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ORIGINAL

Exploring Quantum Touch Therapy's Efficacy in Managing Stress Among Young Stroke Survivors: A Quasi-Experimental Approach

Explorando la Eficacia de la Terapia Quantum Touch en el Manejo del Estrés en Supervivientes Jóvenes de Accidente Cerebrovascular: Un Enfoque Cuasi-Experimental

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ABSTRACT

Stroke is a neurological disorder that can lead to disability and significant stress, particularly among young stroke survivors. Quantum Touch therapy, an alternative energy-based therapy, may hold potential for stress management. Evaluate the effectiveness of Quantum Touch therapy in reducing stress levels among young stroke survivors. This quasi-experimental study used purposive sampling, involving 76 young stroke survivors (aged 18-50), who were randomly assigned to either the intervention group (38 participants), receiving Quantum Touch therapy, or the control group (38 participants), receiving only standard care. Therapy sessions were conducted six times per week, each lasting 30 minutes, over the study period from March 1 to May 1, 2024. Stress levels were measured using the Depression Anxiety Stress Scales-42 questionnaire before and after the intervention. Analysis showed that the intervention group experienced a significant reduction in stress levels after undergoing Quantum Touch therapy, with an average stress score change of 3,29 ($p < 0,001$), while the control group showed no significant change ($p = 1,000$). The statistical analysis also highlighted a substantial effect size in the intervention group, emphasizing the quantifiable impact observed. This study suggests that Quantum Touch therapy has significant potential in reducing stress levels among young stroke survivors. The therapy contributes to stress reduction by restoring energetic balance, leading to deep relaxation and decreased anxiety and muscle tension. The findings support the inclusion of Quantum Touch therapy as a complementary approach in post-stroke rehabilitation, offering measurable benefits in stress management for young stroke survivors.

Keywords: Quantum Touch; Stress; Young Stroke Survivors.

RESUMEN

El accidente cerebrovascular puede causar discapacidad y estrés significativo, especialmente en jóvenes sobrevivientes. La terapia Quantum Touch, una técnica alternativa basada en energía, podría ser útil en el manejo del estrés. o no estructurado, con una extensión no mayor a 250 palabras; redactado en pasado y en tercera persona del singular. Evaluar la efectividad de la terapia Quantum Touch en la reducción del estrés en jóvenes sobrevivientes de accidente cerebrovascular. Estudio cuasi-experimental con muestreo intencional, que incluyó a 76 jóvenes (18-50 años) asignados aleatoriamente a dos grupos: intervención (38),

que recibió terapia Quantum Touch, y control (38), que recibió atención estándar. La terapia se aplicó seis veces por semana, 30 minutos por sesión, entre el 1 de marzo y el 1 de mayo de 2024. El estrés se evaluó mediante el cuestionario Depression Anxiety Stress Scales-42 antes y después de la intervención. El grupo de intervención mostró una reducción significativa en los niveles de estrés, con un cambio promedio de 3,29 puntos ($p < 0,001$), mientras que el grupo control no presentó cambios significativos ($p = 1,000$). Además, se identificó un tamaño del efecto considerable en el grupo de intervención, destacando el impacto de la terapia. La terapia Quantum Touch demostró ser eficaz para reducir el estrés en jóvenes sobrevivientes de accidente cerebrovascular, al promover relajación profunda, disminución de la ansiedad y equilibrio energético. Estos resultados apoyan su uso como complemento en la rehabilitación post-accidente cerebrovascular.

Palabras clave: Quantum Touch; Estrés; Jóvenes Sobrevivientes de Accidente.

INTRODUCTION

"Stroke can be defined as a neurological disorder that disrupts blood supply to the brain. This disruption can lead to various clinical symptoms that quickly progress to local or even widespread neurological damage, which may last over 24 hours (h) and can result in death.[1] Indonesia ranks first among Asian countries in terms of stroke-related deaths and disabilities and is ranked 11th globally, with 357 183 deaths (or 21,12 % of total mortality) attributed to stroke.[2,3] A particular area of concern is the increasing incidence of stroke among younger adults. Previous studies define young stroke as occurring up to the age of 50.[4] Globally, one in four individuals over the age of 25 will experience a stroke in their lifetime. Each year, over 16 % (or 1 978 946) of all strokes occur in individuals aged 15–49. [5,6]

Young stroke incidence varies globally, ranging from 5 to 15 per 100 000 person-years in Europe to 20 per 100 000 in North America, Australia, and Asia, with as many as 40 per 100 000 person-years reported in parts of Africa and Iran.[7] In the United States, the predominant age range for stroke incidence is 22–44 years.[8] In Indonesia, 32,62 % of strokes occur in individuals aged 20–39.[9] The global burden and incidence of stroke among younger populations have risen due to the increase in individual risk factors.[10]

Experiencing a stroke at a younger age can have life-altering implications, as it often occurs during one's most productive years, when individuals are building families, careers, and futures.[11] Young stroke survivors face unique challenges, including physical recovery and psychological adjustments, which can result in high levels of stress. Chronic stress in stroke survivors can worsen their health and hinder rehabilitation progress.[12] High stress levels can affect the healing process, exacerbate post-stroke health conditions, and hinder both physical and psychological recovery.[13] Effective stress management is critical to improving the quality of life for young stroke patients and supporting optimal recovery.[14]

Stress management is a key component of rehabilitation efforts for young stroke survivors, and various methods have been used to alleviate stress, including psychological interventions, physical therapies, and complementary therapies.[15] Although conventional therapies have been widely used to reduce stress in stroke patients, additional holistic approaches are still needed to aid recovery in young stroke survivors.[16] A holistic approach that incorporates various alternative methods can help improve both physical and mental health.[17,18,19,20] Previous studies have shown the potential benefits of complementary therapies in reducing stress levels in various medical conditions, including stroke patients.[21] One complementary therapy gaining attention is Quantum Touch therapy. Quantum Touch is an energy-based therapy that focuses on biofield manipulation to facilitate healing and reduce stress. The theory behind Quantum Touch suggests that it can balance the body's energy and induce deep relaxation. This therapy was developed by Richard Gordon, an energy therapy practitioner.[22]

Quantum Touch therapy is regarded as a complementary healing approach believed to energize patients, thereby optimizing brain, body, and soul functions and promoting relaxation.[22] Relaxation activates the parasympathetic nervous system, which counteracts the sympathetic nervous system by lowering heightened functions and stimulating those that were suppressed. The sympathetic and parasympathetic nerves work reciprocally, with increased activity in one inhibiting or suppressing the other.[23] Stress induces tension in the brain and muscles, so activating the parasympathetic system through relaxation techniques automatically reduces this tension, allowing for an easier transition to a relaxed state, which gradually alleviates stress symptoms.[24] Touch therapy has various indications, such as enhancing relaxation, altering pain perception, lowering anxiety or stress, expediting healing, and improving comfort.[22,25] Previous research has yielded mixed results on the effectiveness of energy therapies like Healing Touch. Some studies report significant effects on stress levels; however, most of this research has not focused on stroke survivors, especially in younger age groups.[26,27] Therefore, this study aims to evaluate the effectiveness of Quantum Touch therapy in reducing stress levels among young stroke survivors through a quasi-experimental approach.

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METHOD

Study design

This study employed an experimental design using a quasi-experimental approach and purposive sampling techniques.[28] Participants were divided into two groups: an intervention group receiving Quantum Touch therapy and a control group receiving standard care without Quantum Touch therapy.

Study setting and participants

The study took place from March 1 to May 1, 2024, with young stroke survivors participating at a stroke foundation in Bali, Indonesia. The population in this study were patients who had a stroke at a productive age, the total population was 157 respondents. Stroke survivors span a wide age range, so it was crucial to ensure the safety of Quantum Touch therapy specifically for younger patients. Inclusion criteria required participants to be (1) stroke survivors who experienced a stroke at least one year prior to confirm they were in a stable recovery phase, (2) individuals with measurable stress levels according to the standardized DASS 42 scale (Depression Anxiety Stress Scales), (3) aged between 18 and 50, (4) free from other mental or physical conditions that could affect intervention outcomes, and (5) willing to participate in all Quantum Touch sessions and adhere to the study protocol.

Exclusion criteria included (1) receiving other treatments that might significantly influence stress levels, (2) inability to communicate or follow instructions during sessions, (3) experiencing unstable health conditions or requiring intensive care, and (4) being pregnant or breastfeeding.

The sample size calculation was as follows:

$$n = \frac{(Z\alpha + Z\beta)^2 S^2}{(X1 - X2)^2}$$

where $Z\alpha$ is 1,96, $Z\beta$ is 0,84, X1 – X2 is 16,51 – 11,51 , and S is 8,13.

To maintain an 80 % power with a Type I error rate of 0,05, a minimum of 21 participants per group was needed. Accounting for a 30 % dropout rate, 56 participants were required. In this study, there were 76 respondents who met the inclusion criteria and the researchers agreed to use 76 respondents. These participants were then randomized into intervention and control groups, with 38 in each, to ensure study validity and minimize potential bias.[22,29]

Randomization and blinding

This quasi-experimental study used purposive sampling to select participants based on inclusion criteria. After providing written consent, participants were randomly assigned to either the intervention or control group in a 1:1 ratio, using enrollment order and a random sequence.[30]

An independent researcher generated the random sequence using a random number table, and it was sealed in opaque envelopes for transparency. Participant registration details (entry number and intervention assignment) were sealed until the study began. Upon envelope opening, both researchers and participants were informed of group assignment.

The study used an open-label design, allowing both researchers and participants to be aware of treatment assignments during the study. This choice was based on a careful assessment of the research question and ethical considerations. Open-label design enabled more accurate monitoring and evaluation of Quantum Touch therapy's effects on stress levels.

Purposive sampling ensured that recruited participants were young stroke survivors with measurable stress levels, providing focused data relevant to the study's aims.[31]

The intervention group

The intervention group, consisting of 38 participants, received six Quantum Touch sessions per week, with each session lasting 30 minutes. Therapy followed specific steps: initial stress level assessment, positioning hands near the participant's body without direct contact, and applying breathing and energy focusing techniques. Throughout, researchers monitored participants' responses and adjusted techniques as needed. Post-session assessments measured stress changes, compared with baseline data to evaluate effectiveness. Each session was documented, including any participant reactions or side effects. Vital signs were monitored throughout therapy to ensure participant safety. Participants missing six sessions without a valid reason were disqualified from final analysis.

The control group

In this study, the control group, consisting of 38 participants, did not receive Quantum Touch therapy and

underwent only standard care for young stroke survivors. The main focus for the control group was to document stress levels. Control group participants followed standard procedures, including follow-up consultations with healthcare providers, physical therapy, and other forms of rehabilitation that did not involve the experimental intervention.

Throughout the study, stress levels for all participants in the control group were routinely documented using the same questionnaire as the intervention group to ensure a valid comparison with the effects of Quantum-Touch therapy.

Data collection

Data collection was managed by the lead researcher with a nursing background. Before intervention, participant demographic data (age, gender, stroke history) were collected. Stress levels were measured using the DASS-42 questionnaire, which was completed by all participants before and after the study period.[32]

To ensure consistency, therapy sessions were conducted by the trained research team. Each session was monitored and recorded, including the start and end times, as well as any initial participant responses to the therapy.

After each therapy session, researchers collected data on participants' stress levels using the DASS 42 questionnaire. The questionnaire was completed directly by the participants, and results were systematically documented. Data collection was conducted with respect to participant privacy and ensured the accuracy of questionnaire responses.

Control group participants, who did not receive Quantum Touch therapy, also had their stress levels measured using the DASS 42 questionnaire at the same intervals as the intervention group to allow for a fair comparison. The entire data collection process was conducted with strict adherence to research ethics and standard procedures, ensuring that the data collected was valid and reliable.[33]

Collected data were analyzed to evaluate the differences in stress levels between the group receiving Quantum Touch therapy and the control group. The results of this analysis will provide insights into the effectiveness of Quantum Touch in managing stress among young stroke survivors.

Data analysis

All data were analyzed using SPSS (version 21). All variables were normally distributed. Mean and standard deviation (SD) were used for normally distributed variables. Frequency and proportion were applied to describe categorical data. For numeric and normally distributed variables and t-tests were used. Multicollinearity was measured before variable testing to ensure there was no multicollinearity among variables.

Ethical considerations

This study received ethical approval from the Ethics Committee with approval number No: 234/E1.STIKESWIKA/EC/II/2024. All participants were provided with comprehensive information about the study's purpose, procedures, benefits, and potential risks, and written informed consent was obtained before participation. Participant confidentiality and data privacy were strictly maintained, and participants had the right to withdraw from the study at any time without negative consequences.

RESULTS

Table 1. Characteristic of participants

Variable	Group		Total	p-value
	Control	Intervention		
n (%)	38(50)	38(50)	76(100)	
Age, mean (sd)	46,61(2,9)	47,82(3,1)		0,909
Gender (%)				
Male	23(60,5)	24(63,2)	47(61,8)	0,830
Female	15(39,5)	14(36,8)	29(38,2)	
Education(%)				
Junior High School	10(26,3)	7(18,4)	17(22,4)	0,795
Senior High School	25(65,8)	25(65,8)	50(65,8)	
Higher Education	3(7,9)	6(15,8)	9(11,8)	

The average age in the control group was 46 years, while the intervention group averaged 47 years. Most

respondents in both the control and intervention groups were male, with a percentage of 61,8 %. In terms of education level, the majority of respondents were high school graduates, accounting for 65,8 %.

Table 2. Clinical data of participants

Variable	Group		Total	p-value
	Control	Intervention		
Rehabilitation (%)				
No rehabilitation	28(73,7)	27(71,1)	55(72,3)	0,306
Rehabilitation	10(26,3)	11(28,9)	21(27,7)	
Haemyparesis area (%)				
Left	17(44,7)	14(36,8)	31(40,7)	<0,001
Right	11(28,9)	9(23,7)	20(26,3)	
None	10(26,3)	15(39,5)	25(33,0)	
Commorbid(%)				
Yes	33(86,8)	28(73,7)	61(80,2)	0,43
No	5(13,2)	10(26,3)	15(19,8)	
Seizure(%)				
1st	10(26,3)	18(47,4)	28(36,8)	<0,001
2nd	20(52,6)	16(42,1)	36(47,4)	
3rd	8(21,1)	4(10,5)	12(15,8)	
Years of stroke (%)				
1 year	19(50)	24(63,2)	43(56,5)	<0,001
2 years	19(50)	14(36,8)	33(43,5)	

Most respondents, 72,3 %, did not participate in rehabilitation. A large proportion, 72,3 %, had left-sided hemiparesis, and 80,2 % had comorbidities. Furthermore, 47,4 % of patients were experiencing a second stroke attack, and 56,5 % had been living with stroke for one year. Regression analysis results indicated that the side of hemiparesis, stroke occurrence, and stroke duration differed between the intervention and control groups.

Table 3. Multicollinearity Test

Variable	Collinearity Tolerance	VIF
Gender	,855	1,170
Education	,862	1,159
Rehabilitation	,882	1,134
Hemiparesis Side	,614	1,629
Comorbidities	,803	1,246
Stroke Occurrence	,352	2,841
Stroke Duration	,494	2,025

Based on the data above, it can be concluded that none of the variables showed multicollinearity.

Table 4. T-test Results

Variable	Mean	Std	95 % CI		p-value	d
			Lower	Upper		
Control						
Pre-test	24,82	2,204				
Post-test	24,82	2,116	-,153	,153	1,000	0,00
Intervention						
Pre-test	25,55	2,479	2,975	3,604	<0,001	3,44
Post-test	22,26	2,668				

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Based on the data above, it can be observed that the average stress level in the control group did not change between the pre-test and post-test, with a 95 % CI of -0,153 to 0,153, indicating no effect in the control group. However, in the intervention group, there was a mean difference of 3,29 between the pre-test and post-test, with a 95 % CI of 2,975 to 3,604, which does not cross zero. This suggests a significant effect of Quantum-Touch on stress levels in the intervention group. The effect size was small for the control group but was greater than 1,00, indicating a very large effect, in the intervention group.

DISCUSSION

This study underscores the significant impact of stroke on young populations in Indonesia and globally, highlighting the importance of a holistic approach to stress management for optimal recovery. The results indicate that Quantum-Touch Therapy significantly reduces stress levels in the intervention group compared to the control group, which received only standard care. This therapy is safe and shows substantial promise for stress reduction, focusing on both physical recovery and the emotional and psychological well-being of young stroke survivors.

Similarly, studies have explored complementary therapies in stroke recovery. For instance, a study by Hinwood reviewed various psychological stress management strategies for stroke survivors, emphasizing that incorporating non-pharmacological interventions, like Quantum Touch, could improve emotional well-being.[14] Another study by Chan demonstrated that alternative therapies, including expressive arts, were effective in reducing stress in young stroke survivors, aligning with our findings that stress reduction therapies could play a significant role in post-stroke rehabilitation rather than traditional pharmacological treatments, which focus primarily on physical recovery, complementary therapies like Quantum Touch emphasize a holistic approach, supporting emotional healing.[15] Our study's results are consistent with these previous findings, suggesting that Quantum-Touch Therapy offers an innovative approach to improving the quality of life and emotional well-being of stroke survivors. Additioabsence of serious side effects observed in our study further supports the safety of this intervention, reinforcing similar conclusions from other studies on complementary therapies.[15]

Integrating relaxation techniques and biofield manipulation, such as Quantum Touch Therapy, could be key to improve the quality of life and emotional well-being of this population. Consequently, Quantum Touch Therapy offers an innovative approach that could be incorporated into stroke rehabilitation programs, providing new hope for young stroke survivors to achieve more comprehensive recovery.[34] Most participants in both groups have a high school education, reflecting educational homogeneity. This similarity is important, as education level can influence participants' understanding and acceptance of the therapy, ensuring that outcome differences are more likely due to the intervention rather than educational factors.[35]

A large proportion of respondents in this study did not participate in formal rehabilitation programs, indicating they may lack support in managing their overall condition. This suggests that Quantum-Touch Therapy could provide a meaningful alternative to stress management.[36] Additionally, findings on the side of hemiparesis reveal a significant difference between the groups, suggesting that the hemiparesis side may influence therapy response. Left-sided hemiparesis was more common and could clinically affect the levels of anxiety and stress experienced by young stroke survivors.[37] Comorbidities, which were common among respondents, add further context; these conditions can exacerbate stress, making Quantum Touch Therapy's stress reduction effects in the intervention group particularly noteworthy in complex health contexts.[38]

Another significant factor is the difference in stroke occurrences between the two groups. More participants in the intervention group had experienced their first or second stroke, which may make them more responsive to new interventions like Quantum Touch Therapy compared to those with multiple strokes.[39,40] Young stroke survivors who have had a longer stroke duration may also have developed more effective coping strategies, making the effects of new therapies like Quantum Touch Therapy distinct from those who recently experienced a stroke.[41] Statistical analysis findings indicate no significant stress level changes in the control group between the pre-test and post-test, suggesting that stress levels in young stroke survivors remain constant without intervention. Conversely, the intervention group experienced a significant decrease in stress levels after receiving Quantum Touch Therapy, demonstrating the intervention's effectiveness in reducing stress among young stroke survivors.[42]

Overall, the study indicates that Quantum Touch Therapy has the potential to effectively reduce stress in young stroke survivors. The significant effect observed in the intervention group compared to the control group suggests that this therapy may be a valuable addition to stress management for stroke patients.[22] This conclusion is further supported by the large effect size in the intervention group, indicating that the therapy's effects are not only statistically significant but also clinically relevant. Thus, this study supports the use of Quantum Touch Therapy as a non-pharmacological intervention for stress management in young stroke survivors.[22,43]

Limitations

The limitations include a relatively small sample size, which may affect generalizability, and the short-term

follow-up period, which limits understanding of the intervention's long-term effects on stress management in stroke survivors. Additionally, the reliance on self-reported measures for stress could introduce response bias, potentially affecting data accuracy.

CONCLUSION

This study underscores the significant impact of stroke on young populations in Indonesia and globally, highlighting the importance of a holistic approach to stress management for optimal recovery. The results indicate that Quantum-Touch Therapy significantly reduces stress levels in the intervention group compared to the control group, which received only standard care. This therapy is safe and shows substantial promise for stress reduction, focusing on both physical recovery and the emotional and psychological well-being of young stroke survivors. Integrating relaxation techniques and biofield manipulation, such as Quantum Touch Therapy, could be key in improving the quality of life and emotional well-being of this population. Consequently, Quantum Touch Therapy offers an innovative approach that could be incorporated into stroke rehabilitation programs, providing new hope for young stroke survivors in achieving more comprehensive recovery. These findings suggest that Quantum Touch therapy is a safe and beneficial intervention, supporting its potential use as an additional method in clinical stress management for young stroke survivors.

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CONFLICT OF INTEREST

The authors declare that there are no potential conflicts of interest in relation to this study.

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