

ORIGINAL RESEARCH: EMPIRICAL
RESEARCH - QUALITATIVE

The impact of the COVID-19 pandemic on the perioperative transition to specialty practice program

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Abstract

Aim: To understand how the COVID-19 pandemic impacted nurse educators' and novice nurses' experience with the perioperative transition to specialty practice program.

Design: A qualitative descriptive study.

Methods: Semi-structured interviews were conducted with five perioperative nurse educators and five perioperative transition to specialty practice program participants from a major metropolitan health service in Melbourne. Data were collected between April and July 2021. Interviews were audio-recorded and transcribed verbatim, and data were analysed using reflexive thematic analysis.

Results: Five themes were identified. The value of the perioperative transition to specialty practice program in supporting novice nurses was recognized in the theme 'Nurturing our novices'. Widespread changes to clinical practice were demonstrated in the theme 'Every day is different', including changes to elective surgery, redeployment of staff and the transmission risk of COVID-19. 'The perils and joys of online learning' revealed both challenges and benefits of transitioning theoretical education from face-to-face to online delivery. 'Roller coaster of emotions' represented the heightened emotions participants experienced due to the COVID-19 pandemic. 'Looking back to move forward' encompassed participants' reflections on the year, considering the challenges, adaptive strategies and the future of perioperative nursing education.

Conclusion: The perioperative transition to specialty practice program was significantly impacted by the COVID-19 pandemic. Participants needed to adapt to rapid and frequent changes, which contributed to feelings of emotional distress, affected consolidation of clinical learning and reduced engagement with theoretical education.

Impact: Perioperative nurses should acknowledge that opportunities for learning were decreased for transition to specialty practice program participants during the pandemic. Ongoing support and education should be provided, to nurture the future generation of perioperative nurses.

No patient or public contribution. This study only involved staff from the participating health service, purposefully recruited as they had the required knowledge and experience to address the research aim.

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KEYWORDS

COVID-19 pandemic, novice nurses, nursing education, operating suite, perioperative nursing, transition to specialty practice

1 | INTRODUCTION

The outbreak of coronavirus disease (COVID-19), caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has caused significant disruption to healthcare systems around the world (Nicola et al., 2020). Around 15% of individuals who contract COVID-19 become seriously ill, and a further 5% become critically ill, requiring intensive care support (World Health Organization, 2021). Considering that there have been over 600 million cases of COVID-19 reported worldwide, it is not surprising that there has been an increased demand for healthcare services, which has caused a diverse range of challenges for those working in healthcare (Stucky et al., 2020; World Health Organization, 2022).

Perioperative clinicians have faced unique challenges as widespread changes occurred to surgical practice because of the COVID-19 pandemic. Surgical procedures were reduced or cancelled, clinicians were redeployed to other areas of the hospital, surgical education was impacted, and perioperative practices needed to evolve to manage viral transmission risk (Al-Jabir et al., 2020; Elliott et al., 2021). In this specialty practice area, perioperative nurses form a unique subset of healthcare workers who experienced significant change because of the COVID-19 pandemic. Perioperative nurses provide care to patients through all stages of surgery, including preoperative, intraoperative and postoperative care, ensuring patient safety, both physical and psychological (Gül & Kılıç, 2021; McGarry et al., 2018).

Appreciating the complexity of the perioperative environment, nurse educators are integral to the specialization and ongoing professional development of perioperative nurses, which in turn facilitates the delivery of safe, quality patient care (Thornton, 2018). For this paper, the term *nurse educator* refers collectively to clinical nurse educators and clinical support nurses who work in healthcare services. Nurse educators also provide support and mentorship to novice perioperative nurses, defined as 'any registered nurse who has not worked in the perioperative environment before, including a new graduate, an experienced nurse from another area of nursing, or a nurse with previous perioperative experience who has not maintained basic competency' (Association of periOperative Registered Nurses, 2018, p. 5). While the impacts of the COVID-19 pandemic on the perioperative environment have been identified, little is known about how the COVID-19 pandemic has affected the education of novice perioperative nurses.

2 | BACKGROUND

Nurses and midwives account for 55% of the total workforce in Australia (Australian Institute of Health and Welfare, 2022a), with

most employed in acute settings in public hospitals, including the operating suite (Australian Institute of Health and Welfare, 2016). Despite an increasing number of healthcare workers in Australia, it has been predicted that the nursing workforce will face a shortage of up to 123,000 nurses by 2030. Unless the situation is addressed, this shortage creates a risk of current and future demands of healthcare systems not being met (Health Workforce Australia, 2014).

Transition to specialty practice (TSP) programs provide theoretical education, clinical support and professional development to facilitate the transition of nurses into specialty practice areas (Considine & Hood, 2004). These programs are aimed at supporting novice registered nurses with limited post-registration experience or experienced nurses wishing to develop their expertise in a different area of specialty nursing practice (Morphet et al., 2015). In Australia, TSP programs are facilitated by hospital-based nurse educators, with programs delivered over 6 or 12 months. TSP programs were first implemented in Australia in 2000, as a successful recruitment strategy to combat staffing shortages in the emergency department (ED; Considine & Hood, 2004). Subsequent research in both the ED and the intensive care unit (ICU) highlighted the positive effect of TSP programs on nursing recruitment and retention, while also facilitating the professional development and clinical progression of nurses in specialty practice areas, and leading to formal postgraduate education (Madhuvu et al., 2018; Morphet et al., 2015). A similar foundational educational program is offered in the United States of America, with demonstrated effectiveness for both recruitment and retention of perioperative nurses (Nissen, 2020; Vortman et al., 2019). However, there is currently no literature describing or evaluating TSP programs for Australian perioperative nurses.

Nursing education has been significantly disrupted by the COVID-19 pandemic (Ramos-Morcillo et al., 2020; Wallace et al., 2021). Student attendance was limited at many nursing schools and university campuses due to government restrictions, prompting a rapid transition from face-to-face campus education to online remote learning (Langegård et al., 2021; Ramos-Morcillo et al., 2020; Wallace et al., 2021). This transition to online learning has been challenging in many ways, for both nursing students and educators (Langegård et al., 2021). Various teaching methodologies have been used to foster student engagement, however overall, most nursing students have indicated their preference for regular campus-based face-to-face education due to the social interaction and enhanced learning experience (Langegård et al., 2021; Ramos-Morcillo et al., 2020). Students' performance, motivation and discipline have also been negatively affected by the abrupt transition to online learning, with decreased social interaction identified as a contributing factor (Langegård et al., 2021; Ramos-Morcillo et al., 2020).

While the experience of university nursing students has been explored in detail, studies considering the impacts of COVID-19 on nursing education in the workplace are limited.

Perioperative nurses have experienced widespread changes in response to the COVID-19 pandemic. Many elective surgeries were cancelled or postponed, to support surge capacity, by potentially repurposing perioperative departments into temporary ICUs, and creating a surplus of staff. For many, this has constituted a change in role as they have been redeployed to assist in other clinical areas, therefore requiring further education in preparation for their new role (Al-Jabir et al., 2020; Lee et al., 2020; Stannard, 2020; Stucky et al., 2020). Perioperative nurse educators played a vital role in redeployment, ensuring staff were appropriately reallocated and suitably prepared for their area of redeployment by providing education on any identified knowledge gaps (Peneza et al., 2021). Perioperative nurses needed to rapidly adjust to frequent changes in their clinical work environment because of the COVID-19 pandemic, with evolving knowledge, evidence, policies and practice guidelines often creating conditions of uncertainty (Elliott et al., 2021). Considering the vast array of changes to perioperative nursing practice, no research has specifically examined the experience of novice nurses working in such a dynamically changing environment during a pandemic.

Restrictions on elective surgery have resulted in a backlog of surgical cases, potentially impacting patient outcomes (Matava et al., 2022). In Australia, waiting times for most elective procedures increased during 2019–2020 and 2020–2021, and the proportion of patients waiting more than a year for their elective surgery increased from 2.8% to 7.6% in the same period (Australian Institute of Health and Welfare, 2022b). Similar increases in waiting list numbers and waiting times have been reported internationally (Matava et al., 2022; Uimonen et al., 2021). The drive to deal with this ever-growing backlog of elective surgical cases has resulted in an increased demand for specialized perioperative nurses. Sustained funding to expand the perioperative workforce is necessary to achieve significant reductions in the elective surgery waitlist (Matava et al., 2022). By supporting novice registered nurses with hospital-based education, the perioperative TSP program bridges the gap between general undergraduate nursing education and specialized postgraduate education at university. Given the importance of growing the perioperative nursing workforce to help combat the growing elective surgical waiting list (Matava et al., 2022), it is imperative to consider the impact of the COVID-19 pandemic on the perioperative TSP program.

3 | THE STUDY

3.1 | Aim

The aim of this study was to understand the impact of the COVID-19 pandemic on nurse educators' and novice nurses' experience with the perioperative TSP program.

3.2 | Design

A qualitative descriptive design was used to provide a rich description of participants' experiences (Sandelowski, 2000). Data were collected from nurse educators and participants involved with the 2020 perioperative TSP program. This study is reported according to the consolidated criteria for reporting qualitative research (COREQ) checklist (Tong et al., 2007).

3.3 | Participants

This study was conducted in the perioperative departments of two acute hospitals which are part of a major metropolitan health service in Melbourne, Victoria, Australia. Participants were purposefully recruited. The eligible sample included 12 potential participants; hospital-based nurse educators and TSP participants who had experience with the perioperative TSP program during 2020 were eligible to participate in the study. Participants were invited to take part in the study via a workplace email, distributed by a senior member of the Learning and Teaching Directorate at the participating health service. Attached to the email was the participant information sheet, which provided detailed information about the study. Interested participants then contacted a member of the research team to arrange an interview time.

3.4 | Data collection

Data were collected between April and July 2021 via semi-structured interviews, using the interview questions shown in Table 1. A pilot interview was conducted with an ED nurse educator, to determine the clarity of the initial interview questions. The interview guides were iteratively refined after each interview, and prompts and probes were used to further explore participant responses. The first author, a Master's prepared researcher, conducted online interviews via Zoom at a time convenient to participants, adhering to COVID-19 restrictions on face-to-face meetings. The participants and interviewer were known to each other, as the interviewer had previously worked in the perioperative education team, providing the impetus for the study. All interviews were audio-recorded and transcribed verbatim by the interviewer. Interview recordings were replayed afterwards, and field notes were taken at this time. Participants were given the option to review their transcript; six participants chose to receive theirs, however, no amendments were made.

Guest et al. (2006) suggest that data saturation, the point at which no new themes are observed in the data, is likely to occur after 12 interviews in a relatively homogeneous sample. Considering the maximal sample size for this study was 12 participants, spread across two distinct cohorts, the decision was made not to rely on the concept of data saturation; rather, data were collected and analysed for each consenting participant, recognizing the unique contribution each individual could make to the overall dataset.

TABLE 1 Examples of interview questions

No.	Nurse educator	TSP participant
1	Demographic Questions: How long have you been working as a Registered Nurse? How many years have you worked in the operating theatre? How many years of experience do you have as a nurse educator in the operating theatre? Do you hold any professional qualifications required to work as a nurse educator?	Did you commence TSP straight after completing your graduate year? Did you have any prior experience in the operating theatre before commencing TSP?
2	What do you feel is the value for learners participating in a TSP program?	What do you feel is the value of participating in a TSP program in the operating theatre? What motivated you to apply?
3	How did COVID-19 impact practices in the operating theatre?	
4	What impact did COVID-19 have on the 'hands-on' training of the program?	
5	What impact did COVID-19 have on the specialty rotations?	
6	What challenges did you face as an educator due to COVID-19?	What challenges did you face as a TSP participant due to COVID-19?
7	What changes and adaptations were you required to make to your delivery of theoretical education during this year?	What was your experience of the theoretical education provided during your TSP year?
8	Considering the cohort as a whole, have you noticed any widespread impact on the learners in 2020 compared with previous years of TSP programs?	How did COVID-19 impact your ability to complete the academic requirements of the TSP, such as the learning package, case studies, and assignment?
9	Considering that TSP aims to increase recruitment and retention of staff into specialty areas and act as a pathway for postgraduate study, what impact do you think COVID-19 has had on the future workforce?	What were your intentions/goals when you applied for the TSP program? Have those intentions/goals changed at all because of COVID-19?
10	What strategies helped you adapt to the changes presented by COVID-19?	
11	Overall, what have you learnt from the past years' experience?	

Abbreviation: TSP, transition to specialty practice.

3.5 | Ethical considerations

Ethical approval was granted by the Human Research Ethics Committees at Eastern Health (LR20-113-70099) and Deakin University (2021-096). Participants received the participant information and consent form (PICF) via email, which explained the purpose of the study, what participation involved, possible risks and benefits of participation and privacy and confidentiality arrangements. Participation was voluntary, and participants provided verbal consent at the beginning of the interviews. Participants were able to freely withdraw at any time. Information on available support services was provided in the PICF and reiterated to participants at the conclusion of the interview.

3.6 | Data analysis

Interview transcripts were analysed using reflexive thematic analysis, which is commonly used in qualitative research to identify, analyse and report patterns or themes in the data. The reflexive thematic analysis involves a six-phase approach, resulting in a richly detailed account of data (Braun & Clarke, 2006, 2019, 2021). (i) Familiarization began when the interviews were transcribed and was augmented by re-listening

to audio recordings, re-reading transcripts and making field notes. (ii) Codes were developed through an inductive process, organically recognizing what the data were saying. The first author coded the data semantically, staying close to the participants' language and meaning. (iii) Themes and subthemes were actively constructed from codes, collating those that held shared meaning and collectively told a story about the data. (iv) Themes were subsequently reviewed with the research team, ensuring clear distinctions between each theme, and that all data related back to the central concept of each theme. A thematic map was used to visualize the relationship between themes and subthemes. (v) Themes and subthemes were named, ensuring the essence of each theme was embodied in the name. (vi) Finally, the analysis was written into a narrative, telling the story of the data in and across each of the themes. Data analysis was supported using NVivo 12 (QSR International). Participants were not invited to provide feedback on the findings.

3.7 | Rigour

Lincoln and Guba's (1985) four criteria for trustworthiness were followed to establish rigour. Credibility was upheld by the interviewer establishing rapport with participants at the beginning of the interview, supporting a willingness to exchange information;

and participants were given the opportunity to verify the accuracy of their interview transcripts. Confirmability and dependability were maintained by keeping an audit trail, which comprised any changes made to the interview guide, casual notes about interviews, and notes about coding decisions and the development of themes. Finally, transferability was ensured through a purposive sample, providing rich descriptive data and verbatim quotes. Acknowledging the researcher's prior experience with the perioperative TSP program, reflexivity involved critically questioning her role and reflecting on how this influenced the study (Braun & Clarke, 2021). This was managed with the use of a journal and regular meetings with the other authors, from study design, through to data analysis.

4 | FINDINGS

Of the 12 potential participants approached, 10 consented to take part in the study, including five perioperative nurse educators and five TSP participants. All participants were female. Interviews lasted between 24 and 51 min, with a mean duration of 33 min. Experience as a perioperative nurse educator ranged from 1.5 years up to 16 years. All TSP participants began the program immediately after their graduate year, and participants had varying levels of prior perioperative experience. Five themes and eight subthemes were constructed from the data (see Figure 1).

4.1 | Theme 1: Nurturing our novices

Perioperative nursing is a unique and complex area of specialty practice, described as 'a very niche area of nursing' (TSP Participant #4), and the perioperative TSP program provides an introduction to the specialty practice area for novice nurses. 'For a lot of people, it's their sort of first exposure to theatre ... it's a really good opportunity to get some exposure to the area' (Educator #3). The 12-month program combines didactic teaching and hands-on learning to offer an 'all-round experience of theatre' (TSP Participant #4), allowing novice nurses 'to learn in a supportive environment' (Educator #2), and teaching participants 'what to expect in terms of the job itself, and the responsibilities that you have [as a perioperative nurse]' (TSP Participant #5). The TSP program also facilitates recruitment into the operating suite and acts as a pathway for postgraduate study. 'It feeds into any EFT [equivalent full time] deficits ... it grows the nursing population in theatre' (Educator #4). 'It gives them a really good foundation ... it's almost equivalent to the first 6 months of a grad [graduate] certificate' (Educator #1).

4.2 | Theme 2: Every day is different

Participants described widespread changes to clinical practice in the operating suite because of COVID-19, affecting an array of policies and procedures. 'The constantly changing environment

was challenging' (Educator #5). 'Everything from infection control to patient transport, patient selection for procedures ...' (Educator #5); 'changes to processes, changes to policy ...' (Educator #1). This theme included three subthemes.

4.2.1 | Urgent cases only

Elective surgery was significantly impacted by the COVID-19 pandemic, with only the most urgent procedures permitted to be scheduled. Participants perceived that the reduction in surgical procedures adversely affected their ability to consolidate their clinical learning. 'Because there wasn't as many surgeries happening, there wasn't exposure to, to repeatedly learn skills and ... cement those skills' (TSP Participant #1). TSP participants described 'missing out on some of those really simple foundational cases' (TSP Participant #3), and instead were often 'thrown in, into complex cases' (Educator #1). The reduction in elective surgery also resulted in missed learning opportunities for TSP participants, particularly in certain surgical specialties, such as orthopaedic surgery. 'They didn't get to experience a lot of stuff that they may have, towards the end of their rotations' (Educator #2). 'I feel I've been short-changed in that area [specialty rotations] ... I do think my learning has really been impacted' (TSP Participant #4).

4.2.2 | Changing roles

Redeployment of perioperative nurses to other clinical areas was necessary during the COVID-19 pandemic. 'I think management did a pretty good job of trying to avoid [redeploying] the TSPs, but ... there were obviously times where they did have to be redeployed' (Educator #3). Redeployment impacted learner rotations and the overall skill mix of junior and more experienced perioperative nurses in the department. 'Their rotations were impacted. Skill mix was impacted' (Educator #4). This disruption to rotations was challenging for TSP participants. 'Going into your day ... you're not really sure what to expect: what your role is for the day, what rotation you'll be in for the day, what sort of surgeries you'll be in for the day' (TSP Participant #5). Educators also described how their role was broadened beyond providing education. 'A lot of anxiety management'; 'A bit of a mediator ... a buffer between other disciplines, and the staff, and the management' (Educator #1).

4.2.3 | Keeping safe during the pandemic

Personal protective equipment was made available to protect participants from COVID-19. However, advice surrounding safe and effective use was constantly changing throughout the pandemic. 'The advice was always evolving, whether or not we used N95s or face masks; or double gloved or not double gloved; room resting, not room resting' (TSP Participant #1). Even experienced perioperative

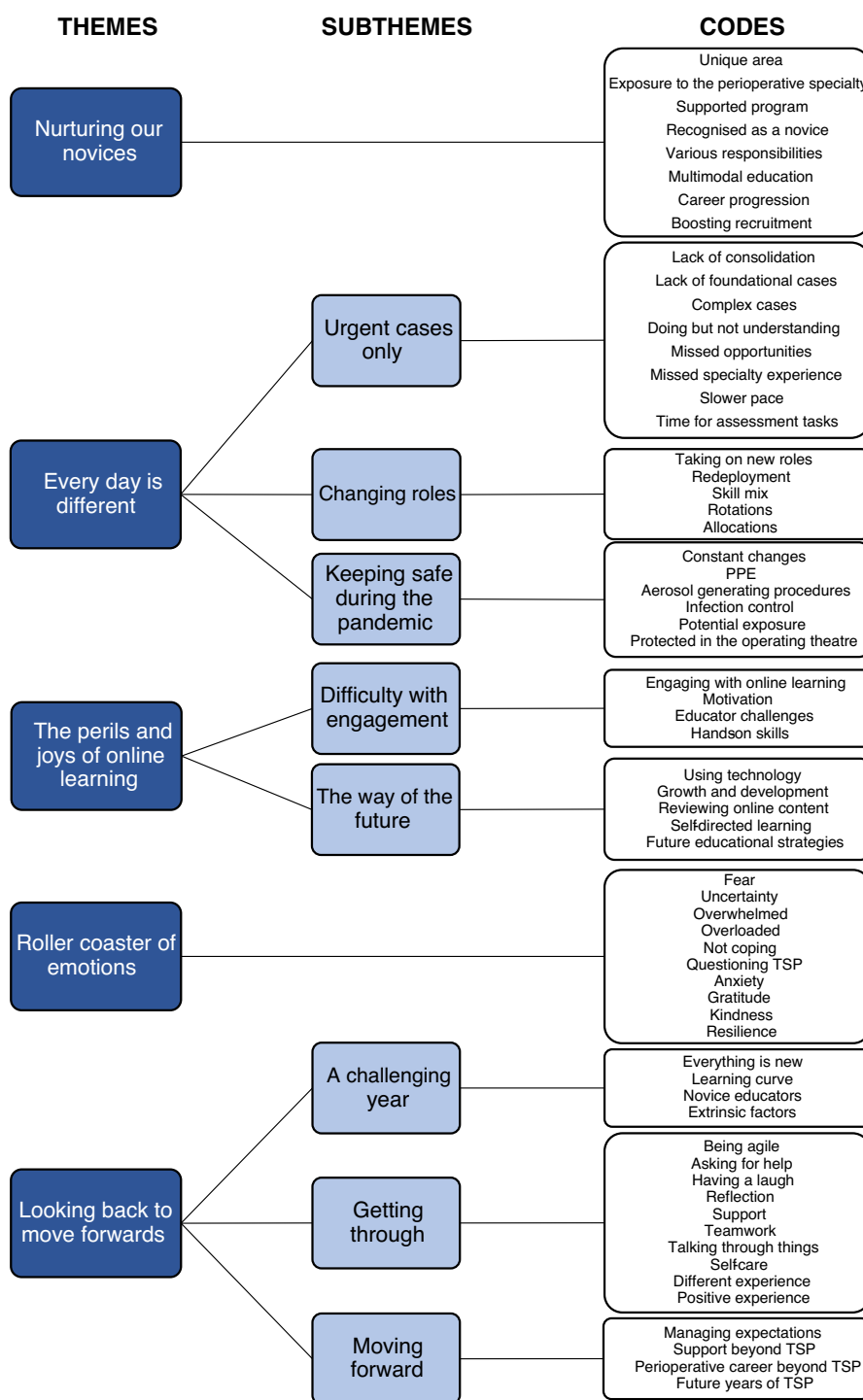


FIGURE 1 Development of themes and subthemes from codes.

nurses were often unsure of current advice, leaving TSP participants without clear role models. 'You want to follow the direction of everyone and look up to these people who you're learning from, but then they don't know what's going on' (TSP Participant #1). A general sense of anxiety around contracting COVID-19 was noted. 'Everyone was a little bit scared ... to have the virus themselves ... you're in an area where your risk is increased as well, because you're a healthcare worker' (TSP Participant #5). However, participants felt more protected due to the screening processes that occurred in the operating suite. 'Nearly all of our patients were screened, and they

were COVID tested prior to coming to theatre. So, I felt relatively safe that most of the precautions were taken' (TSP Participant #1).

4.3 | Theme 3: The perils and joys of online learning

The theoretical component of the perioperative TSP program shifted rapidly from face-to-face sessions to an online format because of COVID-19 restrictions. 'Like everybody else delivering ...

theoretical education, we had to pivot to online [learning]' (Educator #1). 'At the beginning, the study days were in person [face-to-face], and they were all fine, but the mid-year study days were disrupted' (TSP Participant #1). This online transition resulted in both challenges and benefits for participants.

4.3.1 | Difficulty with engagement

Overwhelmingly, TSP participants expressed challenges associated with online learning and a preference towards face-to-face education. 'No matter what I'm doing, online learning is already, like, a barrier, and like, already impacts my learning straightaway' (TSP Participant #2). The engagement was compromised, not only with theoretical content, but also between the learners and educators, and with fellow learners. 'Not getting together with their group and touching base ... that was a deficit' (Educator #4). 'They couldn't, you know, bounce ideas off each other with an educator' (Educator #2). Without having an opportunity to complete any formal training in digital technologies, creating online content in a short time frame was challenging for the educators, also impacting TSP participants' learning. 'It was a big learning curve for me, and quite stressful' (Educator #4). 'It was just kind of, a bit of a throw together, quick, let's get some stuff up online ... there was probably things that were missed, or things that weren't covered in as much detail' (Educator #3). TSP participants also missed the opportunity to learn certain hands-on skills. 'You can't do hands-on, you can't do role play, you can't do tangible things and touch like on the other [face-to-face] days that we did' (TSP Participant #4).

4.3.2 | The way of the future

Despite the challenges associated with online learning, several benefits emerged. 'Developing that online content has been a benefit ... it's the way of the future' (Educator #4). Both nurse educators and TSP participants agreed that the study days were intensive, and some of the content was overlooked or forgotten. 'They're big days, there's a lot of information, and it's all very new to take in. So, a lot of it just goes over their heads' (Educator #4). The significant benefit of having online theoretical resources is that TSP participants were able to review the content at a later date, which was not possible with traditional face-to-face education. 'They can revisit it when, if they need to ... because it doesn't align with their rotation, or they just need a refresher' (Educator #4). Looking forward, nurse educators felt the online component would continue for future cohorts of TSP participants, using a hybrid approach. 'I certainly see the online content carrying on, and, you know, we're developing new ways of doing that' (Educator #3).

4.4 | Theme 4: Roller coaster of emotions

Participants experienced heightened emotions during the COVID-19 pandemic, above and beyond the usual stress of delivering or

participating in the TSP program. 'There's been an absolutely understandable anxiety and stress level of doing a job that you previously have not known, but I definitely noticed a difference in the presentation of that stress last year' (Educator #5). 'There was ... a general heightened anxiety across the department and that was also affecting the TSP students' (Educator #4). These feelings of fear and anxiety were exacerbated for novice TSP participants. 'I was overwhelmed as it was, going into a program, plus this [COVID-19] on top of it, it was a bit amplified' (TSP Participant #4). Educators observed TSP participants feeling overwhelmed and overloaded. 'I don't think they coped well during COVID' (Educator #2). They were 'so overloaded with information that they just couldn't ... take on anything else' (Educator #1). Positive emotions of gratitude and kindness helped participants find meaning in an otherwise challenging situation. 'I had a lot of team members also come and say thank you ... so that made it all worthwhile' (Educator #5). Participants also felt stronger for overcoming the challenges of the year. 'Thinking about COVID itself ... it taught me how resilient I am, how patient I am, how independently I learn ... you do teach yourself how to overcome these things' (TSP Participant #5).

4.5 | Theme 5: Looking back to move forward

The COVID-19 pandemic was a novel situation and one that participants navigated through progressively, as changes occurred. 'Everyone was just trying to do their best in the situation that we were in, I don't think I could fault people for being in that situation' (TSP Participant #1). Participants reflected on the challenges they faced during 2020, considered adaptive strategies, and contemplated the future, which was depicted in three subthemes.

4.5.1 | A challenging year

The COVID-19 pandemic impacted on the novice nurses' ability to adjust to a new clinical environment, intensifying the usual learning curve. 'We are just so new to this environment ... we don't know what's going on and how the system works' (TSP Participant #3). 'I didn't know what I was doing when I walked in, and then you threw Corona at me' (TSP Participant #4). The challenges of being a novice were felt amongst the education team as well. 'We were the blind leading the blind essentially ... we did well, but definitely I think people who were in the system a little bit longer than us probably did a hell of a lot better than we did' (Educator #2). Workplace challenges were also exacerbated by the impact COVID-19 was having on participants' personal lives. 'You've got the lockdown, not being able to see family members, and all these things impacting you emotionally as well' (TSP Participant #5).

4.5.2 | Getting through

Participants identified several adaptive strategies that helped them cope with the stressors of the COVID-19 pandemic. Teamwork,

support, and peer debriefing were beneficial for participants. 'I relied on my team a lot to help me through' (Educator #3); 'talking to my colleagues ... debriefing a lot' (Educator #5); 'getting in touch and having a conversation ... peer support was actually really important' (TSP Participant #3). Humour was also used to relieve some of the stress and fear surrounding COVID-19. 'It was cathartic, the nonsense at times became beneficial' (Educator #4). Reflection was also a valuable tool for TSP participants. 'I used reflection a lot last year ... reflection's really, really important and a very, very good tool too, for a learner' (TSP Participant #5). The overall experience of the TSP program was different, but TSP participants still felt positive about getting through the challenges of the year. 'It was a tough year, but like, it toughened me up in my career, so yeah, it was a great experience' (TSP Participant #3).

4.5.3 | Moving forward

Expectations needed to be managed at the end of the TSP program. 'I think the expectation of being in a program and coming out 100% confident ... I felt disheartened at the end on a personal level' (TSP Participant #4). Additionally, the expectations of the wider perioperative workforce needed to be adjusted. 'The expectation of the staff in the operating suite is that they will be at the same level as other TSP years ... that has to be managed post their program as well' (Educator #1). Despite the impacts of the COVID-19 pandemic, all TSP participants from 2020 were offered ongoing employment in the operating suite, with 60% progressing to postgraduate studies in perioperative nursing. 'They're all driven to stay, because that's where they want to be ... they still want to be theatre nurses ... it's the getting there that's proving to be a bit difficult for them' (Educator #2). Nurse educators highlighted the potential future implications for the TSP program, as a result of reduced undergraduate nursing student placements in specialty practice areas. 'They [undergraduate students] didn't go into high-risk areas, so ICU, ED, periop ... the recruitment of our future TSPs I think is going to be impacted' (Educator #5).

5 | DISCUSSION

This study has contributed essential background information about the perioperative TSP program in an Australian context, not yet found in any existing literature. Earlier research suggests that many undergraduate nursing students do not gain exposure to perioperative nursing during their clinical placements (Callaghan, 2011). The TSP program, therefore, offers participants a supported introduction to the unique area of perioperative nursing. Being supported as a novice perioperative nurse was important for TSP participants and was recognized as an essential component of the program by the educators. By providing education and clinical experience, the TSP program facilitates the first stages of advancement through the novice-to-expert skill acquisition model (Benner, 1982).

TSP programs have been previously demonstrated as an effective recruitment and retention strategy for both ED and ICU nurses in Australia (Considine & Hood, 2004; Madhuvu et al., 2018; Morphet et al., 2015). The results of the current study support these findings, with educators believing the TSP program effectively boosts recruitment for the perioperative department. The perioperative TSP program also facilitated career progression, with 60% of participants progressing to specialist perioperative postgraduate study in 2021. This finding is consistent with prior literature from the ICU TSP program (Madhuvu et al., 2018).

The findings of this study are underpinned by the notion of change, and how participants adapted to change. Participants described rapid and frequent changes to clinical practice in the operating suite, a finding supported by the international literature (Elliott et al., 2021; Ike et al., 2019). Keeping abreast of the latest changes was difficult for participants, as advice was constantly evolving. COVID-19 protocols and practices have changed continuously around the world, with contradictory information often confusing staff (Elliott et al., 2021; Juvet et al., 2021; Nelson et al., 2021). Constant workplace changes contributed to feelings of emotional distress, including anxiety and fear. Moderate levels of anxiety have been reported in perioperative nurses since the onset of the COVID-19 pandemic (Gül & Kılıç, 2021). Novice nurses in this study also reported feeling overwhelmed, as they struggled to adjust to not only the changes brought about by the COVID-19 pandemic but also a new specialty practice environment. This finding has been reported in other specialty areas of nursing, where the stress of role transition was heightened by the added burden of the pandemic (García-Martín et al., 2021; Naylor et al., 2021). Peer support and teamwork have been identified as supportive strategies when adapting to change (Elliott et al., 2021; Juvet et al., 2021; Nelson et al., 2021). Participants in this study described how valuable teamwork and supportive relationships were in adapting to changes brought about by the COVID-19 pandemic.

Perioperative nurse educators were required to make significant adjustments to the delivery of education to TSP participants. Digital content was created and uploaded to the health service's pre-existing online education platform for online delivery of the course rather than face-to-face study days to align with COVID-19 restrictions. The transition from face-to-face to online education has been extensively studied in the context of university-level nursing education (Hill & Fitzgerald, 2020; Langedgård et al., 2021; Madhavanprabhakaran et al., 2021; Ramos-Morcillo et al., 2020; Wallace et al., 2021). However, the present study contributes a unique perspective as the educators were based in a hospital, with differing access to resources and supports compared with educators from university settings. Creating pre-recorded lectures for repeated online use requires planning and preparation and is labour-intensive for educators (Madhavanprabhakaran et al., 2021). Nurse educators in the current study reflected that some educational content may have been overlooked due to time pressures. Undergraduate nursing students have perceived the faculty's unfamiliarity with online learning platforms to be a barrier to their learning (Wallace et al., 2021).

Participants in this study reported reduced engagement with online learning, contributed to in part by the steep learning curve experienced by the educators.

Despite the challenges associated with online learning, silver linings have emerged for health professionals' education (Erich et al., 2021). The ability to revisit recorded online content at a later stage is a major advantage, benefiting TSP participants in this study, as well as university nursing students (Wallace et al., 2021). With support from local information technology teams in the individual healthcare organization, nurse educators in the current study felt better prepared to continue with online learning, anticipating a hybrid approach in the future. Opportunities for further growth and development include exploring and incorporating technology to enhance student engagement, such as discussion boards and interactive problem-solving activities (Hill & Fitzgerald, 2020; Wallace et al., 2021).

Perioperative TSP participants' overall experience of learning was disrupted due to the COVID-19 pandemic, impacting both the practical and theoretical components of the program. Reductions to elective surgery at the study site were consistent with international reports (Al-Jabir et al., 2020; Ike et al., 2019; Stannard, 2020), resulting in reduced opportunities for learning in certain surgical specialties, and impacting TSP participants' ability to consolidate their learning. Redeployment of perioperative nurses during the pandemic occurred around the world (Al-Jabir et al., 2020; Ike et al., 2019; Stannard, 2020; Stucky et al., 2020). TSP participants in the current study also experienced brief periods of redeployment, affecting their learner rotations, and further impacting their ability to consolidate their learning. This study contributes to our understanding of how the COVID-19 pandemic may impact novice nurses' ability to consolidate their clinical skills. TSP participants described feeling overwhelmed with the COVID-19 pandemic, whilst also navigating the challenges of being a novice nurse in an unfamiliar environment. Even senior perioperative nurses were noted to feel overwhelmed, which affected their ability to provide leadership and support to participants. Similar findings have been reported in a qualitative study examining the experience of early career nurses in acute-care settings (Sessions et al., 2021). The current study found that the combination of reduced elective surgery, redeployment, and decreased support from preceptors all contributed to a diminished clinical learning experience for TSP participants.

In addition to the learning challenges experienced in the clinical domain, TSP participants also experienced learning difficulties with the theoretical component of the program. TSP participants expressed a preference for face-to-face study days, finding the online study days to be less interactive and engaging. This experience has also been noted by undergraduate nursing students (Langegård et al., 2021; Ramos-Morcillo et al., 2020; Wallace et al., 2021). Engagement with educators and peers was also impacted by online education in the current study, and participants missed the opportunity of networking with each other and openly sharing their experiences. Similar findings have again been reported in the

university context, with nursing students reporting a deterioration in student-teacher communication and reduced discussions with classmates after transitioning online (Langegård et al., 2021; Wallace et al., 2021). The present study has contributed a novel perspective, considering the experience of both the teacher and learner simultaneously in the hospital context, a teaching domain rarely studied.

5.1 | Strengths and limitations

This study addressed a major research gap, contributing valuable knowledge about the perioperative TSP program in Australia, while also identifying the impacts of the COVID-19 pandemic on hospital-based nursing education. As the COVID-19 pandemic continues to evolve, the results of this study have implications for both current and future novice perioperative nurses. This study uniquely combined the experiences of both nurse educators and TSP participants, providing a breadth of understanding and a comprehensive overview of the impact the COVID-19 pandemic has had on the perioperative TSP program.

While offering a new and unique perspective, the present study has several limitations that should be considered when interpreting the study findings. The participants were all female and recruited from two acute hospitals in one public health service in Melbourne, Victoria. The results, therefore, need to be interpreted in this context and may not be transferrable to other clinical areas. Similarly, the burden of COVID-19 in Australia has been modest compared with some other countries, so the impacts described by participants may not be relevant in some international contexts. Finally, it is recognized that the interviewer was previously known to the participants, however, recruitment was facilitated by an independent source, mitigating the perception of coercion.

6 | CONCLUSION

The perioperative TSP program was significantly impacted by the COVID-19 pandemic. Disruptions to clinical practice notably affected TSP participants' ability to consolidate their hands-on learning. Whilst adapting to frequent clinical changes, TSP participants were also required to adjust to an entirely new specialty area of practice, creating a complex learning environment. Online study days were challenging for both nurse educators and TSP participants, resulting in reduced engagement. Despite the challenges, the pandemic has been a catalyst for change, with educators planning to incorporate an online pedagogy into future TSP programs, building on strategies to foster engagement. Teamwork was identified as an integral supportive strategy for participants, and all perioperative nurses should continue to support each other to overcome workplace challenges. Perioperative staff need to be aware that opportunities for learning were decreased for TSP participants during the pandemic, and expectations about the level of competence in specialty procedures may need to be adjusted.

Ongoing support and education may be required to continue to nurture the future generation of perioperative nurses.

AUTHOR CONTRIBUTIONS

Amy Skiller, Julie Considine and Patricia Nicholson contributed to the design of the study. Amy Skiller collected the clinical data and performed the analysis and wrote the first draft of the paper. Amy Skiller, Julie Considine and Patricia Nicholson reviewed the analysis and critically reviewed and revised the manuscript. All authors read and approved the final manuscript.

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CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

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Research data are not shared.

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