

Functional recovery and adaptation after spinal cord injury: A qualitative study of patient experiences and system influences in Singapore

Jaminah Ali

jaminah_mohamed_ali@nuhs.edu.sg

Anjali Bundeale

Gobinathan Chandran

Effie Chew

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Abstract

Background: Spinal cord injury (SCI) disrupts mobility, bodily autonomy, and everyday functioning, requiring ongoing adaptation beyond physical rehabilitation.

Objectives: This study aims to explore how individuals experience and make sense of functional recovery and adaptation after SCI within the Singapore context.

Methods: We used an interpretative phenomenological analysis (IPA) approach to examine lived experiences following SCI. Ten participants (8 men, 2 women; aged 37–78), 6–24 months post-discharge and at least one year post-injury, were recruited from outpatient clinics. Semi-structured interviews (60–90 minutes) were conducted, transcribed verbatim, and analysed idiographically before developing cross-case themes.

Results: Participants described recovery as something they had to actively work at each day, often measuring progress through small changes such as standing, transferring, or walking short distances. Recovery depended not only on changes in their bodies but also on help from caregivers and the practical constraints of healthcare and transport systems.

Five themes were identified: (1) diagnosis as rupture and recovery as sustained work; (2) embodied disruption affecting daily functioning and autonomy; (3) relational labour, with family members and live-in helpers supporting functional independence; (4) system constraints, including financial and transport barriers that limited participation and access to rehabilitation; and (5) adaptation through incremental goal-setting and pacing to maintain function in daily life.

Conclusions: Recovery after SCI involves continuous functional adaptation across personal, social, and system domains. Addressing intimate care needs, caregiver capacity, and structural barriers may enhance rehabilitation outcomes and support sustained participation in everyday life.

Introduction

Spinal cord injury (SCI), especially when it results in tetraplegia or severe mobility limitation, changes how people move, care for themselves, and live their daily lives.

Beyond paralysis of all four limbs, the injury precipitates far-reaching physical, psychological, and emotional consequences that require continuous adaptation (Fridén et al., 2015). Adjustment in the early period is highly challenging, with longitudinal studies showing that symptoms of anxiety and depression are highest during the acute phase and throughout the first two years post-injury (North, 1999; Kennedy and Rogers, 2000).

Recent research similarly highlights the enduring emotional burden of SCI, including distress, grief, and significant challenges in psychological adjustment (Badriya and O'Hara, 2024; Cairns and Baker, 1993).

Receiving the diagnosis often marked a key moment that changed how participants understood their future, their bodies, and their relationships. The manner in which news of permanent paralysis is delivered, including its timing, clarity, and sensitivity, strongly influences trust, expectations, and patients' initial ability to process their new reality.

(Dewar, 2000; Kirshblum and Fichtenbaum, 2008).

When bad news is delivered without structured, person-centred communication, patients often experience greater distress, confusion, and difficulty adjusting to the diagnosis (Breen and Aoun, 2020).

Despite this, formalised communication pathways for delivering SCI diagnoses remain under-developed, and many individuals report limited emotional or informational support during the diagnostic encounter.

Following acute care, the transition from hospital to home presents its own challenges. Rehabilitation for tetraplegia often prioritises physical recovery, while individuals continue to face significant psychological and social demands that require additional support (Nas et al., 2015; Yun, Lim and Kim, 2024).

Post-discharge support, including structured counselling, can assist with early adjustment and facilitate engagement in rehabilitation programmes (Aiyer et al., 2021).

More broadly, long-term emotional, social, and identity-related impacts following major health events highlight the importance of ongoing psychosocial support (Ottosen et al., 2021). At the same time, social support consistently emerges as a protective factor, with stronger social networks linked to greater life satisfaction and fewer depressive symptoms among people with SCI (Post et al., 1999; Dowler et al., 2001).

However, most existing SCI research in Singapore is limited to biomedical, functional, or rehabilitation outcomes, with studies noting a lack of community-based and psychosocial data and identifying Singapore's SCI population as significantly under-studied (Teo et al., 2010; Dean et al., 2011). Although widely studied, stigma, identity disruption, and intimate care dependence as central to SCI adjustment, these dimensions remain unexplored locally (Ownsworth et al., 2024). Singapore's care context including strong family involvement, the widespread use of full-time live-in carers, and structured healthcare and rehabilitation pathways creates a distinctive care environment that has yet to be examined through lived-experience research (Teo et al., 2010).

Against this backdrop, a phenomenological approach offers an opportunity to illuminate the lived meanings of diagnosis, recovery, and daily life after SCI. Through first-person accounts, this study explores how individuals in Singapore make sense of emotional and psychological challenges after tetraplegia and how identity shifts shape their adjustment (Thøgersen et al., 2024; Dodgson, 2023). In doing so, the study aims to inform more sensitive communication practices during diagnosis delivery and the development of tailored, long-term psychological support strategies that respond to the lived realities of people adjusting to SCI in Singapore. Understanding how individuals adapt functionally within

real-world care systems is critical for improving rehabilitation strategies and long-term participation outcomes after SCI.

Methods

Study Design

We used an interpretivist qualitative design with Interpretative Phenomenological Analysis (IPA) to explore how adults with SCI and significant mobility impairments in Singapore make sense of diagnosis, embodied change, identity, and participation after discharge. IPA is idiographic and experience-near, focusing on detailed, case-by-case meaning-making within a double hermeneutic. We followed established IPA guidance for study design, interviewing, and analysis (Smith et al., 2009, 2021). This approach was chosen because it allows an experience-near exploration of how individuals make sense of significant life events while maintaining an idiographic focus on the depth and uniqueness of each case before developing shared patterns across participants.

Setting

The study took place in Alexandra Hospital outpatient clinics, where adults with SCI receive ongoing rehabilitation follow-up and post-discharge care. This setting provided access to individuals navigating early community reintegration after inpatient rehabilitation. Interviews were conducted either on site at the outpatient clinic or in participants' homes depending on their preference and accessibility needs.

Study sample (eligibility and size)

Eligibility. We used purposive sampling to recruit adults aged 18–80 with medically confirmed spinal cord injury (SCI) who were at least 12 months post-injury at the time of interview, had been discharged from inpatient rehabilitation for 6–24 months, were able to participate in a semi-structured interview, and provided informed consent. Individuals were excluded if they had pre-existing severe psychiatric disorders (e.g., schizophrenia) that could impair informed consent or narrative coherence, or if they were under acute mental health intervention at the time of recruitment.

IPA intentionally uses small, carefully selected samples to enable in-depth, idiographic analysis before cautious cross-case interpretation; typical IPA studies include approximately 4–10 participants (Pietkiewicz and Smith, 2014; Smith, Flowers and Larkin, 2009).

Participant characteristics are summarised in Table 1.

Table 1
Participant Characteristics

ID	Age	Gender	Neurological Injury Category	AIS	Year of Injury	Post-Injury Employment	Marital Status	Caregiver
SCI001	37	F	T9 (Paraplegia)	B	2022	Part-time	Single	Helper
SCI002	55	M	T10 (Paraplegia)	D	2025	Unemployed	Married	Helper
SCI003	72	M	C2 (Tetraplegia)	D	2025	Unemployed	Married	Helper
SCI004	78	M	C5 (Tetraplegia)	C	2019	Unemployed	Married	Helper
SCI005	68	M	C4 (Tetraplegia)	D	2024	Unemployed	Married	Helper
SCI006	53	M	C4 (Tetraplegia)	D	2024	Unemployed	Married	Wife
SCI007	45	M	C4 (Tetraplegia)	D	2015	Employed	Married	Wife
SCI008	57	F	C4 (Tetraplegia)	B	2025	Unemployed	Married	Helper
SCI009	67	M	C4 (Tetraplegia)	A	2023	Unemployed	Single	Nursing Home
SCI010	78	M	C4 (Tetraplegia)	A	2023	Unemployed	Married	Family

Note: SCI = Spinal Cord Injury. Post-injury employment reflects participant-reported work status at time of interview. Caregiver refers to the primary source of daily assistance.

(Although some participants sustained injury in 2025, all interviews were conducted after participants had crossed the 12-month post-injury mark).

Recruitment and consent

Participants were identified and referred by the rehabilitation team at Alexandra Hospital's outpatient clinics. Clinic staff made the initial approach and provided a study information sheet, after which the research team contacted interested individuals to arrange interviews. For in-person interviews, written informed consent was obtained at the clinic or at the patient's home. For remote interviews, consent forms were electronically signed and returned via secure email, consistent with local procedures for minimal-risk qualitative research under ECOS/DSRB.

Data collection

We conducted semi-structured, in-depth interviews lasting 60 to 90 minutes. The interview guide was developed to explore core experiential domains relevant to post-injury adjustment and was used flexibly to allow participants to direct the narrative emphasis (consistent with IPA interviewing principles). Interviews explored:

Table 2
Overview of domains included in the semi-structured interview guide

Domain	Key Topics
1. Diagnostic communication	How the diagnosis was delivered; timing; clarity; sensitivity; and immediate emotional responses.
2. Embodied disruption and intimate care	Experiences with bowel and bladder care, catheterisation, bathing, bodily vulnerability, privacy, and dignity.
3. Identity, autonomy, and coping	Emotional journey since injury; coping and adaptation strategies; changes in sense of self; negotiations of autonomy and control.
4. Relational and social contexts	Shifts in family and caregiver dynamics (including live-in helpers); social interactions; stigma; community participation.
5. Care infrastructures and financial strain	Rehabilitation pathways; discharge arrangements; caregiver burdens (including financial strain); transport/access barriers; experiences with financial assistance.

Prompts included: “Can you describe how you were informed about your condition?”; “How did the method of communication affect your emotional response?”; “What intimate-care routines have been the most challenging?”; “How has your SCI affected relationships and social interactions?”; and “Have you or your caregiver faced financial strain, and what support was available?” Interviews were audio-recorded and professionally transcribed verbatim.

Data Analysis

We analysed interview transcripts using an Interpretative Phenomenological Analysis (IPA) approach, which emphasises idiographic, experience-near exploration of how individuals make sense of significant events rather than seeking objective truth or theory generation (Smith, Flowers and Larkin, 2009). Interviews were transcribed verbatim, anonymised, and analysed following Smith et al.’s six-step IPA process: (1) close reading and re-reading, (2) initial noting, (3) developing emergent experiential themes, (4) identifying connections across themes within each case, (5) moving to the next case, and (6) developing cross-case patterns.

Two coders (AB, JA) began by jointly coding one transcript to develop a shared interpretive framework and ensure consistency in analytic orientation. The remaining transcripts were then coded independently, with coders meeting regularly to discuss interpretations, resolve discrepancies through consensus, and

refine the coding structure. Codes were subsequently clustered into sub-themes and overarching themes through iterative group discussion, maintaining IPA's idiographic commitment by honouring the distinctiveness of each case before generating higher-order thematic patterns.

Reflexivity

We recognised that researchers' backgrounds, assumptions, and experiential positions may shape both data collection and interpretation (Olmos Vega et al., 2023). The interviewers brought complementary perspectives to the study. One researcher, a female qualitative researcher with a dentistry background, brought sensitivity to bodily vulnerability in care settings while consciously bracketing clinical problem-solving tendencies; her gender may also have influenced patterns of disclosure within a predominantly male sample. The second researcher, familiar with Singapore's rehabilitation pathways, was able to readily recognise system-level references but actively guarded against normalising participants' burdens through reflexive memo writing after each interview.

Both researchers engaged in regular team discussions to critically examine interpretive assumptions and to ensure that expressions of frustration and ambivalence were not smoothed over in the analytic process. Additionally, recruitment through participants' clinical teams may have moderated accounts of system-related challenges; to mitigate this, interviewers explicitly emphasised the study's independence from clinical care at the outset of each interview.

Ethical considerations

Ethics approval was obtained from Singapore's Domain-Specific Review Board (DSRB) via the ECOS platform (Reference: 2025/0483). All methods were performed in accordance with the relevant guidelines and regulations. The study met criteria for minimal-risk qualitative review. All participants provided informed consent (written for in-person interviews; electronically signed and returned via email for remote interviews). Audio files and transcripts were stored on encrypted, access-controlled servers, and all identifying information was removed before analysis and dissemination.

Results

We present five key themes developed through IPA analysis. Before detailing these themes, we begin with a vignette to ground the analysis in one participant's lived world.

Theme 1: Rupture and Recovery Work (Vignette)

In participants' accounts, the moment of diagnosis was described as a profound rupture: a sudden break in their taken-for-granted understanding of their bodies, abilities, and imagined futures. For many, the diagnostic encounter was entangled with the intensity of clinical deterioration, emergency transfers, or urgent surgical decision-making, producing a sense of immediate and irrevocable change. One participant captured the lingering emotional impact: *"super devastated... if he had just been an hour*

earlier,” suggesting that even small delays felt consequential and irreversible (SCI009). For others, diagnosis was less a single moment than an unfolding realisation that the body was no longer reliable :*“a switch... and paralysed,”* as SCI008 described.

Participants also described how early bodily changes reinforced this disruption, as symptoms became harder to ignore. In some cases, the experience of diagnosis also carried a sense that explanations came only after significant change had already occurred, as one participant reflected that after multiple tests, *“everything is fine... you are good to go back... but it’s not feeling right”* (SCI003).

Following this rupture, recovery was experienced as work: structured, effortful, and often exhausting. Early rehabilitation felt like a stretch of physical and emotional labour in which gains were fragile and could slip. As one participant noted, *“from lying on the bed... I can walk with this walking frame,”* yet the milestone sat alongside persistent numbness, imbalance, and a constant fear of falling (SCI002). Others worried about missing the window for improvement. *“If I missed the golden period, the recovery path will be much harder,”* another reflected, capturing how expectations were organised around time-limited possibilities communicated in clinic and taken up as rough guides for what recovery might allow (SCI002).

Recovery also meant living with uncertainty: wondering if strength would return, whether walking would be possible, and trying to understand what “normal” might look like now. These questions quietly sat in the background of each day, in between physiotherapy sessions, periods of rest, medication routines, and shifting discomforts. Participants paid close attention to small changes in sensation, energy, or endurance, treating these shifts as signs of either progress or warning. Even ordinary tasks such as standing briefly, transferring to a chair, or sitting upright without support carried weight. These moments marked where hope stretched forward and where new limits were felt.

Taken together, participants’ narratives show how diagnosis disrupted their sense of bodily security, while recovery required steady effort, emotional resilience, and ongoing adjustments in expectations.

This theme sets the stage for the sections that follow: **embodied disruption and intimate care (Theme 2)**, the relational **labour of family and helpers (Theme 3)**, **managing system constraints (Theme 4)**, and the **strategies participants use to move forward (Theme 5)**.

Theme 2: Embodied disruption and intimate care

Participants described living in bodies that no longer behaved in familiar ways, and this disruption extended far beyond the loss of movement. Everyday bodily functions that had once been private and automatic became sources of worry, effort, and emotional strain. Many spoke about bowel and bladder routines as *“constant worries,”* describing how their days revolved around catheter changes, bowel care, and the fear of leakage when leaving home. SCI009 described the anxiety of not knowing if he could control his bladder long enough for important moments, which meant planning even short outings with caution.

Loss of privacy was a strong theme running through these accounts. SCI008 explained that she felt *“exposed to everybody”* with *“no more privacy,”* reflecting on times when helpers or relatives were present during intimate care. Bathing in particular felt confronting. Being showered on a trolley *“felt like a dead person... just sadness,”* she said, capturing how the physical limitations of her injury carried emotional weight and made her feel passive in situations that used to be ordinary.

Participants also described more subtle bodily changes that affected their confidence. Numbness, spasms, and unpredictable fatigue made simple actions such as turning, sitting upright, or reaching for something feel risky. For SCI001, even basic positioning was affected: *“After the surgery I couldn’t even sit without anyone holding me, I was just flop.”* (SCI001). SCI002 shared that imbalance made him afraid of falling even during therapy, noticing how *“things can go wrong so easily.”* The body felt unpredictable, and this meant watching for small signs: a slight change in sensation, an increase in energy, or a sudden dip in strength. These signals became ways of trying to understand whether things were improving or slipping.

Intimate care involved emotional labour as much as physical. Participants spoke about needing help with toileting, bathing, and getting dressed, and how these moments stirred feelings of embarrassment, gratitude, and sometimes guilt. SCI008 reflected that depending entirely on her helper made her feel cared for but also painfully aware of how different her life had become.

Embodied disruption was therefore not only about physical limitations. It was about being seen and handled in moments that once belonged to private life, and about learning to live with a body that required constant negotiation. These experiences shaped how participants related to themselves and to the people around them, setting the stage for the relational dynamics explored in Theme 3.

Theme 3: Relational labour and support

Participants described recovery as something that unfolded not only through their own effort, but also through the emotional, physical, and organisational labour of the people around them. Family members, spouses, and live-in helpers became central to daily life, forming the backbone of support in ways that were both sustaining and emotionally complex.

This relational labour shaped how participants lived with their injuries, how they understood themselves, and how they navigated the demands of everyday care.

For many, family members were steady sources of encouragement and reassurance. SCI002 described how his wife travelled long distances every day during his inpatient stay, explaining that *“I need their support... every day”* and that this presence helped him keep going. SCI004 spoke repeatedly of his wife’s unwavering care, recalling how she stayed with him *“every day, morning 8 o’clock... until midnight”* during his long hospitalisation and how her presence restored his confidence during difficult moments. *“Without her support, I think... different,”* he reflected, highlighting how intimate partners often bore the bulk of emotional and physical caregiving. His wife echoed this, describing her need to remain strong because

he was “very strong-minded,” and sharing that even on weekends she stayed by his bedside because “*the staff are very busy... little bit thing I can do, I help.*”

Others spoke about siblings, adult children, or extended family stepping in to manage transport, hospital appointments, and paperwork when they were too weak or overwhelmed to do so themselves. These moments of practical care often carried emotional weight, reminding participants of both their dependence and their ongoing value within the family.

Live-in helpers played a significant role for several participants and were often central to navigating daily routines. SCI008 described her helper as her “*primary caregiver,*” sharing how she managed transfers, bathing, medication, and household tasks that the participant could no longer perform. This support brought comfort but also created a sense of vulnerability and, at times, guilt. Depending on a helper for intimate care heightened awareness of how much life had changed. At the same time, participants emphasised the importance of trust and emotional connection with helpers, especially when they were involved in tasks that blurred the boundaries between personal space and care work.

Relational labour was not limited to physical tasks. Participants described family members and helpers as emotional anchors who reassured them on difficult days and encouraged them when progress slowed. This support helped participants confront fears about walking, falling, or becoming a burden. Yet the emotional load was shared. Some worried about their spouses’ exhaustion or the pressure placed on helpers who were “*worried more than me,*” as SCI008 noted. These dynamics created a delicate balance between receiving care and wanting to protect caregivers from strain.

Taken together, relational support formed a vital scaffold for recovery. It held participants through vulnerability, enabled daily functioning, and shaped how they negotiated identity and dependence. These relationships also influenced how participants approached broader structural challenges, which are explored in Theme 4.

Theme 4: Managing system constraints

Participants described how recovery was shaped by the systems they had to navigate, including finances, transport, service pathways, and administrative processes. These systems often felt rigid, slow, or unpredictable, and participants had to manage these constraints at the same time that they were coping with physical and emotional demands.

Several participants spoke about delays or lack of clarity during hospital transfers or follow-up arrangements. SCI002 described how his family repeatedly contacted service agencies when progress stalled, noting that they had to consider approaching an MP when no solutions were offered. This sense of needing to push the system forward appeared across accounts.

Financial limits were a major concern. Participants described how subsidies and Medisave funds were quickly used up, especially when regular therapy and essential equipment were involved. SCI003 explained that Medisave “*was limited to one year,*” while SCI008 shared that a withdrawal of promised

support forced him to cover significant equipment costs himself. SCI006 described how his CPF savings and insurance had to cover housing and medical costs after his injury, adding pressure at a time when he was still recovering. SCI008 spoke about a promised sponsorship for equipment that was withdrawn, leaving him to pay several thousand dollars out of pocket for items he needed at home.

Transport and accessibility also shaped daily life. Participants described how restrictions on motorised wheelchairs or limited accessible routes made simple outings more demanding. SCI002 shared that some services *“cannot fetch the wheelchair,”* leaving him to depend on walking short distances despite fatigue.

Administrative requirements, paperwork, and follow-up appointments added another layer of work. For participants already coping with new bodily limits, these tasks felt heavy and often required support from family members or helpers.

Managing these system constraints became part of the ongoing work of recovery, influencing what participants could access, how quickly they could progress, and the choices they made in daily life. These conditions also shaped the strategies they developed to move forward, which are explored in Theme 5.

Theme 5: Moving forward

Participants described recovery not only as responding to loss, but as finding ways to move forward with what their bodies could and could not do. This process was grounded in small, practical adjustments and moments of emotional resilience that helped them create a sense of direction despite uncertainty. For SCI001, however, imagining a future felt impossible: *“I don’t dare to think about the future... the future is very far from me.”*

Many spoke about slowly building routines that allowed them to regain some confidence, whether through practising transfers, increasing the distance they could walk, or learning new ways to navigate daily tasks.

Hope was often shaped by modest but meaningful goals. SCI007 described trying his best to *“come back,”* noting that he felt he was *“seventy percent back already,”* expressing pride in progress that outsiders might not notice. Similarly, SCI006 reflected on gradual recovery, sharing that *“I try my best to come back... now about 70% already,”* emphasising effort and incremental improvement rather than full return to a previous state. Others focused on doing what they could each day rather than thinking too far ahead. This orientation helped soften the pressure of recovery timelines and kept participants grounded in what felt achievable in the moment.

Faith, personal discipline, and mindset played important roles for several participants. SCI009 shared that prayer was one of the ways he found peace when emotions felt heavy, while SCI008 spoke about telling herself to try new things, even when she was afraid, because *“if you don’t try you won’t know.”*

These strategies reflected a desire to maintain a sense of agency at a time when much of life felt uncertain or limited.

Moving forward also relied on carefully pacing activities and accepting help when needed. Participants described learning to listen to their bodies, taking breaks, and recognising when fatigue signalled the need to stop. Helpers and family members supported these decisions, offering encouragement or stepping in when tasks were too tiring. Over time, these adjustments helped participants regain a sense of rhythm and possibility in daily life.

Across accounts, moving forward was less about returning to a previous self and more about gradually rebuilding a way of living that felt manageable and meaningful. Participants worked with the capacities they had, tried to make room for hope, and found small ways to participate in the world again. *She also reflected on the emotional cost of this limbo: "I suspect till now I did not let it out... I don't know how to cry. Maybe I'm still dealing with it."* (SCI001)

These strategies helped them navigate the ongoing uncertainties of life after spinal cord injury and marked the quiet persistence that underpinned their recovery journeys.

Some participants were more verbally expansive; however, all themes were developed across multiple cases, consistent with IPA's idiographic-to-interpretive analytic logic.

Discussion

Participants' accounts show that recovery was not straightforward or predictable. Instead, they described having to constantly adjust to changes in their bodies, rely on others for support, and deal with practical system barriers in their daily lives.

Diagnosis as rupture and recovery as ongoing work

For many participants, diagnosis marked a clear break in how they understood their bodies and their futures. Some received the diagnosis during rapid medical change and urgent decision-making, while others realised it more slowly as their bodies stopped behaving as expected. In both situations, participants described a sudden sense that life would not continue as planned.

After diagnosis, recovery was not experienced as steady improvement. Instead, it felt like ongoing work. Small actions such as standing briefly, sitting upright, or taking a few steps with a frame became important ways to test what the body could do. Participants used ideas about recovery windows and improvement timelines that were introduced during rehabilitation to guide their daily effort. Participants spoke about pushing themselves physically during rehabilitation while also feeling pressure and uncertainty about whether their efforts would lead to meaningful improvement.

This aligns with previous work describing diagnosis in spinal cord injury as a critical moment that shapes how individuals understand their condition and future (Dewar, 2000; Kirshblum & Fichtenbaum,

2008).

This also reflects existing research describing the emotional and psychological challenges involved in adjusting to spinal cord injury (Cairns & Baker, 1993; Badriya & O'Hara, 2024).

Embodiment, intimacy and dignity

Changes in the body shaped daily routines. Bowel and bladder care had to be planned carefully. Catheter changes, fears of leakage, loss of balance, and fatigue influenced decisions about leaving the house and participating in activities. Bathing was often described as uncomfortable or distressing, particularly when assistance was required. One participant described being showered on a trolley as *“feeling like a dead person.”*

These moments affected more than daily function. Intimate care raised concerns about privacy and dignity. Participants and caregivers tried to protect modesty where possible, but many accepted that personal space and privacy had changed. Participants described actively trying to preserve dignity during care, for example by negotiating how and when help was given, even though many felt that privacy had already changed.

Relational labour and everyday care

Recovery took place with the help of others. Spouses, family members, and live-in helpers provided physical care, emotional encouragement, and practical support such as managing appointments, transport, and paperwork. Live-in helpers often played a central role in daily care, including transfers, bathing, medication, and household tasks.

This support made recovery possible when progress felt slow or uncertain. At the same time, relying on others brought mixed feelings. Participants expressed gratitude and relief but also worry about burdening their caregivers. Some found it difficult to accept help, especially when care involved intimate tasks. Recovery was closely tied to these relationships, and both participants and caregivers had to adjust over time. This is consistent with literature highlighting the importance of social and familial support in shaping adjustment and quality of life after spinal cord injury (Post et al., 1999; Dowler et al., 2001).

Living with System constraints

Participants' experiences were also shaped by healthcare, financing, and transport systems. Limits on savings schemes, out-of-pocket costs for therapy and equipment, and rules around transport affected what participants could access and how often. Delays, unclear information, and repeated administrative processes required time and persistence from both participants and families. These findings extend existing work by showing how structural and system level factors actively shape recovery experiences (Dean et al., 2011; Ownsworth et al., 2024).

Participants described dealing with paperwork, funding limits, and transport challenges as part of their everyday routines, rather than as occasional issues.

Managing paperwork, appointments, and funding arrangements required effort at a time when energy and mobility were limited. Participants described spending time and energy managing appointments, funding arrangements, and transport, alongside dealing with physical recovery. These experiences are likely to be relevant in settings where recovery depends on informal caregiving and structured healthcare systems.

Moving forward: Building a workable day

Moving forward was rarely described as returning to life before injury. Instead, participants focused on making each day manageable. Many described setting small, achievable goals and adjusting their routines based on how their bodies felt each day.

Many adopted a “try and see” approach, testing what they could manage through daily activities such as short outings or transfers.

What this adds

Participants used ideas about recovery timelines shared during rehabilitation to guide how much effort they put into daily exercises and activities. Everyday care routines, particularly bowel and bladder management and bathing, directly influenced how participants felt about their bodies and their confidence in going out. Recovery depended heavily on family members and helpers, who provided both practical care and emotional support. In Singapore, the presence of live-in helpers, alongside financing limits and transport rules, shaped what participants were able to do each day and what they had to adjust.

Implications for practice and policy

Clear and compassionate diagnosis communication is essential. Providing simple written summaries and early psychological check ins may support adjustment. Intimate care planning should treat bowel and bladder routines and bathing as central to dignity, with patients and caregivers trained together. Recovery also relies on caregiver capacity. Brief sessions for spouses and helpers on body handling, boundaries and emotional coping can strengthen support at home. System improvements include more consistent funding for essential equipment, clearer subsidy guidance and transport access for motorised wheelchairs. Reducing paperwork through a single contact point during the first year after discharge may lessen strain. These findings may inform the development of patient-centred rehabilitation strategies that better address functional outcomes in real-world environments.

Strengths and limitations

This study offers in-depth accounts of how embodiment, relationships, and structural conditions shape everyday life after spinal cord injury. The small sample is appropriate for Interpretative

Phenomenological Analysis and included varied caregiving arrangements. As with all qualitative work, the findings are not intended to be statistically generalisable. The sample was predominantly male and included individuals with specific levels of injury; experiences of women and those with paraplegia may differ, which may limit the transferability of these findings to those groups. Some nuance may have been lost in translation or when long narratives were condensed for analysis.

Conclusion

This study showed how people in Singapore make sense of life after a spinal cord injury by working with their bodies, their relationships and the systems they rely on. Diagnosis was experienced as a break in how participants understood themselves, and recovery unfolded through small, deliberate steps that required constant effort and emotional steadiness. Intimate care routines shaped daily life and were central to how dignity was protected or challenged. Recovery was also held together by the people around them, especially spouses, family members and live in helpers who carried much of the practical and emotional work of care. Structural conditions, including financing limits, equipment costs and transport policies, influenced what support participants could access and how easily they could move through home and community life.

Moving forward was less about returning to a previous life and more about building a workable one through careful pacing, small goals and support from others. Attending to communication at diagnosis, creating space for dignity in intimate care, supporting caregivers and reducing system barriers would bring rehabilitation closer to the lived realities described by participants. These insights highlight areas where services and policies could better support people living with spinal cord injury in Singapore.

Abbreviations

SCI

Spinal cord injury

IPA

Interpretative phenomenological analysis

DSRB

Domain-Specific Review Board

Declarations

Declaration of Interest

The authors report there are no competing interests to declare.

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Data Availability statement

The data that support the findings of this study are not publicly available due to the sensitive nature of the interviews but may be available from the corresponding author upon reasonable request and with appropriate ethical approvals.

Declaration of AI use

The authors report that generative AI was not used in the research or preparation of this manuscript.

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