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Stimulated by insight: Exploration of critical care nurses' experience of research participation in a recovery programme for intensive care survivors

Lene Lehmkuhl MHS, RN, PhD Student[1] | Ingrid Egerod PhD, MNS, RN, Professor[2,3] | Dorthe Overgaard PhD, MNS, RN, Docent[4] | Morten H. Bestle PhD, MD, Senior Consultant, Associate Research Professor[3,5] | Janet F. Jensen PhD, MScH, RN, Postdoctoral researcher[5,6]

[1]Department of Anesthesiology and Intensive Care Medicine, OUH Svendborg Hospital, Svendborg, Denmark

[2]Intensive Care Unit, Copenhagen University Hospital Rigshospitalet, Copenhagen, Denmark

[3]Department of Clinical Medicine, University of Copenhagen, Copenhagen, Denmark

[4]Department of Nursing, University College Copenhagen, Copenhagen, Denmark

[5]Department of Anesthesiology, Nordsjællands Hospital, University of Copenhagen, Hillerød, Denmark

[6]Department of Anesthesiology, Holbæk Hospital, Holbæk, Denmark

Correspondence
Lene Lehmkuhl, Department of Anesthesiology and Intensive Care Medicine, OUH Svendborg Hospital, Baagøes Alle 15, DK-5700 Svendborg, Denmark.
Email: lene.lehmkuhl@rsyd.dk

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Abstract

Aims and objectives: To explore critical care nurses' experiences of research participation during a one-year recovery programme for intensive care survivors.

Background: Nurse-led postintensive care follow-up consultations have emerged to help patients to recover and overcome problems related to critical illness and admission at the intensive care unit (ICU). Previous research exploring post-ICU follow-up programmes have shown inconclusive evidence of their effectiveness on patient-reported outcome measurements, and provider evaluation is scarce. The context of this study is the Recovery and Aftercare in Postintensive care Therapy (RAPIT) trial.

Design: A qualitative descriptive telephone interview study.

Methods: Data were collected after completion of the RAPIT trial. Participants (n = 14) were trained intensive care nurses, who delivered the post-ICU recovery programme, representing nine out of ten sites from the RAPIT trial. Two focus group discussions were used to construct a semistructured interview guide. A thematic data analysis was performed using Braun and Clark's six-step method. This study conforms to the COREQ Research Reporting Guidelines for qualitative studies.

Results: Our study indicated that nurses considered participation in research as a positive experience. The main finding "Stimulated by insight" described how nurses' engagement and professional growth was gained by reflection, patient feedback and research competencies acquired in the clinical setting. The research programmes stimulated to new knowledge, broaden their perspectives and enhanced critical reflection of ICU nursing practice.

Conclusions: The study indicates that nurses developed research competencies and enhanced their job satisfaction by using critical reflection and patient feedback. However, there is still a substantial need for support to strengthen nurses' competencies in collaboration with colleagues, managers and researchers.

Relevance to Clinical Practice: This study can contribute to the development of recommendations supporting nurses doing research and to optimise implementation of clinical research.

KEYWORDS
clinical research, competencies, engagement, ICU, job satisfaction, nurses, patient follow-up consultations, reflection, the RAPIT study

1 | INTRODUCTION

The patient experience is associated with multiple problems during intensive care recovery, also identified as postintensive care syndrome (PICS) (Needham et al., 2012; Ullman et al., 2014). PICS includes physical, psychological and cognitive problems related to critical illness (Aitken & Marshall, 2015; Needham et al., 2012) leading to prolonged recovery and reduced health-related quality of life (HRQOL) up to years after a stay at the intensive care unit (ICU) (Glimelius Petersson, Bergbom, Brodersen, & Ringdal, 2011; Oeyen, Vandijck, Benoit, Annemans, & Decruyenaere, 2010). To alleviate symptoms of PICS, ICU follow-up programmes have emerged to support patient recovery and rehabilitation (Engstrom, Grip, & Hamren, 2009; Ullman et al., 2015).

1.1 | Background

The NICE guideline recommends the assessment of patient needs for physical and psychological rehabilitation (National Institute for Health & Clinical Excellence, 2009). Even before this recommendation, ICU follow-up initiatives were offered sporadically in Scandinavia and the UK. Different elements of care have been offered, such as ICU diaries, patient photographs, follow-up visits and consultations (Jensen et al., 2015; Williams & Leslie, 2008). The most frequent follow-up model is the nurse-led approach with some interprofessional team involvement (Egerod et al., 2013; Griffiths, Barber, Cuthbertson, & Young, 2006). Previous research investigating the effectiveness of ICU follow-up programmes has shown inconclusive evidence. The reasons might be heterogeneous delivery, insufficient provider training or lack of appropriate instruments to assess outcomes of the intervention (Jensen et al., 2016, 2015; Jonasdottir, Klinke, & Jonsdottir, 2016; Mehlhorn et al., 2014; Ullman et al., 2015).

ICU follow-up clinics have aimed to help survivors come to terms with the ICU experience, which is associated with poor recall and distorted memories related to critical illness. Consultation with an ICU nurse might be conducive with a better understanding of events (Jones, Humphris, & Griffiths, 1998) and possibly help patients clarify unrealistic expectations during recovery (Pattison, Dolan, Townsend, & Townsend, 2007; Prinjha, Field, & Rowan, 2009; Storli & Lind, 2009). Follow-up clinics might help the integration of critical care and rehabilitation services (Needham et al., 2012). Although quantitative studies have failed to demonstrate significant clinical benefits and cost-effectiveness, several qualitative studies have shown high patient satisfaction of ICU follow-up services (Pattison et al., 2007; Prinjha et al., 2009). The perspective of nurses and other healthcare professionals' has been sparsely investigated. However, a Swedish qualitative study (n = 8) showed that nurses valued patient feedback positively, although patients generally had little recall of their ICU stay (Engstrom & Soderberg, 2010).

What does this paper contribute to the wider global clinical community?

- Engaging critical care nurses in a nurse-led randomised clinical trial promoted reflection on nursing practice and job satisfaction. Collaboration in the trial was a learning experience that expanded the nurses' knowledge and engagement in research and practice. This was a new role for critical care nurses, who usually assist physician-led research, and not nurse-led research. In a time with a shortage of critical care nurses, engaging nurses in expanded roles in research might reduce attrition.
- Nurses were stimulated to professional growth by gained insight throughout the research programme. Engagement in research can be considered as a nursing competence development programme. Critical reflection on nursing care processes and the patient's perspective has positive impact on activities of ICU nursing practices.
- This study can draw attention to and advise nursing leaders and organisational managers to prioritise involvement in clinical nursing research. It can be a strategy to design a competency development programme to support nurses doing research or related activities to further grow in their professionalism and clinical leadership. Our findings might support evidence-based nursing and increase awareness towards the knowledge base of nursing for the benefit of both staff and future patients.

ICU nurses are often interested in participating in clinical research, but they lack time, money and support from peers and management (Al-Dorzi, Naidu, Khokhar, White, & Arabi, 2013; Blecha et al., 2018; Smith, Dale, Mehta, Pinto, & Rose, 2016). ICU nurses often have a pivotal role in research as data collectors. A Canadian survey study of 482 ICU nurses found that 78% considered clinical research as important to improve patient care. However, of the 56% responding nurses, experienced 54% that research might conflict with their view of appropriate care, 41% reported that it increased their workload, and 20% perceived that nursing care activities were incorporated into designing studies (Smith et al., 2016). In summary, ICU nurses consider it important to participate in clinical research, which is in line with required evidence-based nursing (Jeffs et al., 2013).

The context of this study is the Recovery and Aftercare in Postintensive care Therapy patient (RAPIT) trial (Jensen et al., 2016). The 1-year multicenter randomised controlled trial (RCT) aimed to evaluate the effectiveness of a programme to improve psychological post-ICU recovery compared with standard care. The intervention was a face-to-face consultation in the ICU followed by two telephone consultations. The consultations were delivered by specially trained ICU nurses. Inclusion criteria for nurses in the RAPIT trial were motivation, ICU certification and at least 2 years of ICU experience. Provider nurses conducted consultations (n = 19) and functioned as primary investigators at each site. Other participating nurses assisted (n = 8) by photographing and identify patients for potential inclusion. The nurses were trained to conduct consultations using photographs from ICU, reflection sheets and advanced communication techniques. The training consisted of four one-day training workshops, planned according to the nurses' feedback regarding ongoing needs of theoretical and hands-on learning with involvement from experts and last author (JFJ) (Appendix S1). This training was assessed by a multiple-choice test, and JFJ supervised the nurses by participating in some of the patient consultations and audited the consultations. The nurses received feedback to improve knowledge and to sustain a consistent delivery of the follow-up consultations (Jensen et al., 2019). The RAPIT trial found neither benefits nor harms on either health-related quality of life, sense of coherence, anxiety, depression or post-traumatic stress at 3 or 12 months after ICU discharge (Jensen et al., 2016). Exploring nurses' experience of participation in the RAPIT trial might expand our knowledge of integrating ICU bedside nurses in research.

1.2 | Aim

To explore study nurses' experiences of research participation during a 1-year recovery programme for intensive care survivors.

2 | METHODS

2.1 | Design

This study has a qualitative descriptive design conducting individual semistructured interviews with nurses after participating in the RAPIT trial. The exit interviews were performed in December 2016.

2.2 | Participants

We purposefully sampled ICU nurses, who participated in the RAPIT trial (n = 27). We invited participants from all sites, who participated in the RAPIT trial. We used a combination of intensity and criterion

TABLE 1 Nurse characteristics

Participant (P#)	Age (years)	ICU experiences (years)	Qualifications (highest level)[a]	Role	Dropout during the RAPIT trial
P1	51	7	Master's degree	Provider	Yes
P2	45	10	ICU certification	Provider	No
P3	57	14	ICU certification	Provider	No
P4	40	9	ICU certification	Provider	No
P5	38	11	Master's degree	Provider	Yes
P6	59	30	Diploma in supervision	Provider	No
P7	49	17	Diploma in supervision	Assistant	No
P8	53	20	Diploma in supervision	Provider	No
P9	49	15	Master's degree	Assistant	Yes
P10	52	25	Master's degree	Provider	No
P11	46	13	Diploma in supervision	Assistant	No
P12	40	10	Master's degree	Assistant	Yes
P13	53	10	Master's degree	Provider	No
P14	53	10	ICU certification	Assistant	Yes

[a]All participating nurses had an ICU certification equivalent to 2 years of education after primary nursing school/bachelor' degree.

sampling involving the strategic selection of information-rich cases that would manifest the phenomenon of interest (Patton, 1990). The following criteria were applied: nurses (I) representing different sites, (II) with different roles and (III) who sustained or dropped out of the trial within the trial period. The invitation was sent by mail, and fourteen nurses accepted the invitation to participate in this study (Table 1).

2.3 | Data collection

The semistructured interview guide was based on data from two audio-recorded focus group discussions with study nurses conducted during the RAPIT trial. These focus group discussions were a part of workshops performed in the RAPIT trial and were used to develop the interview guide (Appendix S1). The reasons for choosing these two specific focus group discussions were due to indications of unexplored side effects, which were sporadically covered by nurses, who participated in these discussions. The interview guide consisted of the following main topics: motivation, allocation, components, pros and cons, impact and recommendations (Table 2). We chose an experienced interviewer, who did not participate in any trial activities, to conduct in-depth individual telephone interviews to avoid investigator bias. The interviewer was a nurse with a master's degree in public health science. The interviewer was trained in the interview guide by last author (JFJ), and the guide was tested in the first interview. The interviews were scheduled according to the individual preference of the nurses and were carried out on their native language. The interview started with a grand tour question: "How did you experience the RAPIT trial?" to encourage the nurses to elaborate freely about their experiences (Table 2). Probes and pauses were used during the interviews to validate statements from the participants (Malterud, 2011). Interviews were audio-recorded and transcribed verbatim by a secretary and to ensure accuracy were transcripts compared with recordings by two authors (LL and JFJ). The mean duration of interviews was 39 min (range 23–55). The present study focuses on nurses' experiences including: (a) motivation to participate, (b) pros and cons during the trial and (c) impact of nurses' participation.

2.4 | Data analysis

The interviews were analysed using inductive thematic analysis as described by Braun and Clarke (2006). The analysis followed a six-step process of familiarisation, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report (Braun & Clarke, 2006). We used investigator triangulation within the research group including mutual discussions. Adjustment of the themes was carried out in continuous reflectivity throughout the research process to increase trustworthiness of our study (Malterud, 2011). Before the coding began, were transcripts read several times, and notes and ideas for coding were added by LL and JFJ independently. The data analysis was performed using Excel (2007) software (Swallow, Newton, & Van Lottum, 2003). Two researchers (LL and JFJ) did the coding and conducted the initial analysis together. Subsequently, the initial analysis was discussed in the research team to achieve consensus. The interdisciplinary research group consisted of four nurses (three ICU nurses) and one ICU physician with a range of qualitative research experiences. Quotes are chosen as illustrative example and presented in the analysis to provide transparency (Braun & Clarke, 2006). Quotes were translated

TABLE 2 The interview guide

Topics	Interview questions
Introduction	The interviewer, the interviewee (demographic questions) and purpose of the study incl. process of interview
Grand tour question	What is your experience of the RAPIT trial?
Motivation	What made you participate as a project nurse in the RAPIT trial?
Allocation	How was it for you to enrol patients in the trial? What do you think about the randomisation procedure?
Components in the RAPIT trial	How was it to conduct the three conversations? (patients photographs, revisit ICU, reflection sheets)
Pro and cons of your participation	What was positive/negative? What where challenging/barriers/benefits? (- and why)
Impact	Can you give examples on how your participation affected practice?
Recommendations	Do you have any recommendations for others who need to be involved in similar projects?
Closing remarks	Do you have any closing remarks before ending the interview? Acknowledge participation

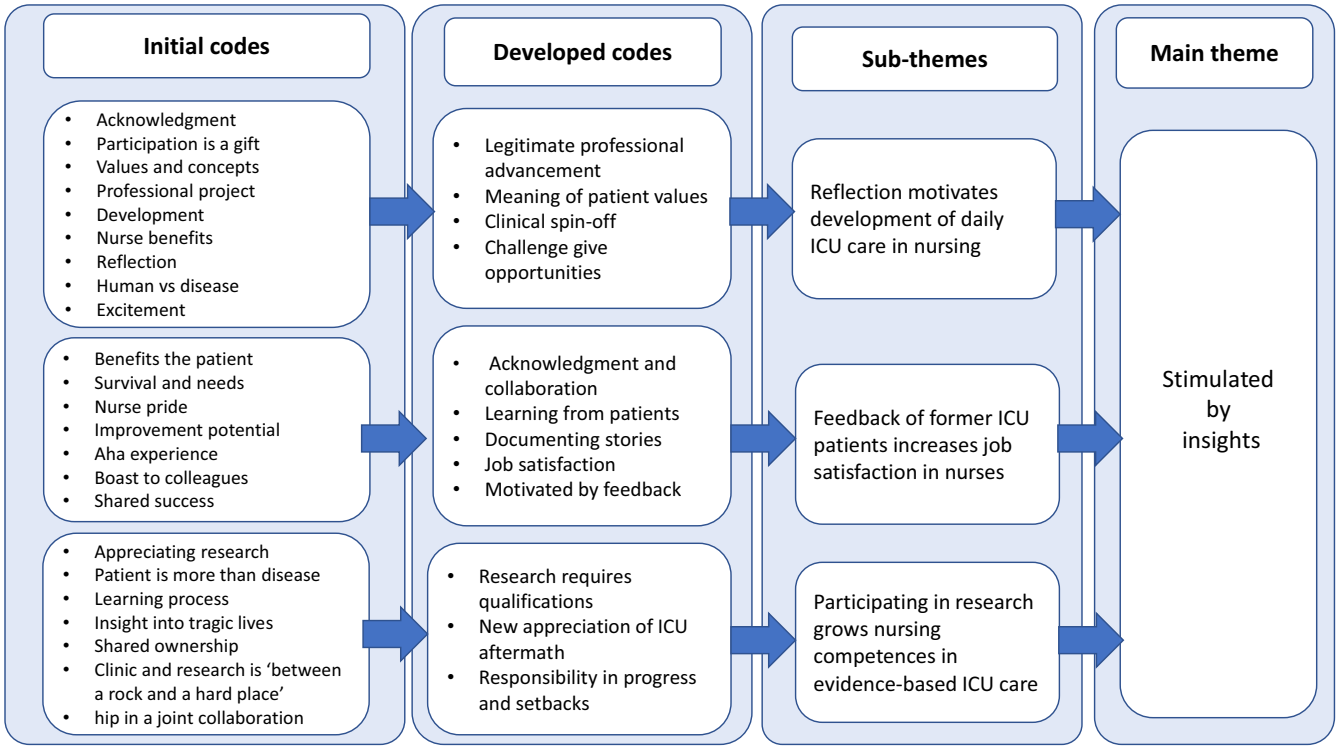

FIGURE 1 The analytical process

into English after the analysis. To ensure clarity in the reporting of this study, the Consolidated criteria for reporting qualitative research (COREQ) checklist were followed (Tong, Sainsbury, & Craig, 2007), Appendix S2.

2.5 | Ethical considerations

The study was conducted according to the Helsinki Declaration (WMA, 2014) and the Ethical guidelines for nursing research in Scandinavia (SSN, 2003). The Head Nurse at each hospital, the National Committee on Health Research Ethics and the National Data Protection Agency secured the ethical approval of the study. All participants received written, as well as verbal, information about the study, and they gave written informed consent by mail. Data anonymity was applied by allocating pseudonyms to each participants, who are referred to as P1–P14.

3 | FINDINGS

3.1 | Participant characteristics

The fourteen informants were female nurses representing nine ICUs in the RAPIT trial, because sites were reduced to nine as a result of unit amalgamation. The response rate was 52%. The reason for nonresponding nurses were career changes including retirement (n = 13). The mean age was 49 years (range 38–59), and mean ICU experience was 14 years (range 7–30). Six informants were Master's prepared, and four had a diploma in supervision. Nine were provider nurses, and five were assistant nurses (Table 1).

3.2 | Main theme: Stimulated by insight

The main theme that emerged, structuring the meaning of the study nurses' engagement in clinical research, was "Stimulated by insight." This theme was identified after identification of three sub-themes: (a) "Reflection motivates development of daily ICU care in nursing"; (b) "Feedback of former ICU patient's increases job satisfaction among nurses"; and (c) "Participating in research grows nursing competences in evidence-based ICU care." The analytical process is abstracted in (Figure 1), and selected quotes are presented in the text.

3.3 | Sub-theme I: Reflection motivates development of daily ICU care in nursing

The nurses regarded their research participation and delivery of the intervention as a welcoming and challenging gift. It stimulated their curiosity and increased their understanding of clinical research and practice improvements:

> *Participating in this project has brought new knowledge, and new methods to our clinical practice, something we didn't know anything about before.*
>
> *(P11)*

Research participation led to a new understanding and a broader perspective on nursing practice. The nurses experienced that each patient's story added a deeper understanding of how disease and treatment affected individual people in different stages of life, leading to reflections of nursing values:

> *I just think it has to do with the way we plug along, day after day. Things you didn't think about. Suddenly you understand it really makes a difference. Then you start to think. I actually think that's what happens [work is considered as routine], but it's very important to be reminded of the human values in nursing.*
>
> *(P7)*

Nurses' reflections challenged their routines as well as their habits and changed their presumptions of ICU care. This contributed to a greater appreciation of nursing values and influenced daily practice. The insights that emerged from meeting the patients throughout the research process (after ICU discharge) were regarded as an extra benefit and initiated spin-off discussions among staff members. Nurses considered the patient perspective as a strong argument when discussing core concepts in nursing, such as communication, human values and interaction:

> *Well it gave some really good professional discussions like 'why are we doing the things we do?' … and on a different level than when we participate in other projects, because this brought some other values into the unit!*
>
> *(P11)*

These reflections were discussed at staff meetings and in daily practice when nurses were involved in different project-related tasks (e.g. at randomisation or follow-up consultations). Study nurses are used to assisting physicians, but this project was different. It strengthened the arguments for good nursing practice among involved nurses and their colleagues. The reflections initiated learning processes and encouraged practice development in the ICUs:

> *I believe that it is because we have had focus on it at staff meetings; 'what does patient involvement actually mean to us?' and 'what do we actually want to highlight in our unit?', because it's just such an important an area.*
>
> *(P7)*

3.4 | Sub-theme II: Feedback of former ICU patients increases job satisfaction in nurses

Conventionally, critical care nurses are unaware of what happens to the patients when they leave the ICU. In this study, patient feedback was considered crucial for study nurses and colleagues. The first consultation during the intervention was described as the most rewarding. It was meaningful to see patients alive, recovered and to show them the ICU where they were admitted. They experienced how patients interacted with the staff, who had cared for them during their ICU stay. The reunion gave a new purpose to the ICU staff. Patients were able to recount experiences of being lifted to a chair, watching TV and enduring procedures. It affected the staff to see patients as individuals independent of technical equipment. It was particularly emotional to see recovery in patients that had been unlikely to survive. This gave nurses a sense of pride. Caring was considered as proof that their effort made a difference for patients. The success stories confirmed that their efforts had an impact on patients' lives, and patients gave feedback on their experiences of critical illness, which contributed to new understandings and awareness of patient needs during critical illness:

> *… and sometimes I had an 'aha-experience'. When they [patients] told about the worst things they had experienced, I sometimes thought that it is just something we do without thinking about it in that way [that matters for patients].*
>
> *(P14)*

The patients' needs could be related to communication, mobilisation and other nursing care activities. Nurses learned from the patients and expanded their knowledge of the patient experience. They became more sensitive towards patient needs, and they considered more patient involvement as a possibility:

> *I've certainly learned something from patients. I thought that they obviously would be afraid of dying while lying here [at the ICU]. I have often thought that, but that's just not what they say. It's also how we encounter our patients, with pity or assuming they are scared. But when we ask them afterwards what they thought about it, that wasn't the issue. They only experienced fear of dying for a few moments if they were unable to breathe. So, I've learned a lot and we don't have to be overprotective.*
>
> *(P4)*

The nurses were inspired by patients' stories and even stated that better patient understanding could reduce nurses' stress and increase their job satisfaction:

> *ICU nurses risk burnout because they often don't know what patients' outcomes will be. But through this follow-up I think our work is put into perspective, which increases our job satisfaction and reduces distress.*
>
> *(P13)*

3.5 | Sub-theme III: "Participating in research grows nursing competences in evidence-based ICU care"

Nurses engaged in the study gained knowledge about the research process. They stated that participation in research activity required

special talents and competencies. Their formal qualifications included educational level, computer skills and knowledge about the protocol, methods and procedures. Personal qualifications were described as accountability, perseverance, ability to create structure and flexibility. Open-mindedness and curiosity towards research methods and designs were also seen as important in clinical research. Nurses' motivation started as knowledge-seeking behaviour followed by involvement depending on the type of patient interaction and research design:

> *It has all together opened my eyes for research, so I started to read up on some of the different ways to ask questions [communication techniques]. This project had two parts [a QUAN/qual], in that way that it has been very exciting to get to know another way, not just on the scientific level, but also the fact that you can do research in close contact with patients. It has been great to follow the process.*
>
> *(P4)*

Nurses regarded themselves as an active part of the research team, especially by conducting on-site research and at workshops embedded in the trial. Involvement inspired nurses to gain new competencies through critical reflection. The workshops helped nurses to understand methods and appraise the evidence. Nurses felt a strong responsibility to conduct the intervention well, also during progress and setbacks. They felt pride in adhering to the intervention and helping vulnerable patients. Some nurses struggled to keep their focus and motivation due to time constraints:

> *It's clear that the longer a study lasts, the harder it is to keep it going. In the beginning, most of the colleagues were very motivated and hooked, but as time passed, and 10 other projects were running and changes had to be made due to staff turnover. All this affected our motivation and interest and might be the reason for a need to re-implementing it. … you need to face your colleagues and say, this is the way we must do it, and you have to be the driving force for years.*
>
> *(P1)*

Some nurses felt a strong responsibility for trial progression locally. They had to sustain their enthusiasm for years. They experienced a dual role as both clinical and study nurses. Nurses had to endure being alone and persevering towards the task. At the same time, they had to involve colleagues to gain a successful implementation where ownership played an important role. Some nurses experienced their colleagues being jealous due to their engagement in research. The value of clinical tasks was viewed as less important than research tasks, which could lead to nurses having feelings of exclusion from colleagues:

> *…perhaps, a bit of envy among colleagues that are doing research because they get non clinical days, which can be interpreted as favoritism…. That's the downside.*
>
> *(P6)*

Study nurses felt the pressure of working between unit and research management:

> *…you work with the project, because as a study nurse you feel like you are 'between a rock and a hard place'. You refer to the research manager and to your own manager and there must be support locally in the clinic because otherwise … I think this is a common prejudice. But it hasn't been a barrier because we have had good support and agreed that we could speak up if we needed more.*
>
> *(P13)*

The long-term research design revealed gaps in patients' pathways across the treatment continuum from ICU to the 1-year consultation. Some patients did not get adequate support due to lacking coherence, continuity and coordination during their trajectory. This insight saddened nurses:

> *… There are some gaps, and here the patients become a kind of victims because some things are said but it's not always like that – well the intention is good, but there are different approaches – such as medicine, you know! And I think it's hard for them [patients], it really requires you to be strong and have a good, strong network.*
>
> *(P10)*

This highlights that nurses considered follow-up services important for patients, not only to create a coherent illness narrative during recovery but also to establish continuity, ensure patient safety, help patients search for meaning and accommodate patients' informational needs after ICU discharge. Despite these important insights, only two sites continued follow-up services after the trial ended.

4 | DISCUSSION

This qualitative study explored ICU nurses' experiences of engagement in clinical research. We demonstrated how nurse participation in a RCT promoted reflection on nursing practice, job satisfaction and competency level.

The main finding "stimulated by insight" describes how nurses' are stimulated to professional growth by gained insight; their engagement is established by reflection, patient feedback and acquired research competencies in clinical settings. In general, nurses' experiences were positive and showed how nurses' engagement in research also promoted the clinical nursing practice. This may be caused by a high level of reflection among involved nurses. Reflections on nursing practice raised questions about usual care processes and habits, a well-known prerequisite for learning and change in action. Reflection is a semi-conscious consideration of associations between actions and its consequences describing two levels of reflection: "how we will act" and "why we should act." The question of why we should act has been termed "critical reflection" (Elkjaer & Wahlgren,

2005; Schön, 1991; Wahlgren, 2013). Critical reflection covers considerations of the purpose of actions and is supported when actions involve a conflict of values (Argyris & Schön, 1996; Berthelsen & Holge-Hazelton, 2017; Elkjaer & Wahlgren, 2005). Critical reflection leads to actions that can be maintained or altered. Either way, the action is considered to be more effective as it includes the purpose of actions (Schön, 1991). Involvement in the RAPIT trial led to the implementation of new procedures and techniques. Peer reflections were stimulated in daily practice, and at the workshops, both values and common practice were revised. It can be argued that nurses engaged in this study created a reflective practice, which is suggested to be an important part of career progression as it can improve the skills of healthcare providers (Koshy, Limb, Gundogan, Whitehurst, & Jafree, 2017). Reflection is known to be important in learning processes (Schön, 1991). According to Donald Schön, both reflection-in-action and reflection-on-action are equally important in the stimulation of a learning process (Schön, 1991). The extended level of reflection-on-action presented in this study challenged the usual routines, habits and preconceptions of the care process and supported the nurses to reflect upon practice in the ICU. The level of reflection might be the reason why the trial was manageable in clinical practice because the nurses realised some gains not measured in the patient outcome assessment. This might well be an experience of increasingly focused clinical judgment. On the other hand, the high level of reflection among the nurses could be due to selection bias. The interviewed nurses were selected from a motivated population of trial nurses, who had additional qualifications. This could have supported their way of promoting a reflective practice. Future trials might increase the learning processes among providers of interventions for example by using methods as problem-based learning or simulation-based training to improve nurses' skills (Hegland, Aarlie, Stromme, & Jamtvedt, 2017).

Our study highlights how patient feedback was experienced to increase nurse's job satisfaction. It is well known that feedback contributes to increasing job satisfaction (van Mol, Nijkamp, Bakker, Schaufeli, & Kompanje, 2018). Existing literature also demonstrates other factors are supported, such as professional pride, autonomy (Ellenbecker & Cushman, 2012; Elliott, Rodwell, & Martin, 2017), acknowledgment, respect (Boamah, Spence Laschinger, Wong, & Clarke, 2018; Steinke, Rogers, Lehwaldt, & Lamarche, 2018), engagement as well as feeling confident and competent to perform the job (Biagioli, Prandi, Nyatanga, & Fida, 2018). The ICU environment is demanding and full of a continuously high-stress work load leading to possible staff turnover and burnouts (van Mol, Kompanje, Benoit, Bakker, & Nijkamp, 2015). Perhaps, ICU professionals are emotionally affected by patients' condition, lack of communication during mechanical ventilation, disproportionate care or medical insufficiency (van Mol et al., 2015). In general, patient feedback supports nursing practice according to patients' articulated needs leading to a better overall understanding of the patient. The ICU nurses lack knowledge of the long-term recovery and survival of the patients (Engstrom & Soderberg, 2010). However, nurses who experience patient feedback are more likely to feel confident and competent in their job performance, thus increasing job satisfaction. We recommend future research to focus on the impact of patient feedback on nurses conducting ICU follow-up. This might clarify factors affecting recruitment, job satisfaction, staff turnover and burnouts (Pejtersen, Kristensen, Borg, & Bjorner, 2010).

Conducting research challenges nurses' competencies but at the same time, it is considered as prerequisites for maintaining their engagement in research. Competencies are key components in establishing learning in practice (Elkjaer & Wahlgren, 2005; Illeris, 2014). The findings in our study could represent a way of competence development, where nurse's engagement is linked to a broader perspective in a larger context. Competencies are defined by practice as more than knowledge and qualifications; they are developed by various actions in practice (Illeris, 2014). Nurses in our study described both formal and personal competencies. They used their competencies to experiment, with different actions in practice. Actions recognised through their reflections from experiences in the trial, and therefore, active involvement in research can be considered as a competence development programme. In our study, nurses considered it important to participate in clinical research, but also challenging, as found in another study (Smith et al., 2016). Our study shows a group of nurses, who identified competencies they considered essential for conducting clinical trials. Active involvement of nurses, not only in the practical intervention but also as a part of the research team, could be a crucial component of research performance in clinical practice. Our study suggests that nurses engaged in clinical research act in a combination of personal interest, the interest of the research team and the interest of the healthcare organisation. In other studies, the dual roles of care provider and study nurse have been described as pressure from two sides. This might be experienced as a choice between evidence-based practice and contemporary practice in the unit (Berthelsen & Holge-Hazelton, 2017; Renolen, Hoye, Hjalmhult, Danbolt, & Kirkevold, 2018).

4.1 | Methodological considerations and limitations

A methodological limitation of conducting a study in a familiar context must be mentioned. The willingness of participants to share their experiences and gain access to the field, maybe increased by knowing the context in which the study is conducted (Korstjens & Moser, 2018). On the other hand, it could influence the data generation (research questions and interview guide) and the analysis. We tried to reduce investigator bias by using an external interviewer and a secretary to do the transcription of the interviews. Our interview guide was empirically constructed, which increased the validity of the data generation. Trustworthiness was increased during interviews by the interviewer, who sought to clarify, understand and expand the information provided. Credibility was achieved by presenting the quotes related to the generated themes and by using investigator triangulation when coding and analysing the data (Korstjens & Moser, 2018). To reflect the confirmability of our interpretations of data and the findings were discussed. We discuss our

preconceptions, promoted the possibility of multiple interpretations and obtained an agreement within the research team (Korstjens & Moser, 2018). Data saturation was reached in the analysis when we reached a point where no new information was expected to enhance or change our findings (Braun & Clarke, 2006; Malterud, 2011). Recruitment of participants through a multicenter randomised trial can be argued to increase external validity; on the other hand, the cultural aspects must be considered. Contextual characteristics differ among countries, and notwithstanding the nine Danish ICUs, an international comparison is of great importance. This might reduce the transferability of our study. However, our findings are valuable and could help nursing management to support the staff nurses doing research, or other side activities, to enhance their competencies and professional growth by gained insight.

5 | CONCLUSION

Nurses participating in a 1-year multicenter randomised controlled trial demonstrated enthusiasm and commitment. This might indicate that post-ICU follow-up consultations (e.g. patients' feedback) have a positive impact on nursing practice. The nurses were stimulated to professional growth by gained insight throughout the research process. This could, in turn, be considered as a nursing competency development programme linking new knowledge, broader perspectives and critical reflection in qualifying nursing practice. The study indicates that nurses promoted the clinical practice and job satisfaction by prioritising critical reflection and feedback of former ICU patients. Nurses also improve research competencies within the research team by balancing challenges and resources in clinical settings. There is still, however, a need for practical, and educational support to increase nurse competencies and maintain teamwork among colleagues, managers and researchers.

6 | RELEVANCE FOR CLINICAL PRACTICE

This study can contribute to clarifying and developing qualified recommendations for nurse participation and patient involvement in clinical research. Our findings have the potential to optimise the implementation of clinical research. These findings can support evidence-based knowledge, increase attention and awareness towards the knowledge base of nursing to benefit staff and patients. This study can advise nursing leaders and organisational managers that prioritising involvement in clinical nursing research as well as it can be a strategy to create a competency development programme. In this way, our findings can support evidence-based knowledge and increase awareness towards the knowledge base of nursing for the benefit of staff and future patients.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

AUTHOR CONTRIBUTIONS

Conception and design, acquisition or analysis and interpretation: LL, JFJ; drafting or revising, final approval, participation to take public responsibility and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved: LL, IE, DO, MHB, JFJ.

ORCID

Lene Lehmkuhl https://orcid.org/0000-0003-2196-5621
Ingrid Egerod https://orcid.org/0000-0002-9576-4390
Dorthe Overgaard https://orcid.org/0000-0003-4282-7850
Morten H. Bestle https://orcid.org/0000-0001-6585-2659
Janet F. Jensen https://orcid.org/0000-0003-0021-6242

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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