

The Lived Experience of Filipino Stroke Survivors

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Abstract. This study addresses the lack of qualitative research on stroke survivors' experiences in the Philippines, aiming to improve nursing interventions and risk prevention strategies. Using a qualitative transcendental phenomenological design, the study conducted semi-structured interviews with ten Filipino stroke survivors selected through purposive sampling. Thematic analysis identified seven key themes: behavioral risk factors, pre-stroke lifestyle patterns, recognition of warning signs, experiences during the stroke, medical interventions, social support post-stroke, and adaptation to a new lifestyle. Findings highlight the varied pre-stroke lifestyles and the emotional challenges survivors face during recovery, stressing the importance of social connections. The results suggest that holistic nursing interventions focusing on physical, emotional, and social needs are essential for improving care quality and fostering resilience. These insights can guide healthcare providers in developing targeted support strategies for stroke survivors.

Keywords: Lived experienced; Neurological disorder; Stroke; Stroke survivors; Transcendental phenomenology.

1.0 Introduction

Stroke is a leading cause of morbidity and mortality worldwide, significantly impacting the lives of millions. In the Philippines, the prevalence of stroke is alarmingly high, yet qualitative research exploring the lived experiences of stroke survivors remains limited. Existing studies primarily focus on quantitative data, leaving a gap in understanding the personal narratives and emotional challenges survivors face. For instance, while research by Zhang et al. (2020) highlights the neuropsychiatric issues such as depression and anxiety that often follow a stroke, it does not delve into survivors' perspectives on their recovery journeys. Similarly, Ogunlana et al. (2023) explored stroke experiences in Nigeria, but findings may not directly apply to the Filipino context due to cultural differences.

This study aims to bridge this gap by employing a qualitative transcendental phenomenological approach to explore the experiences of Filipino stroke survivors in San Pablo City, Laguna. By focusing on their narratives before, during, and after the stroke, the research seeks to uncover the complexities of their recovery processes and the support systems that influence their well-being. Understanding these experiences is crucial for developing holistic nursing interventions that address not only the physical but also the emotional and social needs of stroke survivors. Ultimately, this research contributes to the broader discourse on stroke care and aligns with Sustainable Development Goal 3, which emphasizes health and well-being.

2.0 Methodology

2.1 Research Design

This study utilized a qualitative transcendental phenomenological research design to explore the lived experiences of stroke survivors in San Pablo City, Laguna. This approach allows for an in-depth understanding of participants' narratives and the meanings they ascribe to their experiences.

2.2 Research Locale

The study was conducted in San Pablo City, Laguna. As of the 2020 Census, the total population was 285,348 and there were 80 barangays. The participants were interviewed in their respective homes or the vicinity of the two selected rehabilitation units within San Pablo City. This helped the researchers conduct their study because it was accessible and bordered by barangays. Additionally, one of the criteria used to choose the research locale was the quantity of morbidity and mortality cases in San Pablo City, Laguna. Lastly, one of the motivations of the researchers was to bridge the population gap in the said locale.

2.3 Research Participants

The participants in this qualitative research were identified as first-time stroke survivors, consisting of 10 adults who had experienced their first stroke. A non-probability snowball sampling technique was used, facilitated through referrals from doctors at two rehabilitation centers in San Pablo City, Laguna. Participants were required to have first-hand experience of the phenomenon within zero to six months post-stroke and a score between zero and three on the modified Rankin Scale, where zero indicates no symptoms and three represents a moderate disability. All participants were medically diagnosed with either an ischemic or hemorrhagic stroke. To ensure comprehensive data collection, companions were included in the interviews if participants had difficulty recalling their experiences. However, stroke survivors with cognitive impairment or significant communication difficulties were excluded from the study. All participants were located in San Pablo City, Laguna.

2.4 Research Instrument

The research instrument used in this study was adapted from the study published by Ogunlana et al. (2023). Semi-structured interview guides were developed based on existing literature and expert consultations. The guides included open-ended questions designed to elicit detailed responses about the participants' experiences before, during, and after their strokes.

2.5 Data Gathering Procedure

Data were collected through one-on-one interviews conducted in participants' homes or the vicinity of the rehabilitation units. Each interview was audio-visually recorded with participants' consent and lasted 60-90 minutes. The researchers ensured a comfortable environment to facilitate open communication.

2.6 Data Analysis

The data were analyzed using interpretative phenomenological analysis, following Moustakas's analytical framework. This involved transcribing the interviews, identifying significant statements, and developing emergent themes through a systematic coding process.

2.7 Ethical Consideration

The study was approved by Canossa College San Pablo City, Inc., which adheres to the ethical guidelines set by the Commission on Higher Education. Furthermore, informed consent was obtained from all participants, ensuring they understood the study's purpose and their right to withdraw at any time. Confidentiality was maintained throughout the research process.

3.0 Results and Discussion

3.1 Pre-stroke Lifestyle Patterns and Health Behaviors

Physical Activity and Work Routine

Table 1 shows the codes and annotated exemplars on the experiences of stroke survivors in terms of their lives before stroke under the theme Pre-stroke Lifestyle Patterns and Health Behaviors, specifically under the sub-topic of Physical Activity and Work Routine. The table provides essential information about the everyday lives and occupational activities of individuals who have had a stroke before their stroke occurred. Out of the 39 coded

responses, the pattern that occurred most frequently was the designation of persons as Workaholics, with 10 occurrences. The exemplar illustrates a widespread commitment to job obligations, frequently to the detriment of personal health or recreational pursuits. Participants demonstrated unwavering endeavors to secure employment possibilities, going so far as to engage in mundane duties to guarantee financial security, thus demonstrating the stresses linked to their work ethic prior to experiencing a stroke. Wang et al. (2019) found that physical activity is a predictor of morbidity and mortality. While the impact of physical activity is influenced by age, it remains a significant risk factor in the occurrence of stroke. This suggests that independent basic tasks are an individual's fundamental needs.

Table 1. Codes and Annotated Exemplars for Physical Activity and Work Routine

Code	Exemplar from the Interview
High Physical	"Back then, there were so many of them, and life was really hard. But from the very beginning, Mother was already
Activity	doing something – she used to sew and back then, she was always doing a lot of things."
	"When we were young, we would buy brooms and coconut husks, and we would split them."
Job or Career	"Ah well, I used to work as a factory worker in a company. It wasn't a big company, just a small one. The products
	were glass items, and my role was as a mixer. I mixed chemicals"
Livelihood	That's why I'm always tired I travel because I sell things. I sell in the market, and I'm always on the go. I often travel
	to Divisoria, bringing items there to sell. Sometimes, I go to Divisoria twice a week, and about three times a week to
	Tanauan, so I hardly get any rest."
Workaholic	"Well, because as I said I don't want to be idle. I don't want to I don't want to earn nothing, even a little. I even
	take on cleaning bathrooms just to make some money."
Light Physical	"Yes, before, that was what she did every day sweeping and such. The only thing was, she would sleep around 9:00
Activities	in the morning until 11:00, then eat at 12:00, and sleep again until 2:30. By 4:00, she would sleep again."
Not Employed	"Retired employee. In in personnel."

Social Engagement and Leisure Activities

Table 2 shows the codes and annotated exemplars on the experiences of stroke survivors in terms of their lives before stroke under the theme Pre-stroke Lifestyle Patterns and Health Behaviors, specifically under the sub-topic of Social Engagement and Leisure Activities. The table provides essential information about the everyday lives and occupational activities of individuals who have had a stroke before their stroke occurred. Out of the eight coded responses, the pattern that occurred most frequently was Limited Social Activities, with six occurrences. The exemplar illustrates that individuals who are less socially active or have limited social interactions may be at a higher risk of experiencing a stroke. It underscores the importance of maintaining social connections and engaging in social activities for overall health and well-being, including stroke prevention.

Table 2. Codes and Annotated Exemplars for Social Engagement and Leisure Activities

Code	Exemplar from the Interview
Limited Social	"Ah it's been a long time since I've socialized, it's been a long time, even for birthdays. I haven't joined in a long
Activities	time, since way back."
	"I've been out of the loop since then."
Sports Activities	"No, back in your youth, didn't you play basketball?
	"It used to be just basketball."

Fini et al. (2022) underscores the importance of including questions about pre-stroke physical activity in every post-stroke assessment. Clinicians need to be aware that stroke survivors tend to overestimate their activity levels, necessitating specific and targeted questioning. Notably, the study shows that stroke survivors can potentially return to their pre-stroke physical activities. Collaborative efforts between clinicians and survivors are crucial in facilitating participation in preferred physical activities. Even those with a history of inactivity may be capable of behavior change and becoming physically active post-stroke.

Stressors and Stress Management Strategies

Table 3 presents the codes and annotated exemplars on the experience of stroke survivors in terms of their lives before stroke under the theme of Pre-stroke Lifestyle Patterns and Health Behaviors, in particular, the sub-topic of Stressors and Stress Management Strategies. The table provides details on how stressors affect an individual who has had a stroke daily and how they manage them before the stroke occurs. Out of 14 coded responses, the

most common pattern was the Very Low Stress Level, with five occurrences. The exemplar explains that stress before a stroke was not a problem. One of the reasons stresses cannot conquer someone's life is their emotional stability, considering that the family's foundation is well intact in helping each one of the family members. The family enhances the participant's coping ability using emotional and financial support. Therefore, before the incidence of stroke, individuals had relatively low stress levels due to a supportive system and a healthy environment.

Table 3. Codes and Annotated Exemplars for Stressors and Stress Management Strategies

Code	Exemplar from the Interview
Depression	"It happened on September 19, and then the stress just kept piling up because my brother passed away in May, my
	mother passed away in August, and then in September that's when I had my stroke."
Home	"For myself? I only get stressed when things are messy, and when my child has problems at school, like with
Responsibilities	assignments. Maybe about 4 out of 10."
Community	"Oh, when someone doesn't pay me, it annoys me, hahaha! Because I should be able to buy more with that money
Stressors	it's a weekly thing, you see. If they borrow money, they should pay it back by the end of the week. But I see them,
	hey! They're not paying me, but they can buy from others. It really annoys me."
Letting the Stress	"Well, I've learned now that the problem is, don't make it your problem. Don't it becomes a problem if you keep
Pass	worrying about it. Yes when you realize it, just go with it, let it go. Don't stress about it, that's how I've come to see
	things in life."
Very Low Stress	"Nothing, she's not stressed."
Level	-
	"As for me, I don't get stressed anymore and I always have [peace]. She doesn't think too much about the problems."

Holland (2023) found that emotional stress, whether short- or long-term, raises the risk of stroke, although it can be reduced with preventive measures or by creating new strategies to cope with stress. This study explains that there is no direct effect of getting a stroke immediately after exposure to a stressful situation. Still, when a person is under stress, the compensatory mechanism of the heart is to exert extra effort, and the blood vessels will start to constrict because of the high pressure. If this process continues, a comorbidity like hypertension can potentially heighten the risk of acquiring a stroke.

Health Monitoring and Awareness

Table 4 shows the codes and the annotated exemplars of the stroke survivors' experiences before stroke occurrence under the theme of Pre-stroke Lifestyle Patterns and Health Behavior. Specifically, it focuses on the sub-theme of Health Monitoring and Awareness, which emphasizes individuals' approach to health monitoring and their awareness of their health. The table provides crucial information regarding health monitoring, such as scheduling check-ups or consultations and understanding their health status before stroke. Out of 30 coded responses, the pattern that occurred most was hypertension, with 10 occurrences. The corresponding examples show that most participants were aware of having hypertension.

Table 4. Codes and Annotated Exemplars for Health Monitoring and Awareness

Code	Exemplar from the Interview
No Regular Checkup	"Well it's like I don't go for check-ups because I don't feel anything."
Occasional Checkup	"Only when something bothers me, that's when I go for a check-up."
Defiance of Medical	"Do you have any maintenance [medication]?"
Advice	"Yes, but I don't follow it."
	"He stopped it, that's why it triggered his condition. When he was 26 years old, he started maintenance, but then
	he stopped."
Hypertension	"Sometimes it's one-forty, other times it even goes up to two hundred, before."
Diabetes	"Diabetes. It actually started in 2010. I already had a lot a lot of what do you call it maintenance. In 2010,
	diabetes, cholesterol, kidney problems, I had two surgeries for my kidneys What else that's it."
Hyperthyroidism	"That's it, thyroid, hyperthyroid."
No Health Problem	"I don't have any illness. I was normal until (I had an attack)."

Elsevier (2020) observed hypertension in approximately 64 percent of stroke patients based on 30 study findings. With most occurrences in the interview in the exemplar, most knew about having hypertension, which is a major contributing risk factor for stroke occurrences. It is also supported by the study of Panuganti (2019), stating that hypertension is the greatest significant factor for both individuals and populations.

3.2 Behavioral Risk Factors and Environmental Influences

Lifestyle Choices and Habits

Table 5 displays the coded responses and annotated exemplars about the lived experiences of stroke survivors before the phenomenon occurred under the theme of Behavioral Risk Factors and Environmental Influences, particularly under the sub-theme of Lifestyle Choices and Habits. The table provides the necessary data to peek into the choices and habits of the survivors regarding their lifestyle before the stroke happened. Out of the 33 coded responses, the pattern that occurred the most frequently was the code No Dietary Plan or Food Restriction, with 13 occurrences. The exemplar illustrates that there were no controls or restrictions on the dietary habits of the survivors before the stroke happened, the portrayal of foods high in cholesterol consumed the most, and a lack of a healthy and balanced diet was observed. The participants demonstrated uncontrolled behavior in terms of consuming foods that led to the trigger of the phenomenon, linked as the stress reliever of the survivors, and considered as the management done in dealing with stressful circumstances encountered.

Table 5. Codes and Annotated Exemplars for Lifestyle Choices and Habits

Code	Exemplar from the Interview
Alcohol Dependence	"Yeah, sometimes it's twenty-four hours, hahaha back then, I used to drink a lot."
	"That stopped when our grandchild was born, there, just toned it down."
Cigarette Dependence	"Maybe a whole pack when I'm drinking."
Coffee Dependence	"And I drink a lot of coffee."
No Dietary Plan or Food	"They love pork head and pork hocks. If they don't get to taste meat within a week, they won't cook
Restriction	anything, but chicken our least preferred dish is tilapia."
Healthy Diet	"Yes, he wakes up early, he eats quaker oats followed by milk Anlene for the bones."
Not Having Vices	"Oh nothing, it's just that I grew up in hardship. What a waste it's just a waste of money."

Hellicar (2023) found that dietary practices have a significant impact on blood pressure, cholesterol levels, and inflammation, which all play a part in preventing and treating stroke. Dietary changes that target symptoms like difficulty swallowing are crucial for both recovery and preventing more strokes after a stroke. Prevention diets usually consider comorbidities like diabetes or hypertension and emphasize fruits, vegetables, whole grains, lean protein, and low-salt foods.

Sleep Patterns and Quality

Table 6 shows the codes and interpreted exemplars on stroke survivors' experiences in terms of their lives before stroke under the theme of Behavioral Risk Factors and Environmental Influences, specifically under the sub-theme of Sleep Patterns and Quality. The table provides essential information regarding stroke survivors' daily routines and sleep quality prior to their stroke. Out of the 16 coded responses, the pattern that had the highest occurrence was the Poor Quality of Sleep, with 13 occurrences.

Table 6. Codes and Annotated Exemplars for Sleep Patterns and Quality

Code	Exemplar from the Interview
Adequate	"Woke up at around early morning, sometimes she says it's four and then can't go back to sleep, but she goes to bed
Sleep	early, around seven for example."
Poor Quality of	"Before, he used to sleep well. Lately, when he got into the habit of playing video games on cellphones, he sleeps
Sleep	late around two or three in the morning and then wakes up at six that's what triggered to have a stroke."

The results may be attributed to the understanding that the bidirectional relationship between sleep and stroke is essential for developing comprehensive strategies to mitigate stroke risk, optimize treatment outcomes, and improve stroke survivors' quality of life. In the study by Wang et al. (2022), sleep durations of less than five hours or more than eight hours significantly raised stroke incidence and mortality risks. Recognizing sleep as a fundamental human need vital for overall health, sleep evaluation, and management should be integrated into the routine assessment of stroke patients.

3.3 Recognition of Warning Signs and Stroke Indicators

Knowledge and Awareness of Stroke Symptoms

Table 7 represents the codes and annotated exemplars on the experiences of stroke survivors in terms of their lives before stroke under the theme of Recognition of Warning Signs and Stroke Indicators. It is precisely under the sub-topic of Knowledge and Awareness of Stroke Symptoms. The table provides significant information regarding the recognition of warning signs and stroke indicators of stroke survivor individuals before their stroke occurred.

With seven coded responses, the pattern that occurred the most was the code Asymptomatic, with several three occurrences. The exemplar illustrates that there were no signs felt and that the patient did not have any prior knowledge and awareness regarding the symptoms of stroke.

Table 7. Codes and Annotated Exemplars for Knowledge and Awareness of Stroke Symptoms

Code	Exemplar from the Interview
Frequent	"I used to feel dizzy I didn't pay attention to it, maybe my blood pressure had already risen and my blood."
headaches	
Involuntary	"Before I had a stroke, there was only one thing I noticed. For several nights I couldn't sleep, and my hands and feet
Movements	kept on twitching. I said Oh ohno matter how sleepy I was, I can't I still couldn't stop the twitching of my feet and
	hands, I should have taken paracetamol at that time. But I didn't know that I didn't pay attention, I didn't want to
	take anything right away"
Asymptomatic	"I didn't feel anything, and I didn't think of anything when I woke up I couldn't get up."

National Institute on Aging (2023) mentioned several possible signs and symptoms of stroke that the patients may experience. In the case of the participants and the result of the coded responses, the signs and symptoms of stroke that aligned with the study of NIH are headache and involuntary movements. In a study by Hickey and Strayer in 2020, people described the symptoms of headache as "the worst headache" they had experienced. These studies showed that the awareness and knowledge of the two mentioned symptoms of the participants are aligned with the signs and symptoms mentioned in the studies by NIH (2023) and Hickey and Strayer (2020).

Perception of Health Risks and Early Detection

In Table 8, the coded response, and annotated exemplars concerning the lived experiences of the stroke survivors belong to the theme of Recognition of Warning Signs and Stroke Indicators, respectively the sub-theme of Perception of Health Risks and Early Detection. The tabulated data provides an overview of the risks and the survivors' perceptions that were inclined with the stroke occurrence. Out of the eight coded responses, the pattern that occurred most frequently was the classification of persons who experienced overfatigue, with four occurrences. The exemplar illustrated that the risks were first greatly affected by the over-usage of the body, frequently linked to overworking with the risk of health detriment. The participants demonstrated determination as evidenced by maximizing their strength and body capacity to work, thus demonstrating the straining of the physical body until it has collapsed, experiencing a stroke.

Table 8. Codes and Annotated Exemplars for Perception of Health Risks and Early Detection

Code	Exemplar from the Interview
Hereditary	"It's in the genes and hereditary because his mother died of an aneurysm, and his father, just like him, died of ah a heart
	attack."
Over	"Uhm, I think that's what triggered my stroke, that over-fatigue. I wasn't resting."
Fatigue	
Poor	"There's nothing anymore, but I still went for a check-up. The neurologist said it wasn't a stroke, so I felt relieved that it
Diagnosis	wasn't really one. Then I was surprised when the stroke suddenly followed. The doctor said it was like a second one, so we're also thinking about why it happened like that."
	we it also thinking about with it happened like that.

Soelton et al. (2020) found that family factors heavily influence work-related fatigue. Family can be a strong motivator for pushing the body beyond its limits to meet the family demands, thus acting as a compensatory mechanism for stress. This stress stems from the inability to meet the demands of both work and family due to several factors. This aligns with the coded responses of the stroke survivors, which identify factors affecting bodily functions and maximal work capacity. Furthermore, the study by Pourasgari and Mohamadkhani (2020) supports the role of family history as a primary risk factor for stroke, suggesting a familial component to stroke occurrence. Lastly, a poor diagnosis may be related to the stroke mimickers that led to the progression of stroke. This is supported by the study by Buck et al. (2021), stating that stroke mimics are often the cause of poor diagnosis as it presents the same features as stroke per se.

3.4 Experience and Perception During the Stroke Episode

Physical Symptoms and Sensations

Table 9 presents the codes and annotated exemplars on the experiences of stroke survivors during the phenomenon, generated the theme of Experience and Perception During the Stroke Episode under the sub-theme of Physical Symptoms and Sensations. The table provides essential information about the manifestations that have mostly dominated during the stroke attack. Out of 74 coded responses, "Sudden onset" (16 occurrences) has

occurred the most frequently. The exemplar illustrates various presentations and sensations, ranging from the most common factors to signs and symptoms. Participants clearly described what they had felt during the attack and the early signs that were ignored, thus highlighting the variations of symptoms per individual and how fast it progressed. A person who experiences a stroke will undoubtedly have an impact on their daily activities.

Table 9. Codes and Annotated Exemplars for Physical Symptoms and Sensations

Code	Exemplar from the Interview
Attacks in the	"My child overheard him calling out, saying he couldn't get out of the bathroom. He was in the bathroom, and it was
bathroom	locked. When my child saw him, my child woke me up and said, "Why can't you get out?" He said he was feeling
	dizzy and had a headache, so we forced the bathroom door open and saw him lying there."
Blood Pressure	"There it is, it's not good for me when there's a sudden drop, it's high and then suddenly drops, my blood pressure
Monitoring	drops, uh that's where I had a stroke due to the very low blood pressure."
Chest Pain	"Symptoms? Sometimes, my chest tightens, something like that."
Consciousness	"Of course uhm there is (conscious) but really this has no feeling, even the feet."
Difficulty	"I told my helper that it seems like my speech can't be understood I can't I'm having a hard time, it's like I'm
Speaking	biting my tongue."
Dizziness and	"My headache feels like it's not a normal headache, really ah ah it hurts"
Headache	
Facial Distortion	"Where am I now, am I in a critical area? It seems like I can already feel it in myself, that I am kind oflike my face.
	It tilted like that Then I couldn't move my eyes very well at that time."
Feeling Sleepy	"Worsening? The feeling I have right now? I'm okay now Before I felt sleepy, groggy, and had a headache."
High Cholesterol	"The only maintenance she has is for cholesterol."
Immobility	"It's hard because, well you want to move, but you can't move. I I already gave up then. When I first experienced that, I gave up I was giving up. I told my children, I made my wishes known, I told them, 'I can't do it anymore.'"
Numbness	"It was also fast, because my [face] felt numb, I said, 'Ah, this must be what they're talking about when, um, my [face]
1 valitoriess	feels numb, it becomes thick like this, 'I was doing this to my face, and I thought, 'This must be what they mean when
	they say someone might have a stroke."
Vomiting	"I went to the bathroom because I was coughing. I vomited, and I thought it was because of my cough."
Rapid Progression	"There were no symptoms, it's just that I really felt it. But maybe It was only like that for about three days, and
1 . 9	then I had a stroke. It was only about three days the symptoms I experienced were like a twitch, I only felt that for
	three days."
Sudden Onset	"There was a twitch, but I ignored it and kept going. Then slowly, I started to feel dizzy, so I sat down because I was
	afraid I might hit my head if I fell."

Stroke causes a wide range of cognitive, psychological, and social repercussions for approximately one-third of survivors (Pedersen et al., 2019). According to the National Institute on Aging (2023), stroke patients may experience sudden numbness or weakness, particularly on one side of the body, in the arm, leg, or face: sudden confusion, speaking impairment, or difficulty understanding words, sudden vision problems in one or both eyes, sudden dizziness, unsteadiness or loss of coordination, or difficulty walking, and sudden intense headaches without apparent cause. The stroke survivors experienced some of this manifestation during the occurrence of stroke.

Emotional and Psychological Responses

Table 10 shows the codes and annotated exemplars on the experiences of stroke survivors in terms of their lives before stroke under the theme of Experience and Perception During the Stroke Episode, specifically under the sub-topic of Emotional and Psychological Responses. The table provides essential information about the emotional and psychological responses experienced by stroke survivors during their medication and recuperation processes. Out of the five coded responses, the pattern that occurred most frequently was frustration. The exemplar illustrates that when frustration is common among the participants in the table, it shows the contrasting emotional responses experienced by stroke survivors. Frustration may stem from various challenges. This highlights the complex emotional journey that stroke survivors navigate during their medication and recuperation process. Devereux and Berns (2023) underscores stroke's profound psychological toll, including depression, anxiety, and post-traumatic stress disorder, impairing quality of life and community engagement. Post-stroke depression (PSD) poses severe consequences for survivors and families, increasing stroke recurrence and mortality risks. With Delaware's growing and aging population, stroke incidence and emotional fallout are expected to surge. Screening for PSD, re-assessment, and clinical interventions are crucial.

Table 10. Codes and Annotated Exemplars for Emotional and Psychological Responses

Code	Exemplar from the Interview
Fear of Dying	"I prayed to the Lord, saying, 'Lord, not now, please. I might suddenly disappear, so not now."
Frustration	"Well there at the hospital, I was bored. The food there I couldn't handle it, everything was bland, just rice porridge. I was so bored."
Panic Attacks	"It wasn't on my mind that I might die because I was strong at that time, and I wasn't nervous. Maybe that's why my recovery process was quick."
Sudden Fright	"Then I was afraid that I might I might not be able to walk, not be able to speak properly. That's the fear I felt."

Social and Environmental Factors

Table 11 shows the codes and annotated exemplars on the experience of stroke survivors in terms of their lives during stroke under the theme of Experience and Perception During the Stroke Episode, to the subtopic of Social and Environmental Factors. The table presents important details about the socio-environmental problems that a stroke survivor may face during the incidence of the stroke. Out of seven coded responses, the most frequent pattern was financial constraints, with four occurrences. The exemplar denotes that in the event of health issues like a stroke, a financial crisis is one of the most vital concerns. Furthermore, besides the hospital bill, one major factor that added to the financial constraints of the participant was the recurrent hospitalization and follow-up checkups. They need transportation since their house is far from the hospital, which leads them to require periodic payments that add to their burden.

Table 11. Codes and Annotated Exemplars for Social and Environmental Factors

Code	Exemplar from the Interview
Financial	"They just explained to me that I only need to have a blue card, and when we go for therapy, I just need to show my
Constraints	ID and our marriage contract. I just need to submit it there, and that's it."
	"Because for medical check-ups, it's 800 pesos, and the follow-up is also 800, not to mention the transportation costs."
	"For medical follow-ups, it's 800."
Hospital	"It's very hard, my children are struggling to take care of me, they also have their own families."
Challenges	

Xu et al. (2024) discovered that stroke patients may face severe financial hardships as a result of the occurrence. This involves feeling like a burden to their family or reliant on others. This study is related to the codes of financial limitations and hospital difficulties, where patients feel like a burden to their families because they anticipate significant responsibility.

3.5 Medical Interventions and Recovery Process

Diagnostic and Treatment Procedures

Table 12 shows the annotated exemplars and codes on the experiences of stroke survivors about their lives during medication and the process of recuperation under the theme of Medical Interventions and Recovery Process under the sub-theme of Diagnostic and Treatment Procedures. The table provides information about the procedures to diagnose stroke, including the non-invasive ones and the experiences in hospital admission. Of the 19 responses, the most common pattern was the Basic Measures (10 occurrences). The exemplar shows the basic information regarding the condition of stroke survivors during hospitalization and the non-invasive measurement for diagnosing the disease delivered by the doctor. Finally, with nine occurrences, the least frequency was the "period of hospitalization," indicating the number of stays in the hospital.

Table 12. Codes and Annotated Exemplars for Diagnostic and Treatment Procedures

Code	Exemplar from the Interview
Basic Measures	"Then said I needed to be admitted, then they did a CT scan, an X-ray, and a laboratory test. The doctor said that
	there was a small stroke detected, but the problem with him was just this"
Period of	"So just two two days or three?"
Hospitalization	"About ten ten."

Anusha Bai and Sangeetha (2023) highlight the usage of non-invasive procedures such as Computed Tomography Scans and other medical diagnostics. Furthermore, because these diagnostic procedures produce accurate data, they are a good choice for application in critical care environments. This leads to a better diagnosis of the disease and its prognosis.

Initial Reactions and Action Taken

Table 13 presents the codes and annotated exemplars of the stroke survivors' experiences with medication and the recuperation process. This information aligns with the theme of Medical Interventions and Recovery Process and falls under the sub-theme of Initial Reactions and Actions Taken. It emphasizes the individual's initial reactions and actions during the stroke episode, including those taken by family members, relatives, or friends, and instances of a lack of awareness regarding appropriate actions.

Code	Exemplar from the Interview
Accompanied by family	"I called my siblings because I needed help, because he was big back then, and I couldn't do it alone.
members, relatives, or friends	My child couldn't handle it either, so"
Lack of Stroke Awareness	"My mother, you know, my mother took hot water and mixed garlic in it, then made him drink it. But
	it turns out it was forbidden to make him drink that time, yet my mother still managed to make him
	drink it."

Wang et al. (2021) found that the knowledge and awareness of the family members affect the initial reactions and actions taken to provide immediate intervention during the attack of stroke. It is mentioned that they play a significant role since most of the time, family members, relatives, or friends are the ones who were the first ones to notice it. They immediately called for help to seek medical attention. Their decision-making skills provide a great help to lessen the severity of stroke to the survivors. However, the study also highlights that a lack of stroke awareness among family members can cause delays in seeking immediate attention or treatment, potentially serving as a barrier, and contributing to the severity of the stroke's impact on survivors.

3.6 Adaptation and Adjustment to Post-Stroke Lifestyle

Physical Changes and Functional Limitations

Table 14 illustrates the coded responses and interpreted exemplars on the experiences of stroke survivors in their life after stroke under the theme of Adaptation and Adjustment of Post-Stroke Lifestyle, under the sub-theme of Physical Changes and Functional Limitations. The tables show the different changes in terms of their physical abilities and functioning after the stroke happened. Out of 54 coded responses, the pattern that had the highest occurrence was the "Loss of Mobility and Dependence on Assistance" with 17 occurrences, which refers to the most common and frequent changes after stroke the survivor experienced, specifically in terms of their physical ability. After the stroke, most of them lost the ability to perform ADL (Activities in Daily Living).

Table 14. Codes and Annotated Exemplars for Physical Changes and Functional Limitations

Code	Exemplar from the Interview
Difficulty in Balance	"As for walking, that's it, but I think I can manage, I just keep going straight. I can already take steps, I'm
	strong now."
Difficulty with fine motor	"Then next, the it's not just that now the only thing I can't do is what comes next, I should be able to do
tasks	it by three o'clock but I can't keep up because my hand hurts. I'm still doing exercises for it, I'm still
	massaging it once it feels better, I'll be able to do it."
Hand Weakness	"I suddenly became weak, it felt like everything I was holding just slipped away, my hand was going numb.
	When I was I don't know, just like this, I fell down, I was like this."
Lifestyle Change	"That's when everything changed, it was like a wake-up call. What happened to me was really dangerous.
	Maybe because of my old habits, I know I can't go back to them."
Loss of Mobility and	"When she got out of the hospital, of course, she hadn't had a bowel movement there, so I made sure to feed
Dependence on Assistance	him papaya and she thought there was a lot in his diaper. She was wearing a diaper"
Physical Pain	"Now, by the grace of God, I can move it a little but it's still not normal, it still hurts to move, it still hurts
	to use that's why these [pertaining to her family] get mad at me, because I used it to cook again, I made it
II-6-16:11	work again."
Unfulfillment of	"That's always the case when we get home. He chops firewood. He has changed so much. He's the only one
Responsibilities	I rely on in my house. You know, he passed away there. He was the only one who helped me." (The
	participant's mother is crying.)
Shift in responsibilities	"Before, I did everything so it's a big thing that I ended up like this, all the work was mine now it's all on
	him, but he can't handle it all by himself with so much to do."

The stroke survivors seek assistance from their family members. According to the National Institute on Aging (2023), stroke patients may experience sudden numbness or weakness, particularly on one side of the body, in the arm, leg, or face, sudden confusion, speaking impairment, or understanding words, sudden vision problems in one or both eyes, abrupt dizziness, involuntary movements, unsteadiness or loss of coordination, or difficulty walking, and sudden intense headache without apparent cause. In the study by Dongen et al. (2021), some physical

dysfunction persists after stroke, and one of the daily obstacles is stiff or tight muscles, which threaten some stroke survivors even after months or years of recovery.

Dietary Modifications and Health Monitoring

Table 15 shows the codes and annotated exemplars on the experiences of stroke survivors in terms of their lives before stroke under the theme of Adaptation and Adjustment to Post-Stroke Lifestyle, specifically under the subtopic of Dietary Modifications and Health Monitoring. The table provides essential information about the necessary lifestyle modifications and health monitoring that they made. Out of the 22 coded responses, the most frequent pattern was the Dietary Adjustments, with 18 occurrences. This exemplar illustrates the significant impact of the participants' eating habits. This suggests a widespread need for dietary modifications post-stroke, often involving reduced salt, sauce, and fat intake. Additionally, the emphasis on regular health monitoring, with four occurrences, reflects the participants' proactive efforts to manage their health and prevent complications following stroke.

Table 15. Codes and Annotated Exemplars for Dietary Modifications and Health Monitoring

Code	Exemplar from the Interview
Dietary Adjustments	"Everything has no taste because he used to like dipping in fish sauce and soy sauce, but now it has no flavor
	because I'm the one who cooks. Maybe soft foods first, but no fats, just boiled or steamed, as long as there are no fats."
Regular Health Status Monitoring	"My priority now is to lower my lab results. I need to check every three months so at least I know, 'Oh, I didn't drop here.' But I still need to lower it some more. I need to get lab tests, I need to lower it again and again. I don't want it to stay high."

Lin (2021) emphasizes the significant impact of plant-based diet patterns, such as the DASH, Nordic, Mediterranean, and vegetarian diets, and lowering blood pressure, diabetes, and other risk factors for stroke, particularly ischemic stroke. The findings suggest that besides reducing salt intake, adopting a diet rich in fruits, vegetables, whole grains, legumes, seeds, nuts, and dairy while limiting meat, sweets, and alcohol can effectively reduce the risk of stroke. Epidemiological and observational studies consistently support the beneficial effects of plant-based diets on stroke prevention and management strategies.

Emotional and Psychological Well-being

Table 16 shows the codes and annotated exemplars on the experiences of stroke survivors in terms of their lives before stroke under the theme of Adaptation and Adjustment to Post-Stroke Lifestyle, specifically under the subtopic of Emotional and Psychological Well-being. The table provides essential information about emotions and behaviors after a stroke. Out of the 47 coded responses, the pattern that occurred most frequently was Frustration with Inactivity, with 24 occurrences. This exemplar illustrates that the participants with frustration due to inactivity have a profound impact of physical limitations on their emotional well-being. Inactivity often exacerbates feelings of helplessness and dissatisfaction as the participants grapple with the loss of mobility and independence post-stroke. This frustration underscores the importance of addressing physical rehabilitation and promoting activity to enhance the participant's physical and emotional recovery.

Table 16. Codes and Annotated Exemplars for Emotional and Psychological Well-being

Code	Exemplar from the Interview
Embarrassment and	"It's okay it's just that sometimes it feels embarrassing to talk, it's not like before."
Discomfort	
Frustration with	"Well, when I went back to the hospital I couldn't sew anymore. Before, I was earning, even just from doing
Inactivity	repairs I had money. Now, it's really hard. I want to buy something, but I can't, I have no money."
Irritability and	"Ah I'm always angry, I'm always hot-headed, I can feel it. And then of course, for example, with you, I scold
Mood Swings	you for something and then later on, I'd think, 'Why did I get angry over that, it was such a small thing?' Even with small things, I get angry. Even my grandchildren are adjusting, they say I'm always angry. I tell them, 'Okay, fine, put yourself in my shoes then,' I say that."
Feeling of Hope	"I think there is, because of I don't know, I just don't think about going back to work. I just really want to be able to move properly, the basic movements. But my company is ready to transfer me to any task, they said they're ready for that. I still have a job to go back to, that's important. But for now, I'm focusing on my rehab."
Self-Reliance and	"Because my mindset is that I don't want to be a burden, I want to be the one taking care of others. Maybe that's
Resilience	why I recovered quickly, because my focus was on not wanting to be watched over, since I'm not used to it. I'm
	used to working and supporting myself."

Nimwegen et al. (2023) systematically review interventions aimed at improving stroke survivors' psychosocial well-being, explicitly focusing on interventions deliverable by nurses. The review identifies practical intervention components, such as mood management, coping strategies, and medication management, often delivered through active information and physical exercise. However, the study suggests a need for further understanding of how different intervention components interact and the contexts in which they are most effective. Additionally, there is a call for research on the effectiveness of these interventions for various stroke survivors and their feasibility for implementation by nurses in daily practice. Further exploration of stroke survivors' specific needs for psychosocial well-being is also recommended.

Health Properties and Goal Setting

The tabulated responses present in Table 17 are the codes and annotated exemplars from the stroke survivors surviving the phenomena. This table encloses the extensive life after experiencing stroke under the theme of Adaptation and Adjustment to Post-Stroke Lifestyle with a sub-theme of Health Priorities and Goal Setting, providing the lens of the survivors' everyday life after. Out of 26 coded responses, the pattern that occurred most frequently was the designation of persons who adhered to the doctor's advice and those with regular exercise, with 10 occurrences. The individuals exhibited resolute efforts towards pursuing a path of recovery, even going so far as to partake in healthful activities and comply with guidelines. This demonstrated the drive associated with their resolve following a stroke.

Table 17. Codes and Annotated Exemplars for Health Properties and Goal Setting

Code	Exemplar from the Interview
Adherence to	"And that's it, those Those doctors who are really needed, when they say you need a check-up, you need to do it.
doctor's advice	Don't be like as much as possible, schedule it right away, don't say you don't have time, give it some time Before, I
	always used to say I didn't have time, it's like that, you'll only find out your illness if you don't have a check-up. But
	now, it's really needed. When the doctor says you need to come back for this, I really schedule it immediately."
Regular	"Exercise is necessary and then relax yourself so that so that you won't experience the stroke that I went through."
Exercise	
Back to Regular	"Because my grandchildren, when they like something or my children, it's me who cooks, I really cook. I don't even
Routine	rely on others for cooking if I can do it, I do it myself. It's just that I get tired because I'm tired from writing in the
	store, and when I get home, I can still cook."
Government	"Nothing nothing, just myself there the ones the ones who sometimes ask from from the government yes,
Support	government, they give. There, little by little, ah, it helps."

Pedersen et al. (2019) state that the aftermath of a stroke changes an individual not only physically but also how they perceive themselves and what moves them to surpass the phenomena. Therefore, this affects the progress in achieving self-esteem and self-actualization, fueled by the motivation to bring back the everyday life that they are used to; setting goals and priorities is the first step in adaptation to the new lifestyle. In support of this, a study by Pereira et al. (2021) states that regaining one's control in life is influenced by a customized rehabilitation strategy that emphasizes common goals and offers the stroke victim and their caregivers one-on-one or group support.

3.7 Social Support and Coping Strategies Post-Stroke Social Relationships and Family Support

Under the theme of Social Support and Coping Strategies Post-stroke, specifically under the sub-topic of Social Relationship and Family Support, Table 18 presents the codes and annotated exemplars of the experience of stroke survivors regarding their lives after stroke. Information about social support that can improve their perception of rehabilitative treatment following a stroke is included in the table. The Support from the Family pattern emerged as the most often occurring pattern out of 23 coded responses, with 15 occurrences. The exemplar provides information with regards to the stroke survivors for not taking for granted the support that they receive from their loved ones. This reduces the degree of stress for the participants because of the family's understanding of their needs. Moreover, financial assistance plays a vital role in preventing stress for stroke survivors in any situation.

According to the study by Kosasih et al. (2020), in the first months after the discharge of a stroke patient, the family shares a common goal with them. Every family with a stroke patient aims to enhance their quality of life. The family should embody the need for motivation and support for the survivors by their full potential and transcend the phenomenon of stroke. Lastly, it suppresses the stressors from entering the life of a survivor because of the family's good connection and being intact with them.

Table 18. Codes and Annotated Exemplars for Social Relationships and Family Support

Code	Exemplar from the Interview
Family Support	"Well, I don't think about it because I have a child who helps and supports me. I just ignore it, at least I have someone
	to help. My husband and my child help with the bills, so it's not a big deal anymore."
Support from	"The kind of help that's not financial, just seeing you I don't see that. What I was expecting to see is 'I know, ma'am,
Friends	you won't give anything,' but atleast you're there I see you I know you remember me and that I'm sick. It feels so good but maybe that's why, when I had a stroke, when I got sick, I was able to recover."
Intimate	"Nothing. He just wants to always be kissed. That's all. He's being affectionate. Maybe later something will happen
activities with	if we do that."
life partner	

Sleeping Patterns

Table 19 indicates the codes and annotated exemplars in terms of the experiences of stroke survivors concerning their lives after stroke. This is under the theme of Social Support and Coping Strategies Post-Stroke, specifically under the sub-topic of Sleeping patterns. The table presents the necessary details about the coping strategies done post-stroke, such as the sleeping patterns of the survivors after they were affected by stroke. Out of the seven coded responses, all seven occurrences pointed at the sleeping pattern. The exemplar states that the sleeping pattern changed after the stroke, and he was already sleeping earlier than before.

Table 19. Codes and Annotated Exemplars for Sleeping Patterns

Code	Exemplar from the Interview
Sleeping	"Oh, I sleep early now, unlike before, because my blood pressure also rises when hmm, it's like when I take medicine, I
Pattern	get sleepy right away, but sometimes I also wake up early."

Wang et al. (2022) said that sleep disturbances contribute to stroke incidence and recurrence. Being fully aware of the relationship between stroke and sleep is said to be essential in order to mitigate the risk of stroke and improve the quality of life. The changes in the participants' sleep patterns enable them to mitigate the risk of stroke recurrence. According to the study by Brunetti et al. (2022), the efficacy of sleep interventions as a therapeutic avenue for stroke patients ought to be prioritized.

Entertainment Hobbies

Table 20 illustrates the codes and interpreted exemplars on stroke survivors' experiences of their lives after stroke under the theme of Social Support and Coping Strategies Post-Stroke, specifically under the sub-theme of Entertainment Hobbies. The table shows how stroke survivors entertain themselves after the stroke. Out of four coded responses, Entertainment Hobbies is the only coded response.

Table 20. Codes and Annotated Exemplars for Entertainment Hobbies

Code	Exemplar from the Interview
Entertainment Hobbies	"Sometimes, you know, I entertain myself by watching movies, that's it, or playing video games."

According to Deegan (2002), in the study of Pedersen et al. (2019), the entire process entails adaptation to one's new existence in order to return to one's previous level of functioning. Accepting and realizing the stroke occurrence, stroke survivors can understand the importance of having entertaining hobbies to keep their minds off the difficulties and anxiety they face every single day.

Ongoing Therapy and Rehabilitation

Table 21 shows the codes and annotated exemplars on the experiences of stroke survivors in terms of their lives before stroke under the theme of Social Support and Coping Strategies Post-Stroke, specifically under the subtopic of Ongoing Therapy and Rehabilitation. The table provides essential information about the stroke survivor's ongoing therapy and rehabilitation after a stroke. There are 11 total occurrences. This exemplar illustrates a commitment to maximizing recovery and improving quality of life. It signifies recognition of the importance of continued support in regaining lost abilities, enhancing mobility, and preventing secondary complications. These efforts aim to promote independence, functional ability, and overall well-being for individuals affected by stroke.

Table 21. Codes and Annotated Exemplars for Ongoing Therapy and Rehabilitation

Code	Exemplar from the Interview
Ongoing Therapy and	"That's the thing with therapy, if you don't work on what the therapist is doing for you, and you just rely on
Rehabilitation	them, it's all for nothing. You need to do what they've worked on with you, you have to exercise it again."

Saraiva et al. (2023) highlights diverse rehabilitation interventions for stroke survivors' balance challenges. From conventional exercises to technology-based approaches like virtual reality, each offers unique benefits for functional recovery. Healthcare professionals are urged to tailor programs to individual needs. Dual-task training effectively addresses motor and cognitive aspects, enhancing motivation. Technology-assisted interventions, such as virtual reality, show promise in improving engagement. Future research should explore long-term effects and compare intervention modalities to advance stroke rehabilitation.

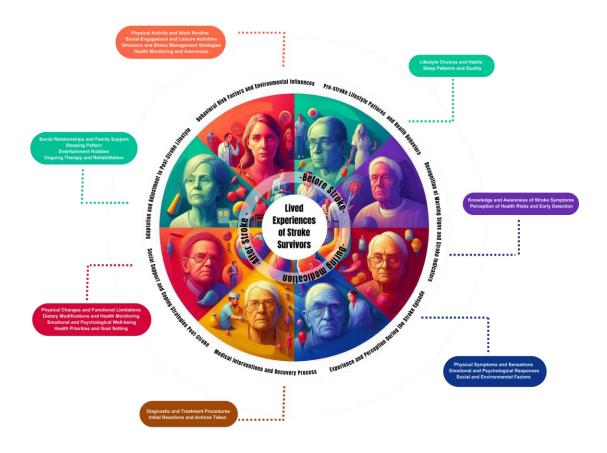


Figure 1. Lived Experience of Stroke Survivors

4.0 Conclusion

In conclusion, this study provides valuable insights into the lived experiences of stroke survivors emphasizing the critical interplay between emotional, psychological, and physical recovery. The findings highlight the necessity for healthcare providers to adopt holistic rehabilitation approaches that address not only the physical limitations post-stroke but also the emotional and social needs of survivors. The study underscores the importance of strong support systems, as participants with robust family and community networks reported better recovery outcomes. These insights contribute to the growing body of literature advocating for integrated care models in stroke rehabilitation. Future research should explore the long-term effects of various rehabilitation strategies, particularly those that incorporate mental health support and community engagement. Additionally, studies examining the effectiveness of technology-assisted interventions, such as tele-rehabilitation and virtual support groups, could further enhance recovery outcomes for stroke survivors. By addressing these areas, future work can continue to improve the quality of care and support available to individuals affected by stroke, ultimately contributing to better health outcomes and quality of life.

5.0 Contribution of the Authors

The authors, YD, CA, AA, BA, MG, GL, and MQ contributed equally to every section. They have also reviewed and approved the final version of the work.

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7.0 Conflict of Interests

No conflicts of interest were identified at any stage of the process.

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9.0 References

- Alwageed, H. S. (2022). Detection of subarachnoid hemorrhage in computed tomography using association rules mining. Computational Intelligence and Neuroscience, 2022, 1–10. https://doi.org/10.1155/2022/1133819
- Brunetti, V., Pizzuti, A., & Dias, S. (2022). Sleep and stroke: Opening our eyes to current knowledge of a key relationship. Journal of Clinical Medicine, 11(13), 3883. https://doi.org/10.3390/jcm11133883
- Buck, B., Akhtarb, N., Alrohimia, A., Khanaand, K., & Shu, A. (2021). Stroke mimics: Incidence, aetiology, clinical features, and treatment. Annals of Medicine, 53(1). https://doi.org/10.1080/07853890.2021.1890205
- Collantes, M., Navarro, J., Bellen, A., & Gan, R. (2022). Stroke systems of care in the Philippines: Addressing gaps and developing strategies. Frontiers in Neurology, 13.
- Collantes, M., Zuniga, Y., Granada, C., Uezono, D., Castillo, L., Enriquez, C., Ignacio, K., Ignacio, S., & Jamora, R. (2021). Current state of stroke care in the Philippines. Frontiers in Neurology, 12. https://doi.org/10.3389/fneur.2021.665086
- Deegan, P. E. (2002). Recovery as a self-directed process of healing and transformation. Occupational Therapy in Mental Health, 17(3-4), 5-21. https://doi.org/10.1300/j004v17n03_02 Devereux, N., & Berns, A. (2023). Evaluation & treatment of psychological effects of stroke. Delaware Journal of Public Health, 9(3), 62-69. https://doi.org/10.32481/djph.2023.08.011
- Dongen, L. V., Hafsteinsdóttir, T. B., Parker, E., Bjartmarz, I., Hjaltadóttir, I., & Jónsdóttir, H. (2021). Stroke survivors' experiences with rebuilding life in the community and exercising at home: A qualitative study. Nursing Open, 8(5), 2567-2577. https://doi.org/10.1002/nop2.788

 Fini, N., Bernhardt, J., & Holland, E. (2022). Types of physical activity performed pre- and post-stroke. Brazilian Journal of Physical Therapy, 26(3), 100412.

 https://doi.org/10.1016/j.bjpt.2022.100412
- Hellicar, L. (2023, April 18). Diet for stroke patients. Medical News Today. Retrieved from https://www.medicalnewstoday.com/articles/diet-for-stroke-patient
- Hickey, J. V., & Strayer, A. L. (2020). The clinical practice of neurological and neurosurgical nursing (8th ed.). Lippincott Williams & Wilkins. 0
- Holland, K. (2023). Can stress cause a stroke? Retrieved from https://www.healthline.com/health/stroke/can-stress-cause-a-stroke Lin, C. (2021). Stroke and diets a review. Tzu Chi Medical Journal, 33(3), 238. https://doi.org/10.4103/tcmj.tcmj 168–20
- Murphy, S., & Werring, D. (2020). Stroke: Causes and clinical features. Medicine, 48(9), 561-566. https://doi.org/10.1016/j.mpmed.2020.06.002
- Wang, D., Yao, J., Reijnierse, Y., & Maier, A. (2019). Muscle mass, strength, and physical performance predicting activities of daily living: A meta-analysis. Journal of Cachexia, Sarcopenia and Muscle, 11(1), 3-25. https://doi.org/10.1002/jcsm.12502
- Wang, H., Sun, J., Sun, M., Liu, N., & Wang, M. (2022). Relationship of sleep duration with the risk of stroke incidence and stroke mortality: An updated systematic review and doseresponse meta-analysis of prospective cohort studies. Sleep Medicine, 90, 267-278. https://doi.org/10.1016/j.sleep.2021.11.001