

Effects of the Nursing Therapeutics Program for Facilitating Patient Transition (NTPFPT) on Subjective Well-Being, Role Mastery, and Relationships' Well-Being among Adult Stroke Patients in Bandung, Indonesia

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Abstract

This quasi-experimental, repeated measures design was used to examine the effects of the nursing therapeutics program for facilitating patient transition (NTPFPT) on subjective well-being, role mastery, and relationships' well-being among adult patients who suffered from stroke in Indonesia. Purposive sampling was used to recruit the sample. The control group (n = 42) received the routine care, while the experimental group (n = 42) received the NTPFPT and routine care. The data were collected using 1) the subjective well-being inventory, 2) the role function mode, and 3) the brief family relationship scale. The Chronbach's alpha coefficients of questionnaires 1 - 3 were .89, .77 and .89, respectively. Descriptive statistics, repeated measures ANOVA, one-way ANOVA, and t-test were used to analyze the data.

The results revealed that significant differences of the mean scores of subjective well-being, role mastery and relationships' well-being were found between the control and experimental groups ($p < .000$) and between three times (e.g., Day 3 of hospitalization, T1; one day before discharge, T2; and one month after discharge, T3) within group ($p < .000$). Significant differences between all three pair wise comparisons of these three variables were found in the experimental group ($p < .000$) while, two pair wise comparisons showed significant differences in the control group. The mean scores of the three variables in the experimental group measured at T2 and T3 were significantly higher than those of the control group ($p < .000$) whereas those of measured at T1 showed no significant differences between two groups ($p > .05$). Thus, it is appropriate for nurses to provide the NTPFPT to stroke patients and families.

Keywords: Nursing therapeutics program for facilitating patient transition, role mastery, subjective well-being, stroke patients, well-being of relationship

Introduction

As a non-communicable disease, stroke is a worldwide problem. It is expected that the annual number of deaths due to cardiovascular disease will increase from 17 million in 2008 to 25 million in 2030 [1]. In Indonesia, stroke is the third leading cause of death. In fact, the incidence of strokes in the country was 8.3 per 1000 in 2007, and this increased to 12.1 per 1000 in 2013 [2]. Thus, the high incidence of stroke in Indonesia causes high morbidity and disability. In addition, this problem creates a negative impact on well-being, role, and relationship between stroke patients and their families.

Strokes lead to a low sense of well-being among patients. A number of previous studies had shown that patients who suffered from stroke experienced a reduced sense of well-being [9]. A stroke may cause the body to be out of control, which may lead to hemiplegic, sensory loss, hemispatial neglect and

aphasia. A stroke forces the individual to change life roles dramatically and suddenly. It limits the survivors the ability to function in daily life activities, causes adjustments within the family, and brings changes in the manner of doing some Moslem religious activities [9]. In other words, patients who suffered from stroke have to face a number of changes in all aspects of their life. These changes influence the relationship' well-being between the stroke patients and their family members. Family caregivers experienced lower relationship satisfaction and were significantly predictive of depression scores at discharge [10].

The majority of the stroke patients in Indonesia are accompanied by their family members. They provide social support that will help the stroke patient to enhance his/her self-confidence and to reduce any psychological problems. The family has an important role in participating in the care for the patients since they lose the ability to perform daily activities [11]. However, when there is a lack of support and communication from professional staff, the patients in transition experienced feelings of powerlessness, confusion, frustration, and doubt [12]. In addition, the participation of the family without the supervision and guidance from a nurse can harm the patient. The responsibilities of the family members would be to serve as the key communicator and to assist the patient in self-care [13]. Thus, it is necessary to have a program that can accommodate all of the three parties: the nurses, patients, and their families.

Previous studies had reported some interventions for families who were involved in caring for patients with a stroke. Kernich and Robb [14] conducted a study on interdisciplinary family support and an education program consisting of four sessions. However, this program only focused on cognitive and interdisciplinary involvement. Likewise, another study conducted by Shyu, Kuo, Chen, and Chen [15] aimed to explore the long-term effects of a discharge-preparation program targeting Taiwanese family caregivers of older patients with strokes. This study, however, only focused on the family caregiver program of health education and consultation. It did not involve the patient in the intervention program. Similarly, a study conducted by Clark, Rubenach, and Winsor [16] also aimed at determining whether or not education and counseling after a stroke would lead to improved family functioning and psychosocial outcomes. However, this study only focused on the family caregiver and did not involve the patient. Therefore, the NTPFPT was conducted to integrate all therapeutic models and involve all parties (nurses, patients, and families) in the program.

A similar study conducted by Chalermwannapong, Panuthai, Srisuphan, Panya, and Oswald [17] in Thailand examined the effects of a transitional care program on the functional ability and quality of life of stroke survivors. The result showed that the functional ability and quality of life of stroke survivors in the experimental group were significantly better than those of the control group. In contrast, the study of Chalermwannapong *et al.* [17] revealed that there was a difference in the nursing therapeutic program for facilitating patient transition (NTPFPT) as the authors used only the transitional care model (TCM) suggested by Naylor [18] as a foundation for their research. In addition, the authors did not include all therapeutic models as suggested by Meleis [12]. In the TCM provided, discharge planning and home follow-up care for chronically ill were emphasized as well as the coordination and continuity of care, prevention and avoidance of complications, and close clinical treatment [18]. However, in the TCM, it did not involve psychological and social aspect. Therefore, the NTPFPT was conducted to integrate all therapeutic models, involve all parties (nurses, patients, and families), and include psychological and social aspects in the program to address the stroke problems.

The NTPFPT is a program that allowed the patients to achieve a healthy transition. This program is facilitated by the family showing care for the stroke patients. The program was derived from the transition theory developed by Meleis [12]. The program consisted of the following three intervention models; a transitional care, role supplementation, and a debriefing. The mechanism of the program was an assessment of the readiness and the preparation of the transition for patients and their families, so they were more ready to face the transition process. It also assessed whether or not they have the knowledge and skills needed during the transition. The role supplementation assisted the patients and their family to clarify the new roles. This intervention encouraged the patients and their families to accept a new role during the transition. The debriefing was designed to explore the feelings and experiences of the stroke patients and their families during the transition. Thus, this intervention released the psychological burden of patients and their families. This program did not only give the knowledge for the stroke patients and

their families but also encouraged the family members to participate in caring effectively. The aim of the study was to examine the effects of the NTPFPT on subjective well-being, role mastery, and the well-being of the relationships among adult stroke patients in Bandung, Indonesia.

Materials and methods

Research design and sample

A quasi-experimental, repeated measures design of two groups was used. The sample of the study was the adult stroke patients admitted to the neurological ward of Angsana, a general teaching hospital in Bandung, Indonesia. The patients in this study met the inclusion criteria.

The inclusion criteria for the stroke patients included: 1) adult (18 years and over), 2) the severity of the stroke at a moderate level (The Barthel Index: 40 - 60 moderate), 3) could communicate in Bahasa Indonesia, 4) were accompanied by the family caregivers, 5) did not have severe expressive or receptive language problems, and 6) did not diagnose with psychosis or depression. For those of the family caregivers, the criteria were 1) adult (18 years and over), 2) could provide support for the patients, 3) stayed in the same house, and 4) were the most responsible to provide care for the patients at least for 2 months. The exclusion criteria for the patients and their families were: 1) could not participate until at the end of the program; and 2) had any serious illnesses such as cardiac diseases, epileptic, or infectious diseases.

Sample size

The sample size was estimated based on the previous study [17]. The power analysis was used to determine the sample size. The power of .80 was used to reduce the risk of type II error. The level of significance (α) was set at .05 to reduce the risk of a type I error. The sample size was determined based on the previous effect size (ES = 0.68). It investigated the effects of the transitional care program on functional ability and quality of life of stroke survivors [17]. The effect size index for *t*-test of means in a standard unit was calculated from the Cohen formula [19]. Based on the effect size of .68, power .80, and alpha level .05; the required total sample size for *t*-test was approximately 35 [19]. The sample size was increased to 20 % for attrition because it was a longitudinal study. Thus, the total sample size in each group was 42.

Ethical consideration

The study's ethical approval was given by the Research Ethics Review Committee of Faculty of Nursing, Prince of Songkla University (ID MOE 0521.1.05/1529) and by the ethics committee of the study hospital (IDLB. 04.01/A05/EC/259/VII/2016). All of the participants were informed regarding the study's objectives, procedures, potential risks and benefits, voluntary participation, and protection of confidentiality and rights to withdraw at any point in the study without any consequence to current treatment or hospital service. Prior to signing the informed consent form, participants were assured of their confidentiality and anonymity and they were given enough time to ask questions about the study. During the study, the primary investigator (PI) stayed with the participants all the time. If they might have physical or psychological problems, such as tiredness, shortness of breath, and restlessness during the study, all activities were stopped until they were ready to continue. In this study, no such events occurred.

Experimental Intervention

The experimental Intervention consisted of the nursing therapeutics program for facilitating patient transition (NTPFPT). It was developed by the researcher based on the transition theory [12] and previous studies [18,20]. It consisted of the protocol of nursing therapeutic program for facilitating patient and the booklet regarding facilitating stroke patient transition. The protocol consisted of three nursing therapeutic models: 1) Transitional care model, 2) role supplementation model, and 3) debriefing model. Three adult nursing experts evaluated the content validity of both the protocol and the booklet in terms of the accuracy, language, and cultural appropriateness of the program. The researcher then revised them based on the comments and suggestions from the experts. In this study, some contents of the protocol were

revised such as using the simple word during giving the information to the stroke patients and families. In the preparation for transition, the researcher added more information to make it clearer. For the booklet, the researcher also revised to be clearer and easier to follow such as the definition of the terms and the caring procedures for the stroke patients. The protocol was provided as guideline for the researcher during the conduct of this study so that nurses who will use this program could follow the protocol.

Instruments

The instruments used in this study consisted of data collection questionnaires. The details are as follows.

The data collection instruments were as follows.

1. The demographic data questionnaire was developed by the researcher to collect demographic characteristics of the patients and family caregivers. For the patients, it consisted of age, gender, income, relationship with the caregiver, education level, religion, type of stroke, location of lesion, leisure activities, illness, length of stay, and medication. For the family caregivers, it consisted of age, gender, occupation, education, religion, caring experience, and leisure activities.

2. The Subjective Well-Being Inventory (SUBI) [21] was used to assess the subjective well-being of the stroke patients in this study. The patients answered the questions on the SUBI questionnaire. The SUBI was designed to measure the subjective well-being experienced by an individual in day-to-day life concerns. It consisted of 40 items with 11 dimensions. The responses varied from 1 (not so much) to 3 (very much). The possible total scores were 40 - 120. Higher scores indicated more SWB. In this study, the Cronbach's alpha coefficient was .89.

3. The Role Function Mode (RFM) [22] was used to evaluate the role mastery following stroke. The role function mode consisted of six items. The responses varied from 0 (do not agreed) to 2 (entirely agreed). The possible total score was 0 - 12. The original questions of the questionnaire were a negative statement. A high score was evaluated as a lack of role function (cannot achieve role mastery). However, in this study, the scores of the questionnaire were reversed from negative score to positive. Thus, a high score was evaluated as achieved by role mastery. The Cronbach's alpha coefficient was .87 [22]. In this study, the Cronbach's alpha coefficient was .77.

4. The Brief Family Relationship Scale (BFRS) [23] was used to assess the family relationship functions among family members and the stroke patients which were reflected by family cohesiveness, family expressiveness, and family conflict. It consisted of 16 items and three dimensions such as family cohesion, family expressiveness, and family conflict. The responses varied from 1 (not at all) to 3 (a lot). The possible total score was 16 - 48. The internal consistency was acceptable for cohesion ($\alpha = .83$) and conflict ($\alpha = .80$), and for the full scale BFRS ($\alpha = .88$), but weaker for expressiveness ($\alpha = .65$). The scale comprises of six negatively worded items and ten positively worded items. The negatively worded items required reverse coding prior to scoring, resulting in a score ranged of 16 to 48, with higher scores indicating greater levels of family relationships. In this study, the Cronbach's alpha coefficient was .89.

Data collection

The researcher (PI) performed the intervention and the research assistant (RA) collected the data. The RA, a registered nurse in the neurological ward of the study hospital, was trained by the PI regarding aims, scope of the study, research methodology, instruments, and data collection.

Procedure of the experimental study

In the hospital period, within 72 h after the stroke patients were admitted to the hospital, they were visited to assess their profile, needs, and readiness. During the stages of transition preparation, role supplementation, and debriefing, the PI visited the patients and their family every day until discharge for 45 - 60 min (approximately 7 days). The preparation for transition included giving all essential information and training related stroke care for the patients and their family. These preparations included: 1) stroke, complications and prevention, 2) maintaining adequate hydration and nutrition, identification of swallowing difficulties, nasogastric (NG) tube feeding and the care of the tube, 3) catheter care, bladder and bowel training, positioning, mobility and transfers, and the role of the family caregiver, and 4)

psychological support, stress management, and home preparation. The role supplementation was divided into three sessions: Role clarification and role modeling, role rehearsal, and the reference group. The role supplementation included a discussion between the researcher, stroke survivor, and the family. The debriefing was conducted through a reflection. This strategy allowed the patients and their family to express their feelings and experiences related to stroke. The PI was actively listening and analyzing the story content of the patients and their families.

The PI collaborated with the health care team by providing informal and formal meeting, attending a patient round with physicians and or physical therapists, and dieticians. In this intervention, the stroke patients got the routine care as well from nurses and health care team, such as preventing bedsores, mobility and transfer, medication, and communication. Within 24 before discharge, the PI visited the stroke patients and their families to finalize the discharge preparation. The patients and their family were informed and an appointment was made for home visit and phone calling. They were given a booklet to maintain their knowledge at home. The nurse in the health community center was contacted to gain collaboration. The second step, the PI made a phone call to the patients or family every two weeks until one month after discharge.

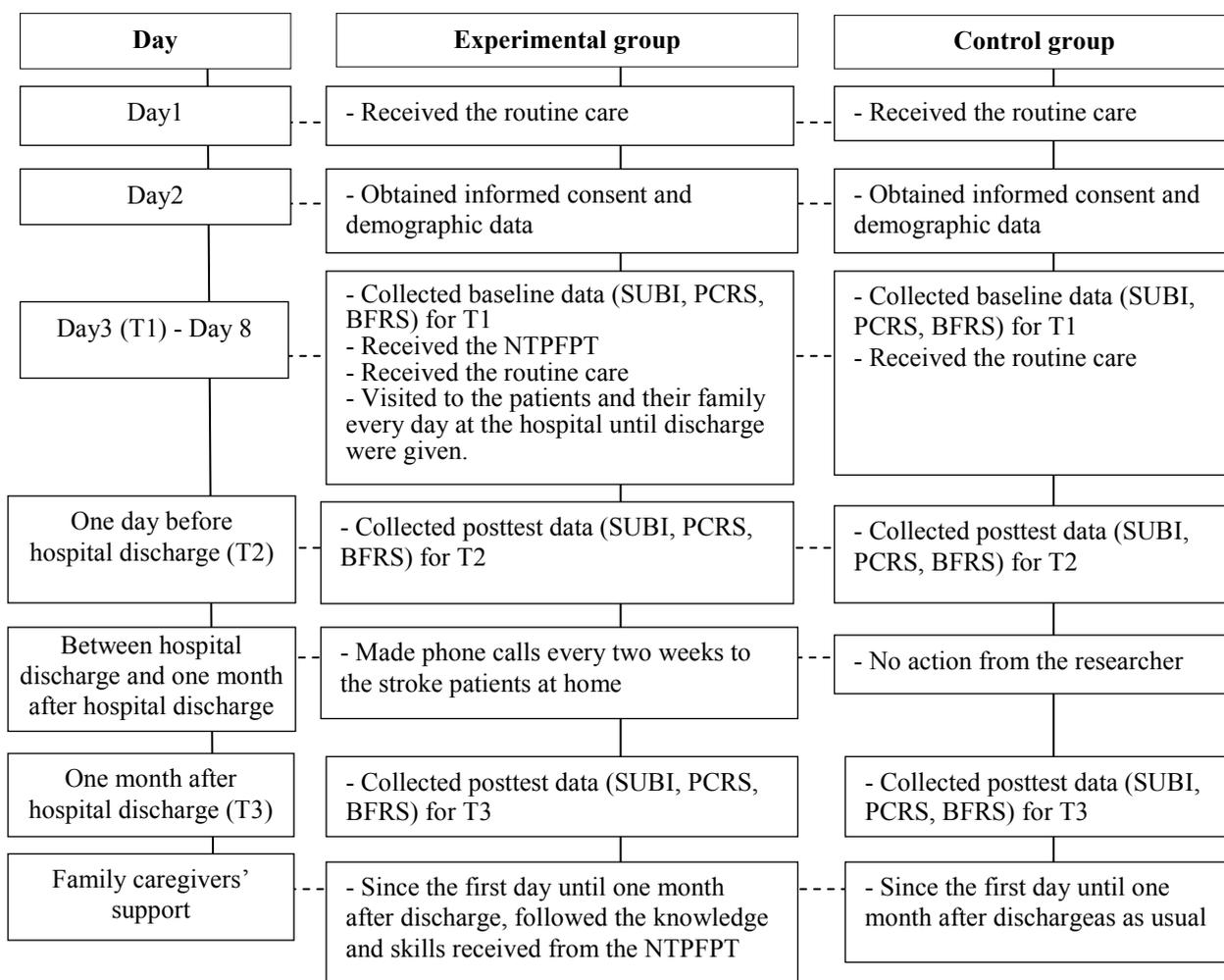


Figure 1 The intervention and data collection procedure of the study.

Procedure of the control study

In the control group, the routine care was provided for the stroke patients and their family by nursing staffs, and other health care providers in a neurological ward. The routine care consisted of providing information and general nursing care. The collaboration was conducted during a patient round with physicians. The physical therapist, occupational therapist, and dietician provided services for the stroke patients.

In both groups, the data were collected at Day 3 of hospitalization (T1), one day before discharge (T2), and one month after discharge (T3) (Figure 1).

Statistical analysis

The demographic characteristics were analyzed using the descriptive statistics. Repeated Measures ANOVA was used to test 1) the differences of the mean scores of subjective well-being, role mastery, and well-being of relationships between the control and experimental groups, 2) the changes in mean scores of subjective well-being, role mastery, and well-being of the relationships over three time points within the control and experimental groups, and 3) the interaction between treatment and time. One-way ANOVA with post hoc analysis was used to test for the mean differences of the three variables within group. Independent *t*-test was used to compare the differences of mean scores of subjective well-being, role mastery, and well-being of relationships was measured at three times between two groups.

Results and discussion

Demographic characteristics

The stroke patients' characteristics between the control and experimental groups showed no significant difference. The stroke patients had an average age of 58.62 (SD = 10.23) years old in the control group and 55.05 (SD = 11.25) years old in the experimental group. More than half of the stroke patients were female (control 61.9 % and experimental 64.3 %). Most of their income was below 373 USD in both groups. More than a half of their caregivers were spouses in both groups. Likewise, in both groups, more than half graduated at elementary schools and almost all of them were Islam. The type of stroke for both groups was infarction (100 %). Both groups got lesion at right hemisphere (control 69.0 % and experimental 57.1 %). Leisure activities were watching TV (control 78.6 % and experimental 92.9 %). Both groups had transient ischemic attack (control 50.0 % and experimental 69.0 %) and had hypertension (control 66.7 % and experimental 71.4 %). The length of stay in the hospital ranged from 10 to 14 days for both groups. All of the stroke patients were medicated through Aspirin and Citicholin.

Table 1 Frequency, percentage, chi-square, and t-test results of stroke patients in the control and experimental groups identified by demographic data.

Demographic characteristics	Control group (n = 42)		Experimental group (n = 42)		χ^2/t	p
	f	%	f	%		
Age (years)	M ± SD = 58.62 ± 10.23		M ± SD = 55.05 ± 11.25		1.52	.132
Gender					0.05	.821
Male	16	38.1	15	35.7		
Female	26	61.9	27	64.3		
Family income (IDR/month, 1 USD = 13,329.99 IDR)*					0.00	1.000
1-5 million (< 373 USD)	34	81.0	34	81.0		
6-10 million (> 373 USD)	8	19.0	8	19.0		

Demographic characteristics	Control group (n = 42)		Experimental group (n = 42)		χ^2/t	p
	f	%	f	%		
Relationship with family caregiver					0.00	1.000
Spouse	25	59.5	25	59.5		
Child	17	40.5	17	40.5		
Education**					1.45	.725
Elementary school	25	59.5	29	69.0		
Primary school	8	19.1	7	16.7		
Secondary school	6	14.3	5	11.9		
College/University	3	7.1	1	2.4		
Religion*					0.51	.474
Islam	40	95.2	42	100		
Christianity	2	4.8	0	0		
Type of stroke: Infarction	42	100	42	100	-	-
Lesion					1.28	.258
Right hemisphere	29	69.0	24	57.1		
Left hemisphere	13	31.0	18	42.9		
Leisure activity						
Watching a TV					3.50	.061
Yes	33	78.6	39	92.9		
No	9	21.4	3	7.1		
Health history						
Transient ischemic attack					3.16	.075
Yes	21	50.0	13	31.0		
No	21	50.0	29	69.0		
Ischemic heart disease*					0.85	.356
Yes	4	9.5	1	2.4		
No	38	90.5	41	97.6		
Length of stay**						
10	21	50.0	20	47.6	1.19	.920
11	5	11.9	7	16.7		
12	6	14.3	7	16.7		
13	4	9.5	2	4.8		
14	6	14.3	6	14.2		
Length of stay	$M \pm SD =$ 11.26 \pm 1.52		$M \pm SD =$ 11.21 \pm 1.46		0.15	.884
Drugs						
Aspirin 81 mg	42	100	42	100	-	-
Citicholin 2 \times 500 mg	42	100	42	100	-	-
Calcium ch. blocker					0.94	.332
Yes	7	16.7	4	9.52		
No	35	83.3	38	90.48		
Insulin*					1.24	.265
Yes	2	4.8	6	14.29		
No	40	95.2	36	85.71		
Captopril					0.86	.355
Yes	26	61.9	30	71.4		
No	16	38.1	12	28.6		

The family caregivers' characteristics between the control and experimental groups showed no significant difference. They had an average age of 46.76 (SD = 15.39) years old in the control group and 44.6 (SD = 11.52) years old in the experimental group. More than half of them were female (control 71.4 % and experimental 52.4 %). They were unemployed (control 45.3 % and experimental 38.0 %). Their education was at elementary school (control 40.5 % and experimental 54.8 %). Almost all of them were Muslim (control 95.2 % and experimental 100 %). Most of them had no experience at caring for stroke patients (control 78.6 % and experimental 92.9 %) and watched television as a leisure time (control 81.0 % and experimental 95.2 %).

Table 2 Frequency, percentage, and chi-square, Mann Withney U-test, and t-test results of family caregivers in the control and experimental groups identified by demographic data.

Demographic characteristics	Control group (n = 42)		Experimental group (n = 42)		χ^2/t	P
	f	%	f	%		
Age (years)	$M \pm SD =$ 46.76 ± 15.39		$M \pm SD =$ 44.6 ± 11.52		0.73	.467
Gender					3.23	.072
Male	12	28.6	20	47.6		
Female	30	71.4	22	52.4		
Occupation**					3.44	.501
Unemployed	19	45.3	16	38.0		
Agriculturist	3	7.1	2	4.8		
Government official	3	7.1	1	2.4		
Businessman/self employed	6	14.3	12	28.6		
Retired	11	26.2	11	26.2		
Education**					4.37	.229
Elementary school	17	40.5	23	54.8		
Primary school	13	31.0	9	21.4		
Secondary school	7	16.6	9	21.4		
College/University	5	11.9	1	2.4		
Religion*					0.51	.474
Islam	40	95.2	42	100		
Christianity	2	4.8	0	0		
Experience of family caregiver					3.50	.061
Yes	9	21.4	3	7.1		
No	33	78.6	39	92.9		
Leisure activity					4.09	.088
Watching a TV						
Yes	34	81.0	40	95.2		
No	8	19.0	2	4.8		

Note. *Continuity correction, **Fisher's Exact Test

Effects of the NTPFPT on subjective well-being, role mastery, and well-being of relationships
Differences of mean scores of subjective well-being, role mastery, and well-being of relationships between groups

Before performing the data analysis, all assumptions of repeated measures ANOVA were tested and almost met the criteria because the sphericity was not assumed ($p < .05$). Thus, the data were interpreted using Huynh-Feldt correction [24]. In contrast, the role mastery's assumption of sphericity was met; thus, the data were interpreted using sphericity assumed.

The results revealed that there were statistically significant differences of the mean scores of subjective well-being, role mastery and well-being of relationships between the control and experimental groups ($F(1,82) = 27.41$; $F(1,80) = 119.49$; $F(1,82) = 150.63$; $p < .001$, respectively). There were statistically significant differences of the changes in mean scores of subjective well-being, role mastery and well-being of relationships over three time points (T1, $F(1.78,145.65) = 314.53$; T2, $F(2,160) = 494.48$; T3, $F(1.87,153.58) = 664.98$; $p < .001$). In addition, the interactions between treatment and time for those three variables were significantly different ($F(1.78,145.65) = 76.33$; $F(2,160) = 156.09$; $F(1.87,153.58) = 243.58$; $p < .001$, respectively) (**Table 1**).

Table 3 RM-ANOVA for subjective well-being (Control = 42, Experimental = 42), role mastery (Control = 40, Experimental = 42), and well-being of relationships (Control = 42, Experimental = 42).

Variables	Source	Sum Square	df	Mean Square	F	p
Subjective well-being	Between subjects					
	Within groups (error)	6876.04	82	83.85		
	Group	2298.09	1	2298.09	27.41	.000**
	Within subjects					
	Time x within group (error)	2290.22	145.65	15.72		
	Time	8784.68	1.78	4945.64	314.53	.000**
	Group x time	2131.77	1.78	1200.15	76.33	.000**
Role mastery	Between subjects					
	Within groups (error)	360.71	80	4.50		
	Group	538.78	1	538.78	119.49	.000**
	Within subjects					
	Time x within group (error)	162.06	160	1.02		
	Time	1005.34	2	502.69	494.48	.000**
	Group x time	317.38	2	158.692	156.09	.000**
Well-being of relationship	Between subjects					
	Within groups (error)	918.30	82	11.20		
	Group	1686.92	1	1686.92	150.63	.000**
	Within subjects					
	Time x within group (error)	312.03	153.58	2.03		
	Time	2530.41	1.87	1351.06	664.98	.000**
	Group x time	926.89	1.87	494.89	243.58	.000**

Note. ** $p < .001$

Comparison of mean differences of subjective well-being, role mastery, and well-being of relationships within groups

Before performing a post hoc analysis, all assumptions were tested. Thus, the Scheffe post hoc test was used with subjective well-being and well-being of relationships within both groups and with role mastery in the control group. For role mastery in the experimental group, homogeneity of variance was not assumed ($p < .05$). Thus, the data were interpreted using a Games–Howell post hoc test [25].

The results revealed that there were statistically significant differences between all three pair wise comparisons of subjective well-being, role mastery, and well-being of relationships in the experimental group ($p < .000$). Whereas, in the control group, only two pair wise comparisons were significantly different. In the experimental and the control group, the mean scores of subjective well-being, role mastery, and well-being of relationships measured at T3 were significantly higher than those of T1 ($p < .000$). Similarly, all those measured at T3 were significantly higher than those of T2 ($p < .000$). The mean scores of subjective well-being, role mastery and well-being of relationships in the experimental group measured at T2 were significantly higher than those of T1 ($p < .000$). In the control group, there was no mean differences between T1 and T2 were found ($p > .05$) (Table 2).

Table 4 Comparison of the mean differences of subjective well-being (Control = 42, Experimental = 42), role mastery (Control = 40, Experimental = 42), and well-being of relationships (Control = 42, Experimental = 42).

Variables	Comparison	Mean differences		<i>p</i>	
		Experimental	Control	Experimental	Control
Subjective well-being	T1 – T2	-9.91	-0.93	.000	.837
	T1 – T3	-21.36	-7.29	.000	.000**
	T2 – T3	-11.45	-6.36	.000	.000**
Role mastery	T1 – T2	-4.33	-.20	.000	.890
	T1 – T3	-7.59	-2.30	.000	.000**
	T2 – T3	-3.26	-2.10	.000	.000**
Well-being of relationship	T1 – T2	-7.43	-0.38	.000	.783
	T1 – T3	-12.21	-3.31	.000	.000**
	T2 – T3	-4.79	-2.93	.000	.000**

Note. ** $p < .001$, T1 = Day 3 of hospitalization, T2 = one day before discharge, T3 = one month after discharge

Comparisons of mean scores of subjective well-being, role mastery, and well-being of relationships between groups

Before performing the data analysis, all assumptions of independent *t*-test were tested. Since homogeneity of variance of subjective well-being measured at T1 and T were not met ($p < .05$), the result was interpreted from equal variance. For role mastery, the data distribution measured at all three times in the control group was non normality; thus, two outliers were deleted. Further analysis was performed with 40 samples in the control group and 42 samples in the experimental group. In addition, homogeneity of variance of role mastery measured at all three times presented by Levene’s test for equality of variance was significant; thus, these results were interpreted from equal variances.

The results revealed that there were no statistically significant differences of the mean scores of subjective well-being, role mastery, and well-being of relationships measured at T1 between the experimental and control groups ($p > .05$). The mean scores of subjective well-being, role mastery, and well-being of relationships in the experimental group measured at T2 were significantly higher than those of the control group ($p < .000$). The mean scores of subjective well-being, role mastery, and well-being of

relationships in the experimental group measured at T3 were significantly higher than those of the control group ($p < .000$) (Table 3).

Table 5 Comparisons of the mean scores of subjective well-being (Control = 42, Experimental = 42), role mastery (Control = 40, Experimental = 42), and well-being of relationships (Control = 42, Experimental = 42) between groups.

Variables	Time	Group				<i>t</i>	<i>p</i>
		Experimental		Control			
		Mean	SD	Mean	SD		
Subjective well-being	T1	81.07	5.33	82.32	7.44	0.87	.385
	T2	90.98	3.94	83.25	7.24	-5.96	.000**
	T3	102.43	5.26	89.68	5.43	-10.81	.000**
Role mastery	T1	2.64	1.14	2.83	2.16	0.47	.637
	T2	6.98	1.05	3.03	1.90	-11.58	.000**
	T3	10.24	0.73	5.13	1.44	-20.20	.000**
Well-being of relationship	T1	31.76	1.99	31.90	2.82	0.27	.789
	T2	39.19	1.92	32.29	2.42	-14.49	.000**
	T3	43.98	1.93	35.21	2.19	-19.43	.000**

Note. ** $p < .001$; T1 = Day 3 of hospitalization, T2 = one day before discharge, T3 = one month after discharge

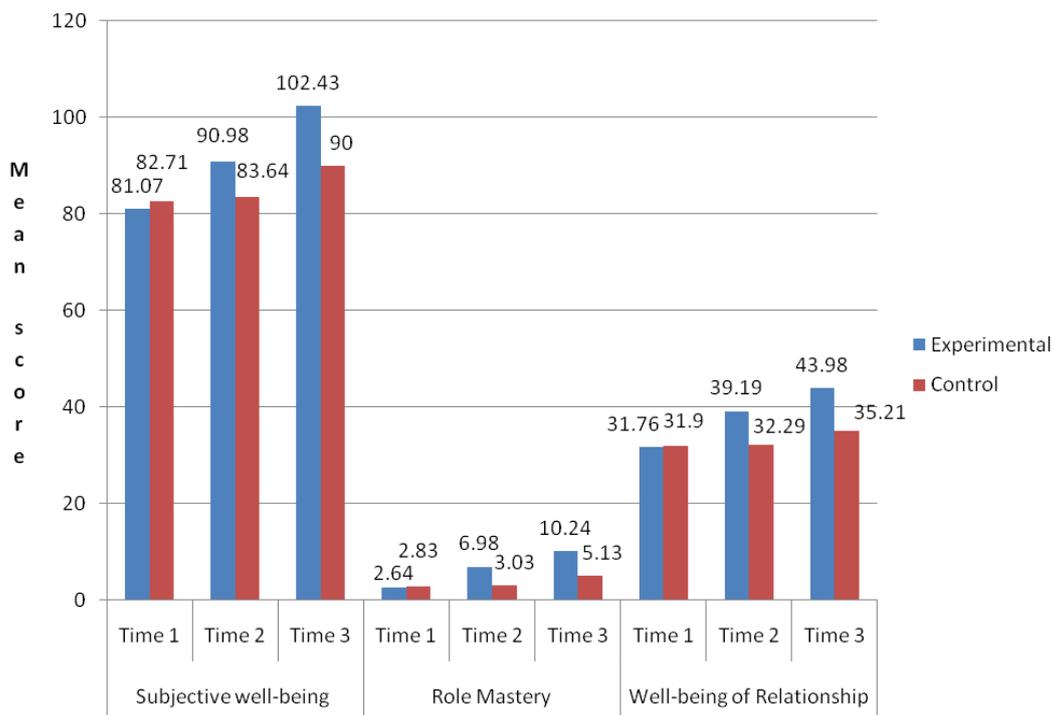


Figure 2 Comparison of mean scores of between groups.

Subjective well-being

Schumacher and Meleis [26] stated that a successful transition was accompanied by a sense of well-being. The subjective well-being includes effective coping, managing one's emotions, and sense of dignity, personal integrity, quality of life, and satisfaction [26]. The subjective well-being is important for the stroke patient because the stroke patients can have a low subjective well-being. Many of the previous studies have shown that the patients who had a stroke experienced a reduced sense of well-being [27-29]. In this study, The NTPFPT was conducted for the experimental group which could increase the subjective well-being of the stroke patients.

In the experimental group, the mean score of subjective well-being after receiving the NTPFPT was significantly higher than before receiving the program. This result confirmed that the subjective well-being of the stroke patients increased at one day before discharge and one month after discharge. The means of subjective well-being at one day before discharge and one month after discharge in the experimental group were significantly higher than those of the control group. Meanwhile, at Day 3 of hospitalization (before intervention), the mean of subjective well-being in both the experimental and control groups showed no significant difference.

Nursing therapeutics for the stroke patients in the transition process could be conducted directly and indirectly to the patients by encouraging the families to provide a conducive environment. Such a conducive environment may facilitate stroke patients to achieve a healthy transition. Thus, the NTPFPT would succeed when the stroke patients and their family caregivers are ready to undergo rehabilitation. In this study, the stroke patients and their families were well prepared by the researcher. The stroke patients had the readiness score 97.9 % to face or accept to the activities provided in the program. The families also had knowledge and skills regarding caring for the stroke patients (100 %). The results of this study were conformable with the previous study conducted by Wong [17,19,30].

In the control group, the mean scores of subjective well-being after receiving the routine care at Day 3 of hospitalization and one month after discharge were significantly different from the baseline. These results happened probably because the control group received the routine care delivered by health care providers using standard procedure of the hospital. It may also be due to the improved conditions of the stroke patients since they were discharged from the hospital. However, if comparing both groups, the mean score of the experimental group was higher than the control group. It means that the NTPFPT had more effect on the dependent variables than the routine care.

Role mastery

Role mastery refers to the achievement of skilled role performance and comfort with the behavior required in the new situation [26]. This role mastery can be observed by the role function behavior. The role function focuses on the role of the person in the society and the roles within the group [32]. One of the roles of the stroke patient is to conduct activities of daily living as soon as possible [33]. The previous study reported that approximately half of the patients with mild-to-moderate stroke who had been employed pre-stroke had returned to work [34]. If the stroke patients can perform their role function, it means that they can achieve the role mastery.

In the experimental group, the result reported that the mean scores of role mastery after receiving the NTPFPT were higher than those before receiving the program. It showed that the mean score increased at one day before discharge and one month after discharge. This result confirmed that the NTPFPT affected the role of mastery in the stroke patients. Moreover, the means of role mastery of the patients in the experimental group was higher than those of the control group. At Day 3 of hospitalization, the mean score of role mastery both in the experimental and control groups showed no significant difference. Whereas, at one day before discharge and one month after discharge, the mean scores of role mastery were significantly different between the two groups. Thus, it confirmed that the NTPFPT could make better role mastery among the stroke patients. In this study, the stroke patients were well prepared. Based on the results, all stroke patients in the experimental group had knowledge regarding their role (100 %). This knowledge would increase good understanding of the patients' role during rehabilitation. The family caregivers also could support the patients to meet their needs when the stroke patients could not do by themselves. Mostly, stroke patients had difficulty doing any activities even those who had suffered a

mild stroke [35]. The family should perform assistance for the stroke patients only if the stroke patients could not perform such activity. The appropriate assistant would increase the confidence of the stroke patients. The family caregivers in the experimental group had knowledge and skills regarding role of family caregiver (100 %). Thus, the role mastery in the experimental group was better than the control group. This study was conformable with the study conducted by Chalermwannapong [17] and Brackley [36].

In the control group, the result also reported that the mean scores of role mastery of the patients after receiving the routine care at Day 3 of hospitalization and one month after discharge were significantly different from the baseline. These results happened probably because the control group received the routine care by health care providers using standard procedure of the hospital. The other reason probably is that stroke patients had already recovered from the stroke. Spontaneous neurological recovery begins since the patient suffered from stroke. Stroke recovery was heterogeneous in terms of functional outcome [37]. Stroke patients with mild to moderate upper extremity paresis in acute phase had a good prognosis for functional recovery, as 71 % of these patients achieve at least at 6 months after stroke [38]. However, if comparing between two groups, the mean scores of role mastery in the experimental group were higher than those of the control group. It means that the NTPFPT had more effect on the dependent variables than the routine care.

Well-being of relationships

A successful transition is indicated by the well-being in one's relationships. The relationships involve the family members. It includes family adaptation, family integration, enhanced appreciation and closeness, and meaningful interaction [26]. The well-being in relationships can be reflected by family cohesiveness, family expressiveness, and family conflict [39]. Significant family dysfunction after stroke and significant conflict have been reported in families [40,41]. The NTPFPT is the nursing program that can enhance the relationship well-being among family member.

In the experimental group, the result reported that the mean scores of relationship well-being after receiving the NTPFPT were significantly higher. The well-being of relationship increased at one day before discharge and one month after discharge. It confirmed that the mean well-being of a relationship in the experimental group was higher than before receiving the NTPFPT program. In addition, the results reported that the relationship well-being in the experimental group was significantly higher than that of the control group. At Day 3 of hospitalization, the mean score of the relationship well-being in the experimental and control groups showed no significant difference. Whereas, at one day before discharge and one month after discharge, the mean scores of well-being of relationship showed significant difference between the two groups.

Previous study reported that physical health, mental health, health habits, and mortality risk affected social relationships [42]. In addition, this problem upsets the well-being of the relationship between the patients and their spouses. Stroke survivors' loss of memory represents a terrible loss for the marital relationship [43]. The NTPFPT provided intervention for the stroke patients in the experimental group to make a good relationship in their families. The stroke patients and family caregivers were well prepared for role supplementation (100 %) in order to guide them in making a relationship with other. These family caregivers' activities brought confidence to stroke patients, gained warm relationships, and improved the communication among the family. Moreover, previous study also showed that communication was the most essential ingredient in effective health care [44]. Communication also could be one of the most powerful tools in stroke recovery [45]. This intervention was crucial to make family atmosphere better in their family life. The family was the main support for the stroke patient. In this study, stroke patients were supported by their spouse (control = 57.5 % and experimental = 59.5 %) or child (control = 42.5 % and experimental = 40.5 %). Thus, it confirmed that the NTPFPT can make relationship well-being better among stroke patients. This result was conformable with the previous study conducted by Black *et al.* [46] and Pickett-Schenk *et al.* [47].

In the control group, the result reported that the mean score of the relationship well-being among stroke patients showed a significant difference in the following cases; after receiving the routine care at Day 3 of hospitalization and one month after discharge, and one day before discharge and one month after

discharge. These results occurred because stroke patients were discharged to their home and they already interacted with their community. At the community, the stroke patients could make better communication with people than at the hospital. However, when comparing means between the control and experimental groups, it was found that the mean scores in the experimental group were higher than those of the control group. It means that the NTPFPT had more effect on the dependent variables than the routine care.

Conclusions

The nursing therapeutics program for facilitating patient transition had effects on subjective well-being, role mastery, and the well-being of relationships of adult patients with a stroke in Indonesia. This is the first time that this program has been developed based on all three models of the transition theory: Transitional care, role supplementation, and debriefing. It was a comprehensive approach through physical (knowledge and skill), social (role supplementation), and psychological (debriefing) for the stroke patients and their families. Thus, it is appropriate for nurses to provide the NTPFPT to stroke patients and families both in the hospital and at home. Further study regarding the continued follow-up of these patients to investigate the sustainability of the program is needed.

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