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Lived experiences of stroke survivors in India: A phenomenological study

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Abstract

Background: Stroke is a major cause of long-term disability and has a potentially enormous emotional and socio-economic impact on patients, their families, and health services. Perceptions of patients with stroke have already been studied worldwide, which are unique in terms of their cultural background. However, in India, there is a lack of studies about the experience of the disease by stroke survivors and their perspectives of understanding the situation.

Objective: This study aimed to explore lived experience of stroke survivors in India.

Methods: A phenomenological study design was used. In-depth interviews were conducted with a purposive sample of ten stroke survivors who had experienced post-stroke deficits three months to one year after stroke. Data were analyzed using Diekelmann's hermeneutical approach to identify underlying themes.

Results: Two main themes emerged: (1) emergence of stroke (actual occurrence, mental perception, and recognition of illness) and (2) therapeutic concerns (enhanced and weakened recovery).

Conclusion: Recognizing how patients experience the illness is crucial in planning care for stroke survivors. Strengthening factors enhancing recovery and limiting the hindering factors through effective therapeutic management is a necessity. The findings might also contribute to refining existing interventions and designing holistic multi-component rehabilitation programs that facilitate easy recovery. The study also highlights the need for providing information to general public on recognizing warning signs of stroke.

Keywords

stroke; lived experience; nursing; phenomenology; perception; survivors; India

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Background

Stroke is a major cause of disability among many elders and therefore represents a major social challenge (Lewis et al., 2017). In India, the crude incidence rate of stroke ranges from 108 to 172 per 100,000 people, and the prevalence rate ranges from 26 to 757 per 100,000 people per year (Jones et al., 2022). The residual effect stroke can have on a person depends on the severity and type (World Health Organization, 2021). This can have a far-reaching effect on a person's quality of life (Limbasiya et al., 2022). It is projected that by 2030 there will be almost 12 million stroke deaths, 70 million stroke survivors, and more than 200 million DALYs lost worldwide (Feigin et al., 2014).

The disease significantly impacts physical health and abilities, though its effect on mental health and emotions cannot be undermined (Lewis et al., 2017; Posri et al., 2022). Many research studies have focused on strategies for minimizing or improving functional deficits (Coleman et al.,

2017). While the physical effects of a stroke may be easier to spot and better understood by family, friends, and health professionals, other kinds of effects may be hidden. These hidden effects can arise at the time of a stroke or develop as a person recovers. If hidden impacts are better understood, stroke survivors are more likely to receive the proper support (Della Vecchia et al., 2019). However, health care professionals need to acknowledge the impact of stroke on a person's life, especially to improve rehabilitation (Gimigliano & Negrini, 2017). It is also noted that acceptance of rehabilitation services is based on the patient's cultural understanding of stroke. Therefore, there is a need to explore cross-cultural differences in how stroke is conceptualized for the sake of upscaling the stroke rehabilitation program (Watkins et al., 2021).

Care management must reflect this fact, and a multi-disciplinary team approach must ensure that the patients will reach their potential to the maximum. As care transition happens from hospital to community, many stroke survivors

feel unsupported (Kamalakaran et al., 2016). A better understanding of the requirements for long-term care from the patient's perspective is necessary in order to help nurses design patient-centered, culturally sensitive psycho-educational interventions.

Several studies have focused on the physical and psychosocial problems of stroke survivors in India (Sharma et al., 2019). A systematic review of unmet needs of stroke survivors showed considerable heterogeneity in terms of types of needs based on demographic characteristics and environment (Chen et al., 2019). These studies were mostly from high-income countries. Therefore, more studies from low-and-middle-income countries are required to generate locally relevant evidence on the multidimensional needs of stroke survivors (Chen et al., 2019). In addition, qualitative research is needed to elevate the real concerns of patients and devise specific solutions. With this gap, our study aimed to explore the lived experiences of stroke survivors and how they use stroke care services in India, the findings of which would help in policy-making, planning, and development of culturally tailored rehabilitation measures.

Methods

Study Design

A hermeneutic phenomenological approach was employed in this study. This was the methodology deemed most appropriate to uncover the experiences, interpret them, and derive meanings out of those experiences rather than just describing them (Chan et al., 2010).

Participants

The participants were stroke survivors selected from the outpatient stroke registry of a tertiary care hospital in South India with a monthly statistic of approximately 250 stroke patients attending the outpatient department. The researcher (MGB) in the stroke unit familiarized herself with the participants developing rapport and establishing trust. They were informed of being interviewed in the comfort of their own homes. To obtain a maximal account of the experience and a better understanding of the phenomenon, purposive sampling based on a pre-selection criterion was used to select participants (Polit & Beck, 2018). Survivors of first-time confirmed stroke were identified. Those who could participate in an interview and were ready to express their views freely were included. Participants were those between three months to one year following their stroke. Maximum phenomena variation sampling was used for age and disability. Stroke survivors with all types of aphasia and impaired cognition were excluded from the study.

Twelve stroke survivors were included initially. The sample size emerged as the study progressed. The adequacy of the sample size was evaluated by the completeness and quality of the information provided by the participants rather than the number of interviews. This was achieved after ten interviews and when there was a redundancy of data.

Data Collection

Data were collected from September to December 2018. An in-depth interview was done to generate rich data, followed by unstructured nonparticipant observation and field notes. The

tools for data collection included a sociodemographic proforma, disease severity proforma, and an in-depth interview guide prepared after an extensive literature review and consultation with qualitative study experts. A triangulated approach to validating tools was done by a nurse expert in qualitative research, a sociologist, and a physician. The interview guide was validated by the test-retest method with a time gap of three days. Fieldwork and discussion were conducted with stroke survivors before finalizing the tool. The interview guide consisted of 6 broad grand tour questions related to experiences after a stroke. These were (1) What was your feeling when you were first affected by stroke? (2) How do you perceive the attack of stroke? (3) Can you explain your feelings when you realized that you had a stroke? (4) In what way has stroke affected your life? (5) What change /difference has happened in your life after the stroke? Can you explain, if any? (6) Tell me in detail about your experiences during your hospital stay or at home after a stroke. Stroke survivors were identified based on the diagnosis made by the physician and on reviewing case records. Initially, 20 subjects were selected, but only 12 were interviewed.

The researchers (MGB, RT, and BB) entered the field by directly contacting the family members through telephone. After the potential participants were identified, they were observed and assessed for their level of disability using the Barthel score index-before the interview. Then, the researcher (MGB) conducted an in-depth interview with them, scheduled at their house at a convenient time. The interview commenced with a grand tour question, "Can you explain your feelings after a stroke?" The responses were audio recorded with the permission of participants and family members. Active listening and non-verbal encouragement were used. Prompt questions were asked for clarification and focus. An in-depth interview was supplemented with thick observations from the field and field notes. These included non-verbal communication of the patients, their expressions, family members' interactions with them, household facilities and modifications, alterations in the pattern of stature and gait, etc. The researcher tried maximum to bracket the self-conceptions. Data saturation occurred after ten interviews. The audiotaped verbatim was transcribed and again verified to avoid missing minor details.

Data Analysis

Data analysis was done based on the Heideggerian beliefs (Diekelmann et al., 1989) with the following seven steps: (1) interviews were read for overall understanding, (2) interpretative summaries of each interview were written, (3) a team of researchers analyzed selected transcribed interviews. (4) any disagreements on interpretation were resolved by going back to the text, (5) common meanings were identified by comparing and contrasting the text, (6) relationships among themes emerged, and (7) a draft of themes with exemplars from the text was presented to the team. Suggestions were incorporated into the final draft.

Data were organized and managed manually, and no software was used for data management. Instead, computer folders representing each category were created. Content related to each category was added on and coded separately. Interviews recorded in vernacular language were transcribed after listening to the tapes by the researcher herself soon after

the interviews. Field notes were also noted in the transcripts, which were repeatedly verified by listening to audiotapes. Transcribed verbatim was translated to English and

retranslated to ensure that meaning was not changed. Steps in the data analysis of data can be seen in [Figure 1](#).

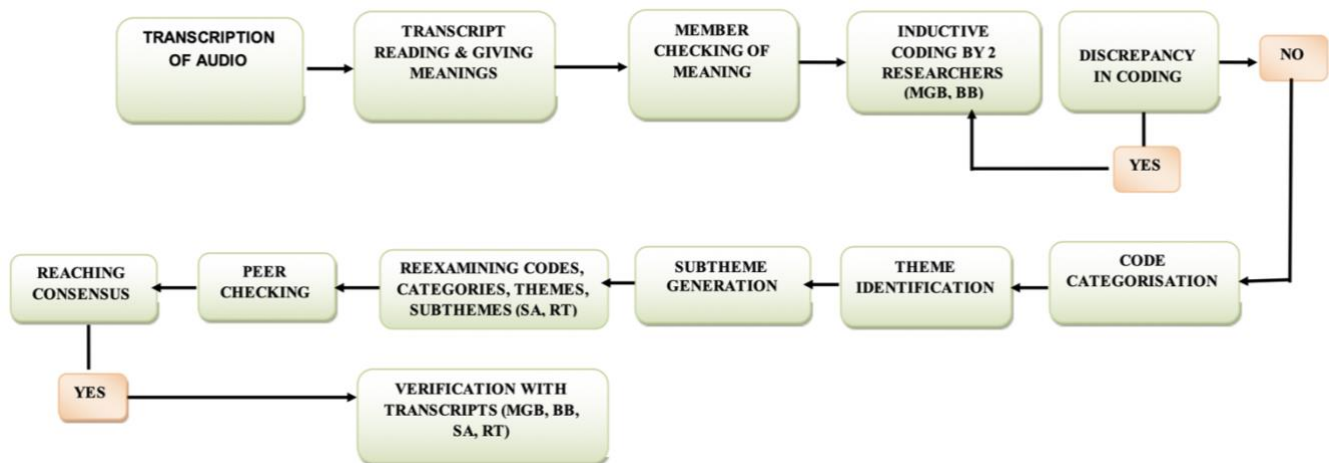


Figure 1 Data analysis process

Trustworthiness

The researcher spent time with family to ensure a good rapport before the interview and conducted revisits to ensure that they provided honest responses. The researcher (MGB) conducted the interview to ensure the authenticity of the data. Throughout the interview, observation was done and recorded. These field notes helped record any significant observations during the data collection. Data triangulation was followed. In-depth interview data were supplemented with thick field observations. Also, the audiotaped verbatim was listened to several times by the researcher to confirm that the transcript did not miss any minor details or non-verbal clues. The research team discussed the initial few narratives; any missing or unclear pieces were tagged, and further exploration was sought. This helped with subsequent interviews so that a deeper and richer understanding could be obtained.

This study followed the framework by [Lincoln and Guba \(1985\)](#) to ensure the trustworthiness of the research. Member checking, peer reviewing, and triangulation were done to enhance confirmability and credibility. The extracted codes, categories, themes, and subthemes were shared with the participants to validate the congruency of the codes with their experiences. The coding and extraction of themes were reviewed independently by a peer group of colleagues to ensure the confirmability of the findings. Dependability was achieved by reviewing the analyzed data by all the researchers as a team. Maximum phenomena variation sampling by recruiting participants with different demographic and disease characteristics enhanced the transferability of the findings. The research process is also reported based on COREQ criteria ([Tong et al., 2007](#)).

Ethical Considerations

Ethical approval was obtained from the study setting (No. SGM/IRC/No 131(3)/18) on 1 February 2018. No local ethical approval was required. Confidentiality of information was maintained by omitting any personal identifier on the audiotapes or transcripts. Instead, a code letter identified each participant. Written informed consent was obtained. Special permission was obtained for audiotaping the interview.

Participants were informed of their full right to ignore any question or withdraw from participation at any stage.

Results

Characteristics of Participants

A total of 10 stroke survivors participated in the study. The majority were males with a mean age of 64.5 years, and 90% were Hindus. Half of them had primary education and were in skilled occupations. The family income was <10,000 Rupees in half of the participants. The majority (70%) were living with spouses and children. Half of the participants had a two-week hospital stay ([Table 1](#)).

Table 1 Socio-demographic characteristics of the participants (N = 10)

Variable	Characteristics	Frequency
Age (Mean)	64.5	
Gender	Male	7
	Female	3
Religion	Hindu	9
	Muslim	1
Education	Primary	5
	Secondary	2
	Graduation	2
	Illiterate	1
Occupation	Unemployed	3
	Skilled job	5
	Professional	2
Monthly Income (Rs)	<10,000	5
	10,000-15,000	4
	>15,000	1
Living with	Spouse alone	3
	Spouse and children	7
Length of hospital stay during stroke	1-2 weeks	5
	2-4 weeks	4
	>4 weeks	1

Table 2 shows disability assessment using The Barthel Score Index ([Mahoney & Barthel, 1965](#)) in 10 activities of daily living with respect to self-care, sphincter management, transfers, and locomotion. The items are scored from 0-15 in increments

of 5. Unable to do activities and to be incontinent is scored as 0, and being independent and continent is scored as 10 or 15 depending on the activity. A total score of 59 or less is considered dependent, and scores 60 to 100 are considered independent. In this study, it was found that the majority were independent in feeding and grooming but required help

bathing, wearing clothes, and transferring from place to place. However, most of them could move independently with the help of walking aids but needed help for climbing stairs. The majority were continent but required support for using the toilet.

Table 2 Disability characteristics- Barthel Score Index

No	Variable	Characteristics	Frequency
1	Feeding	Needs help (+5)	4
		Independent (+10)	6
2	Bathing	Dependent (0)	9
		Independent (+5)	1
3	Grooming	Needs help (0)	3
		Independent (+5)	7
4	Dressing	Needs help (+5)	6
		Independent (+10)	4
5	Bowel control	Incontinent (or needs to be given enemas) (0)	0
		Occasional accident (+5)	2
		Continent (+10)	8
6	Bladder control	Occasional accident (+5)	3
		Continent (+10)	7
7	Toilet use	Needs help (+5)	7
		Independent (+10)	3
8	Transfers (bed to chair and back)	Unable (0)	1
		Needs major help (+5)	1
		Needs minor help (+10)	5
		Independent (+15)	3
9	Mobility on level surfaces	Immobile or <50 yards (0)	1
		Wheelchair independent, including corners, >50 yards (+5)	1
		Walks with the help of one person (verbal or physical) >50 yards (+10)	2
		Independent (use any aid) >50 yards (+15)	6
10	Stairs	Unable (0)	4
		Needs help (verbal, physical, carrying aid) (+5)	3
		Independent (+10)	3

Thematic Findings

After analyzing the interviews, two main themes were identified in this study: (1) the emergence of stroke and (2)

therapeutic concerns (Figure 2). In addition, each theme has been described with the following quotes from the participants (Table 3 and Table 4).

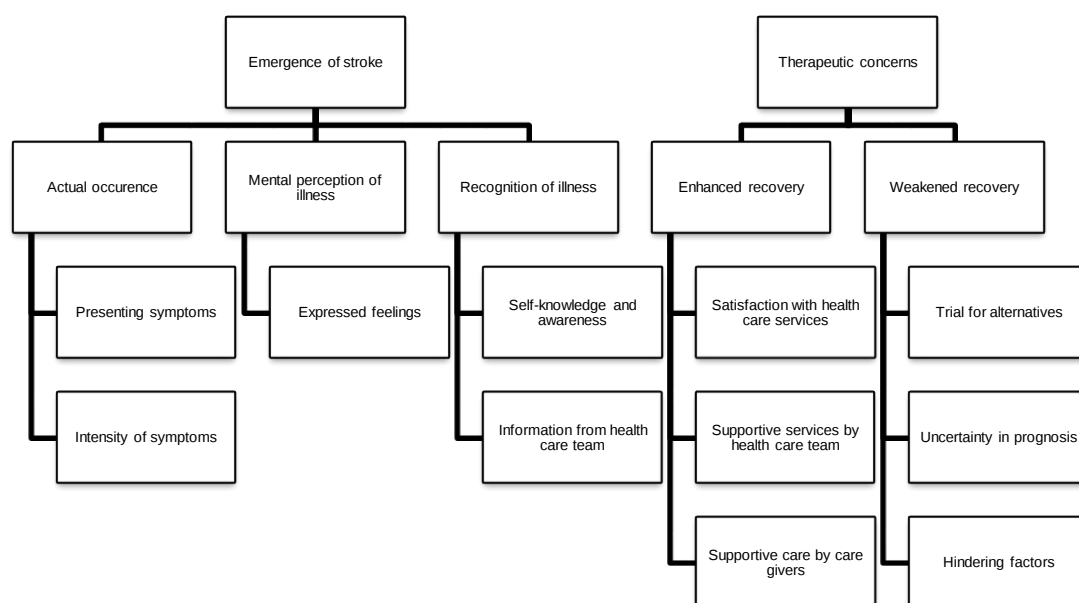


Figure 2 Thematic findings

Table 3 Emergence of stroke

Subthemes	Categories & Participants' Quotes
Actual occurrence	<u>Presenting Symptoms</u>
	<i>Pain & numbness</i> "It started as headache & stabbing pain in the eyes and eyebrows" [Code no:1]
	<i>Loss of sensation</i> "I found no sensation in just half of the body" [Code no: 1,10]
	<i>Immobility</i> "When I was taken to the car, I was not able to fold my hands & leg. I didn't feel pulling of my legs" [Code no: 1]
	<i>Difficulty in arousal</i> "My son felt difficulty in waking me up early in the morning. It was as if I had fallen into deep sleep" [Code no: 2]
	<i>Paralysis & weakness</i> "My grandchildren made me walk when I felt numb. I took a pause and suddenly felt the weakness of my hand and legs" [Code no:3]
	<i>Loss of consciousness</i> "On the way to the hospital, I felt weak and remained unaware of my surroundings. When I opened my eyes, I was in the hospital" [Code no: 4]
	<i>Inability to follow commands</i> "To take me to the hospital, an auto was arranged, but when I entered the auto, I didn't move for others to get into it. They have been continuously insisting me to move a little" [Code no:5]
	<u>Intensity of Symptoms</u>
	"The pain lasted for about 20 minutes" [Code no: 1] "Severe pain in both legs. Burning like pain. Feel like boiling water poured onto my legs" [Code no:7] "I felt fatigued all over the body. Had pain and was unable to walk" [Code no: 9,10]
Mental perception of illness	<u>Expressed Feelings</u>
	<i>Strange feeling</i> "I felt that my hand was getting folded, becoming shorter, and about to fall. Also felt like curling of hands and legs" [Code no:1] "I felt stroke as a fine disease and was like a sedation" [Code no: 1] "Even if I hold onto something, my hand will automatically slide down and leaves the grasp. So, I call it lazy hand" [Code no: 1] "Earlier, I felt my body as two separate parts. I felt that left side is absent and cannot sense if touched" [Code no:5,10] "Stroke is a particular disease. Victims won't escape" [Code no: 5] "I felt that my left leg was absent and was like anesthetized with severe pain, know only when touched" [Code no: 4] "Feels like left hand separated from shoulder and weight being hung" [Code no:7] "I felt something ascending through my left leg. After a while, I felt weakness over my body" [Code no: 8]
	<i>Feeling of heaviness</i> "The main difficulty I felt is paralysis of one side. I felt it like a weightless side." [Code no:8] "In the hospital, I felt as if weight was put on my hand, and I tried to remove it from my hand" [Code no: 1,10] "Felt like weight hung on the hand" [Code no:6] "Left side is heavy and should be lifted up" [Code no:7]
	<i>Loss of self</i> "I did not feel anything at the time of stroke because I was not able to recognize myself. I really felt that I'd be lost" [Code no:2] "I did not know anything" [Code no:3,10] "I think I have some great disease within me. Something is going to happen. The stroke happened due to that" [Code no:4]
	<u>Self-Awareness</u>
	<i>Previous experiences</i> "I think I have some serious disease within me. That is why they asked me to do a regular checkup. Stroke occurred due to that hidden disease within me" [Code no:4] "I didn't suffer as much as my father. He was bedridden" [Code no: 5]
	<u>Information from the Health Care Team</u>
	<i>Direct</i> "I didn't know that I had a stroke. The doctor explained to me about my disease condition as stroke, and it takes a lot of time to recover" [Code no: 1,2,3] "Doctor said, I just escaped from complete paralysis as I reached the hospital on time. It is necessary to take stroke victims to the hospital within 3 hours of onset to prevent complications" [Code no: 2]
	<i>Indirect</i> "Stroke is a particular disease. Victims cannot come out of it or escape completely from it, even with medicines. It takes time to get cured" [Code no:5] "Somebody among the bystanders said that high pressure has affected my brain" [Code no: 4]
Recognition of illness	<u>Self-Awareness</u>
	<i>Previous experiences</i> "I think I have some serious disease within me. That is why they asked me to do a regular checkup. Stroke occurred due to that hidden disease within me" [Code no:4] "I didn't suffer as much as my father. He was bedridden" [Code no: 5]
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	<i>Indirect</i> "Stroke is a particular disease. Victims cannot come out of it or escape completely from it, even with medicines. It takes time to get cured" [Code no:5] "Somebody among the bystanders said that high pressure has affected my brain" [Code no: 4]

Theme 1: Emergence of Stroke

Three subthemes were derived from the emergence of stroke: (1) actual occurrence, (2) mental perception of illness, and (3) recognition of illness (**Table 3**).

The actual occurrence is the signs and symptoms experienced by stroke survivors. The presenting symptoms

are an indication of stroke experienced by the patients during the time of the attack. The resultant effect depends on the intensity of symptoms which is the degree to which the participants perceive symptoms.

Mental perception of illness is the mental understanding or awareness of the disease during the stroke. Recognition of

illness is the willingness to accept the disease as such or consider the reality of sickness and remain free from misconceptions. Real-life experience provided them with adequate awareness of the condition.

Table 4 Therapeutic concerns

Subthemes	Categories & Participants' Quotes
Enhanced recovery	<u>Satisfaction with Health Care</u> <i>Treatment</i> "On reaching the hospital, I was given medicines and underwent all scanning tests" [Code no:2,4] "I got the best treatment for my disease" [Code no: 7] <u>Supportive Services from the Health Care Team</u> <i>Physician oriented</i> "Doctor advised me to go home as there is a risk of infection and to do follow-up every month. I got discharged and continued the medicines as per order" [Code no: 2] <i>Nurse oriented</i> "Nurses in my ward were so caring that they even cleaned by fecal matter when I was bed wet" [Code no: 2] <u>Supportive Care by Bystanders</u> <i>Routine follow-ups</i> "I used to do regular checkups which used to be arranged by my son" [Code no:1,10] "My daughter used to take leave from her job and accompany me in my checkup to hospital" [Code no: 8] <i>Assistance</i> "Every need of mine in the hospital was carried out by my wife" [Code no: 2,5,6] "Many came to see me in the hospital. I got enough physical help from others. My friends used to discuss my condition with the doctors" [Code no: 2,6,10]
Weakened recovery	<u>Trial for Alternatives</u> <i>Complementary therapy</i> "I tried Ayurveda. But it was of no use. But Ayurveda practice gave me enough mental courage" [Code no: 1] "I have seen such patients getting well soon after doing Ayurveda. I also tried Ayurveda along with physiotherapy" [Code no: 6,8] <u>Uncertainty in Prognosis</u> <i>Risk for complications</i> "Doctor said that there is a possibility of recurrence of stroke" [Code no: 1] "I stayed in hospital waiting for my death" [Code no: 9] <i>Self-belief and self-treatment</i> "I feel myself better. So, I thought of not going to a hospital further" [Code no:9] "I can't regularly go for routine checkups. But I comply with taking medicines given to me during hospitalization. A total of 21 tablets I take daily" [Code no: 8] <u>Hindering Factors</u> <i>Negligence</i> "I was advised regular checkups. But how can I disturb others by taking me to the hospital every month? So, I go to the hospital only when they are free" [Code no: 3,10] "I did checkup only once. Then I stopped. Occasionally I do blood investigations from the lab" [Code no: 4] <i>Non-availability of support</i> "None of my relatives came to see me in the hospital. They are not informed about my condition" [Code no: 4] "I cannot go to the hospital alone. There is nobody to take me to hospital" [Code no: 4,10] <i>Un-recognized individuality</i> "It has been past six months since I went for a checkup. Somebody in the hospital told me to come as a candidate for a medical examination, and all my expenses will be met by them. Since then, I didn't go for a check-up" [Code no:7]

Theme 2: Therapeutic Concerns

Therapeutic concern means the feeling and interest of survivors in taking or following treatment modalities for the curability of disease. Two subthemes developed: enhanced and weakened recovery (Table 4). Enhanced recovery depends on the subject's willingness and readiness to adhere to the treatment modalities and the availability of support from the health care team and family.

Weakened recovery is precipitated by the voluntary decision taken by the participants not to adhere to the therapeutic regimen due to uncertainty in prognosis and continually changing from one method of therapy to another with the hope of getting a complete cure. In addition, the lack of assistance to follow the therapeutic needs and the conduct

they faced in the therapeutic environment weakened the recovery.

Discussion

Stroke is a physically disabling disease. In the current study, disability assessment by Barthel score showed that the majority of the participants required assistance for activities of daily living like bathing, wearing clothes, and moving around. Bowel and bladder control was good, but they needed help to use the toilet. This is in line with the findings from an Indian study (Lalu et al., 2022) on functional disability after stroke, which reported that 50% of them were dependent. Dressing (76%) and stair climbing (77.4%) were worse. Like our study,

bladder control (92.2%) and bowel control (88%) were better. However, stroke survivors have dependency needs and require physical support.

The participants in the current study experienced symptoms like pain, numbness, immobility, paralysis, weakness, and loss of consciousness as the stroke evolved. The majority of them failed to recognize it as a manifestation of stroke and correlated this with diabetes and other comorbidities. These findings are supported by a study conducted in China (Shi et al., 2018) and Thailand (Saengsuwan et al., 2017), which showed that the majority had unilateral limb weakness. Nearly two-thirds of patients (60.9%) experienced high intensity in participation restriction. Approximately half of the patients (41.7–56.5%) had an imbalance of the body, were unable to move limbs at will, had uncoordinated movement, had a lack of self-care ability, and unilateral limb weakness was severe or very severe (Shi et al., 2018). The participants in our study perceived strange feelings, loss of self, and feelings of heaviness during the stroke attack.

Many respondents also had not previously heard about the disease stroke, and some had misconceptions. They could identify stroke only through real-life experience and information obtained through treating physicians and other health care personnel. Similar findings were observed in a study from Ethiopia, where 20.26% did not know at least one warning sign (Workina et al., 2021). The results of a study from Thailand also support this. 13.6% of study subjects could not identify any warning signs (Saengsuwan et al., 2017).

Though the focus of this research was to understand the perception of the disease by stroke survivors, it has thrown light on the fact that the public is unaware of the early manifestation of stroke (Wang et al., 2021). This is a serious public health issue, as thrombolysis within 4.5 hours of symptom onset is the only effective treatment for acute stroke (Sacco et al., 2013). Research from South India reports that stroke victims do not consider the symptoms serious enough to seek medical attention (Arulprakash & Umaiorubahan, 2018). Hence community-focused educational programs on early recognition of signs and symptoms of stroke are needed.

The experiences of stroke survivors during disease plays a major role in recovery. The readiness of the subject to comply with treatment includes satisfactory and supportive measures from the health care team and family. This contributes to a speedy recovery. A study conducted in China found that patients' intention of independence positively affected motor recovery, while family members' positive attitudes promoted cognitive regain (Fang et al., 2017). However, the study participants were quite impatient with the long-term rehabilitative measures and were trying out different treatment modalities to bring a complete recovery. The uncertainty in prognosis was the main reason for non-compliance with the therapeutic regimen. It requires constant psychoeducational support to keep them motivated to improve treatment compliance.

A study conducted in a stroke unit in India showed that more than one-third (36.3%) of stroke patients opted for complementary and alternative medicine therapy. Patients sought alternative treatments for stroke due to dissatisfaction with post-stroke recovery (Durai Pandian et al., 2012). The awareness of complications has made them feel that life has

ended, so they voluntarily decided not to adhere to the treatment regimen. Many believed in self-treatment and refused regular follow-ups stating that the medications are always the same. A qualitative study in Malaysia observed that stroke survivors' motivation levels declined as the stroke became chronic. Hence, they were not keen on continuing the treatment (Mohd Nordin et al., 2014). In the present study, compliance with treatment was lacking due to the absence of personnel and financial assistance. Also, the conduct towards them during hospitalization and further follow-up, which lacked recognition as an individual, prevented them from not attending regular follow-ups. A systematic review concluded that commonly reported factors associated with non-adherence to stroke treatment included concerns about treatment, lack of support with medication intake, polypharmacy, increased disability and having a more severe stroke (Al Aishaikh et al., 2016). Supportive services in stroke management are often overlooked. Enhanced discharge planning and community support services can bridge the hospital and community gap.

Implications to Nursing Practice

It is evident that the majority of stroke patients require support for physical mobility and activities of daily living. Taking into consideration the financial constraints and limited family assistance, physical assistive devices should be made available at a subsidized rate through a public-private partnership. Resident associations can play a role in mobilizing funds and creating support groups locally to enable their citizens to lead a functionally more productive life.

The patients rarely recognize symptoms during the evolution of stroke as warning signs, and hence there is a delay in seeking medical attention. This calls for public education targeting the population at risk on the warning signs and the appropriate response to them. In addition, reducing the chance of recurrent stroke can be achieved by improving treatment compliance. An individualized approach to discharge planning and rehabilitation by direct nurse-patient communication and follow-up by community nurses will motivate the patient to adhere to long-term treatment and regular follow-up. Visits by mobile multi-disciplinary rehabilitation units can be explored as an option for stroke victims with a less efficient support system.

Nurses must plan rehabilitation services from stroke onset to long-term management, which should consider the patient's experiences of stroke. The focus should be on enhancing coping and adaptation skills for patients and caregivers. In addition, with stroke being a disabling disease with long-term recovery, devising plans for non-fragmented community services is essential. Extended stroke care units with telemedicine consultation facilities by nurses help assist with recovery, especially in geographically remote and resource-starved areas. Smart phone-enabled supportive educational intervention could also be thought about.

Limitations

This study was conducted only with individuals with first-time strokes, which might not always be applicable to those who have survived multiple strokes. In addition, although the study was conducted in 2018, the findings are significant to today's phenomena.

Conclusion

As stroke evolves, how the patients experience the signs and symptoms and their mental perception of the illness is essential in enhancing nurses' and other health professionals' ability to focus on disease experiences and initiate needed changes in patient care. Awareness of the factors augmenting the recovery process helps plan and develop rehabilitative services for stroke survivors. Factors limiting the recovery process could be identified and eliminated or modified. Establishing stroke units in hospitals and daycare centers in the community would ensure continuity of care and promote a speedy recovery. The study findings might contribute to refining rehabilitative interventions aimed at a comprehensive patient recovery after discharge.

Declaration of Conflicting Interest

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None.

Authors' Contributions

MGB conceptualized, designed, analyzed, literature searched and drafted the study. SA contributed to the conceptualization, edited, formatted, and prepared the final manuscript draft. RT contributed to conceptualization and analysis and reviewed and supported concepts with intellectual content and literature search. BB additionally analyzed data with intellectual content and literature search. All authors approved the final version of the article and were accountable for all stages of the study.

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Data Availability

Not Applicable.

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