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Work-related stress, stress reactions and coping strategies in ambulance nurses: A qualitative interview study

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Abstract

Aim: To describe experiences of work-related stress, stress reactions and coping strategies among registered nurses (RNs) in the ambulance service (AS).

Design: A descriptive and qualitative design.

Methods: Participants were recruited from eight different ambulance stations from different geographical locations in central Sweden. Data were collected from 14 RNs during the period from January 2022 to May 2022 using a semi-structured interview guide. Qualitative content analysis was used to analyse data using an abductive approach.

Results: Three categories describe the RNs' experiences; (1) Situations that cause work-related stress, (2) Reactions and feelings that occur and (3) Management of work-related stress. These three main categories included a total of 12 subcategories. Work-related stress was experienced when participants were a part of traumatic events or experienced insufficient cooperation or a disturbing event in the work environment. The different causes lead to different kinds of reactions with feelings of frustration, fear and loneliness being prominent. To manage the work-related stress, RNs used different kinds of strategies and support from colleagues or lack thereof seemed to have a major impact.

Conclusions: Findings revealed the importance of having competent colleagues in the AS. Working with a competent colleague can reduce experiences of stress and prevent feelings of loneliness. It is important for the AS to provide stress-reduction support, to promote cooperation and to maintain and develop RNs' professional competence to ensure quality care and patient safety in the AS.

KEYWORDS
ambulance nurse, ambulance service, coping, registered nurse, specialist nurse, stress reactions, work-related stress

1 | INTRODUCTION

Registered nurses (RNs) in the Swedish ambulance service (AS) play a key role in providing nursing care and medical treatments to their patients in a work environment where they are exposed to different kinds of stressors. Nursing care within the AS takes place under varying conditions, both indoors and outdoors, regardless of weather and potential threats. RNs do not always have the opportunity to

take a break and sit down to collect their thoughts or reflect after completed assignments. Every home or accident scene the RN enters is a new work environment with unpredictable challenges. RNs provide care to patients with a wide range of both critical and non-critical conditions, in both complex situations (Sterud et al., 2006) and non-conveyed situations (Lederman et al., 2020). Stressors may include being exposed to critical incidents (Pyper & Paterson, 2016; van der Ploeg & Kleber, 2003), unpredictable situations (Wireklint Sundström et al., 2019), violence (Maguire et al., 2018), high workloads and time pressure. Adding to these are the different accident scenes as well as traffic safety issues (Becker & Hugelius, 2021), all of which contribute to a general increase in stressful situations for RNs working within the AS. Work-related stress can be seen as a global problem among RNs even if the prevalence varies between different geographical, cultural and clinical settings. Stress levels among emergency nurses across different countries indicate that the overall stress levels are currently at a medium level (Jiaru et al., 2023). Stressors, stress reaction and coping strategies are, therefore, important issues in the AS, not least for those responsible for the work environment (AFS 2015:4) when work-related stress have negative impacts on individuals and organization (Cash et al., 2019; Lawn et al., 2020; Petrie et al., 2018).

2 | BACKGROUND

In recent decades, a competence shift based on a decision made by the National Board of Health and Welfare has taken place in the Swedish AS. This is due to a new policy being introduced in 2005 stating that medication can only be administered by authorized healthcare personnel (SOSFS 2009:10), for example RNs or physicians. This new regulation resulted in changes being made to crew as each crew must include at least one RN, and this has been a major contributing factor to the higher competence levels we see in today's ambulance crews. There are also regions that aspire to have at least one prehospital emergency nurse (PEN) in each ambulance crew (hereafter RNs and PENs will both be referred to as RNs). Another change in the Swedish AS is the increased prominence of patient assessment today. RNs working in the AS face multifaceted tasks that need to be carried out in varying conditions, which demand a high level of responsibility and special competence in stressful situations. Stress has by its nature some positive benefits but due to the cumulative effect of the impacts of stress, it can have a negative impact on RNs' health and on the nursing care they provide.

Different kinds of stressors can lead to high levels of stress being experienced by RNs in the AS. The daily handling of events with different degrees of stress along with feelings of irritation or worry and negative coping strategies can enhance work-related stress. Hegg-Deloye et al. (2015) state that 90% of paramedics reported occupational stress and that they also reported cardiovascular risk factors. Stress-related complications such as angry outbursts, changes in tolerance levels to everyday interactions, sleep disturbances and deficits, irritability, decreased social life and an increased sense of isolation (Lawn et al., 2020) workplace incivility, and leaving the profession (Cash et al., 2019) have all been described within the nursing profession. Mental health disorders among ambulance personnel occur and according to Petrie et al. (2018), about 27% of AS workers experience general psychological distress, 15% experience anxiety, 15% experience depression, and 11% experience Post Traumatic Stress Disorder. According to Reardon et al. (2020), burnout is evidently present among ambulance personnel even if the exact prevalence is not clear. This is in line with a previous study (Sterud et al., 2006) that could not make a clear conclusion about the prevalence of burnout in AS workers.

Lazarus and Folkman's (1984) Transactional model provides a theoretical framework for stress. The model focuses on the person-environment transaction and the stress response that is influenced by the individual appraisal process. The concept of psychological stress is defined by Lazarus and Folkman (1984, p.19) as; 'a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her wellbeing'. This definition can be used when stress is highlighted in work situations, indicating that the stressors specifically found in the work environment can cause a stress response. Stress can cause different reactions such as physical, psychological and social reactions. Emotional distress caused by a repeated or prolonged expression of compassion or empathy is sometimes referred to as compassion fatigue (CF), which may occur in individuals working in care-giving professions. Regular exposure to patient's experiences, illness or trauma may lead to physical and mental exhaustion (Joinson, 1992). This exhaustion can diminish the caregiver's ability to empathize with the patient and CF is sometimes referred to as a lesser or unique form of burnout (Todaro-Franceschi, 2019).

Work-related stress is a response that people might have when presented with work demands and pressure that do not match their knowledge and ability level and, therefore, challenge their ability to cope (WHO, 2020). Coping as a concept can be defined as 'constantly changing cognitive or behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person' (Lazarus & Folkman, 1984, p.141). Coping strategies are the processes used to manage stressful situations, which entail cognitive and behavioural efforts and changes, through actions, thoughts or feelings (Lazarus & Folkman, 1984). Work-related stress is something that every RN will experience and the amount of stress an RN will be able to cope with differs according to their vulnerability and coping abilities.

The true cost of work-related stress is an ongoing question but it is widely accepted to be costly both at societal (Hassard et al., 2018) and individual level. Stress diagnoses are increasing and different conditions such as cardiovascular disease together with work-related stress can have an increased risk of mortality (Kivimäki et al., 2018). In nursing, work-related stress can be an asset for RNs in the short term, but in the long term, it can cause ill health by damaging RNs' physical and mental health. This can lead to the failure of RNs to provide quality nursing care, which can have a negative impact on

patient outcomes (Babapour et al., 2022). It can also lead to organizations having difficulties in retaining and recruiting staff, which can affect patient safety and quality of care.

3 | THE STUDY

3.1 | Aim

The aim of the study was to describe experiences of work-related stress, stress reactions and coping strategies among RNs in the AS.

4 | METHODS

4.1 | Design

The study had a descriptive and qualitative design, where data were approached abductively (Graneheim et al., 2017). Data were collected in 14 semi-structured interviews that aimed to gain an understanding of RNs' experiences. The consolidated criteria for reporting qualitative research guidelines (Tong et al., 2007) were used for reporting the findings of this study.

4.2 | Theoretical framework

The Transactional Model (Lazarus & Folkman, 1984) is a theoretical framework. The primary appraisal looked into RN's descriptions of the stressors they are confronted with in their work and evaluating the relevance of each stressor. The secondary appraisal looked into strategies used to overcome these stressors in the work. In this study, we apply the theoretical framework in the form of stimuli–response model to sort and provide a deeper understanding of RNs' experiences of work-related stress and their chosen coping strategies.

4.3 | Sampling and recruitment

AS managers conveyed information about the study via e-mail to their employed RNs. Some managers gave permission to verbally inform their staff about the study, which was carried out by the first author. Purposive sampling was used and this resulted in 14 RNs, all working with patients in the AS, reporting their interest in participating in the study. They differed in sex, age, education level and number of years working as an RN in the AS (including specialist nurses [SNs] and PENs) (Table 1). Eleven females and three males participated in the study and their ages ranged from 30 to 58 years (median 43 years). Two of the RNs had no further education and 12 RNs had a specialist education, of which nine specialized in prehospital emergency care, two in intensive care and one in anaesthesia care. Two of the PENs had more than one area of specialization.

TABLE 1 Socio-demographic characteristics of study participants ($n = 14$).

Characteristics	*n*
Gender	
Female	11
Male	3
Age	
30–39	4
40–49	9
50–59	1
Education level	
RN	2
PEN[a]	9
SN[a] (intensive care/anaesthesia care)	5
Working experiences as RN (years)	
0–9	3
10–19	7
20–29	3
30–39	1
Working experience in AS (years)	
0–4	2
5–9	7
10–14	1
15–19	3
20–25	1

Abbreviations: PEN, prehospital emergency nurse; RN, registered nurse; SN, specialist nurse.
[a]More than one choice possible.

Participants had between eight and 36 years of nursing experience (median 13.5 years) and had worked in the AS for between 6 months and 23 years (median 7.5 years). All participants worked in central Sweden and were recruited from eight different ambulance stations.

4.4 | Data collection

Data were collected between January and May 2022. An interview guide with semi-structured questions was constructed, discussed and agreed upon by the authors. The interview guide covered the topics of this study: Work-related stress, stress reactions and coping. The initial question in the interview guide was: 'Could you tell me about an event in your work that you were involved in where you experienced stress'. Examples of other questions included; 'How do you prepare for the demands you may face in your work?' 'How do you deal with stress if you experience that in your work?' Open-ended and follow-up questions were also used, such as; 'Can you explain that further?' and 'Do you remember how you felt when that happened?' Two pilot interviews were conducted and discussed among the authors, and as no changes were made to the interview guide, the pilot interviews were included in the data

analyses. The interviews with the RNs were conducted by the first author in a place where participants felt comfortable and where they could talk without being disturbed or interrupted. Three RNs participated in face-to-face interviews, two RNs participated in telephone interviews, and nine RNs participated in online interviews using the digital platform Zoom with end-to-end encryption. All interviews were audio recorded. The interviewer made short reflective field notes after each interview. The interviews lasted from 37 to 70 min (average 54 min). The quality of the data was discussed among the authors and data collection continued until saturation was reached. All interviews were conducted in Swedish and the citations from the participants included here have been translated into English.

4.5 | Data analysis

The interviews were transcribed verbatim, which resulted in 231 pages of text. Data were analysed using qualitative content analysis on a manifest level with a five-step abductive approach, as described by Granehiem and Lundman (2004), Granehiem et al. (2017). An abductive approach implies movements back and forth between inductive and deductive procedures aiming at a more comprehensive understanding (Graneheim et al., 2017). To get a sense of the whole, the transcripts were read several times. The first step (I) in the analysis was to identify meaning units in the transcript that included experiences of work-related stress, stress reactions and coping mechanisms. The meaning units were thereafter condensed in the second step (II) and then labelled with codes in the third step (III). The coding was done by the first author manually and discussed with the co-authors during the process of analysis. The fourth step (IV) was to build subcategories from the codes. The codes were put forwards and backwards in the subcategories based on similarities and differences. This step in the analysis was done using an inductive approach. The last step (V), was to sort the subcategories into categories and was carried out using a deductive approach where the subcategories were sorted into predetermined categories from existing theory in the form of a stimuli–response and coping model (Lazarus & Folkman, 1984). The process of organizing the subcategories into categories was carried out by the first author through conducting discussions with the co-authors until consensus was achieved (Table S1).

4.6 | Ethical consideration

This Swedish Ethical Review Authority approved the study, Dnr 2021-05990-01. All participants were informed about the study, told that their participation was voluntary, that they had the right to end their participation at any time and that their participation would be kept confidential. Informed consent was obtained verbally and thereafter in written form.

4.7 | Rigour

To achieve trustworthiness in qualitative research, *credibility*, *dependability and transferability* must be highlighted. Even if the sample in the study is of a limited size, one aspect that enhances *credibility* is the participants' different experiences and the amount of time they have worked in the AS. Having participants with a range of experiences increases the possibility of highlighting work-related stress from different perspectives. Selecting meaning units in the analysis process is another aspect of credibility and the meaning units here were selected from the aim of the study and should be neither too short nor too long to avoid the risk of loss of meaning of the text during the condensation and abstraction process (Graneheim & Lundman, 2004). To ensure the *dependability* of the data, all interviews were conducted by the first author. A semi-structured interview guide was used to ensure that all the participants were asked the same initial questions, even if the follow-up questions differed. To enhance *transferability*, this study tries to achieve a clear description of the context, participants, data collection, analysis process, and how the findings are presented. In the end, it is always up to the reader to look for interpretations (Graneheim & Lundman, 2004). Awareness of pre-understandings is important for avoiding research bias. To follow the method, being reflective at every step of the process and always questioning pre-understandings are ways to reduce bias in the research process. In the research group only the first author has earlier experience of working in the AS while the other three authors have only limited experience of clinical work in the AS. The discussions generated by the authors were important critical voices, which was important for the research process. One of the co-authors represents another discipline and this interdisciplinary work combined with the authors' different academic and clinical experience strengthens the trustworthiness of this study.

5 | FINDINGS

The results consist of three categories describing the RNs' experiences of situations (stimuli) that caused work-related stress and their reactions (responses) with a focus on feelings that occur during or after a situation, as well as the RNs' experiences of handling stress (coping strategies). The categories are further explained in the 12 different subcategories (Figure 1).

5.1 | Situations that cause work-related stress

This category is a description of different kinds of situations that cause the participants to experience stress. Some participants claimed that they experienced stress during certain situations, while others said that they first experienced stress when reflecting on the situation afterwards.

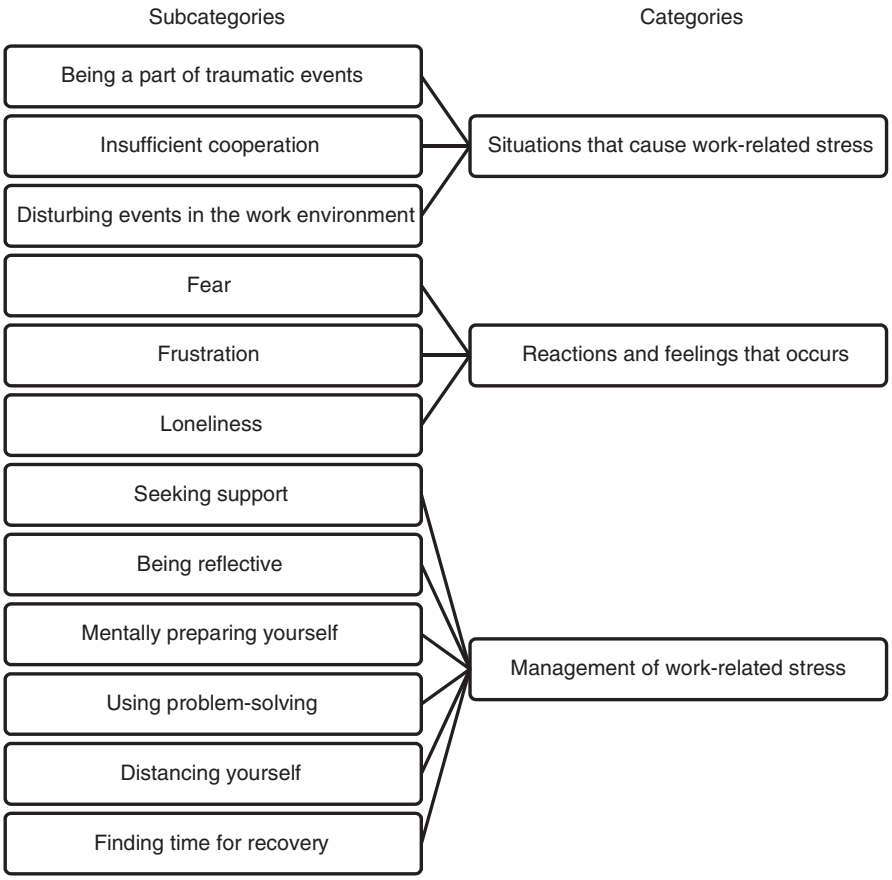

FIGURE 1 Presentation of findings with categories and subcategories.

5.1.1 | Being a part of traumatic events

Six participants described traumatic events involving children. Three of these events included fatal outcomes (sudden infant death syndrome, a lifeless child, a seizing child), which were characterized as traumatic experiences. These incidents could have occurred well in the past, but would always be with them. Such situations could be experienced as chaotic and one participant compared it to being in a war zone with distressed and upset relatives.

> 'Everyone was screaming, the children were screaming, the mother was…well she had lost it completely. … It was like running into a … warzone. So we got to the child, and we saw right away that it wasn't good. He was still warm, but he was like a little blue, he was white'.
>
> (Participant 7)

Other traumatic events involved parents dying with children present and the uncertainty of what would happen to the family and how the surviving parent would be able to handle the situation.

> 'Thoughts of … well, exactly what has happened and … now the father has to go through this and the children have to go through this … thoughts like that pop up even when you are right in the situation like … just quickly. But then I thought more about … so that the father would survive, so to speak'.
>
> (Participant 3)

Relatives placing blame by accusing them of providing poor care could contribute to the trauma experienced by participants. Such traumatic events sometimes resulted in participants suffering similar symptoms as those of a brain injury with memory loss.

5.1.2 | Insufficient cooperation

Events, where participants had to care for seriously ill or injured patients, could be experienced as stressful, in particular when working together with a colleague with a lower level of medical knowledge and skill. Participants were also aware that their employer wanted them to utilize the paramedics and allow them to provide care, despite the fact that the final responsibility for the patient lies with the RN.

> 'Our employer then demands that we let the ambulance paramedics provide care because we have to make use of their immense competence and the experience they have. It is a bit contradictory'.
>
> (Participant 12)

Sometimes participants worked with staff who were in training, which led to incidents where the supervising RN felt that they

should be with the patient as the highest medical competence was needed, but the staff member in training could not drive the ambulance. This led to an increased frequency of needing to alert an additional ambulance due to the limited competence of the crew member. A lack of cooperation between participants and their colleagues in the ambulance could be a source of stress, such as situations when a colleague takes a passive role and the RN must take the lead and tell them what to do, or when a patient is assessed and they have different perceptions of the situation.

> 'It is a part of our job to assess and refer as well … Oh some colleagues are very clear about what they think about this. They can say to a patient right when we arrive that they are not acutely ill and don't need an ambulance'.
>
> (Participant 1)

In this case, the colleague believed that their presence was not necessary and had a preconceived notion of the patient's problem, while the RN wanted to make a thorough assessment before deciding what level of care was appropriate.

5.1.3 | Disturbing events in the work environment

Participants described limited resources at times and circumstances of a practical nature contributed to their experiences of stress. Winter conditions, for example, can make it difficult to reach patients, who can sometimes be found in confined spaces or places where it is difficult to carry out examinations and assessments. It was also described that family members could sometimes make their work more difficult and sometimes directly hand over the responsibility to the RN.

> 'It was stressful, partly because family members were everywhere in this tiny caravan and right with the patient, so it was stressful trying to work out if it was a cardiac arrest or not. I didn't get the space I needed to work methodically, it was so crowded and the patient's partner was in full panic'.
>
> (Participant 2)

Malfunctioning technology in the ambulance was also described as a stressor. A malfunctioning map support system led to delays in reaching a patient. There were occasions when care procedures could not be accessed digitally and there were no hardcopy instructions in the ambulance. Making decisions could be experienced as stressful and being the RN to make the decision not to resuscitate a patient was experienced as difficult even if they knew that this was the correct decision. Introducing new staff or supervising students under difficult circumstances also led to heightened levels of stress among participants.

> 'A trainee who had completed his third shift and was going to start working with us from the surgical department at the hospital was with me and I don't usually feel stressed like that on the way out, but I felt that I would probably have to do everything and make all the decisions myself'.
>
> (Participants 1)

The concern was also linked to students' well-being or new colleagues' perception of how the care of the patient was handled, as they need to prioritize the care of the patient over their role as supervisor. Participants wanted to introduce new colleagues and students and offer supervision in a safe, positive way so they would feel good about the profession, but this was not always possible.

5.2 | Reactions and feelings that occurs

Different reactions were experienced by participants during stressful situations, including emotional, physical, cognitive and social reactions. Physical reactions could manifest themselves as an increase in pulse, tremors, sweating and stomach pains. Cognitive reactions included a need to fully focus on a task, which is a positive characteristic, but this can also contribute towards tunnel vision and the inability to see things from different perspectives. Social reactions occurred at both workplaces and in home environments. Emotional reactions could cause strong feelings that had to be dealt with before, during or after a stressful situation.

5.2.1 | Fear

Participants described empathy as a fundamental part of their work. However, they also expressed having feelings such as anger, irritability, fatigue, exhaustion, cardiac symptoms and anxiety. When CF was brought up, they only had examples seen in other colleagues. Suffering from CF was something participants were fearful of.

> 'But you are afraid of ending up with compassion fatigue because then you wouldn't be able to do your job … you can't feel too much at once…'
>
> (Participant 2)

CF was sometimes brought on by patients who repeatedly called for an ambulance. Compassion enables participants to identify with patients and this enhances the self-identification experienced of some RNs, for example if an RN is a parent and is called out to situations where children are involved. Fear was evoked in participants when worrying about making mistakes, especially in stressful situations and not finding/seeing equipment. High demands were placed on participants' work effort and several of them were self-critical of their own work. The guidelines in the AS were not always seen as an asset as

sometimes deviations from these had to be made. This could result in participants' work being questioned by both colleagues and relatives.

> 'There is a fear that … that everyone is watching their own back, so you don't want to be the one to refuse anyone of care…'
>
> (Participant 12)

When participants were exposed to a situation that was experienced as unpleasant, there were fears of ending up in similar situations that can cause these reactions, one participant expressed it as 'call-out stress'.

5.2.2 | Frustration

Participants could experience emotional reactions such as frustration and irritability in stressful situations. Frustration was related to situations when things did not work as they should or when they could not do more to help. Frustration was experienced as all-consuming and contributed towards unpleasant behaviour. This could affect the quality of person-centred care and lead to patients sometimes being questioned about their need for an ambulance.

> 'When you interrupt … it could be that you are not really listening to the patient, … you interrupt there and don't bother finding out more, and say: Yes, …but what do you want us to do now?'
>
> (Participant 3)

Assessment of patients is a central part of the participants' work and sometimes their frustration was linked to the complexity and difficulty of having to make decisions for the patient independently.

5.2.3 | Loneliness

Feeling alone sometimes occurred in situations when RNs worked with colleagues with lower competence or with less experience, but also in situations where higher medical competence existed but that competence was not used in the prehospital setting. The feeling of loneliness meant that the RNs took full responsibility for decisions about the care and treatment of the patient and that decision has a decisive role for the patients.

> 'I think the biggest stressor in the ambulance profession is if you're the only nurse in the ambulance … that you're alone making a lot of the decisions. The biggest stressor is if you don't have another nurse with you'.
>
> (Participant 2)

Access to colleagues with a similar level of competence was sometimes limited, and when they were available, the feeling of loneliness was not experienced. Participants described how working with colleagues with equivalent competence can provide learning opportunities. The RN's role in the AS can be experienced as solitary work without the same safety net RNs have when working with hospital care, surrounded by colleagues.

5.3 | Management of work-related stress

In their daily work, RNs are faced with a range of different stressors. A variety of tools, such as checklists and care procedures, can be used when dealing with different conditions. These can support RNs in their work and extended support is available in critical situations. The colleagues of RNs have the important role of supporting them and providing the opportunity for them to reflect on different situations. Being mentally prepared for different situations and using problem-solving strategies were common practice for participants, but they also expressed a need to distance themselves from the emotions that can occur in some situations. Participants used their home environments for recovery.

5.3.1 | Seeking support

In direct patient work, participants use tools in the form of memos, guidelines and checklists. These tools offer direct support in ensuring that all necessary action is taken and also help RNs to remember what to do in stressful situations. However, they also had a downside as they could interfere with providing person-centred care.

> 'You can get stuck with getting out the checklist and other aids that are there to ensure care, of course. But they can sometimes get the better of you. When you can't choose which is most important. Is it the patient or all that stuff on the paper or in the app or whatever it is?'.
>
> (Participant 11)

The AS offers advanced support to RNs who have been involved in serious incidents. This is provided in the form of a support call immediately after the incident or when it suits the RN. The support measure considered most important by participants was provided by colleagues – talking to either the colleague you worked with or another colleague on the station. This was reciprocal – being there to support your colleagues was as much a part of it as getting support from a colleague.

> 'Yes, I can message almost anyone if I need to talk, and I think they would all be there for me'.
>
> (Participant 14)

The manager could also be a support when needed, but colleagues were still considered the most important to the RNs. Some RNs

described receiving support in their private lives from a partner, for example, with whom the RNs could vent their thoughts, but it was also expressed that a partner could not really understand what they had been through. Some RNs requested support in the form of group supervision or from a behavioural therapist.

5.3.2 | Being reflective

Reflecting on events with colleagues was seen as an important part of being able to handle different situations and developing an understanding of the complexity of the work.

> 'The more you sort of reflect on things, the more you realize how difficult and complex they are, especially when there are several of us involved'.
>
> (Participant 1)

Depending on the distance between the hospital and the ambulance station, travel time gave participants the opportunity for reflection. Reflection also included reflecting alone and writing down one's thoughts. Participants also mentioned that it was not always the most serious event that had the greatest need for reflection.

5.3.3 | Mentally preparing yourself

Mental preparation was a way to stay one step ahead of not knowing what would happen during a shift. It was important to avoid predictions as they are usually incorrect and also not to rely too much on advance information received from the call-out operator.

> 'If you feel that you are well prepared, it helps … you not be so stressed … once you get there … it gets better from start to finish I think if you are well prepared. But you can't always be completely prepared, because it's not always what you have been told it will be'.
>
> (Participant 4)

5.3.4 | Using problem-solving

Focusing on problem-solving was a strategy that all participants described in situations where they experienced stress. Sometimes there were feelings that the situation was perceived as impossible to solve and, therefore, not worth putting energy into.

> 'It's probably something that I always do, I think – I try to solve problems here and now so that there won't be any problems later, in the future. So it's hard to sift through: What should I do first and what should I wait with? That is probably when it feels stressful'.
>
> (Participant 6)

Solving problems was experienced both as affecting participants positively, when they felt alert and attentive, but also negatively, when they felt the need to find solutions in stressful situations.

5.3.5 | Distancing yourself

In order to do a good job, participants stated that distancing themselves from situations was considered necessary. This could involve showing no emotion in front of a patient or hiding feelings from relatives, and they expressed the need to stick together in front of their colleagues. Remaining calm was considered important as visible stress could spread to the patient or colleagues. Hiding negative emotions can help reduce stress.

> 'We talked about the feelings I had because it all went to hell, I would really like to be more focused on what I will do for the next patient'.
>
> (Participant 9)

5.3.6 | Finding time for recovery

Spending time with family, friends and pets was described as relaxing by participants. Exercise such as walking, running or weight training was thought of as a source of recovery. Reading books was used as a distraction, to escape from one's thoughts. In their free time, participants liked to be active with their children and spend time on their interests and volunteer work in order to let go of thoughts about work. Some participants also stated that they could recover on the job if they had the possibility of alternating between driving the ambulance and providing care. Nature aided recovery and several participants stated that they got energy from nature, and nature also provided them with space for silence and time alone.

> 'Then we walked for many miles in the forest…for me that is just total relaxation. Something changes in me when I'm in the forest'
>
> (Participant 7)

6 | DISCUSSION

The World Health Organization (2020) states that work-related stress is the reaction that people may have when presented with work demands and pressures beyond their experience and capabilities. Work-related stress has an impact on both RNs and the patients they are caring for and it can endanger safety and the quality of care

provided. This poses a challenge for healthcare systems in terms of safeguarding healthy work environments for RNs.

The aim of the present study was to describe the experiences of work-related stress, stress reactions and coping strategies among RNs working in the AS. The results showed that work-related stress was brought about by traumatic events, insufficient cooperation with colleagues, and when disturbing events in the work environment arose. Previous studies have also shown that being exposed to traumatic events or critical incidents is stressful (Hegg-Deloye et al., 2014; Pyper & Paterson, 2016; van der Ploeg & Kleber, 2003). Low levels of cooperation among colleagues including conflicts and having different opinions about patient care were sometimes shown to be problematic, especially arguments regarding whether a patient needed care or not. Afshari et al. (2021) also indicate that interprofessional interactions and conflicts are stressors in the AS.

Recently, new research has found that dealing with non-conveyed patients is a complex task that requires a high level of responsibility. If RNs are not skilled enough to make the decision to convey or not convey patients and are lacking organizational support treatment protocols, they could feel afraid of making mistakes (Höglund, 2022). Having a high task load and patients who do not require ambulance-level care can create frustration and bitterness and affect the empathy of RNs negatively (Höglund et al., 2019). The current study also showed that participating RNs become fearful when they are afraid of making mistakes or losing empathy because empathy was so central to their work. Even if RNs are working with a supportive colleague, they could feel isolated because of their limited opportunities to discuss and get advice about medical issues with their colleague, often due to the low level of competence of their colleague. Colleagues, although seen as key to RNs, were primarily seen as an asset but could also be seen as a stressor.

An individual's stress response varies from person to person and coping with stress may be effective depending on the method used within a specific situation (Adriaenssens et al., 2015). Duschek et al. (2020) claim that paramedics use more positive and less negative coping strategies than other healthcare professionals and Warren-James et al. (2022) discuss healthy coping strategies among paramedics such as relaxation, distraction and social support, which are in line with the coping strategies seen in this study. Coping strategies with negative consequences for RNs were not seen in this study even if alcohol and other drugs are known to be used by ambulance personnel to manage these lived experiences and exposure to critical incidents (Lawn et al., 2020). Lawn et al. (2020) also bring up avoidant strategies and information searches used for managing demands, and some of the participants described escaping by reading a book. Seeking information was a way to recover but may also be a way to avoid feelings and emotions. Some participants felt that they could recover while working if the opportunity was given to alternate between driving and providing care. In a study by Karlsson et al. (2020) measuring cortisol concentrations (a stress indicator) in ambulance personnel, no difference was found between working with patient care and driving.

The most interesting finding in this study is the role of colleagues both as a stressor and a support. They can be both a stressor for RNs in the AS and an important part of their management of tasks, and they can help RNs to handle feelings such as fear, frustration and loneliness that can occur in stressful situations. Building organizations with competent staff where time is allocated for reflections between colleagues is central for the AS, as is managing the balance between having internal resources in the organization and obtaining help from external resources. Psychological help is important as it can help to relieve stress; however, in one study, only a small number of nurses and paramedics (7.4% of 434) stated that they had chosen to accept such help (Grochowska et al., 2022). The fact that RNs both play a direct role in difficult incidents and also need to support a colleague poses certain challenges. This means that RNs are indirectly becoming exposed to more difficult incidents, as a listener and supporting colleague, which can contribute to a cumulative effect for them. In the long term, this could contribute to the development of secondary traumatic stress in RNs, and it is, therefore, important that the AS strives to find a balance between peer support and other forms of support offered to their staff. Interpersonal aspects such as organizational culture, climate, leadership and communication are important when it comes to organizational hassles (Larsson et al., 2016). Leadership is also a central issue when it comes to a good work environment and well-supported personnel. Participants in this study did not bring up support from their manager and one explanation for this could be that colleagues hold a prominent position in the provision of support.

Promoting and maintaining health, and also preventing bad health, is important for the well-being of RNs in the AS. Helping future RNs by providing them with coping tools and stress management techniques should be a shared responsibility between the individual RN, the education system and the employer. RNs value their own privacy, health and well-being (International Council of Nurses, 2021) and universities need to prepare student nurses with the knowledge and tools they will need to handle different kinds of stressful situations and emotional reactions to them. Employers need to provide good work environments and work to promote health and prevent ill health in RNs at the same time as they need to cater for a high level of competence in the AS to ensure high-quality care and the safety of patients.

6.1 | Study strengths and limitations

Fourteen RNs were recruited from eight different ambulance stations in central Sweden, with the aim to increase the diversity of RNs' experiences. Only three men were included in the sample, which is a limitation as men and women might experience situations differently in their work. A previous study shows that women are more likely to use more emotion-regulation strategies than men (Nolen-Hoeksema & Aldao, 2011). It is possible that people with a desire to talk about their experiences with a conscious or unconscious message were willing to participate in the study. A strength of this study is that the participants varied in age, education and the length of time they had

worked as an RN. Experiences are unique for all individuals and the transferability of our findings from a sample size of 14 is in line with sample sizes for qualitative research (Polit & Beck, 2021).

Before starting the interviews, all participants received information regarding the study's purpose, how confidentiality would be maintained and that they could discontinue their participation at any time. This information was given both in writing and orally. Interviews were conducted using the digital platform Zoom, by telephone and face-to-face. Each interview form has its advantages and disadvantages. The advantages of using different forms include being able to adapt to the needs of the person. Interviews performed by distance are also cost-effective and promote inclusion and equality in research (Saarijärvi & Bratt, 2021). One disadvantage was that the digital connection was interrupted during one Zoom interview but it could be resumed and completed. When data analysis is on a manifest level, no interpretations are made at a latent level, as the written transcripts are the focus of the analysis. Working at a manifest level close to the text can entail a risk that the larger picture is being lost. Having an abductive approach in the analysis makes it possible to integrate a more superficial pattern with a more complete understanding (Graneheim et al., 2017). Data collection was carried out during the COVID-19 pandemic when there were still restrictions in place, meaning that interview forms other than the gold standard of face-to-face interviews were used (Saarijärvi & Bratt, 2021). The transcriptions of the interviews were not sent to participants for comments, which could be seen as a limitation. Another limitation in the study is that the interviews were conducted in Swedish and the citations have been translated into English. A professional translator was used to ensure accuracy.

Graneheim and Lundman's (2004) content analysis was used in this study and an abductive approach was used for the interpretation of the text (Graneheim et al., 2017). Stimuli–response models were used to sort participants' experiences of work-related stress and stress responses.

Coping is defined by Lazarus and Folkman (1984) and includes two main categories; problem-focused coping and emotion-focused coping and the participants' coping strategies in this study can be attributed to their model. The emotion-focused strategies were most commonly used in this study after the task; for example seeking support, being reflective and problem-solving were most common during a call-out. The problem with the stimuli–response model is that the RN is passive and may be simply reacting to the working conditions they are exposed to, which is not the case because they are far more complex. In the data analysis, the stimuli–response model was used to sort the participants' experiences of work-related stress and stress response and shall not been seen as an explanatory model in the study.

6.2 | Recommendations for further research

Recommendations for further research include investigating which stress-reducing interventions can help RNs and paramedics in the AS. It also would be of interest to investigate teamwork in the AS from different perspectives, why it sometimes fails and the consequences of this.

7 | CONCLUSION

This interview study provided empirical evidence that being part of traumatic events, experiencing insufficient cooperation with colleagues, and experiencing disturbing events in the work environment can induce stress in RNs. The main finding is the importance of colleagues and their level of competence. Working with a competent colleague reduces stress and can prevent the feeling of loneliness. The challenge for the AS today is to recruit competent personnel during a global shortage of RNs. Ensuring a good level of competence within the AS might help reduce stress in a work environment that is already stressful by its very nature and also increase the quality of care and safety of patients.

AUTHOR CONTRIBUTIONS

Drafting of the manuscript and critical revisions for important intellectual content: All authors have made substantial contributions to the conception and design of the study or acquisition of data or analysis and interpretation of data, drafting the article or revising it critically for important intellectual content and final approval of the version to be submitted.

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CONFLICT OF INTEREST STATEMENT

No conflict of interest has been declared by the authors.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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