreyfus Model of Skill Acquisition.[45]

Strengths and Limitations

In accordance with Lincoln's approach,[46] we used specific methods to enhance the credibility and transferability of the findings. Two research team members (M.J.L., D.S.) independently conducted the initial data analysis, one team member (M.J.L.) completed the remaining data analysis, and then two team members (D.S., C.E.) audited the data. We described the context of the study in detail so that readers can determine the degree of fit or similarity with other settings, thereby enhancing transferability.

A limitation of a secondary analysis is the lack of oversight and quality of the data collection process.[30,47] However,

these concerns were minimized because the lead author of the primary analysis participated in the secondary analysis and the primary study's methodology and framework were sound and rigorous,[28] thereby helping to maintain effective representation of the perspective of the participants (eg, fidelity of the data).[48]

Recommendations for Future Research

Critical elements of IPC practice should optimally contribute to enhance patient safety and outcomes. Efforts to extend awareness toward ways to improve and support nurses' contributions to the IP team should be the focus of future research to provide evidence-based strategies for continued quality improvement. Additional research also is needed to provide recommendations related to IPC and patient safety.

CONCLUSION

Registered nurses are indispensable members of perioperative IP teams and nurses' contributions are undeniably important to improving IPC. We completed a secondary analysis of interview data to identify themes and subthemes related to IPC. The analysis showed that nurses need to feel a part of the IP team and share a common understanding with all its members. They also believed that functioning as a patient advocate is important. They need support from organizational leaders to develop skills for enacting a leadership role on the team; the use of structured processes can facilitate support.

SUPPORTING INFORMATION

Additional information may be found online in the supporting information tab for this article.

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