

ORIGINAL ARTICLE

Nurses' strategies to enable continuous positive airway pressure therapy in a general medical ward context: A qualitative study

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Funding information

Vetenskapsrådet, Grant/Award Number: 2020-01704

Abstract

Background: Continuous positive airway pressure is a non-invasive therapy beneficial for patients with acute respiratory failure. The need for this therapy outside intensive care units is growing, but nurses face many challenges to enable this therapy in general medical wards.

Aims and Objectives: The aim of the study was to explore nurses' strategies for enabling continuous positive airway pressure therapy in a general medical ward context.

Method: An explorative qualitative design was used including semi-structured interviews with 15 Swedish nurses. Data were analysed using a conventional content analysis.

Results: The nurses' strategies included a non-hierarchical approach when utilising an intra- and interprofessional collaboration. Inexperience was compensated for by collaboration. Nurses' strategies involved advanced patient-centred care using interventions to manage and ease the patient's treatment and discomfort. The creation of an alliance with the patient was crucial to prevent treatment failure. The strategies were interrelated and considered as parts of a whole.

Conclusion: Nurses described the strategy of a dynamic team that could be enlarged or decreased in tandem with other professionals, depending on the situation and the nurses' needs. Nurses need to have an attentive response to the patients' physical, psychosocial and relational needs and to maintain trust for a positive therapy outcome.

KEYWORDS

continuous positive airway pressure, hospital departments, nurses, qualitative research, respiratory therapy

INTRODUCTION

Non-invasive ventilation therapy, such as continuous positive airway pressure (CPAP) therapy, improves survival in different conditions for respiratory distress [1, 2]. The therapy is cost-effective [3] and reduces the need for intubation [4]. CPAP therapy has expanded into contexts other than intensive care [5], and the need for the therapy outside intensive care units has further increased due to COVID-19 [6].

However, CPAP therapy requires education, competence and monitoring. In intensive care units, nurses have a higher level of education, as well as more resources for close monitoring. The nurses have responsibility for fewer patients and work closer to the physician compared with nurses in general medical wards. Yet, most research regarding CPAP therapy is performed in an intensive care context.

BACKGROUND

The elderly population is growing, with an increased number of patients in hospital wards with multiple diseases and complex care needs [7]. Many elderly patients with multiple diseases do not benefit from intubation and mechanical ventilation, leading to restrictions in care [8]. In cases of respiratory distress, CPAP therapy is therefore crucial for their survival [9]. Several potential complications may affect tolerance of the therapy, which requires competence and preventive care from the nurse. The oral–nasal mask needs to be tight to reduce air leak but can cause a device-related pressure ulcer. Claustrophobia from the oral–nasal facemask is common and can lead to intolerance of the mask and therefore therapy failure [10]. A holistic view and problem-solving ability to quickly manage nursing assessments are therefore required to prevent any complications [11]. Nevertheless, the therapy is not provided to all patients that would benefit from it, due to lack of guidelines, increased workload and nurses' beliefs concerning discomfort for the patient [12]. In general medical wards, inexperienced nurses face complex patient situations such as acute illness and respiratory insufficiency [13]. This may be challenging for the nurses who need to manage CPAP therapy during patient encounters.

To the best of our knowledge, there are no qualitative studies that address how nurses experience and manage this therapy in adult patients with acute respiratory distress in general medical wards. Thus, we aimed to explore nurses' strategies for enabling CPAP therapy in a general medical ward context.

METHODS

Design

An explorative qualitative design [14] with an inductive approach was used according to Hsieh and Shannon's conventional content analysis, which allows for interpretation of data [15].

Setting

Six general medical wards from two hospitals in south-east Sweden constituted the setting. One hospital serves a population of about 140,000, with 9 ICU beds and a total of 300 beds. The other hospital serves a population of 165,000, with 20 ICU beds and a total of 600 beds. The wards included chronically and acutely ill patients with pulmonary, cardiac, infectious and kidney diseases. Nurses, together with teams of one or two nurse assistants, typically had responsibility for six to nine patients. During the daytime on weekdays, physiotherapists and occupational therapists were available for consultation. Physicians attend the ward during daytime and could be called thereafter in the case of an acute event. CPAP therapy was mostly provided in an acute or subacute phase in this setting. General education in CPAP therapy is included in the national nursing education system and specific training is provided by the local hospital settings to ensure individual competence among the staff.

Participants

A purposeful sampling was used to achieve a variety of experiences of CPAP therapy [16]. The inclusion criteria were being a Registered Nurse and having experience of performing CPAP treatment on at least one occasion. The sole exclusion criterion was a master's degree in nursing. The head of department at the wards received study information and communicated it to the nurses. Nurses ($n = 15$) who wanted to participate contacted the first author; all were included. Thirteen women and two men with working experience between 7 months and 28 years were interviewed (3 years md).

Data collection

The first author performed the interviews together with a co-researcher who was a Registered Nurse. Both had previous experience of interviewing and CPAP therapy and

took turns with the active role or as an observer during the interviews to acquire more experience. The active role involved responsibility for the interview and the questioning, while the role as an observer involved responsibility for the recording. The interviews were held in a secluded area at the participants' workplace. To avoid distractions, the time for the interviews was chosen by the participants and performed at a scheduled time set aside from the work.

Semi-structured interviews with open-ended questions were used to examine the nurses' experiences of strategies [16] (Table 1). An interview guide was designed and evaluated in a pilot interview, and, after minor adjustments, it was re-evaluated in another pilot interview, which was included in the study. The interviews started with small talk providing an opportunity for relaxation and dialogue between the active interviewer and the participant [17]. All interviews were audio recorded and transcribed verbatim to ensure credibility. The duration of the interviews was between 10 and 24 minutes (md = 18 min).

Data analysis

Hsieh's and Shannon's conventional content analysis [15] was conducted to analyse the nurses' experiences of strategies for enabling CPAP therapy. *Firstly*, the transcripts were read and reread to gain a sense of the whole material as reading a novel. *Secondly*, the transcripts were carefully read word by word to discover key thoughts relevant to the aim. *Thirdly*, notes with words or phrases were written down, condensed and labelled as codes. *Fourthly*, the interpretation of each code started and was formulated. *Fifthly*, the interpretation of the codes was grouped into clusters based on similarities, and subcategories and

categories emerged from the clusters that related to the aim of the study. *Finally*, all authors developed and fine-tuned the interpretations and definitions for codes and categories and critically discussed the analysis. The software NVIVO was used to facilitate an overview of the data during the process of formation of codes and categories [18]. All steps of analysis were performed by the first author and from the second step all authors were involved in interpretations and formulations of codes and categories until agreement was reached.

Ethical considerations

The study was conducted in accordance with the Declaration of Helsinki [19] and the ethical guidelines of the Swedish Research Council. Ethical approval was not applied for, due to the nature of the study, which did not involve actions applicable to the act concerning the Ethical Review of Research Involving Humans (2003:460), and no personal data as defined in the General Data Protection Legislation (GDPR) was collected. The study was approved by the Head of Departments and the local representatives of the union were informed. Nonetheless, local and international ethical guidelines were followed. The aims of the study, the method used, how the results would be presented, and the right to decline to participate in the study or to withdraw consent to participate at any time without further explanation were provided to optional participants beforehand. Written informed consent from all participants was obtained before the interview, no participant declined participation.

RESULTS

The nurses' strategies for enabling CPAP therapy in a medical ward context are portrayed in three main categories and six subcategories (Figure 1).

Initiating intra- and interprofessional collaborations

The nurse utilises intra- and interprofessional collaboration by using two strategies: *using each other's strengths to compensate personal inexperience* and *using a substitute nurse*. The team was described as dynamic, non-hierarchical and encompassed several professionals (nurse, doctor, nurse assistant and/or physiotherapist) depending on the expertise needed in the situation. The nurse could also initiate collaboration outside the team if collaboration with another nurse was needed.

TABLE 1 Central questions and probing questions

Central questions
Can you tell me about a situation where CPAP therapy was used?
What do you think is the nurse's role during CPAP therapy?
What are your experiences of teamwork in CPAP-therapy?
Could you describe nursing measures that you have used during CPAP therapy?
How do you think experience affects the performance of CPAP therapy?
What are your prerequisites to perform CPAP therapy in a general medical ward?
Probing questions
Can you tell me more about that?
Do you want to develop a little more?

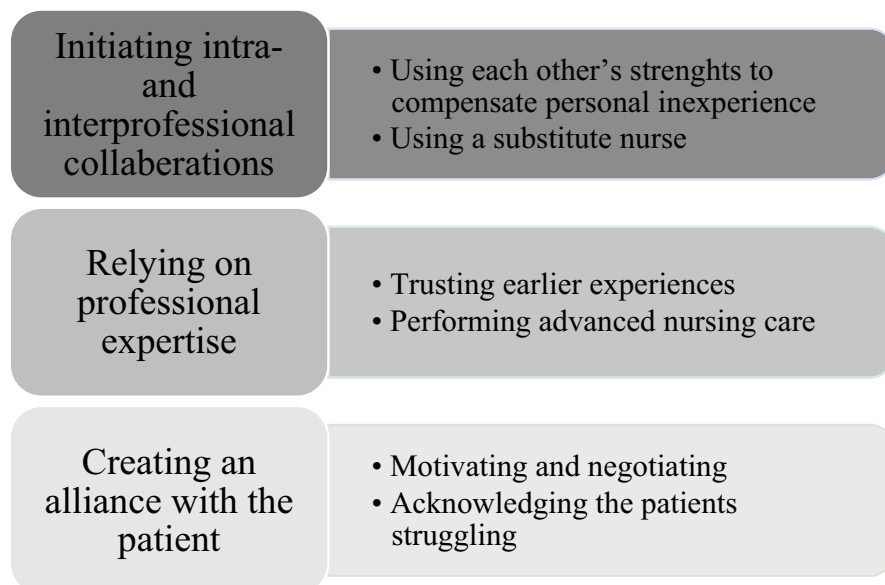


FIGURE 1 Main categories and subcategories portraying nurses' strategies for enabling continuous positive airway pressure therapy in a medical ward context.

Using each other's strengths to compensate personal inexperience

To compensate for personal inexperience of CPAP therapy, one strategy was to use the strengths within the team. The person with most experience of the therapy (nurse or physician) used their expertise and took the lead in the team in discussing the need for initiating the therapy. The experienced nurses used the strategy to suggest CPAP as an option, and it was especially important when the physician was less experienced with CPAP therapy.

The nurse's role is not to wait for the doctor to prescribe CPAP therapy. I believe that the nurse's role is to... If CPAP is not on the table, and you have a feeling that CPAP therapy is relevant...Then it is my responsibility to say so!

(Nurse 13)

Nurses who felt insecure or inexperienced initiated a collaboration with physiotherapists as an essential strategy for providing an adjusted treatment plan. Physiotherapists were described as important due to their expert knowledge in CPAP therapy. Nurses found that patients' adherence to treatment improved after involving physiotherapists who provided individual pressure settings. Another strategy used by nurses who felt insecure or inexperienced was to seek guidance from an experienced nurse. They started the therapy together and could therefore compensate for personal inexperience while still ensuring patient safety.

We have really good staff members... If you feel insecure, help is provided.

(Nurse 2)

Using a substitute nurse

As they are responsible for several patients, it can be stressful for a nurse to perform CPAP therapy and stay with a single patient during an extended period when other patients need care or treatment. One strategy was to utilise the nurse assistant's skills—the nurse assistant substituted for the nurse and stayed with the patient while the nurse continued with other work. The experienced nurse assistant could start the CPAP therapy by themselves when the nurse had trust in their competence and received assurance that the nurse assistant would call for assistance if complications developed. The nurse remained responsible for the therapy but could use the nurse assistants' hands, ears and eyes while caring for other patients. This only occurred when the nurse and the nurse assistant worked as a team, with faith in each other's expertise.

We have a very open climate, and if the nurse assistant is with the patient and thinks 'Oh, this doesn't look good', then she calls for help... And I believe that this works great.

(Nurse 7)

Relying on professional expertise

The nurses used their professional expertise as a strategy for conducting advanced health assessments of relevant actions during CPAP therapy. The two subcategories, *trusting earlier experiences* and *performing advanced nursing care*, were prerequisites for these actions. Nurses described that their experience helps them to focus on the patient instead of the technical equipment, which may

have led to a faster and easier initiation of the therapy. Earlier experience affected the expectation of the outcome of the therapy and could affect outcome and treatment duration, depending on the level of experience. Nurses also needed to use their advanced person-centred care skills and suitable interventions in their advanced care to provide CPAP therapy. Nurses described problem-solving skills as well as preventive strategies for improving patient adherence, the effect of therapy and protection of patient safety.

Trusting earlier experiences

The nurses' strategies varied depending on their earlier experience. The prescription was not always described adequately. This was obvious when physicians with little experience of CPAP therapy relied on the nurses' professional expertise and earlier experience of the therapy. Nurses who had faith in their expertise and the advanced health assessments used the strategy of relying on their earlier experiences and could start the therapy despite the lack of a correct prescription.

Nurses described CPAP as an effective and fast therapy for patients with severe respiratory insufficiency. By using their experiences of CPAP therapy and relying on their earlier experiences, they remained passive but prepared to take rapid actions if the situation got worse. Previous experiences of advanced health assessments indicated that patients' breathing got slightly worse before improving. Nurses had, therefore, a strategy of continuing with the therapy despite lack of a rapid improvement in the patient.

My experience is that you can see that the patient often gets a lower oxygen rate in the blood initially, but then slowly improves when the patient develops a better breathing or... breathes with the CPAP. And... You get scared in the beginning and... nervous... Now I feel that I can trust it.

(Nurse 10)

The medical device was described as accessible and easy to use. This meant that nurses could use their earlier experiences to adopt a patient-centred focus, instead of needing to focus on the medical device and where everything should be attached to the patient, as seen in inexperienced nurses. Inexperienced nurses, who followed local guidelines step-by-step, described the strategy as functional but a bit slow, compared to the nurses with more experience. To get more

experience, the nurses also used a strategy of practising in a clinical training centre.

Performing advanced nursing care

CPAP therapy requires high competence and advanced care. The nurse's advanced care was used as an important strategy to enable CPAP therapy. Nurses implemented their professional skills and advanced care in patient-centred interventions. The patients' position while in bed—with an elevated head or sitting up—was described as important in improving patients' ventilation. The size of the oral–nasal mask was considered and involving the patient in the mask fitting could improve patient adherence to the treatment. Nurses described a strategy of holding the mask in front of the patient before attaching the straps to make the patient comfortable.

Monitoring of respiratory rate, oxygen levels in blood and blood pressure were highlighted as important. Furthermore, the risk of device-related pressure ulcers from the oral–nasal mask were acknowledged, as was the importance of preventative interventions, such as adjusting the pressure from the straps which hold the mask on the patient. The nurses also described the importance of visually observing the patient and their response to the therapy. Through observation, the nurses were able to evaluate the effect of the treatment or the need for a nursing measurement. Nurses also mentioned being aware of the complexity making advanced health assessments using a holistic approach. Furthermore, the need to incorporate more than just medical technical measurements such as blood pressure was expressed:

I believe that experience affects... to be able to see the patient...not just 'Oh, I got that blood pressure or that oxygen level in blood' ... That you could see how the patient tolerates the therapy. ... You could see that in other things than just the blood pressure or the oxygen in blood.

(Nurse 7)

Intolerance of the oral–nasal mask was described as a common reason for CPAP failure. To prevent patients from holding their breath instead of breathing with the CPAP, nurses described a strategy of breathing with the patient and calmly reminding them to breathe. Other interventions for reducing discomfort from the mask included prevention of

a dry mouth by regularly supplying water to the patient. To ease the patient's discomfort, the nurses could administer a low dose of sedative medication.

Creating an alliance with the patient

To enable CPAP therapy, which could often be uncomfortable for the patient, nurses created an alliance with the patient. The patient–nurse alliance was characterised as collaboration with the mutual goal of achieving a positive therapy outcome. Lack of alliance led to therapy failure. It was harder to create an alliance when the patients had a low level of consciousness or had a cognitive impairment, or if the patient suffered from claustrophobia or did not understand the meaning of the therapy. Inexperienced nurses had difficulties establishing an alliance, since they were focusing on the medical device instead of the patient's needs. Two subcategories emerged that describe nurses' strategies to create an alliance with the patient: *motivating and negotiating* and *acknowledging the patients' struggle*.

Motivating and negotiating

Motivating and negotiating with the patient was described as a strategy for enabling CPAP therapy and increasing patient adherence. The nurses' interaction with the patient before therapy was important in the creation of the alliance building. Nurses used the strategy to motivate and negotiate by giving information about the importance of the treatment and also by informing the patient of their autonomy and that they had the right to stop the treatment at any time. Nurses described the necessity of informing the patients, prior to the start of the treatment, that the therapy could feel unpleasant, thus preparing the patient and preventing a disturbance in the alliance of trust in relation to the nurse. Nurses with less experience said that they often had their focus on the equipment and not on giving the patient information, which could lead to unsuccessful treatment when patients were not prepared for the level of discomfort. With more experience, nurses reflected on the importance of giving the patient information before start of treatment.

The ability to negotiate was used as a strategy for enabling CPAP therapy. Persistence in dialogue with the patient was an important strategy for facilitating the patient's discomfort.

Nurses motivated the patient and negotiated the length of the therapy, for example by telling them what time it was and then counting down a few minutes at time, encouraging them to persist. The nurse needed to be responsive to

the patient's adherence and level of discomfort and to be persistent in their encouraging efforts.

Most of the time, if you negotiate with the patient... then they can manage the therapy. You need to be clear, like 'Five more minutes'. Not that you stand there and force the mask on the patient, but instead involve them, and motivate them!

(Nurse 3)

If the patient has previous experience of CPAP therapy, it may be easier to negotiate with the patient, who has knowledge of the effect of the treatment and can therefore be more tolerant of the discomfort.

Acknowledging the patients struggling

Nurses described experiences of recognising the patients' struggle with the discomfort of the oral–nasal mask. Feelings of claustrophobia, as well as difficulties breathing with the positive pressure, could cause patients to hold their breath or want to take the mask off. Creating trust in the nurse–patient encounter was important. It was considered important to acknowledge the patient's struggle, as well as to act calm, especially in urgent situations, to create trust in the nurse. These strategies were formed by the nurse in the spur of the moment.

You talk to the patient the whole time and confirm their struggle. And stop when it really is uncomfortable. Like, 'I can see that it is really difficult for you, but we'll try some more, and if it's still difficult, then we stop'.

(Nurse 10)

The strategy of staying with the patient was important in the alliance-building, where the nurse could support and encourage the patient to endure the treatment. Nurses said that patients' hearing and sight were affected by the high sound from the positive pressure as well as air leaking from the mask and into the eyes. Due to the mask straps, glasses could not be worn during CPAP therapy, which decreased visibility further. Nurses described a strategy of staying close to the patient, holding hands or using their voice to create trust during the therapy and thereby create an alliance.

DISCUSSION

The findings of this study involve three main strategies for CPAP therapy: *initiating intra- and interprofessional*

collaborations, relying on professional expertise and creating an alliance with the patient. Importantly, all three strategies were described by all the nurses. The strategies were closely interrelated, especially while performing the therapy, during which the strategies were used simultaneously. We therefore conclude that all three strategies are parts of a whole and must be used to provide CPAP therapy in a general ward context.

These findings are supported by the theory of the fundamentals of care, which consists of three interrelated dimensions; (1) the context of care where mentorship and resources must be provided to the nurse, (2) the ability to meet the patients' complex needs and (3) the importance of the nurse–patient relationship [20].

All nurses, regardless of experience, used a collaborative approach to initiate interprofessional collaborations. As previously stated [21], nurses are often responsible for the initiation, titration, monitoring and solving of upcoming problems during CPAP therapy. Waiting for a physician to attend the ward could cause a delay, affecting the patients' respiratory distress and survival [21]. Inexperienced nurses with awareness of their limited clinical skills, had the strategy of enlarging the team and seeking guidance from an expert, such as the physiotherapist. The familiarity between nurses and physicians has been cited as a reason for nurses to feel more or less involved (or uninvolved) in decision-making regarding the therapy [22]. In our study, a non-hierarchical structure within the team was described as important. The non-hierarchical structure enabled interprofessional collaborations, where the person with most experience, regardless of profession, initiated the CPAP therapy. Collaboration in a multidisciplinary team and a working culture of mentorship and informal education are two important contextual factors in the theory of fundamental care [23].

Several studies show that a high nurse–patient ratio and/or opportunities for close monitoring are prerequisites for CPAP therapy [24–27]. However, in a general medical ward context, the nurse–patient ratio is low, and the prerequisites for monitoring vary. Interestingly, we found that to manage CPAP with a lower nurse–patient ratio, creating trust in the nurse-assistants as a substitute nurse was important. This strategy is also used by newly graduated nurses to manage complex nursing situations [28] which have increased in general wards [13].

Nurses used the strategy of relying on their professional expertise. Nurses described their use of basic monitoring—for example, blood pressure, level of oxygen in blood and respiratory rate—which is well established as necessary for CPAP therapy [26, 27]. However, we found that advanced health assessments conducted by experienced nurses were based on more than just medical

technical monitoring. Instead of focusing on the numbers on the displays, experienced nurses observed the patients' use of accessory muscles, degree of anxiety etcetera and sometimes independently adjusted the settings (pressure, oxygen) to improve their breathing. This strategy is important to provide a holistic care, where the nurse must respond to both physical and psychosocial needs [20].

Patients receiving care in general medical wards nowadays have more complex acute disease status or chronic and complex co-morbidities [7]. Some patients may have restrictions regarding intubation, due to their fragility, and inability to withstand an intubation [8]. In these cases, CPAP therapy is often the only available therapy for respiratory distress, and the therapy outcome is crucial for these patients. In our study, inexperienced nurses described situations where they chose to discontinue the therapy when patients did not improve rapidly. However, the more experienced nurses relied on their expertise and would wait for patients to show signs of improvement. Staff experience is key to successful therapy [26, 27], and lack of training is one of the most common reasons for not using CPAP therapy in general wards [29]. Staff education and mentorship must be provided in the context of care [23].

The creation of an alliance with the patient was crucial to prevent treatment failure. Nurses' strategies for motivating and negotiating with the patient were described as important for positive outcomes. If the patients were not aware of the procedure or did not understand the meaning of the therapy, it could lead to mask intolerance and discontinuation of the therapy. A good patient–nurse collaboration is essential for positive therapy outcomes, and it is challenging for nurses to motivate, negotiate and encourage this collaboration while simultaneously handling technical equipment, monitoring and titrating the therapy. An absent collaboration was seen in inexperienced nurses, influencing the outcome of the therapy [30]. In our study, nurses described their processes for developing professional expertise in performing CPAP therapy. They initially focused on the medical device instead of the patient, which they now believe negatively affected the patient outcome. With more experience, they realised how important motivation and information were for providing CPAP therapy. To establish trust is the core of fundamental care, and only after trust had been established could the nurse focus on the patients' needs and diagnosis. However, the alliance between the nurse and the patient must be maintained through rapid interactions that reinforce that trust [20].

We found that nurses noticed the hearing and sight impairment caused by the therapy and emphasised the importance of informing the patients of this effect and staying close to the patient during the therapy. Communication impairment increases the patient's

anxiety during CPAP and is an underestimated cause of therapy failure [31]. The nurses acknowledged the patient's struggle and provided comfort and trust to facilitate the patient's endurance during the therapy. This was described in our study as spur of the moment, for example using a calm voice to encourage the patient, or holding their hand, just making them feel their presence. Eye contact is common in establishing trust in nursing care [32], but in our study, nurses said that most patients close their eyes during therapy because of air leakage from the mask. Therefore, they needed to establish trust and comfort via gentle touch. The empathy and experience of the nurse is important in providing CPAP therapy, and with personal experience from training, nurses gained more understanding of the need for encouraging patients during therapy [33].

Surprisingly, the results showed that the nurses were not used to reflecting on their actions and professional practice. Reflecting on actions involves retrospective analysis of how practice was executed [34]. The nurses had difficulty to respond to the question of which nursing interventions they performed during the therapy. The answers were embedded in their descriptions of situations where CPAP was performed. Nevertheless, it was clear that the nurses reflected before action, for example when the inexperienced nurses sought guidance from the enlarged team and the proficient nurses took the lead in initiating the therapy and/or delegated tasks to a substitute nurse. Furthermore, our results show that many nursing interventions were done both for prevention of complications as well as direct actions to solve upcoming problems during therapy. This was clearly seen when the nurses acknowledged the patients' struggling, which were formed by the nurse in the spur of the moment. This can be seen as nurses' reflection in action, where the nurses reflected while undertaking the interventions and modifying them while enacting them [34].

In summary, the results of the inductive study approach can be anchored in theories of reflective practice [35] and the theory of fundamental care [23].

Strengths and limitations

To ensure rigour, we considered concepts such as credibility, confirmability and transferability [17]. Credibility was strengthened by the development and use of a semi-structured interview guide [16] and by showing citations, which make the results possible to review by the readers. Confirmability was guaranteed by thoroughly specifying the analysis procedure step by step. Moreover, the analysis including interpretations of the codes, which defined the formation of the final categories were confirmed through

regulatory support from two experienced researchers (second and last author). Transferability was ensured with the information on the setting, and the detailed rich description of the results [17].

The first author and the co-researcher who were performing the interviews had experience of CPAP therapy. However, this preunderstanding has not affected the analysis, which was critically discussed among the researchers until agreement was reached, which ensured confirmability. The use of two interviewers may have instilled feelings of vulnerability in the participants but was a practical solution to ensure the interview was properly recorded and for the interviewers to acquire more experience. The semi-structured interviews began with small talk to establish a relaxed dialogue [17] and none of the participants seemed uncomfortable. One limitation was the interviews median time of 18 min, which could have been caused by the relatively inexperienced interviewers. This may have implications on the saturation of the study as all strategies may not have been fully detected. However, experiences of CPAP therapy are a straightforward subject and participants provided informative responses from their experiences and no new aspects emerged during the transcription of the last three interviews.

CONCLUSION

We state that nurses in medical ward contexts need three different strategies to enable CPAP therapy: *initiating intra- and interprofessional collaborations, relying on professional expertise and creating an alliance with the patient*. The strategies were integrated with each other and must be considered as parts of a whole. Nurses described the strategy of a dynamic team that could be enlarged or decreased in tandem with other professionals, depending on the situation and the nurses' needs. Prerequisites to do so need to be fulfilled by the management, which must promote opportunities for multiprofessional collaborations in a non-hierarchical working culture.

Furthermore, this article contributes to awareness of the importance of patient–nurse alliances. Nurses need to have an attentive response to the patients physical, psychosocial and relational needs and to maintain trust for a positive therapy outcome.

AUTHOR CONTRIBUTIONS

A.F. and A.K.K. have made substantial contributions to conception and design and acquisition of data. A.F. and A.K.K. and S.B. have made substantial contributions to analysis and interpretation of data and have been involved in drafting the manuscript and revising it critically for important intellectual content and given final approval of

the version to be published. Each author has participated sufficiently in the work and take public responsibility for appropriate portions of the content; 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.

ACKNOWLEDGEMENTS

The authors thank the nurses who participated in this study. We also extend our gratitude to Frida Gäfvert, RN, who participated in data collection, and to the Swedish Research Council for funding.

FUNDING INFORMATION

This study was supported by research grants from Swedish Research Council (ref.no 2020–01704).

CONFLICT OF INTEREST

The authors report no conflicts of interest.

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How to cite this article: Feldt A, Köhler AK, Bergstrand S. Nurses' strategies to enable continuous positive airway pressure therapy in a general medical ward context: A qualitative study. *Scand J Caring Sci*. 2022;00:1–10. <https://doi.org/10.1111/scs.13136>