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The Effect of Structured Discharge on Family Readiness to Provide Transient Care for Stroke Patients

[1] Tri Antika Rizki Kusuma Putri* | [2] Riza Sukma Agustian | [3] Suci Noor Hayati | [4] Gina Nurdina | [5] Tri Hapsari Retno Agustina | [6] Susy Puspasari
[1] Medical Surgical Nursing Department, STIKep PPNI Jawa Barat, Indonesia, e-mail: tri.antika90@gmail.com
[2] Hasan Sadikin General Hospital, Bandung, Indonesia, e-mail: riza.sukma.agustian.rsa@gmail.com
[3] Nursing Management Department, STIKep PPNI Jawa Barat, Indonesia, e-mail: suci.noor@rocketmail.com
[4] Medical Surgical Nursing Department, STIKep PPNI Jawa Barat, Indonesia, e-mail: ghina.nurdina@gmail.com
[5] Poltekes Kemenkes Bandung, Indonesia, e-mail: trihapsariretno60@gmail.com
[6] Critical and Disaster Department, STIKep PPNI Jawa Barat, Indonesia, e-mail: : eisya73@gmail.com
*Corresponding Author: tri.antika90@gmail.com

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ABSTRACT

Background: *Every situation that occurs in the ICU, whether in critical conditions or life-threatening conditions, can make the patient's family feel anxious. A combination of natural relaxation sounds and deep breathing relaxation is one of the non-pharmacological therapies that could help reduce anxiety*
Purpose: *Understanding the effect of the combination of natural relaxation sounds and deep breathing relaxation reduces anxiety among families of patients in the waiting room at RSUD'S ICU of Ulin Banjarmasin*
Methods: *With a quasi-experimental pre and post-test without control design using consecutive sampling techniques involving 29 respondent families of patients in the ICU waiting room, the questionnaire utilized the HARS (Hamilton Anxiety Rating Scale). Bivariate analysis employed the Wilcoxon Test to analyze the impact before and after the intervention was administered*
Result: *In the data analysis, a significance value of 0.000 ($p < 0.05$) was obtained, with Ha accepted, indicating the combination of natural relaxation sounds and deep breathing relaxation can reduce the anxiety levels among families of patients in the waiting room at RSUD'S ICU of Ulin Banjarmasin*
Implication: *The decrease in the anxiety levels among families of patients before and after the intervention with natural relaxation sounds and deep breathing went from severe anxiety (63.3%) to mild anxiety (53.3%). The research results indicated that 10 respondents experienced a decrease in scores of more than 10 points. Therefore, this intervention can be utilized.*

Keywords: *Anxiety; Deep Breathing Relaxation, Family, ICU, Nature Relaxation Sounds*

BACKGROUND

Stroke as the second leading cause of death and disability worldwide is a sudden traumatic medical crisis both for patients and their families. Stroke causes various disorders and even death. The impact is on the patient and the family (Coupland et al., 2017; Katan & Luft, 2018; Lutz et al., 2017). Stroke is also the leading cause of long-term disability, and the risk of experiencing cognitive impairment. In 2010, there were 102 million disabilities due to stroke worldwide. Out of the approximately 6.6 million individuals who have survived a stroke in the United States, over 4.5 million experience disability as a result of the stroke (M. Camicia et al., 2021; Kemenkes RI, 2018; Riskesdas, 2018; Saraswati, D, 2021).

Following a stroke, a person will become more reliant on others in daily activities. Efforts to regain body strength are part of the rehabilitation to fix functional deficiencies and benefits those around them (Putri & Zuhri, 2022; Ramadhan & Putri, 2022). Based on caregiver experience, involving the family in the rehabilitation of post-stroke patients has been found to enhance the recovery process (Nurrandi and Putri, 2021).

Family members, in their role as caregivers, also endure significant physical and psychological challenges (Nurrandi and Putri, 2021). The family undergoes various psychological impacts, including stress, anger, irritability, hopelessness, discomfort, and dissatisfaction as well as physical symptoms such as fatigue, dizziness, sleep disturbances, pain, and weakness. The patient's post-stroke status can be influenced by the way their family responds, which can manifest as a decrease in motivation for therapy and a hesitancy to conduct activities of daily living (ADLs) without assistance. Caregivers need strategic assistance in learning to address all their needs and prevent adverse effects (Lutz *et al.*, 2017; Nurrandi and Putri, 2021).

One of the strategies implemented is by carrying out *discharge planning.* Regarding to family-oriented discharge planning programs for stroke patients, families of stroke patients often feel inadequately prepared to meet their physical, cognitive, and emotional needs. The discharge planning program offers patients health education on several topics, including nutrition, physical activity, medications, and specific instructions, particularly about the signs and symptoms of the patient's disease (Potter and Perry, 2005). The benefits of this *discharge planning* include facilitating rehabilitation and care at home, knowing therapy information and the nearest referral place for patients, reducing the rate of readmissions, and increasing families' readiness to care for patients at home. The needs of stroke patients' discharge planning vary due to several reasons. Nurses have an essential role in discharge planning because nurses interact the most with patients (Damawiyah and Ainiyah, 2018).

The results of a literature review of six previous qualitative research articles stated that the readiness of caregivers (including formal and informal/family caregivers) in caring for stroke patients is an important indicator that health workers must pay attention to (Abu, Arafat and Syahrul, 2020). The previous study results showed that the intervention group's readiness increased after being given discharge planning with a structured method (p-value 0.001) (Damawiyah and Ainiyah, 2018). This outcome indicates that there was an impact both before and after the organized discharge planning on the preparedness of families to facilitate early mobilization for patients with cerebrovascular accidents (CVA) in the

intervention group. Based on the results of previous research, it is known that structured discharge planning is effective in increasing family readiness in providing care to stroke patients, however, the number of samples used is still limited.

As previously explained, the role of the family in providing care at home during the rehabilitation phase is enormous. Moreover, implementing a systematic approach to discharge planning proved to be an effective solution as it prioritizes the client's well-being and addresses various aspects of the families' needs. An evaluation of the family's preparedness to offer care is necessary. Therefore, it was important for the authors to assess the influence of structured discharge planning on the readiness of families to giving care for stroke patients. This study seeks to assess the impact of Structured Discharge Planning on the preparedness of families to administer care for stroke patients after their release from the hospital.

METHODS

Design Study. The research is a quasi-experimental study to determine a symptom or effect resulting from structured discharge planning, using the Pre-test and Post-test designs with Group Control. The data collection location is in a General Hospital at West Java. Two months of implementation from December 2021 to January 2022. The ethical consideration was from Sekolah Tinggi Ilmu Keperawatan PPNI Jawa Barat ethical commission board with III/033.1/KEPK/STIKEP/PPNI/JABAR/XII/2021 as an ethical clearance number.

Population and Research Sample. The selection of both the intervention and control groups was conducted using a randomization process. Subsequently, a pretest was administered to ascertain any disparity in the beginning condition between the intervention and control groups. The population consists of caregivers for stroke patients, and the total sample size is 42, calculated using G*Power Software version 3.1.9.7. The participants in this study were selected based on certain criteria: role as family members of stroke patients who were above 17 years old, responsible for taking care of patients with daily needs, and free from any cognitive impairments.

Procedure. Both the intervention and control groups had a pretest after providing informed consent. The intervention group participants received structured discharge planning after the pretest, while the control group did not. Afterward, both groups administer a post-test to evaluate and compare the effects on the intervention and control groups.

The procedure in this study is divided into four stages: technical data collection, pre-intervention, intervention, and post-intervention. After preparing the document and ethical clearance, researchers are looking for respondents according to the inclusion criteria at General Hospital and conducting an assessment after giving informed consent. If the respondent is willing to be involved in this research, the researcher makes Informed Consent to the respondent to attend. Then the patient will be interviewed according to a questionnaire regarding family readiness in caring for stroke patients for 10 minutes. Respondents received an explanation about structured *discharge planning* in preparation for treating stroke patients at home. Discharge planning is an important part of the client care program which starts as soon as the patient is admitted to the hospital until the patient returns home from the hospital including five steps (patient selection, assessment, planning, implementation, and evaluation) (Baker, Hidayati and Kurnia, 2020). By implementing structured discharge planning, it is hoped that the family will be able to know and understand treatment, a supportive environment, treatment goals, and be able to describe the important meanings of the patient's health status, control needs, and appropriate diet management. After receiving an explanation regarding the structured *discharge planning*, the respondents will be interviewed again regarding their readiness to treat stroke patients. Researchers perform data processing and analyzing data Researchers compile conclusions and research results.

Research Instruments. This study includes two instrument assessments to collect demographic characteristics and PATH-s (The Preparedness Assessment for the Transition Home after Stroke). The instrument has 25 ratings with a Likert scale of 1-4. The PATHs are used to identify gaps in preparedness for stroke. PATH-s has demonstrated its reliability test (Cronbach's α = .90). Path-s is a novel tool created to evaluate the level of commitment of a stroke caregiver to their task prior to being discharged. Following the translation procedure from English to Bahasa, the items on PATH exhibit a significant degree of content validity.

Data analysis. Univariate analysis in data analysis seeks to elucidate the central tendency of respondent characteristics, such as age, gender, education level, method of payment, and family relationship with patients. The bivariate analysis, utilizing the paired t-test, was employed to determine the impact of organized discharge planning on family preparedness in the provision of care for stroke patients following their hospitalization.

RESULTS

The study examined the respondents' characteristics in terms of age, gender, education, and family relationship with the patient.

Table 1. Demographic characteristics of the respondents (n= 42)

Characteristics	Total n=4 2	Intervention n=2 1 (%)	Control n=2 1 (%)	*p-value*
Age Mean ±(SD)	38.86 ± 7.5	3 9.67 ± 8.3	3 8.05 ± 6.8	*0.496[a]
Gender				
Man	19 (45.2)	11 (52.4)	8 (38.1)	*0.653[b]
Woman	23 (54.8)	10 (47.6)	13 (61.9)	
Education				
Junior High School	16 (38.1)	7 (33.3)	9 (42.9)	*0.525[b]
Senior High School	26 (61.9)	14 (66.7)	12 (57.1)	
Family relationship				
Brother/sister	1 (2.4)	1 (4.8)	-	*0.595[b]
Husband and wife	25 (59.5)	12 (57.1)	8 (3 8.1)	
In law	16 (38.1)	8 (38.1)	13 (61.9)	

Description: [a.]Independent t-test results; [b.]Chi-Square test results; *p-value.0.05 indicate no difference between the control and intervention groups

According to Table 1, the mean age of the participants in this study was 38.86 years. Regarding gender, the majority of respondents were female, accounting for 54.8% of the total. The greatest level of education reported was high school, with a percentage of 61.9%. All respondents who received treatment were not health workers in terms of occupation and financial position. Furthermore, the insurance fully paid the entire cost of the procedure. At the same time, the family relationship with most patients was from the category of husband or wife who would care for 59.5. Moreover, there is no discernible distinction between the intervention and control groups, as indicated by a p-value greater than 0.05.

Table 2. The Readiness Level of Respondents (n=42)

	Intervention			Control		
	Means±(SD)	**Min- Max**	**Median**	**Means±(SD)**	**Min-Max**	**Median**
Pretest	63.67 ± 2.6	59-69	63.00	62.05 ±3. 5	55-70	61.00
Posttest	73.52 ± 2.7	70-79	73.00	65.33 ±3. 3	57-74	65.00

Table 2. indicates the readiness level in the intervention group. The mean pretest score is 63.67, with a median of 63. The score that occurs most frequently is 61. Following the intervention, the degree of preparedness climbed to 73.52. In the control group, the mean pretest score is 62.05, and the mode score is 60. Simultaneously, the mean post-test score exhibited a slight increase, however not significantly, specifically reaching 65.33, with the most frequently occurring value being 65.

The bivariate study seeks to evaluate the influence of structured discharge planning on the readiness of relatives to provide care for patients before they are discharged to their homes. The data analysis involved the utilization of the Paired Sample T-test and ANCOVA parametric statistical tests.

Table 3. Readiness Differences Before and After Intervention (n = 42)

Variable	*Pre-test* (Mean±SD)	*Post-test* (Mean±SD)	t	*Mean difference*	*P-values*
Total Readiness Score					
Intervention Group	63.67±2.6	73.52±2.7	-20.996	-9.857	0.000
Control Group	62.05±3.5	65.33±3.3	-12.584	-3.238	0.000

Table 3 shows a significant difference in the intervention group between the average pre-test and post-test readiness scores with t = -20.996 and p-value (0.000). Moreover, the control group also obtained a t-score of (-)12.584 and a p-value <0.005. This result means the improvement score of readiness happens in both intervention and control groups. However, there is a diversity of t scores which is higher in the intervention group compared to the control group.

Table 4. The impact of structured discharge planning on the preparedness of families in providing care for stroke patients (n = 42)

Source	Df	Mean Square	f	Sig.
Corrected Model	2	491.219	177.909	0.000
Intercepts	1	31.800	11.517	0.002
Pretest	1	269.842	97.731	0.000
Group	1	468.733	169.765	0.000
Error	39	2.761		
Total	42			
Corrected Total	41			

Table 4. shows the results of a structured discharge planning intervention on families readiness of stroke patients using ANCOVA analysis. The corrected model value shows a significant effect of structured discharge planning interventions on family readiness in delivering care for stroke patients with a p-value of 0.000 <0.005. The ANCOVA test was used to see the differences in post-test scores from the two groups. This is done to ensure the effect of structured discharge planning. There is a significant difference in group values with a p-value of 0.000 <0.05. This result shows that structured discharge planning interventions can increase readiness more in the intervention group than in the control group.

DISCUSSION

The study found that both the intervention group and the control group had a p-value of 0.000. Consequently, drawing from these findings, it may be inferred that there was an increase in the level of readiness in both groups.

Description of Family Readiness in Caring for Stroke Patients

The study findings indicated a disparity in preparedness levels between the control and intervention groups. The level of preparedness in the intervention group has shown a more substantial increase compared to the control group. This data is similar to previous research, where the readiness value increased from 0% to 53.33% after structured *discharge planning* (Damawiyah & Ainiyah, 2018).

Family readiness might be influenced by the age of the respondent. The mean age of the participants in this study is approximately 38-39 years. According to WHO, this age has developmental tasks related to family life, such as spouses, parents, and children. During middle age, cognitive capacities reach their highest intellectual level. Therefore, having a good knowledge base during this stage considerably impacts the family's preparedness to provide care for patients (Damawiyah & Ainiyah, 2018). Another factor affecting family readiness is the relationships between caregivers and stroke patients. The results indicate that the spouse plays a crucial role in the care of stroke patients, consistent with previous research. The quality of the relationship and conflicts with the patient have a significant impact on the caregiver's level of depression and stress, which in turn affects their preparedness in providing care for the patients (Abu et al., 2020). Another factor is financial or financial sources which in research (Gitlin and Rose, 2014) Families experiencing financial burdens will feel more unprepared to provide care to patients as social support.

The Effect of Structured *Discharge Planning on* Family Readiness in Caring for Stroke Patients.

Based on the analysis in this study using the Paired T-Test analysis, the results obtained in the intervention group had a p-value of 0.000, and in the control group, it had a value of p-value 0.000. The difference in effect between the two groups has a difference in the increase in the average score, which is different from where the intervention group has a difference in the average score of 9.857. In contrast, the difference in the average score in the control group has a value of 3.238. This outcome indicates that the impact on the intervention group is more pronounced compared to the control group. After analyzing the questions on the *instrument* submitted to the respondents, the researchers conclude that

there are two needs that the family must prepare for, such as daily needs, environmental modifications, the impact on the caring family, and the psychological level.

The ANCOVA test concludes that there is a significant value in the corrected model value, which means that the structured Discharge Planning intervention influences family readiness in caring for stroke patients. Compared to the control group, the intervention group had more considerable and significant changes by looking at the group's p-value of 0.000 <0.05. Thus, structured discharge planning has an influence on increasing family readiness in caring for stroke patients. This result following the previous review, including 30 studies with a p-value<0.005, can be concluded that structured discharge planning influences family readiness in caring for patients with CVA (Damawiyah & Ainiyah, 2018; Hagedoorn et al., 2020). The study findings indicate that family caregivers who engage in extensive collaboration with nurses are more likely to possess a heightened level of preparedness to provide care for patients in a home setting.

CONCLUSION

The study's findings suggest that implementing structured discharge planning for stroke patients, with their family members assuming the role of caregivers, significantly improves family preparedness. These conclusions are based on the analysis and description of the research data presented in the discussion. The provision of discharge planning is indeed quite effective in treating patients at home. However, it is also necessary to pay attention to the family's readiness, which will become the provider of patient care at home. Health workers, especially nurses, hope to actively improve the family's knowledge and ability to care for stroke patients. Therefore, this research can reference a standardized intervention in the room.

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