Stroke Patients' Perceptions of Stroke and Physical Therapy

İnme Hastalarının İnme ve Fizik Tedaviye İlişkin Algıları

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ABSTRACT

The increasing prevalence of stroke in the community also increases the need for effective rehabilitation services. Therefore, understanding the perceptions of stroke survivors towards stroke and physical therapy may increase the effectiveness of personalized rehabilitation strategies. The aim of the study is to examine stroke patients' perceptions of stroke and physiotherapy. A qualitative research approach was adopted in the study. Fifty-six participants aged between 25 and 84 years were included in the study. The duration after stroke among participants ranged from 2 to 96 months. Interviews were conducted with participants to understand their experiences and perceptions related to stroke and physical therapy. The interview data were analyzed using thematic analysis, and main themes were identified. As a result of the data analysis, two main categories emerged: perception of stroke and perception of physical therapy. Four main themes were identified regarding stroke perception: physical limitations, pain and fatigue, psychosocial effects, and decrease in quality of life. Participants defined stroke as a condition that severely restricts mobility, increases dependency, and causes significant emotional and social difficulties. Four themes also emerged regarding physical therapy: health and recovery, return to daily life, functional improvement, and social support. Participants emphasized that physical therapy plays a critical role in increasing physical functionality, supporting independence, and improving general well-being. In conclusion, while individuals who have experienced stroke associate the condition with physical limitation, dependency, and psychosocial effects, they associate physical therapy with recovery, social interaction, motivation, and increased independence.

Keywords: Perception, Physical Therapy, Rehabilitation, Stroke.

ÖZ

Toplumda inme prevalansının giderek artması, etkili rehabilitasyon hizmetlerine olan ihtiyacı da artırmaktadır. Bu nedenle, inme geçirmiş bireylerin inme ve fizik tedaviye yönelik algılarının anlaşılması, kişiye özel rehabilitasyon stratejilerinin etkinliğini artırabilir. Çalışmanın amacı, inmeli bireylerin inme ve fizik tedaviye ilişkin algılarını incelemektir. Çalışmada nitel araştırma yaklaşımı benimsenmiştir. Çalışmaya yaşı 25 ile 84 arasında değişen 56 katılımcı dahil edilmiştir. Katılımcıların inme sonrası geçen süreleri 2 ile 96 ay arasında değişmektedir. Katılımcılarla, inme ve fizik tedaviye ilişkin deneyim ve algılarını anlamaya yönelik görüşmeler gerçekleştirilmiştir. Görüşme verileri tematik analiz yöntemiyle incelenmiş ve temel temalar belirlenmiştir. Veri analizi sonucunda inme algısı ve fizik tedavi algısı olmak üzere iki ana kategori ortaya çıkmıştır. İnme algısına ilişkin dört temel tema belirlenmiştir: fiziksel kısıtlılıklar, ağrı ve yorgunluk, psikososyal etkiler ve yaşam kalitesinde azalma. Katılımcılar inme durumunu; hareket kabiliyetini ciddi şekilde sınırlayan, bağımlılığı artıran ve önemli duygusal ile sosyal zorluklara yol açan bir durum olarak tanımlamıştır. Fizik tedaviye ilişkin de dört tema öne çıkmıştır: sağlık ve iyileşme, günlük yaşama dönüş, fonksiyonel gelişim ve sosyal destek. Katılımcılar, fizik tedavinin fiziksel işlevselliği artırmada, bağımsızlığı desteklemede ve genel iyilik hâlini geliştirmede kritik bir rol oynadığını vurgulamıştır. Sonuç olarak, inme geçiren bireyler inme durumunu fiziksel kısıtlılık, bağımlılık ve psikososyal etkilerle ilişkilendirirken; fizik tedaviyi iyileşme, sosyal etkileşim, motivasyon ve artan bağımsızlık ile ilişkilendirmektedir.

Anahtar Kelimeler: Algı, Fizik Tedavi, Rehabilitasyon, İnme.

Highlights

*Stroke is perceived by patients as a condition characterized by physical limitations, dependence, and a prominent psychosocial burden.
*Physical therapy is regarded by patients as a key facilitator of recovery and functional independence.
*The physical therapy process is described as a rehabilitative experience that enhances motivation and strengthens social participation.

The study was approved by the Non-Interventional Ethics Committee of Atatürk University Faculty of Health Sciences (Decision no: 2024/03/29).

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INTRODUCTION

Stroke is the second most common cause of death and a major source of disability worldwide due to an aging population and increasing cases among young people in low- and middle-income countries (1). Stroke deeply affects the lives of patients in many aspects, including physical, cognitive, emotional, psychological, social, and economic (2). Physical therapy, which has an important place in stroke treatment, includes a series of interventions to support patients' recovery processes (3). However, the physical therapy process is not only limited to medical interventions, but is also shaped by patients' perceptions of the treatment process (4). Stroke survivors' perceptions of the disease process are among the determining factors that directly shape their compliance with treatment and rehabilitation outcomes (5).

During the physical therapy process, the patients' approach and motivation to treatment can have a direct impact on the effectiveness of the healing process. For rehabilitation to be successful, patients need to develop a positive attitude towards treatment and actively participate in the process (4, 6). However, it is known that stroke survivors' perceptions of rehabilitation are complex and multidimensional (7, 8). Patients' perceptions of this process are influenced not only by experiences based on medical interventions, but also by personal, social, and cultural factors (7-10). Therefore, understanding stroke patients' subjective perceptions of the rehabilitation process is critical to improving the effectiveness of the treatment process.

Studies in the literature generally examine the experiences of individuals with stroke, their experiences after discharge, and their hospital experiences (11, 12). The main difference of our study from the studies in the literature is that we wanted to determine the perceptions of individuals with stroke about both the disease and physical therapy together. We also aimed to contribute to a more comprehensive understanding of patients' experiences by delving deeper into the reasons underlying these perceptions. In this way, we think that we will gain a more detailed perspective on both coping with the disease and the treatment processes. In summary, there is no study in the literature that directly examines the perceptions of stroke survivors about the disease and physical therapy. Moreover, unlike previous studies that generally used structured interviews or questionnaires, this study adopted a sentence completion task as a simple but powerful qualitative approach to reveal participants' implicit beliefs and symbolic expressions. Therefore, our study aimed to examine the perceptions of individuals with stroke towards stroke and physical therapy.

MATERIAL AND METHOD

Study Design

This study utilized a qualitative research design focusing on exploring how individuals interpret and make sense of their stroke experiences and their perceptions of physical therapy processes. The study was conducted using the Consolidated Criteria Guide (COREQ), which provides guidance for reporting qualitative research (13).

Ethical Aspects of the Research

In the study, a purposive sampling method was adopted, and individuals with stroke who had previously undergone physical therapy were included in the study. Before starting the study, approval was obtained from the Non-Interventional Ethics Committee of Atatürk University Faculty of Health Sciences (decision no: 2024/03/29).

Participants

The study was conducted in accordance with the principles of the Declaration of Helsinki. Between March 2024 and December 2024, data were collected from 56 individuals with stroke. Stroke survivors who were at least 2 months post-stroke, received physical therapy services, and could read and write

were included in the study. Individuals with cognitive and communication problems were not included. All participants were informed about the study in detail, and written informed consent was obtained from each participant prior to data collection.

Data Collection Form and Process

The data collection form created by the researchers was used as a data collection tool. This form consists of two parts. The first part includes questions about demographic and clinical information of the individuals. In the second part, to explore participants' subjective perceptions of stroke and physical therapy, two open-ended sentence completion questions were included: *"Stroke is ... because ..."* and *"Physical therapy is ... for the patient with stroke, because ..."*. Participants were asked to complete these sentences and explain their reasoning in their own words.

The rationale for using these two questions was to provide a simple yet open framework that would encourage participants to reflect deeply on their experiences without being restricted by highly structured interview guides. Previous studies have shown that sentence completion tasks can facilitate metaphorical or symbolic expressions, enabling participants to reveal complex perceptions and emotions in a concise manner (14, 15). Moreover, individuals with stroke may experience fatigue or communication difficulties; therefore, limiting the data collection to two central questions minimized participant burden while still allowing for rich, meaningful data.

The data were collected by the responsible author through one-on-one interviews in an environment where individuals with disabilities could express themselves comfortably. Stroke survivors were informed about the purpose of the study, and then written and verbal consent was obtained from those who agreed to participate. Interviews were conducted in settings convenient for the participants, including hospitals, homes, and rehabilitation centers. During the interviews, participants' responses were either written down by the researcher or audio-recorded with their consent to ensure data accuracy and completeness. Each interview continued until the participant's response was fully obtained, without imposing a strict time limit.

Data Analysis

Demographic characteristics and clinical information of the individuals were expressed as numbers and percentages. The analysis of the data obtained from the questions directed to the patients was evaluated using thematic analysis according to Braun and Clarke, a qualitative data analysis method (16). Thematic analysis was conducted systematically following Braun and Clarke's six-phase framework, which includes the following steps: familiarizing oneself with the data through transcription and repeated reading; generating initial codes; searching for themes; reviewing and refining themes; defining and naming themes; and writing conclusions, including explanatory quotes. In this process, researchers first familiarized themselves with the data through verbatim transcription and repeated reading, then generated initial codes inductively. Related codes were organized into potential themes, which were subsequently reviewed and refined in relation to the coded extracts and the overall dataset. Final themes were defined, named, and supported by representative quotations. Data saturation was considered achieved when no new codes or insights emerged from the participants' responses. Throughout the process, constant comparison was used to refine codes and maintain coherence within each theme, ensuring the credibility and consistency of the analysis.

RESULTS AND DISCUSSION

The clinical and demographic data of the 56 (31 male, 25 female) participants are presented in Table 1. The mean age of the patients included in the study was 61.51 years.

A total of 170 final codes were made within the framework of the data obtained from qualitative interviews with patients. The answers given by the patients during the

interview were grouped under 2 categories: perceptions about stroke and perceptions about physical therapy. The category of perceptions of stroke was reported under four themes: physical limitations, psychosocial effects, decreased quality of life, pain, and fatigue. The category of perceptions about physical therapy was reported under four themes as health and recovery, return to daily life, functional development, social support, and interaction. The themes and sub-themes of perceptions about stroke are presented in Table 2, and the themes and sub-themes of perceptions about physical therapy are presented in Table 3. The relationships between categories, themes, and sub-themes are presented in Figure 1.

Table 1. Clinical and Demographic Information of Stroke Patients

		X±SD	Min-Max
Age (years)		61.51±12.56	25.00-84.00
Height (cm)		165.91±9.88	150.00-190.00
Weight (kg)		75.32±12.95	47.00-100.00
Time Since Stroke (months)		11.96±17.73	2.00-96.00
			n (%)
Sex	Female		25 (44.6)
	Male		31 (55.4)
Stroke Type	Hemorrhagic		21 (37.5)
	Ischemic		35 (62.5)

Abbreviations: X: Mean, SD: Standard deviation, Min: Minimum, Max: Maximum.

Perceptions of Stroke

Physical Limitations-Movement Restriction

Stroke patients in our study defined stroke most frequently as limited mobility. Many individuals reported problems due to limited mobility.

"I am unhappy because my movements are restricted." (P45)
"I cannot use my arm and leg." (P33)
"I feel unhappy because I cannot walk." (P43)

Physical Limitations-Dependency

Another sub-theme intensely mentioned by individuals with stroke was dependency. Individuals with stroke stated that they were generally dependent on someone for their daily life activities.

"I am always dependent on someone else." (P34)
"I am bedridden." (P41)
"I need help from others for eating or going to the bathroom." (*P35)*

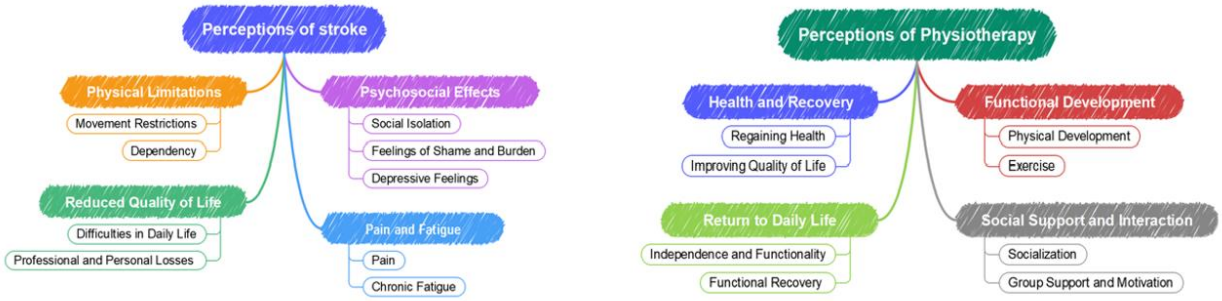

Figure 1. Themes and sub-themes of perceptions on stroke and physical therapy

Psychosocial Effects-Social Isolation

Social isolation was a common subtheme reported by patients. Individuals with stroke who reported this subtheme generally stated that they felt disconnected from their social environment and community.

"I feel left behind in society" (P53).
"It makes me dependent on other people." *P52.*

Psychosocial Effects-Feelings of Shame and Burden

Feelings of shame and burdening others were also reported by some stroke survivors. These statements illustrate the emotional difficulties that often accompany the physical challenges of stroke.

"I feel ashamed because I have become a burden to my family." (P54)
"I have to ask for help from those around me." (*P32)*

Psychosocial Effects-Depressive Feelings

Depressive feelings were also an important subtheme reported by stroke survivors.

"I feel very sad overall." (P02)
"It has greatly affected my life." (P12)

Reduced Quality of Life- Difficulties in Daily Life

Decreased quality of life was another important subtheme frequently reported by stroke survivors. People with stroke often mentioned the difficulties they experienced in simple daily tasks.

"It prevents me from doing my daily tasks." (P55)
"I cannot even make tea or get things done." (P46)
"I have a hard time eating." (P57)

Reduced Quality of Life, Professional and Personal Losses

Some people with stroke expressed sadness because of not being able to continue their work or pursue their passions.

"I can no longer perform my profession." (P27)
"Driving was the thing I loved most in life." (P47)

Pain and Fatigue-Pain

Some stroke survivors reported that their pain increased, and they experienced a painful process.

"My pain has increased." *(P21)*
"It is a painful process." (P42)

Pain and Fatigue-Chronic Fatigue

Some of the stroke survivors reported that they often felt fatigue and lack of energy.

"I get very tired, and people have to help me." (P22)
"I get extremely tired when I move, and I cannot get things done." (P4)

Table 2. Perceptions of Individuals with Stroke about Stroke

Category	Theme	Sub-theme	Frequency
Perceptions of stroke	Physical Limitations	**Movement Restrictions**	18
		Dependency	12
	Psychosocial Effects	Social Isolation	6
		Feelings of Shame and Burden	5
		Depressive Feelings	10
	Reduced Quality of Life	Difficulties in Daily Life	20
		Professional and Personal Losses	6
	Pain and Fatigue	Pain	4
		Chronic Fatigue	7

Perceptions of Physical Therapy

Health and Recovery-Regaining Health

Individuals with stroke frequently reported physical therapy as a way to regain their health. Many emphasized the hope of returning to their old, healthier selves through physical therapy.

"It helps me regain my health." (P01)
"It will help me return to my healthy days." (P26)

Health and Recovery-Improving Quality of Life

Another subtheme with high rates reported by stroke survivors was the improvement of quality of life. Individuals with stroke associated physical therapy with improved quality of life.

"Everything I need for my health is in physical therapy, and it improves my quality of life." (P03)
"It is very important for a stroke patient; it relaxes me." (P18)

Return to Daily Life-Independence and Functionality

Physical therapy is often associated with the restoration of independence and functionality for stroke survivors.

"It helps me return to work and do my job again." (P29)
"*It brings back my independence; I can stand up and walk better now, and with support, I will improve further." (P54)*

Return to Daily Life-Functional Recovery

Individuals with stroke associated functional recovery with physical therapy. They reported that physical therapy improved their daily activities.

"It helps me use my arms and hands." (P37)
"It improved my gait functions." (P50)
"I can now turn myself in bed." (P56)
"Aside from hand functions, my gait has improved, and my balance is better." (P19)

Functional Development-Physical Development

Physical development was another common theme where participants emphasized improvements in their strength and physical condition.

"My muscles are getting stronger." (P40)
"My hands and feet are stronger than before." (P39)
"My pain has decreased." (P42)

Functional Development-Exercise

Exercise was frequently mentioned by people with stroke as a critical component of physical therapy.

"With exercises, I am improving day by day." (P52)
"*We identify what we cannot do and then focus on those areas with exercises." (P55)*

Social Support and Interaction-Socialization

Individuals with stroke established a relationship between physical therapy and socialization. They stated that they interacted with different people thanks to physical therapy.

"When I come to physical therapy, I do various activities and meet other patients." (P45)
"I feel happy because I get to connect with other patients and do activities at the same time." (P43)

Social Support and Interaction-Group Support and Motivation

Individuals with stroke identified physical therapy as a source of hope and motivation.

"It gives me hope for regaining my health." (P13)
"It is a source of hope for me." (P31)
"Thanks to physical therapy, I believe I will recover." (P25)
"It is therapeutic, and it improves my morale." (P47)

Table 3. Perceptions of individuals with stroke regarding physical therapy

Category	Theme	Sub-theme	Frequency
Perceptions about physical therapy	Health and recovery	Regaining Health	18
		Improving Quality of Life	12
	Return to Daily Life	Independence and Functionality	10
		Functional Recovery	15
	Functional Development	Physical Development	8
		Exercise	10
	Social Support and Interaction	Socialization	5
		Group support and motivation	4

In this study, the perceptions of individuals with stroke towards stroke and physical therapy processes were examined in depth, and various themes and sub-themes were revealed using thematic analysis. In particular, sub-themes such as physical

limitations and dependency played an important role in patients' perceptions of stroke. In the study, it was observed that 26% of the participants emphasized mobility limitations and 18% emphasized dependency. Psychosocial effects also emerged as an important theme; 30% of the participants reported experiencing social isolation, shame, and depressive feelings, emphasizing the need to address not only the physical but also the emotional and social dimensions of the post-stroke process. The majority of patients highlighted the potential of physical therapy to enhance their quality of life and promote independence. In their comments regarding health and recovery, participants expressed that the treatment process could help improve their overall health and restore their pre-stroke condition. Additionally, they emphasized the importance of social support and interaction as integral components of physical therapy, noting their satisfaction with group activities and the increased motivation these interactions provided.

Many causes of movement limitations after stroke have been extensively discussed in the literature. Motor weakness is the primary contributor to activity limitations due to weakness in the affected limbs (17, 18). Spasticity can lead to contractures with abnormal muscle tension, further limiting joint movement (17). Furthermore, impaired balance and postural control are common problems, making it difficult to maintain body position and perform movements (19). Upper limb impairments include factors such as muscle weakness, loss of dexterity, and reduced sensation, and significantly affect individuals' ability to perform activities of daily (20). When these reasons are evaluated together, it is understood that mobility limitations after stroke have a multidimensional and complex structure. Physical limitation, which is also frequently emphasized in the literature, was the theme with the highest rate among the themes reported by individuals with stroke in our study. Many stroke patients report severe problems with their ability to perform self-care and participate in leisure activities, which are crucial for quality of life (21, 22). The dependence of people with stroke on caregivers for basic tasks such as dressing, eating, or personal hygiene leads to feelings of frustration and helplessness. This dependency is often associated with loss of self-esteem and reduced sense of autonomy (23, 24). Stroke patients also express concerns about being a burden on their families, which can lead to feelings of guilt and social withdrawal (25). A stroke is defined as a severe and life-altering event characterized by shock and fear (26). Stroke survivors often experience profound psychological disturbances, including a shaken sense of self and a feeling of helplessness (27). Emotional disturbances are closely linked to the severity of physical disability and require integrated psychological support as part of the rehabilitation process. Social inclusion is another critical area of concern. Survivors often report feelings of isolation and anxiety, exacerbated by social stigmatization and personality changes (28). Individuals with stroke in our study intensely reported perceptions of social isolation, negative emotions, and feelings of shame and burden related to stroke. Both pain and fatigue are common and impactful symptoms after stroke and are associated with a variety of physical, psychological, and social factors (29, 30). In our study, pain was reported by 4 patients and fatigue by 7 patients. Interestingly, when the prevalence of fatigue in the literature is examined, the rate of patients in our study complaining of these symptoms is quite low (29). This may be because patients perceive pain and fatigue as less of a priority or less bothersome than other major symptoms of stroke.

Patients perceive physical therapy as necessary and beneficial for their recovery, especially in critical care settings (31). Patients often perceive physical therapy as beneficial to improve their overall health and quality of life. This perception is supported by significant improvements in physical and psychological well-being in a variety of conditions (32). Stroke survivors also exhibit positive perceptions towards physical therapy. They accept that physical therapy is important

for their recovery process (33, 34). People with stroke often want further improvement in what they think they have achieved in terms of functional functioning. In particular, they place more value on physical therapy methods that they think are better for achieving upper limb function (35). It is seen that most of the themes that individuals with stroke in our study associate with physical therapy are returning to daily life, health, and recovery. Social support can be provided directly by physiotherapists or facilitated through group activities and the development of social skills (36). Patients have reported that physical therapy has a positive effect on independence and social participation, especially in chronic diseases (37). Research shows that social support from family, peers, and community can increase stroke survivors' social inclusion, and this is often facilitated through physical therapy sessions (38, 39). It has also been reported that environments that encourage social interaction, such as enriched environments in rehabilitation settings, increase social participation and patients experience less boredom. These environments encourage socialization by providing opportunities for patients to engage in community activities (40). It is known that individuals with stroke generally have reduced social interactions and lead an isolated life. However, structured group activities such as video game interventions increased social interaction and decreased the feelings of isolation of individuals with stroke (41, 42). As a result, individuals with stroke in our study reported physical therapy as motivating, enabling socialization, and increasing interaction

CONCLUSION AND RECOMMENDATION

The results of the present study revealed the perceptions of stroke survivors about stroke and physical therapy. The main themes (i.e., physical limitations, pain and fatigue, reduced quality of life, and psychosocial effects) demonstrate the diverse and multifaceted experiences of individuals following a stroke. Positive perceptions of physical therapy emphasize its potential to increase well-being, social interaction, motivation, and independence. To provide a more comprehensive understanding, it is recommended that future research include individuals with cognitive and communication impairments. In addition, studies can be conducted to examine how perceptions change over time after a stroke. Investigating the differences in perceptions of stroke patients with different clinical and sociocultural levels will allow rehabilitation strategies to be shaped more accurately.

From a clinical perspective, the findings highlight the importance of designing rehabilitation programs that not only address physical recovery but also promote social connectedness and motivation. Incorporating group-based therapy sessions, peer support mechanisms, and motivational counseling may enhance engagement and foster a stronger sense of independence among stroke survivors. These approaches could increase adherence to therapy and improve overall well-being in the long term.

The exclusion of individuals with cognitive and communication problems in the study may have led to an underestimation of the rehabilitation experiences of certain patient groups. This may ignore the fact that the perceptions of patients with cognitive problems, especially after stroke, may differ. As the study had a qualitative design, the data obtained were based solely on the subjective perceptions of the participants. These two limitations affect the generalizability of the results of our study. Future studies could employ mixed-method designs to combine qualitative insights with quantitative outcome measures, providing a more holistic understanding of stroke recovery experiences. Including caregivers and family members in such research may also offer valuable perspectives on how social and environmental factors influence participation rehabilitation.

Contribution list

Idea Birol Önal; **Design:** Birol Önal, Ayşe Abit Kocaman; **Control/Supervision:** Ayşe Abit Kocaman; **Data Collection and/or Processing:** Birol Önal, Ayşe Abit Kocaman; **Literature Review:** Birol Önal, Ayşe Abit Kocaman; **Writing the Article:** Birol Önal, Ayşe Abit Kocaman; **References:** Birol Önal, Ayşe Abit Kocaman.

Conflict of Interest

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