Abstract

Background: Caring for adult patients with a temporary tracheostomy, discharged from intensive care units to general wards, can be challenging and complex. There has been little research to date exploring registered nurses' experiences with caring for these groups of patients.

Objectives: This study seeks to interpret and describe registered nurses lived experiences with caring for adult patients who are discharged from intensive care unit to a general ward, with a temporary tracheostomy.

Research design/methodology: Six registered nurses were interviewed in this study. The interviews analyzed to gain comprehensive knowledge about caring for adult patients with a temporary tracheostomy. The interviews were transcribed, analyzed, and interpreted by using Gadamer´s philosophical hermeneutics and Kvale and Brinkmann's three steps of understanding. This study was reported according to the " Consolidated criteria for reporting qualitative research" (COREQ) checklist.

Setting: Three different wards; medical, surgical, and neurological; from a teaching hospital in Norway.

Findings: Three themes emerged from analyzing the data. These were: experiencing clinically challenging patients, experiencing lack of clinical support from the critical care outreach teams, and experiencing lack of professional confidence in how to care for adult patients with a temporary tracheostomy.

Conclusion: The findings present an overview of the challenges of the registered nurses encountered whilst caring for adult patients with a temporary tracheostomy in a general ward. Adequate care to the referenced group of patients is not beig provided due to a shortage and confident qualified nurses in the registered , and insufficient support from intensive care nurses. The identified challenges would lead to further improvement in registered nurse' experiences and, in turn, the quality of care for patients with a tracheostomy in general wards and preventable readmission to intensive care unit.

Introduction

Caring for adult patients with a temporary tracheostomy, discharged from intensive care units (ICU) to general wards, can be challenging and complex. Percutaneous dilatational tracheostomy in ICU, which can be performed bedside, is one of the most frequent procedures performed in the ICU (Peñuelas et al., 2011) to increase patients' comfort, reducing the need of sedation, facilitating the weaning process form mechanical ventilation and allowing earlier discharge of patients from the ICU, thus allowing better management of limited ICU-beds (Cheung & Napolitano, 2014).

Numerous studies report a correlation between tracheostomy tubes with increased post-intensive care unit (ICU) mortality (Martinez et al., 2009). This increase may be attributed to an inadequacy among nursing staff responsible for the care of adult patients with a tracheostomy at non-specialized hospital wards. The Singh et al., (2017) study, reports that the lack of decannulation of conscious tracheostomy patients before discharge from ICU to the general wards was associated with increased mortality .

The critical shortage of ICU-beds and ICU-staff capacity worldwide is increasing (Verdonk et al., 2021) in the future because of a demographic increase in the elderly population and the availability of more extensive therapies for seriously ill patients than before (Nguyen et al., 2011). The limited number of ICU-beds as well as the pressure of ICU care on the total hospital budget, necessitates optimal use of ICU-beds flow from ICU to general wards. Discharging patients with tracheostomies to general wards improves ICU-bed capacity but raises potential safety issues. The challenges with ICU discharge are well recognized (Plotnikoff et al., 2021) and cases have emerged where registered nurses (RNs) appear to be inadequately trained to take care of a patient with a tracheostomy and therefore have insufficient knowledge, skills, and confidence to provide adequate care for patients with tracheostomy (Paul, 2010). Still, Various research has described the lived experiences of these patients and how communications difficulties generate feelings of vulnerability and helplessness, fear, and anxiety (Wallace and McGrafth, 2021). Nakarada-Kordic et al., (2018) study described challenges facing patients with a tracheostomy and their caregivers such as communications difficulties, poor basic care, altered body and reduced social interaction. Research show that RNs spend a lot of time with patients (Westbrook et al., 2011) and affect patient experience of care (Teng et al., 2010). Furthermore, previous studies have shown that nurses should demonstrate proficiency in caring and skills in communication with patients

with a tracheostomy (Foster, 2010; Donnelly and Wiechula, 2006). Despite the existence of studies of the management of tracheostomy (Yokokawa et al., 2021; Whitmore et al., 2020), few studies have been found that investigate how RNs experience caring for discharged adult patients with a temporary tracheostomy in a general hospital ward. This study has been guided by a Gadamerian (2004) lifeworld-oriented philosophy grounded in the phenomenological-hermeneutic tradition.

Little is known about RNs' experiences from caring for adult patients, discharged with a temporary tracheostomy to a general ward. It would appear, therefore, important to study RNs experiences on this phenomenon. By understanding the RNs lived experiences, this study aimed to identify opportunities for care improvement and thereby optimize patient safety and care. Therefore, the aim of this study is to interpret and describe RNs lived experiences of caring for adult patients with a temporary tracheostomy discharged from ICU to general hospital wards

Methodology

The study adheres to the consolidated criteria for reporting qualitative research (COREQ) (Buus and Perron, 2020).

Approach to the field and study participants

The first author (AA), who works as a full-time ICU-nurse/a PhD candidate, contacted three head nurses from three different general wards at a regional teaching hospital in Norway without step-down units. The researcher requested a sample of ten RNs. The head nurses forwarded the request and six RNs agreed to participate in the study (**Table 1**), and two additional RNs expressed interest but did not respond to a follow-up inquiry to schedule an interview. There was no relationship prior to the study between RNs and researcher. The RNs were given a letter explaining informed consent and the details regarding anonymity and those who agreed to participate, were contacted, and a time and place for the interview was agreed upon.

When using purposive sampling, the researcher looks for professionals who have a wide range of experiences with the phenomenon and with an ability and willingness to describe their experiences (Polit and Beck, 2012). The inclusion criteria were a RN with at least five years of experience. Working experience was also considered, to achieve a variation in the

data, as well as an expressed desire to share experiences. Six RNs from three different general wards participated : two RNs from Department of Neurology, two RNs from Department of Cardiology and two RNs from Department of Ear, Nose, and Throat (ENT). The RNs were between 28-66 years, while their working experience varied from 5- 38 years.

Table 1 Demographics characteristics of RNs.

RNs' code	Gender	Age (years)	Work experience (years)	Level of education	Position	Ward
1	female	28	5	Bachelor' degree	RN	Department of Neurology
2	female	54	30	Bachelor' degree	RN	Department of Cardiology
3	female	31	6	Bachelor' degree	RN	Department of Cardiology
4	female	38	13	Bachelor' degree	RN	Department of Neurolgy
5	female	30	7	Bachelor' degree	RN	Department of ENT
6	female	66	38	Bachelor' degree	RN	Department of ENT

Ethical Approval

The study was conducted according to ethical principles for medical research involving human subjects as defined in the World Medical Association Declaration of Helsinki (2014). The researcher conducted the interviews after obtaining the Hospital's approval and the RNs' consent. All RNs were provided with written and oral information about the study that underlined that their participation was voluntary, that they had the right to withdraw at any time during the study, and that anonymity and confidentiality was maintained. Written informed consent was obtained from all RNs before the interviews. The study was approved by the Hospital Social data Services on May.19.2021. (Project number 201).

Participants and data collection

The purposive sample of participants consisted of six female RNs. Data was collected during a two-months period, January to February 2021, at the participants' work wards, using qualitative in-face-to-face depth interviews (Kvale and Brinkman, 2015). Before starting the

interviews, the RNs were asked to re-read the information letter they had received and reconfirm their consent to participate in writing. Each interview started with an open question: 'can you talk about your experience with caring for patients with a temporary tracheostomy you received from the ICU? They were allowed to explain their personal experiences and were given follow-up questions to deepen or clarify the description or bringing the attention back to the topic at hand (Kvale and Brinkmann, 2015). The RNs selection and sampling continued until data saturation was reached. Data saturation occurred after the interview 4. Saturation refers to the repetition of discovered information and confirmation of previously collected data; when ongoing analysis reveals no new information and no new themes emerge , sampling may cease (Sanders et al., 2018).The average length of each interview was between 45-60 minutes, except for two that lasted approximately 30 minutes. The interviews were audiotaped, transcribed immediately, and prepared for analysis.

Data analysis

In the phenomenological-hermeneutic method (Kvale and Brinkmann, 2015), there three levels of description and interpretation. At the first level (self-understanding), the researcher listened to the audiotapes and reads the transcribed text of the interviews many times to achieve an overall understanding of the texts. The second level (critical common-sense), the analysis and level of interpretation was to provide a reasonable, general interpretation of what the RNs said. New themes with a new level of abstraction emerged through reformulating the RN's self-understanding. The units were then systematized in closely related topics, with the new level of abstraction given the themes presented in the findings section. At the third level (theoretical interpretation) involved the application of theory in the interpretation of the meanings of the statements and expressions of RNs using a phenomenological hermeneutic approach

Trustworthiness

Considerations of trustworthiness were addressed by adopting Guba and Lincoln' s (1985) guidelines. 1) Credibility was obtained through the researchers' long-term involvement in the study, variance in RNs (age and experience). Regarding member-checking, we provided a brief report of the findings to the RNs. Then, we asked them to review the data and indicate the extent to which the analyzed data reflected their experiences. Two faculty members with considerable experience in in qualitative research methods and one member in quantitative methods reflected on the analyzed data to meet triangulation requirements. 2) To ensure

confirmability, critical discussions were conducted between the authors. Rich description of findings, and conformation of findings by two non-participating RNs helped to ensure data transferability. 3) To secure the dependability of the data, the same researcher (AA) who conducts the interviews transcribes the data verbatim. 4) To ensure transferability. The researchers tried to provide an accurate and detailed information for potential transferability, including description of the study, the methodology and the participants.

Findings.

Through the analysis of data, three themes emerged regarding the RNs' lived experiences with caring for adults' patients with a temporary tracheostomy in a general ward. Themes are experiencing clinically challenging patients, experiencing lack of clinical support from CCOTs and experiencing lack of professional confidence. The themes are presented in the following paragraphs and are highlighted by quotations where appropriate.

Experiencing clinically challenging patients

During the interviews, the RNs experienced adult patients with a tracheostomy as demanding. RNs reported that patients were sicker and sometimes not fully recovered. they felt that these patients were physically and mentally challenging and that caring for them was time-consuming because they require a higher level of care, as one RN said: "You can tell … they're very sick. So, there's a lot around them. They are challenging, time-consuming and mentally demanding". (RN 5)

This can be understood as RNs experienced moderate to severe levels of stress in the domains of patient care. It seems that caring was experienced as stressful for most of the RNs when they had to perform an emergency tube change due to the lack of training in performing the required procedure. This can be read as that RNs were confronted and challenged in their ability to care and communicate with tracheostomy patients, considering that their patients had multiple and complex needs and required constant surveillance and assistance. These factors seem to indicate the complexities of the patient care. Inadequate training and professionalism sometimes caused conflict and failure in patient communication. The RNs also stressed how the patients care complexity, increased workload and the challenging work environment caused them physical and mental stress. They describe how they were perpetually thinking about work, and how many felt exhausted, tired, and demoralized without sufficient focus on other important aspects of their lives. They described an average

working day as usually hectic, filled with challenges prioritizing one urgent issue over another. It appears that RNs having insufficient time with their patients, left them feeling frustrated, irritated, and burnout.

Adult patients with a temporary tracheostomy needed close follow-up and professional care. One of the RNs said: “I think that they need close follow-up in a specialized step-down-unit, with professional personnel who know what they are doing… who know what to hear and look for… to look after the patient in the best possible way” (RN 4)

The above statement from one of the RNs can be interpreted as caring for patients is a difficult and complex task and that they should be discharged to a special step-down with experienced staff. RNs described how patients needed close follow-up and need help to the remove of bronchial secretions quite often. It seems that RNs were overwhelmed, under skilled and felt they did not have the ability to give patients proper care. RNs felt they did not have enough experience to care for this category of patients. They seem to be afraid to make wrong decision and jeopardize patients and deliver a lower quality of care.

One RN described how patients were not fully recovered. RN felt challenged technically and in interaction with them and reported that RNs were anxious and afraid and stressed because they were afraid of complications like bleeding, managing secretions or tube dislodgement. One RN said: “patients can claim quite a bit of those around them”. (RN 3)
Another RNs said the following: “Patients are dependent on help, almost 24/7. They are dependent on having someone in proximity all the time”. (RN 6)

This can be understood as caring for patients with a tracheostomy is complex. Patients needed someone present all the time because they are afraid to suffocate, especially when they could not evacuate secretions. RNs revealed that patients were still critically ill, physically, and mentally demanding, and some patients did not understand that they were very critically ill. RNs felt that they did not only take care of the tracheostomies, but the whole patient. And that these patients needed more care and help than the rest of patients in ward. Nurses felt afraid and had a great respect for these patients because of some of them were still in need of constant care. This can be understood as the RNs reflected on the fragility and vulnerability situation the patients were inn. RNs felt strong responsibility for the care of these patients

because they needed help around the clock. RNs felt guilty because they have to prioritize patients with tracheostomy which prevented from giving proper care to other patients.

Experiencing lack of clinical support from the CCOTs

RNs described the lack of appropriate support and collaboration from the CCOTs. RNs experienced that CCOTs refused to help them with the management of patients with tracheostomy when they needed in the most. RNs experienced frustration and sadness and they felt that they had failed to care for the patients properly, as one nurse said: “We have had situations where the ICU nurses have refused to come down from the ICU to help us. It could be that they're in an emergency, and we understand that. But it feels frustrating when we're at the other side… and really need help because we do not call them if we don't really need help” (RN 2)

This can be understood as the RNs found it difficult to contact ICU when they had questions or needed help. The experience of RNs was also confirmed through another RN statement: “ICU nurses do not understand how much work we have to do on the general ward” (RN 3)

RNs experienced lack of support and poor collabortaion with the ICU nurses. This can be interpreted as RNs had a sense of responsibility towards caring for discharged critically ill patients from the ICU. RNs reported that patients were often severely ill and sometimes unstable, and some stated that they were the critically ill and most challenging patients they had ever cared for. Another RN stated: “You are at the mercy of who’s at work in ICU… if you call and they're busy or ... if there is somebody that doesn't have much experience there. Then I don’t think we'll get help” (RN 4)

This can be interpreted as RNs found that they often needed much more time to care for these patients than expected. It may seem like that RNs felt powerless and dissatisfied by not receiving help when they needed it from the ICU. RNs reported that sometimes ICU nurses did not have the time nor the resource or the competency necessary to come and help them because they were too busy. They also described how ICU nurses on duty were often young, recently qualified with minimal experience. RNs felt disappointed, and found it difficult to do their job properly, often finding themselves in situations they could not manage by themselves.

Experiencing lack of professional confidence

One of the main findings was that caring for critically ill patients with temporary tracheostomy in a ward requires confident and trained RNs with experience. RNs described that patients often were in an unstable condition with complex medical histories and sometimes still need advanced treatment and care. Consequently, patient care was compromised because of inadequate numbers of trained staff with caring for patients with a tracheostomy. They reported that local staff at wards had little knowledge and often lacked confidence. RNs felt that recently graduated RNs often felt insecure and uncertain.
One of the RNs said: "Confident ... now I'm not particularly thinking about those who are newly upgraded nurses… and that they do not understand why one gets a tracheostomy? is it because you have a lot of mucus and can't get it up that way? or is it because the patient is unable to keep free airway? Yes. So, some nurses don't understand the seriousness of it… not just the fact that they have got a tracheostomy" (RN 1)

Another RNs described their experiences: "When we realized that almost 90% of those who worked here are not confident because it's new to us too. Very few patients with a tracheostomy have come to our department in the last six months but now we will get more" (RN 5)

"There are many RNs who do not want to work with those patients". (RN 6)

The narrative from the RNs can be understood as caring for adult patients with a temporary tracheostomy led to considerable insecurity and uncertainty among RNs without experience or training. RNs expressed concern about recently graduated RNs without long experience. They pointed out that the recently graduated RNs could not be expected to care for this complex group of patients without proper training and monitoring bedside. Furthermore, RNs stated that the recently graduated RNs had difficulties in understanding or performing procedures in some situations. RNs felt bad because they could not satisfactorily meet the needs of patients with a tracheostomy. They expressed feelings of failure and shame, and they did not want to reveal their confidence as stated by a RN: " Fake it till you make" (RN 3)

Discussion

There themes emerged from analyzing the data. These were: ‘experiencing clinically challenging patients’, ‘experiencing lack of clinical support from the CCOTs’ and ‘experiencing lack of professional confidence’ reflecting the RNs perceptions of caring for adult patients with a tracheostomy in general wards.

Our results found that RNs perceived caring for critically ill adult patients with a temporary tracheostomy in general wards, as complex, difficult, and clinically challenging. Previous research confirms that caring for adult patients with a tracheostomy is traditionally undertaken in specialized areas such as ICU or ENT (Nakarada-Kordic et al., 2018). RNs in this study experienced caring as emotionally and physically stressful. Similarly, previous research shows that hospital nurses reported relatively high levels of fatigue, poor sleep, and burnout (Dall’Ora et al., 2015) and that work related stress is associated with burnout, job satisfaction and physical and mental wellbeing (Dall’ Ora et al., 2015). The RNs’ narratives revealed that working with sicker patients is time-consuming and requires close and continual monitoring around the clock. This work was affected by a lack of resources and limited and experienced staff availability. Other research shows that critically ill patients who are being managed in general wards are at risk of serious deterioration (Herbst et al., 2018). RNs reported an insufficient number of skilled staff available which posed a challenge due to the workload. These findings are consistent with the results from a previous study, that shows how a heavy nursing workload adversely affects patient safety (Banda et al., 2022). Furthermore, it negatively affects nursing job satisfaction and, as a result, contributes to high turnover and the shortage of nurses (Marufu et al., 2021).

This study found that RNs experienced poor collaboration and lack of appropriate support from the CCOTs. Collaboration is considered the cornerstone of clinical practice and has been identified as the appropriate interaction mode within and between disciplines (Bedwell et., 2012). Most of the RNs described how a lack of support from their ICU caused low morale and motivation towards performing their duties effectively. Contrary to a recent study by Hession and Meaney (2022) who reported that ward nurses were satisfied with communication and clinical support from CCOTs. Furthermore, the RNs stressed the importance of support from ICU and underlined that it was essential to establish close collaboration with the ICU. The findings in this study, however, showed that RNs experienced a lack of appropriate support and collaboration with the ICU. Previous studies have also documented the impact of poor collaboration on work processes and patient safety

and highlighted factors that encouraged and discouraged collaboration. Poor interprofessional collaboration can adversely affect the delivery of health services and patient care (Reeves et al., 2017). Effective collaboration is based on supportive workplace conversations that facilitate the exchange of knowledge, information and feedback related to work performance (Ylitörmänen et al., 2019). Another study shows that effective nurse-to-nurse collaboration can play an important role in improving nurses' self-esteem, confidence, and performance (Pfaff et al., 2014). lack of collaboration is often seen as the primary point of vulnerability for quality and safety of care (Lemetti et al., 2021).

As our findings demonstrates, caring for patients with a temporary tracheostomy in a general ward, requires confident and experienced RNs to provide proper and holistic care. The RNs' experiences and management of these patients is illustrated by how they were insufficiently prepared nor sufficiently supported to meet the huge responsibilities and challenges these patients represented in general wards. Caring for these vulnerable patients places additional demands and stress on RNs because specific confidence, skills, knowledge, and resources are required to provide proper care. Our findings support what Häggström et al. (2012) report, i.e., a difficult situation for nurses who usually do not possess the necessary expertise required to provide care for this group of patients. Additionally, patients from the ICU were often very critically ill, sometimes not fully recovered, discharged too soon, or discharged to general wards without pre-planning. Research shows that caring for patients with a tracheostomy with the highest acuity of illness in the hospital from a resource-rich environment to one with fewer resources (Ward et al., 2012), is a challenging transition of care. Most RNs felt stressed being required to take care of these patients because of the number and complexity of different care providers involved (Riesenberg et al., 2009), a lack of standardized discharge procedures (Stelfox et al., 2013) high frequency of verbal and written communication failures between providers (Li et al; 2011) and between providers and patients/families (Plotnikoff et al., 2021).

Consistent with recent studies by Escobar et al., (2020) .RNs were not better positioned to respond to patient deterioration because they felt they did not have the adequate skills and experiences. They were afraid of making mistakes and were struggling to detect and manage deterioration among those patients with a tracheostomy, and they felt hampered by inexperience, lack of skills and excessive workloads. These finding are worrisome since previous research suggests that experience does not correlate with nurses' ability to detect or

respond to patient deterioration (Hart et al., 2014). A recent study by Pimentel et al., (2021) reported that late recognitions of patient deterioration had bad outcomes, including higher mortality. This is especially noticeable in premature discharged patients, when the ICU is forced to send patients to general wards too early, often unplanned and before the patient has sufficiently recovered. A study of Kauppi et al., (2018) reported that RNs on the ward are insufficiently trained or prepared to meet the patient's need for care. Furthermore, the National Confidential Enquiry into Patient outcome and death in 2014 concluded that tracheostomy care was not one of the procedures that are safe and reasonable to transfer to a general ward, and that staff needed training in those essential skills to provide adequate care (Newman et al., 2022).

Methodological considerations

This study has limitations and strengths. This study was conducted at one hospital in one country, and the small sample (RN= six) limits the ability to generalize to other settings. The interview data were translated form Norwegian to English, it is always a risk of misinterpretation of the meaning of the translated data. The number of interviews required is the number needed to answer the research question (Dworkin, 2012) .The RNs in this study varied in age and experiences, and we believe that the sample was sufficient to gain richness in data. In qualitative research the goal is not to generalize the findings; instead, the findings can be transferred to similar situations if they are recontextualized (Lincoln and Guba, 1985). However, a well-known methodological approach was used in the analysis of the interview texts, and all steps in the analysis method (Kvale and Brinkmann, 2015) were followed strictly. The data in the present study was elicited from interview texts where RNs were eager to describe their experiences with caring for adult patients with a temporary tracheostomy. During the interviews the RNs made detailed and rich descriptions of their experiences. The findings that emerge from a research qualitative study must always be considered in the context of the researcher's preunderstanding (Polit and Beck, 2012). Although the researchers involved; (AA works as an ICU nurse/PhD candidate) and (STFD who is researcher with experience from ICU) ; strived to be open-minded. This was achieved by reflecting and discussing the preunderstanding of the members of the research team throughout the research process.

Conclusion

This qualitative phenomenological-hermeneutic study provides a unique and detailed descriptions of RNs lived experience of caring for adult patients with tracheostomy in general wards. Nursing education and the consideration of new ways of working together, as well as structural support from the ICU may reduce the sense of stress, uncertainty, and frustration. Moreover, collaboration between RNs and ICU nurses is essential to reduce insufficient care provision at the wards. Our study contributes knowledge regarding some of the factors that affect how RNs meet the needs of adult patients with a temporary tracheostomy in a general ward. To optimize collaboration with the ICU and create skilled and confidence among RNs at the wards, there is a need for mutual support, for workload management, for effective communication, better teamwork and patient centered care. Building on the findings of this study, future studies can implement interventions to improve caring for adult patients with a temporary tracheostomy in general wards.

Acknowledgements

The authors would like to thank all participants for sharing their experiences.

Funding

This research received no specific grant from any funding agency in the public, commercial, or nor-for-profit sectors.

Conflict of Interest

No conflict of interest has been declared by the authors.

Author contributions

AA was responsible for the study conception and design. AA performed the data collection. AA performed the data analysis. AA and STFD was responsible for the drafting of the manuscript. STFD, BSB and AH made critical revisions to the paper for important intellectual comment. STFD, BSB and AH supervised the study.

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