Background and Aims: Spatial neglect (SN) is common after a stroke. SN results in the misperception of stimuli opposite to the lesion. Quality patient-centred care relies on input from those with lived-experience and is essential for making healthcare decisions. We aimed to review the literature on patients' experiences with SN, particularly assessment and management, as part of a larger study exploring both patient and clinician perspectives on SN.
Methods: We conducted a systematic review following JBI methodology for qualitative evidence synthesis. Five databases were searched until April 2024 using terms related to stroke, spatial neglect, and patient/clinician experience. Four independent reviewers screened titles and abstracts, and two reviewers screened full texts. Data were extracted using JBI SUMARI and methodological quality was assessed using the JBI Critical Appraisal Checklist for Qualitative Research. Findings were synthesized via meta-aggregation with discrepancies resolved through discussion until consensus was reached.
Results: 819 papers were initially screened, with only seven meeting the inclusion/exclusion criteria for patient experiences. Six categories emerged from the synthesis of the included studies: 1) anosognosia for neglect; 2) unawareness of neglect; 3) altered awareness of the body; 4) developing intellectual awareness of neglect; 5) impact of neglect on quality of life; 6) strategies to reduce neglect.
Conclusions: Unsurprisingly, patients with SN experienced misperception of the left world, often without realizing the extent of their impairments. Significantly, no results linked assessment of neglect to awareness of the condition or management strategies, highlighting a critical gap between clinical assessment practices and patients' lived experiences.

EV489 / #1168

EXPERIENCES OF CLINICIANS ASSESSING AND TREATING SPATIAL NEGLECT POST-STROKE: A QUALITATIVE SYSTEMATIC REVIEW

REHABILITATION AND LIFE AFTER STROKE

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Background and Aims: Spatial neglect (SN) affects ~40% of people after stroke. Effective management requires clinical expertise and understanding of how clinicians navigate challenges in complex healthcare settings. Despite clinicians' critical role, research exploring their experiences is limited. This review synthesized the literature on clinicians' experiences with SN assessment and treatment, as part of a larger study exploring patient and clinician perspectives on SN.
Methods: This systematic review followed JBI methodology for qualitative evidence synthesis. Five databases were searched until April 2024 using terms related to stroke, spatial neglect, and patient/clinician experience. Four independent reviewers screened titles and abstracts, and two reviewers screened full texts. Data were extracted using JBI SUMARI and methodological quality was assessed using the JBI Critical Appraisal Checklist for Qualitative Research. Findings were synthesized via meta-aggregation with discrepancies resolved through discussion until consensus was reached.
Results: From 819 initially screened papers, 11 studies met the inclusion criteria for clinician experiences. Three categories emerged regarding assessment: 1) knowledge of SN, including types and differentiation from other impairments; 2) environmental and organizational structures affecting assessment; 3) clinical decision-making in neglect assessment. For treatment, four categories emerged: 1) lack of knowledge of neglect and treatment methods; 2) environmental and organizational structures affecting treatment; 3) reasons for selecting treatment methods; 4) practices and perceptions of available treatment.
Conclusions: Clinicians report knowledge limitations, environmental constraints, and decision-making challenges with SN. Despite its prevalence, widespread knowledge gaps and structural barriers impede optimal care, emphasising the need for improved resource allocation and enhanced clinician education.

EV490 / #1038

PERSONALIZING AND OPTIMIZING POST-STROKE REHABILITATION IN CLINICAL AND HOME SETTINGS USING INNOVATIVE DIGITAL TECHNOLOGIES: A STUDY PROTOCOL

REHABILITATION AND LIFE AFTER STROKE

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Background and Aims: Stroke rehabilitation promotes functional recovery by engaging neuroplasticity, particularly through intensive, varied, meaningful, and motivating exercises. However, many stroke survivors do not receive sufficient rehabilitation intensity to allow optimal stroke recovery. Health technologies, such as virtual/augmented reality (VR/AR), wearables, and Artificial intelligence (AI) can be leveraged to increase the intensity of rehabilitation. Specifically, the immersive and interactive nature of VR encourages task repetition. Wearables can enhance monitoring through physiological and biomechanical data acquisition. AI algorithms can personalize VR or AR exercises by recommending activities based on clinical profiles and rehabilitation goals. This study protocol explores the usability, feasibility, and preliminary effectiveness of combining VR/AR (Ludofit, Kinesix, Miralupa), wearables, and AI in both clinical and home settings.
Methods: A convergent mixed-methods design will be used. A purposive sample of 25 individuals with stroke and 5 clinicians will be recruited. Inpatients (n=20) will use the technology up to 5 times/week for 4 weeks in addition to their conventional therapy; outpatients (n=5) will use it at home with remote physiotherapist support. Clinicians will also evaluate the technologies. All participants will complete usability and feasibility questionnaires. Outpatients no longer receiving rehabilitation, except through this project, will complete questionnaires on the intervention's effectiveness. Interviews and focus groups will complement quantitative data. Descriptive and inferential analyses for quantitative data and thematic analysis for qualitative data will be integrated.
Results: will highlight barriers, facilitators, usability of personalization supported by AI, and potential impacts on functional recovery.
Conclusions: This approach may enhance accessibility and personalization in stroke rehabilitation.

EV491 / #2229

INTEROCEPTIVE ALTERATIONS IN POST-STROKE INDIVIDUALS: A COMPARATIVE CROSS-SECTIONAL STUDY

REHABILITATION AND LIFE AFTER STROKE

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Background and Aims: Interoception refers to the complex neurophysiological process of sensing, integrating, and modeling visceral and somatic inputs to generate real-time internal state monitoring which is crucial for homeostasis and adaptive cognitive-emotional responses. Within the framework of the allostatic interoception model, this internal sensing system not only reacts to current physiological demands but also predicts and prepares for anticipated needs. Discrepancies between predicted and actual interoceptive signals may cause allostatic overload, disrupting neural signalling. So far, very few studies have investigated whether stroke impairs interoceptive networks and how these impairments are associated with cognitive and motor functions. This study, therefore, aimed to investigate interoceptive capacity in post-stoke individuals.
Methods: Forty stroke patients with Mini-Mental Test scores of >25 were compared with forty healthy controls with similar age and sex distribution. Interoceptive dimensions were assessed through Heartbeat-Detection Task for interoceptive accuracy, Interoceptive Sensory Scale for subjective sensitivity, and Toronto Alexithymia Scale for interoceptive awareness. Cognitive performance was evaluated with Trail-Making Test, while motor functioning was assessed with Fugl-Meyer Motor Scale.
Results: demonstrated significantly reduced interoceptive accuracy, sensitivity and elevated alexithymia scores in the stroke group compared to controls (p=0.018, p=0.043, p=0.038 respectively). No significant association was observed between interoception and motor performance. However, interoceptive accuracy was positively correlated with cognitive function (r=0.248, p=0.037).
Conclusions: Our findings indicate that stroke-related neurophysiological alterations may deteriorate interoceptive function. Incorporating interoceptive assessments and targeted interventions into clinical rehabilitation may improve recovery outcomes. Further research is needed to clarify the contribution of interoceptive dysfunction to post-stroke cognitive and emotional impairments.

EV492 / #850

1-YEAR HOME TIME AMONG ISCHEMIC STROKE PATIENTS RECEIVING INPATIENT REHABILITATION VERSUS SKILLED NURSING CARE: TRIAL EMULATION ANALYSIS OF CLINICAL AND CLAIMS LINKED DATA

REHABILITATION AND LIFE AFTER STROKE

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Background and Aims: Due to trail design and feasibility constraints, comparative effectiveness of intensive inpatient rehabilitation (IRF) versus skilled nursing care (SNF) for acute ischemic stroke (AIS) survivors remains limited. We provide causal estimates for long-term home time (HT), mortality, and readmission for this comparison.
Methods: AIS episodes from 7 stroke certified hospitals were linked with Medicare claims. Post-acute discharge to IRF versus SNF within the 30-day period was collated and 1-year home time (HT) was calculated as a proportion of complete follow-up time. In addition to measuring associations from un-matched (un-weighted) data, treatment effects were estimated from propensity score (PS) matched subsets, and applying inverse probability of treatment weighing (IPTW). Differences in 1-year HT percentage are compared; odds ratios (OR) and 95% confidence intervals (CIs) for likelihoods of 1-year mortality and readmission are reported.
Results: Between 2016 and 2020, 3,064 AIS admissions were analyzed (median age: 77 years; 56% female), of which 673 (22.0%) were discharged to IRF and 286 (9.3%) were discharged to SNF. When stratified by 1-year HT, differences in underlying demographics, clinical characteristics, and care utilization were observed (Table 1). Across all analytic methods, IRF (versus SNF) care was consistently associated with higher HT and decreased odds of mortality and readmission (Table 2). IRF (versus SNF) was associated with higher mean difference in HT percentage ranging from 21% to 23% in PS matched cohorts, IPTW analyses generated more modest estimates of mean HT difference (10.6%).

Table 1. AIS patient and clinical characteristics, stratified by 1-year home time (HT) percentage.

	1-Year Home Time (HT) Percentage		
	≤10% HT (n = 569)	10-80% HT (n = 636)	≥80% HT (n = 1,859)
Age (years) – median (IQR)	81 (73 – 89)	77 (69 – 85)	76 (70 – 84)
Female (vs. Male) – n (%)	318 (55.9)	366 (57.5)	1,026 (55.2)
Race / Ethnicity – n (%)			
Non-Hispanic White	359 (63.1)	361 (56.8)	1,228 (66.1)
Non-Hispanic Black	112 (19.7)	173 (27.2)	329 (17.7)
Non-Hispanic Asian	35 (6.2)	22 (3.5)	90 (4.8)
Hispanic	52 (9.1)	67 (10.5)	177 (9.5)
Other	11 (1.9)	13 (2.0)	35 (1.9)
ADI (State) – median (IQR)	4 (2 – 7)	5 (2 – 7)	4 (2 – 6)
CCI – median (IQR)	9 (7 – 12)	8 (6 – 11)	7 (6 – 9)
Baseline Stroke Severity (NIHSS) – median (IQR)	9 (4 – 19)	4 (1 – 9)	2 (1 – 5)
Treatment (tPA or EVT) – n (%)	122 (21.4)	116 (18.2)	339 (18.2)
Hospital LOS (days) – median (IQR)	5 (3 – 8)	4 (3 – 7)	3 (2 – 5)
30-Day Inpatient Rehab – n (%)	88 (15.5)	226 (35.5)	526 (28.3)
30-Day Hospital Readmission – n (%)	149 (26.2)	164 (25.8)	181 (9.7)

1-Year Home Time (HT) Percentage: *percentage of follow-up time (post 30-day discharge) at home;* ***LOS:*** *length of stay;* ***ADI:*** *Area Deprivation Index;* ***CCI:*** *Charlson Comorbidity Index;* ***NIHSS:*** *NIH Stroke Scale;* ***tPA:*** *tissue plasminogen activator;* ***EVT:*** *endovascular therapy*

Table 2. Comparison of treatment effect estimates (primary discharge to IRF versus SNF) and associated patient outcomes across unweighted, propensity score (PS) matched, and inverse probability of treatment weighted (IPTW) cohorts.

A) Unweighted		
	IRF (n = 673)	**SNF (n = 286)**
1-Year Home Time (HT) Percentage – Mean (SD)	73.4% (29.5)	56.9% (37.8)
1-Year Home Time (HT) Percentage – β (95% CI)	16.5% (12.1 – 21.0)	*Reference*
1-Year Mortality – OR (95% CI)	0.45 (0.34 – 0.62)	*Reference*
1-Year Readmission – OR (95% CI)	0.69 (0.52 – 0.92)	*Reference*
B) Full Propensity Score (PS) Match		
	IRF (n = 260)	**SNF (n = 260)**
1-Year Home Time (HT) Percentage – Mean (SD)	81.2% (22.0)	57.5% (37.5)
1-Year Home Time (HT) Percentage – β (95% CI)	23.7% (18.4 – 28.9)	*Reference*
1-Year Mortality – OR (95% CI)	0.24 (0.15 – 0.38)	*Reference*
1-Year Readmission – OR (95% CI)	0.57 (0.40 – 0.80)	*Reference*
C) Reduced Propensity Score (PS) Match		
	IRF (n = 264)	**SNF (n = 264)**
1-Year Home Time (HT) Percentage – Mean (SD)	78.9% (24.7)	57.3% (37.6)
1-Year Home Time (HT) Percentage – β (95% CI)	21.6% (16.1 – 27.0)	*Reference*
1-Year Mortality – OR (95% CI)	0.28 (0.18 – 0.43)	*Reference*
1-Year Readmission – OR (95% CI)	0.61 (0.43 – 0.86)	*Reference*
D) Inverse Probability of Treatment Weighted (IPTW)		
	IRF (n = 656)	**SNF (n = 260)**
1-Year Home Time (HT) Percentage – β (95% CI)	10.6% (6.3 – 14.9)	*Reference*
1-Year Mortality – OR (95% CI)	0.65 (0.53 – 0.81)	*Reference*
1-Year Readmission – OR (95% CI)	0.69 (0.57 – 0.83)	*Reference*

A) *Un-weighted estimates among full cohort.* ***B)*** *Estimates among propensity score (PS) matched subset (age, sex, race / ethnicity, socio-economic disadvantage, comorbidity burden, baseline NIH stroke scale, thrombolysis / thrombectomy, length of stay).* ***C)*** *Estimates among PS matched subset (age and baseline NIH stroke scale).* ***D)*** *Inverse probability of treatment weighted (IPTW) estimates.*

1-Year Home Time (HT) Percentage: *percentage of follow-up time (post 30-day discharge) at home;* ***IRF:*** *inpatient rehabilitation facility;* ***SNF:*** *skilled nursing facility;* ***OR:*** *odds ratio;* ***CI:*** *confidence interval;* ***β:*** *beta coefficient;* ****Statistically significant (p<0.05)***

Conclusions: Our data suggest long-term benefits of post-acute care at IRF for AIS patients.

EV493 / #1073

MRI-BASED TRANSCRANIAL DIRECT CURRENT STIMULATION OPTIMIZATION FOR POST-STROKE DYSPHAGIA: A MULTI-CENTER RETROSPECTIVE STUDY

REHABILITATION AND LIFE AFTER STROKE

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