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

Renta Sianturi[a], Budi Anna Keliat[b,*] and Ice Yulia Wardani[b]

[a] *Mitra Keluarga School of Health Sciences*

[b] *Faculty of Nursing, Universitas Indonesia, Depok, Jawa Barat, Indonesia*

KEYWORDS
Acceptance and commitment therapy;
Anxiety;
Family psychoeducation therapy;
Self-acceptance

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.

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-

*Corresponding author.
Email: ba.keliat@ui.ac.id (B.A. Keliat).

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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