

# The Role of Caregivers in the Stroke Patients Recovery: A Mixed Methodology Study Focusing on Caregiver Challenges and Patient Outcomes

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## Abstract:-

### ➤ Overview

Patient Caregivers play a very essential role in the recovery of stroke patients, particularly among older individuals, they often require more intensive physical, emotional, and social support. one of the leading causes of long-term disability in older adults is stroke, it significantly shows impacts not only the patients but also the caregivers who help them through their rehabilitation journey. This research explores the critical role that caregivers play in post-stroke recovery for patient, with a particular focus on the challenges they face and affect the recovery outcomes of stroke patients. Given the increased burden on caregivers due to age-related complexities, this research put emphasizes on the importance of understanding the caregiver experience to improve both patient and caregiver well-being.

### ➤ Methodology

In This research, mixed-methods approach was used to gain a comprehensive understanding of the patient's caregiver's role and its impact on stroke recovery of patient. Qualitative data were gathered through semi-structured interviews with caregivers of older stroke patients (aged 60 and above). The interviews focused on the caregivers' experiences, coping strategies, challenges, and their perceptions of how these experiences affected the patient's recovery during rehabilitation journey. Thematic analysis was applied to identify recurring themes and patterns in the qualitative data. Quantitative data were also collected from medical records and recovery assessments of stroke patients, measuring consequence such as mobility, cognitive improvement, and overall quality of life post-stroke. The integration of qualitative insights with quantitative data provided a more holistic view of the caregiver-patient vitals.

### ➤ Key Findings

The study has several key challenges faced by caregivers, which substantial impacted both their well-being and the recovery of the patients. The primary challenges were:

- **Physical Fatigue:** Many caregivers, particularly those who were older themselves, faced physical strain in

assisting with daily activities such as lifting, mobility support, and personal hygiene care, leading to their own health problems.

- **Emotional and Mental Health Strain:** Caregivers reported feelings of anxiety, depression, and emotional exhaustion. These mental health challenges often resulted in reduced patience and focus, which negatively affected the quality of care provided.
- **Lack of Social Support:** Isolation and a lack of external support systems, such as respite care or community resources, left many caregivers feeling overwhelmed. This often led to burnout, further exacerbating the challenges faced in managing the rehabilitation process.

## I. INTRODUCTION

### A. Background on Stroke and Recovery

A stroke, also known as a brain attack or cerebrovascular accidents (CVA). A stroke occurs when the blood supply to the brain is interrupted by blood vessels burst or a clot blocks blood supply to the brain, depriving brain tissue of oxygen and nutrients, resulting in the death of brain cells. It is one of the leading causes of long-term disability and death worldwide, with older adults being particularly susceptible due to age-related vulnerabilities and health conditions such as high cholesterol, hypertension, obesity, depression, smoking, atrial fibrillation, and diabetes. stroke can severely impact a person's ability to perform daily activities, often leading to partial or full paralysis, speech impairments, cognitive deficits, and emotional changes. The recovery process is often long and requires significant medical intervention, rehabilitation, and continuous support.

For older adults, recovery can be more complex due to reduced physical resilience, comorbidities, and potential cognitive decline. Post-stroke rehabilitation aims to improve physical functions, regain independence, and addressing cognitive and emotional impairments. However, rehabilitation alone is insufficient without continuous and holistic care, which includes both medical treatment and the steady support of caregivers. Caregivers—often family members—play a critical role in assisting with daily living activities, managing by medications, by facilitating

rehabilitation exercises, and providing emotional support throughout the recovery process.

### B. Role of Caregivers

The major role of caregivers in stroke recovery is complicated and essential. Caregivers assist stroke patients in their physical recovery by helping them with mobility, exercises, and rehabilitation routines, which are vital for regaining lost motor functions. In Addition, caregivers provide emotional support to help patients cope with the psychological impact of the stroke, such as depression, frustration, and anxiety that can arise from reduced independence or altered physical abilities.

Analytical, caregivers often support the patient's mental stimulation and memory exercises, which are crucial for restoring cognitive abilities affected by the stroke. This can include helping with speech recovery, memory tasks, and engaging the patient in meaningful activities that increase brain function. Beyond the physical and cognitive aspects, caregivers also provide social intimacy and coordinate medical care, including therapy appointments, mental health counsellor, medication management, and doctor visits. The caregiving role is substantial and has been shown to directly affect the quality and pace of a stroke patient's recovery. However, the caregiving role is not without its challenges.

### C. Purpose of the Study

This study aims to explore the challenges faced by caregivers of older stroke patients and understand how these challenges influence the recovery outcomes of the patients. Using a mixed-methodology approach, the study will employ both qualitative and quantitative methods to gain a comprehensive view of caregiver experiences and patient recovery. Qualitative data will be collected through in-depth interviews with caregivers, focusing on their personal experiences, challenges, and coping strategies. These interviews will be analysed thematically to identify key patterns and themes related to caregiver struggles and how they affect patient rehabilitation. The quantitative component will involve analysing recovery outcomes, such as physical mobility and cognitive improvements, to determine correlations between caregiver challenges and patient progress.

By focusing on older stroke patients, this study addresses a population that is particularly vulnerable and often requires extensive caregiving support. The findings will contribute to the development of interventions that can support caregivers, reduce their burdens, and ultimately improve patient recovery outcomes.

### D. Research Questions

The study lead to following research questions:

- What are the major challenges faced by caregivers of older stroke patients?
- This question aims to identify the specific emotional, physical, social, and financial challenges that caregivers experience while providing care to older stroke patients.

The analysis will help to categorize these challenges and understand their frequency and intensity.

- How do these challenges influence the recovery outcomes of stroke patients?
- The study seeks to explore the relationship between caregiver challenges and patient recovery. Specifically, it will examine how caregiver stress, fatigue, and emotional struggles might hinder or slow down the patient's physical, cognitive, and emotional recovery.
- What interventions could support caregivers more effectively?

Based on the challenges identified, this question focuses on finding potential solutions. The goal is to suggest interventions—such as training, respite care, or emotional support programs—that could reduce the burdens on caregivers and enhance their ability to provide effective care. The study will consider both the caregivers' well-being and the patient outcomes in formulating these recommendations.

## II. LITERATURE REVIEW

### A. Caregivers and Stroke Recovery

Stroke recovery is a complex and ongoing process that requires intensive rehabilitation, especially in older patients who may already be dealing with age-related health issues. Existing research emphasizes that caregivers, often family members, are pivotal in the rehabilitation process. Studies have shown that caregivers assist stroke patients with a range of essential tasks such as personal hygiene, mobility, medication management, and emotional support, all of which are critical for promoting recovery. Their involvement significantly contributes to the patient's ability to regain independence and improve functional outcomes.

For older stroke patients, the role of caregivers becomes even more significant due to the heightened need for continuous care and monitoring. Research by Kalra et al. (2004) found that older stroke patients with dedicated caregivers tend to have better recovery outcomes in terms of mobility and cognitive function compared to those without adequate caregiver support. Furthermore, informal caregiving allows stroke survivors to remain in their homes, which has been shown to improve mental health and overall quality of life in the elderly. However, despite the critical role of caregivers, the stress and challenges they face are often underappreciated, leading to significant consequences for both the caregiver and the patient.

### B. Caregiver Challenges

While caregivers are essential in the recovery process, they often face numerous challenges that impact their ability to provide effective care. Research highlights the following as common issues experienced by caregivers of stroke patients:

- Emotional Stress: Caregivers frequently experience high levels of emotional stress due to the demands of caregiving. Watching a loved one struggle with the

aftermath of a stroke can lead to feelings of helplessness, anxiety, and depression. A study by Haley et al. (2009) found that more than 40% of caregivers for stroke patients exhibited clinical signs of depression, with emotional strain being linked to both the severity of the patient's condition and the lack of sufficient emotional support for the caregiver.

- **Physical Fatigue:** Providing care for a stroke patient, especially an elderly one, is physically demanding. Tasks such as helping with mobility, bathing, and lifting the patient often result in physical fatigue and sometimes injuries for the caregivers. As many caregivers are older adults themselves, they may already be dealing with age-related health issues, further exacerbating their physical strain. Research has shown that caregivers' physical exhaustion negatively affects their health and ability to continue providing effective care over time.
- **Lack of Support:** Caregivers often feel isolated, as they may not have access to the necessary support systems, such as respite care, professional counselling, or community resources. Lack of social support can lead to burnout, making it harder for caregivers to cope with their responsibilities. According to a study by Cameron et al. (2016), caregivers who had less access to social and professional support were more likely to experience burnout, which in turn affected the quality of care they could provide to their loved ones.
- **Financial Constraints:** The financial burden of caregiving is another significant challenge. Many caregivers either reduce their working hours or leave their jobs to care for a stroke patient, resulting in loss of income. Additionally, there are direct financial costs related to medical bills, therapy, and home care equipment. Studies by Adelman et al. (2014) highlight that financial strain contributes significantly to caregiver stress, which can adversely affect their mental and physical health.
- **Mental Health Impact:** The cumulative effects of emotional stress, physical exhaustion, and financial strain can take a toll on caregivers' mental health. Caregivers are at increased risk of developing mental health issues, such as anxiety and depression. This decline in mental well-being not only diminishes their quality of life but also reduces their capacity to effectively support the stroke patient's recovery.

### C. Impact on Patient Recovery

There is growing recognition that the well-being of caregivers is directly linked to the recovery outcomes of stroke patients. Research shows that caregivers who experience high levels of stress or burnout are less able to provide the consistent, quality care required for stroke rehabilitation. Poor caregiver health has been associated with delayed patient recovery, reduced mobility improvements, and higher rates of hospital readmissions.

A study by McCullagh et al. (2005) demonstrated that patients whose caregivers reported lower stress levels and higher well-being were more likely to recover faster in terms of both physical and cognitive function. Advancing age and anxiety in patients and caregivers, high dependency, and poor family support identify caregivers at risk of adverse outcomes, which may be reduced by caregiver training [1]. This is likely because caregivers who are well-supported are better able to focus on rehabilitation tasks, ensure medication adherence, and provide emotional encouragement, all of which are vital to the patient's recovery.

When caregivers experience breakdown then patients may suffer a lot in their treatment by missing rehabilitation opportunities, inconsistent care routines, and a lack of emotional support, all of which are essential for stroke recovery. Many studies shows emotional and psychological stability of caregiver directly influence the mental health of stroke patients. Patients whose caregivers are stressed or depressed are more likely to experience negative emotions themselves, leading to a lack of motivation and slower recovery.

In long-term care scenarios, the well-being of caregivers is even more critical. Stroke survivors often require extended rehabilitation, and if the caregiver's challenges are not addressed, the patient's recovery can be severely compromised. Studies suggest that interventions aimed at reducing caregiver stress, such as providing counselling services or respite care, not only improve the quality of life for caregivers but also methodology.

### D. Study Design

In This study a mixed-methods approach to comprehensively understand the role of caregivers in the recovery of stroke patients, with a particular focus on the challenges they face and how these challenges impact patient outcomes. The mixed-methods approach allows for a more integrating qualitative and quantitative data.

**Qualitative Component:** In-depth, semi-structured interviews were conducted with caregivers to capture their personal experiences, the challenges they encounter, their coping mechanisms, and how they perceive their caregiving role in the patient's recovery. The qualitative data will provide rich, contextual insights into the emotional, physical, and social dimensions of caregiving.

**Quantitative Component:** Quantitative data was collected to measure the recovery outcomes of stroke patients, focusing on key indicators such as physical mobility, cognitive function, and emotional well-being. This data allows for the correlation of caregiver challenges with patient recovery metrics, providing a more objective measure of the impact of caregiving.

The integration of both methods ensures a comprehensive analysis, where qualitative insights offer depth, and quantitative measures provide empirical evidence

for understanding how caregiver experiences influence patient recovery.

#### E. Participant Selection

Participants for this study were selected using purposive sampling to ensure that the sample was representative of the study's focus on older stroke patients and their caregivers.

➤ Caregivers: The primary caregivers of stroke patients, who are actively involved in the rehabilitation and day-to-day care, were selected for the study.

Inclusion criteria for caregivers included:

- Minimum of 6 months of caregiving experience.
- Primary responsibility for the stroke patient's daily care, including assistance with mobility, medications, rehabilitation exercises, and emotional support.
- Caregivers could be family members, friends, or hired home care professionals.

➤ Stroke Patients: The study focused on stroke patients aged 60 and above, as older patients typically require more extensive caregiving support due to age-related complications. Inclusion criteria for stroke patients included:

- Diagnosed with a stroke and currently undergoing rehabilitation.
- Stroke patients must be living at home under the care of a primary caregiver.
- Stroke occurred within the past 12 months to ensure that the patients are in the active phase of recovery.
- This participant selection process ensures that the study captures a wide range of caregiving experiences and patient recovery outcomes, particularly in older stroke survivors.

### III. DATA COLLECTION

#### A. Interviews

Semi-structured interviews were conducted with caregivers to explore their personal caregiving experiences. The interviews were designed to be flexible, allowing caregivers to share their stories and emotions while still adhering to a structured framework. Key areas covered in the interviews included:

- Experiences: Caregivers' daily routines, responsibilities, and the nature of the care they provide.
- Challenges: The emotional, physical, and social challenges faced by caregivers, such as stress, fatigue, and isolation.
- Coping Mechanisms: Strategies caregivers use to cope with the challenges, such as seeking social support, self-care practices, or professional assistance.
- Impact on Recovery: Caregivers' perceptions of how their challenges and well-being affect the stroke patient's recovery, including rehabilitation progress and emotional state.

Each interview lasted approximately 45-60 minutes and was audio-recorded and transcribed for analysis. The qualitative data provided a deep understanding of the lived experiences of caregivers.

#### B. Quantitative Measures

Quantitative data was collected to measure the stroke patients' recovery outcomes. This data was obtained through standardized assessments that evaluated key aspects of recovery:

- Mobility Scores: Tools like the Barthel Index or Modified Rankin Scale (MRS) were used to assess the patient's ability to perform daily activities and their level of independence in movement.
- Cognitive Recovery Metrics: Cognitive function was evaluated using tests such as the Mini-Mental State Examination (MMSE) to measure memory, attention, and problem-solving abilities.
- Emotional Well-being: The stroke patients' emotional state was measured through self-reported scales like the Beck Depression Inventory (BDI) to assess symptoms of depression, anxiety, and emotional adjustment post-stroke.
- This quantitative data allowed for an objective evaluation of how well the stroke patients were recovering, which was then correlated with the qualitative data from caregiver interviews to examine the relationship between caregiver challenges and patient outcomes.

#### C. Thematic Analysis

The qualitative data from caregiver interviews were analysed using thematic analysis, a method that identifies recurring themes, patterns, and ideas within the data. The steps for thematic analysis included:

- Familiarization with the Data: All interview transcripts were read and re-read to identify patterns and recurring topics.
- Coding: Segments of the transcripts were systematically coded based on key topics such as "emotional strain," "physical fatigue," "lack of social support," and "impact on recovery." Coding helped in organizing the data into meaningful categories.
- Theme Development: After coding, similar codes were grouped together to develop broader themes. Key themes included emotional stress, physical burden, social isolation, and caregiver burnout.
- Reviewing and Defining Themes: The themes were reviewed and refined to ensure that they accurately represented the data and provided clear insights into the caregiver challenges and their impact on recovery.
- Interpretation: The final step involved interpreting the themes in relation to the research questions, drawing conclusions about the relationship between caregiver challenges and patient recovery outcomes.
- This method of analysis provided a detailed understanding of the caregivers' experiences and how these experiences influenced the recovery trajectories of stroke patients. Hence patient recovery outcomes.



## IV. RESULTS

### A. Key Themes from Thematic Analysis

The interviews with caregivers revealed several recurring themes, each highlighting different aspects of the caregiving experience. These themes reflect the challenges caregivers face and how these challenges influence their ability to support the recovery of stroke patients.

### B. Emotional and Mental Health Challenges

- A prominent theme across interviews was the emotional toll caregiving takes on individuals. Many caregivers reported feeling overwhelmed by the responsibilities, often struggling with anxiety and depression due to the constant demands of caring for a stroke patient.
- Several caregivers expressed feelings of helplessness, particularly when their loved one's recovery progress was slow or stagnant. One participant shared, "It feels like no matter how hard I try, it's never enough, and that's draining emotionally."
- The emotional burden was exacerbated by witnessing the patient's frustrations and limitations, leading to caregiver guilt and emotional exhaustion. The prolonged caregiving role left many feeling emotionally depleted and vulnerable to burnout.

### C. Physical Strain

- Many caregivers reported experiencing physical fatigue and health problems as a result of their caregiving responsibilities. Physical tasks such as lifting the patient, helping with mobility, and providing personal care (e.g., bathing, dressing) were physically demanding, especially for caregivers who were themselves older or dealing with health issues.
- One caregiver noted, "I'm constantly tired, my back hurts, and I just don't have the strength some days, but there's no choice—I have to keep going." The physical strain, coupled with insufficient rest, often resulted in fatigue, which diminished their ability to provide consistent care.
- In some cases, caregivers reported neglecting their own health to prioritize the needs of the stroke patient, which contributed to long-term health consequences, such as chronic pain and increased risk of injury.

### D. Social Isolation

- Social isolation emerged as another significant theme. Caregivers often felt cut off from their social circles due to the time and energy demands of caregiving. Many described losing touch with friends, skipping social events, and feeling lonely because they had little to no time for themselves.
- Caregivers described caregiving as an "all-consuming role" that left no room for personal life or external social interaction. As one participant shared, "I used to have a social life, but now I don't even have the time to meet friends for coffee."

- The lack of social support intensified feelings of isolation, leaving caregivers with little emotional respite or opportunities to share their experiences with others who understood their struggles.

### E. Impact on Patient Recovery

- The interviews revealed a clear connection between caregiver burnout and patient recovery outcomes. Caregivers who reported high levels of emotional and physical stress often expressed concerns that their fatigue and inability to provide consistent care slowed down the patient's rehabilitation process.
- One caregiver explained, "When I'm too tired or stressed, I just can't give my best during the rehab exercises, and I know it affects [the patient's] progress." Another stated, "I feel like my burnout is holding back their recovery, but I don't know what to do about it."
- The stress experienced by caregivers appeared to directly affect the quality of care, particularly in helping the patient with rehabilitation exercises or encouraging participation in therapy, which is critical for recovery. Caregivers acknowledged that their mental and physical exhaustion limited their ability to motivate the patient, which slowed recovery.

### F. Coping Mechanisms

- Despite the numerous challenges, caregivers employed various strategies to manage their stress and reduce the burden of caregiving. Some sought emotional and practical support from community resources or support groups, where they could share experiences with others in similar situations.
- Others turned to professional help, such as counselling, respite care, or hiring additional in-home care to reduce their workload. One caregiver shared, "The support group has been a lifeline; it's helped me realize I'm not alone and there's help out there."
- Many caregivers also highlighted the importance of self-care, whether through short breaks, exercise, or relaxation techniques, as essential to managing their stress and improving their ability to provide care.

### G. Quantitative Findings

The quantitative analysis focused on the relationship between caregiver challenges (emotional stress, physical fatigue, and social isolation) and stroke patient recovery outcomes (mobility, cognitive function, and emotional well-being). Several key correlations emerged from the data:

#### ➤ Caregiver Stress and Patient Mobility

There was a clear correlation between caregivers who reported higher levels of emotional stress and the slower recovery of patient mobility. Patients whose caregivers exhibited high stress scores on self-reported scales showed poorer outcomes in mobility tests, such as the Barthel Index. This suggests that emotional strain on caregivers may negatively impact their ability to engage patients in physical rehabilitation activities, hindering progress in mobility recovery.

### ➤ *Caregiver Fatigue and Cognitive Recovery*

Cognitive recovery, as measured by tools like the Mini-Mental State Examination (MMSE), was also slower in patients whose caregivers reported high levels of physical fatigue. Caregivers who were physically exhausted had less capacity to engage the patient in cognitive exercises, likely contributing to slower improvements in memory, attention, and problem-solving abilities.

### ➤ *Social Isolation and Patient Emotional Well-being*

Patients whose caregivers experienced significant social isolation were more likely to exhibit poorer emotional well-being. These patients scored higher on depression and anxiety scales, such as the Beck Depression Inventory (BDI), indicating that the emotional struggles of caregivers were mirrored in the emotional state of the patients. This may be due to a lack of consistent emotional support and encouragement from caregivers who were overwhelmed or isolated themselves.

## V. DISCUSSION

### A. Interpretation of Findings

The findings of this study corroborate much of the existing literature on the role of caregivers in stroke recovery, while also providing new insights into how caregiver challenges impact patient outcomes. The key challenges identified—emotional and mental health struggles, physical strain, and social isolation—are consistent with previous research that highlights the heavy burden caregivers carry when managing the rehabilitation of stroke patients. [2]

Like previous studies, our research found that caregivers' emotional stress is compounded by feelings of guilt and helplessness, which can lead to burnout. This suggests that the emotional well-being of caregivers is integral to their ability to provide consistent care.

- **Physical Strain:** Physical exhaustion and health issues due to caregiving tasks were commonly reported. who documented the physical demands placed on caregivers, especially older individuals [3]. Many caregivers in our study reported neglecting their own health, where caregivers experienced deteriorating physical health over time due to the demands of caregiving. This study reinforces the need for early intervention to address physical strain before it escalates to chronic health conditions for caregivers. [4]
- **Social Isolation:** Although providing care to a family member or friend may provide psychological benefits, informal (i.e., unpaid) caregivers also encounter difficulties which may negatively affect their quality of life as well as their mental and physical health. Loneliness is one important challenge that caregivers face, with this psychological state being associated with morbidity and premature mortality. [5]
- **Impact on Patient Recovery:** Stroke is a serious, sudden onset illness requiring care across the care continuum.

The focus of care, the individuals primarily responsible for providing that care, and patients' self-care abilities change across care environments. Often family members who provide support also experience changes in their caregiving role. To date, however, interventions for family caregivers have not explicitly considered their changing support needs. [6]

This study adds to the literature by providing a detailed examination of how these challenges are intertwined and affect both the caregiver and the patient, particularly in older adults recovering from a stroke. The mixed-methods approach allowed for a holistic understanding of how qualitative experiences of stress, fatigue, and isolation are quantitatively linked to slower patient recovery.

### B. Implications for Practice

Relationship between caregiver challenges and patient recovery, this study highlights the urgent need for caregiver support interventions to enhance both caregiver well-being and patient outcomes.

### ➤ *Caregiver Support Programs*

- **Restfulness care :** Caregivers in this study shows their need for rest and time away from caregiving duties. Respite care services, which provide temporary relief for caregivers, should be more accessible. These services could prevent burnout by allowing caregivers to rest, attend to their own health, and engage in social activities.
- **Mental Health Counselling:** Emotional and mental health challenges were some of the most significant issues identified in this study. Providing mental health counselling and therapy for caregivers, including support groups, would offer emotional outlets for caregivers to express their struggles and seek coping strategies..
- **Caregiver Training:** Many caregivers reported feeling overwhelmed by their responsibilities, often because they lacked formal training on how to manage stroke rehabilitation. Training programs that equip caregivers with the knowledge and skills needed to handle physical rehabilitation, cognitive exercises, and emotional support could reduce stress and improve patient outcomes. This could also boost caregiver confidence, reducing feelings of helplessness and emotional strain.

### ➤ *Healthcare Interventions*

- **Routine Caregiver Assessments:** Caregivers should be routinely evaluated by healthcare providers for signs of stress, fatigue, or mental health challenges. By proactively addressing these issues, healthcare professionals can intervene before they become overwhelming. These assessments should include tools like stress and burnout scales, as well as physical health checkups.
- **Integrated Care Teams:** Multidisciplinary teams that include physical therapists, psychologists, and social workers should be established to provide comprehensive support not only to stroke patients but also to caregivers. Such teams could offer practical caregiving advice, mental health support, and ensure that caregivers are

involved in the rehabilitation process without overburdening them.

- **Telehealth and Remote Monitoring:** Telehealth services can offer caregivers remote support, allowing them to consult with healthcare professionals without the need to travel. This can reduce stress, especially for those in rural areas or those who cannot leave the patient unattended. Remote monitoring tools could also help healthcare providers track patient progress and caregiver well-being in real-time, offering Conclusion

### C. Inclusion Criteria

#### ➤ For Stroke Patients:

- **Age:** Patients aged 60 years or older to focus on older adults who typically require long-term care and exhibit more complex recovery processes.
- **Stroke Diagnosis:** Patients must have had a clinically confirmed ischemic or hemorrhagic stroke.
- **Recovery Phase:** Patients who are in the post-acute rehabilitation phase (6 months to 2 years post-stroke) to ensure that caregivers have sufficient caregiving experience to reflect the long-term challenges.
- **Cognitive Function:** Patients with mild to moderate cognitive impairments, assessed using tools like the Mini-Mental State Examination (MMSE), to ensure that they are still able to engage in rehabilitation activities with caregiver assistance.
- **Consent:** Patients must be willing and able to give informed consent or have a legal representative provide consent on their behalf.

#### ➤ For Caregivers:

- **Primary Caregiver:** Individuals who are the primary caregivers (either family members or professional caregivers) for the stroke patient.
- **Caregiving Duration:** Caregivers must have at least 6 months of caregiving experience to reflect an understanding of the challenges involved in long-term care.
- **Age:** Caregivers aged 18 years or older to capture a wide range of caregiving experiences, particularly in the older adult population.
- **Willingness to Participate:** Caregivers must be willing to participate in interviews and provide detailed information about their experiences, challenges, and perceptions.

### D. Exclusion Criteria

#### ➤ For Stroke Patients:

**Severe Cognitive Impairment:** Patients with severe cognitive impairments or severe dementia, as they would require specialized care, and their recovery would not rely heavily on caregiver support in traditional rehabilitation processes.

#### • Severe Comorbidities:

Patients with additional severe health conditions (e.g., terminal cancer, end-stage renal disease) that significantly impact recovery, as the focus is on stroke-related caregiving challenges.

#### • Inability to Provide Consent:

Patients without the ability to provide informed consent and without a legal representative to do so on their behalf.

#### ➤ For Caregivers:

- **Professional Healthcare Workers:** Professional caregivers, unless they are also family members of the patient, were excluded to ensure that the focus remained on informal, non-professional caregiving situations.
- **Less Than 6 Months of Experience:** Caregivers with less than 6 months of caregiving experience were excluded, as their involvement might not fully reflect the long-term challenges faced in caregiving.
- **Previous Experience in Caregiving:** Caregivers who had substantial prior experience (more than 2 years) caring for stroke patients outside the current patient, as their prior knowledge may bias their responses compared to those who are newer to caregiving.

## VI. SUMMARY OF FINDINGS

This study shows the critical role of caregivers in the recovery of stroke patients, focusing on the challenges faced by caregivers and their impact on patient outcomes. The main challenges identified were emotional and mental health issues, physical strain, and social isolation. These challenges were found to directly affect the caregiver's ability to provide consistent, high-quality care, which in turn slowed down the patient's physical and cognitive recovery.

- **Emotional and Mental Health Challenges:** Caregivers experienced overwhelming emotional stress, depression, and anxiety due to the demanding nature of caregiving. This emotional exhaustion diminished their ability to engage in the rehabilitation process, contributing to slower patient recovery.
- **Physical Strain:** Many caregivers reported physical fatigue and health problems, which limited their ability to assist with physical rehabilitation exercises. This contributed to poorer mobility outcomes in stroke patients.
- **Social Isolation:** Caregivers frequently felt socially isolated, which exacerbated their emotional and physical stress. The lack of social support hindered their resilience and ability to provide ongoing care.

Ultimately, caregiver burnout and stress were shown to have a significant negative impact on patient recovery outcomes, demonstrating the critical need for better caregiver support systems.

## RECOMMENDATIONS

Based on these findings, several practical recommendations can be made to improve caregiver support and enhance patient outcomes:

### ➤ *Establish Caregiver Support Programs:*

- **Respite Care:** Increasing access to respite care services can help reduce caregiver burnout by allowing them to take necessary breaks and rest, which in turn can improve their capacity to care for patients.
- **Mental Health Counselling:** Offering emotional support and counselling to caregivers can help alleviate stress and provide coping mechanisms for managing the emotional demands of caregiving.
- **Support Groups:** Creating more opportunities for caregivers to connect with others in similar situations through community support groups can reduce feelings of isolation and provide valuable social interaction.

### ➤ *Provide Caregiver Training:*

Training programs that equip caregivers with practical skills for managing physical rehabilitation, cognitive exercises, and patient care can reduce stress and improve confidence in their caregiving abilities.

### ➤ *Routine Caregiver Health Assessments:*

Healthcare providers should implement regular assessments of caregivers' physical and mental well-being. Early detection of caregiver burnout or physical strain would allow for timely interventions, preventing further health deterioration.

### ➤ *Integration of Caregiver Support into Healthcare Plans:*

Healthcare systems should integrate caregiver support into stroke patient rehabilitation plans, involving caregivers in discussions about care needs, providing them with resources, and offering professional guidance on managing their own well-being alongside patient care.

### ➤ *Future Research*

#### • *Longitudinal Studies on Caregiver Support Interventions:*

Future research should examine the long-term impact of specific caregiver support interventions, such as mental health counselling or respite care, on both caregiver well-being and patient recovery outcomes. Longitudinal studies could provide deeper insights into the effectiveness of different interventions over time.

#### • *Cultural Contexts and Diverse Caregiver Populations:*

Further research is needed to explore how caregiving challenges vary across different cultural contexts and socio-economic backgrounds. Understanding how cultural norms and support systems influence caregiver experiences would help develop culturally sensitive interventions.

#### • *Technological Solutions for Caregiver Support:*

Investigating the role of telehealth, remote monitoring, and digital tools in supporting caregivers could be another area for future research. Examining how technology can reduce caregiver burden and provide remote assistance may yield innovative approaches to timely interventions when needed.

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