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Experiences, Challenges and Adaptations Among Stroke Rehabilitation Staff During the First and Second COVID-19 Waves in Sweden—A National Survey

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ABSTRACT

Aims and Objectives: This study aimed to explore stroke rehabilitation staff's experiences, challenges and adaptations in their work during the first two waves of the COVID-19 pandemic in Sweden.

Methods: A web survey was conducted from September to December 2020 with staff involved in stroke rehabilitation. It covered participant characteristics, experiences, COVID-19 management, patient safety, organisation, information allocation and information and communication technologies (ICT). Quantitative data was presented with descriptive statistics. Free-text responses were used to illuminate the findings.

Results: Three hundred and forty stroke rehabilitation staff answered the survey. No stroke rehabilitation organisation was closed entirely, but services had been paused or altered in several regions. Adaptations included prioritising patients with COVID-19 and thereby reducing the capacity to supply rehabilitation for stroke survivors. The participants experienced a shortage of personal protective equipment (PPE) and patient safety had been compromised. The pandemic restricted opportunities to provide ordinary rehabilitation, often resulting in ethical dilemmas and stress. The rapid transition to using ICT was primarily experienced positively.

Conclusions: Staff reported working under complex, constantly changing and stressful conditions during the first two waves of the COVID-19 pandemic. Disruptions in ordinary practice led to compromised patient safety and increased stress among staff, intensified by limited access to PPE. Ethical guidelines, as well as regular debriefing protocols, should be put in place to prevent adverse health outcomes among staff and to prepare healthcare systems for future crises and disruptions. ICT offers a potential pathway for more flexible and accessible care in the future.

1 | Introduction

Stroke is a major global health issue due to its prevalence, severity and disabling effects [1]. To reduce death or dependency, early interventions in the acute phase are crucial and continued rehabilitation involving multidisciplinary teams (e.g., physiotherapists, occupational therapists and nurses) is critical for post-stroke

recovery [2]. When the coronavirus (COVID-19) spread rapidly worldwide at the beginning of 2020, health services were under immediate and unexpected pressure, highlighting the need for system-level resilience and offering opportunities to learn from such disruptions. Not least stroke care was affected in many countries; acute stroke care units were reorganised or merged with other clinics, a lack of diagnostic equipment and stroke

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specialists and delays in acute examination and treatment [3]. This study investigates how stroke rehabilitation services in Sweden were affected during the first and second waves of the pandemic.

Caring science draws attention to how organisational and contextual conditions influence daily care [4, 5]. Stroke rehabilitation relies on collaboration across professions. During the COVID-19 pandemic, changes in routines, restrictions and resource allocation may have affected both the organisation of rehabilitation and staff's ability to provide coordinated and supportive care. Exploring staff experiences of these changes may therefore contribute to important knowledge about care practices in times of crisis.

Compared to the other Nordic countries, Sweden had a higher rate of confirmed cases and deaths during the first waves of the COVID-19 pandemic [6]. Sweden's strategy was to keep essential services like preschools and schools open, with non-compulsory recommendations to reduce infection spread. The efforts of health authorities to mitigate the burden of the COVID-19 pandemic on the healthcare system may have inadvertently discouraged individuals from seeking timely stroke treatment, as seen in many countries [7, 8]. In Sweden, however, patients with stroke did not appear to avoid seeking care at the emergency department [9]. Nevertheless, in many European countries, non-acute rehabilitation activities had to pause due to restrictions and lockdowns and the number of outpatient stroke follow-ups was significantly reduced [3, 7]. Also, some outpatient contacts and rehabilitation were pursued through information and communication technologies (ICT) instead of physical visits [10, 11].

While the literature on the impact of the COVID-19 pandemic on the healthcare system for people with stroke is growing [12, 13], less is known about how stroke rehabilitation staff adapted their work and the challenges they faced. Most studies on healthcare workers' situations during the COVID-19 pandemic have investigated mental health problems [14–16]. During the first waves of the pandemic, staff reported symptoms of stress, anxiety and depression [17–19]. Having personal protective equipment (PPE) was a factor that made workers feel safer [18]. Conversely, lacking PPE reduced workers' well-being [20]. Several studies have also shown that workers' experiences vary depending on personal and organisational factors [20, 21]. They had to make difficult decisions in clinical situations with limited information and guidance [7]. Constantly changing protocols, changes in the organisation of care and changes in roles and responsibilities were perceived as chaotic and burdensome [22]. In such a situation, de-centralised approaches, clear communication between managerial, administrative and clinical staff and inclusion in decision-making processes were essential [20].

Stroke rehabilitation is a multidisciplinary and goal-oriented process aimed at restoring function, supporting participation and facilitating everyday life after stroke [2]. As rehabilitation depends on teamwork, repeated assessments and ongoing interactions between staff, patients and relatives, the pandemic-related reorganisations, infection control measures and staff

reallocation may have affected the delivery of rehabilitation and the condition for providing coordinated and supportive services. Understanding staff experiences of these changes is essential for strengthening preparedness for future crises. This study therefore aimed to explore stroke rehabilitation staff's experiences, challenges, and adaptations in their work during the first two waves of the COVID-19 pandemic in Sweden.

2 | Methods

2.1 | Study Context

This study was conducted during the second pandemic wave between September and December 2020. COVID-19 reached Sweden in January and at the beginning of March, the Public Health Agency of Sweden announced that the virus was spreading in the community and the World Health Organization (WHO) announced that COVID-19 was a global pandemic. People aged >70 years and those with medical health conditions (e.g., stroke) were identified early as risk groups. It was recommended that risk groups should limit all social contact, including the use of public transportation and visits to shops and public spaces. They should not travel further from home than 2 h by car [23]. Restrictions for the general population were enforced in April, allowing only 50 people to attend public events. Sweden did not have laws implemented or a complete lockdown.

In Sweden, the responsibility for healthcare is shared between 21 regions and 290 municipalities and is regulated by the Health and Medical Service Act [24]. Healthcare can be produced by the regions or the municipalities themselves but can also be purchased from other organisations, for example, private healthcare providers. Acute hospital care is the responsibility of the regions, whereas the care and rehabilitation of people older than 65 is the responsibility of the municipalities. Hence, 90% of the patients are initially treated in regional stroke units. Care trajectories for stroke survivors vary across the country. Rehabilitation may occur in the stroke unit, or more commonly, in other facilities. Generally, a stroke rehabilitation trajectory includes inpatient and/or outpatient rehabilitation provided by regional primary care or municipalities, either at home or in outpatient clinics.

2.2 | Recruitment and Data Collection Procedure

A web survey was conducted between September 24 and December 1, 2020. We aimed to obtain responses describing stroke rehabilitation during the pandemic regardless of responsible stakeholder organisation and from all 21 regions in Sweden. The only inclusion criteria were for the respondent to be working with stroke rehabilitation in Sweden at the time of the survey. We used various channels to reach respondents. The study, with a link to the web-based survey, was shared on social media platforms like LinkedIn and Facebook. The research team also distributed the survey through their networks in stroke healthcare, targeting hospitals and community-based rehabilitation

managers, who were asked to share it with relevant colleagues. Reminders were sent to regions with low responses.

2.3 | The Survey

The survey consisted of 21 questions: 17 closed-ended and four open-ended. The survey was compiled based on relevant literature and expert knowledge in the research team. To enhance content validity and ensure clinical relevance, a senior neurologist with current hospital-based experience in stroke care and rehabilitation reviewed the questionnaire. Feedback was provided regarding wording, relevance and feasibility and minor revisions were made to ensure that the questions reflected real-world rehabilitation practice during the pandemic. In addition, the survey was pilot tested among two healthcare professionals working in municipal stroke rehabilitation. Minor adjustments in wording and structure were made based on the feedback. Respondents were asked to reflect upon how their work situation was during the second wave of the pandemic compared to the beginning of the pandemic, in order to capture perceived changes over time. Seven questions covered participant characteristics and the other addressed experiences and management during COVID-19 (e.g., the influx of patients, the possibility of offering the rehabilitation needed, the quality of the rehabilitation and staff well-being). The survey also covered patient safety, organisation, information allocation and ICT. The closed-ended questions used predefined categorical response options, including dichotomous (yes/no), multiple-choice alternatives and Likert-type scales (three- or five-point scales depending on the item) to assess degree of impact, perceived changes and extent of stress or satisfaction. The open-ended questions invited respondents to elaborate on their experiences and a final free-text option without word limit was provided at the end of the survey.

2.4 | Analysis

The analysis focused on exploring stroke rehabilitation staff's reported experiences of organisational changes, patient safety, access to protective equipment, use of ICT and staff well-being during the first and second waves of the COVID-19 pandemic. Given the descriptive aim of the study and the categorical nature of the data, results were analysed using descriptive statistics (frequencies and percentages). The purpose was to provide an overview of patterns and perceived changes over time rather than to test hypotheses or examine causal relationships [25].

Comparisons between the first and second wave were based on respondents' retrospective assessments within the same survey. Differences between responsible stakeholder organisations (regional, municipal, private) were explored descriptively. As the study was not designed or powered for inferential subgroup analyses, comparisons between professional groups were not subjected to statistical testing. However, descriptive patterns were examined to identify any notable variations across professions.

Responses to the open-ended questions were analysed using a qualitative conventional content analysis [26]. The free-text responses were read repeatedly to gain an overall understanding. Meaning units related to the study aim were identified and

summarised to illuminate and contextualise the quantitative findings. The qualitative material was used to exemplify and deepen understanding of the survey results rather than to develop a fully independent qualitative thematic analysis.

3 | Results

3.1 | Sample Characteristics

In total, 341 stroke rehabilitation staff responded to the survey. One respondent did not meet the inclusion criteria and was excluded, resulting in a final sample of 340 participants. The respondents represented the professions typically involved in stroke rehabilitation, with physiotherapists (42%) and occupational therapists (30%) constituting the largest groups. Most participants had worked 6 years or longer at their current workplace. The majority were employed in regional healthcare (69%), followed by municipal (17%) and private care (14%) (Table 1). All regions in Sweden ($N=21$) were represented and those with the most responses were those with the most inhabitants (not in table).

TABLE 1 | Sample characteristics, $N=340$.

	<i>n</i> (%)
Sex	
Women	310 (91.2)
Men	25 (7.4)
Missing	5 (1.5)
Age group	
18–24	2 (0.6)
25–34	98 (28.8)
35–44	84 (24.7)
45–54	76 (22.4)
55–64	74 (21.8)
65+	5 (1.5)
Missing	1 (0.3)
Profession	
Physiotherapist	142 (41.8)
Occupational therapist	101 (29.7)
Speech and language therapist	32 (9.4)
Registered nurse	27 (7.9)
Assistant nurse	15 (4.4)
Psychologist/social counsellor	12 (3.5)
Physician	8 (2.4)
Dietitian	3 (0.9)
Regional care	233 (68.5)
Municipal care	58 (17.1)
Private care	49 (14.4)

3.2 | The Work Situation During the First 9 Months of the COVID-19 Pandemic

No stroke rehabilitation organisation was reported to have closed entirely during the pandemic. However, some services such as Early Supported Discharge had been paused in several regions and other activities had been altered. Variations were described both between and within regions:

It feels very good that we have been able to keep our ESD team for stroke patients as it was before the pandemic. At several other stroke units in xxx [same region], this type of rehabilitation service has been paused since the start of the pandemic.

(Occupational therapist, regional healthcare).

More than half of the respondents (52%) reported a different work situation during the pandemic. One-third stated that parts of their regular work activities had been paused and 20% were working partly or entirely with patient groups other than stroke (Figure 1).

Organisational adaptations were sometimes described as demanding:

I have far fewer patients and mainly function as a relief station where everything between heaven and earth lands in my lap. I work with different things to a different extent every week. Working like this makes me tired, worn out and extremely unstimulated.

(Physiotherapist, private healthcare).

Other respondents described positive aspects of the reorganisation:

Our unit has received rehab patients from a larger area, which has given us more patients with stroke and it has felt fun and rewarding. I also feel that it has increased the competence of new nursing staff who have had more stroke patients to take care of. On the other hand, it has required more as dealing with several municipalities involves several different routines that we are not used to.

(Physiotherapist, regional healthcare).

3.3 | Challenges in Maintaining Rehabilitation Services

Several managerial adaptations were reported. COVID-19 patients were prioritised (57%), the number of stroke patients was reduced (52%) and staff were reduced (24%). In some cases, other units took over the stroke rehabilitation (18%). In the beginning, the reshuffle of staff was perceived as challenging, especially since all available staff were not experienced in stroke rehabilitation:

It was tough in the beginning when we lost staff who were moved to other departments; instead, we borrowed staff who did not know our routines, which negatively affected everyday rehabilitation. It is more stable now [second wave] when regular staff are back in place.

(Occupational therapist, regional healthcare).

About one-third of the respondents reported working overtime. Many respondents reported that the pandemic restricted their opportunities to provide ordinary rehabilitation. More than half needed to move or cancel rehabilitation activities, and several

Question: Compared to before the pandemic, which option best describes your work organisation right now?

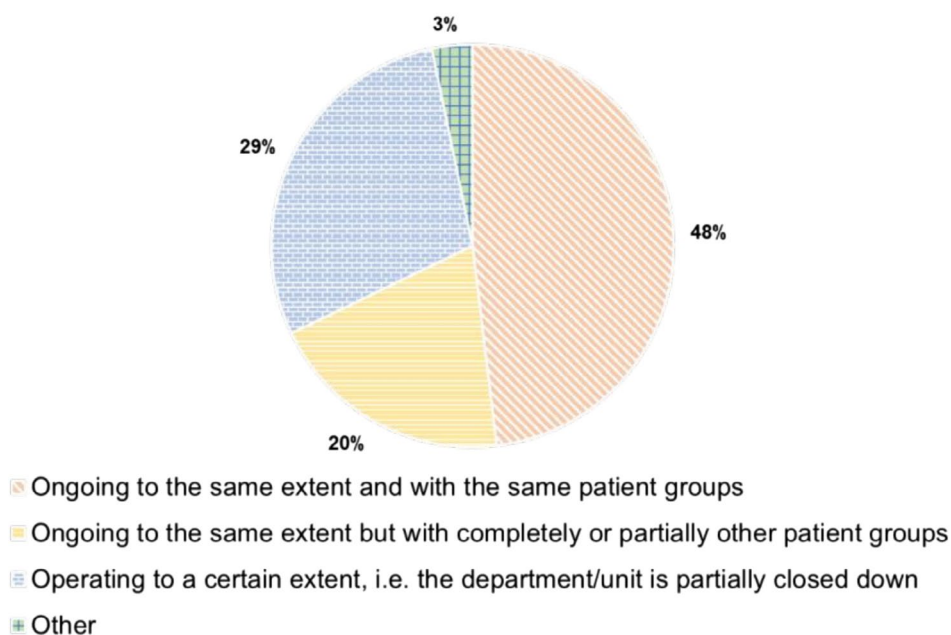


FIGURE 1 | Work management during the COVID-19.

professional groups described difficulties in providing rehabilitation as before the pandemic (Figure 2).

Concerns were raised that patients might not receive sufficient rehabilitation to reach their goals:

Tremendous stress over the extreme inequality that exists in access to rehabilitation. It is unreasonable for the profession to defend.

(Physiotherapist, regional healthcare).

The idea that stroke patients have been deprioritised and all the focus has been put on covid [...]. We have saved lives from COVID-19—but what have the consequences been for the patients with stroke who did not receive the rehab they needed?

(Occupational therapist, regional healthcare).

3.4 | Perception of Patient Safety

At the beginning of the pandemic, 64% reported that patient safety was compromised to some extent and 23% experienced this to a high degree. Although this improved during the second wave, 6% still reported compromised patient safety to a high degree. Regarding patient safety risk assessment, a third of the respondents reported poor or lacking. Initially, 38% of the respondents reported that they could not provide high-quality care, but this was later improved (15%). Free-text responses indicated that discharge processes and restrictions on relatives' visits were perceived as risk factors:

The lack of visiting relatives has led to patients being put at risk in connection with discharge because

the healthcare system has not understood what the patient's home setting looked like, relatives have not understood what problems they have to face when the ill person comes home.

(Occupational therapist, regional healthcare).

3.5 | Perception of Staff Safety

Approximately one-third of the respondents reported not having PPE or only a limited supply at the beginning of the pandemic. Access to PPE improved during the second wave regardless of stakeholder organisation, although 10% still reported no or limited access. In addition to limited access to protective equipment, respondents described that changing and sometimes inconsistent regulations created uncertainty regarding appropriate protective measures:

There has been different information [hygiene routines] depending on where the information came from. [...] When there is no consensus on what it is, it is impossible to know what protective equipment to use. In addition, other occupational categories use almost no protection at all, although they do similar examinations—and then it becomes even more difficult to know what appropriate protective equipment is.

(Speech and language therapist, private healthcare).

Approximately half of the respondents also stated that, at the beginning of the pandemic, their organisation had not conducted risk assessments of the work environment or had done so only to a limited extent. This situation did not improve substantially during the second wave.

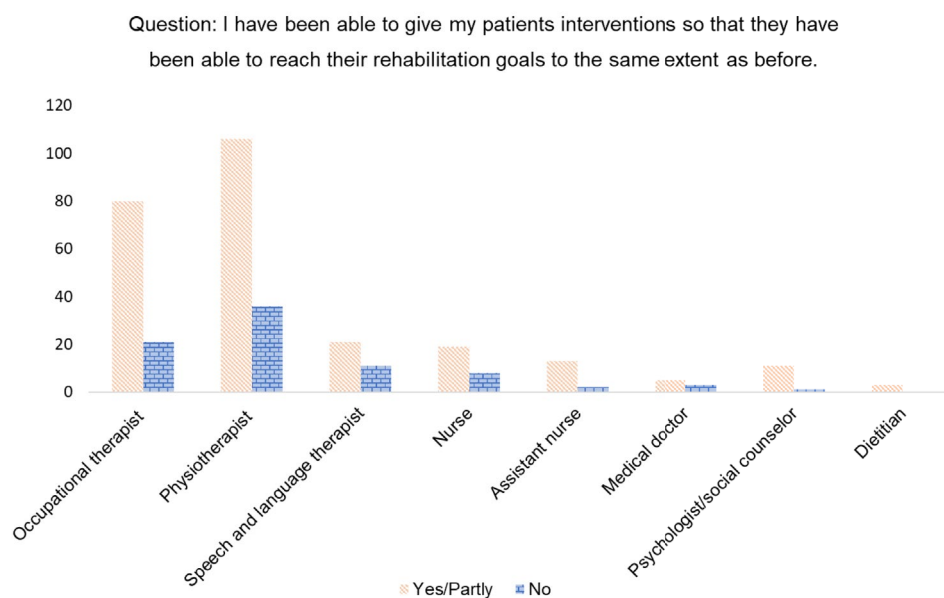


FIGURE 2 | Opportunities for different professions to provide rehabilitation as before the pandemic.

3.6 | Management and Information Allocation

Overall, the results indicate that information allocation during the first and second wave of the pandemic was complex and unevenly provided between organisations. Respondents described variations in how information and decisions were communicated across units:

Departments with the same mission were treated differently and received different information despite the same manager. This concerned, for example, how the activities would continue to be conducted, how relatives of patients were allowed to be involved, what type and how protective equipment should be used. Organisations far from the main hospital received poorer information and other work conditions, more in the direction of making their own decisions.

(Physiotherapist, regional healthcare).

Twenty-five percent of the respondents reported dissatisfaction with how their manager handled the work situation during the pandemic. During the first wave, 30% stated that they did not receive sufficient updated information on how they, as employees, should adapt their work. Over time, however, this improved and more respondents were satisfied with the information during the second wave. Although similar proportions of satisfied and dissatisfied respondents were observed across the three stakeholder organisations, staff in municipal healthcare indicated a proportionally larger improvement over time.

3.7 | Information and Communication Technologies

3.7.1 | Patient and Family Contacts

About half of the respondents reported having contact with patients by telephone (52%) and one-third (33%) had used digital solutions for stroke survivors and their families. Among those using digital solutions, the majority (60%) reported positive experiences.

Respondents described both advantages and limitations with remote contacts:

Negative aspects are the reduced patient contact. You get entirely different conditions to reach the patient and form an individual rehabilitation program if you see and talk to them physically.

(Occupational therapist, regional healthcare).

It is positive that we all had to think in new ways, advance and further develop the organisation.

(Occupational therapist, regional healthcare).

Several respondents also raised concern that not all patients had the competence to use a mobile telephone or digital devices:

Patients who cannot handle the phone well are put aside. People in digital exclusion find it even more difficult to make their voices heard.

(Nurse, regional healthcare).

3.7.2 | Within and Between Healthcare Organisations

More than half of the respondents (61%) reported using digital solutions for work-related contacts, such as team conferences and planning. In the free-text responses, many respondents described positive experiences of the rapid transition to digital solutions:

The positive thing has been that we have learned to adapt quickly and together, we have learned to face something new and unknown. It has also been good to make more use of digital contacts - especially in meetings between colleagues.

(Speech and language therapist, regional healthcare).

With digital solutions, you do not always have to meet physically to have team meetings. You save a lot of time on transport. More people can participate.

(Speech and language therapist, regional healthcare)

3.8 | Staff Well-Being

Approximately 68% of the respondents stated that, at the beginning of the pandemic, they experienced ethical or moral stress and almost a third experienced this to a high degree. During the second wave, the proportion reporting moral stress decreased to 47%.

Respondents described that moral stress often arose from being unable to provide rehabilitation in accordance with what they considered best practice:

Patients who are in a risk group due to another underlying disease have not received the same rehabilitation as before. The great moral stress for me has been the feeling that the patients you usually help do not get the help they are entitled to, either because they are strongly advised against rehabilitation or that they decline because they are concerned about infection.

(Speech and language therapist, private healthcare).

The majority of respondents (75%) also reported concerns about the future, although this proportion decreased somewhat over time (65%). Similarly, experiencing anxiety or depression was common during the first wave (64%) but were reported less frequently during the second wave (24%) (Figure 3).

One respondent described the prolonged strain on staff as follows:

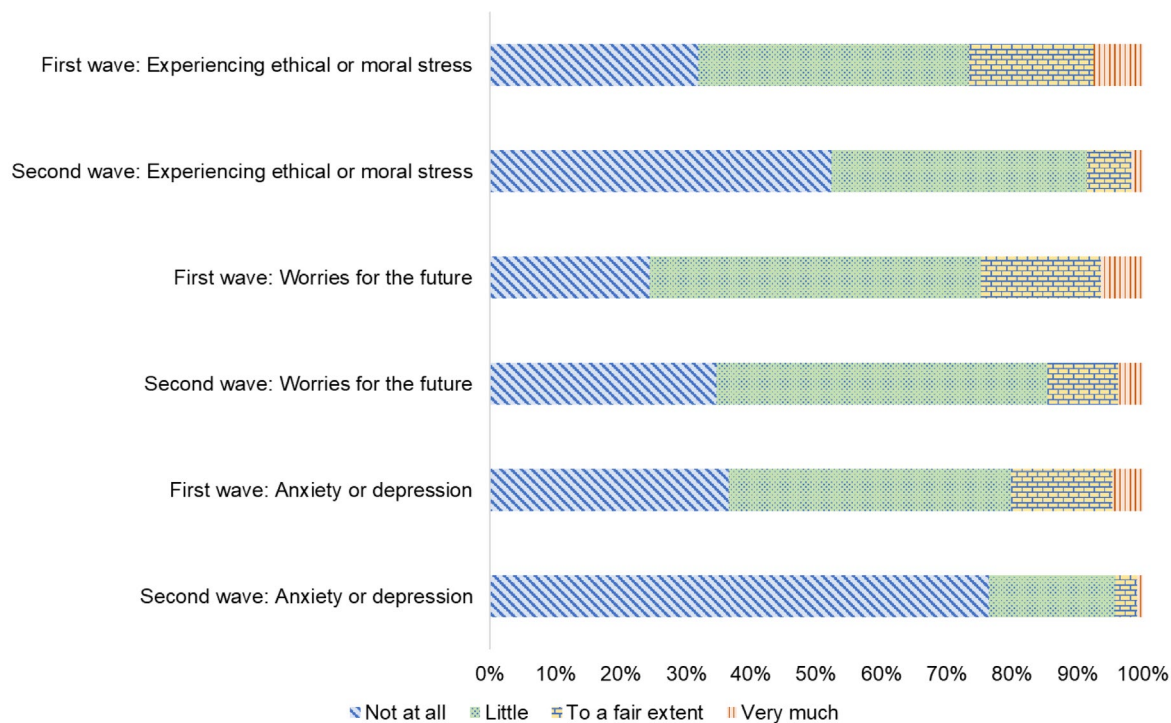


FIGURE 3 | Staff well-being during the first and second wave.

All focus ended up on COVID [...] and our regular neuro and stroke patients were usually only given time for assessments and prescriptions of assistive devices and were sent home as quickly as possible. The work felt less meaningful and stimulating for a long time. [...] Many of us have been working for a long time on the verge of burnout and mental illness. Many of us are doing our best but do not have much energy left and it takes a little to get the bucket to overflow so that there will be absences and sick leave. (Occupational therapist, regional healthcare).

3.9 | Responsible Stakeholder Organisations

Descriptive comparisons between the responsible stakeholder organisations (regional, municipal and private healthcare) did not indicate any substantial differences in reported experiences during the pandemic. However, as illustrated in Figure 4, municipal healthcare appeared less prepared to reorganise services rapidly at the beginning of the pandemic but implemented measures that improved the situation over time. For example, initially, 33% of municipal healthcare staff reported having little or no access to safety equipment; this proportion decreased to 7% during the second wave.

4 | Discussion

The findings from this national survey, including responses from stroke rehabilitation staff across all regions of Sweden, show that

the COVID-19 pandemic affected stroke rehabilitation at both individual and organisational levels. Rehabilitation services were reorganised through rapid reallocation of resources, infection control measures and increased use of ICT solutions.

From a caring science perspective, these findings illustrate how organisational and contextual conditions influence the possibilities for providing coordinated and supportive care. Caring science emphasises that care practices are embedded in organisational and relational contexts and that disruptions in these contexts may affect both care delivery and the well-being of staff [4, 5]. By highlighting how organisational disruptions influenced staff's ability to provide rehabilitation, this study contributes to caring science knowledge about the conditions under which care is delivered and sustained during crises.

Although several aspects improved between the first and second wave, staff described persistent challenges that affected their ability to provide rehabilitation and had consequences for their health and well-being. These findings further highlight how organisational constraints influence the conditions for providing coordinated and person-centred rehabilitation.

None of the stroke rehabilitation organisations reported having closed entirely during the first 9 months of the pandemic, but important services such as Early Supported Discharge services [2] were temporarily paused. Similar disruptions in stroke care and rehabilitation have been reported in other studies [3, 7]. In a European study, about two-thirds of the respondents reported changes in their working situation related to new or modified activities in the regular work schedule [27].

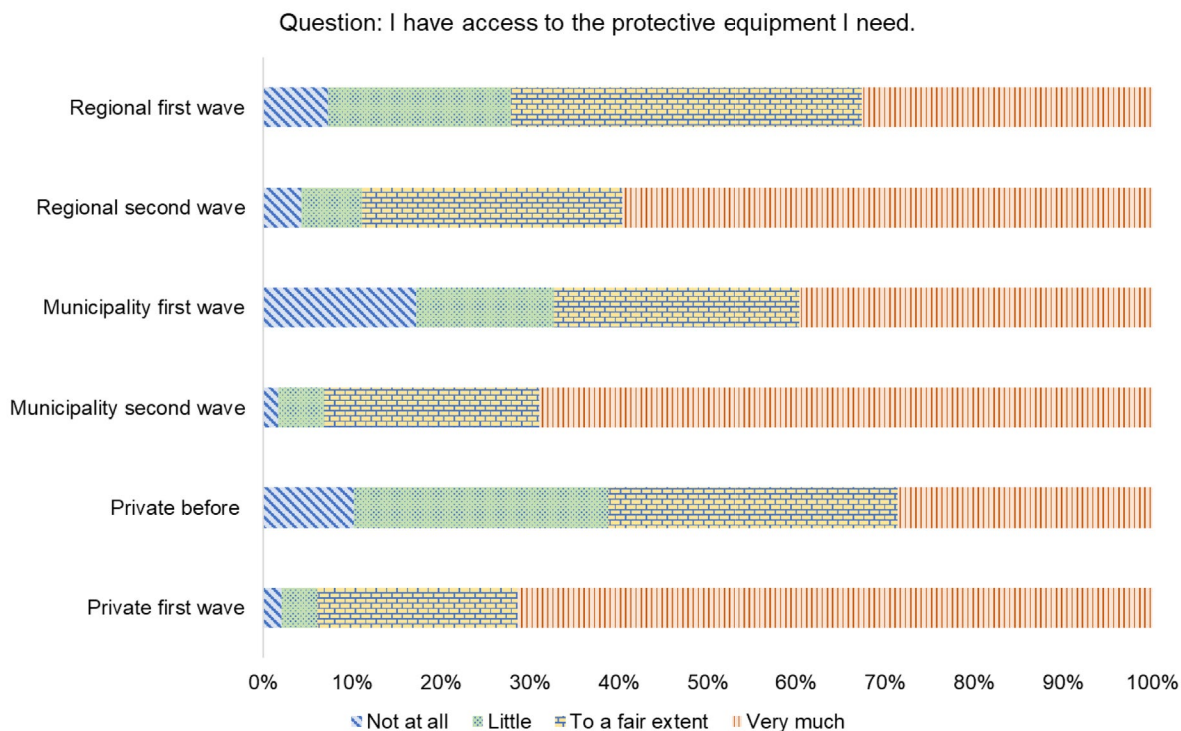


FIGURE 4 | Access to protective equipment during the first and second wave.

How these changes were experienced differed. However, most of our respondents described difficulties in providing ordinary rehabilitation and were concerned that the restricted opportunities would affect patients negatively. These concerns are supported by studies reporting worse health outcomes (e.g., post-stroke disability) and increased mortality rates during the pandemic [7]. In addition, the finding that stroke patients were rapidly discharged to make room for COVID-19 patients is confirmed by other studies [28], raising concerns about the long-term effects on this vulnerable group, often required continued rehabilitation.

Restricted possibilities to provide rehabilitation also appeared to affect staff health and well-being. Participants described the inability to provide adequate rehabilitation as stressful and ethically challenging, which is in line with results showing that witnessing compromised care provision was a significant moral stressor during the pandemic [21, 29]. Similar challenges have been described among healthcare professionals during the COVID-19 pandemic, where rapid organisational changes affected both care practices and staff well-being [30]. The findings underline the need to develop ethical guidelines and support systems to help staff navigate moral dilemmas in crises.

Some findings also point to organisational learning during the pandemic. The lack of PPE was common during the first wave, as described in other studies [20, 27]. However, access to PPE and communication from management improved between the first and second waves, suggesting organisational response and resilience. This indicates that healthcare organisations learned from early challenges and implemented changes to better protect and inform staff. Still, our findings also show that risk assessments of the work environment did not improve substantially between

the first and second waves, indicating limited preparedness for future disruptions.

The increased use of ICT solutions was another example of adaptation to the situation. Staff used video calls, replacing traditional face-to-face meetings with patients and colleagues. Most of our respondents were positive about this change and saw it as an opportunity to further develop clinical practice in this direction. Other studies have also demonstrated the rapid adoption of ICT solutions to manage care and provide rehabilitation remotely during the pandemic and accelerated digital literacy [31, 32]. However, a Swedish study among physiotherapists working with neurological patients during COVID-19 showed that most staff did not use digital solutions [10, 11]. The vast majority (92%) in that study stated they were interested in learning more about how ICT can be used in rehabilitation, which suggests a significant opportunity for growth and improvement in digital healthcare. Strengthening staff competence in the use of ICT may therefore be an important strategy for increasing resilience and maintaining rehabilitation services during future disruptions.

The large number of free text comments in the survey highlights the importance of creating opportunities for staff to reflect on and communicate their experiences. They expressed gratitude for the opportunity to share their experiences and wrote that they perceived the survey questions as highly relevant. This underscores the importance for healthcare organisations to establish regular follow-up routines and debriefings, especially during exceptional situations, focusing on staff experiences, well-being and suggestions. By providing consistent support and opportunities for reflection, these measures may help protect staff from stress and burnout [33]. Other studies have shown

that such supportive environments not only improve the well-being of healthcare staff but also enhance patient care outcomes and overall organisational efficiency [34].

A particular contribution of this study is its national scope, including responses from stroke rehabilitation staff across all regions of Sweden. This broad empirical basis contributes to caring science by illuminating how organisational conditions for rehabilitation and care were experienced across a national healthcare context during a crisis. However, there are some limitations. First, the survey was distributed to potential participants through snowball sampling; we could not validate the respondents' professions and employers. However, the responses show that the participants had significant knowledge about the situation. Second, the third-largest region received proportionally fewer responses, though metropolitan areas faced more pressure due to larger intensive care units handling severe COVID-19 cases. It is worth noting that in terms of the stakeholders responsible for care, the proportions accurately reflect reality, with regions being the most represented. Third, we acknowledge inherent limitations of survey-based designs, including reliance on self-reported data and potential sampling bias [25]. The large number of free-text comments indicates an intense desire among participants to share their experiences in greater detail, which could be done in an interview study. Finally, we asked the respondents to retrospectively reflect on their experiences during the first and second wave. This may not accurately reflect the fundamental differences between the two waves. However, similar responses suggest that we have captured the experiences from both waves of the pandemic in stroke rehabilitation in Sweden.

5 | Conclusions and Implications

Stroke rehabilitation staff described working under complex, constantly changing and stressful circumstances during the first two waves of the COVID-19 pandemic. Disruptions in ordinary practice led to compromised patient safety and increased stress among staff, intensified by limited access to PPE. Ethical guidelines, as well as regular debriefing protocols, should be put in place to prevent adverse health outcomes among staff and to prepare healthcare systems for future crises and disruptions. ICT solutions offer a potential pathway for more flexible and accessible rehabilitation in future healthcare disruptions.

Author Contributions

Study concept and design: Maya Kylén, Lena von Koch and Marie Elf. Acquisition of data: Maya Kylén, Lena von Koch and Marie Elf. Analysis and interpretation of data: Maya Kylén, Lena von Koch, Magnus Zingmark, Linnea McCarthy and Marie Elf. Drafting of the manuscript: Maya Kylén. Critical revision of the manuscript for important intellectual content: Lena von Koch, Magnus Zingmark, Linnea McCarthy and Marie Elf. All authors meet the criteria for authorship. All authors read and approved the final manuscript.

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Ethics Statement

The study was approved by the Swedish Ethical Review Authority (no. 2020-02112) and the research was carried out following the ethics committee guidelines. Consent to participate was obtained from participants at the start of the survey. The responses were anonymous.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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