Enfermería Clínica

The effectiveness of acceptance and commitment therapy on anxiety in clients with stroke

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Abstract

Objective: The purpose of this study was to determine the effects of acceptance and commitment therapy on anxiety in patients with stroke, especially during the first stage of recovery.
Method: This quantitative study featured a quasi-experimental design without a control group and was conducted in the stroke ward of a public hospital. The 33 respondents were selected via consecutive sampling. The data analysis was completed using the paired t-test.
Results: The use of acceptance and commitment therapy significantly the signs and symptoms of anxiety in patients with stroke (p-value = < 0.005). Specifically, acceptance and commitment therapy effectively decreases anxiety levels from a moderate level to a mild level in clients who are recovering from stroke.
Conclusions: Acceptance and commitment therapy is a recommended treatment for reducing anxiety in stroke patients. The design of this study can be further developed to include a control group.

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Introduction

Stroke is characterized by a loss of bodily functions (i.e., weakness or barriers to physical mobility) resulting from blood circulatory problems in those parts of the brain that manage the function of the parts of the body affected[1]. In 2010, the number of individuals who experienced stroke globally was 33 million, 16.9 million of whom suffered a stroke for the first time. Furthermore, this disorder, which kills one American every 4 minutes, is the fifth leading cause of death in the United States. Every year, nearly 700,000 Americans suffer a stroke, resulting in nearly 150,000 deaths[2]. Stroke is the leading cause of death in Indonesia. The results of health research revealed that the prevalence of stroke in Indonesia is equivalent to 7.0 occurrences per mile in 2007[3] and increases 12.1 occurrences per mile in 2010[4]. Of the 13 million individuals who suffer stroke in Indonesia annually, approximately 4.4 million die within 1 year.

Stroke affects individuals both physically and psychologically. Post-stroke clients experience problems with mobility due to stroke-related hemiparesis[5,6]. The physical impacts of stroke also result in psychological impacts: In particular, during the first post-stroke stage, clients experience anxiety and low levels of self-acceptance[7] up to 28 days and develop depression after 2 weeks, a condition that peaks at 3-4 months of recovery[5-7]. Clients who cannot accept their post-stroke condition feel unprepared for their physical con-

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dition and lose 40% of their functional role. After the first post-stroke stage, 82% of clients experience feelings of hopelessness[8].

Clients with chronic diseases and who have poor self-acceptance experience increased mortality rates that are associated with their chronic disease (40%)[9]. In addition, poor self-acceptance causes anxiety and leads to a poor quality of life. Anxiety, a vague feeling of fear, can cause a person to feel restless and unable to function[8]. Anxiety arises when there is a mismatch between the feeling and the expression; for example, people seem to be laughing when they actually feel concern; these people are therefore susbject to rapid mood change[10]. Guffre stated that anxiety appears in the acute phase due to neurological changes caused by the stroke. Clients who feel anxious from day to day are unable to control their feelings of anxiety[11]. The incidence of anxiety occurs in almost all clients in the acute phase of stroke; however, almost 20% experience decreased levels of anxiety after the acute period[5]. According to Cuming et al., anxiety occurs in 27% of clients with stroke. Monica (2012) found that approximately 28% of clients in the acute phase experience prolonged periods of anxiety, and 71% of them develop acute anxiety while being treated in the ward.

A survey conducted by the Stroke Association during the years 2013 through mid-2015 obtained data on 64% of clients with stroke and found that the psychological impact was the most difficult challenge for these individuals. As many as 69% of the clients said that they experienced stress post-stroke, 79% of them experienced anxiety, 84% were frustrated, and over 60% were irritable[8]. All such psychological impacts are caused by untreated anxiety. Anxiety experienced by a stroke client is often treated by generalist nurses and specialist nurses. Standard nursing actions can overcome anxiety through assessing it and its causes as well as its time of occurrence, signs, and symptoms; anxiety can also be decreased through relaxation and deep-breathing exercises, distraction, hypnosis, and engaging in spiritual activities. Care that can be administered only by nurse specialists includes treatments such as acceptance and commitment therapy, behavioral therapy, thought-stopping therapy, progressive muscle relaxation, family psychoeducational therapy, and supportive group therapy[12-14].

Method

The quasi-experimental design used in this study features pre- and post-tests and no control group. The sample comprised 33 people who, of the original 40 respondents, fit the criteria and were willing to participate in the study. Eight clients declined to serve as respondents due to physical limitations. Levels of anxiety were measured by using the Hamilton Anxiety Rating Scale (HARS). Furthermore, the clients' anxiety was treated by nurses who administered relaxation techniques and by nurse specialists who applied acceptance and commitment therapy. The collected data were then inputted and analyzed via the use of SPSS. The data collection was completed after the researchers explained the study procedure and process in detail to the respondents, who were asked to complete informed consent forms prior to being included in the study. The planning of this study was authorized by the ethics agency, Faculty of Nursing, Universitas Indonesia.

Results

Analyses of the age, history of stroke, and stroke HARS scores (Table 1) indicated that the average age of the respondents was 57.24 years (the youngest was 44 years old, and the oldest was 73 years old). The average value of the respondent's stroke history was 2.18 occurrences, with a minimum of 1 occurrence and a maximum of 4 occurrences. The average value of the stroke scale was 10.73, with a minimum score of 2 and a maximum score of 19; in other words, all the respondents scored in the mild-to-severe range of the scale.

Table 2 shows that the majority (57.6%) of the respondents were still employed (i.e., not yet retired), 57.6% were male, 33.3% had completed a high school education, 78.6% were married, and 69.7% had suffered hemorrhagic stroke.

Table 1 Characteristics of clients with stroke based on age, stroke history, and scale (n = 33)

Variable	Mean	Median	Standard deviation	Minimum-maximum
Age	57.24	58	7.746	44-73
History of stroke	2.18	2	1.074	1-4
Stroke scale	10.73	11	3.794	2-19

Table 2 Characteristics of stroke clients based on profession, education, type of stroke, and marital status (n = 33)

Characteristics	No.	%
Employment		
Unemployed	14	42.2
Employed	19	57.6
Gender		
Male	19	57.6
Female	14	42.4
Education		
No schooling	2	9.1
Primary school	4	12.1
Secondary school	8	24.2
High school	11	33.3
College	8	24.2
Marital status		
Married	26	78.6
Widowed	7	21.2
Type of stroke		
Hemorrhagic	23	69.7
Ischemic	10	30.3

Table 3 describes the effects of acceptance and commitment therapy administered by specialist nurses on the anxiety of stroke clients. The change in the mean of anxiety before and after being administered the nursing treatment is 5.2. The change in the mean of anxiety after receiving treatment by nurses and nurse specialists (acceptance and commitment therapy) is 9.74. The change in anxiety after receiving treatment by nurses and nurse specialists (acceptance and commitment therapy) is 14.94. The changes revealed in these statistical results indicate that nursing actions significantly decreases anxiety in clients with stroke (as much as 0.00; p-value < 0.005).

Discussion

The anxiety levels of clients with stroke decrease to a moderate level after practicing relaxation techniques, activities that are designed to relieve muscle tension of the body and mind and thereby provide a sense of comfort. The five-fingers exercise, in which the client uses five fingers as relaxation tools, is a technique that uses imagery and imagination[14]. Previous research has found that the five-fingers hypnosis therapy effectively decreases anxiety in clients with mild-to-moderate levels of anxiety[15]. The relaxation technique used in this study implemented deep breathing and five-finger hypnosis therapy, which is intended for clients with anxiety, pain, or tension and requires a relaxed state[12]. In this study, relaxation therapy reduced the signs and symptoms of anxiety on muscle tension physiologically; it therefore was concluded that the anxiety of stroke clients can be addressed through breathing relaxation therapy and five-finger hypnosis.

Diversion and distraction techniques, which are designed to inhibit the imbalances of the GABA neurotransmitter, are used to change a client's focus from fear to more positive thoughts. Music therapy, one of these distraction techniques, is widely used to reduce anxiety. A study by Swarihadiyanti concluded that music therapy has the positive effect of decreasing anxiety and pain in clients, both pre- and post-surgery. Through this therapy, the client's fear or anxiety is redirected to the music, which causes him or her to be more relaxed and to replace their focus on anxiety with more positive thoughts[14]. As a result, the signs and symptoms of cognitive, behavioral, and affective changes are decreased. Based on the results of the present study and

concepts of the nursing actions, it can be concluded that the treatments administered by generalist nurses and specialist nurses reduce the level of anxiety in stroke patients.

Treatment by specialist nurses is given after the treatment administered by nurses. The client anxiety level after receiving treatment by nurses and specialist nurses is equal to 23.66 on the HARS scale, which demonstrates a decrease in the level of anxiety from moderate to mild. Mild anxiety indicates that the client's acceptance perception is improving and that the client is able to solve problems creatively and effectively[8]. Based on these results, it can be concluded that acceptance and commitment therapy applied by the specialist nurses significantly decreases anxiety in clients who have suffered strokes.

This study is a continuation of all previous studies that have examined the idea of overcoming anxiety through logo therapy, which is able to reduce anxiety through raising one's level of optimism to positively face the future[16]. Thought-stopping and cognitive therapies can reduce anxiety levels in cancer patients by stopping negative thoughts and altering cognitive distortions[17]. Supportive therapy is able to reduce the anxiety of students who are scheduled to take national exams by preparing them for the exams through participation in established study groups specifically designed to help them with the anxiety. Acceptance and commitment therapy effectively decreases anxiety through the process of reliving the circumstances experienced by clients at the time of the stroke, so that the negative thoughts will slowly disappear and raise their levels of belief and commitment[17]. Moreover, family psychoeducation therapy can reduce client anxiety by educating family members who care for the client, so that the family is better able to manage stress and thus lessen their burden[18].

In the treatment of anxiety, acceptance and commitment therapy represents the latest generation of behavioral change therapy. Through this therapy, clients are able to acknowledge their anxiety as a natural feeling while discovering their own self-value. In this way, they can experience positive changes. The client's ability to commit to his or her own positive self-value can then reduce anxiety and remove their focus from the anxiety to positive thoughts[17]. Through the phase of gaining a realization of the condition, the client becomes more affective and develops increased self-value as the anxiety decreases and the muscle tension is relieved. The final outcome is a decrease in the signs and symptoms of anxiety and positive changes in the client's behavior.

Table 3 Effects of acceptance and commitment therapy administered by nurses and specialist nurses on the anxiety of clients with stroke

Variable		Mean	Change	SD	SE	T	P-value
Anxiety pre-intervention	Pre	38.6	5.2	6.272	1.092	19.586	0.000
	Post 1	33.4		6.472	1.127		
Anxiety post-intervention (1)	Post 1	33.4	9.74	6.472	1.127	20.876	0.000
	Post 2	23.66		6.561	4.561		
Anxiety post-intervention (2)	Pre	38.6	14.94	6.272	1.092	21.976	0.000
	Post 2	23.66		6.561	4.561		

SE, standard error; SD, standard deviation.

Previous studies of the effects of acceptance and commitment therapy on clients with anxiety via the use of different instruments have not revealed significant changes; the results of this study, however, indicate that the administration of such therapy by nurses and specialist nurses significantly reduces anxiety[18]. Previous studies have found that acceptance and commitment therapy can decrease the signs and symptoms of cognitive, affective, and social behaviors to a moderate level of anxiety. This change results from the clients' awareness of their anxiety and is sustained until the client is able to ensure that the signs and symptoms of anxiety have been significantly reduced[19]. In this study, the clients' levels of anxiety decreased from a moderate level to a mild level.

Acknowledgement

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