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An Analysis of the Use of Music as Stroke Therapy Among the Congregation of GBI Victory Poris Indah

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Abstract

This research aims to analyze the use of music as a therapeutic intervention in the stroke recovery process of a pastor from GBI Victory Poris Indah, who served as the main subject (HK). Stroke is a neurological disorder that not only affects physical function but also causes psychological problems such as anxiety, stress, and reduced quality of life. This research employs a qualitative approach with a narrative descriptive design. Data were collected through in-depth interviews, observations, and documentation involving three informants, including the main subject and two companions during the recovery process. The findings reveal that HK unconsciously applied music therapy through three main activities: listening to spiritual and instrumental music, singing combined with breathing exercises, and writing as well as composing song lyrics. These activities were performed consistently every day during the post-stroke recovery period. The results indicate positive changes in emotional, physiological, and cognitive conditions, including reduced anxiety levels, improved emotional stability, enhanced speech function, and gradual recovery of motor abilities. Theoretically, the findings support the concept of brain neuroplasticity, which suggests that repeated stimulation such as music can promote the formation of new neural connections in damaged brain areas. Moreover, music acts as a positive distraction that reduces sympathetic nervous system activity. Therefore, music can be considered a potential non-pharmacological intervention that supports independent and holistic stroke rehabilitation.

INTRODUCTION

Stroke or *cerebrovascular* disease is one of the main causes of death that occurs in all hospitals (RS) in Indonesia with a percentage of 15.4%. Stroke is a serious health problem and requires further treatment. Because stroke still ranks at the top as a disease that affects a person's psychological condition.

According to World Health Organization (WHO) data in 2016, stroke can cause deaths, which are expected to continue to increase and are the second leading cause of death after heart disease. This fact gives the fact that stroke is a dangerous disease and tends to give rise to many negative feelings and thoughts in the sufferer, such as excessive anxiety (Tobi et al., 2021).

Overcoming anxiety problems experienced by stroke patients requires interventions that can help reduce the level of anxiety. Non-pharmacological treatment is an alternative that supports the psychological well-being of patients, especially methods that are easy to implement, safe, and can increase comfort during the treatment process.

Music is one of the nursing interventions contained in the Indonesian nursing documentation standards that are used to overcome anxiety, pain, mood (*mood*) (Murtini, 2024; Syareza et al., 2018).

Music therapy is effective in reducing symptoms of depression in patients with a variety of medical diagnoses and different ages. This effectiveness arises because music is able to affect the limbic system in the brain the part that regulates emotions, motivation, and mood (Singer N, 2016) When a person listens to music, there is an increase in the production of neurotransmitters such as dopamine and serotonin which play a role in creating a sense of comfort and reducing stress. In addition, music can provide a positive distraction so that patients focus less on negative thoughts or feelings of distress that usually arise after a stroke.

A strong rhythmic stimulus embedded in music can improve motor performance more effectively than a rhythmic stimulus without music. When the brain receives a stable rhythm, motor areas in the brain such as the motor cortex and basal ganglia become activated, resulting in more regular, strong, and coordinated movement. This explains why music therapy is more effectively used to improve motor function in stroke patients (Aida & Riana, 2019; Wulandari et al., 2023).

Music therapy is very effective in improving cognitive function because it affects the work of the left brain and the right brain. This means that humans have the ability to process all the elements of music, (melody, harmony, rhythm) that are heard and felt.

Music managed by the brain produces changes in the physiological system (Meyer 1956). Much more than just being listened to, music can automatically greatly affect the human physiological system. The sound stimulus produced by music, makes neurons in the brain work and produces *electrical field potentials*, which are useful for controlling the body's automatic functions, such as heart rate, blood pressure, and breathing through signals sent by the brain to various parts of the body (Haryani & Romayati, 2021; Puspitasari & Nadhirah, 2020).

Music can reach different parts of the brain because the auditory system is closely related to other sensory areas. This suggests that various brain functions including hearing, vision, movement, touch, balance, and proprioception or body awareness are affected by music and are all actively interacting (Musacchia & Khalil, 2020) .

Based on some previous research, it can be concluded that humans process music in the following ways: ears – feelings – thoughts. The music heard by the human ear, enters into the human feelings which are managed by the brain (Maulita et al., 2022). This happens because emotional feelings are the result of the awakening of the cortex and the sympathetic nervous system (Nugraha et al., 2024).

The statement that music can affect the working system of the human brain is the basis for why music therapy is effective as a medium for healing a person, as stated by Hartanti (2023), several studies have suggested that music therapy can provide positive results in improving function and reducing symptoms of schizophrenia in patients (Lestari, 2024).

This is related to a testimony delivered by Mr. Hendra Kasenda (HK), the pastor of GBI Victory Poris Indah. HK was 50 years old when he suffered a stroke in July 2023. At that time,

HK was in Pasuruan, East Java. At the time of the incident, the availability of facilities and medical personnel was limited so that HK did not immediately receive formal medical treatment. In this state of uncertainty, HK chose to listen to music all day to calm his feelings because from head to leg the left side suddenly couldn't be moved.

The symptoms felt by HK at that time were very diverse and appeared suddenly. The first symptom experienced was sudden weakness in the left body, where HK had difficulty moving all parts of the left body, from the head (mouth), left hand, to the left leg, which made it difficult to stand upright. The second symptom is difficulty speaking; HK's wife who accompanied him in Pasuruan was shocked when she heard that her husband suddenly became "pelo" and found it difficult to compose words, and HK also experienced delays in responding to conversations. The third symptom felt was tingling and numbness, where in the initial phase, HK felt tingling on the left face, left hand, and left leg. The fourth symptom is severe dizziness and loss of balance; HK reported sudden dizziness and a feeling of spinning so he had to sit up immediately, as this instability made it difficult to walk suddenly. The fifth symptom is a sudden headache, which HK describes as a very strong headache that appears suddenly and occurs intensely in the first days of having a stroke. The sixth symptom is a decrease in concentration; HK's wife, who was confused by the sudden changes her husband experienced, became even more confused because she had difficulty communicating with HK, and it was discovered afterwards that HK had a difficult phase of focus and felt like "absent-minded", although not to the point of losing consciousness completely. The seventh and final symptom is difficulty swallowing, where HK feels sluggish when drinking and swallowing food on the first day after the symptoms appear.

Before the stroke occurred, HK and his wife had been in East Java for 5 days, and every day carried out very dense activities, namely from 06.00-23.00. When HK's wife found out that her husband had a stroke, she was confused because throughout HK's life, she did not even want to be taken to the hospital, plus HK was not able to give a good answer because his concentration decreased and his voice became "sloppy".

In the weeks when HK was struggling with a stroke, HK tried to create a lot of song lyrics, then with the help of *Artificial Intelligence* the lyrics he made into a song. The finished song, was listened to and sung by HK intensely during his stroke. Unbeknownst to HK, the process of listening, singing, and making music that he does is part of music therapy that is able to recover him from a stroke.

HK's experience of successfully recovering from a stroke that he felt due to the process of listening, singing, and making music, made the researcher interested in researching more deeply how the recovery process that HK carried out with music activities. In this study, the researcher will analyze how the use of unconscious music becomes therapy for HK recovery.

Based on the background that has been described, this study formulates one main problem, namely how can the process of using music carried out by HK function as music therapy in recovery after a stroke? This study aims to analyze in depth the process and form of HK's involvement in musical activities including listening, singing, and making songs and how these activities function as music therapy in the post-stroke recovery process that he experienced. This research is expected to provide benefits both theoretically and practically. Theoretically, this research is expected to enrich the scientific treasures, especially in the fields of music therapy and medical rehabilitation, as well as contribute to the development of

interdisciplinary studies between music, psychology, and health. Practically, the results of this study are expected to be information and reference materials for stroke patients, families, health workers, and the general public regarding the effectiveness of the use of music as independent therapy that can support the recovery process. In addition, this research is also expected to be an input for pastors and church leaders in utilizing music as a means of service and recovery for congregations experiencing similar conditions.

METHOD

This study used a qualitative research methodology. Qualitative research is a research method to explore and understand the meanings that come from individuals and groups regarding social problems or individual problems (Saputra, 2022).

Qualitative researchers try to interact with their research subjects naturally. The research is intended to describe events as they occur naturally through the collection of data which is then presented in the form of sentences (descriptive) (Istiningsih, 2016).

The type of research used in this article is a type of descriptive narrative. Descriptive qualitative research is seen as appropriate because it allows researchers to explore individual meanings, perceptions, and experiences in a real context without outside intervention (Sitinjak et al., 2018). Through this type, the researcher analyzed in detail the use of music as a therapeutic method by HK, the GBI Victory Poris Indah Shepherd.

According to the process of data analysis in qualitative research, it is a process of uniting data, making something unclear clear, the process of connecting words or parts of a sentence, the process of estimation and verification, the process of correlation and modification, the process of suggesting and defending (Surya et al., 2025).

The subjects in this study consisted of 3 people, namely one GBI shepherd Victory Poris Indah (HK), who had a stroke, and two people who accompanied HK from a stroke until the recovery process ended, as a form of verification. Informants are selected using the *purposive sampling,* namely the selection of research subjects based on certain considerations according to the research objectives (Rahmad Surya, 2025). The study's main research subject had had a stroke in 2023, and unknowingly used music as therapy for his recovery.

The object of this study is the subject's experience during the course of facing stroke until recovery. This focus is taken to illustrate how the role of music works and affects the human physiological system.

Data collection was carried out by: in-depth interviews, observations, and documentation. The data that has been collected is then analyzed by: data reduction, data presentation, and conclusion drawn, which is combining data in the field with previous studies and theories.

Using this type of descriptive narrative research, the researcher describes or explains in depth the reasons why music is able to be a therapy in the healing process of the research subject. In addition, the author wants to improve the reader's understanding of the subject's condition in detail.

RESULTS AND DISCUSSION

Based on the results of interviews with 3 interviewees (HK who had a stroke, and 2 people who accompanied HK from a stroke until the recovery process ended), it can be seen that HK consistently performs three forms of musical activities, namely:

Listening to songs and Breathing exercises

The songs chosen by HK are spiritual and instrumental songs with a slow tempo (60-100 bpm). This activity is consistently carried out every day, with min. duration 120 minutes.

For months since he suffered a stroke (even now), listening to music has become a regular habit that HK does. Because in his opinion, the level of anxiety he experienced slowly decreased and there were significant mood swings before and after HK listened to music.

When listening to songs, usually HK also practices breathing. HK conducts regular breathing exercises using breathing techniques that he learned from Dr. Ir. Jarot Wijanarko. HK consistently did this activity every day, 60 minutes in the morning, 60 minutes at night, and every pain started to appear.

HK always prepares two *devices*, one to play Dr. Ir. Jarot W.'s YouTube videos and the other to listen to songs. Because this exercise is done at the same time as the activity of listening to songs and for HK this exercise has been proven to help stabilize the heart rate and lower body tension.

Dr. Jarot is known to teach the concept of *Conscious Breath* (conscious breathing) and *diaphragm breathing exercises*, which focuses on delivering oxygen more optimally, improving circulation, and activating the body's relaxation system. HK then practiced this technique consistently when he had a stroke until now.

This breathing exercise activity is carried out by regulating the rhythm of the breath, by: breathing is slower, exhalation is longer, is carried out with full awareness, according to the second directions given in each video.

Without HK realizing it, his habit of listening to songs and breathing exercises is a form of therapy for stroke recovery, because according to previous research, the administration of music supports post-stroke rehabilitation, and can be used as one of the independent nursing interventions.

Singing & Reading

HK sang a simple hymn while doing breathing exercises. HK is consistent every time he hears a song with lyrics. This is in line with research that music and more specifically singing is not only an emotional activity but also a physiological activity. Lussy (2023) states that singing regulates the rhythm of breathing, stabilizes the heart rate, and lowers stress hormones.

Singing activities stimulate: increased blood oxygenation, decreased muscle tension, stability of heart rhythm. This improves circulation to the brain, which is especially important for stroke patients who have impaired blood supply to the central nervous system.

When HK sang, he did it while reading the lyrics of the song that was being played. In addition to reading the lyrics of the song, he also reads several (erratic) Bible verses every day, with a loud voice and strives to pronounce each word with good articulation. According to HK, reading the lyrics and reading the Bible helped him to restore the function of his tongue and mouth, so that his speech slowly returned to normal and was no longer "sloping".

Create song lyrics

After 3 weeks from the first day of having a stroke, HK wrote lyrics based on his spiritual experience when facing a stroke. The song that was created was then heard and sung again as much as possible. After recovering from a stroke, HK remained consistent in composing song lyrics, singing, and listening to songs to this day.

HK's experience writing song lyrics while he was in the process of recovering from a stroke, is in line with the concept of songwriting therapy, which according to Baker & Tamplin (2017) helps strengthen Ílingual, cognitive processing, and emotional regulation in patients with brain injury. Because making song lyrics involves: memory, language, creativity, and self-reflection.

In HK, this activity functions as a cognitive stimulation that supports brain neuroplasticity, which is the brain's ability to form new connections after experiencing damage. This is in line with the findings of Yuliana (2024) that neuroplasticity is strengthened through repetitive stimulation, including musical activities.

Songwriting also strengthens identity and provides a sense of self-control over stroke trauma, as found in *songwriting therapy* research. HK also said that through these songs, he felt that he had hope for recovery.

After suffering a stroke in 2023 in Pasuruan and not getting adequate medical access, HK chose to do independent therapy through music activities. He is intensely and consistently involved in listening to spiritual songs, singing, and writing song lyrics.

HK's independent use of music is very relevant to the theory that music is able to affect the limbic system, which is the center of emotions, motivation, and stress in the brain. Singer (2016) stated that listening to music increases dopamine and serotonin which function to reduce anxiety.

This is consistent with HK's experience of feeling calm and reduced fear every time he listens to a spiritual song or song of his creation. Music functions as *an emotional regulator* that lowers the activity of the sympathetic nervous system which is usually increased by stroke. Music is a positive distraction and helps reduce HK's focus on negative thoughts about stroke.

In other words, a few days after having a stroke, HK had difficulty focusing and felt weak. Listening to music repeatedly has been shown to help HK's recovery. The regularity of the rhythm of the songs he listens to stimulates the internal rhythm of the body, while the content of the spiritual lyrics provides emotional strength.

Within three months, HK showed significant development, namely body strength recovered. HK was able to return to walk and move his left hand after previously experiencing paralysis on his left body. Complaints of dizziness and weakness of the limbs decreased drastically. HK's speaking ability is also slowly improving. HK was also able to return to service activities.

CONCLUSION

Based on the results of the research on HK's experience in dealing with and recovering from a stroke, it can be concluded that the use of music has a significant role in the recovery process. Music unknowingly became a form of therapy that HK carried out independently through the activities of listening to spiritual songs, singing, and writing song lyrics. The

musical activity works simultaneously on emotional, physiological, and cognitive aspects so that HK's body can recover.

HK's experience shows that music not only serves as entertainment, but also as an effective therapeutic medium. Music works much deeper for the human physiological system. Thus, the use of music in the case of HK shows that music therapy can be an alternative to independent therapy that is beneficial for the recovery of stroke patients.

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