BMJ Open How did nurses cope with the fast, comprehensive organisational changes at Danish hospital wards during the COVID-19 pandemic? An interview study based on nurses' experiences

To cite: Thude BR. Primdahl J. Jensen HI, et al. How did nurses cope with the fast, comprehensive organisational changes at Danish hospital wards during the COVID-19 pandemic? An interview study based on nurses' experiences. BMJ Open 2021:11:e049668. doi:10.1136/ bmjopen-2021-049668

Prepublication history for this paper is available online. To view these files, please visit the journal online (http://dx.doi. org/10.1136/bmjopen-2021-049668).

Received 02 February 2021 Accepted 24 November 2021

Check for updates

@ Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by

For numbered affiliations see end of article.

Correspondence to

Ms Bettina Ravnborg Thude; bettina.ravnborg.thude@rsyd.dk

ABSTRACT

Purpose The COVID-19 pandemic has influenced hospital work and healthcare workers all over the world. We explored how Danish nurses coped with the fast. comprehensive organisational changes in their workplace and identified barriers to and facilitators for organisations ensuring the best possible conditions for nurses to meet these challenges. The study focuses on the organisational setting and how it did or did not support the nurses in their work.

Methods A qualitative explorative design was used in interviewing 23 nurses who had worked at a COVID-19 ward in one of three hospitals. Data were collected in the summer of 2020, and the analysis was inspired by Paul Ricoeur's theory of narratives and interpretation. Results The presence of managers in the wards helped the nurses in the form of psychological and practical support. Working within an organisation that provides a safe environment was essential for nurses. The experience of a safe environment allowed nurses to ask questions, which supported them in finding solutions to specific tasks in the new and critical working environment. Barriers to handling the new situation were an absence of managers and a lack of a sense of belongingness and trust. Conclusion This study highlights the need for management to be present in the ward and for organisational support to be available to nurses so they can provide optimal treatment and care when working in new and unknown conditions during a pandemic. Practical assistance from managers to ease the job is beneficial. Furthermore, the presence of management is essential to provide psychological support and create a safe

INTRODUCTION

In December 2019, the first outbreak of COVID-19 was registered in China, and in March 2020, the WHO characterised the COVID-19 outbreak as a pandemic.² At the same time, the Danish Government closed down restaurants, shopping centres, schools

environment because this allows nurses to ask questions

about how to better manage new and critical tasks.

Strengths and limitations of this study

- ▶ It is a strength that the study included in-depth interviews from a large group of nurses with different ages, experiences and backgrounds and from three different hospitals, because it led to a broad understanding of the nurses' experiences from different COVID-19 wards.
- A limitation is that managers identified possible informants and thus the selection may be biased because they may have chosen the most positive respondents; nevertheless, the nurses shared both positive and negative experiences, and we consider the population sample adequate in providing valuable insight into the support structures that are useful for nurses in times of a crisis.
- Originally, we considered telephone interviews to be a limitation because of the inability to read body language and facial expression; however, despite these limitations, this methodology was also a strength because the distance and anonymity provided by the telephone contributed to a feeling of safety for some respondents, and all respondents answered thoroughly.
- Denmark had relatively few patients with COVID-19 during the first 5 months of the pandemic, and therefore, some of these findings may be limited to countries where hospitals are not overloaded; however, these results are also relevant for management in other healthcare settings because they provide a picture of how nurses behave and how they can be supported in critical situations.

and universities, and told people to work from home where possible. On the basis of experiences in China and Italy, the Danish healthcare system prepared for a substantial number of patients with COVID-19 by establishing new COVID-19 wards throughout the country and expanding intensive care facilities.4



Healthcare professionals are on the frontline caring for potentially infected patients with this emerging infectious disease. Nations and societies depend on healthcare workers during a pandemic because they are the ones who care for the patients, and their work is significant in overcoming a pandemic. However, providing care during the COVID-19 outbreak is associated with occupational risks, and nurses and other healthcare professionals are putting their lives at risk in their duties.⁵ Nurses in the Middle East experienced burnout during the Middle East respiratory syndrome (MERS) outbreak because of their heavy workload and concern about their safety.⁶ Likewise, healthcare professionals caring for patients infected with severe acute respiratory syndrome (SARS) described their clinical responsibility as a stress factor⁷ and reported significantly higher levels of burnout, psychological distress and post-traumatic stress 13–26 months after the outbreak compared with healthcare workers who did not take care of SARS patients.⁸

Healthcare professionals working with patients with COVID-19 faced new work routines, new colleagues, new managers and a new disease with a potentially severe outcome—a disease that 3 months earlier they had never heard of. The health outcomes of these staff were influenced by the climate within their organisation and stress levels in the workplace. 9 10

In light of the current COVID-19 pandemic and the experiences from the MERS and SARS outbreaks, ^{9 10} it is vital to explore how to ensure the best possible conditions for nurses to minimise stress, pressure and burnout in order for them to handle a new health threat. When healthcare workers experience stress and burnout, they are not available to handle their vital tasks, and they lack the ability to handle a new health threat. Therefore, it is important to understand how their organisations can best support them and their work to avoid stress and burnout.

During the SARS outbreak, nurses experienced more stress than other hospital staff.⁷ Of all professional groups, nurses have the most contact with patients. They are an essential professional group during a pandemic, and therefore, their experiences of what is supportive for their work must be understood. Accordingly, the focus of this study is nurses and their work. To our knowledge, there are no studies discussing how to support nurses in their work during a pandemic, and therefore, this study will provide essential new knowledge that can be used to prevent stress and burnout among nurses during a new health threat.

Denmark avoided a major COVID-19 spread in the community, and in May 2021, the Danish National Board of Health estimated that from the beginning of the pandemic in March 2020 until May 2021, 19% of the population had developed antibodies for COVID-19. The highest number of infected inhabitants in 1 day occurred on 19 December 2020 with 3285 newly infected—less than 0.1% of the population. This meant that the Danish hospitals were never overloaded, and it was possible to relocate enough staff to handle the task. For this reason, the situation for Danish nurses during the pandemic differed from that of nurses in countries

such as Italy and China, where hospitals were overloaded. However, it is still important to understand how to support nurses when hospitals are not overloaded so they are able to act resiliently when needed—that is, to be able to adjust to the new context and handle the new situation in an acceptable way.

Healthcare and hospitals are complex systems that are characterised by emergent behaviour and adaptation over time. 13 In complex systems, humans are able to interact, reflect and use their experience to find new solutions and adjust their behaviour to new situations. 14 According to Hollnagel, 15 in complex systems, it is important to distinguish between work as imagined (WAI) and work as done (WAD). WAI is the way work is planned and described $\boldsymbol{\mathcal{Z}}$ before it takes place: it is how managers, administrative ? staff and CEOs imagine how the work will be carried out. WAD is what happens in real life—how the work is actually carried out. In complex systems, WAI and WAD will never be the same, because the staff are continually adapting to new situations. Managers, administrative staff and CEOs are distant from the daily work and can only imagine how it might take place; they do not have enough knowledge of the concrete work to know precisely how WAD is carried out. Therefore, to be able to understand what is helpful for nurses during a pandemic, we needed to ask nurses who have actually performed such work because only they know WAD and what support they needed in the situation to handle the tasks.

Aim

The aim of the study was to understand how Danish nurses coped with the fast, comprehensive organisational changes in their workplace in order to identify barriers to and facilitators for organisations ensuring the best possible conditions for nurses to meet these challenges. The study focuses on the setting and how the organisational setting did or did not support the nurses in their work.

METHODS

This study used an explorative qualitative design to investigate nurses' experiences of the fast, comprehensive changes in their workplace during the pandemic. The study used a phenomenological-hermetic approach inspired by Paul Ricoeur's theory of narratives and interpretation.¹⁶ Because we wanted to understand the phenomenon of nurses' working conditions, we chose a phenomenological approach. Ricoeur argues that @ phenomenological descriptions are used in combination with hermeneutic interpretation to understand and obtain a meaning of individuals' experiences. 16 Ricoeur stated that a narrative is more than a story; it is also an interpretation of the individual's experience. ¹⁷ Ricoeur's approach was chosen because it enabled us to realise from the text what the nurses experienced and to reach a deeper understanding through critical interpretation.

An interview guide was developed using literature regarding the handling of pandemics, 6 18 19 complex

text



organisations^{20–22} and a focus group interview with four nurses working with patients with COVID-19, along with observations from one of the authors during the process of organising the COVID-19 department at one of the hospitals.

Three experienced researchers, BRT (PhD), KS (RN and PhD) and JP (RN and professor), conducted 23 individual semistructured interviews²³ with nurses from three different regional hospitals. There was no relationship between the interviewers and the participants. Eight participants from each of two hospitals and seven from a third hospital were interviewed. All respondents participated in one interview. The inclusion criterion was nurses who had been relocated from their usual department to a department specialising solely in patients with COVID-19. No exclusion criteria were imposed.

The respondents were interviewed about their general experiences working in the COVID-19 department, what they felt had supported their work, their ability to manage the work and what barriers they had met. All interviews were semistructured and based on the interview guide.²³

The three researchers conducted the interviews in June and July 2020. Because of COVID-19, all the individual interviews were conducted by telephone and lasted from 28 to 72 min. The three researchers randomly conducted interviews with nurses from all three hospitals. After the first interviews, the researchers met to discuss and align their interview style and adjust the interview guide. All interviews were audio recorded and transcribed verbatim in the software programme NVivo V.12 (Alphasoft). The interviews were coded by BRT and KS.

To ensure trustworthiness, the entire research group discussed the findings and themes to minimise bias in the analysis. The themes were discussed until consensus was reached. All quotations used to illustrate the findings in this paper were translated by the authors from Danish to English and were checked by a native English speaking researcher who also speaks Danish.

Context

Denmark is a small country with 5.8 million inhabitants.²⁴ The Danish healthcare system is predominantly financed through taxation and the hospitals are owned by their regions, which means that treatment and care in hospitals is free of charge for patients.

The three hospitals have between 30 000 and 60 000 inpatients a year and 3000-5000 employees in total. During the COVID-19 pandemic, all three hospitals established a ward for COVID-19 inpatients and increased the number of intensive care beds. All wards were managed by a nurse ward manager, an assisting nurse ward manager and a physician ward manager.

During the establishment of the COVID-19 wards, nurses were relocated from other wards and outpatient facilities to the COVID-19 wards, and additional nurses were appointed and trained for potential relocation according to demand. For some nurses, their work was relocated to another

hospital, but for all, it meant working with a new type of patients, new colleagues and new managers.

Sampling and recruitment

In May 2020, the research group contacted the board of directors at each hospital for permission to contact the nursing staff and interview them during working hours. The nurse managers from the COVID-19 wards at the three hospitals were asked to select eight nurses who were working or had been working in the COVID-19 ward. Purposeful sampling was used with maximum variation concerning previous medical specialty, age and years of experience. The nurses were contacted by letter sent via their work email address.

A total of 36 nurses were invited to participate; of these, six declined and seven did not reply. All 23 interviewed nurses were female, with a mean age of 41 (26–54 years old) and mean years of experience as a nurse 13 (0.5–27).

Neither patients nor the public were involved in the design of the study or the study itself.

Ethical considerations

Participants were informed verbally, and in writing, that participation was voluntary and that they could withdraw from the study up until the time when the data were analysed. Informed signed consent was acquired from all participants.

Management and storage of data were registered with the Danish Data Protection Agency (Journal No: 20/18090). The study fulfilled the European General Data Protection Regulations and the Danish data protection law.

Patient and public involvement

The study focuses on the organisational setting and how it did or did not support the nurses in their work. Therefore, it has not been relevant to involve patients, patients advisers or the public in the development of the research question, the design of the study or when conducting the study.

The study participants have stated if they are interested in receiving a copy of the paper when published, and the paper will be emailed to the relevant participants.

Data analysis

The analysis was inspired by Paul Ricoeur's theory of narratives and interpretation with three analytical levels: naive reading, structural analysis, and critical interpretation and discussion. ¹⁶ First, we conducted a naive reading & of the text to obtain an overall understanding of what & the nurses said and what the main issues were. 16 The naive reading was discussed by two of the researchers in terms of which issues were essential. Subsequently, a structural analysis was performed in which the units of meaning were described (what is said). Figure 1 provides an example of the structural analysis. Next, the units of significance (what the text speaks about) were formulated, and themes emerged. 25 26 The entire research group (all authors) discussed and agreed on the themes.

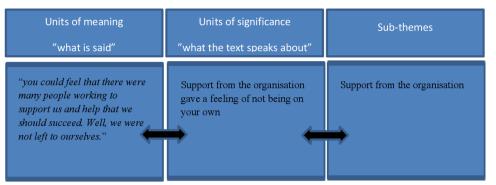


Figure 1 Example of structural analysis.

During the following critical interpretation and discussion, relevant theory and research were used.

RESULTS

The naive reading revealed that the nurses experienced barriers and facilitators in their new jobs in the COVID-19 wards. Through the structural analysis, two themes were generated: (1) facilitators to coping with the new situation and (2) barriers to coping with the new situation. Subthemes to the facilitators' theme were 'managers were present in the ward and acted when needed', 'support from the organisation' and 'safe environment to ask questions'. Subthemes to the barriers theme were 'managers were absent and did not show attention' and 'lack of belongingness and trust'. The themes and subthemes are presented in table 1. In the following sections, each of the themes are described in more detail and are illustrated with selected quotes. The hospitals and respondents are referred to by numbers (HOSP x, y).

Two main themes and five subthemes emerged during the structural analysis (see table 1).

Facilitators to coping with the new situation

Managers were present in the ward and acted when needed

The nurses who had a positive experience working in the COVID-19 ward explained that they found it essential that the managers were present in the ward and that they offered practical help. This supported how the nurses managed their job and contributed to their feeling safe

Table 1 Themes and subthemes that were generated from the structural analysis

Themes	Subthemes
Facilitators to coping with the new situation	Managers were present in the ward and acted when needed.
	Support from the organisation.
	Safe environment to ask questions.
Barriers to coping with the new situation	Managers were absent and did not show attention.
	Lack of belongingness and trust.

and more comfortable in the new situation. One nurse said:

She [the ward manager] could always help us ... If you were busy, they [the ward managers] would gladly come and help handling patients or medicine. They [the ward managers] were present, and you could always talk to them. (HOSP 1, 3)

The nurses found it important that the managers supported them in doing their job. A nurse explained:

... if you would be in a situation thinking this is annoying, we have to do something, then I could ask them [the ward managers] to look at it. (HOSP 3, 7)

Furthermore, the managers' presence contributed to a feeling of trust, being taken care of and safety. A nurse reported:

They [the ward managers] were present during the evenings and during weekends, which are periods they usually don't work ... They showed up, and we knew there were managers we could go to. And they have always been available on the phone.... it gives a good feeling of security. (HOSP 2, 3)

In addition, a nurse stated:

It meant a lot that they [the ward managers] were present in the department. They contributed to the good atmosphere and a feeling of community ... you did not feel left alone, I would say. (HOSP 2, 7)

The presence of managers contributed specifically as extra hands because they helped the nurses when needed. This support was considered a significant facilitator for the nurses in coping with the new and stressful situation when they were anxious and not as familiar with the tasks assigned as they were in their everyday work. The presence of managers also gave them a sense of community and joint responsibility.

Support from the organisation

It was important for nurses to feel supported by the organisation through receiving help from all departments and having access to more resources than usual, as explained by two of the nurses:



We got things fixed... also because we had such good opportunities to get help. So, we could pass on an issue, then there was actually someone who took care of it.... So it made it enormously effective. (HOSP 1, 1)

When the focus is on that it has to work... we must do our best, and we have these resources because that was what we experienced... we had plenty of staff and the management listened to what we said. (HOSP 2, 7)

Support from the organisation, such as having easy access to help and extra resources, meant that the nurses could act in an agile way to optimise their performance without restrictions from the organisation. Nurses could focus on patients' needs, while other employees such as nursing assistants, hospital porters, administrators, and managers dealt with what the nurses needed both concerning the work in the patients' room but also concerning logistic and organisational issues. COVID-19 was an exceptional situation for Danish hospitals and demanded reprioritisation of resources and tasks to ensure that critically ill COVID-19 patients could be treated. The single goal during this time was to treat COVID-19 patients. This meant that there were sufficient resources, and the management listened to demands and solutions from staff.

Support from the organisation contributed to a feeling of not being left by oneself and ensured that the nurses could complete their tasks. One nurse expressed:

You could feel that there were many people working to support us and help that we should succeed. Well, we were not left to ourselves. (HOSP 1, 6)

However, it was not only assistance to complete tasks that mattered. It was also crucial that the organisation took responsibility for ensuring adequate work competencies. One nurse explained that:

The management did a great deal to mix staff so that we had a nurse from internal medicine who had more experience in that area and mixed with staff from other specialities. So we would never be on our own. (HOSP 3, 1)

And another said:

What made me feel safe was that there was a lot of experienced physicians at the ward ... so if there was any doubt, you could always ask them. (HOSP 3, 8)

For some nurses, the introduction programme and training to care for patients with COVID-19 before the patients arrived also helped them to achieve adequate work competencies:

I thought it was a good introduction programme. I come from something very different, so it [COVID-19 patients] was unknown to me. I had some extra shifts

in the emergency department and it gave me more security in handling the task. (HOSP 1, 1)

The training was essential for nurses who were not used to treating inpatients with acute medical diseases. To have access to experienced staff and expert knowledge in the field and an adequate introduction contributed to the nurses feeling safe and comfortable during the pandemic.

Safe environment to ask questions

The nurses felt that openness and a safe environment to ask questions and to obtain recognition was vital for them to manage the new work situation. One nurse explained that:

They [the management] have been incredibly supportive ... it has been totally legitimate to ask about everything between heaven and earth. I have felt that I was recognised and then the total acceptance of that you come with different backgrounds and you are doing really well. (HOSP 1, 1)

And another commented:

From the beginning, it was articulated, you are here with the competencies you have, and no one requires anything else from you. Well, that was what helped me so that it became a good experience. (HOSP 2, 7)

Because many of the nurses did not have a background in acute medicine, they had limited knowledge of caring for acute patients and no experience in caring for COVID-19 patients. Thus, it was encouraging for them to know that it was fully legitimate to ask questions. This made them feel safe, and it also helped them to manage their jobs. A nurse explained:

I have never been this open about my competencies and my worries nor made that much use of my manager as I did. And that was necessary to be able to cope with the situation. To be able to trust that there was actually someone who would listen and who handled the challenges when we brought them up. (HOSP 1, 4)

Some nurses experienced a particular atmosphere and managerial approach that made it easy to show uncertainty and vulnerability. This helped them navigate through a new process. Therefore, the safe environment and legitimacy of not knowing everything or having all competencies appeared to be another essential factor for the nurses to manage new critical situations.

Barriers to coping with the new situation

Managers were absent and did not show attention or recognition

While some nurses experienced managers being present in the ward, others experienced absence and a lack of attention from the management:

I did not feel I got any help ... I did not feel there was any attention to how I was coping. I would have liked if I felt I knew her [the ward manager] and that she

knew me a ... and if she could have asked, well what worries you the most or is there anything we should show consideration for... (HOSP 2, 5)

The nurses felt that they were under pressure in the new situation and needed managers to take responsibility and make decisions in order for them to feel cared for:

In fact, I think at the first day we had two managers, but after that, they chose to go to a secret room, as they said, to make work plans. So we could not contact anyone. There was no one having management competence at the department the following days... They [the ward managers] just casually came once in a while ... They could damn well have stayed and taken over and make the decisions that were needed. There were so many things they could have helped to do ... I really missed that someone at a higher organisational level took care of us ... (HOSP 3, 2)

The physical absence of managers frustrated the nurses, and they felt let down. They could not access any help in managing the situation. They felt alone and unimportant because of the lack of recognition, help and appreciation.

Lack of belongingness and trust

Another factor that influenced the nurses' experiences negatively was the feeling of a lack of belonging:

The worst was when I suddenly experienced that the others had gotten an e-mail from the Board of Directors that I had not received. I thought it was rude ... I was a part of the department, and I did not in any way feel that I was a part of the department. (HOSP 2, 1)

Receiving information contributed to the feeling of belonging to a community. Furthermore, the tone and atmosphere in the department were essential to the nurses. A nurse gave an example of when she had asked a question regarding safety and was told that it was a stupid way to think. Furthermore, she stated that:

It was uncomfortable to be an experienced nurse, and I actually think I bring in a lot of experience, and then I get exposed in this way ... it is important to have honesty and openness, and I want to be talked to, I do not want to be disparaged, I do not want to be manipulated. (HOSP 3, 5)

Communicating in harsh tones had the consequence that the nurses did not feel safe to ask questions. In addition to the stressful situation, they felt under pressure in a hostile atmosphere and felt unappreciated.

The feeling of belonging was also connected to practical situations. The pressure was intensified by practicalities that did not work or were unknown if staff had relocated, contributing to the nurses' anxiety:

Something as simple as I did not know where to park, which door to enter when all doors are locked ... my access to the medicine was never activated ... it was actually very frustrating because it intensified the feeling of not feeling welcomed. (HOSP 3, 5)

A nurse felt anxious because she was asked to compromise her own safety:

It was unclear how we should react to cardiac arrest ... because it takes time to put on the safety gear. It was said that if a patient had a cardiac arrest, we should only wear a normal surgical facemask and gloves and then get the job done ... well, do we have to compromise our own safety to save another person's life? (HOSP 2, 6)

Having to compromise one's own safety resulted in anxiety and a lack of trust. The lack of belongingness and trust was demotivating for the nurses and an extra stressor during the crisis.

DISCUSSION

Nurses who had positive experiences facilitating the organisational changes during the COVID-19 pandemic felt supported and safe-safe to ask questions but also safe in doing their job-whereas their negative experiences were derived from feeling alone, nervous, unsupported and not part of a community.

According to Weick,²⁷ new and critical situations can lead to anxiety and loss of meaning, but having social ties helps keep fear under control, allowing clear thinking, which is essential in managing an unfamiliar role. Likewise, the current study showed that when managers were not present and available, nurses felt anxious and stressful. Nurses who felt supported by their managers also felt recognised, taken care of and comfortable in the situation, and they trusted their management and organisation.

High levels of trust in the management results in high performance²⁸ and fosters engagement and productivity.^{29 30} Trust can be defined as the expectation that the other person has good intentions towards you, 31 and trust is most important when one party is at risk or dependent on the other party. 31 32 The direct manager is vital in creating trust.³³ This underlines the importance of the manager's role when transferring staff to a new ward to manage a new situation. Managers are essential for developing and maintaining the high performance of staff.

The presence of managers was crucial for the nurses. Presence included being visible and available and being & interested in the nurses' well-being. This is in line with literature stating that the direct manager is essential for creating psychological safety.³⁴ ³⁵ Furthermore, psychological safety has a positive effect on team and company outcomes and is also influenced by context support and shared beliefs. 34 36 Context support was also central to the nurses in the current study because they reported that support from the organisation and their managers was an important factor for them to manage their work.

to text and

However, the fact that managers typically engage in many activities and have many roles can be a barrier.³⁷ They are often interrupted and are continually requested to give information, assistance, direction and authorisation by their employees or superiors.³⁸ Moreover, ward managers in hospitals face tasks such as meeting financial targets, handling organisational restructuring and ensuring the quality of patient care. ³⁹ Therefore, it may be impossible for managers to be present in the ward to a degree that will satisfy staff. Such a dilemma can arise every day, but it can certainly arise in crisis situations when there is pressure to make decisions within time $constraints. ^{\color{red} 40}$

How managers spend time in the ward is not determined only by time and resources; the leadership style also has an impact. Cummings et al⁴¹ divides leadership styles into two groups: relationally focused leadership styles and task-focused leadership styles. Relational leadership styles are found to have better outcomes for the nursing workforce and for healthcare organisations than task-focused leadership styles. Our study shows that the relationally focused leadership style is even more in demand during a crisis. By using the relational leadership style, the leader has to spend time building relations and focusing on the individual, which means spending time in the ward.

When employees feel listened to, and their interests are considered, trust in managers increases.²⁹ This view is also supported by the results from the wards where the leaders were present and showed interest in the nurses' input. A safe environment ensures that employees can speak up about potential errors, and this positively influences patient safety. 42 Furthermore, interpersonal dynamics are important when saving lives and improving patient safety. 42 In our study, some nurses did not feel they could speak up, and one reported an experience of being disparaged when she did have a question. Inability to speak out frustrated the nurses, and may have had a negative influence on patient safety. Research has shown that when organisations need to handle crises, it is important that the management defers to expertise because it gives room for more perspectives and flexible solutions that can match a specific context.²¹ Therefore, input from the staff is vital, not only to please the staff, but also to ensure that the best solutions to handle a problem are found.

During the COVID-19 pandemic, patients and hospitals had to rely on healthcare professionals to adapt to the new situation. Staff needed to act resiliently, meaning they needed to adjust their work and efforts to the new context. 43 44 For hospitals to support their staff to act resiliently, work efficiently and treat the critically ill patients, our recommendations are to ensure managers are present in the ward and providing psychological support by recognising staff and listening to their experiences, as well as practical help to ease the workload and support the completion of tasks whenever possible. Furthermore, the focus should be on creating a safe environment where it is legitimate to ask questions and prioritise specific tasks.

Strengths and limitations

It is a strength that the study included in-depth interviews from a large group of nurses with different ages, experiences and backgrounds and from three different hospitals because it led to a broad understanding of the nurses' experiences from different COVID-19 wards.

A limitation is that managers identified possible informants so the selection may have been biased because they may have chosen the most positive respondents. Nevertheless, the nurses shared both positive and negative experiences, and we consider the population sample adequate in providing valuable insight into what support structures are useful for nurses in times of a crisis.

Originally, we considered telephone interviews to be a limitation because of the inability to read body language and facial expression. However, despite these limitations, the methodology also provided a strength because the distance and anonymity of the telephone contributed to a feeling of safety for some respondents, and all respondents answered thoroughly.

Denmark had relatively few patients with COVID-19 during the first 5 months of the pandemic, and therefore some of these findings may be limited to countries where hospitals have not been overloaded. However, these results are also relevant for management in other healthcare settings because they provide a picture of how nurses behave and how they can be supported in critical situations.

CONCLUSION

This study highlights the need for management to be present in the ward and the need for organisational support for nurses to be able to provide optimal treatment and care when they are working in new and unknown conditions during a pandemic. Practical assistance from the managers to ease the job is beneficial. Furthermore, the presence of management is essential to provide psychological support and create a safe environment because this allows nurses to ask questions on how to better manage new and critical tasks.

Implications for practice

and similar tech The study shows that during large organisational restructurings when staff have to handle new work routines, new colleagues and an unknown disease, managers need to be present in the ward to help handle the new and unknown and to support staff. Therefore, we recommend that ${\bf 8}$ organisations prioritise the human aspect when restructuring for a new healthcare threat and that managers support their staff in every possible way by being present in the ward and open to helping whenever it is needed. The COVID-19 situation did not become very severe in Denmark, and the hospitals were never overloaded. In a more severe situation, we believe that managers and their help in the wards would be needed to an even greater extent.

for uses related to text and data mining, AI training, and similar technologies

Protected by copyright, including

Recommendations for future research

We recommend that future studies focus on managers and their work during the pandemic. What tasks did they have and how did they prioritise their work? Answers to these questions would give a more comprehensive description of the work and resources required during a pandemic and would be important input for decision makers when handling a new health threat such as a pandemic. Furthermore, it would be interesting to obtain information on nurses' experiences in countries with a higher infection rate and overloaded hospitals. What were the facilitators and barriers in their work?

Author affiliations

¹Medical Research Unit, University Hospital of Southern Jutland, Region of Southern Denmark, Sonderborg, Denmark

²Department of Regional Health Research, University of Southern Denmark, Odense, Syddanmark, Denmark

³Hospital of Southern Jutland, University Hospital of Southern Denmark, Region of Southern Denmark, Sonderborg, Denmark

⁴Danish Hospital for Rheumatic Diseases, University Hospital of Southern Denmark, Sonderborg, Denmark

⁵Department of Anaesthesiology and Intensive Care, Lillebaelt Hospital, Vejle, Denmark

⁶Department of Emergency Medicine, Hospital Sonderjylland, University Hospital of Southern Denmark, Aabenraa, Denmark

⁷Department of Orthopaedic Surgery, University Hospital of Southern Denmark, Aabenraa, Denmark

Acknowledgements We would like to thank the hospitals for making it possible for us to conduct the interviews and the nurses for participating, we would like to thank Open Patient data Explorative Network (OPEN), Odense University Hospital, Region of Southern Denmark.

Contributors BRT and KS: study design, data collection, data analysis, interpretation of the results and the manuscript drafting. JP: study design, data collection, interpretation of the results and critical modification of the draft; HIJ, ME, EH and LKB: study design, interpretation of the results and critical modification of the draft. All authors confirmed the final version for submission. BRT is guarantor of this study.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants, but The Regional Ethical Committee found that the study did not require formal approval in accordance with Danish law Reference number: S-20202000, no. 90 exempted this study. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement No data are available. Interview data are in Danish. The respondents have not accepted that data should be available to others than the researchers in the study.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/.

ORCID iDs

Bettina Ravnborg Thude http://orcid.org/0000-0002-2979-7127 Jette Primdahl http://orcid.org/0000-0002-1049-4150

REFERENCES

- Zhu N, Zhang D, Wang W, et al. A novel coronavirus from patients with pneumonia in China, 2019. N Engl J Med 2020;382:727–33.
- 2 World Health Organization. WHO Director-General's opening remarks at the media briefing on COVID-19. Available: https://www.who.int/ dg/speeches/detail/who-director-general-s-opening-remarks-atthe-media-briefing-on-covid-19-11-march-2020 [Accessed 11 Mar 2020].
- 3 World Health Organization. Coronavirus disease (COVID-19) pandemic. Available: https://www.who.int/emergencies/diseases/ novel-coronavirus-2019
- 4 DanishGovernment. Statsministeren: Der bliver brug for, at VI hjælper hinanden. Available: https://www.regeringen.dk/nyheder/2020/ pressemoede-11-marts-i-spejlsalen/
- 5 Catton H. Global challenges in health and health care for nurses and midwives everywhere. *Int Nurs Rev* 2020;67:4–6.
- 6 Kang HS, Son YD, Chae S-M, et al. Working experiences of nurses during the middle East respiratory syndrome outbreak. Int J Nurs Pract 2018;24:e12664.
- 7 Maunder R. The experience of the 2003 SARS outbreak as a traumatic stress among frontline healthcare workers in Toronto: lessons learned. *Philos Trans R Soc Lond B Biol Sci* 2004;359:1117–25.
- 8 Maunder RG, Lancee WJ, Balderson KE, et al. Long-Term psychological and occupational effects of providing Hospital healthcare during SARS outbreak. Emerg Infect Dis 2006;12:1924–32.
- 9 Gershon RRM, Stone PW, Zeltser M, et al. Organizational climate and nurse health outcomes in the United States: a systematic review. *Ind Health* 2007;45:622–36.
- 10 Thorsteinsson EB, Brown RF, Richards C. The relationship between work-stress, psychological stress and staff health and work outcomes in office workers. *Psychology*2014;05:1301–11.
- 11 Danish National Booard of Health. Number of infected with COVID-19 has risen, 2021. Available: https://www.ssi.dk/aktuelt/ nyheder/2021/markant-stigning-i-den-fjerde-nationale-praevalensun dersoegelse
- 12 Danish National Booard of Health. New infections and deaths COVID-19, 2021. Available: https://www.google.com/search? q=antal+smittede+i+danmark&source=hp&ei=-sXJYNuNH_CCi-gPwOGriAU&iflsig=AINFCbYAAAAAYMnUCp8hLNjaWEjfwaeT9PEX qRN48etc&oq=antal+smittede&gs_lcp=Cgdnd3Mtd2l6EAEYADIE CAAQQzIICAAQsQMQyQMyBQgAEJIDMgUIABCSAzICCAAyAggA MgQIABBDMgIIADICCAAyAggAOgYIABAKEEM6BQgAELEDOggI ABDHARCjAjolCAAQsQMQgwE6CAgAEMcBEK8BOgcIABDJAxBD OgcIABCxAxBDUMsQWJgeYMMuaABwAHgAgAGGAYgB-AqSA QM5LjWYAQCgAQGqAQdnd3Mtd2l6&sclient=gws-wiz [Accessed 16 jun 2021].
- 13 Braithwaite J, Clay-Williams R, Nugus P, et al. Health care as a complex adaptive system 2013.
- 14 Ellis B, Herbert SI. Complex adaptive systems (Cas): an overview of key elements, characteristics and application to management theory. *Inform Prim Care* 2011;19:33–7.
- 15 Hollnagel E. Why is work-as-imagined different from work-as-done? In resilient health care volume 2 the resilience of everyday clinical work. Burlington, VT: Ashgate Publishing, 2015: 249–64.
- 16 Ricoeur P. Interpretation theory: discourse and the surplus of meaning. Fort Worth: TCU press, 1976.
- 17 Ricoeur P. Time and narrative III. Transl. by K McLaughlin and D. Pellaner. Chicago: The University of Chicago Press, 1987.
- 18 Chou T-L, Ho L-Y, Wang K-Y, et al. Uniformed service nurses' experiences with the severe acute respiratory syndrome outbreak and response in Taiwan. Nurs Clin North Am 2010;45:179–91.
- 19 Corley A, Hammond NE, Fraser JF. The experiences of health care workers employed in an Australian intensive care unit during the H1N1 influenza pandemic of 2009: a phenomenological study. Int J Nurs Stud 2010;47:577–85.
- 20 Hollnagel E. Safety-II in practice: developing the resilience potentials. London: Taylor & Francis, 2017.
- 21 Weick KE, Sutcliffe KM. Managing the unexpected: sustained performance in a complex world. 3rd ed. Hoboken, NJ: John Wiley & Sons, 2015.
- 22 Sutcliffe KM, Vogus T. Organizing for resilience. In: Cameron K, Dutton JE, Quinn RE, eds. *Positive organizational scholarship*. San Francisco: Berrett-Koehler, 2003: 94–110.
- 23 Kvale S, Brinkmann S. Interviews: learning the craft of qualitative research interviewing. Sage, 2009.
- 24 Statistik D. National population develupment 2021.
- 25 Lindseth A, Norberg A. A phenomenological hermeneutical method for researching lived experience. *Scand J Caring Sci* 2004;18:145–53.

- 26 Pedersen B. Nursing practice, language and cognition (sygeplejepraksis: Sprog & erkendelse) [PhD thesis]. Denmark, University of Aarhus, 2005.
- 27 Weick KÉ. The collapse of sensemaking in organizations: the Mann Gulch disaster. *Adm Sci Q* 1993;38:628–8.
- 28 Mayer RC, Gavin MB. Trust in management and performance: who minds the shop while the employees watch the boss? *Acad Manage* J 2005;48:874–88.
- 29 Engelbrecht AS, Heine G, Mahembe BJL. Trust and work engagement. *Leadership Org Dev J* 2017;38:368–79.
- 30 Tims M, Bakker AB, Xanthopoulou D. Do transformational leaders enhance their followers' daily work engagement? *Leadersh Q* 2011;22:121–31.
- 31 Dirks KT, KTJJoap D. Trust in leadership and team performance: evidence from NCAA basketball. J Appl Psychol 2000;85:1004.
- 32 Mayer RC, Davis JH, Schoorman FD. An integrative model of organizational trust. Acad Manage Rev 1995;20:709–34.
- 33 Dirks KT. Trust in leadership and team performance: evidence from NCAA basketball. J Appl Psychol 2000:85:1004–12.
- 34 Frazier ML, Fainshmidt S, Klinger RL, et al. Psychological safety: a meta-analytic review and extension. Pers Psychol 2017;70:113–65.
- 35 Leroy H, Dierynck B, Anseel F, et al. Behavioral integrity for safety, priority of safety, psychological safety, and patient safety: a teamlevel study. J Appl Psychol 2012;97:1273–81.

- 36 Edmondson A. Psychological safety and learning behavior in work teams. Adm Sci Q 1999;44:350–83.
- 37 Mintzberg H. The nature of managerial work. New York: Harper&Row, 1973: 15.
- 38 Yukl G. Leadership in organizations global edition. 8th edn. New York: Global Edition, Pearson, 2013.
- 39 Pegram AM, Grainger M, Jones K, et al. An exploration of the working life and role of the ward manager within an acute care hospital organisation. *Journal of Research in Nursing* 2015;20:312–28.
- 40 Pearson CM, Clair JA, JAJAomr C. Reframing crisis management. Acad Manage Rev 1998;23:59–76.
- 41 Cummings GG, MacGregor T, Davey M, et al. Leadership styles and outcome patterns for the nursing workforce and work environment: a systematic review. Int J Nurs Stud 2010;47:363–85.
- 42 Ghaferi AA, Myers CG, Sutcliffe KM. The next wave of hospital innovation to make patients safer. *Harv Bus Rev* 2016;94.
- 43 Hollnagel E. Safety-II in practice: developing the resilience potentials. New York: Taylor & Francis, 2018.
- 44 Vogus TJ, Sutcliffe KM. Organizational resilience: towards a theory and research agenda. 2007 IEEE International Conference on Systems, Man and Cybernetics, Montreal, QC, Canada, 2007:3418–22.