Systematic Review of the Literature/Meta-Analysis

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Dyadic Capability in Stroke Survivors and Their Caregivers

A Systematic Review and Integrated Concept Analysis

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Background: Although educational and transitional interventions improve preparedness after stroke, it remains unclear whether this translates into real-world capability within stroke survivor–caregiver dyads. The concept of capability may better capture the ability to convert knowledge and resources into meaningful action, yet it remains poorly defined and operationalized in stroke research.
Purpose: To systematically review the literature on capability and related constructs in stroke survivors and caregivers and to clarify the concept of dyadic capability through integrated concept analysis.
Methods: A systematic review was conducted according to PRISMA 2020 guidelines, with protocol registration in PROSPERO. Seven databases were searched from inception to May 2025. A total of 2318 records were screened and 373 full-text articles assessed, with 22 studies included. Methodological quality was appraised using the Joanna Briggs Institute tools. Findings were synthesized narratively and integrated with a Walker and Avant concept analysis.
Results: Dyadic capability emerged as a multidimensional construct characterized by 3 defining attributes: self-efficacy, resilience, and motivation. Antecedents included poststroke disability and contextual factors, while consequences encompassed improved autonomy, enhanced dyadic quality of life, reduced caregiver burden, and more effective care management. Notably, no validated instruments specifically measuring dyadic capability were identified.
Conclusions: Dyadic capability represents a critical yet underdeveloped construct in stroke care. Its clarification provides a theoretical foundation for future measurement development and for designing nursing interventions that enhance the translation of knowledge into real-world action in stroke survivor–caregiver dyads.

KEY WORDS: capability, caregivers, stroke, stroke rehabilitation, transitional care

Stroke is the second leading cause of disability worldwide, with around 7.8 million new cases occurring globally each year.[1] Its onset is sudden, and its consequences extend well beyond the acute phase, affecting both survivors and their informal caregivers over the long term.[2–4] After discharge, many survivors continue to live with physical and cognitive limitations that require daily support.[5,6] This support falls largely on family members, who often take on a caregiving role without having been adequately prepared for what it involves.[7]

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Caregiving after stroke carries a significant psychological, physical, and social burden that can compromise caregivers' own health and quality of life over time.[8–10] The transition from hospital to home is one of the most critical moments in this process, when gaps in continuity of care tend to surface and stress levels for both members of the dyad can peak.[10,11] A central concept in this context is preparedness, defined as the extent to which caregivers and survivors feel ready to manage the demands of poststroke care.[12] Higher preparedness has been linked to better emotional well-being, motor function, and quality of life,[6,13] and tailored educational programmes have shown consistent benefits in this area.[8,14,15]

However, preparedness has inherent limitations. Feeling ready and being genuinely able to act within real-life constraints are not equivalent. Although dyadic educational programmes have demonstrated effectiveness during transitional care,[6,15,16] it remains unclear how much of what is learned actually translates into practice when the dyad is managing disability on its own.[17]

This gap highlights the need to conceptualize capability, understood as the real opportunity to turn available resources into meaningful action within a specific context.[18,19] Such a

Clinical Pearls

- Preparedness is essential, but effective poststroke adaptation also depends on the ability to apply knowledge and resources in daily life.
- Dyadic capability is supported by self-efficacy, resilience, and motivation, enabling stroke survivors and caregivers to manage recovery more effectively.
- Promoting dyadic capability may enhance autonomy, improve quality of life, and reduce caregiver burden.

multidimensional concept would make it possible to assess whether preparation translates into actual, concrete skills, for example, being able to manage therapy, navigate interpersonal relationships, schedule health checks, and recognize signs, symptoms, and critical issues in the sphere of health. In this context, it is essential to investigate how acquired skills are integrated into daily caregiving activities and how these evolve over time, to assess whether educational programs lead to tangible changes in behavior and capabilities among stroke dyads. Thus, capability may serve as a starting point that can be shaped and strengthened through educational initiatives and healthcare support.

Conceptual Boundary of Capability

In this review, capability is interpreted within the Capability Approach (Sen[18]; Nussbaum[20]). Related constructs, such as those from the Capability–Opportunity–Motivation–Behavior model (COM-B) model[21] or commonly used in clinical contexts (eg, competence, skills, preparedness),[22] are treated as conceptually adjacent rather than equivalent. They are considered only insofar as they help clarify capability as a real-world opportunity for action in the poststroke context. This distinction informed both the eligibility criteria and the synthesis of findings.

Capability is also conceptualized as a dyadic construct, emerging from the interaction between stroke survivors and caregivers rather than from either individual alone.[23] Because much of the literature remains organized around individual-level outcomes, studies focusing on one member of the dyad were included when they informed capability within the relational context of care.[24]

Despite the increasing use of capability-related constructs in stroke research, the concept remains inconsistently defined and poorly operationalized, particularly at the dyadic level. Existing studies rarely clarify whether knowledge and support translate into real-world action, highlighting a persistent gap between preparedness and actual capability.

Aim

Therefore, this study aimed to: (1) systematically review how capability and related constructs have been described in stroke survivors and caregivers in the poststroke phase and (2) clarify the concept of dyadic capability through concept analysis by identifying its defining attributes, antecedents, and consequences.

Methods

Study Design

This systematic review was conducted in accordance with the PRISMA 2020 guidelines.[25] The protocol was registered in PROSPERO (ID: CRD420250653734, available from https://www.crd.york.ac.uk/PROSPERO/view/CRD420250653734). Methodological quality was assessed using the Joanna Briggs Institute critical appraisal tools appropriate to each study design.[26] This review integrates a systematic synthesis of empirical studies with a formal concept analysis[27] to refine and operationalize the construct of capability within the poststroke caregiving context. This dual approach was adopted to address 2 complementary aims: to synthesize empirical evidence on capability in stroke survivors and caregivers and to clarify the concept through formal concept analysis. In this review, the capability approach served as the guiding framework for interpreting findings related to capability within the dyad. The review design was initially informed by the PICO framework[28] to support consistency in identifying the population and concept of interest, while eligibility and synthesis were adapted.

Information Sources and Search Strategy

A comprehensive search was conducted across CINAHL, Embase, ERIC, PsycINFO, PubMed, Scopus, and Web of Science from inception to May 4, 2025. The PICO framework[28] informed the development of database-specific search strategies. No methodological filters were applied. The full search strategy is provided in Supplemental Digital Content 1, https://links.lww.com/JCN/A413, including all search terms, Boolean operators, and limits applied. No language restrictions were applied. Studies published in languages other than English were translated using professional translation tools or native speakers, where available.

Eligibility Criteria

Eligibility was defined a priori. No time limits were applied to capture the full scope of the literature. Studies were included if they: (a) involved adults (≥18 years old) who had experienced a stroke and their informal caregivers, either individually or as a dyad; (b) examined capability or related constructs (eg, competence, preparedness, or self-efficacy) using quantitative, qualitative, or mixed-method approaches; (c) were primary studies published in peer-reviewed journals; and (d) were available in any language.

In this review, the dyad was defined as the stroke survivor–caregiver relational unit. Studies were included if they involved one or both members, provided that their findings contributed to understanding care processes, adaptation, or outcomes within this relational context. Studies focusing exclusively on skills, abilities, or capacities without reference to capability or its related constructs were excluded.

Study Selection

Two reviewers (E. L. and F. C.) independently screened titles and abstracts against the eligibility criteria. Duplicate records were removed using EndNote 21 (Clarivate Analytics, Philadelphia, Pennsylvania),[29] and screening was conducted using Rayyan (Rayyan Systems Inc., Cambridge, Massachusetts).[30]

Full-text articles were retrieved for studies deemed potentially eligible and assessed independently by the same reviewers. Reasons for exclusion at the full-text stage were recorded.

Discrepancies at any stage of the selection process were resolved through discussion or, when necessary, consultation with a third reviewer (G. P.). The study selection process is reported in accordance with the PRISMA 2020[25] guidelines and summarized in the flow diagram.

Quality Appraisal

Quality appraisal was conducted using the Joanna Briggs Institute critical appraisal tools appropriate to each study

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design. Two reviewers (E. L. and F. C.) independently performed the appraisal, with disagreements resolved through discussion or consultation with a third reviewer (G. P.).

Key methodological domains (eg, alignment, confounding, and statistical analysis) were assessed. The methodological quality of the included studies informed the interpretation of findings, with greater emphasis placed on more rigorous studies. Detailed results are reported in Supplemental Digital Content 2, https://links.lww.com/JCN/A414, Supplemental Digital Content 3, https://links.lww.com/JCN/A415, Supplemental Digital Content 4, https://links.lww.com/JCN/A416, and Supplemental Digital Content 5, https://links.lww.com/JCN/A417.

Synthesis and Conceptual Framework

Narrative synthesis followed Popay et al,[31] while interpretation was guided by the Capability Approach. Quantitative and qualitative findings were integrated using a convergent approach within the Capability Approach framework.[19]

To enhance transparency, an audit trail documented how extracted data were progressively grouped into macrocategories, mapped to capability types (basic, internal, and combined), and used to derive defining attributes and the final conceptual model.

Findings were grouped according to capability domains (basic, internal, and combined capabilities) and, where applicable, by phase of care (eg, acute, rehabilitation, community) to enhance interpretability, consistent with the distinction between capability types within the Capability Approach framework.[19,20]

To ensure conceptual consistency, coding rules were applied as follows: data referring to personal abilities or internal states were classified as internal capabilities; data reflecting access to resources or environmental conditions were classified as combined capabilities; and foundational conditions were classified as basic capabilities.

The synthesis was guided by established theoretical frameworks and prior applications of the Capability Approach in health research. A detailed synthesis of quantitative and qualitative findings is provided in Supplemental Digital Content 6, https://links.lww.com/JCN/A418, and Supplemental Digital Content 7, https://links.lww.com/JCN/A419, respectively.

Theoretical Framework

Understanding capability requires distinguishing it from related constructs such as competence: while competence refers to what someone knows or can do, capability concerns whether they can actually do it within real-world conditions.[32] The Capability Approach, developed by Amartya Sen[18] and later extended by Martha Nussbaum,[20] frames this in terms of real freedoms: what a person is genuinely able to be and do, not just what they have been taught. A key distinction within this framework is between functionings, which are actual states of being and doing and capabilities, which are the real opportunities to achieve them.[18] Resources, whether personal, relational, or environmental, shape this process by enabling or constraining the conversion of resources into action.[19]

Concept Analysis

For the analysis of the concept of capability within the stroke survivor–caregiver dyad, we applied Walker and Avant's 8-step model of concept analysis (Walker and Avant[27]), which includes: (1) concept selection; (2) determination of the aims of the analysis; (3) identification of uses of the concept; (4) determination of defining attributes; (5) construction of a model case; (6) development of additional cases (borderline, related, and contrary); (7) identification of antecedents and consequences; and (8) definition of empirical referents.

The aim of the concept analysis was to clarify capability as a dyadic construct and identify its defining attributes, antecedents, consequences, and empirical referents. The same 22 studies included in the systematic review constituted its primary empirical basis. Although Walker and Avant recommend the use of diverse sources, the concept analysis was restricted to peer-reviewed literature identified through systematic database searches to ensure methodological rigor, transparency, and alignment with the systematic review.[33] This approach prioritizes reproducibility and clinical relevance within the stroke context.

A structured data extraction template was applied to enhance transparency.[33] This approach aligns with emerging reporting recommendations for concept analysis, which emphasize transparency in data extraction, coding, and mapping processes.[33] Extracted data included study characteristics, key conceptual findings related to capability, and their subsequent categorization into conceptual attributes.

Data extracted from the included studies informed the identification of defining attributes, antecedents, and consequences. Cases (model, borderline, related, and contrary) were constructed as hypothetical composites grounded in recurring patterns observed in empirical literature. Model, borderline, and counterexamples were developed as hypothetical scenarios based on recurring patterns identified in the included studies. The attributes, antecedents, and consequences extracted from the review were grouped and combined to generate these cases.

Reporting Bias Assessment

Due to the heterogeneity of study designs and the absence of pooled effect estimates, statistical assessment of reporting bias (eg, funnel plots) was not feasible. This approach is consistent with guidance from the Cochrane Handbook.[34]

Potential reporting biases (eg, selective outcome reporting and publication bias) were considered qualitatively during the synthesis by examining inconsistencies across studies and the presence of underreported outcomes.

Certainty Assessment

Given the methodological diversity and the narrative synthesis approach, formal grading systems such as the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach or the Confidence in the Evidence from Reviews of Qualitative Research (GRADE-CERQual) approach[35] were not applied, as these generally require more homogeneous bodies of evidence or more clearly delimited qualitative findings. Instead, confidence in the findings was assessed by considering the consistency of results across studies, methodological rigor, and relevance to the review question, in line with narrative synthesis guidance.[31]

Results

Study Selection

Literature searches identified 4759 records, reduced to 2369 records after duplicates were removed. After title and abstract screening, 383 full-text articles were selected. Based on full-text review, 22 studies met the inclusion and quality criteria of the critical evaluation checklist for both quantitative and qualitative studies (Figure 1).

Study Characteristics

The current systematic review included 22 studies conducted between 1991 and 2025, mostly in Europe, Asia, and North America. The most common type of study was qualitative (39%), followed by randomized controlled trials (RCTs) (22%),

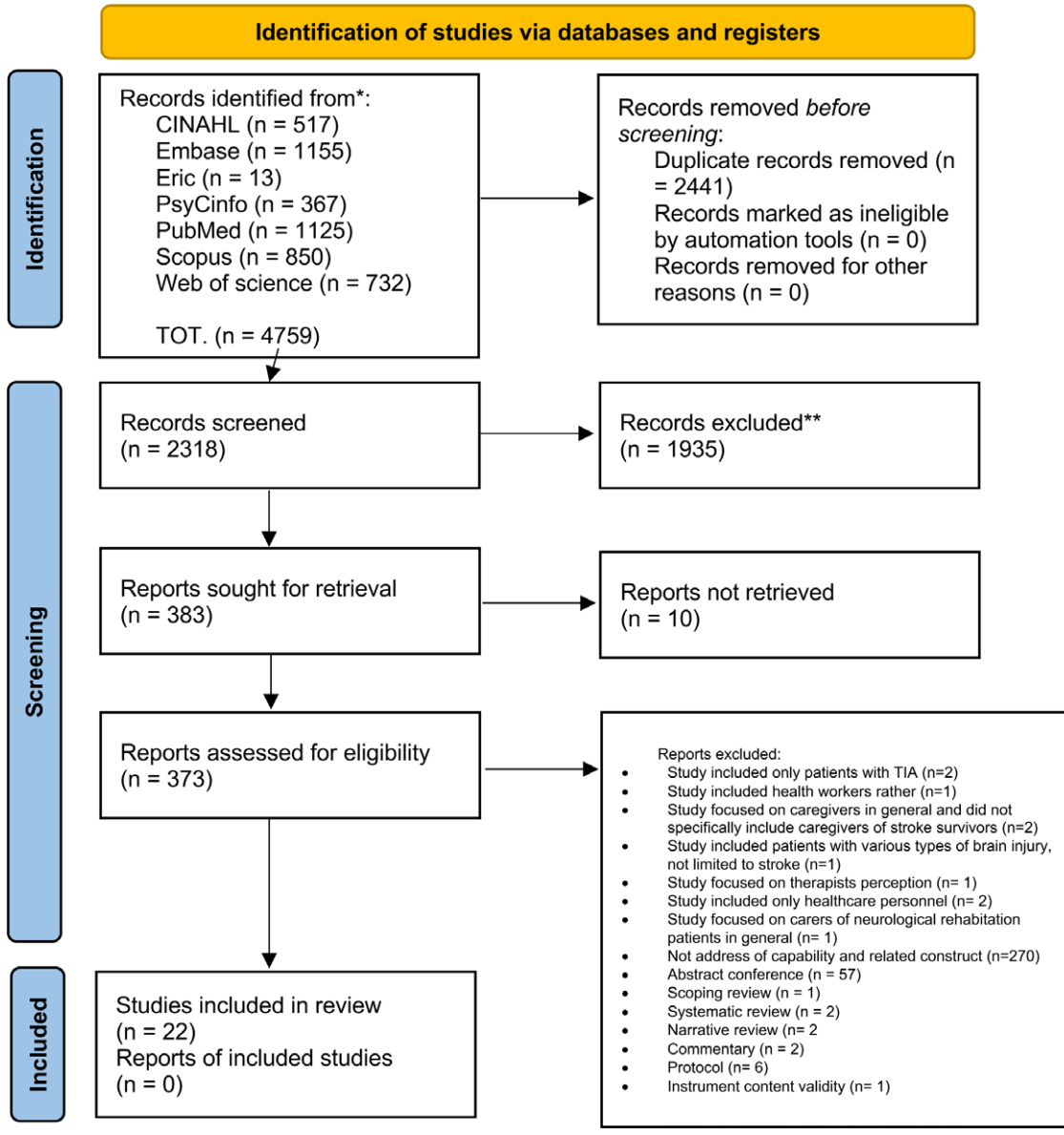

FIGURE 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 flow diagram for new systematic reviews including searches of databases and registers only.

observational studies (13%), and pilot, mixed-method, and quasi-experimental studies (9% each). Studies included stroke survivors (23%), caregivers (27%), and dyads of stroke survivors and caregivers (50%). Studies covered different phases of stroke recovery, although these were not consistently reported across all included studies. The characteristics of the included studies are shown in Table 1. Table 2 provides a synoptic overview of all included studies.

Risk of Bias in Studies

We analyzed the methodological quality of the 22 studies, achieving a high average inclusion rate for the methodological quality checklists of 91.9% (RCTs: 83.6%, quasi-experimental studies: 85%, cross-sectional studies: 100%, and qualitative studies: 99%). Most of the studies adequately met the quality criteria for individual items, with a mean rate of 91.3% and a range of values (83.1%–100%), thus highlighting the overall high quality of the articles reviewed.

The methodological quality of the qualitative studies is reported in Supplemental Digital Content 2, https://links.lww.com/JCN/A414. The 10 studies considered exhibit good overall methodological consistency, particularly in terms of study design, objectives, data collection methods, analysis, and interpretation.

In Supplemental Digital Content 3, https://links.lww.com/JCN/A415, the 5 RCTs[37,40,42,47,54] showed adequate randomization, good group homogeneity, and consistent use of statistical analyses. None of the RCTs included a double-blind design involving operators and participants, since, in educational and rehabilitative interventions, this condition is generally not feasible.

The methodological quality of the cross-sectional studies was excellent, as shown in Supplemental Digital Content 4, https://links.lww.com/JCN/A416. The 3 studies analyzed[39,53,56] showed 100% compliance with all assessed items.

The 6 quasi-experimental studies reported in Supplemental Digital Content 5, https://links.lww.com/JCN/A417, clearly demonstrated cause–effect relationships and used appropriate statistical strategies to reliably measure outcomes. Only one study[50] did not compare the treatment with the control group. In the study by Sánchez-Huamash and

TABLE 1
Study Characteristics

Characteristics	Included Articles (N = 22) n	%
Years of publication		
<2010	3	14%
2010–2014	1	4%
2015–2020	10	41%
2021–2025	8	41%
Geographic region		
Asia	7	32%
Australia and New Zealand	1	5%
Europe	8	36%
North America	4	18%
South America	2	9%
Study design		
Observational	2	9%
Randomized controlled trial	5	23%
Pilot study	2	9%
Mixed-method study	2	9%
Qualitative study	8	36%
Quasi-experimental study	3	14%
Study population		
Stroke survivors	5	23%
Caregivers	6	27%
Stroke survivors and caregivers	11	50%

Cárcamo-Cavagnaro,[50] outcome measures were not clearly reported as reliable. Publication bias could not be formally assessed due to the heterogeneity of study designs and the absence of pooled effect estimates. However, a potential overrepresentation of studies reporting positive or significant findings cannot be excluded, which may have led to an overestimation of the role of capability-related constructs in the stroke survivor–caregiver dyad.

Systematic Review Findings

The results are presented according to Nussbaum's framework,[19,20] which distinguishes 3 macrocategories (see Table 3): basic capabilities, internal capabilities, and combined capabilities. Within each macrocategory, and where possible, the studies were further analyzed and classified into 1 of Nussbaum's 10 central capabilities: life; bodily health; bodily integrity; senses, imagination, and thought, emotions; practical reason; affiliation; other species; play; and control over one's environment.

Basic Capabilities

Nussbaum[20] defines basic capabilities as the innate abilities that each individual possesses. Van Puymbroeck and Rittman[51] examined caregivers' capacity to activate coping resources, identifying quality of life as a key factor. High SOC (Sense of Coherence) scores were associated with significantly lower scores in the Sense of Competence Questionnaire (β = –0.45, P < .0001), a pattern that remained stable at 6 months (Sense of Competence Questionnaire—Composite: β = –0.47, P < .0001). These findings underscore the role of coping ability as an innate resource in postillness adaptation. In parallel, Vincent et al,[52] applying the Disability Creation Process model, identified 9 areas of capability and functional types altered in stroke survivors, including language, motor skills, cognitive abilities, behavior, sexuality, autonomy in daily activities, ability to adapt, sensory perception, and social interaction. These capabilities, interacting with environmental and organizational barriers, determine social participation.

Internal Capabilities

According to Nussbaum's classification,[20] internal capabilities represent personal capabilities of the person (skills, competences). Internal capabilities are resources that include cognitive, emotional, and physical aspects and are the core upon which freedom of choice and opportunities can be established.

Bodily Health

Bodily health, defined by Nussbaum[20] as the ability to develop and sustain adequate physical functioning, emerges as a core capability. In Bakas et al,[37] stroke survivors in the early phase reported moderate mobility (Stroke-Specific Quality of Life Scale [SSQOL] = 3.4, standard deviation [SD]: 1.0) and cognitive function scores (SSQOL-thinking = 2.7, SD: 1.0). Caregivers identified 25.4% of their needs as related to maintaining emotional and physical health, including strategies for preserving energy (14.9%) and managing emotions (29.8%).

In Wang et al,[53] resilience significantly reduces uncertainty (β = –0.558, P < .01) and directly increases caregiving ability (β = –0.269, P < .01). The qualitative findings of Nasr et al[48] show that physical limitations, loss of autonomy, and inadequate aids hinder participation in daily and recreational activities, contributing to frustration and isolation.

These studies highlight how maintaining and strengthening bodily health, both in survivors and caregivers, represents a crucial internal capability.

Senses, Imagination, and Thought

The capability "senses, imagination and thought" refers to the ability to perceive, think, reason, and imagine, which must be supported by appropriate training and cognitive stimulation.[20] In Kelly et al,[45] stroke survivors and caregivers identified themes closely aligned with this capability. The psychosocial theme included individualized goals, motivation, values, beliefs, and confidence, while behavioral training highlighted pushing limits, opportunities to learn, and developing skills and resources. Ye et al[56] further emphasized belief systems, family organization, and communication/problem-solving strategies. As a mixed-method study, it examined the relationships between social support, perceived burden, family resilience, and self-efficacy. Significant correlations emerged: Social support–self-perceived burden (r = –0.347, P < .01), social support–self-efficacy (r = 0.610, P < .01), and self-efficacy–family resilience (r = 0.420, P < .01). These studies also highlight the importance of personalized goals, the acquisition of skills, and adequate motivation.

Emotions

In Nussbaum's vision, the capability "emotions" focuses on the person's internal states that allow the exercise of emotional functions. The included studies investigated the emotions of caregivers of stroke survivors and how these can be modified and supported through targeted interventions.

In the randomized trial by Cheng et al,[40] the interventions significantly improved caregiving competence, family functioning, problem-solving skills, and social support satisfaction at 1 and 3 months (P < .05), as well as a reduction in burden at 3 months (P < .05). Similarly, Sánchez-Huamash and Cárcamo-Cavagnaro,[50] reported that caregivers found instructions easy to understand and apply, reducing uncertainty and enhancing emotional security. Practical skills improved from 21.6 to 56.1/68 (+34.5; P < .001), and knowledge from 11.6 to 21.6/27 (+10; P < .001). Both studies show that educational support interventions improve not only practical skills but also emotional security, relationship quality, and sense of control.

TABLE 2

Synoptic Table of Included Studies

Author, Year (Country), Study Design	Participants, Instruments	Educational Program, Intervention	Capability Concept–Related Construct	Results
Araújo et al, 2018(Portugal), quasi-experimental study [36]	Participants: caregivers (n = 174; CG = 89, IG = 85) Measures: ECPICID-AVC; QASCI; SF-36	InCARE; 3 structured home visits focused on ADLs	Caregiving skills	Practical caregiving skills improved ($P < .001$); caregiver burden reduced ($P < .001$). Mental health borderline improvement ($P = .050$); no change in physical health ($P = .916$). ECPICID-AVC reliability: ICC = 0.988 (95% CI: 0.984–0.991).
Bakas et al, 2016 (USA), secondary analysis of RCT[37]	Participants: caregivers (n = 123) Measures: CNCC; BCOS	TASK II; nurse-led telephone intervention (8 weekly sessions + 1 booster)	Caregiving skills	Stroke survivor mobility (SSQOL): mean, 3.4; SD, 1.0. Stroke survivor thinking (SSQOL): mean, 2.7, SD, 1.0.
Boger et al, 2015 (United Kingdom), qualitative study[38]	Participants: stroke survivors (n = 28) Measures: semi-structured focus groups	No educational intervention	Self-management	Themes highlighted poststroke self-management, individual capacity and environmental support.
Bucki et al, 2016 (Luxembourg), cross-sectional study[39]	Participants: caregivers of stroke survivors (n = 62) Measures: HCFC (WHOQOL-BREF; CRA; Carer Satisfaction)	No educational intervention	Capability: multidimensional functioning (physical, psychological, social, material)	Physical functioning and family support: $r = 0.571$, $P < .01$. Lifestyle value and family support: $r = 0.604$, $P < .001$. Psychological functioning and material conditions: $r = 0.589$, $P < .001$.
Cheng et al, 2018 (Hong Kong), RCT[40]	Participants: caregiver/stroke survivor dyads (n = 128) Measures: CCS; PSI; CES-D-10; CSI; SSQ-6; FAD-GF; SF-12v2	Strength-oriented psychoeducational program; 2 in-hospital sessions + 6 telephone-based coping skills sessions postdischarge	Caregiving competence	Caregiving competence: IG = 10.45 ± 2.48 vs. CG = 10.64 ± 2.24 ($P = .70$). Problem-solving coping: IG = 101.25 ± 15.82 vs. CG = 103.83 ± 17.92 ($P = .96$). Depressive symptoms, family functioning, and social support: no between-group differences (all $P > .40$).
Chen et al, 2025 (Singapore), qualitative study[41]	Participants: stroke survivors (n = 7); caregivers (n = 6) Measures: focus groups	Work skills training workshop; 4 sessions (2.5 hours/week for 4 weeks)	Capability: psychosocial, emotional, work readiness	Reported gains in communication, emotional regulation, confidence, and self-reflection. Capability linked to work readiness, autonomy, and goal setting; challenges included cognitive fatigue and digital barriers.
Costa et al, 2025 (Brazil), RCT[42]	Participants: caregivers (n = 58) Measures: ECCIAD-ACV; CBS; FIM	E-share; MOOC-based intervention + 4 scheduled phone calls and hotline support (3 months)	Capability: functional, emotional	Feeding-related caregiving tasks improved (2.56 ± 0.64 to 2.96 ± 0.20; $P < .001$). Medication administration improved (2.66 ± 0.72 to 3.00 ± 0.00; $P = .009$).
Geddes et al, 1991 (United Kingdom), quasi-experimental study[43]	Participants: stroke survivors (n = 58) Measures: Barthel Index	Leeds Family Placement Scheme; supervised home placement with trained carers	Functional ability	Higher functional independence (Barthel Index) compared with controls at 12 and 42 months ($P < .05$).
Hall et al, 2020 (United Kingdom), qualitative study[21]	Participants: stroke survivors (n = 31); caregivers (n = 12) Measures: COM-B–guided observations; interviews	No educational intervention	Capability: physical and psychological	Themes identified physical, psychological, environmental, and caregiver-related influences on sedentary behavior after stroke.

(Conintued)

TABLE 2

Continued

Author, Year (Country), Study Design	Participants, Instruments	Educational Program, Intervention	Capability Concept–Related Construct	Results
Johnson et al, 2018 (USA), quantitative pilot study[44]	Participants: pilot A survivors and caregivers (n = 198); pilot B: participants (n = 30) Measures: stroke knowledge questionnaire	Standardized in-hospital stroke education; pilot B included test-enhanced learning	Knowledge and self-management capabilities	Test-enhanced learning improved personal risk factor knowledge (87% vs. 40%, $P = .02$) and medication knowledge (100% vs. 67%, $P = .04$). Mean follow-up: 4.6 ± 0.6 weeks.
Kelly et al, 2020 (United Kingdom), qualitative study[45]	Participants: stroke survivors (n = 16); caregivers (n = 2); clinicians (n = 11) Measures: semi-structured focus groups	Queen Square Upper Limb Neurorehabilitation Program; intensive upper-limb rehabilitation	Psychosocial skills	Psychosocial themes included motivation, confidence, values, and engagement in intensive rehabilitation.
Lin et al, 2023 (China), qualitative study[46]	Participants: stroke survivors (n = 26); caregivers (n = 33); nurse coaches (n = 4) Measures: semi-structured interviews	Nurse-led health coaching during hospital-to-home transition; in-person sessions + follow-up calls	Caregiving ability	Caregivers reported increased self-efficacy, problem-solving skills, resilience, and preparedness for caregiving.
Mou et al, 2023 (China), pilot RCT[47]	Participants: dyads (n = 162; intervention = 81, control = 81) Measures: SIS; CBI; CCS; F-COPES; PHQ-9; GAD-7; GF-FAD; MS	FDPEI; psychoeducational intervention (3 in-hospital sessions + 4 postdischarge calls)	Caregiving competence	Caregiving competence improved at T1 (β = 0.98, 95% CI: 0.21–1.75; $P = 0.013$) and T2 (β = 1.58, 0.79–2.38; $P < .001$). Survivor emotional functioning improved at T1 (β = 7.22, 1.43–13.01; $P = .015$); T2: NS. Coping improved at T2 (β = 6.73, 1.73–11.73; $P = .008$).
Nasr et al, 2016 (United Kingdom), qualitative study[48]	Participants: stroke survivors (n = 10); caregivers (n = 8) Measures: in-depth interviews, diaries, photography	No educational intervention	Physical capabilities	Themes emphasized social networks, technology attitudes, experiential skills, and motivation influencing physical activity.
Nott et al, 2021 (Australia), mixed-method study[49]	Participants: stroke survivors (n = 40) Measures: SSEQ; COPM; interviews (subset)	Stroke-specific self-management program; 12 weeks, OT co-facilitated	Self-management and self-efficacy	COPM performance improved (Δ = 3.4, 95% CI: 2.8–4.0; $P = .001$; $d = 1.89$). COPM satisfaction improved (Δ = 3.8, 3.0–4.6; $P = .001$; $d = 1.85$). SSEQ change not significant ($P = .076$).
Sánchez-Huamash and Cárcamo-Cavagnaro, 2021 (Peru), quasi-experimental study[50]	Participants: caregivers (n = 10) Measures: questionnaire; practical skills assessment	Video-based educational program for caregivers in the subacute stroke phase	Practical skills	Practical caregiving skills markedly improved (Δ = 34.5, 95% CI: 29.0–40.1; $P < .001$). Stroke-related knowledge improved (Δ = 10.0, 7.4–12.6; $P < .001$).
Van Puymbroeck and Rittman, 2005 (USA), pilot RCT[51]	Participants: dyads (n = 92) Measures: FIM; SOC; GDS; SCQ	No educational intervention	Coping ability	Higher coping ability associated with lower caregiver burden and dissatisfaction at 1 and 6 months (all $P \leq .02$).
Vincent et al, 2007 (Canada), qualitative study[52]	Participants: survivors, caregivers, and professionals (n = 72) Measures: focus groups; DCP framework	No educational intervention	Capability functional	9 of 10 DCP capability domains identified; multiple unmet needs across functional and participation-related areas.
Wang et al., 2022 (China), cross-sectional study[53]	Participants: dyads (n = 306) Measures: CD-RISC-10; MUIS-FM; FCTI; NIHSS; BI	No educational intervention	Caregiving ability	Resilience negatively associated with illness uncertainty (β = –0.558, $P < .01$). Resilience negatively associated with caregiving difficulty (β = –0.269, $P < .01$). Significant indirect effect via uncertainty (β = –0.384, $P < .01$)

(Conintued)

TABLE 2

Continued

Author, Year (Country), Study Design	Participants, Instruments	Educational Program, Intervention	Capability Concept–Related Construct	Results
Wang et al, 2024 (China), RCT[54]	Participants: dyads (n = 90; intervention = 45, control = 45) Measures: ZBI; MAS; BI; SAS; SDS	Control: routine health education; intervention: video-based teach-back training	Caring ability	Caregiving ability (total score): greater improvement in intervention group (110.54 ± 12.92 vs. 103.23 ± 10.65; $P < .001$). Motor ability (MAS): intervention group showed larger gains (36.56 ± 6.32 vs. 32.17 ± 4.83; $P < .001$). Functional independence (BI): higher scores in intervention group (75.33 ± 6.72 vs. 66.35 ± 7.34; $P < .001$).
Wennerberg et al, 2019 (Sweden), qualitative study[55]	Participants: caregivers (n = 32) Measures: in-depth interviews	No educational intervention	Capability: dyadic and relational	Dyadic functioning ranged from reciprocal, supportive relationships to strained and emotionally burdensome caregiving experiences.
Ye et al, 2024 (China), mixed-method study[56]	Participants: survivors (quantitative, n = 379; qualitative, n = 15) Measures: PSSS; SSEQ; SPBS; FHI; interviews	No educational intervention	Family resilience based	Social support inversely associated with self-perceived burden ($r = –0.347$, $P < .01$) and positively with self-efficacy ($r = 0.610$, $P < .01$). Self-efficacy associated with family resilience ($r = 0.420$, $P < .01$); qualitative findings emphasized beliefs, organization, and communication.

Abbreviations: ADLs, activities of daily iving; BCOS, Bakas Caregiving Outcomes Scale; BI, Barthel Index; CBI, Caregiver Burden Inventory; CBS, Caregiver Burden Scale; CCS, Caregiving Competence Scale; CD-RISC-10, 10-item Connor–Davidson Resilience Scale; CES-D-10, 10-item Center for Epidemiological Studies Depression Scale; CG, control group; CI, confidence interval; CNCC, Caregiver Needs and Concerns Checklist; COM-B, Capability–Opportunity–Motivation–Behavior model; COPM, Canadian Occupational Performance Measure; CRA, Caregiver Reaction Assessment; CSI, Caregiver Strain Index; DCP, Disability Creation Process; ECCIAD-ACV, Spanish acronym for Scale for the Assessment of Informal Caregivers' Capacity in Older Adults Dependent After Stroke; ECPICID-AVC, Portuguese acronym for Instrument for Evaluating the Capacity of Informal Caregivers in Providing Care to Older People After Stroke; FDPEI, family dyadic psychoeducational intervention; F-COPES, Family Crisis Oriented Personal Evaluation Scale; FAD-GF, General Functioning subscale of the Family Assessment Device; FCTI, Family Caregiver Task Inventory; FHI, Family Hardiness Index; FIM, Functional Independence Measure; GAD-7, Generalized Anxiety Disorder–7 scale; GDS, Geriatric Depression Scale; GF-FAD, general functioning subscale of the family assessment device; HCFC, health capability of family caregivers; ICC, Intraclass Correlation Coefficient; IG, intervention group; InCARE, Informal CAREgiver training intervention; MAS, Motor Assessment Scale; MS, Mutuality Scale; MUIS-FM, Mishel Uncertainty in Illness Scale–Family Member Form; MOOC, massive open online course; NIHSS, National Institutes of Health Stroke Scale; NS, not significant; OT, occupational; PHQ-9, Patient Health Questionnaire–9; PSI, Problem-Solving Inventory; PSSS, Perceived Social Support Scale; QASCI, Portuguese acronym for Questionnaire for the Assessment of Informal Caregiver Burden; RCT, randomized controlled trial; SAS, Self-Rating Anxiety Scale; SCQ, Sense of Competence Questionnaire; SD, standard deviation; SDS, Self-Rating Depression Scale; SF-12v2, 12-Item Short Form Health Survey, version 2; SF-36, 36-Item Short Form Health Survey; SIS, Stroke Impact Scale; SOC, Sense of Coherence; SPBS, Self-Perceived Burden Scale; SSEQ, Stroke Self-Efficacy Questionnaire; SSQ-6, Six-Item Social Support Questionnaire; SSQOL, Stroke-Specific Quality of Life Scale; WHOQOL-BREF, World Health Organization Quality of Life—Brief Version; ZBI, Zarit Burden Interview.

TABLE 3

Distribution of Articles According to the Elements Expressed by the Nussbaum Framework

Macrocategories	Central Capabilities	Authors	Outcome Measures/Themes
Basic capabilities		Van Puymbroeck and Rittman (2005)[51]	Coping ability (SOC)
		Vincent et al (2007)[52]	DCP capability
Internal capabilities	Bodily Health	Bakas et al (2016)[37]	Mobility and thinking
		Wang et al (2022)[53]	Resilience, illness uncertainty, and caregiving ability
		Nasr et al (2016)[48]	Skills and experiences
	Senses, imagination, and thought	Kelly et al (2020)[45]	Motivation, values, confidence, engagement, and education
		Ye et al (2024)[56]	Social support, self-efficacy, self-perceived burden, and family resilience
	Emotions	Cheng et al (2018)[40]	Caregiving competence, problem-solving coping ability, family functioning, and social support
		Sánchez-Huamash and Cárcamo-Cavagnaro (2021)[50]	Practical skills and knowledge
	Practical reason	Chen et al (2025)[41]	Communication, emotional regulation, confidence, self-reflection, work readiness, autonomy, and goal setting
Combined capabilities	Bodily health	Bucki et al (2016)[39]	Physical functioning and family support, lifestyle value and family support, and psychological functioning and material conditions
		Hall et al (2020)[21]	Physical and social environment, standing and movement capability, and emotion and motivation
	Emotions	Mou et al (2023)[47]	Stroke survivors–functioning, caregiving competence, and coping
	Senses, imagination, and thought	Costa et al (2025)[42]	Supports food intake and administers medication as prescribed
		Wang et al (2024)[54]	Ability
		Johnson et al (2018)[44]	Personal risk factor knowledge and medication knowledge
	Practical reason	Araújo et al (2018)[36]	Practical skills
		Lin et al (2023)[46]	Tailored coaching, greater self-efficacy, problem-solving, resilience, and caregiving ability
		Nott et al (2021)[49]	Performance, satisfaction, and reflecting on shared experiences
	Affiliation	Wennerberg et al (2019)[55]	Resistance resources and deficit
	Control over one's environment	Geddes et al (1991)[43]	Barthel score
		Boger et al (2015)[38]	Self-management, individual capacity

Abbreviations: DCP, disability creation process; SOC, Sense of Coherence.

Practical Reason

Practical reason is described as the ability to reflect on one's goals and to guide decisions based on personal values. The study by Chen et al[41] assessed the effects of a 4-week workshop designed to develop skills for re-employment. Participants reported benefits such as better communication tools, clarification of values and objectives, greater self-awareness, and mutual support between peers. The intervention strengthened participants' ability to plan and make informed decisions for their future.

Combined Capabilities

Combined capabilities represent the abilities that a person can actually apply in real-life contexts. They result from the integration between basic and internal capabilities.

Bodily Health

According to Nussbaum,[20] bodily health refers to the ability to develop and maintain adequate bodily functioning. In Bucki et al,[39] strong correlations emerged between physical functioning and family support ($r = 0.571$; $P < .01$), between lifestyle and family support ($r = 0.604$; $P < .001$), and between psychological functioning and material conditions ($r = 0.589$; $P < .001$), highlighting the central role of environmental and relational factors. The qualitative findings of Hall et al[21] complement these results. Six thematic areas were identified, including the influence of home environments and caregiver roles on sedentary behavior, and stroke survivors' limited ability to stand and move. Physical limitations—poor coordination, unstable balance, and chronic fatigue—were described as major barriers to participation. Sedentary behavior dominated daily life, reinforced by environmental obstacles and overly protective caregiving attitudes.

Together, these studies show that improvements in bodily health depend on adequate social and environmental support, while insufficient support contributes to worsening limitations and persistent sedentary lifestyles.

Emotions

The capability of emotions implies the freedom to live meaningful relationships and process emotions in a constructive way, so as to make social participation and psychological well-being possible. In a pilot RCT conducted by Mou et al[47] with a dyadic family psychoeducation program, it produced significant improvements in poststroke emotional functioning ($\beta = 7.22$; $P = .015$). The study shows that the program had a reducing effect on the caregiver's bar at T1 ($\beta = -6.01$; $P = .026$) and T2 ($\beta = -6.73$; $P = .039$). Similarly, increases in care competence (T1: $\beta = 0.98$; $P = .013$; T2: $\beta = 1.58$; $P < .001$), reduction of depressive symptoms in survivors (T1: $\beta = -1.56$; $P = .007$; T2: $\beta = -2.06$; $P = .005$), and improvement in dyadic relationship (T1: $\beta = 0.26$; $P = .012$; T2: $\beta = 0.27$; $P = .022$) were observed. Furthermore, a significant increase in coping capacity was recorded at T2 ($\beta = 6.73$; $P = .008$). It highlights how targeted interventions can reduce depressive symptoms, burden, and stress and enhance coping and relationship quality.

Senses, Imagination, and Thought

According to the study by Costa et al,[42] the use of MOOCs resulted in an increase in correct drug administration (baseline: 2.66 ± 0.72; final: 3.00 ± 0.00, $P = .009$) and nutrition support (baseline: 2.56 ± 0.64; final: 2.96 ± 0.20, $P < .001$). Similarly, in the work of Johnson et al,[44] a tailored learning program increased the ability to identify personal risk factors (100% vs. 67%, $P = .04$) and the purpose of medications (87% vs. 40%,

P = .02) compared with standard training, improving knowledge maintenance. Finally, from the data, Wang et al[54] structured an intervention with video teach-back. An increase in the total score of care skills (from 95.35, SD: 12.13 to 110.54, SD: 12.92; P < .001) and a reduced burden of the caregiver (Zarit Burden Interview: from 39.23, SD: 7.23 to 31.98, SD: 6.43; P < .001) were evident.

Practical Reason

According to Nussbaum, practical reason refers to the ability to form life plans, make autonomous decisions consistent with one's values and priorities, and establish significant objectives. The InCARE intervention described by Araújo et al[36] demonstrated improvement in practical skills (P < .001) and reduction in burden (P < .001). In the qualitative study by Lin et al,[46] nursing coaching in the transition from hospital to home emphasized how personalized guidance increases self-efficacy, facilitates the creation of individualized care plans, and stimulates the development of self-care skills. Similarly, in the mixed-method study by Nott et al,[49] improvements in employment performance (t = 11.2; P = .001) and satisfaction (t = 9.7; P = .001) are highlighted, with self-efficacy mediating these outcomes (occupational performance: F = 7.08; P < .01; satisfaction: F = 6.52; P = .02). The qualitative part of the study aligns with topics such as personal goals, reflecting on one's progress and directing one's rehabilitation, with an added value given by mutual support between participants. Practical reason is supported by interventions that combine practical road development, active involvement in decision-making, and the reinforcement of self-efficacy.

Affiliation

For Nussbaum, affiliation refers to the ability to form relationships grounded in respect and cooperation. In the qualitative study by Wennerberg et al,[55] 2 macrocategories emerged: living in fellowship in a well-functioning dyad and struggling in a malfunctioning dyad. The first includes adaptive relational resources—living in reciprocity, living in affinity, and enjoying togetherness. The second highlights relational deficits such as locking twosomeness, living in unpredictability, being overloaded, being bullied and countered, and becoming a container for negative emotions. Overall, the findings indicate that affiliation depends on the quality of interactions and on the dyad's ability to face challenges together.

Control Over One's Environment

Control over one's environment refers to the ability to manage one's living and working context, making effective use of material resources to maintain autonomy. The quasi-experimental study by Geddes et al[43] demonstrated the effectiveness of the Family Placement Scheme as a community-based rehabilitation intervention: 42 months after the ischemic event, 7.5% of participants in the experimental group had maintained or improved their Barthel Index score, compared with 38% in the control group (P < .05). From a qualitative standpoint, Boger et al[38] identified 3 themes that support self-management after stroke (individual capacity, support for self-management, and the self-management environment). Overall, this evidence indicates that structured rehabilitation interventions and the creation of a supportive context for self-management enhance resource management, reduce dependence, and promote a more autonomous life.

Results of the Concept Analysis

Walker and Avant Concept Analysis

Concept Selection

The concept selected for this analysis is the capability of stroke survivors and their caregivers. The results of the concept analysis are summarized in Table 4. The empirical findings derived from the included studies and contributing to the identified attributes are presented in Table 5. The concept analysis was conducted using the same set of studies included in the systematic review, complemented by theoretical literature where appropriate.

TABLE 4

Concept Analysis Summary

Element	Results
Concept selection	Capability in stroke survivors and their caregivers.
Applications of the concept	What a person is able to do or be based on scientific knowledge.[39] The physical and psychological ability of a person to perform a behavior, including the necessary knowledge and skills.[21] A form of relational capability, in which mutual support, communication, and cooperation strengthen the shared ability to deal with difficulties.[55] Nine categories of "capabilities" were identified referring to individual needs: motor, behavioral, communicative, perceptive, cognitive, sexual, sleep-related, and psychological aspects.[52]
Defining attributes	Self-efficacy, resilience, and motivation.
Model cases	During hospitalization following a stroke, the dyad receives training on how to manage the disease at home and rehabilitation exercises, support and assistance in accessing follow-up services, and guidance on adopting a healthy lifestyle and reintegrating into the world of work.
Definition of additional cases	*Borderline case:* Caregiver and stroke survivor discharged with incomplete information, limited capability. *Related case:* Stroke survivor participating in an aphasia program, focusing on a specific function, not complete capability. *Contrary case:* Caregiver left without instructions or support, capability absent. *Illegitimate case:* Capability improperly used as a synonym for residual motor ability.
Antecedents and consequences of the concepts	*Background:* Access to educational programs, adaptation to long-term disabilities, social/healthcare/financial resources (family support, professional support, socioeconomic status). *Consequences:* Empowerment, autonomy, improved quality of life for the dyad, effective management, reduced hospital readmissions, sustainability of the healthcare system.
Defining the empirical referents	To date, to our knowledge, no validated instrument specifically measures the capability of stroke survivors and their caregivers.
Conceptual definition	"Capability in stroke survivors and their caregivers is the freedom and opportunity, activatable and transferable with expert support, to mobilize personal, social, and contextual resources through self-efficacy, resilience, and motivation to adapt and improve continuously in managing care and daily life."

TABLE 5

Synthesis of Empirical Findings Contributing to the Defining Attributes of Dyadic Capability

Study	Extracted Concept/Finding	Mapped Attribute
Bakas et al (2016)[37]	Caregiver confidence in managing stroke-related care tasks and challenges	Self-efficacy
Cheng et al (2018)[40]	Caregivers develop problem-solving skills and emotional regulation to cope with caregiving stress	Resilience
Kelly et al (2020)[45]	Engagement in goal-oriented rehabilitation and meaningful tasks enhances motivation and participation in recovery	Motivation
Wang et al (2022)[53]	Caregiver resilience reduces uncertainty and supports adaptation in poststroke caregiving	Resilience
Hall et al (2020)[21]	Stroke survivors' engagement in reducing sedentary behavior is influenced by emotional responses, confidence, and motivation	Motivation
Mou et al (2023)[47]	Active engagement in interventions enhances coping and participation in caregiving and recovery processes	Motivation/resilience
Lin et al (2023)[46]	Health coaching interventions drive self-efficacy and empower stroke survivors and caregivers to develop self-care skills and confidence	Self-efficacy
Ye et al (2024)[56]	Caregiver self-efficacy is associated with family resilience and coping capacity in poststroke care	Self-efficacy/resilience

Use of the Concept

In the research of Bucki et al,[39] the notion of "capability" is interpreted according to the Sen–Nussbaum model,[18] defined as "what a person is able to do or be based on scientifically available knowledge."

Hall et al[21] define "capability" using the COM-B theoretical model, as "the physical and psychological ability of a person to perform a behavior, including the necessary knowledge and skills."

In the study of Wennerberg et al,[55] a form of "relational capability," in which mutual support, communication, and cooperation strengthen the shared ability to deal with difficulties.

Vincent et al[52] used the Disability Creation Process model, identifying 9 categories of capabilities referring to individual needs: motor, behavioral, communicative, perceptive, cognitive, sexual, sleep-related, and psychological aspects.

Defining Attributes

Capability within the stroke survivor–caregiver dyad is characterized by 3 core attributes: self-efficacy, resilience, and motivation. Consistent with the capability approach,[18,19] these attributes are jointly necessary for the concept to be expressed.

Self-efficacy enables individuals to mobilize and apply resources.[57] Resilience supports adaptation to adversity and sustained functioning,[58] and motivation drives engagement with care and recovery.[59] The absence of any one of these elements limits the emergence of true capability in this context. Motivation, self-efficacy, and resilience are essential for overall recovery.[41]

Self-Efficacy

Within the capability framework, self-efficacy is an important internal factor that enables individuals to convert resources into tangible opportunities. Bandura[57] defines it as the conviction that one can carry out the actions required to achieve objectives, based on perceived rather than actual abilities. These beliefs strongly influence behavior, decision-making, and caregiving involvement.[38,39] In the poststroke phase, self-efficacy supports independence in daily living[45,49] and fosters more confident, proactive caregiving.[41,46]

Resilience

Resilience refers to the ability to cope with adversity by mobilizing both personal and external resources.[58,60] In the poststroke context, it is a dynamic process shaped by the interaction between the individual and the environment, fostering adaptation and effective coping strategies.[51] Evidence shows that resilience improves quality of life even in the presence of psychological distress,[53] reduces caregiving burden, and strengthens caregiving effectiveness care.[53,56] As such, resilience supports the transformation of available resources into effective opportunities for action within the dyad.

Motivation

Within the capability framework, motivation represents the mechanism that transforms potential into concrete outcomes.[21,48] According to Self-Determination Theory,[61] it is sustained by fulfillment of 3 basic psychological needs: autonomy, competence, and relatedness.[38] In the poststroke context, motivation enables survivors and caregivers to engage with rehabilitation programmes and adapt to disability.[37,41-43,45,47] Motivation, therefore, contributes to the activation of capability within the dyad.

Capability emerges only when self-efficacy enables action, resilience sustains it, and motivation directs it.

Model Cases

Rosamaria's husband is admitted to the stroke unit following a stroke. He experiences dizziness, motor difficulties, and significant anxiety about his recovery. Rosamaria feels overwhelmed and uncertain about what lies ahead. During the hospitalization, both receive educational support and guidance to prepare for the return home.

Once home, things do not always go as expected. Rosamaria notices that her husband tolerates rehabilitation exercises better in the morning, so she reorganizes their daily routine accordingly. She learns to recognize early warning signs and contacts the healthcare team when needed, without waiting to be told. Her husband, despite his limitations, begins to express his preferences about his care and pushes himself to regain small but meaningful levels of independence. When a new problem arises, they talk it through together and figure out what to do, sometimes getting it wrong the first time but adjusting.

What emerges is not simply the result of the training they received. It is the product of their ability to use what they learned within the messiness of real life together, and over time.

Definition of Additional Cases

Borderline Case

A stroke survivor is discharged from the hospital with a permanent disability. The caregiver receives instructions on how to mobilize the patient, but has not fully understood whether the disability is permanent, what follow-ups are necessary, or what might indicate a recurrence. At home, uncertainty, anxiety, and difficulties in daily management emerge. In this case, some support is available, but essential information, clear communication, and a structured support network to enable independent and informed decisions are lacking. Capability is limited, as the conditions for full implementation are not met.

Related Case

A stroke survivor, after being discharged, decides to participate in an educational program for patients with aphasia. The program aims to improve communication, provide coping strategies, and promote social participation. The patient develops greater confidence in their own language. In this case, concepts related to capability focus on a specific function—language—and therefore not on the full spectrum of real opportunities for choice and multidimensional well-being that characterizes capability. This is therefore a related case, but not entirely representative of the concept.

Contrary Case

An 80-year-old caregiver goes to the hospital to visit his wife, a stroke survivor. He is told that she will be discharged the next day and taken home by ambulance. However, no one has provided him with practical instructions or involved him in planning the return home. Thus, the next day, he finds himself alone, caring for a disabled person, without knowing how to help them move, feed them, or access community services. Panic and feelings of helplessness increase, jeopardizing the safety and well-being of both.

In this situation, the concept of capability is completely lacking, as resources, freedom of choice, and structured support that allow both the caregiver and the stroke survivor to exercise even a modicum of control over their situation are lacking.

These cases illustrate that capability is not the presence of skills, but the alignment between resources, understanding, and contextual support.

Illegitimate Case

A healthcare provider describes a stroke survivor as having good capability, referring exclusively to his residual motor ability. However, they have not considered all the various aspects related to the stroke survivor's social context, family support, choice, or active participation. In this case, the concept of capability has been misused.

Antecedents and Consequences of the Concepts

Antecedents

In stroke survivors and their caregivers, capability develops under 3 main conditions. First, access to educational programs provides the knowledge and skills needed for care management.[21,36,38,41,43,46,47,49,51–53] Second, the onset of disability requires long-term functional, psychological, and social adaptations.[21,38,41,43,47,48,51,55] Third, the broader social, health, and economic context, such as resources, professional and family support, and socioeconomic status, shapes the development of capability.[21,36–39,45–49,52,53,55,56]

Consequences

The development of these attributes enables stroke survivors and caregivers to translate knowledge into practice, enhancing empowerment.[41,43]

This translates into increased autonomy,[21,37,38,42,43,45,48,56] improved quality of life for the dyad,[21,39,41,43,48,55] and greater effectiveness in care management.[21,36,39,41,44,46–50,54]

These positive effects also contribute to reducing the risk of hospital readmission, promoting greater sustainability of the healthcare system.

Educational programs[47] lead to significant improvements in caregiving competence, quality of the dyadic relationship, reduction of burden, and depressive symptoms, suggesting that this type of intervention can enhance the capability.

The antecedents and consequences are summarized in Figure 2.

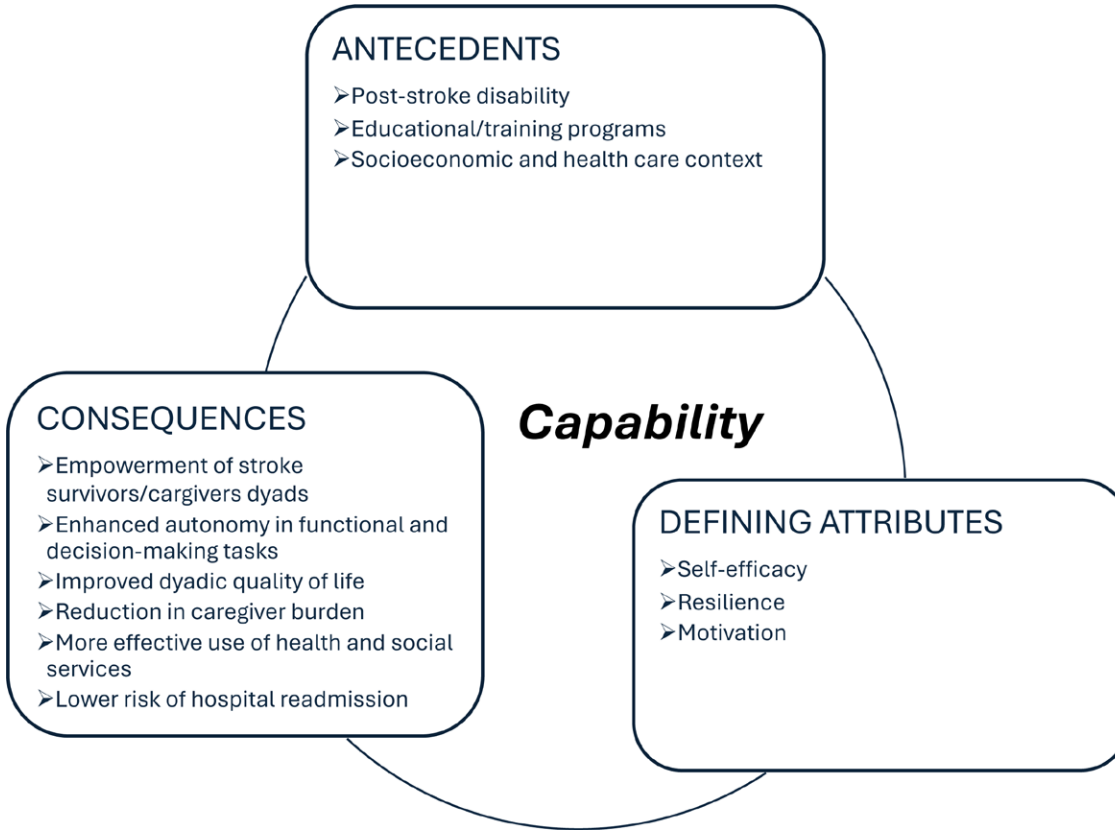

FIGURE 2. Walker and Avant Concept Analysis Model.

Defining the Empirical Referents

To date, to our knowledge, no validated instrument specifically measures the capabilities of stroke survivors and their caregivers.

Conceptual Definition

Drawing on the findings of the concept analysis, including key attributes, antecedents, and consequences, the following conceptual definition of capability is proposed:

"Capability in stroke survivors and their caregivers is the freedom and opportunity, activatable and transferable with expert support, to mobilize personal, social, and contextual resources through self-efficacy, resilience, and motivation to adapt and improve continuously in managing care and daily life."

Discussion

This study investigated capability within the stroke survivor–caregiver dyad through a systematic review and concept analysis.[27]

The findings of the systematic review allowed us to explore capability within the dyad through the lens proposed by Nussbaum, which distinguishes human capability into 3 fundamental components: basic, internal, and combined capabilities. The analysis of the 22 included studies, conducted in diverse geographical and healthcare contexts (North America, Europe, Asia, and Latin America) and involving approximately 2866 participants, 1565 stroke survivors, and 1301 caregivers, confirms the relevance of this framework as an interpretive structure capable of capturing the multiple ways in which capability manifests in the real-life experience of the dyad.

Basic capabilities represent the foundational layer—the primary capacities, often innate or previously developed, that support any subsequent growth. In the included studies, this aspect emerged in elements such as coping,[51] cognitive and motor functions, and communicative and orientation abilities following the stroke event.[52] Within the stroke survivor–caregiver dyad, this suggests identifying which resources will serve as the foundation for building additional capabilities and which vulnerabilities may translate into disadvantages.

Internal capabilities represent the phase in which personal resources mature. In our review, this category includes emotional regulation, the ability to reflect and make decisions, motivation, and self-efficacy.[40,50] These elements take shape through experience, education, professional support, and the reorganization of daily life.[59,62,63] It is important to emphasize that internal capabilities are not purely individual. The caregiver's resilience supports the survivor's motivation; the survivor's self-efficacy reduces the caregiver's burden; and the emotional regulation of one influences the stability of the other.[40,45,50,64] The literature on self-management and family-centered rehabilitation[47] shows that active learning and the construction of shared meanings facilitate adaptation by supporting personal values and goals.

Combined capabilities materialize when internal resources meet external conditions and become actual opportunities. The studies included in our review show that environmental factors such as family support, characteristics of the living environment, educational interventions, coaching, service organization, and economic resources play a key role.[41,44,49] These elements can either amplify or diminish the dyad's ability to manage care, maintain autonomy, rebuild a meaningful daily life, and participate in social life. This interpretation is consistent with the literature,[65] which argues that combined capabilities emerge only through the interaction between internal competencies and external conditions that enable their exercise. In the poststroke dyad, this aspect is particularly fragile: environmental barriers, limited social support, or family overprotection can drastically reduce the possibilities for autonomous and continuous care.[66,67] Measuring capability within the stroke survivor–caregiver dyad is therefore essential, as it is at the level of combined capabilities that concrete opportunities to choose, participate, and provide care are realized. In transitional care, this perspective broadens rehabilitation beyond physical recovery, emphasizing autonomy in self-care,[68,69] the development of critical health competencies,[70] and the strengthening of social support. Capability thus functions as the connective tissue linking involvement, preparation, and empowerment, thereby supporting continuity and safety in poststroke care. Within the stroke survivor–caregiver dyad, care must therefore adopt a holistic perspective that embraces both opportunities and contextual factors—an approach in which the concept of capability finds its fullest expression.

The findings of the concept analysis indicate that the term "capability," when applied to the dyad, does not refer solely to technical skills but rather represents a concept shaped by multiple intellectual traditions. The literature uses the term in diverse ways: at times as the "freedom to be and to do" in the sense proposed by Sen[18] and Nussbaum[20]; at other times as a set of psychological abilities necessary for action, as described in the COM-B model.[21] Overall, capability does not have a single shared definition in the stroke survivor–caregiver literature and is interpreted according to different theoretical frameworks. This lack of conceptual clarity suggests that, although the concept of capability is used, it is not yet fully established within the theoretical landscape of health, particularly in the field of stroke.

This plurality of studies illustrates that capability is a dynamic, permeable, and adaptable concept, grounded in lived experiences and contexts. What emerges is that capability is not merely what a person "knows how to do" or "is able to do," but the potential space that opens between the stroke survivor, the caregiver, and the environment in which they live. The work of Von Köppen and Kümpers[71] confirms that capability depends on the interaction between personal and socio-structural factors—and that success arises only when both are engaged simultaneously. Within this dynamic space lie the 3 attributes we identified: self-efficacy, resilience, and motivation. These attributes may be interpreted as "conversion factors," allowing individuals to translate resources, information, support, and lived experiences into real opportunities, actionable choices, and margins of autonomy within the often-complex poststroke context. Capability can fully emerge only when these 3 dimensions coexist and find fertile ground in the environment. Research in other health fields similarly shows that capability is shaped by contextual opportunities and constraints.[72–75] The cases we analyzed illustrate that this dynamic capability emerges when individuals and caregivers are not left alone but are embedded within supportive contexts that give concrete form to their possibilities. Conversely, capability disappears when information, guidance, and meaningful relationships are lacking; individuals then become deprived not only of resources but also of orientation, unable to recognize themselves as agents in their own story. In this context, the absence of tools capable of specifically measuring capability in stroke survivors and caregivers is not merely a methodological gap but also a conceptual opportunity: it calls for the development of an assessment instrument that does not reduce capability to a sum of competencies but instead captures its deeply multidimensional nature.

Clinical and Practical Implications

The integration of basic, internal, and combined capabilities shows that capability functions as a continuum—from potential, to readiness, to realized freedom. Assessing these levels in sequence can guide nursing practice and educational planning: basic capabilities identify the starting point of the dyad and potential vulnerabilities; internal highlight motivational and cognitive support; combined capabilities indicate the degree to which individuals can act within their environment.

Applied to transitional care, this framework can shift hospital discharge from a procedural step to an enabling process. Evidence suggests[76] that tele-support and tele-training can monitor and sustain capability development over time, improving continuity and safety.[8]

Enhancing capability within stroke dyads promotes autonomy and well-being while reducing caregiver burden. Considering capability as an outcome may also align rehabilitation goals with real functional needs and support equitable care pathways. The absence of instruments measuring dyadic capability may reflect conceptual ambiguity, methodological challenges in capturing interdependent processes, and the predominance of individual-level outcomes in stroke research, with limited focus on dyadic constructs. Building on this foundation, we plan to design and validate an instrument capable of capturing the identified conceptual dimensions.

Strengths and Limitations

Although this review adopts a dyadic perspective, several included studies focused on only one member of the dyad. This reflects the current structure of the literature, in which dyadic designs remain limited. While these studies contributed to understanding processes relevant to the dyad, the indirect nature of some evidence may limit the full representation of reciprocal and interdependent dynamics between stroke survivors and caregivers.

First, the studies included in this review showed considerable heterogeneity in design, populations, and outcome measures. This variability made it impossible to perform a meta-analysis and limited the direct comparability of results. In addition, the concept analysis was limited to peer-reviewed literature, which may have excluded relevant theoretical contributions from grey literature; however, this choice was made to enhance methodological rigor, transparency, and reproducibility.

Second, most of the included studies were conducted in high-income countries. Consequently, the findings may not fully capture the experiences and rehabilitation contexts of low- and middle-income settings, where available resources and healthcare infrastructures differ substantially.

Finally, none of the studies directly measured capability as defined by Sen or Nussbaum. This underscores a conceptual and methodological gap in how the capability approach has been operationalized in stroke research to date.

Despite these limitations, the review also presents several important strengths. The review followed a rigorous and transparent process, with clear criteria and independent screening. Finally, although no study directly investigated capability in its strict theoretical sense, this review provides a comprehensive and integrated synthesis of the factors that support recovery and participation after stroke within the survivor–caregiver dyad.

Conclusions

Although capability is increasingly cited in stroke rehabilitation and caregiver research, its meaning remains inconsistently defined and rarely operationalized. This review addresses this gap by critically examining how the concept of capability is currently used and applied within the stroke survivor–caregiver dyad.

The findings of this review indicate that, within the dyad, capability can be understood as the concrete ability to apply acquired knowledge and skills in managing life after stroke. Self-efficacy, resilience, and motivation emerge as key mechanisms that translate preparation into autonomy and daily adaptation.

For clinical practice, this implies that educational and transitional interventions should extend beyond the transmission of technical information to include strategies that foster confidence, problem-solving skills, and mutual support. Supporting the development of capability has the potential to enhance continuity of care, reduce caregiver burden, and promote functional recovery among stroke survivors.

From a research perspective, this review highlights the need to develop and validate specific tools to measure dyadic capability and to conduct longitudinal and interventional studies aimed at evaluating its impact on recovery, caregiver burden, and quality of life.

Integrating capability as a clinical outcome could ultimately make poststroke rehabilitation more targeted, effective, and sustainable.

Capability should be considered a core outcome of poststroke care, as it captures whether individuals are truly able to live with and beyond stroke.

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