The Effect of Al-Qur'an Recitation as Systematic Audio Therapy on Patients with Neurodegenerative Progressive Supranuclear Palsy (PSP): A Review

Nur Rohim Suryo¹, Muhammad Hisyam Syafi’I²

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The Effect of Al-Qur'an Recitation as Systematic Audio Therapy on Patients with Neurodegenerative Progressive Supranuclear Palsy (PSP): A Review

Nur Rohim Suryo¹, Muhammad Hisyam Syafi’i²
Universitas Muhammadiyah Yogyakarta¹,²
rohimsuryo@gmail.com¹
m.hisyam.fai20@mail.ac.id²

Abstract: Al-Quran, as the holy book in the Islamic religion, is not only a spiritual guide but also has a significant psychological impact on the individuals who read it. The Koran offers ethical and moral guidance and covers profound psychological aspects. Its influence is not only limited to religious aspects but also deepens humans' understanding of themselves and their environment. Neurodegenerative disorder refers to a process or condition where nerve cells in the central nervous system (i.e., brain and spinal cord) experience progressive damage or death. The damage leads to decreased cognitive function, behavioral changes, and motor disorders. The present study aims to provide an overview of the effect of listening to Al-Quran recitation as an intervention on neurodegenerative progressive supranuclear palsy (PSP) subjects. The current research used a literature review approach by collecting credible sources in books, scientific articles, documents, and previous research. The findings of this study illustrate that systematic Al-Quran intervention resulted in positive psychological and physiological benefits, especially on the brain’s nerves. Thus, frequent, and further medical assistance is imperative for patients with PSP.

Keywords: Al-Quran, neurodegenerative supranuclear palsy, physiological, Islamic psychological
A. Introduction

The Holy Qur'an or Al-Qur'an, the holy book of the Islam religion, not only acts as a spiritual guide but also significantly affects the psychological aspect of the readers. Al-Qur'an offers ethical advice with moral values and summarizes psychological elements in depth. The impacts are not strictly in the religious values but also in individuals' knowledge of themselves and their environment. As the source of inspiration and guidance, Al-Qur'an contains a plethora of verses discussing psychological concepts, including inner peace (Sakinah), patience (sabr), and hope (rajaa). Al-Qur'an passages play a major role in shaping an individual's psychological barrier to survival. Moreover, moral counseling in Al-Qur'an can assist people in resolving internal conflicts and building stronger emotional stability.

The Muslim people have found therapeutic effects in Al-Qur'an verses for centuries. The healing impact of Al-Qur'an helps absorb the spiritual dimension and find psychological solutions in various conditions and life situations. Therefore, understanding the effect of Al-Qur'an in psychological perspectives is becoming more critical to unfolding new knowledge regarding mental welfare and emotional stability in human beings. Developing awareness of Al-Qur'an's psychological impact is expected to positively contribute to escalating the psychological welfare of Muslim people and the overall human being. In addition, Al-Qur'an showed beneficial psychological and medical influence after evaluating the meaning, pronunciation, and content of the Al-Quran medically (Al-Jubouri, 2021).

In medical terms, neurodegenerative refers to the process or condition where nerve cells in the central nervous system (brain and spinal cord) are damaged, consequently leaning towards death. Medical conditions can cause cognitive function, behavior change, and motor disorders. Neurodegenerative syndromes lead to irreversible nerve system impairment, which is progressively getting worse over time. Several examples of this disease are Alzheimer's, Parkinson's, Amyotrophic Lateral Sclerosis (ALS), and Huntington's syndromes. Factors contributing to neurodegenerative development include inflammation, oxidative stress, and abnormal protein accumulation in the brain. Neurodegenerative diseases are associated with genetic heterogeneity, pathology, and clinical manifestation. Several treatments to alleviate the syndrome based on data neuroimaging have been applied to investigate neurodegenerative disorder subtype in reducing heterogeneity. Most frequent reviews analyze subtypes of brain representatives, such as Alzheimer's, mild cognitive disorders, frontotemporal dementia, and Lewy body dementia (Chen, 2024). Based on the study by Borsek (2023), supranuclear palsy is a sporadic, atypical Parkinson syndrome along with unresponsive levodopa-resistant axial Parkinsonism, early postural instability, vertical supranuclear visual palsy, dysarthria, executive dysfunction, and behavioral changes. Neurodegenerative disorders are commonly followed by other symptoms such as artery diseases, mild cognitive disorders, and other medical symptoms relating to drug use.

Neurodegenerative syndromes are an accumulation of disorders that disrupt the nerve cells in the central nervous system and cause physiological function deterioration, particularly in rigidity disorders (muscle-related disorder) and motoric disruption. The
damage of the disease affects the patient's physiological and psychological well-being. From a psychological perspective, neuron nerve cell damage reduces the brain's ability to control movement, memories, and other cognitive functions (Culig, 2022). The damages can cause loss of motor skills, speech difficulty, and behavior changes. Meanwhile, psychological damages of the syndromes consist of emotional stress, anxiety, and depression due to the drastic change in cognitive life quality that can lead to dementia, aphasia, agnosia, and apraxia. Individuals with degenerative disorders will have difficulties in adapting to the change and bear the burden of self-identity and independence loss. Psychological and social support are crucial in assisting patients with stress management and maintaining their mental health. In-depth comprehension of the neurodegeneration impact on physical and mental health as an alternative holistic therapy and constant treatment of patients should be investigated. Most neurodegenerative syndromes such as Alzheimer's, Parkinson's, and ALS have no appropriate medical treatment solution.

Nevertheless, continuous efforts in research to explore the cause and mechanism of the disease have been made, as well as investigations into potential therapy. Current medical approaches are focused on symptom management, progression, and delay in the life quality increase of individuals with neurodegenerative disorders. Pharmacological therapy involving medications can be found in the use of anticholinesterase for Alzheimer's and dopamine-increasing drugs for Parkinson's (Sudhakar, 2019). In addition, physical and occupational therapy is integral to increasing muscle strength, balance, and coordination in neurodegenerative patients.

In some cases, hormonal therapy can be applied to alleviate hormonal deficiency caused by the disorder. Additional nutrient supplementation is imperative in several disorders to maintain nutrient balance, as seen in individuals with ALS and other neurodegenerative disorders. Mental health treatments such as therapies and medical treatments to alleviate anxiety and depression can enhance life quality. From the neuroscience perspective, delta waves (0.5–4 Hz) on brain function are crucial for the health stability of human beings. The state of brain function within the delta waves range indicates an intervention alternative for people with neurodegenerative supranuclear palsy (PSP) to alleviate the severity level. Other non-medical treatments, such as religious coping, can be considered. Thus, the current study aimed to review spiritual interventions on individuals with neurodegenerative supranuclear palsy using Al-Qur'an recitation as audio therapy in a theoretical and practical manner.

B. Research Method

A literature review study involves investigation, comprehension, and analysis of several relevant references or literature discussing a specific research topic. A detailed research framework, improved comprehension, and a more substantial theoretical research background can be obtained using this method (Booth, 2016). A literature review collected data through selected repositories and databases such as academic databases, digital libraries, and other sources that store articles and in-depth knowledge about the research topic.
The literature sources were selected based on criteria to ensure the information's relevance, credibility, and quality. After obtaining the data, each source was analyzed to extract their findings, theory, and concept related to the topic research. The analysis process consists of data categorization and summarization, pattern or trend identification, and detailing perspectives or contradictions that might be found in the literature. The result was organized into a solid theoretical base to form a detailed research framework and firm fundamentals for determining research questions or hypotheses. Combining the findings from various literature provides an in-depth understanding of the research topic and contributes to widening knowledge of a specific topic. In the current study, descriptive analysis was employed to collect and manage data for further analysis (Creswell, 2018). The descriptive analysis contains sentences, figures, topics, and aims instead of numbers. In general, the analysis was a data analysis technique to describe and explain different points of view, referring to the descriptive analysis techniques, which can also determine the observed characteristics and assist in determining the trend or pattern appearing from the data (Creswell, 2018). Intern criteria of sources in this study were published within the last five years (2018-2023), international (written in English) and national (written in Bahasa Indonesia) scientific articles with research subjects of individuals with PSP or applying systematic therapy approach by listening to Al-Qur'an recitation.

The sources were searched using keywords through the database and repositories of ScienceDirect, PubMed, and ResearchGate (n=982), and removing duplicated papers (n=503). Then, the sources were filtered according to the criteria of controlled clinical trial phase II (n=10). All selected journals were reviewed thoroughly to fit the inclusion criteria (n=10). A total of ten international research articles written in English were obtained from PubMed (n=9) and ScienceDirect (n=1) databases. There were 52 excluded articles with no association with the research topics or no discussion relating to the current study.

C. Result and Discussion

Table 1. Results of Journal Analysis

<table>
<thead>
<tr>
<th>Authors, Publishing year</th>
<th>Journal title, Volume, Issues</th>
<th>Title of article</th>
<th>Method (Design, Sample, Variable, Instrument, Analysis)</th>
<th>Result</th>
<th>Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Wei Gao 1, 2020)</td>
<td>JAMA Newt Journal Page 201, Volume 3, Issue 8</td>
<td>Effect of Short-term Integrated Palliative Care on Patient-Reported Outcomes Among Patients Severely Affected With</td>
<td>D: Multicenter, Clinical trial, Phase 3 S: Clinical Trial Controlled Sampling with 535 respondents V: Effectivity of short-term, integrated palliative care (SIPC) intervention on long-</td>
<td>The findings of the study shows statistical insignificant difference on SIPC compared to other basic treatments. However, several side effects were</td>
<td>PubMed</td>
</tr>
<tr>
<td>No.</td>
<td>Authors</td>
<td>Journal/Publication</td>
<td>Study Details</td>
<td>Results</td>
<td>Source</td>
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<tr>
<td>1.</td>
<td>Suryo, N.R. &amp; Syafi’i, M.H.</td>
<td>Long-term Neurological Conditions: A Randomized Clinical Trial</td>
<td></td>
<td>Long-term neurological conditions (LTNC) subjects reported (-0.16: 95% CI, -0.37 to 0.05) in patients with LTNC.</td>
<td>E ISSN: 2828-3961; P ISSN: 2827-9794</td>
</tr>
<tr>
<td>2.</td>
<td>(Keith A. Josephs, 2021)</td>
<td>Journal Nature Communications</td>
<td>A molecular pathology, neurobiology, biochemical, genetic, and neuroimaging study of progressive apraxia of speech</td>
<td>The study reported different connections within cortico-striato-pallido-nigro-luysial network. After biochemical analysis, 4R-tau aggregates H1 frequency (69%) was significantly lower than 1000-tauopathy 4R through autopsy.</td>
<td>PubMed</td>
</tr>
<tr>
<td>3.</td>
<td>(Natalie E Adams, 2021)</td>
<td>Brain Journal</td>
<td>GABAergic cortical network physiology in frontotemporal lobar degeneration</td>
<td>GABA concentration and function changes were observed after the causal potential study concept of bvFTD and PSP patients. It was highly recommended that the treatment of neurophysiologic al restoration and neurotransmitter deficit reduction be continued.</td>
<td>PubMed</td>
</tr>
<tr>
<td>4.</td>
<td>(Gabor G Kovacs, 2020)</td>
<td>Acta Neuropathologica Journal, Volume 140, Issue 2, Pages 99-119.</td>
<td>Distribution patterns of tau pathology in progressive supranuclear palsy</td>
<td><strong>A:</strong> GABA (γ-aminobutyric acid) clinical analysis</td>
<td>The study reported the effects on initial pathological events, which has implications for comprehension of the dynamics of clinical subtypes and informing distributed tau-neuroimaging.</td>
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<tr>
<td>5.</td>
<td>(Wan Nor Atikah Che Wan Mohd Rozali, 2022)</td>
<td>American Journal of Pharmaceutical Education Issue 5, Pages 747-751</td>
<td>The Impact of Listening to, Reciting, or Memorizing the Quran on Physical and Mental Health of Muslims: Evidence From Systematic Review</td>
<td><strong>A:</strong> conditional probability and logarithmic regression, sequential pathological distribution</td>
<td>Listening, reciting, reading, or memorizing the Al-Quran showed beneficial effects on people with depression, anxiety, and physiological parameters. The effects were seen on people with brain neuron disorders' quality of life and intellectual</td>
</tr>
<tr>
<td></td>
<td>(Mohammad Abdalla Kannan, 2022)</td>
<td>Heliyon Journal, Volume 108, Issue 12</td>
<td>A review of the holy Quran listening and its neural correlation for its potential as a psycho-spiritual therapy</td>
<td>D: Quranic Chill S: non-sampling V: low nerve oscillation frequency (alfa and theta) as nerve correlation I: electroencephalography (EEG) and magnetoencephalography (MEG) intervention A: narrative reviews</td>
<td>The effect of nerve parameters correlation was found, particularly after the EEG and MEG analyses of the alfa and theta frequencies. The verses of the Al-Quran have certain rhythms that activate the brain parts, similar to therapeutic effects with an excellent rhythmical sense.</td>
</tr>
<tr>
<td></td>
<td>(Mahsa Vaghefi, 2019)</td>
<td>Journal of Medical Signals and Sensors, Pages 100-110, Volumes 9 Issues 2</td>
<td>Nonlinear Analysis of Electroencephalogram Signals while Listening to the Holy Quran</td>
<td>D: Holy Quran Intervention S: volunteer sampling with 47 Muslim participants V: the impact of listening to Al-Quran recitation on the electrical activity of the brain I: electrochemical signal and EEG measures A: nonlinear EEG signals observations using parameters of sample entropy, Hurst exponent, and detrended fluctuation analysis</td>
<td>The study reported that Al-Quran recitation audio therapy increased awareness of approximate and sample entropy and intentionally reduced brain signal correlation toward complexity and brain dynamics.</td>
</tr>
</tbody>
</table>
**S:** controlled group with 32 participants  
**V:** the impact of Al-Quran listening on neonatal physiological response  
**I:** neonatal physiological response intervention  
**A:** intensive neonatal clinical trial | The findings of this study showed a significantly lower neonatal respiration rate in the intervention group during the treatment ($P < 0.001$). The results displayed a significantly higher average percentage of neonatal oxygen saturation in the treated group during ($P < 0.001$) and ten minutes after intervention ($P = 0.018$). The results indicate that average neonatal aortic pressure was significantly lower in the intervention group after ten minutes of intervention ($P < 0.01$) | ScienceDirect |
| 9. | (Hadi Akbari, 2021) | Journal of Medical Signals and Sensors, Volume 12, Issue 1, Pages 48-56 | Evaluating the Effect of Quran Memorizing on the Event-related Potential Features by Using Graphs Created from the Neural Gas Networks | **D:** The effect of P300/N200 component design analysis  
**S:** Controlled, two groups  
**V:** The difference between neural gas (NG) and growing neural gas (GNG) networks towards  
**A:** | The increase in the low-frequency component power and the ratio of low-frequency components to high-frequency components in people who memorize, representing | PubMed |
Event-related Potential (ERP) signals of brain recovery phase

I: The NG and GNG networks trained by features extracted from the ERP signal recorded from two groups during the pattern recognition memory (PRM) test

A: Extracting six features regarding the strength and complexity of signals to determine the optimal channel of each feature using t-test analysis. Afterward, the obtained features from the most optimum channel were applied to develop NG and GNG networks.

B: Extending the results of the previous study, these findings indicate that the optimal channels in different features are often located in the frontal, peritoneal, and occipital regions with significant differences (P <0.05).

10. (M.L. Dale, 2023) Contemporar y Clinical Trial Communicati ons Journal, Volume 35, Pages 1-7 C-STIM: Protocol for a randomized, single-blind, crossover study of cerebellar repetitive transcranial magnetic stimulation (rTMS) for postural instability in people with progressive supranuclear palsy (PSP)

D: Transcranial magnetic stimulation (TMS) modulation

S: Controlled-group study with intervention during extensive posturography with 30 respondents

V: Small brain modulation using TMS to reduce postural instability in PSP patients

I: Crossover C-STI
As the holy book of Islam, Al-Qur'an contains a spiritual value and significant medical and psychological benefits. Regarding medical treatment, reading or listening to Al-Qur'an positively influences physical health. According to Ibrahim (2017), the holy Koran showed an inducting aspect approach to psychologically and physiologically alleviating pains and diseases through spiritual and complementary medication. The study implies that listening or reading Al-Qur'an verses reduces stress and blood pressure and increases the immune system. Additionally, Al-Qur'an recitation audio therapy can be an effective relaxation treatment to decrease insomnia symptoms and enhance sleep quality, resulting in nerve function in the human brain. A similar study by Hulliyah (2023) reported that using recurrent neural network analysis, listening to Al-Qur'an showed 67% pike s with pike after the treatment showed accuracy of 51-60% while treatment with normal pike s showed high accuracy (78%). The values obtained indicate the significant effect of Al-Qur'an's recites audio therapy.
Psychologically, Al-Qur'an contains moral guidance and spiritual values that can form a stable and balanced personality. Reading and reflecting on Al-Qur'an verses can give inner peace, improve patience, and support individuals with mental stress and anxiety. The concept of affection, justice, and forgiveness in Al-Qur'an can also be a motivation and optimism for individuals with various life challenges. Thus, the medical and psychological advantages of the interaction with Al-Qur'an do not strictly belong to the spiritual aspect but also involve maintaining a holistic balance between body, mind, and soul.

A study by Arina Qolizadeh (2019) found that neonate respiratory rate was significantly lower in the intervention group during the treatment of Al-Qur'an recites audio therapy ($P < 0.001$). Meanwhile, the average percentage of oxygen saturation was significantly higher in the intervention group during the treatment ($P < 0.001$) and ten minutes after the intervention ($P = 0.018$). The results indicate that the neonate's arterial pressure ten minutes after the treatment was significantly lower in the intervention group ($P < 0.01$). Therefore, Al-Qur'an showed medical and psychological benefits. According to the Hadith by Abu Musa Al-Ash'ari, the prophet Muhammad SAW said:

"The one who is proficient in the recitation of the Qur'an will be with the honorable and obedient scribes (angels), and he who recites the Qur'an and finds it difficult to recite, doing his best to recite it in the best way possible, will have two rewards (HR. Bukhari dan Muslim)."

The audio therapy of Al-Qur'an recites results in significant advantages in the brain neurons. Modern neuroscience research reported that regularly listening to Al-Qur'an verses affects brainwaves and neuron activity. Audio therapy of Al-Qur'an recites triggers the human brain to produce alpha waves, generally associated with relaxation and high-concentration states. Hence, listening to the Al-Qur'an recite can create a spiritual calmness, positively impact brain neuron activity, and benefit an individual's mental and emotional health. According to the research by Vaghefi (2019), the audio therapy of Al-Qur'an recites consciously increases approximate and sample entropy. At the same time, the treatment can reduce self-similarity and correlation of brain signals, towards increasing complexity and dynamicity in the brain.

Additionally, listening to the Al-Quran can have a positive emotional effect, especially on the human brain's frontal alpha asymmetry (FAA) index. Therefore, based on the benefits reported in multiple studies, intervention using Al-Quran recite audio therapy is an alternative solution to treat PSP patients. Based on previous data analysis, listening to the murratal of the Koran showed positive impacts on memory skills caused by the repetition of reciting. The FAA index was measured using the absolute power data obtained from electroencephalography (EEG) after calculating the natural logarithm (ln right alpha power subtracted with the ln left alpha power) of the F8 channel and F7 channel. The results indicated that most participants showed positive FAA indices in almost all tasks. The FAA indices of the various tasks were not significantly different from each other ($P = 0.592$).

The Al-Quran has a significant role in human physiological health by providing guidelines and recommendations to support a healthy lifestyle. The Koran contains information about halal food's beneficial effects on the body and teaches the concepts of
hygiene and self-care. For example, the Koran emphasizes the importance of halal food, which can support physical health. In addition, several verses of the Koran contain prayers about safety and health, as seen in the Surah Al-Fatihah (1:6-7), where Muslims can recite the verses to pray that Allah SWT will guide them to follow the correct path and avoid the wrong way that can trigger the wrath of Allah SWT. The prayers in Al-Qur'an reflect an awareness of the importance of physiological and spiritual health.

Progressive Supranuclear Palsy (PSP) is a neurodegenerative disease that affects the brain, particularly the basal ganglia and brain stem. The disease belongs to the group of atypical parkinsonism disorders, indicating similar symptoms with Parkinson's disease, with several significant differences during the development stage. The symptoms similar to Parkinson's include muscle stiffness, walking difficulty, and movement coordination problems. PSP is concerned with the progressive damage to nerve cells in the brain, especially in the area that controls eye movement (supranuclear) and causes vision and balance problems. Individuals with PSP may also experience speaking impediments, swallowing troubles, and changes in cognitive function. There is no medicine to cure PSP, and the currently available treatment is for symptom management. The diagnosis of PSP is based on observing clinical symptoms and supporting examinations, such as brain imaging (Morgan Fish DO, 2023).

The PSP is a rare brain disorder that causes severe problems such as gait disorders, balance dysfunction, eye movement issues, and dysphagia. The disease was caused by brain cell damage, which controls body movement, coordination, and cognitive function, among other crucial body functions. Also known as the Steele-Richardson-Olszewski syndrome, PSP gradually gets worse over time and results in life-threatening complications, including pneumonia and oropharyngeal dysphagia. At present, there is no cure for PSP disorder (Clinic, 2022), and treatments are focusing on symptom management, which include:

1. Loss of balance during walking. The tendency for deterioration can be found during the early stages.
2. Eye coordination disorders, such as horizontal eye movement impairs or double and blurred vision. The inability to focus can cause the patients to spill their food or appear uninterested in conversing due to poor eye contact.

The additional symptoms of PSP are varied yet similar to patients with Parkinson's and dementia. The condition generally will get worse over time and include:

1. Stiffness (especially in the neck area) and awkward movement,
2. Poor balance, leading to falling vulnerability, particularly backward falls,
3. Speaking slowly or unclearly,
4. Dysphagia or swallowing problems, which can lead to choking,
5. Light sensitivity,
6. Sleep disorders,
7. Loss of interest in entertainment activity and
8. Impulsive behaviors, such as sudden unreasonable laughing or crying.

According to a study (Wodwaski, 2023), factors causing PSP syndromes include:
1. Genetic factors: although PSP is not an inherited genetic disease, several genetic factors can contribute. Several cases found that there is more than one family member has PSP, which implies that genetic factors can increase the risk of having PSP.

2. Protein degradation: accumulation of abnormal tau-protein is found in the brain of individuals with PSP. Tau protein contributes to normal nerve cell structure formation. However, in PSP patients, the protein experiences misfolding and aggregates to destroy nerve cells.

3. Inflammation and immunological factors: several studies found a relation between inflammation and body immune system factors in the progression of PSP. Immune system disorders or chronic inflammation can damage nerve cells.

To summarize, factors that affect Progressive Supranuclear Palsy (PSP) commonly affect brain function and physiology. Patients with PSP can experience changes in brain wave patterns as observed via an electroencephalogram (EEG), such as increased delta and theta waves in the frontal area and temporal slow waves (Yefei, 2023). Individuals with PSP displayed reduced beta brainwave activity in the posterior area, typically in the visual ability. Sharp brainwaves and slow waves are around 20% in the frontal area of PSP patients (David, 2020). EEG is a measurement test that records brain electrical activity and is commonly used to monitor brain waves to provide an overview of neuronal activity in various brain areas. EEG studies in PSP sufferers show several typical changes in brain wave activity. Several studies found increased theta and delta waves, which reflect damage to nerve cells and brain dysfunction at a deeper level. Theta waves are often associated with changes in consciousness and cognitive activity. In addition, disturbances in alpha waves, which play a role in relaxation and focus, can also be observed.

In some cases, a decrease in the amplitude of alpha waves, which can indicate disturbances in cognitive processes and attention, was seen. The changes in brain wave patterns in PSP patients reflect damage in some brain regions, especially in the supranuclear areas that control eye movements and several cognitive functions. Although EEG can provide an overview of the changes in brain wave activity, it is not the primary diagnostic method for PSP. The diagnosis of PSP is more often based on clinical symptoms and other examinations, such as brain imaging. After biochemical analysis of the cortico-striato-pallido-nigro-luysial network, 4R-tau aggregates at a lower frequency of H1 (69%) were significantly different compared to 1000_ 4R tauopathy at autopsy (Keith A. Josephs, 2021).

A study by Dale (2023) about the PSP after a review study on the intervention methods for modulating the cerebellum with transcranial magnetic stimulation (TMS) is well established. The preliminary data from the study showed evidence of transient balance improvements after repetitive transcranial magnetic stimulation (rTMS) of the cerebellar in PSP patients. The study examined extensive posturography measures before and after ten sessions of cerebellar rTMS and sham cerebellar TMS. A total of 30 respondents with PSP and postural instability went through cerebellar active and sham rTMS measurements. The study used a single-blind, crossover design with a randomized intervention sequence for ten days. The primary outcomes were changes in sway area and mediolateral sway range with eyes open while standing on a stationary force plate, as well as safety, tolerability, and blindness. Secondary outcomes include posturography and gait analysis with body-worn
triaxial inertial sensors, clinical balance scales and questionnaires, and bedside vestibular function tests. The study reported changes in functional near-infrared spectroscopy (fNIRS) signals in the prefrontal cortex, supplementary motor, and primary motor during standing and walking, and speech samples for future analysis. The C-STIM crossover intervention study added a longer duration of stimulation and extensive post urography measurements to quantify improvements in balance and fNIRS exploration of the prefrontal, supplementary motor, and primary motor cortex during balance. The study highlighted the importance of the cerebellum for controlling postural stability in PSP patients. The correlation between the Koran and brain function was observed in low-frequency neural oscillations (namely, alpha and theta) as neural correlates, especially using electroencephalography (EEG) or magnetoencephalography (MEG). A study by Rosyanti (2022) reported that listening to the rhythmic Al-Qur'an recitation activates brain areas similar to a therapeutic or healing effect (i.e., endorphin increase on the brain), vital signs, physiological and response waves change as seen during therapy to alleviate anxiety. However, further research with a standardized and less complicated research design supports the findings of this study in order to highlight the importance of Al-Qur'an reciting audio therapy as an effective supplementary psycho-spiritual treatment.

The current review study, which investigates the correlation between systematic Al-Quran intervention and progressive supranuclear palsy (PSP), found that the Al-Quran offers spiritual and psychological impact that can provide additional support for PSP patients. The interventions using Al-Qur'an consist of listening to or reading verses from the Quran that instigate calmness and hopefulness. The relaxation and meditation aspects in Al-Qur'an recite audio therapy reduce stress levels and improve the emotional well-being of individuals with SPS. The role of spiritual support can also provide peace of mind and assist the patients and their families to cope with the changes during the development of PSP. Additionally, participation in religious activities or prayer groups can create a positive social environment, decrease self-isolation tendencies, and provide emotional support. Although interventions using Al-Qur'an are not a substitute for recommended medical treatment and rehabilitation, engaging the spiritual dimensions can positively impact the holistic well-being of PSP patients. Consequently, it is crucial to remember that the approach of Al-Qur'an recites audio therapy should consistently be implemented cautiously and preferably as part of a comprehensive treatment plan involving the healthcare team.

D. Conclusion

The present literature review study analyzed research articles from international journals. From the 13 articles reviewed, it can be concluded that the systematic intervention of Al-Qur'an showed beneficial psychological and physical effects, particularly on the brain nerves of individuals with progressive supranuclear palsy (PSP). The treatment of audio therapy using Al-Qur'an recitation should be done frequently with further medical assistance.

Suggestions after the current review study are:

1. Further investigation in intervention using medical and psychological approaches and the correlation between the two methods is imperative.
2. The current study's findings can contribute as a fundamental theory for suggestions and ideas to the related research topic in the future. The results can also be used to research the benefits of Fajr prayer from different perspectives.
Bibliography


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Author Details
Nur Rohim Suryo¹, Muhammad Hisyam Syafi’I²

Email
rohimsuryo@gmail.com
m.hisyam.fai20@mail.ac.id

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