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Research Article

Scandinavian healthcare professionals' perceptions of rehabilitation practices in the intensive care unit. A cross-sectional survey

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ABSTRACT

Objective: To describe healthcare professionals' perception of current early rehabilitation practices and their preconditions, focusing on functional and cognitive stimulation facilitated by nurses and other healthcare professionals in Scandinavian intensive care units (ICUs).
Design: Cross-sectional electronic survey administered to healthcare professionals. The survey was developed in Danish, translated into Norwegian and Swedish, and delivered using Google Forms. The qualitative data were analysed using the framework method.
Setting: Scandinavian ICUs.
Results: Practices facilitated by nurses and other healthcare professionals in the ICU often began with weaning from the ventilator and reducing sedation. This was followed by increased mobilisation and building physical strength. There was attention to optimising nutrition, swallowing function, and oral intake. Enabling communication and employing cognitively stimulating activities and bodily stimulation to engage the patient's mind were also framed as rehabilitation. To avoid delirium and overexertion, it was important to balance rest and activity and to shield the patient from unnecessary stimulation. Furthermore, it was important to support the patient's will to live and to involve the family in rehabilitation. Post-discharge rehabilitation activities included reaching out to patients discharged to wards and homes.
Conclusion: Rehabilitation was described as progressing from passive to active as patients gained consciousness and strength. Weaning, balancing rest and activity, supporting the patient's life courage and will to recover, open visitation policies, and multi-professional collaboration were important prerequisites for rehabilitation.
Implications for practice: All aspects of patient care can function as important opportunities for physical and cognitive rehabilitation. Balancing rest and activity is important for conserving the patient's energy for rehabilitation.

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Introduction

Patients treated in the intensive care unit (ICU) often suffer from long-lasting complications after critical illness, including physical, psychological, and cognitive impairments, termed post-intensive care syndrome or PICS [1]. Rehabilitation is pivotal to prevent or reduce the detrimental effects caused by critical illness and treatment, starting early in the ICU and continuing well past discharge from the hospital [2]. Rehabilitation has been defined by the World Health Organisation (WHO) as 'a set of interventions designed to optimise functioning and reduce disability in individuals with health conditions in interaction with their environment' [3].

Background

The introduction of a no– or low-sedation paradigm [4] in the early 2000s, together with an increased understanding of patients' long-term outcomes [1], has promoted ICU care practices that actively seek to counter the negative effects on patients' physical strength and mobility. In 2009, Schweickert et al. showed that early physical therapy was overall safe, reduced delirium and length of stay, and increased functional status at discharge [5]. Consequently, many ICUs worldwide implemented early physical therapy into their practice [2,6]. In 2022, the TEAM Study Investigators and the ANZICS Clinical Trials Group were not able to show additional benefits from a more aggressive mobilisation approach, suggesting that extensive physical training had already been implemented in usual care [7]. A *meta*-analysis indicated early mobilisation within 24–72 h of admission to be optimal [8] although early rehabilitation is very much a question of timing mobilisation to the patient's situation [9]. Early mobilisation was also an integrated part of the ABCDEF bundle directed at optimising ICU patient recovery [10]. The bundle was devised to facilitate the implementation of key interventions, including the assessment, prevention, and management of pain, spontaneous awakening and breathing trials, the management of analgesia and anaesthesia, the management and prevention of delirium, early mobility, and family involvement [10]. The overall aim was to support patients' ability to participate in higher-order physical and cognitive activities and ultimately facilitate early rehabilitation [10]. A study by Pun et al. [11] confirmed the benefits of ABCDEF bundle adherence leading to a lower likelihood of hospital death, next-day mechanical ventilation, delirium, and readmission. The holistic approach and the active involvement of the patient in their own care and rehabilitation advocated by Marra et al. [10] and Nydahl et al. [12] fit well with the multitude of nursing activities when the patient is in the ICU. Collet et al. are conducting an integrative review of functional activities and their impact on the patient's cognitive outcomes; the results are pending but will hopefully shed light on the effect of activities that involve patients in care [13].

The National Institute for Health and Care Excellence (NICE) has released a clinical guideline on ICU rehabilitation, outlining essential care principles [14]. These principles encompass the following: (1) ensuring the rehabilitation objectives are integrated into the patient's treatment plan, (2) providing a structured self-directed rehabilitation manual with support, (3) collaborating with primary care to evaluate the patient's condition two to three months post-ICU discharge, (4) facilitating information exchange between hospitals and primary care, and (5) furnishing the patients with ICU contact details [14]. These principles are often employed in the form of follow-up or after-care clinics that can help break down borders between the ICU and former ICU patients needing the expertise found in the ICU [15]. Nonetheless, there is a paucity of evidence supporting the effect of after-care activities [16].

In Scandinavia, all ICUs have access to physiotherapist, most ICU's have access to occupational therapists, whereas speech-language pathologists are only available in ICUs in Norway and Sweden, and only Sweden have in-hospital social workers available. In Scandinavia, there is a high degree of collaboration between professions – e.g. mobilisation of patients is usually a shared effort between physiotherapists and nurses.

Overall, there is an increased interest in the multitude of interventions that support patients' rehabilitation in the ICU and after ICU discharge. This study aimed to describe healthcare professionals' perception of current early rehabilitation practices and their preconditions, focusing on functional and cognitive stimulation facilitated by nurses and other healthcare professionals in Scandinavian ICUs.

Method

Design and study population

This study was a Scandinavian multi-centre, cross-sectional electronic survey using a self-administered questionnaire. National coordinators (RL, EÅ, and HS) convenience-sampled ICUs in which a local study coordinator could be recruited. The local study coordinators were responsible for distributing the survey to healthcare professionals who were working in their ICU and involved in direct patient care. The survey was distributed from September 2022 to June 2023 using Google Forms. Given the recruitment strategy, the respondents could not be traced, no reminders were possible, and the survey completion rate could not be calculated.

Survey development

The survey was developed by the authors, with the items generated based on the literature, the research team's experiences from clinical practice, and the WHO's definition of rehabilitation [3]. The survey was first developed in Danish, pilot-tested, and adjusted several times before it was translated into Norwegian and Swedish by the authors, who were all able to read and understand all three Scandinavian languages. The Swedish and Norwegian surveys were back-translated into Danish by bilingual healthcare professionals outside the study group and compared for accuracy.

Data

For each participant, the following background data were collected: region/county, ICU characteristics, professional background, primary work function, and ICU working experience.

In four open-ended questions, the participants were asked to provide detailed descriptions of their rehabilitation practices in the ICU after discharge from the ICU and to describe if there were interventions that they were missing.

Subsequently, the participants were asked to quantify their practice within five a priori–defined domains: cognitive stimulation, physical stimulation, sensory stimulation related to the intake of food and drinks, participation in personal care, and social stimulation. The quantitative data will be reported elsewhere.

Analysis

To compare data among countries, the qualitative data was analysed using framework analysis [17]. The data were not translated as all the authors were able to read all three languages. First, the Danish dataset was coded inductively by authors AHN and AH, and based on these initial codes, an analytic framework of categories was developed. All the data were entered into a matrix based on the framework and condensed in collaboration and dialogue among all authors, who all engaged in writing analytical memos during the process. During the analysis, some categories were collapsed, refined, and/or renamed until a comprehensive structure of themes was developed. This was an iterative process of moving back and forth in the material. See Table 1 for excerpts from the data.

Table 1
Excerpts from data supporting main themes.

	Sweden	Denmark	Norway
Physical rehabilitation	"All forms of training for the patient to regain their autonomous functions, such as being able to breathe, communicate, eat, move, etc." "Contracture prophylaxis, early weaning from the ventilator, mobilization of the patient, involvement in managing their ADL (Activities of Daily Living)."	"Mobilization, active training, helping the patient to become more self-sufficient, guiding the patient through active exercises and movements. Physical and occupational therapists are part of this." "Ventilator weaning for the more stable patients. Additionally, there is a form of rehabilitation in all the small daily care measures performed for the patient. For example, them holding a toothbrush, a cup of water, or assisting with personal care."	"All measures we take to reduce the adverse consequences of the treatment itself, with the goal of making the patient as healthy as possible as early as possible." "Ventilator weaning. Mucus mobilization, cough machine, PEP (positive expiratory pressure) flute. Passive and active exercises. Stimulation of swallowing function. Food and drink."
Psychological and cognitive rehabilitation	"Assistance in recovering mentally, such as orientation regarding person, time, and place. Help with looking at photographs, listening to music/audiobooks, TV." "Balance between activity and rest." "Reading aloud to the patient, maintaining a day-night rhythm through, for example, daylight and daytime activities, and limited stimuli during the night."	"Massage, opening the window so they can feel the outside air. Ensuring that they can see and hear, possibly helping with hearing aids and glasses. Talking to them about ordinary, everyday things." "It is rehabilitative to involve family members and the patient's interests, such as listening to music or going outside for a walk."	"Positive stimuli for the patient, e.g., TV/music in an armchair, going outside for fresh air (we have a veranda that is frequently used), diary, follow-up after transfer to the ward." "Striving for a normal day-night rhythm, calm. Finding ways to communicate." "Creating a safe atmosphere. Preventing delirium, trying to instill faith and hope for the future, and probably many more things I can't remember right now."
Involving the family in rehabilitation	"Supporting the family to be motivating and encouraging for recovery." "Reality orientation, including contact with relatives, affirmation."	"Psychological aspects: visits to the room, both in terms of life spirit but also training the patient's ability to participate in social contexts." "Pictures of family, which can be used to help the patient remember their daily life and people/pets."	"Normalization of daily life, visits from family and other familiar people. Visits from pets for those who have them." "Family pictures are placed around the bed, date, nurse's name, and place, possibly a daily plan on the board by the bed. Involving the family."
Post-ICU rehabilitation measures	"An ICU patient who has been in the ICU for more than 3 days receives a follow-up visit in the ward by the ICU doctor and nurse." "Post-ICU clinic for patients with a photo diary."	"Follow-up conversation in the primary department 1–2 days after transfer." "The patients receive a brochure about the Intensive Care Café [peer support meeting]" "We write a diary for the patients—unless the department is too busy. Three months after discharge, the patient is invited for a diary conversation, where the book is reviewed and handed over."	"Handing over the diary, visits from ICU staff in the ward." "Follow-up conversations. Patient visits to the ICU."

Research ethics

Participation was voluntary, and all the respondents were anonymous. They were informed in writing about the study, and consent to participate was implied with the completion of the survey. In each country, the coordinators secured ethical approval following national regulations. The study adhered to Danish national data legislation and was registered with VIA University College, Aarhus, Denmark (ID 2020001).

The study was reported using the standards for reporting qualitative research (SRQR) [18].

Findings

A total of 518 healthcare professionals from Sweden (n = 217), Denmark (n = 182), and Norway (n = 119) completed the survey. Most of the respondents were nurses (78 %) or nursing assistants (13 %) (only from Sweden); the remaining 9 % were physiotherapists, physicians, occupational therapists, and others. The healthcare professionals described rehabilitation as a plethora of activities delivered by a multiprofessional team across a broad range of domains. Rehabilitation was integrated into all activities, taking a holistic perspective to the patient's situation but always with a goal of improving the patient's level of functioning, preventing further deterioration or adverse effects of critical care, and giving the patient hope for the future so that in time, the patient could return to everyday life.

Physical rehabilitation

The patient's physical rehabilitation was described as a process that gradually evolved from passive to active depending on the patient's ability to participate. Reducing sedation and weaning from the ventilator preceded more active involvement of the patient in physical training. Nurses described working persistently to prevent the adverse effects of immobilization from the first day of the patient's admission to the ICU, along with efforts to maintain the highest possible level of physical functioning to provide the best possible starting point for later rehabilitation.

Reducing sedation and weaning from the ventilator

The respondents described how reducing sedation increases the patient's ability to participate in rehabilitation activities, including weaning from the ventilator. Weaning was facilitated by slowly rebuilding ventilatory capacity and muscle strength while preventing the accumulation of phlegm in the patient's airways in close collaboration between physiotherapists and ICU nurses. Examples of strategies to rebuild physical strength and mobilise secretions included intermittent breaks from the ventilator, frequent mobilisation, use of CPAP (continuous positive airway pressure), PEP (positive expiratory pressure), and the use of cough assist devices.

Advancing mobilisation and physical strength

Physical rehabilitation was described as beginning with passive turning of the patient to prevent pressure ulcers and passive range-of-motion exercises to prevent contractures. Later, physical rehabilitation progressed to more active training as the patient became more awake and was gradually weaned from the ventilator. The Swedish respondents predominantly reported physical exercises (e.g. sitting on the edge of the bed, bed cycling, exercises with light weights, walking with support), whereas the Danish and Norwegian respondents described other types of functional training such as activities of daily living (ADL) to increase physical functioning. Physical rehabilitation and exercising were reported as interprofessional efforts requiring the competencies of several groups of professionals, including nurses, physiotherapists, and

occupational therapists. Across all countries, the respondents underlined that attention to pain, discomfort, and withdrawal symptoms was important for the patient to be able to participate actively in rehabilitation activities. The respondents described the need for systematic use of screening instruments for the consistent detection of these symptoms.

Optimising nutrition and oral intake

Optimising the patients' nutrition was described as an important part of rehabilitation. The respondents recognised that this could be challenging for patients with swallowing difficulties, a lack of appetite, and dysphagia and suggested involving a dietician. Nurse-led screening for dysphagia was not widely reported, but the Swedish and Norwegian respondents widely reported the involvement of speech-language therapists in the assessment of the patients' ability to swallow safely.

Psychological and cognitive rehabilitation

The respondents agreed that establishing opportunities for patients to express themselves and articulate their needs was of key importance. Often cognitively stimulating activities were integrated into daily activities. Moreover, the respondents concurrently stated that the prevention of delirium was important for rehabilitation. This was addressed through several non-pharmacological strategies for preventing or reducing delirium, including enabling patient communication and other cognitively stimulating activities while also giving priority to patient rest and a natural circadian rhythm.

Enabling patient communication

Strategies enabling ICU patients to express themselves were given high priority as communication was described as vital for patient involvement in decisions about personal care. These strategies included spelling boards, speech valves, and above-cuff vocalization in tracheotomized patients, whereas more high-tech solutions were not mentioned.

Introducing cognitively stimulating activities

Reorientation and information were emphasised by the respondents as important strategies in rehabilitation, e.g. repeatedly clarifying the time, place, and situation for the patient. These strategies were further supported by the use of visible calendars and clocks in the patient's room. The respondents also described a whole range of meaningful activities that they may engage patients in, e.g. ADL activities, listening to radio or audiobooks, watching television, reading newspapers, playing games, solving crosswords. Also, simply addressing the patient by name and engaging the patient in conversations was described as cognitive stimulation.

The respondents described how they try to create a change of scenery and take the patient on small excursions out of the room, in some cases even outdoors to enjoy the fresh air and sunshine and perhaps a touch of nature. In lieu of outside opportunities, some of the respondents also described how placing the patient by the window to enjoy the view could be cognitively stimulating.

Introducing bodily stimulation to engage the mind

Notably, different variations of sensory input were employed to provide comfort or stimulation. The respondents described the use of tactile massage of the face and body to promote well-being and relaxation. Different neuro-pedagogical concepts, which can be understood as strategies for engaging with cognitively impaired patients, were suggested mainly by the Danish respondents.

Balancing rest and activity and shielding the patient from unnecessary stimulation

The respondents described the importance of balancing periods of rest and activity and how they use day plans to structure the day for the patient, integrating activities that could be meaningful to the patient with care-related activities. Day plans and sleep protocols were mentioned as essential to preserve a natural circadian rhythm and to allow for periods of rest. The respondents described how they shield the patient, e.g. from unwanted disturbances or activities and sensory overload to create a calm and protective environment for patient recuperation.

Supporting the patient's will to live

The respondents described two main aspects of supporting the patient's will to live. The first aspect, seeing the health potential in the patient, entailed fostering the patient's sense of integrity and autonomy through actively including them in e.g. creating day plans and encouraging them to gradually engage more in ADL activities. The second aspect was strengthening the patient's will to recover. This crucial aspect was achieved through a consistent emphasis on fostering hope and offering emotional support. Exploring what was personally meaningful in the patient's life was essential, e.g. family, occupation, other values. Taking the patient out of the ICU or having family or friends visit could enhance the joy of life and strengthen the patient's sense of belonging. In addition, the respondents emphasised the importance of engaging the patient in conversations about everyday matters and the outside world.

Involving the family in rehabilitation

Across the dataset, three aspects emphasised the important role of the family in rehabilitation. First, to support the patient's family bonds and social life, nurses encouraged different types of patient–family contact considered to be meaningful to the patient, e.g. bedside visiting, family pictures, games, conversations, using mobile phones or tablets. Second, involving family and friends as an actively contributing resource in rehabilitation was described. Family members were considered to be a motivating facilitator in the rehabilitation process, a starting point for individual patient care, and family members were sometimes actively involved in everyday care activities. Third, sustaining the family members' capacity to be a resource to the patient was described. Some of the respondents mentioned a need for supporting family members to cope with crisis, fear, or anxiety during the ICU stay. The Swedish respondents often suggested involving a social worker to support family members, while in the Norwegian and Danish data, this was only mentioned sporadically. Overall, practising an open visiting policy was described as a prerequisite for involving the family in the patient's rehabilitation.

Post-ICU rehabilitation measures

After discharge from the ICU, rehabilitation measures were delivered as follow-up services. Follow-up was described in two steps: (1) in-hospital follow-up when the patient was discharged to the general ward and (2) follow-up after hospital discharge.

In-hospital follow-up

A standardised approach to hospital follow-up when patients were discharged from the ICU to the general ward was not reported. However, to facilitate and secure the transition, some of the respondents described how nurses visited the patients at the ward to support the patients and discuss ICU experiences. Others described the importance of continuing physical rehabilitation via a physiotherapist. In Norway, there were special rehabilitation units for patients after ICU discharge. In Sweden, this was common with a post-intensive team which followed up on the patients when they were discharged to the general ward. There was no common description of the activities of the post-intensive care team, but some mentioned that they would evaluate the patient's physical parameters to prevent ICU readmission.

Post-ICU discharge

Post-ICU activities existed in all the countries but with great variation. The inclusion criteria for post-ICU follow-up were typically a length of stay exceeding 48–72 h or ICU diary handover. The follow-up was carried out 2–12 months post-discharge at special clinics via telephone and, in Denmark, also at peer support–based meetings. The follow-up often included the delivery of an ICU diary if such existed, information about the time in the ICU, re-visiting at the ICU, and support of the recovery process, with the measurement of physical, psychological, or cognitive functions and possibly referral to other services. Some respondents briefly mentioned post-ICU follow-up for both patients and families.

Missing rehabilitation measures

The respondents described several rehabilitation measures that they found missing in the ICU trajectory. In the ICU, they missed a focus on measures that could optimise the patients' existential and psychosocial needs; concrete examples were the use of patient diaries, basic stimulation, and high-tech communication tools such as tablets. More focus on physical activities and cognitive stimulation was also emphasised. There were suggestions of how the ICU environment could be further developed to better support rehabilitation and avoid negative sensory (over) stimulation; the use of circadian rhythm light, wallpapers with nature scenery, calming music, hot water pools, and sensory gardens were also suggested. After the ICU, standardised and structured follow-up services for both patients and family members were described as key in rehabilitation. There was also a general wish for better multidisciplinary and cross-sectoral collaborations in and out of hospital settings.

Discussion

In this study, the respondents described important prerequisites for rehabilitation such as weaning, awakening, balancing rest and activity, support of the patient's will to live and recover, open visitation policies, and multi-professional collaboration. Rehabilitation was described as a movement from passive to more patient-engaging activities within multiple domains aiming at recovering the highest possible level of functioning. This multi-domain perception of rehabilitation clearly reflects both the concept of early mobility [2,5,9] as well as the extensive implementation of the ABCDEF bundle [10,11,19], which focuses on pain management, weaning from mechanical ventilation, minimising sedation, delirium prevention and management, mobilisation, and family engagement.

Our findings showed that mobilisation and physical training were carried out in collaboration between physiotherapists and nurses, which is in alignment with international recommendations on ICU rehabilitation [20,21]. However, the passive range of movement exercises reported by respondents may be ineffective as evidenced by a recent study on passive range of movement exercises effect on joint stiffness [22].

Delirium is recognised to be a major risk factor for cognitive dysfunction, and the ABCDEF bundle [10,11] therefore places great emphasis on delirium prevention and management for the patient to be able to participate in higher-order cognitive activities as part of their rehabilitation. How to design meaningful higher-order cognitive activities in the ICU is less described [13]. Nonetheless, our findings show that nurses and other healthcare professionals employ a range of activities, including conversation, ADL, sensory stimulation, and family involvement aimed at improving the patient's cognitive function. There is, however, an overlap among activities aiming at improving different domains such as cognitive function, delirium prevention, increasing well-being, and enabling communication. This is supported by a recent interview study which showed that while nurses often focused on delirium, they regarded delirium prevention and cognitive stimulation as two sides of the same thing [23]. Our study also found that ADL was considered an element of both cognitive stimulation and physical training, and while it may very well impact both, it illustrates the overlap among domains, but it may also signify a lack of understanding of what cognitive stimulation is [24].

Our findings also included shielding the patient from unwanted stimulation and balancing rest and activity as important for rehabilitation. Shielding the patient from the stressful and confusing ICU environment has also been described as a form of protection of the patient e.g., by maintaining a normal circadian rhythm [25], creating a calm environment, minimising disturbances, explaining treatment and care procedures [23]. Thus, shielding may be viewed as an approach to rehabilitate the patient cognitively and psychologically, which can be applied very early on.

In our study, bodily stimulation in the form of massage and caring touches was mentioned across the data, this corresponds with literature describing massage as an intervention that may promote sleep [26,27] and touch as a strategy to communicate non-verbally with patients [28] or reduce anxiety and agitation [29,30]. However, stimulation of the body to engage the patient's mind was predominantly mentioned by Danish respondents. This may reflect the concept Basic Stimulation inspired by Frölich [31] and adapted for the ICU by Bienstein et al. [32], which has been used in Denmark since the early 2000s [33] and may have inspired nurses to respond to patients' bodily reactions and interpret them as meaningful communication [34,35]. As such, bodily stimulation can be viewed as an early approach to rehabilitation, but more research on the subject is needed.

Across our data, there were reports of positioning the patient by the window for them to enjoy the view or even taking the patient outside to stimulate them and increase their will to recover. While this is by no means unknown in intensive care [36], there is little evidence to support its effectiveness in rehabilitation [37]. A review of forest therapy for neurological patients' rehabilitation suggests that it may have some positive effects on depressive symptoms [38]. Being exposed to the outdoors after staying in the high-tech ICU may indeed increase the patients' mood and will to recover [39], but more research is needed.

In this study, we found that nurses and other healthcare professionals supported patients' will to live and recover. The importance of preserving patients' hope is supported by Berntzen et al. [40] and Alexandersen et al. [41], who describe how feeling connected, meaningful, and valuable strengthened patients' will to survive. Experiences of progress in the recovery process can also be obtained by empowering actions, which may also support patients' will to recover [42,43].

Involving family members in the ICU was considered important; however, we encountered varied considerations about the role of the family in the ICU, ranging from family members being active motivating facilitators in the rehabilitation process to unspecified suggestions about 'involving family'. This may imply some uncertainty about how to involve the family, suggesting a potential for further developing family-centred care strategies in the ICU. Similar findings have been described in another Scandinavian study [44] as well as in a broader international context [45]. Besides affecting patient rehabilitation in the ICU, involving family members may also facilitate their process of making sense of the situation as well as their transition from being relatives to becoming caregivers [46]. Therefore, applying an open visitation policy is crucial [47].

Our results showed that Scandinavian ICU rehabilitation was overall homogenous with a few important differences. The Swedish respondents had a stronger focus on physical training, whereas the Norwegian and Danish respondents seemed to favour more functional training. Moreover, neuro-pedagogical strategies appeared to be more prevalent among the Danish respondents, whereas social workers were primarily suggested by the Swedish participants. Post-intensive care teams for follow-up were most consistently described in the Swedish dataset, although it was by no means absent in the Danish and Norwegian datasets. These differences may reflect differences in respondents or cultural and organisational differences among the three countries.

Strengths and limitations

The limitations of this study include the convenience sampling strategy, the short answer format, and the limited number of non-nurse healthcare professionals that did not allow us to elaborate distinctions among professional groups. Composition of nursing staff also differed across countries. Strengths include the large number of respondents across all three countries and the extensive data material analysed rigorously and continually discussed among the international group of authors.

Conclusion

Rehabilitation was described as progressing from passive to active as patients gained consciousness and were weaned off the ventilator. Early interventions included passive turning, range-of-motion exercises, attention to pain, withdrawal symptoms, and non-verbal bodily stimulation. More active approaches included mobilisation, physical exercises, functional ADL training directed at strengthening both cognition and muscles, the involvement of family members, and taking the patient outside to support the patient's life will to live and recover. Shielding the patient from unnecessary stimulation and balancing rest and activity were important strategies to preserve the patient's energy for rehabilitation.

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Ethical statement

Participation in the study was voluntary, and all the respondents were anonymous. They were informed in writing about the study, and consent to participate was implied with the completion of the survey. In each country (Denmark, Norway and Sweden), the country coordinators secured ethical approval following national regulations. The study adhered to Danish national data legislation and was registered with VIA University College, Aarhus, Denmark (ID 2020001).

CRediT authorship contribution statement

Anne Højager Nielsen: Conceptualization, Data curation, Formal analysis, Methodology, Software, Writing – original draft, Writing – review & editing. **Ranveig Lind:** Writing – review & editing, Software, Methodology, Investigation, Formal analysis, Conceptualization. **Eva Åkerman:** Writing – review & editing, Software, Methodology, Investigation, Formal analysis, Conceptualization. **Anne Sophie Ågård:** Writing – review & editing, Methodology, Formal analysis, Conceptualization. **Marie Oxenbøll Collet:** Writing – review & editing, Methodology, Conceptualization. **Hanne Birgit Alfheim:** Writing – review & editing, Methodology, Investigation. **Anna Holm:** Writing – review & editing, Methodology, Formal analysis, Conceptualization. **Helle Svenningsen:** Writing – review & editing, Software, Methodology, Investigation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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