Sleep in cardiac arrest survivors

Amanda Hellström RN, PhD, University lecturer, Associate Professor | Anders Bremer RN, PEN, PhD, University lecturer, Associate Professor | Lise-Lotte Gunnarsson RN, MSc | Carina Hjelm RN, CCRN, PhD, University lecturer

Abstract

Background: Insomnia, sleep apnoea and sleep loss are risk factors for the development of cardiovascular diseases. Most research on sleep disturbances includes patients with heart failure, while the role of sleep in sudden cardiac arrest survivors (SCA) has been only partially investigated and understood. Sleep-related breathing disorders and obstructive sleep apnoea increase illness and mortality in the aftermath of SCA. Also, post-traumatic stress is evident in SCA survivors, where sleep disruptions are some of the main symptoms of the condition. Consequently, it is important to identify sleep problems in SCA survivors at an early stage to avoid unnecessary suffering.

Purpose: The aim of this study was to investigate registered nurses’ perceptions of SCA survivors’ sleep, both in hospital and after discharge.

Methods: This was an explorative interview study with a phenomenographic approach. Nineteen registered nurses (RNs) varying in age, sex and years in the profession participated.

Findings: The nurses’ perceptions of SCA survivors’ sleep were categorized as: “The observer – noticing behaviours, emotions and habits of the patient that affect sleep”, “The oblivious witness – attitudes that hinder the ability to recognise sleep behaviours”, and “The practitioner – advising and medicating for sleep”. The outcome space showed that the nurses detected both obvious and subtle signs relating to patients’ sleep. However, attitudes hindering the recognition of sleep behaviours were independent of acting as an observer or practitioner. If nothing unforeseen was observed, or if the patient did not spontaneously raise the subject, sleep was considered less important than other health problems in SCA survivors.

Conclusions: Although the nurses knew that SCA survivors suffered from poor sleep, they failed to reflect on the consequences for the patient. Nurses’ feelings of insufficient knowledge about sleep, as well as their omission of sleep in the follow-up documentation could leave sleep issues unaddressed and cause unnecessary patient suffering.

Relevance to clinical practice: Nurses need increased knowledge and training to enable them to detect subtle signs of sleep problems in SCA survivors.
1 | INTRODUCTION

Sudden cardiac arrest (SCA) is a global health problem with poor survival rates of around 20% for in-hospital cardiac arrest (IHCA)\(^1\) and 10% for out-of-hospital cardiac arrest (OHCA).\(^2\) The survival rates of SCA in Sweden are 37% after an IHCA and 11% after an OHCA.\(^3\) SCA survivors generally report good health-related quality of life (HRQoL).\(^4\) Israelsson et al. reported only a minor difference in HRQoL between SCA survivors and a gender-matched general population. Female SCA survivors reported worse health status and more psychological distress than males.\(^5\) Poor HRQoL seems not to be a general problem for SCA survivors, but there is a large variation between surviving IHCA or OHCA.\(^6\)

The role of sleep in SCA survivors is only partly understood. Most research about sleep disturbances addresses patients with heart failure.\(^6\) Insomnia, sleep apnoea\(^7\) and sleep loss\(^8\) are risk factors for the development of cardiovascular disease. Previous studies have also shown that sleep-related breathing disorders and obstructive sleep apnoea increase the risk of cardiac arrhythmia, sudden cardiac death, nocturnal ischaemic events, ventricular tachycardia and increased illness and mortality in the aftermath of SCA.\(^10,11\) Research about people with cardiovascular disease indicates problems such as fragmented sleep, affected cognition,\(^12\) fatigue and mood disturbances.\(^13\) However, it is unclear whether this knowledge is transferable to patients who have survived cardiac arrest. Studies describing sleep in relation to cardiac arrest are scarce and, to our knowledge, this is the first study describing the sleep in survivors of a sudden cardiac arrest.

Studies of patients in the intensive care unit (ICU), regardless of why they received ICU care, show that ICU survivors suffer from both trauma-related and depressive symptoms, which both increase the likelihood of sleep difficulties.\(^14\) Furthermore, a study by Langerud et al.\(^15\) showed that sleep disturbances are present three months after ICU discharge (49.2%) and are quite persistent (46.5%) one year post-discharge. There is reason to believe that SCA survivors share these experiences and risk long-lasting sleep disturbances if they are not acknowledged and treated properly. Despite this, studies indicate that SCA survivors do not receive sufficient rehabilitation.\(^16\)–\(^18\) Since ICU nurses and cardiac intensive care unit (CICU) nurses work closely with patients in the acute phase after the cardiac arrest and cardiac nurses work closely with patients during follow-up care, nurses can play a crucial role in detecting sleep impairments in SCA survivors and initiate interventions for better sleep. Therefore, our aim was to investigate registered nurses’ perceptions of SCA survivors’ sleep, both in hospital and after discharge.

2 | METHODS

This study is part of a larger project investigating cognitive function in SCA survivors.\(^19\) We used an inductive design with a phenomenographic approach. In phenomenographic research, the researcher studies how people describe a phenomenon\(^20\) to discover the different ways in which people experience, conceptualize, realize and understand different aspects of phenomena in the world around them.\(^21\) Phenomenography strives to find variations in people’s perceptions of a phenomenon. These perceptions are structured into descriptive categories that differ qualitatively from each other and constitute the outcome space.\(^20\) The methodological reporting of this study follows the consolidated criteria for reporting qualitative research (COREQ) standard\(^22\) (see Supplementary information).

2.1 | Setting and participants

Strategic sampling was used to recruit the participants.\(^19,23\) The inclusion criteria were: (a) being a registered nurse and (b) having experience of cardiovascular care, including cardiac arrest and post-cardiac-arrest follow-up conversations. We aimed to include nurses with extensive experience of talking to and assessing the life situations of SCA survivors.

Twenty registered nurses (RNs) varying in age, sex and years in the profession were contacted by email with information about the
TABLE 1  Characteristics of the study participants

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>(n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years, median (min–max)</td>
<td>50 (30–66)</td>
</tr>
<tr>
<td>Years in the profession, median (min–max)</td>
<td>23 (3–38)</td>
</tr>
<tr>
<td>Workplace (n)</td>
<td></td>
</tr>
<tr>
<td>Regional hospital</td>
<td>8</td>
</tr>
<tr>
<td>County hospital</td>
<td>11</td>
</tr>
<tr>
<td>Gender (n)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
</tr>
<tr>
<td>Level of education (n)</td>
<td></td>
</tr>
<tr>
<td>Registered nurse</td>
<td>13</td>
</tr>
<tr>
<td>Specialist registered nurse</td>
<td>6</td>
</tr>
<tr>
<td>Performing follow-ups with the SRCR* (n)</td>
<td>17</td>
</tr>
<tr>
<td>Yes</td>
<td>17</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>Place of interview (n)</td>
<td></td>
</tr>
<tr>
<td>At work</td>
<td>15</td>
</tr>
<tr>
<td>At a national meeting with the SRCR</td>
<td>3</td>
</tr>
<tr>
<td>Telephone</td>
<td>1</td>
</tr>
<tr>
<td>Length of interview in minutes, median (min–max)</td>
<td>46 (23–115)</td>
</tr>
</tbody>
</table>

*SRCR, The Swedish Register of Cardiopulmonary Resuscitation.

study. Those who were interested replied with a signed consent form. Nineteen RNs replied and were contacted by phone for further information and, if the person chose to participate, to settle a time and place for an interview (Table 1). The nurses worked in regional and county hospitals. The majority (17/19) of the nurses were working with the Swedish Register for Cardiopulmonary Resuscitation (SRCR) (https://shlr.registercentrum.se) which means that they perform follow-up telephone calls to register patient-reported outcome measures (PROM) by SCA survivors.

2.2  | Data collection

Individual, semi-structured interviews based on an interview guide were conducted by three of the authors (AB: n = 6, CH: n = 9 and L-LG: n = 4) who are all experienced in performing qualitative interviews. All authors, three females and one male, are registered nurses with experience in cardiovascular care. Consensus was established among the interviewers beforehand regarding domains to use in the interview guide and how to conduct the interviews. The final interview guide contained six open-ended questions covering different aspects of sleep in SCA survivors.

The interviewers performed one interview each and then discussed the interview guide, and the quality of the interviews, before proceeding with the rest. The interview guide was found to be satisfactory, and no changes were made after the initial interviews. These first three interviews were included in the data analysis.

To help participants feel comfortable, each interview session started with the interviewer and the participant introducing themselves to each other while demographic data were collected. All interviews but one was conducted face-to-face (one interviewer and one participant) in secluded spaces; 15 at the workplace, and three at a national SRCR meeting. The last interview was conducted over the telephone. The interviews were audio-recorded and were performed between January and May 2018. They lasted between 23 and 115 min (median 46 min) and were transcribed verbatim by the last author. The study was carried out in accordance with the World Medical Association’s Declaration of Helsinki and was approved by the Regional Ethical Review Board in Linköping, Sweden (No. 2016/141–31). Verbal and written consent were obtained from all participants.

2.3  | Data analysis

In the first phase, the parts of the interview texts that were relevant to answer the aim of the study were identified. The phenomenon was then narrowed down to the selected quotes from all interviews with a shift from the individual subjects to the meaning embedded in the quotes themselves. Searching for meaning and variations in meaning were performed by reading the quotes and interviews several times. New interpretations were found and focused on different perspectives at different times, in an iterative and comparative process involving continual sorting and resorting of data, and ongoing comparisons between the data. Categories were formed by similar quotations as well as categories were separated by its differences. Finally, the categories of description were defined (Table 2). The last author conducted preliminary sorting into categories based on similarities and variations, being mindful to remain unbiased regarding the text. All of the authors then reviewed the categories and tested against the data, adjusted and retested again to identify the relationship between them, which is represented in the outcome space.

3  | FINDINGS

Three categories represent variations in respondents’ understanding of SCA survivors’ sleep behaviours show different roles that RNs would take. The RN could switch the role during the care trajectory. As The observer – the RN noticed the behaviours, emotions and habits of the patient that affect sleep. As The oblivious witness – the RN’s attitudes hindered the ability to recognize sleep behaviours. In the last category The practitioner – the RN was advising and medicating for sleep. In the outcome space, these three categories are depicted to show how they relate to each other (see Figure 1).

3.1  | The observer—noticing behaviours, emotions and habits of the patient that affect sleep

The RNs stated that they did not focus particularly on patients’ sleep. However, RNs described their perception that patients’ quality of sleep deteriorated during recovery from a cardiac arrest event. Patients
expressed worries and raised existential questions, together with fear of having another cardiac arrest. Anxiety at night and traumatic experiences would cause sleep difficulties. Patients expressed this as a fear of sleeping, and the need to feel safe about waking up again. Sometimes the patient was afraid to initiate sleep because that meant losing control over the situation. If patients seemed comfortable and safe, yet were unable to fall asleep, they often asked for sleep onset pills. RNs expressed that they suspected some of the SCA survivors reacted badly to sleep medication due to their symptoms.

At night, particularly during the acute phase, the RNs attended patients who had difficulties initiating sleep. Their experience was that the patients’ worrying thoughts commonly arose at night and then negatively affected their sleep. Sleeping could also be complicated during the acute phase since the patients often experienced a changed circadian rhythm. RNs perceived that fear of falling asleep is a major problem for those who survive a cardiac arrest. Patients seemed afraid to relinquish control by entering the less responsive state of sleep. Some patients woke up at night expressing worry about what would happen next. The SCA survivors were anxious in general and displayed difficulties in resting or being at ease during this initial stage. RNs’ perception of patients’ sleep was that the hospital environment added to the stressful sleeping behaviours, compared to sleeping at home.

I think they sleep decently but not as well as they want to, and not as well as they would wish. Nurse 4

In the CICU unit, patients’ sleep was constantly interrupted. Patients were woken up when vital signs were checked at night or when staff were walking in and out of the room, which also made it difficult to assess sleep quality. However, sleep difficulties were seen in all CICU patients, not just among SCA survivors. CICU patients commonly experience disturbance of their circadian rhythm due to their illness and care activities at night.

The RNs’ frame of reference for sleep was restricted to the ward and hospital environment. Nightmares and hallucinations were among the most common sleep difficulties seen in the CICU and these were experienced by most patients. Poor mental health status could also lead to sleep difficulties. The RNs had difficulties describing the patients’ sleep on the post-intensive-care ward; however, although they were unlikely to know the patients’ normal sleeping behaviours at home, they reported that patients slept better in the post-intensive-care ward than the CICU.

Many people sleep poorly when they are here and have a disturbed sleep – like other beds and patients who disturb [them], but [they would] not [have this problem] when they go home, that they would experience poor sleep... or maybe they have poor sleep the first time they return home. Nurse 19.

When meeting SCA survivors at their postoperative follow-ups, the nurses explained that it was common for patients to report having nightmares. RNs said that SCA survivors were still experiencing interrupted sleep with several awakenings. RNs’ perception of some patients’ persisting sleep difficulties was that they seemed to be stress-related. These patients experienced stress both at work and in private life. Patients were perceived as tired and fatigued after SCA and some slept more after the SCA event than previously. The nurses perceived the patients’ fatigue as mentally stressful and as reinforcing a constant feeling of tiredness.

SCA survivors reported the need for naps, sometimes for several hours, each day. This could lead to some of them losing their sense of day or night-time, affecting their sleep/wake cycle. Nurses linked these changed sleep patterns to the physical and psychological trauma the patients had experienced. However, many patients did not mention their sleep at all, and if they did so they usually told the RN that they had no problems. The nurses perceived that sleep became gradually better after the patient had received cardiac intervention treatment.

In cases where patients showed signs of depression, RNs asked them questions about sleep. If the patient felt well in other respects, their sleep was considered satisfactory. Additionally, the RNs perceived that many SCA survivors with depressive symptoms or disturbing thoughts slept very poorly.
3.2 | The oblivious witness – attitudes that hinder the ability to recognize sleep behaviours

The RNs' perceptions of SCA survivors' sleep indicate no differences from patients with other diagnoses or illnesses. Some nurses reported that it was easier to detect sleep difficulties when the patient was in hospital and could be observed. On the other hand, SCA survivors were not expected to experience good sleep and RNs did not generally consider the patients' sleep. One nurse expressed:

I cannot imagine that their sleep would be different from any other heart patient. // [SCA] survivors do not sleep worse than other heart patients. Nurse 9.

The nurses expressed they had no knowledge about how the patients slept after discharge. When performing the patient-reported outcome measures registration, at 3 to 12 months after discharge from hospital, the nurses did not routinely ask patients about their sleep. As the nurses did not reflect on the possibility of sleep difficulties post-discharge, questions about sleep were not something they usually asked about when they made the phone call for register monitoring.

The question [about sleep] is not asked in the context of cardiac arrest or in other diseases either. You don't talk that much about sleep. Nurse 15

The nurses reasoned that sleep was not considered to be an important issue because it was not included among the questions asked at follow-up, and therefore not a major concern for SCA survivors. They relied on that the patient would bring it up if there was an issue.

What goes around comes around, there's a huge dark mass... Sleep is very important to most people, so they usually tell you if it if it is disturbed. Nurse 16

Another reason for not asking about sleep was a feeling of lack of time and the need to prioritize other issues. The conversations they had were short, often about one hour, and during that time there was already much to be discussed. Some nurses expressed self-criticism regarding their own ignorance of patients' potential sleep problems, while others thought that the lack of research and knowledge in this area indicated that there may be reasons to raise questions about SCA survivors' sleep.

3.3 | The practitioner—advising and medicating for sleep

Nurses did not generally talk or ask about the sleep behaviours, either in hospital or in conversations after SCA survivors' discharge from hospital. High scores on the Hospital Anxiety and Depression Scale (HADS) would trigger the nurses to ask more actively about sleep. A poor mental state, worries and anxious thoughts, usually reflected sleeping behaviours and difficulties.

The nurses paid extra attention to signs of depression, and if they detected this they asked if the patient had sleep difficulties, and they provided sleep medication or anti-anxiety medication. If they gave oral recommendations about sleep, they wrote these in the medical records and consulted a physician. If the patient snored and there was a suspicion of apnoea, a sleep registration was made and a referral for further investigation was made to a sleep clinic, a counsellor or a doctor for an appointment.

When patients have sleep difficulties and when coronary artery disease coexist I always think about apnoea. I start with a simple question: how do you sleep? Nurse 13

The RNs knew that anxiety and/or depression and sleep are associated with each other. Despite this knowledge, some avoided asking patients about their sleep as the RNs themselves were uncomfortable with their own knowledge about sleep difficulties. RNs believed and hoped that questions about sleep could be raised by other colleagues at other clinics.

I would imagine that my colleagues at the clinic ask about sleep, how the patients’ sleep is today. Nurse 11

In the hospital, if the RNs noticed that patients were anxious or had difficulty calming down or falling asleep, hypnotics were often suggested to alleviate these problems. Another intervention would be to leave the door to the patient's room open or leave a light on.

If the patient reported poor sleep, the nurses asked them to describe how their sleep used to be before the SCA event; for example, when they went to bed at night and when they got up in the morning. Nurses emphasized that it was important for patients to be able to sleep, especially after discharge, and for those who work. When administering sedative drugs, the RNs highlighted the importance of monitoring the patient after administering drugs, perhaps by making an extra alarm bell available, being more vigilant, or by hiring an extra member of staff to care for the patient.

The nurses performed actions to promote the sleep environment and sleep position, for example, by adjusting the height under the patient's head or considering whether the patient needed to sit to sleep. The nurses also observed whether the patient was able to lie down and sleep, and regarding sleeping behaviours in general. They then considered actions based on these observations.

As The oblivious witness—RNs showed attitudes that hinder recognition of sleep behaviours. Sleep difficulties were anticipated and accepted as normal. Sleep as a non-issue was further motivated by the lack of focus on sleep in the care plan or follow-up. This category was independent of the other two categories. As The observer, some nurses would notice behaviours, emotions and habits of the patient...
The observer
Noticing behaviors, emotions and habits of the patient that affect sleep

The practitioner
Advising and medicating for sleep

The oblivious
Attitudes make signs of sleep invisible

FIGURE 1 The associations between the descriptive categories that affect sleep, which could pass over to The practitioner – giving advice or medication for sleep. Signs of depression, anxiety or snoring led the nurses to reflect on possible sleep difficulties and actions to be taken. However, most RNs were insecure of their room for action and their own competence. This limited interventions and commonly included the reference to a physician or therapist.

4 | DISCUSSION

The findings indicate that nurses’ perceptions of SCA survivors’ sleep are based on observations of the patients’ behaviour, emotions and habits. These gave commonly rise to actions such as providing advice, medication and counselling, but could also reveal uncertainty of own skills and ability of the RN concerning the assessment of SCA patients’ sleep behaviours. At other times RNs would take an unreflecting attitude and not consider sleep to be a problem in SCA survivors. Furthermore, as sleep issues are not emphasized in follow-up care, these problems are not anticipated or are only seen as minor.

The nurses in the present study talked about patients having difficulties coming to rest and falling asleep. Fear of sleeping was mentioned as a recurring problem among SCA survivors, as well as the reversal of their sleep/wake cycle. This was also found in previous research by Lewandowska et al., in which ICU patients said that concerns about the future and fear of not waking up again made it hard to fall asleep. The reversal of their sleep/wake cycle made patients lose their sense of time, which affected sleep, as did the noise and light in the ICU. When discharged from the ICU, patients experienced extreme exhaustion connected with sleep deprivation.

Our findings show that the nurses perceived a poor sleeping situation in patients after SCA. Stressful thoughts after the acute phase, such as existential questions or fear of yet another cardiac arrest, and the traumatic situation were major reasons for poor sleep in patients. Tiredness was often seen in SCA survivors, which could be linked to sleep difficulties. Tiredness was sometimes interpreted as fatigue and acknowledged as stressful for SCA survivors when they return home.

In this study, sleep was considered worst in the ICU, better on the post-intensive-care ward and assumed to be normal at home. According to Lewandowska et al., patients’ sleep difficulties could be partly related to the care environment, such as noise from alarms and monitors and lights being turned on while staff perform care. It is tempting to think that sleep will revert to normal once the patient returns to their usual environment at home. However, the trauma caused by SCA may still affect the patient, even after discharge. It is not uncommon for SCA survivors to suffer from post-traumatic stress disorder (PTSD). Some of the hallmark symptoms of PTSD are insomnia, nightmares, and delayed sleep onset. Therefore, this knowledge could provide motivation for medical staff to assess routinely the sleep of trauma survivors.

The RNs in this study acknowledged that the sleep situation is atypical in hospitals, where care is provided 24/7. According to Hu et al., adults in ICUs often suffer from a lack of sleep or frequent sleep disruptions. Observed sleep disturbances might lead to a nurse taking action to assist the patient; however, an attitude that most patients experience difficulties sleeping while in the ICU or the CICU could also lead to the normalization of disrupted sleep.

If the nurses detected sleep difficulties, they had suggestions regarding how to treat patients, usually by administering hypnotic or sedative drugs, or to comfort and calm the patient by leaving a door open or switching on a lamp. Actions to improve sleep also included oral advice, sleep apnoea investigation and counselling. Abad et al. described interventions for sleep promotion as involving both pharmacological treatment and non-pharmacological interventions. Non-pharmacological interventions can improve the duration and quality of sleep and decrease the risk of sleep disturbances, delirium and PTSD, as well as reducing the length of ICU stays in critically ill adults.

During follow-up conversations sleep was not discussed due to lack of time and the need to prioritize other questions. Furthermore, sleep behaviours were not included in the regular questionnaire template. When questions about sleep were raised by patients, nightmares and mental tiredness were the most common issues after discharge. Nurses were aware that depression and sleep difficulties are connected, and in cases of depressive symptoms, questions about sleep were asked. High scores on HADS could also lead the RN to ask about sleep, as the associations between poor sleep and anxiety and depression is well known. This could also lead to the RN helping the patient to book an appointment with a psychologist or physician. It was common for the RNs to wish that other colleagues at the clinic would raise issues of sleep with patients. Piegza et al. reported that a significantly higher average level of depression and a higher incidence of anxiety were demonstrated in patients after a SCA as well as after myocardial infarction, compared with healthy adults. It should be noted that, among people with a history of cardiac arrest, the most common mental disorder is depression.

The omission of asking SCA survivors about sleep during follow-up conversations could have several explanations. Firstly, if nurses believe that the sleep behaviour becomes normalized after discharge, there is no reason to ask about it. Secondly, some nurses said that research and knowledge in this area are lacking. When in doubt about what to ask or how to handle sleep difficulties, it may be easier to avoid the topic. A recent study by Gellerstedt et al., in which nursing students were interviewed about sleep, showed that sleep is completely forgotten or given
low priority within somatic care. Lack of time and performing care according to routines instead of individually tailored care, were part of the explanation. But also, insufficient education about sleep was found in nursing programmes. This may lead to nurses using their own experience instead of evidence-based knowledge in the field, or choosing to avoid the subject altogether.\(^{32}\)

We know that sleep deprivation can lead to endothelial dysfunction,\(^{33}\) metabolic disorder\(^{34}\) increased sympathetic activity, decreased parasympathetic activity\(^{35}\) and immune cell dysfunction,\(^{36,37}\) which in turn lead to vascular calcification, atherosclerosis, hypertension, arrhythmia and coronary heart diseases.\(^{38}\) The findings about the effects of sleep deprivation on the cardiovascular system are controversial, but both the quality and quantity of sleep are important to maintain normal cardiovascular function.\(^1\) From the findings of this study, we have learned that we need to improve our knowledge about sleep in general and to reflect on and recognize sleep disorders in SCA survivors.

### 5 | LIMITATIONS

Several steps were taken to ensure trustworthiness in this study. The phenomenographic approach strives for variation in the ways of understanding a phenomenon.\(^{25}\)

Data from 20 participants are usually considered enough to discover the different ways of understanding a phenomenon in phenomenographic research.\(^{21}\) The sample of 19 registered nurses in this study seems to have covered various ways of understanding sleep in SCA survivors. The participants were accustomed to caring for SCA survivors, both during the acute phase and also in the subsequent follow-up process. Their workplaces represented a variety of regional and county hospitals with a large geographical spread, indicating a variation in the facilities’ range of care and patient capacity in emergency departments, which strengthens the credibility and transferability of the findings. Most of the participants were female, which reflects the nursing profession in Sweden, where 90% of the registered nurses are female.\(^{39}\) Even though the participants were registered nurses, we believe the findings of this study could be transferable to similar contexts and other professions, improving the understanding of sleep difficulties in SCA survivors.

The interview guide contained six open-ended questions covering different aspects of sleep. Narrowing down the areas of sleep to these six aspects could be a limitation because important information could have been left out concerning other aspects of sleep. For instance, no data were specifically addressed on the RNs’ awareness of normal sleep patterns, associations between sleep and health or sleep as a predictor of other illnesses. Neither was there any probing questions about non-pharmacological interventions used to improve sleep.

Using several interviewers, and triangulation, may have reduced bias in the data collection.\(^{40}\) However, using three interviewers could also be a limitation as the interviewers’ different questioning styles could affect the outcome of the interviews. All the interviewers are registered nurses, one with a background in ICU care. There was no pre-existing relationship between the interviewers and the participants except for the second author who superficially knew the interviewees from the annual national SRCR meetings. Given the nature of these relationships, the credibility of the results is not considered to have deteriorated. To increase the credibility, all three interviewers performed one interview each and thereafter discussed the interview questions, and the quality of the interviews, before proceeding. One interview was carried out over the telephone due to unexpected circumstances. The length of this interview was shorter than the others, but nevertheless it contained sufficient data corresponding to the study aim.

All authors were involved in the analysis, which further strengthens the credibility of the findings.\(^{40}\) The use of quotes from the participants in the findings demonstrates the closeness to the data of the analysis and enables the reader to determine the credibility of the data.

### 6 | CONCLUSIONS

In the acute phase after a SCA, nurses do not expect a patient to have good sleep. Poor sleep was expected and addressing this was not given high priority. During nurses’ follow-up interviews with patients, sleep issues were still not prioritized or discussed, unless introduced by the SCA survivor. RNs consider themselves to have limited knowledge about how to handle sleep difficulties, and neither follow-up conversations nor care plans emphasized sleep, which led the RNs to downplay its importance. However, obvious signs of sleep problems, such as excessive tiredness, fatigue, or depression, as well as observed sleep apnoea, appear to have led to initiatives from the nurses.

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### CONFLICT OF INTEREST

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### ORCID

Amanda Hellström [https://orcid.org/0000-0001-8398-9552](https://orcid.org/0000-0001-8398-9552)

Anders Bremer [https://orcid.org/0000-0001-7865-3480](https://orcid.org/0000-0001-7865-3480)

Carina Hjem [https://orcid.org/0000-0002-0227-6794](https://orcid.org/0000-0002-0227-6794)

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