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Stroke Patients' Reintegration into Normal Living Post-Discharge from Inpatient Rehabilitation: An Integrative Review

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Abstract

Background: Stroke rehabilitation professionals have historically focused rehabilitation on physical functions and overlooked the concept of community reintegration after discharge from inpatient rehabilitation. The lack of focus on psychosocial functions post-stroke may lead to lower levels of satisfaction during community reintegration. **Methods:** This integrative review synthesized findings from research literature on stroke patients' reintegration into the community after inpatient rehabilitation to address three research questions: a) What specific physical and psychosocial functions have been identified as predictors of successful reintegration into normal living after stroke?, b) How do physical and psychosocial functions promote successful reintegration into normal living after stroke?, and c) What factors have been identified that hinder stroke patients' reintegration into normal living after stroke? **Results:** A systematic search of literature identified sixteen studies that provided significant context for the research questions. W*hat physical and psychosocial functions of stroke patients included,* for example, improved mobility, independence in daily activities, reduced disability, psychological well-being, self-efficacy, social support, and personal relationships. *How physical and psychosocial functions promote reintegration* included, for example, disability management, emotional well-being, self-care independence, sense of purpose, and employment influence. *Factors that hinder stroke patients' reintegration* consisted of longer stride time, impaired balance/mobility, activities limitation, severe stroke, presence of comorbidity, depressive symptoms, speech and language challenges, inadequate self-efficacy, fear of falling, older age, low educational level, lack of social support, and social isolation. **Conclusion:** Successful community reintegration after stroke requires a shift of focus from rehabilitation interventions that target physical functions to include interventions that address psychosocial functions.

Keywords

Stroke, Outpatient Rehabilitation, Community Reintegration, Normal Living, Functional Abilities

1. Introduction

Community reintegration is the process of adjusting the physical and psychosocial characteristics of individuals to facilitate resumption of previous societal life after experiencing a traumatic event or an incapacitating illness [1]. After discharge from inpatient rehabilitation programs, stroke patients may transition to home or outpatient settings for further rehabilitation [2]. The goal of post-stroke rehabilitation is to support the client in regaining optimal independence, returning home, resuming previous roles and responsibilities, and contributing to society. The stroke patient's ability to effectively resume pre-stroke roles and functions depends on the influence of physical, psychosocial, and environmental functions believed to facilitate the patient's reintegration into the community [3]-[6]. Common facilitators of post-stroke community reintegration are enhanced mobility, reduced disability, increased social support, and independent performance of daily activities [2] [7]-[11]. While these functions promote reintegration into the community after stroke, others like decreased mobility, impaired balance, depressive symptoms, fear of falling, driving cessation, lack of social support, and high costs of rehabilitation in individual homes or outpatient settings hinder the stroke patients' reintegration into normal living [6]-[8] [11]-[14].

Historically, clinicians have overlooked the concept of community reintegration after inpatient stroke rehabilitation and focused their care on physical functions and secondary stroke prevention, leading to fewer studies being published in this area [15]. The stroke clinician's lack of focus on post-stroke community reintegration may contribute to low levels of satisfaction with community re-engagement among stroke survivors discharged from inpatient rehabilitation programs [16]. Due to the lack of focus on community reintegration and the importance of physical and psychosocial abilities on successful reintegration to the society, there is need for a deeper understanding of the relationships between the physical and psychosocial functions in stroke patients and their reintegration into the community.

In this review, findings from identified research literature on stroke patients' reintegration to normal living were synthesized and analyzed using three research questions: a) What specific physical and psychosocial functions have been identified as predictors of successful reintegration into normal living after stroke? b) How do physical and psychosocial functions promote successful reintegration into normal living after stroke? and c) What factors have been identified that hinder stroke patients' reintegration into normal living after stroke?

Identified barriers associated with community reintegration, and the highlighted importance of physical and psychosocial functions to societal reintegration may enable rehabilitation professionals to shift stroke care focus from physical functions to include social participation and family roles engagement during community reintegration [17].

2. Methods

2.1. Research Design

This research was an integrative review, chosen because it permits the analysis of both empirical and nonempirical literature (Whittemore & Knafl, 2005). The methodological rigour of this research was enhanced by utilizing a five-stage research framework including 1) identification of research problem (introduction, research questions and objectives), 2) search of literature, 3) evaluation of data, 4) analysis of data, and 5) presentation of results [18].

2.2. Search Strategy

A search strategy was developed in consultation with a librarian with expertise in systematic reviews. The search strategy was adapted for each information search and utilized a combination of keywords and controlled vocabulary. The databases searched were MEDLINE (Ovid), CINAHL (EBSCO), PsycINFO (ProQuest), Scopus (Elsevier), ProQuest Nursing & Allied Health, and ProQuest Dissertations & Theses Global. References and citations of included studies were retrieved in Scopus to ensure no key literature was missed. Results were reported using guidelines from Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) [19] (see **Appendix A**).

2.3. Search Terms and Keywords

With the use of keywords, subheadings, and MeSH terms, three primary constructs (reintegration to normal living, stroke, and outpatient/community rehabilitation) were searched for relevant literature. The complete MEDLINE (Ovid) search strategy has been displayed in **Appendix B** (online supplementary content). During the search, two sets of articles were emergent. Observational studies that focused on the characteristics or abilities of stroke patients as they reintegrate into the society during outpatient rehabilitation, and interventional studies that focused on testing the effects of protocols and specific interventions on patient's reintegration into the society during outpatient rehabilitation. To address context-specific research questions, we chose to separate the reviews into two distinct studies. This review addresses the functional abilities of stroke patients admitted to outpatient rehabilitation programs and reintegrating into the community.

2.4. Criteria for Inclusion and Exclusion

The inclusion criteria were as follows: a) the study was aimed at examining

post-stroke community reintegration after discharge from inpatient rehabilitation programs, b) the setting was an outpatient rehabilitation environment, defined as patient's home or other community setting, c) the stroke patients had some functional abilities and participated in life activities after stroke, d) Perspectives were sought from patients and functional abilities measured by health care professionals, and e) the articles were English language publications. The following papers were excluded from the review: theoretical articles, descriptions of treatment or program approaches, literature reviews, methodological protocols, non-systematic reviews, conference proceedings, published abstracts, clinical practice guidelines, and textbook chapters.

2.5. Assessment of Methodological Quality

All included articles were critically evaluated for methodological rigour, using a list of nine domains outlined by Hawker and his colleagues [20]. The items in each of the nine domains were assessed on a four-point ordinal scale: 1) good, 2) fair, 3) poor, and 4) very poor. The overall score ranged from 9 to 36, with scores of 28 - 36 indicating good quality articles, 20 - 27 indicating fair quality, 10 - 19 indicating poor quality, and scores below 10 indicating very poor quality articles [20]. The critical appraisals were completed by two authors to establish inter-rater reliability. Any discrepancies in the ratings were discussed by the two authors until consensus was reached.

2.6. Data Extraction and Synthesis

All articles retrieved from the included databases were first exported to Covidence (https://www.covidence.org/), where duplicate articles were removed. Two authors screened a total of 4314 articles, examining their titles and abstracts for relevance to the topic under review. Afterwards, they reviewed 54 full-text articles, with any disagreements resolved through discussion. Sixteen studies in total met the inclusion criteria (**Figure 1**). Using a data extraction form, the authors independently extracted data from the included articles, preserving the original wording and language (verbatim). Extracted data included title, authors, study aims/objectives, number of participants, method of data collection, method of data analysis, and results/themes. To prepare for results synthesis, data were transferred from the extraction form to tables where they were summarized.

The process of identifying and synthesizing themes followed the framework described by Whittemore and Knafl [18]. The authors conducted a line-by-line review of individual studies, generated brief codes, and applied the codes to study findings to succinctly summarize them. The coded findings were then reviewed iteratively, comparing, and contrasting for conceptual similarity. Subsequently, the codes were grouped and organized into three themes determined deductively. The first theme (*Physical and Psychosocial Functions of Stroke Patients*) answered research question 1: What specific physical and psychosocial functions have been identified as predictors of successful reintegration into normal living after stroke? This theme refers to the physical and psychosocial

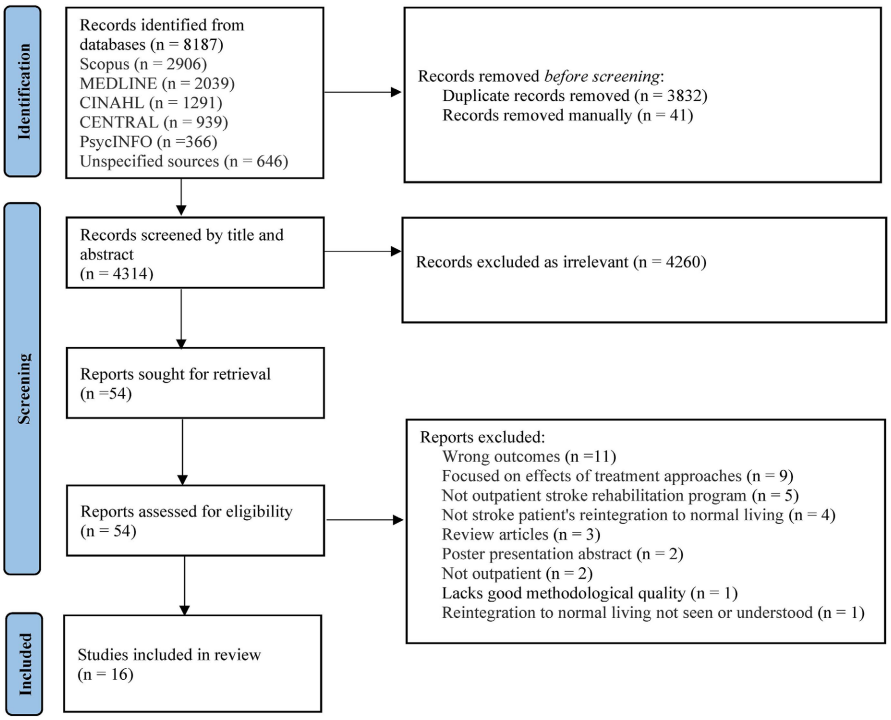

Figure 1. PRISMA flow diagram for the systematic literature search.

abilities (related to self-care or individual functioning) of stroke patients at the onset of reintegration into the community. The physical functions included improved mobility skills, independence in performance of daily activities, and reduced disability; the psychological functions included psychological well-being, self-efficacy, self-perception, and health status; and the social functions included age, social support, personal relationships, and employment [21].

The second theme (*Self-Care Performance and Individual Functioning of Stroke Patients*) addressed the research question 2: How do physical and psychosocial functions promote successful reintegration into normal living after stroke? This theme refers to patient's constant performance of physical and psychosocial functions related to self-care and individual functioning during reintegration into the community. Constant physical functions may include mobility improvement, self-care independence, and disability management; constant psychological functions may include emotional well-being, self-motivation, self-efficacy, and sense of purpose; and constant social functions may include age, social support, relationships, and employment influence [21]. The third theme (*Factors that Hinder Stroke Patients'*) answered research question three: What factors have been identified that hinder stroke patients' reintegration into normal living after stroke? Specific examples from included studies were described to shed light on the importance of reported themes.

3. Results

3.1. Search Results

Of the 16 studies included, 14 were quantitative [6]-[11] [13] [16] [22]-[27] and

two were qualitative studies [2] [12]. Two studies were from Canada [22] [26], five were from the United States of America [8] [16] [23] [24] [27], six were from Nigeria [2] [6] [7] [11] [13] [25], one was from New Zealand [12], one was from China [10], and one was from the Republic of Benin [9]. The publication years spanned from 2007 to 2023, with sample sizes varying from 8 to 336 (total = 1561). All studies were evaluated for methodological quality and considered to be good.

Three main themes and sub-themes emerged from the data. Table 1 presents the results associated with Theme 1: P*hysical and psychosocial functions of stroke patients that predict successful reintegration into normal living post-stroke*? Table 2 displays study results related to Theme 2: *Self-care performance and individual functioning of stroke patients to promote successful reintegration into normal living post stroke*? Table 3 displays study results related to Theme 3: *Factors that hinder stroke patient's reintegration into normal living post-stroke*?

3.2. Theme 1: Physical and Psychosocial Functions That Predict Successful Reintegration

3.2.1. Improved Mobility, Independence in Daily Activities, and Reduced Disability

Regarding post-stroke patients' physical functions, data for the sub-theme improved mobility, independent performance of daily activities, and reduced disability emerged from thirteen of the sixteen included studies. Four of these studies indicated that enhanced functional mobility promotes a better reintegration to normal living [7] [10] [11] [27], and two studies reported that increased motor function post-stroke promotes successful reintegration into the community [6] [22]. Functions such as greater walking ability [22], improved foot capability [11] [26], and increased walking endurance (6-minute walk time) [16] reportedly facilitated social integration into the community. In one study, the use of mobility devices (e.g., cane, walker) was reported as an important facilitator of community reintegration [7]. In some studies, independent performance of daily activities increased participation in social roles [12] [26], and increased participation in meaningful activities was reported as the strongest predictor of successful community reintegration [13]. Independent driving at 1-year post-stroke was reported in two studies as an important facilitator of community reintegration following stroke events [23] [24]. Other physical functions that reportedly facilitate post-stroke community reintegration are lower stroke severity measured using the RNL scores [22], decreased physical disability [25], increased community balance, and increased cadence [11].

3.2.2. Psychological Well-Being, Self-Efficacy, Self-Perception, and Health Status

Regarding post-stroke patients' psychological functions, data for the sub-themes improved psychological well-being, increased self-efficacy, and increased self-perception emerged from twelve of the included studies. In three studies,

Table 1. Study themes that answer research question 1: "What specific physical and psychosocial functions have been identified as predictors of successful reintegration into normal living after stroke?"

Primary Author(s) Year Method Sample Quality Rating	Findings		
	Improved Mobility, Independence in Daily Activities, and Reduced Disability	**Psychological Well-Being, Self-Efficacy, Self-Perception, and Health Status**	**Age, Social Support, Relationships, and Employment**
Akosile *et al.* (2016) Nigeria Cross-sectional N = 71 Good	• Usage of assistive devices • Improved Indoor mobility.	• Positive perception of self • Absence of diabetes • Perceived recovery	• Younger age • Pre- and post-stroke employment • Presence of social support from friends, family, and the community • Good personal relationships with others
Becker *et al.* (2022) New Zealand Grounded theory N = 8 Good	• Independent performance of daily activities	• A Purpose in life • Re-establishing normality (old and new) • Relationship with self	• Supportive and caring relationships
Dada & Akingbesote (2023) Nigeria Cross-sectional N = 85 Good	• Increased participation in meaningful activity		• Younger age
Desrosiers *et al.* (2008) Canada Cross-sectional N = 197 Good	• Greater Walking ability • Lower severity of stroke • Increased motor function	• Increased acceptance of stroke • Fewer depressive symptoms • Increased visual perception	• Younger age • Increased reading ability
Finestone *et al.* (2010) United States of America Cross-sectional N = 53 Good	• Independent driving post stroke	• Better health status (fewer medical problems)	• Younger age • Driving
Griffen *et al.* (2009) United States of America Cross-sectional N = 90 Good	• Independent driving post stroke		• Presence of social support
Hamzat *et al.* (2014) Nigeria Descriptive study N = 52 Good	• Decreased physical disability		• Reduced participation restrictions

Continued

Honado *et al.* (2023) Republic of Benin Cross-sectional N = 60 Good		• Enhanced self-efficacy	
Lo *et al.* (2022) China Cross-sectional N = 336 Good	• Enhanced functional mobility	• Participation self-efficacy	• Higher education level • Being married • Strong financial role in the family (being breadwinner)
Obembe *et al.* (2013) Nigeria Cross-sectional N = 90 Good	• Increased motor function	• Less post-stroke depression • Younger age	• Younger age
Ogunlana *et al.* (2023) Nigeria Exploratory Qualitative N = 12 Good		• Creating a positive mindset • Encouragement	• Social support • Playing and visitation
Olawale *et al.* (2018) Nigeria Cross-sectional N = 91 Good	• Increased functional mobility • Increased cadence • Increased community balance/mobility	• Improved balance self-efficacy	• Longer post-stroke duration
Pang *et al.* (2007) United States of America Cross-sectional N = 63 Good	• Increased walking endurance (6-minute walk time)	• Improved balance self-efficacy	
Plante *et al.* (2010) Canada Longitudinal prospective N = 111 Good	• Improved foot capability • Independence in daily activities	• Participation self-efficacy • High visual perception capability	
Shrivastav *et al.* (2022) United States of America Retrospective study N = 113 Good	• Improved mobility	• Fewer symptoms of depression • Less severe fatigue • Perceived recovery	• Environmental support • Availability of helpful environmental resources

Table 2. Study themes that answer research question 2: "How do physical and psychosocial functions promote successful reintegration into normal living after stroke?"

Author(s) Primary Author(s) Year Method Sample Quality Rating	Findings		
	Mobility Improvement, Self-care Independence, and Disability Management	**Emotional Well-being, Motivation, Self-Efficacy, and Sense of Purpose**	**Age, Social Support, Relationships, and Employment Influence**
Akosile *et al.* (2016) Nigeria Cross-sectional N = 71 Good	• Utilization of mobility assistive devices for support and stability • Reduction of the risks of falls • Movement at home and in community	• Humility and openness to receiving help and support from others • Satisfaction with community Reintegration	• Satisfaction in being financially independent. • Having stronger support systems • Living a more active lifestyle • Greater involvement in community activities
Becker *et al.* (2022) New Zealand Grounded theory N = 8 Good	• Self-care independence	• Bringing meaning into life • Having good relationships with others • Feeling valued and appreciative of own contribution to society	• Loving treatment • Receiving help from friends to adhere to physical activities (regular walks) • Financial independence (reduces reliance on others)
Dada & Akingbesote (2023) Nigeria Cross-sectional N = 85 Good	• Participation in daily activities perceived as meaningful		• Stronger support networks • Living a more active lifestyle • Greater involvement in community activities
Desrosiers *et al.* (2008) Canada Cross-sectional N = 197 Good	• Performance of daily activities independently (due to reduced physical disability) • Navigation of the environment easily	• Having a sense of Purpose, • Positive self-reflection • Satisfaction with life and community Reintegration	• Stronger support networks • More active lifestyle • Resumption of work leading to financial independence
Finestone *et al.* (2010) United States of America Cross-sectional N = 53 Good	• Participation in social events • Travelling to work and appointments • Performing daily activities.	• Resuming driving due to fewer medical problems	• Living a more active lifestyle • Higher likelihood of passing driving test and learning driving
Griffen *et al.* (2009) United States of America Cross-sectional N = 90 Good	• Attending out-of-home social events • Productive use of own time.		• Caregiver assistance in performing daily living activities • Emotional bondingwith friends and relatives

Continued

Hamzat *et al.* (2014) Nigeria Descriptive study N = 52 Good	• Independent performance of daily activities • Free movement around the environment	• Improvement in mood • Reduction in anxiety and depression • Having sense of purpose	• Attendance of social events, support groups, and recreational activities • Resumption of work • Alleviation of burden from family members
Honado *et al.* (2023) Republic of Benin Cross-sectional N = 60 Good		• Engagement in therapy sessions • Motivation to mobilize and perform daily activities • Management of stress and anxiety	
Lo *et al.* (2022) China Cross-sectional correlational N = 336 Good	• Improvement in performance of daily activities • Promotion of independence, autonomy, and self-inclusion	• Improvement in quality of life • Engagement in therapy sessions. • Motivation to mobilize and perform daily activities • Management of stress and anxiety	• Reduction of isolation feelings • Expansion of social network • Participation in community events
Obembe *et al.* (2013) Nigeria Cross sectional N = 90 Good	• Encouragement of physical exercises • Strengthening muscles and improving coordination. • Performing daily activities independently • Moving freely at home and in community	• Having a sense of purpose • Positive self-perception	• Having stronger support networks • Living more active lifestyles • Resumption of work to gain financial stability
Ogunlana *et al.* (2023) Nigeria Exploratory Qualitative N = 12 Good		• Happiness and satisfaction with life • Stronger faith in God • Appreciative of being alive • Promotion of prayer for healing • Reinforcing belief that recovery is possible	• Improvement in quality of life • Reduction of feelings of isolation • Promotion of emotional healing
Olawale *et al.* (2018) Cross sectional N = 91 Good	• Walking independently • Performance of daily living activities independently • Efficient coordination of movement (gait retraining) • Reduction of risk of falling	• Willingness to apply fall prevention strategies • Confidence in moving around home and community	• Allowing time for cultivation of social connections, participation in social groups, and access to community resources
Pang *et al.* (2007) United States of America Cross sectional N = 63 Good	• Easy navigation of the environment • Performing daily living activities independently	• Willingness to apply fall prevention strategies • Confidence in moving around home and community • Satisfaction with reintegration to social life	

Continued

Plante *et al.* (2010) Canada Longitudinal prospective N = 111 Good	• Walking confidently without assistive devices or caregiver's help	• Improvement in quality of life • Engagement in therapy sessions • Motivation to mobilize and perform daily activities	
Shrivastav *et al.* (2022) United States of America Cross-sectional N = 113 Good	• Performance of self-care independently	• Participation in daily activities • Satisfaction with reintegration to social life	• Having stronger support systems • Self-management support for problem-solving and goal setting

Table 3. Study themes that answer research question 3: "What factors have been identified that hinder stroke patient's reintegration into normal living after stroke?"

Primary Author, Year Method Sample Quality Rating	Findings		
	Barriers Related to Physical Functions	**Barriers Related to Psychological functions**	**Barriers Related to Social functions**
Akosile *et al.* (2016) Nigeria Cross-sectional N = 71 Good	• Presence of diabetes mellitus as comorbidity • Chronic stroke • Decreased distance mobility • Decreased performance of daily activity (work or school)	• Inadequate balance self-efficacy • Fear of falling	• Older age • Less social support
Becker *et al.* (2022) New Zealand Grounded theory N = 8 Good		• Missing relationships • Negative experienced relationships • Lack of confidence	• Missing relationships • Negative experienced relationships • Loss of meaningful activities
Dada & Akingbesote (2023) Nigeria Cross-sectional N = 85 Good		• Increased fear of falling • Low meaningful activities participation	• Older age • Less social support
Finestone *et al.* (2010) United States of America Cross-sectional N = 53 Good	• Driving cessation		• Driving cessation

Continued

Graves *et al.* (2021) United States of America Cross-sectional N = 85 Good	• Stroke impairment	• Apathy	• Stroke impairment. • Apathy
Griffen *et al.* (2009) United States of America Cross-sectional N = 90 Good	• Inability to drive		• Lack of social support
Honado *et al.* (2023) Republic of Benin Cross-sectional N = 60 Good	• Activity limitation		• Activity limitation
Lo *et al.* (2022) China Cross-sectional N = 336 Good	• Inability to use walking aid or wheelchair • Presence of hemorrhagic or both ischemic and hemorrhagic stroke • Lesions on both sides of the brain • Higher frequency of stroke • Greater stroke severity		• History of diabetes or heart disease • Lower educational level
Obembe *et al.* (2013) Nigeria Cross-sectional N = 90 Good	• Poor motor function	• Increased depression	• Older age • Less social support
Ogunlana *et al.* (2023) Nigeria Exploratory Qualitative N = 12 Good	• Impaired mobility • Speech and language challenges • Difficulties performing daily activities		• Inability to return to work • Social isolation or separation
Olawale *et al.* (2018) Nigeria Cross-sectional N = 91 Good	• Longer stride time • Poor balance • Poor functional mobility	• High levels of fear of falling • Inadequate balance self-efficacy	
Pang *et al.* (2007) United States of America Cross-sectional N = 63 Good		• Inadequate balance self-efficacy • Fear of falling	• Older age • Chronic stroke • Less social support

fewer post-stroke depressive symptoms were the strongest predictors of social participation and successful reintegration into the community [6] [22] [27]. In two studies, increased participation self-efficacy emerged as an important predictor of individual participation in community activities [10] [26]. In other studies, improved balance self-efficacy independently predicted personal satisfaction with community reintegration [11] [26]. Identified perceptual facilitators of community reintegration were positive perception of self [7], higher visual perception [22] [26], and positive perception of the relationship with individual self. [12]. The stroke patients' perception of their purpose in life and the re-establishment of normality (new and old) were identified as important facilitators of community reintegration after stroke [12]. Regarding patients' health status, perceived recovery from stroke, absence of diabetes [7], fewer medical problems [23], and lesser fatigue symptoms [27] reportedly improved patients' participation performance during community reintegration. Post-stroke psychological functions like increased acceptance of stroke [22], creation of a positive mindset, and encouragement from family members and the society promoted participation in community activities, thereby facilitating reintegration into the society [2].

3.2.3. Age, Social Support, Personal Relationships, and Employment

Twelve of the sixteen included studies reported data on post-stroke patients' social functions. In five studies, younger age was identified as an important facilitator of patient's reintegration into the community [6] [7] [13] [22] [23]. The presence and extent of social support from friends, family, and the community reportedly played an important role in facilitating patients' reintegration into the community [2] [7] [12] [24]. Other support systems such as availability of helpful environmental resources [27] and establishment of good personal relationships with others [7] [12] contributed to successful reintegration into the society. Social activities like playing games with friends and family, and visitation from friends, family, and community members [2] promoted successful reintegration into normal living. Being employed pre- and post-stroke [7] and having a strong financial role as well as motivation (being a breadwinner) in the family [10] were identified as relevant functions towards a positive experience during community reintegration. Other social functions (skills) like ability to drive [23], ability to read [22], having a higher level of education, and being married [10] were identified as vital to effective reintegration to society. Patients with reduced participation restrictions reportedly experienced greater success in societal reintegration [25].

3.3. Theme 2: Self-Care Performance and Individual Functioning to Promote Successful Reintegration?

3.3.1. Mobility Improvement, Self-Care Independence, and Disability Management

Regarding post-stroke patients' physical functions, eight studies identified mobility improvement as a major facilitator of patient's reintegration to normal

living [6] [7] [11] [16] [22] [24]-[26]; self-care independence was identified in eleven studies [6] [10]-[12] [16] [22]-[27]; and one study identified proper disability management as an important facilitator of community reintegration [22]. In Olawale *et al.*'s [11] study, enhanced mobility post-stroke led to greater participation in social activities and increased satisfaction with reintegration to normal living [11]. Improved lower extremity motor coordination facilitated patients' movement at home and in the community [6]. Walking independently without assistive devices increased confidence in patients [10] [11], promoted productive use of their time [24], and facilitated the use of public transportation to attend medical appointments and social events [23]. A stable balance reportedly led to efficient coordination of movement (gait training) [11] and encouraged physical exercises, thus strengthening limb muscles, improving motor coordination, and reducing the risks of falling [6] [7] [11]. For patients with low levels of physical and motor functioning, mobility devices (e.g., canes, walkers, wheelchairs, powerchairs) provided support and stability in moving at home and in the community [7]. Independence in self-care improved the stroke patient's performance of daily activities [6] [7] [11] [16] [22] [24]-[26], gave patients a sense of freedom, promoted participation in social roles, and enabled the patients to decide what things to do and when to do them [6] [10]-[13] [16] [22] [23] [25] [27]. Proper disability management reportedly contributed to reduced disability, increased performance of daily activities, and better reintegration into the community [22]. Stroke patients who drove were more mobile within the community and utilized their time more productively than those who did not drive [24]. Resumption of work post-stroke increased financial independence and reduced reliance on others for financial assistance [12].

3.3.2. Emotional Well-Being, Self-Motivation, Self-Efficacy, and Sense of Purpose

Regarding post-stroke patients' psychological functions, four studies identified emotional well-being as an important facilitator of successful community reintegration [9] [10] [25] [26]. Other facilitators were self-motivation (three studies) [9] [10] [26]; self-efficacy (five studies) [11] [16] [22] [27]; and sense of purpose (eight studies) [2] [6] [7] [12] [16] [22] [25] [28]. Emotional well-being of post-stroke patients contributed to successful community reintegration by preparing patients to effectively manage stress, anxiety, and frustrations [9] [10] [25] [26]. Stress management efforts like promotion of therapy and engagement in therapy sessions (e.g., physical exercises) contributed to greater success in the patient's reintegration to normal social life [9] [10] [26]. Attributes of emotional well-being including improved mood, increased acceptance of stroke, reduced anxiety, and decreased depressive symptoms helped to reduce the feelings of isolation and encouraged stroke patients to actively engage with others and participate in daily activities [9] [10] [22] [25].

Individual patient's motivation to mobilize and perform daily activities pro-

moted engagement in social activities leading to successful reintegration into the community [9] [10] [26]. Self-efficacy, described as a person's assessment of his or her ability to plan and carry out specific tasks, and to overcome challenges **[28]**, promoted social reintegration by increasing a patient's confidence in moving around home and community, motivating patients to apply fall prevention strategies [11] [16], promoting patient's participation in daily activities, and increasing patients' ability to plan and organize tasks [22] [27]. In one study, increased self-efficacy enabled patients with fewer medical conditions to resume driving [23].

In eight studies, researchers reported that stroke patients who have a sense of purpose and a positive self-perception develop greater satisfaction in life and with reintegration into the community [2] [6] [7] [12] [16] [22] [25] [27]. Some patients reportedly demonstrated relationship with self through self-respect and a positive, life-affirming attitude. Being cheerful to others enabled these patients to maintain good relationships with others in the community [12]. Stroke patients who had a positive mindset, those who expressed happiness to be alive, and those thankful to God for keeping them alive were more satisfied with their reintegration into the community [2]. Having a stronger faith in God lessened stroke patients' worries, encouraged prayers for healing, and reinforced the patient's belief that recovery is possible [2]. Stronger faith in God also promoted humility and openness to receiving help and support from others [7]. Researchers also reported that having a purpose in life brings meaning into life and leads individuals to feel valued and appreciative of what they can contribute to society [12].

3.3.3. Age, Social Support, Relationships, and Employment Influence

Nine studies addressed the influence of social functions on community reintegration in relation to age, social support, personal relationships, and employment influence. Younger age was reported as a facilitator of societal reintegration because younger patients were more likely to attend social events, support groups, and recreational activities [6] [7] [13] [22] [23]. Researchers reported that younger patients lived a more active lifestyle, had stronger support networks, and had greater involvement in community activities [6] [7] [13] [22]. Some researchers noted that expanding an individual's social network by cultivating greater social connections strengthens the individual's support systems (including peer support) and increases the individual's self-management support for problem-solving and goals setting [10] [11] [27].

Good personal relationships with others (such as playing with friends and receiving visits from them) reduce the feeling of isolation and promote emotional healing/bonding with friends and family, thus increasing the individual's love for treatment/rehabilitation [2] [6] [7] [13] [22] [27]. The presence of community resources enables patients to receive help from caregivers when performing daily activities, and to adhere to physical exercises like walking regularly [12] [24]. These levels of assistance promote greater satisfaction with life and better

reintegration into the community. In some studies, researchers noted that patients who drive (e.g., younger patients who are more likely to pass driving test and learn to drive early) and those with pre-stroke employment history were more likely to return to work and to be financially independent, as employment post stroke leads to social inclusion and alleviation of the family's financial burden [6] [7] [22] [25]. Driving post-stroke also enabled survivors to occupy their time by participating in previous hobbies, leading to social identity among peers, psychological well-being, and satisfaction in life [12].

3.4. Theme 3: Factors Identified that Hinder Stroke Patient's Reintegration to Normal Living

3.4.1. Barriers Related to Physical Functions

Nine studies addressed the physical function-related barriers affecting stroke patients' reintegration to normal living. These barriers include longer stride time, poor motor function, impaired balance and mobility, driving cessation, presence of comorbidity, longer duration of stroke, inability to perform daily activities, non-use of walking devices, hemorrhagic or combined ischemic and hemorrhagic stroke, frequent and/or severe stroke, activity limitation, and speech and language challenges [2] [6]-[11] [23] [24]. Poor functional mobility (including decreased distance mobility) and activity limitations reportedly decreased stroke patients' participation in social activities and lessened their satisfaction in life [2] [6] [7] [9] [11]. Decreased motor function and poor balance were also reported to reduce the patient's performance of daily activities, leading to less successful reintegration into the community [2] [6] [7] [11]. Unassisted walking and inability to use walking aids reportedly prevented patients from moving at home and in the community, leading to poorer reintegration into the society. Speech and language challenges were reported as communication barriers that limit the patients' ability to express their needs, interact with others in the community, and participate in social activities [2]. The presence of ischemic or hemorrhagic stroke (which results in neurological injuries and impacts motor, speech, and cognitive function), existence of lesions on both sides of the brain (which disrupts language processing, spatial awareness, and motor coordination), higher frequency of stroke (which may lead to severe functional impairment due to cumulative neurological damage), and greater severity of stroke (which may result in profound physical, cognitive, and communication difficulties) were reported as significant barriers to community reintegration efforts [8] [10]. Inability to drive (or cessation of driving) was reported as a predictor of loss of autonomy, loss of control over daily activities, and inability to transport oneself to work, medical appointments, and social events, leading to reduced engagement in community life [23] [24].

3.4.2. Barriers Related to Psychological Functions

Seven studies addressed the psychological functional barriers of stroke patients during the reintegration to normal living process. These barriers are related to

depression, fear of falling, inadequate self-efficacy, low meaningful activities participation, missing relationships, negative relationship experiences, and apathy [6]-[8] [11]-[13] [16]. In one study, researchers reported that increased depression worsens feelings of sadness, hopelessness, and despair, making it difficult for stroke survivors to participate in daily living activities [6]. In four studies, increased fear of falling reportedly leads to anxiety, stress, avoidance of social activities perceived as risky or unsafe, reduced mobility, and increased dependence on caregivers or family members for help with daily living activities [7] [11] [13] [16]. Some studies indicated that inadequate balance of self-efficacy contributes to a lack of confidence and self-perceived competence in the individual's ability to navigate the environment [7] [11] [16]. The lack of confidence increased the individual's risk of falls or fall related injuries. Missing relationships and negatively experienced relationships were reported as barriers to effective community reintegration [12]. Negatively experienced relationships such as strained family dynamics or conflicts can cause stress, anxiety, and depression among stroke survivors, and increase the feelings of loneliness, isolation, decreased self-worth, and the inability to participate in community activities [12]. In one study, apathy (characterized by the lack of interest or motivation to engage in daily activities) was reported as a barrier to successful community reintegration [8]. Apathy contributes to feelings of sadness, frustration, low self-esteem, and inability to derive pleasure or satisfaction from previously enjoyed activities [12].

3.4.3. Barriers Related to Social Functions

Eleven studies addressed barriers related to social functions of stroke patients. These barriers included older age, lack of social support, history of diabetes or heart disease, low educational level, activity limitation, loss of meaningful activities, driving cessation, inability to return to work, social isolation or separation, severe stroke, and chronic stroke [2] [6]-[10] [12] [13] [16] [23] [24]. Four studies reported that older patients often have smaller social networks and less social support compared to younger stroke patients [6] [7] [13] [16]. The lack of social support leads to social isolation or separation, difficulties coping with emotional and psychological challenges, and difficulties participating in community activities [2] [24]. Driving cessation leads to inability to work, consequently increasing financial dependency on caregivers and family. Loss of meaningful daily activities (related to patient's inability to participate in community activities like going to church and attending social clubs), and loss of meaningful purpose (related to lack of interactions with others in the community) were significant barriers to community reintegration [12]. Some researchers reported that lower educational level may be associated with lower socioeconomic status and limited access to community resources like transportation, healthcare services, and social support networks [10]. The lower educational level may limit employment opportunities and financial resources, leading to financial strain and stress for stroke patients and their families [10].

4. Discussion

This integrative review was a synthesis of findings from sixteen studies on patient's reintegration to normal living after experiencing stroke. Based on Hawker *et al.*'s [20] criteria for evaluating research quality, sixteen studies were rated as good and classified as level four evidence [20]. Most of the studies were American and Nigerian studies, hence the findings are situated within these geographical and sociocultural contexts. Stroke patients included in the reviewed articles were those who demonstrated physical and/or psychosocial abilities during outpatient rehabilitation. Differences in community reintegration process and outcomes may be attributed to socio-cultural and economic differences, and the differences in availability and type of environmental resources in these geo-sociocultural contexts. The two Canadian studies that reported predictors of successful societal reintegration demonstrated findings like those reported in studies from other countries but did not report specific barriers associated with stroke patients' reintegration to the society [22] [26]. Thus, further research is needed to gain a deeper understanding of the impact of physical and psychosocial functions of patients on their reintegration into normal living after experiencing stroke. For each of the three research questions, the findings were consistent across the reviewed studies, possibly reflecting the strength and quality of the included studies.

The first research question sought to identify the specific physical and psychosocial functions considered as predictors of successful reintegration into normal living after stroke. Results showed that physical functions of stroke patients, such as improved mobility (enhanced functional mobility, increased motor function, improved foot capability, greater walking ability, increased walking endurance (6-minute walk time, use of mobility devices like cane and walker, increased community balance, and increased cadence), independent performance of daily activities (increased participation in social roles, increased participation in meaningful activities, independent driving at 1-year post-stroke), and reduced disability (decreased stroke severity and decreased physical disability) facilitated social reintegration into the community. Results also showed that psychological functions of stroke patients, such as psychological well-being (fewer post-stroke depressive symptoms, increased acceptance of stroke, creation of a positive mindset, encouragement from family members and the society), increased self-efficacy (increased participation self-efficacy and improved balance self-efficacy), and improved self-perception (positive perception of the patient's relationship with self, higher visual perception, perceived recovery from stroke) and patient's health status (lesser fatigue symptoms, absence of diabetes, fewer medical problems, minimal participation restrictions, and better participation performance) promote successful reintegration into the community. In addition, results showed that social functions like younger age, social support (support from friends, family, and community), environmental resources, personal relationships (playing with friends, visitation from friends and community

members, being married), and employment pre- and post-stroke (being a breadwinner), ability to drive, increased ability to read, and having a higher level of education all contribute to success during patient's reintegration into the community. Nearly all studies indicated that mobility was vital to a successful reintegration into the community.

The second research question sought to identify how physical and psychosocial functions promote reintegration into normal living after stroke. Regarding physical functions, findings from reviewed literature aligned with those from earlier studies, indicating that successful community reintegration is dependent on the patients' health condition, and their ability to mobilize freely, perform self-care independently, and manage personal disability [22]. Enhanced mobility post-stroke reportedly leads to greater participation in social activities and a sense of satisfaction with their societal reintegration process. Patients with stable balance and improved lower extremity motor coordination were able to perform physical exercises that strengthen limb muscles and further improve motor coordination, thus reducing the risk of fall and facilitating movement at home and in the community. Patients who walked independently without using assistive devices, showed more productive use of their time, had confidence in moving around the community, and used public transportation to attend medical appointments and other social events. Patients who could perform self-care independently felt a sense of freedom to decide and do the things they want when they want to do them. Those whose disability was properly managed had increased ability to perform daily living activities, and those who had the ability to drive made more productive use of their time and were more financially independent, which reduced their reliance on caregivers and family for financial needs, leading to a better rehabilitation experience [10].

Regarding psychological functions, findings from reviewed literature were consistent with those from a previous study, suggesting that success in reintegration to normal living was largely dependent on the patient's emotional well-being, motivation to engage in activities, ability to manage stress, and perception of self after stroke [9]. Patients who accepted their diagnosis, had improved mood, reduced anxiety, and fewer depressive symptoms, and demonstrated better participation in daily activities. The individuals' motivation to move and perform daily activities, and their stress management efforts, such as promotion of therapy and engagement in therapy sessions contributed to successful reintegration into normal life. Patients with a positive perception of self and a sense of purpose in life reportedly experience meaning in their life, had a feeling of self-worth, and experienced greater satisfaction with community reintegration. Those with increased self-efficacy were more confident in moving around home and community, participating in daily activities, planning and organizing tasks, and resuming driving, which enabled them to return to work and participate in previous hobbies. The perception of relationship with self was demonstrated through self-respect, having a positive life-affirming outlook, and

being cheerful to others. Patients who have strong religious beliefs and spirituality were reportedly humble, were more open to receiving help from others, prayed to God for healing, and believed in his ability to heal them.

Regarding social functions, findings were consistent with those from previous study, showing that the individuals' successful reintegration into society depended significantly on their age, type and availability of social support, personal relationships, and the influence of employment [7]. Patients who were younger had more support networks, lived a more active lifestyle, and had greater involvement in community activities than older patients. Younger patients who drive were more likely to return to work, which increased their financial independence and relieved the family from financial burden. Greater social connections due to expanded social networks increase the self-management and problem-solving abilities of stroke patients. Having good personal relationships with others, playing with them, and receiving visits from friends and family reduced the feeling of isolation, promoted emotional bonding, and increased the individuals 'desire to participate in therapy and community activities. Benefits from community resources enabled stroke patients to receive help from caregivers and friends (like daily walking exercises) leading to better reintegration into the community.

The third research question focused on identification of factors that hinder the stroke patient's reintegration to normal living. These factors were subclassified as barriers related to physical functions, barriers related to psychological functions, and barriers related to social functions. Barriers related to the physical functions of stroke patients identified in this review support findings from a previous study, and include poor functional mobility, physical activity limitation, poor balance, inability to walk unassisted, speech and language challenges, ischemic or hemorrhagic stroke, severe neurological injuries, and inability to drive [11]. Barriers related to the psychological functions of stroke patients identified in this review were consistent with findings from previous evidence, suggesting that presence of depression, fear of falling, lack of self-efficacy, missing or negative relationships, and apathy all hinder a stroke patient's reintegration into the society. Regarding barriers related to social functions of stroke patients, the findings were consistent with those from another study, revealing that older age, driving cessation, lack of social support, low educational level, inability to return to work, social isolation or separation, presence of comorbidities (diabetes or heart disease), chronic stroke, activity limitation, loss of meaningful activities, and level of impairment after stroke hinder the patient's reintegration to normal living process [7].

Some limitations were observed in this review. First, only original English-language peer-reviewed publications were included, with the majority being studies from Nigeria and the United States. It is therefore possible that relevant articles in grey literature, written in other languages may have been missed. This limitation could be addressed in future research by expanding and updating the review to include non-English articles and those published in other

geo-sociocultural contexts. Second, only observational studies that examined the physical and psychosocial functions as predictors of reintegration into normal living after stroke were included in the review. Since studies that examined the effects of protocols and treatment approaches were not included in this review, vital functions predicting successful post stroke reintegration into the community may have been overlooked in this review.

Implications for Rehabilitation Care

The findings from this review have significant implications for outpatient stroke rehabilitation and patient's reintegration into the community. First, there is a need for tailored rehabilitation programs that address both the physical and psychosocial functions identified as predictors of successful reintegration into normal living after stroke. These programs should focus on improving post stroke functions like mobility, independence in performing daily activities, psychological well-being, self-efficacy, social support, and personal relationships of stroke patients. Due to the interconnectedness of physical, psychological, and social functions following stroke, a holistic approach to rehabilitation would be essential.

Second, there is needed for recognition of the critical role of family and the importance of social support in the rehabilitation process. Healthcare professionals should actively involve family members and caregivers in decision making related to rehabilitation care of stroke patients, educate and support these families/caregivers to effectively assist stroke patient's during recovery and reintegration into the community. Collaboration with community members and the timely use of community resources may create opportunities for social engagement and participation, thus promoting successful reintegration into the community.

Third, there is needed to address emotional and psychological challenges that hinder patient's reintegration into the community by creating programs that focus on managing depression, anxiety, and fear of falling. Provision of counselling and psychoeducation, and creation of support groups for stroke patients may enhance stress management skills, promote coping, and improve the patient's overall well-being. In addition, interventions aimed at promoting patients' self-efficacy and motivating patients to interact socially and engage in daily activities are critical to fostering independence and promoting community reintegration.

Lastly, continuous education and training of rehabilitation professionals on the application of evidence-based practice are necessary to align outpatient rehabilitation interventions with the best current research evidence. Advocacy efforts are needed to raise awareness about the importance of comprehensive outpatient stroke rehabilitation and advocate for policy changes that prioritize funding and vital resources for stroke patients reintegrating into the society.

5. Conclusion

This integrative review was a synthesis of findings from 16 studies demonstrat-

ing the influence of physical, psychological, and social functions of stroke patients on community reintegration during outpatient rehabilitation. Future studies should examine potential outcomes of outpatient stroke rehabilitation like reintegration to normal living gains and social participation during community reintegration. The study will provide guidance for clinicians and researchers to predict outpatient stroke rehabilitation outcomes based on the clients' functional status at the time of admission to outpatient rehabilitation. The findings may help clinicians and researchers to shift the focus from rehabilitation interventions that target physical functions, to developing interventions that also enhance social engagement in family roles and daily activities.

Disclosures

ET, OA, AM, and EC have no conflicts to disclose.

Statement of Authorship

ET conceived and designed the study, charted the data, analyzed the data, interpreted the results, drafted the manuscript, and approved it for publication.

OA screened the literature, charted the data, interpreted the results, drafted the manuscript, and approved it for publication.

AM developed the search strategy, conducted the systematic search of literature, reviewed the manuscript for intellectual content, and approved it for publication.

EC reviewed the manuscript for intellectual content and approved it for publication.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Wood-Dauphinee, S. and Williams, J.I. (1987) Reintegration to Normal Living as a Proxy to Quality of Life. *Journal of Chronic Diseases*, **40**, 491-499. https://doi.org/10.1016/0021-9681(87)90005-1

[2] Ogunlana, M.O., Oyewole, O.O., Fafolahan, A. and Govender, P. (2023) Exploring Community Reintegration among Nigerian Stroke Survivors. *South African Journal*

of Physiotherapy, **79**, a1857. https://doi.org/10.4102/sajp.v79i1.1857

[3] Baseman, S., Fisher, K., Ward, L. and Bhattacharya, A. (2010) The Relationship of Physical Function to Social Integration After Stroke. *Journal of Neuroscience Nursing*, **42**, 237-244. https://doi.org/10.1097/jnn.0b013e3181ecafea

[4] Engel-Yeger, B., Tse, T., Josman, N., Baum, C. and Carey, L.M. (2018) Scoping Review: The Trajectory of Recovery of Participation Outcomes Following Stroke. *Behavioural Neurology*, **2018**, 1-22. https://doi.org/10.1155/2018/5472018

[5] Govender, P., Naidoo, D., Bricknell, K., Ayob, Z., Message, H. and Njoko, S. (2019) 'No One Prepared Me to Go Home': Cerebrovascular Accident Survivors' Experiences of Community Reintegration in a Peri-Urban Context. *African Journal of Primary Health Care & Family Medicine*, **11**, a1806. https://doi.org/10.4102/phcfm.v11i1.1806

[6] Obembe, A., Mapayi, B., Johnson, O., Agunbiade, T. and Emechete, A. (2013) Community Reintegration in Stroke Survivors: Relationship with Motor Function and Depression. *Hong Kong Physiotherapy Journal*, **31**, 69-74. https://doi.org/10.1016/j.hkpj.2013.04.001

[7] Akosile, C., Nworah, C., Okoye, E., Adegoke, B., Umunnah, J. and Fabunmi, A. (2016) Community Reintegration and Related Factors in a Nigerian Stroke Sample. *African Health Sciences*, **16**, 772-780. https://doi.org/10.4314/ahs.v16i3.18

[8] Graves, R., Connor, L.T. and Nicholas, M.L. (2021) Apathy and Residual Neurological Impairment Are Associated with Community Reintegration After Mild Stroke. *Neuropsychological Rehabilitation*, **33**, 379-392. https://doi.org/10.1080/09602011.2021.2019059

[9] Honado, A.S., Atigossou, O.L.G., Roy, J., Daneault, J. and Batcho, C.S. (2023) Relationships between Self-Efficacy and Post-Stroke Activity Limitations, Locomotor Ability, Physical Activity, and Community Reintegration in Sub-Saharan Africa: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, **20**, Article 2286. https://doi.org/10.3390/ijerph20032286

[10] Lo, S.H.S., Chau, J.P.C., Lam, S.K.Y., Saran, R., Choi, K.C., Zhao, J., *et al.* (2022) Association between Participation Self-Efficacy and Participation in Stroke Survivors. *BMC Neurology*, **22**, Article No. 361. https://doi.org/10.1186/s12883-022-02883-z

[11] Olawale, O.A., Usman, J.S., Oke, K.I. and Osundiya, O.C. (2018) Evaluation of Predictive Factors Influencing Community Reintegration in Adult Patients with Stroke. *Journal of Neurosciences in Rural Practice*, **9**, 6-10. https://doi.org/10.4103/jnrp.jnrp_386_17

[12] Becker, I., Maleka, M.D., Stewart, A., Jenkins, M. and Hale, L. (2020) Community Reintegration Post-Stroke in New Zealand: Understanding the Experiences of Stroke Survivors in the Lower South Island. *Disability and Rehabilitation*, **44**, 2815-2822. https://doi.org/10.1080/09638288.2020.1839792

[13] Dada, O.O. and Akingbesote, J.J. (2023) Fear of Falling, Meaningful Activity Participation and Community Reintegration among Stroke Survivors in Southwest Nigeria: A Cross-Sectional Study. *International Journal of Therapy and Rehabilitation*, **30**, 1-8. https://doi.org/10.12968/ijtr.2022.0029

[14] Jennum, P., Iversen, H.K., Ibsen, R. and Kjellberg, J. (2015) Cost of Stroke: A Controlled National Study Evaluating Societal Effects on Patients and Their Partners. *BMC Health Services Research*, **15**, Article No. 466. https://doi.org/10.1186/s12913-015-1100-0

[15] Hancock, E. (2016) Health Recovery Social Networks: Exploring the Experiences of

Participants in Stroke Recovery Peer Support Groups.

[16] Pang, M.Y., Eng, J.J. and Miller, W.C. (2007) Determinants of Satisfaction with Community Reintegration in Older Adults with Chronic Stroke: Role of Balance Self-efficacy. *Physical Therapy*, **87**, 282-291. https://doi.org/10.2522/ptj.20060142

[17] Zhou, X., Du, M., Dai, X., Zhu, S., Zhou, L. and Li, X. (2023) Intervention Patterns and Preliminary Effectiveness on Social Participation Following Stroke: A Scoping Review. *BMC Neurology*, **23**, Article No. 275. https://doi.org/10.1186/s12883-023-03250-2

[18] Whittemore, R. and Knafl, K. (2005) The Integrative Review: Updated Methodology. *Journal of Advanced Nursing*, **52**, 546-553. https://doi.org/10.1111/j.1365-2648.2005.03621.x

[19] Tricco, A.C., Lillie, E., Zarin, W., O'Brien, K.K., Colquhoun, H., Levac, D., *et al.* (2018) PRISMA Extension for Scoping Reviews (prisma-Scr): Checklist and Explanation. *Annals of Internal Medicine*, **169**, 467-473. https://doi.org/10.7326/m18-0850

[20] Hawker, S., Payne, S., Kerr, C., Hardey, M. and Powell, J. (2002) Appraising the Evidence: Reviewing Disparate Data Systematically. *Qualitative Health Research*, **12**, 1284-1299. https://doi.org/10.1177/1049732302238251

[21] Nayak, A., Bhave, A.C., Misri, Z., Unnikrishnan, B., Mahmood, A., Joshua, A.M., *et al.* (2023) Facilitators and Barriers of Community Reintegration among Individuals with Stroke: A Scoping Review. *European Journal of Physiotherapy*, **25**, 291-304. https://doi.org/10.1080/21679169.2022.2156599

[22] Desrosiers, J., Demers, L., Robichaud, L., Vincent, C., Belleville, S. and Ska, B. (2008) Short-Term Changes in and Predictors of Participation of Older Adults after Stroke Following Acute Care or Rehabilitation. *Neurorehabilitation and Neural Repair*, **22**, 288-297. https://doi.org/10.1177/1545968307307116

[23] Finestone, H.M., Guo, M., O'Hara, P., Greene - Finestone, L., Marshall, S.C., Hunt, L., *et al.* (2010) Driving and Reintegration into the Community in Patients after Stroke. *Physical Medicine and Rehabilitation*, **2**, 497-503. https://doi.org/10.1016/j.pmrj.2010.03.030

[24] Griffen, J.A., Rapport, L.J., Coleman Bryer, R. and Scott, C.A. (2009) Driving Status and Community Integration after Stroke. *Topics in Stroke Rehabilitation*, **16**, 212-221. https://doi.org/10.1310/tsr1603-212

[25] Hamzat, T., Olaleye, O. and Akinwumi, O. (2014) Functional Ability, Community Reintegration and Participation Restriction among Community-Dwelling Female Stroke Survivors in Ibadan. *Ethiopian Journal of Health Sciences*, **24**, 43-48. https://doi.org/10.4314/ejhs.v24i1.6

[26] Plante, M., Demers, L., Swaine, B. and Desrosiers, J. (2010) Association between Daily Activities Following Stroke Rehabilitation and Social Role Functioning upon Return to the Community. *Topics in Stroke Rehabilitation*, **17**, 47-57. https://doi.org/10.1310/tsr1701-47

[27] Shrivastav, S.R., Ciol, M.A. and Lee, D. (2022) Perceived Community Participation and Associated Factors in People with Stroke. *Archives of Rehabilitation Research and Clinical Translation*, **4**, Article 100210. https://doi.org/10.1016/j.arrct.2022.100210

[28] Nizeyimana, E., Joseph, C. and Phillips, J. (2021) The Role of Self-Efficacy in Community Reintegration among Persons with Traumatic Spinal Cord Injury in South Africa. *The Journal of Spinal Cord Medicine*, **45**, 739-747. https://doi.org/10.1080/10790268.2020.1855867

Appendix A

Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) Checklist.

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	Integrative review identified in the title on Page 1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	Page 2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	Page 3, Lines 7-23 and Page 4, Lines 1-2
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	Page 4, Lines 3-12
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	Page 5, Line 4
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	Page 5, Lines 18-23 and Page 6, Lines 1-4
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with	Page 4, Lines 20-23 and Page 5, Lines 1-5
SECTION	**ITEM**	**PRISMA-ScR CHECKLIST ITEM**	**REPORTED ON PAGE #**
		authors to identify additional sources), as well as the date the most recent search was executed.	
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Appendix
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	Page 6, 14-22 and Figure 1
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	Page 6, Lines 19-22 and Page 7, Lines 1-7
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	Page 7, Lines 8-23 and Page 8, Lines 1-5
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	Page 6, Lines 5-13
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	Page 7, Lines 1-22 and Page 8, Lines 1-5
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	Figure 1
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	Table 1, and Page 8 Lines 18-20
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Table 1, and Page 8 Lines 18-20

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Table 1-3
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	Page 8-17
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	Page 17, Lines 21-23, Page 18-21, and Page 22 Lines 1-10
Limitations	20	Discuss the limitations of the scoping review process.	Page 22, Lines 5-14
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	Page 23, Lines 21-23 and Page 24, Lines 1-7(research) Page 22-23, and Page 24, Lines 3-7 (clinical practice)
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	Page 24, Line 18

Appendix B

Ovid MEDLINE(R) Search Strategy <1946 to August Week 4 2023>.

#	Query	Results from 1 Sep 2023
1	exp Stroke/	173,566
2	(stroke or strokes or "cerebrovascular accident" or cva or cvas or "vascular accident" or apoplexy).ti,ab,kw.	280,826
3	1 or 2	319,430
4	outpatients/ or home care services/	57,863
5	(outpatient* or communit* or "home care" or "domiciliary care" or "domicilliary care" or "home health").ti,ab,kw.	818,312
6	4 or 5	841,118
7	"continuity of patient care"/ or exp neurological rehabilitation/ or hospital to home transition/	39,695
8	(rehabilitat* or reintegrat* or re-integrat*).ti,ab,kw.	189,087
9	7 or 8	215,727
10	"activities of daily living"/	73,152
11	("daily living" or "normal living" or adl or wheelchair* or dressing or feeding or eating or bathing or toileting or bathroom or washroom or "adaptive equipment" or hobby or hobbies or craft* or sport* or read* or television or "TV" or game* or computer* or "social activity" or "social activities").ti,ab,kw.	1,264,873
12	10 or 11	1,310,425
13	3 and 6 and 9 and 12	1,109