

EXPERIENCES OF POST-ACUTE CVA PATIENTS REGARDING THE OUTCOME OF A REHABILITATIVE NURSING CARE BUNDLE ON MOBILITY AND ACTIVITIES OF DAILY LIVING: A QUALITATIVE STUDY

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Abstract

Background: Post-acute cerebrovascular accident (CVA) patients often experience severe mobility limitations and dependence in Activities of Daily Living (ADL). While quantitative outcomes of rehabilitative nursing interventions are well documented, limited research explores patients' lived experiences of such interventions.

Aim: To explore the experiences of post-acute CVA patients regarding the outcomes of a Rehabilitative Nursing Care Bundle (RNCB) on mobility and ADL in the experimental group.

Methods: A qualitative descriptive design was used. Fifteen participants from the experimental group who received the RNCB for 10 days were selected purposively. Data were collected through audio-recorded interviews at discharge. Thematic analysis was conducted using Braun and Clarke's framework.

Results: Four major themes emerged: (1) Restoring movement and bodily control, (2) Re-establishing independence in daily living, (3) Emotional upliftment and renewed self-confidence, and (4) Perceived value of structured nursing support and continuity of care. Participants consistently reported improved mobility, reduced fear of falling, enhanced ADL performance, and increased motivation.

Conclusion: The RNCB significantly improved mobility and ADL performance and positively influenced emotional well-being. Patients perceived the intervention as empowering, supportive, and essential for regaining independence. Integrating RNCB into routine stroke rehabilitation may enhance functional and psychosocial outcomes.

1. INTRODUCTION

Stroke remains one of the leading causes of long-term disability worldwide, profoundly affecting physical, psychological, and social functioning. The World Health Organization estimates that nearly 15 million people suffer a stroke each year, of whom 5 million are left permanently disabled.¹ Mobility impairment and dependence in Activities of Daily Living (ADL) are among the most common and debilitating consequences, often resulting in loss of independence, reduced quality of life, and increased caregiver burden.² In India, the burden of stroke has escalated sharply over the past decade, with an incidence rate of approximately 130 cases per 100,000 population annually.³ The growing prevalence of stroke survivors requiring prolonged rehabilitation underscores the urgent need for structured, evidence-based nursing interventions that address both physical and psychosocial recovery.

Rehabilitation following a cerebrovascular accident (CVA) is a dynamic process that aims to restore functional independence and reintegrate patients into their daily lives.⁴ Nurses play a pivotal role in this continuum of care, bridging medical treatment and functional recovery through individualized, holistic interventions. The Rehabilitative Nursing Care Bundle (RNCB) developed for this

study integrates multiple evidence-based strategies—mirror therapy, mobility training, ADL compliance coaching, caregiver education, and telephonic reinforcement—to promote neuroplasticity, enhance motor recovery, and strengthen patient engagement.⁵

While quantitative studies have demonstrated the effectiveness of structured rehabilitative nursing interventions in improving mobility and ADL performance,⁶ understanding patients' subjective experiences provides deeper insight into the recovery process. Qualitative exploration allows researchers to capture the emotional, motivational, and perceptual dimensions of rehabilitation that numerical data alone cannot convey.⁷ This component of the study therefore focuses on the lived experiences of post-acute CVA patients who received the RNCB, exploring how they perceived its impact on their mobility, independence, and overall adaptation to life after stroke.

2. METHODOLOGY

1.1 Study Design

A qualitative descriptive design was adopted to explore the lived

experiences of post-acute cerebrovascular accident (CVA) patients who received the Rehabilitative Nursing Care Bundle (RNCB). This design was chosen because it allows for a rich, straightforward description of participants' experiences in their own words, without imposing theoretical interpretation. It is particularly suitable for nursing research, where the goal is to understand

how patients perceive and make sense of their recovery processes within real-world clinical contexts.

1.2 Setting

The study was conducted at CSSH Hospital, Meerut, Uttar Pradesh, a tertiary-level healthcare institution equipped with specialized neuromedicine and rehabilitation services. This hospital served as the site for administering the Rehabilitative Nursing Care Bundle (RNCB) to the experimental group. CSSH Hospital has a dedicated neuro ward, physiotherapy unit, and trained nursing personnel experienced in stroke rehabilitation, making it an appropriate environment for implementing structured rehabilitative interventions.

1.3 Participants

A total of fifteen post-acute CVA patients from the experimental group were selected for the qualitative component of the study. All participants met the following inclusion criteria:

- **Completed the full 10-day RNCB intervention**, which included warm-up exercises, mirror therapy, mobility training, ADL coaching, caregiver education, and telephonic reinforcement.
- **Medically stable** following acute CVA management and cleared for participation in rehabilitative activities.
- **Had a National Institutes of Health Stroke Scale (NIHSS) score ≥ 14** , indicating moderate to severe CVA severity at baseline.
- **Classified as Brunnstrom Motor Recovery Stage III or IV**, reflecting the presence of voluntary movement with synergistic patterns suitable for rehabilitation.
- **Able to follow verbal instructions**, ensuring effective participation in therapy sessions and interviews.
- **Willing to share their experiences** and provide informed consent for audio-recorded interviews.

1.4 Sampling Technique

A purposive sampling technique was employed to select participants for the qualitative component of the study. Purposive sampling is a non-probability sampling method commonly used in qualitative research when the objective is to obtain rich, relevant, and in-depth information from individuals who have directly experienced the phenomenon under investigation.

1.5 Interventions:

The Rehabilitative Nursing Care Bundle (RNCB) was a structured, nurse-led intervention delivered to post-acute CVA patients in the experimental group over 10 consecutive days during hospitalization, followed by two weeks of telephonic reinforcement. It was designed to enhance mobility, promote independence in Activities of Daily Living (ADL), and strengthen patient-caregiver engagement in rehabilitation. The interventions are: **1. Warm-up exercises (10 minutes):** Focus: Gentle range-of-motion and limb activation, patients performed simple, guided movements of the upper and lower limbs (e.g., shoulder flexion/extension, elbow bending, wrist and finger movements, ankle pumps), the aim was to prepare muscles and joints for functional activity, reduce stiffness, and increase confidence in moving the affected side. **2. Mirror therapy and mobility training (20 minutes):** **Mirror therapy:** A mirror box was placed in the midline, reflecting the movements of the unaffected limb to create the illusion of normal movement in the affected

limb, patients were guided to perform repetitive finger, wrist, and arm movements with the unaffected limb while observing the mirror image and was intended to stimulate cortical reorganization and promote motor recovery through visual feedback and neuroplasticity. **Mobility training:** Bed mobility (turning, sitting up), sitting balance, sit-to-stand practice, and initial standing or stepping as tolerated, emphasis was placed on safe transfers, weight-bearing on the affected side, and gradual progression towards functional mobility (e.g., walking to the toilet with support).

2. ADL demonstration using a self-care booklet: A structured self-care booklet (developed by the investigator) was used to demonstrate and reinforce ADL techniques, including: **Personal hygiene:** brushing, washing face, grooming, **Feeding:** safe positioning, use of unaffected hand, adaptive strategies, **Dressing:** stepwise methods for upper and lower garments using the stronger limb to assist the weaker side, **Toileting and continence care:** safe transfers, positioning, and hygiene. The nurse demonstrated each activity, then encouraged the patient to attempt the task with minimal assistance, promoting graded independence and ADL compliance. **4. Caregiver education:** Primary caregivers were involved in bedside teaching sessions. Content included: Safe assistance techniques for transfers and mobility, encouraging patient participation rather than doing tasks entirely for them, monitoring for fatigue, safety, and emotional responses and reinforcing home-based continuation of exercises and ADL practice. This component aimed to build a supportive home environment and reduce caregiver anxiety while promoting patient autonomy.

5.

Telephonic reinforcement (2 weeks post-discharge): After discharge, patients and caregivers received regular follow-up phone calls for two weeks. Calls focused on: Checking adherence to exercises and ADL practice, clarifying doubts about techniques demonstrated during hospitalization, providing motivation, reassurance, and problem-solving for barriers (e.g., fear of falling, fatigue, lack of support). This continuity of nursing support helped sustain engagement, prevent regression, and reinforced the perception of ongoing professional guidance.

2.6 Data Collection

Data for the qualitative component were collected through in-depth, semi-structured interviews conducted with participants at the time of discharge. This timing allowed patients to reflect on their complete experience of the 10-day Rehabilitative Nursing Care Bundle (RNCB) while the effects of the intervention were still fresh and meaningful.

Each interview was conducted in a quiet, private area of the ward to ensure comfort and confidentiality. Interviews were audio-recorded with informed consent, ensuring accurate capture of participants' narratives and minimizing the risk of data loss or researcher interpretation bias. The duration of each interview ranged from 20 to 30 minutes, depending on the participant's comfort level, communication ability, and willingness to elaborate on their experiences.

A semi-structured interview guide was used to maintain consistency across interviews while allowing flexibility for participants to express their thoughts freely. The guiding questions explored several key domains relevant to the study objectives:

- **Mobility changes:** perceptions of physical improvement, ease of movement, confidence in using the affected limb, and ability to perform functional mobility tasks.
- **ADL performance:** experiences related to self-care, feeding, toileting, dressing, and the transition from dependence to graded independence.
- **Emotional and psychological changes:** feelings of hope, motivation, confidence, fear reduction, and overall

emotional adjustment during rehabilitation.

- **Perceptions of the RNCB:** usefulness of mirror therapy, clarity of ADL demonstrations, effectiveness of caregiver education, and the value of telephonic reinforcement after discharge.

Probing questions were used when necessary to encourage deeper reflection or clarify specific experiences. Field notes were also maintained to capture non-verbal cues, contextual observations, and immediate impressions that supported later analysis. This systematic and patient-centered approach ensured that the data collected were rich, authentic, and reflective of the lived experiences of post-acute CVA patients undergoing the RNCB intervention.

2.7 Data Analysis

The qualitative data were analyzed using Braun and Clarke's six-phase thematic analysis framework, which provides a systematic yet flexible approach for identifying patterns within narrative data. This method was chosen because it allows for both descriptive and interpretive depth while staying close to participants' lived experiences.

1. Familiarization with the data: All audio-recorded interviews were transcribed verbatim.

The researcher read and re-read the transcripts multiple times to gain an in-depth understanding of the content, tone, and context of participants' experiences. Initial impressions and reflections were noted in the margins.

2. Generating initial codes: Transcripts were examined line-by-line, and meaningful segments of text were assigned initial codes. Coding was done manually to ensure immersion in the data. Codes captured key ideas related to mobility, ADL performance, emotional responses, and perceptions of the RNCB.

3. Searching for themes: Codes were then grouped into broader categories based on conceptual similarity. These categories were reviewed to identify potential themes that reflected shared patterns across participants' narratives. At this stage, preliminary thematic clusters began to emerge.

4. Reviewing themes: The initial themes were refined by checking them against the coded extracts and the entire dataset. Some themes were merged, others were separated, and a few were discarded if they lacked sufficient supporting data. This iterative process ensured coherence and internal consistency.

5. Defining and naming themes: Each theme was clearly defined, capturing its essence and scope. Sub-themes were identified to represent nuanced aspects of participants' experiences. Themes were named in a way that reflected participants' voices and the core meaning of their narratives.

6. Producing the report: The final themes were organized into a coherent narrative supported by direct quotations from participants. These findings were integrated with the study objectives to illustrate how the RNCB influenced mobility, ADL independence, emotional well-being, and perceptions of nursing support.

3. RESULTS

The qualitative analysis generated a rich understanding of how post-acute CVA patients experienced the Rehabilitative Nursing Care Bundle (RNCB). Through thematic analysis, four major themes and several sub-themes emerged, and are as follows:

Theme 1: Restoring Movement and Bodily Control

Participants described a renewed sense of control over their affected limbs.

Sub-themes:

- *"My hand started responding again after the mirror therapy."*
- *"I could lift my leg without fear."*
- *"The exercises made my body feel alive again."*

Theme 2: Re-establishing Independence in Daily Living

Participants reported improved ability to perform ADLs independently. **Sub-themes:**

- *"I can brush and eat on my own now."*
- *"Earlier I needed help for everything; now I try first."*
- *"Walking to the toilet became easier."*

Theme 3: Emotional Upliftment and Renewed Self-Confidence

Participants expressed emotional relief, hope, and increased motivation. **Sub-themes:**

- *"I felt hopeful again."*
- *"My confidence came back slowly."*
- *"I am not a burden anymore."*

The emotional transformation was linked to improved mobility and ADL performance. **Theme 4: Perceived Value of Structured Nursing Support and Continuity of Care** Participants appreciated the structured, consistent, and supportive nature of the RNCB. **Sub-themes:**

- *"The nurses encouraged me every day."*
- *"The booklet helped my family support me at home."*
- *"The phone calls kept me motivated."*

This theme highlights the importance of nursing continuity, caregiver involvement, and follow-up.

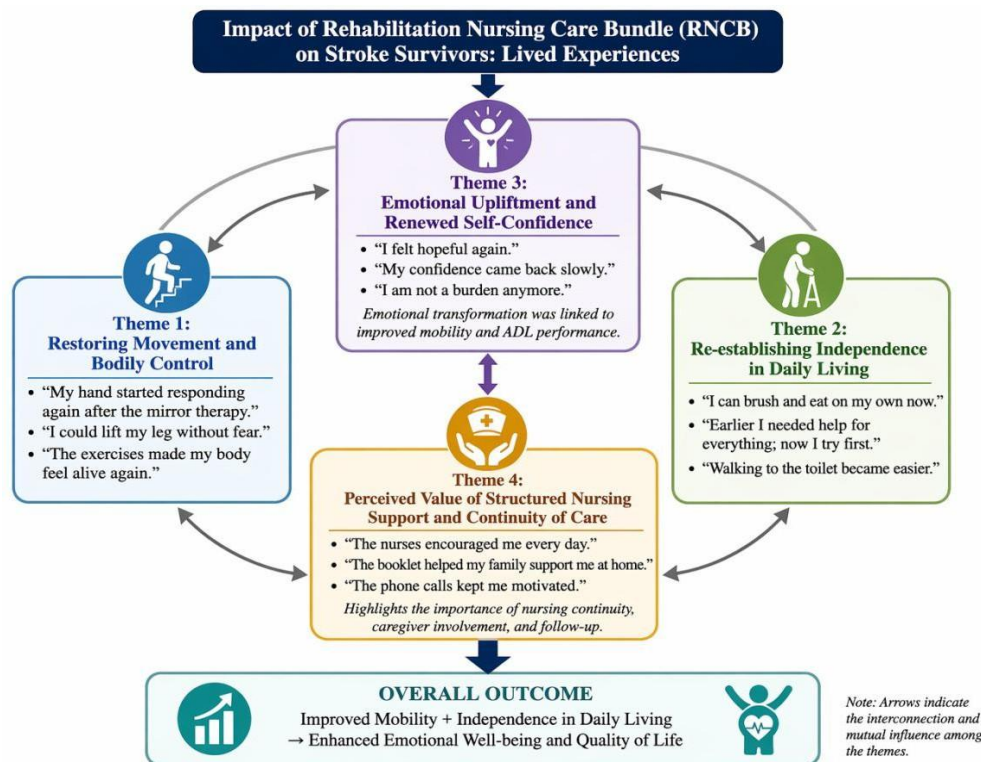


Fig 1: Thematic Model of Recovery Experiences Among Post acute CVA Survivors.

4. DISCUSSION

This qualitative exploration revealed that the RNCB had a profound impact on mobility, ADL performance, and emotional well-being. Participants described the intervention as transformative, enabling them to regain bodily control, independence, and confidence.

The structured nature of the RNCB, combined with consistent nursing support and caregiver involvement, enhanced motivation and adherence. These findings complement the quantitative results, which showed significant improvements in mobility ($p < 0.001$) and ADL independence.

The study reinforces the importance of integrating structured rehabilitative nursing interventions into routine stroke care.

5. CONCLUSION

The findings of this study demonstrate that the Rehabilitative Nursing Care Bundle (RNCB) produced meaningful and multidimensional improvements in the recovery of post-acute CVA patients. Quantitative results showed significant gains in both mobility and Activities of Daily Living (ADL) performance, and the qualitative experiences of participants provided rich insight into how these improvements translated into daily life.

Participants described a renewed sense of bodily control, increased functional independence, and a profound sense of emotional upliftment as they progressed through the intervention. Their narratives highlighted not only physical recovery but also psychological empowerment—expressed through increased confidence, reduced fear, and a restored sense of dignity. The structured nature of the RNCB, combined with consistent nursing support, caregiver involvement, and post-discharge reinforcement, was perceived as highly valuable and instrumental in sustaining motivation and continuity of care.

Overall, the study underscores the importance of nurse-led,

structured rehabilitative interventions in enhancing stroke recovery. Incorporating the RNCB into routine stroke rehabilitation practice may strengthen patient outcomes, promote independence, and improve overall satisfaction with care. These findings support the integration of comprehensive, holistic nursing strategies as a core component of post-acute stroke management.

Declarations:

Conflict of Interest:

The authors declare that there is no conflict of interest regarding the conduct, analysis, authorship, or publication of this research study. No financial, professional, or personal relationships influenced the outcomes or interpretations presented herein. This study was carried out purely for academic and research purposes, following the ethical standards of the institution.

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Ethical Approval:

Ethical clearance for conducting this study was obtained from the Institutional Ethics Committee (IEC) of Swami Vivekanand Subharti University, Meerut, UP. All participants were informed about the objectives of the study, and informed consent was obtained prior to data collection. Confidentiality and anonymity were maintained throughout the research process, in accordance with the Declaration of Helsinki (2013) ethical principles for research involving human subjects.

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