EFFECTIVENESS OF FIVE-FINGER RELAXATION COMBINATION THERAPY WITH NATURE SOUND MUSIC ON PATIENT DEPRESSION DM TYPE 2 IN PALANGKA RAYA CITY

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ABSTRACT

Patients with diabetes mellitus have long-term health problems that impact both their physical and mental well-being. One of the psychological effects that people with diabetes mellitus frequently encounter is depression. Patients with diabetes mellitus can benefit from non-pharmacological therapies such as music therapy and five-finger relaxation therapy to lessen stress and despair. This research aims to ascertain the impact on depression in patients with type 2 diabetes in the city of Palangka Raya of combining five-finger relaxation therapy with natural sound music. A quasi-experimental pretest-posttest design with a control group used in this research. Using a purposive sample approach, this research was carried out at the Kayon Health Center UPT and the Pahandut Health Center BLUD UPT, with 30 respondents in each group. The intervention group was given five-finger relaxation therapy with nature sound music and the control group only received five-finger relaxation therapy. Respondents' degree of depression was assessed both before and after the intervention using the Beck Depression Inventory II (BDI II) scale. Research results proved that type 2 DM patients in the city of Palangka Raya saw a significant reduction in depression when five-finger relaxation therapy and nature sound music were implemented together (P = 0.041).

KEYWORDS

five-finger relaxation, nature sound music, Diabetes Mellitus, depression

INTRODUCTION

The metabolic illness known as diabetes mellitus is represented by increasing blood sugar levels, or hyperglycemia. This is possible if the pancreas is unable to produce insulin or if a person's body is not responsive to insulin (Aminah, Hartati and Alfirda Abbas, 2019). There are 537 million people worldwide living with diabetes with an age range of 20-79 years (International Diabetes Federation, 2021).

As the incidence of DM patients increases. especially among the productive age group, it also leads to an increase in illnesses ranging from depression to anxiety. This depression occurs because of the emergence of DM patients' concerns about themselves due to their incurable disease. Depression is a mood disorder that can cause someone to feel guilty and feel like they have no future. Depressed people will also experience decreased vitality, feelings of sadness, feelings of discomfort, and feel very tired. In addition, depressed people will also lose interest and the ability to enjoy things around them (Cipta and Gotera, 2019). DM disease is closely related to anxiety and depression levels. DM sufferers are three times more at risk of experiencing depression compared to the general population. Depression in DM patients is often undetected, leaving the problem untreated. This depression can lead to worsening DM patient compliance with the treatment plan that has been made. In addition, this depression also has the potential to increase the risk of DM complications, functional disorders, and increased spending on health care. This depression adds to the challenges in managing chronic diseases (Ismail et al., 2022).

Depression can be treated with nonpharmacological therapy (Setyaningrum et al., 2018). The lack of literature on non-pharmacological therapies to treat depression is one of the reasons people tend to prefer pharmacological therapies to overcome their depression problems (Dewi et al., 2021). As a nurse, it is expected to be able to provide nursing care through nonpharmacological therapy. Cognitive Behavior Therapy (CBT) is one of the alternative therapies for depression for people with diabetes mellitus (DM).

CBT is a short-term therapy that emphasizes the patient's thinking. This therapy centers on the relationship between a person's thoughts, actions, and emotions (Hanan, 2018). CBT interventions that can be performed on DM patients are five-finger relaxation therapy which can reduce depression in type 2 DM patients (Dewi et al., 2021). Another non-pharmacological therapy that can reduce stress and depression is nature sound music therapy, which makes the body respond in a relaxed manner.

Based on the background above, there has been no research report related to the combination therapy of five-finger relaxation with nature sound music to reduce depression in DM patients, so it is necessary to know the effectiveness of the combination therapy of five-finger relaxation with nature sound music on depression in type 2 DM patients in Palangkaraya City.

RESEARCH METHOD

This research used a pretest-posttest with control group design in a quasi-experimental setup. Data collection was conducted at the Kayon Health Center UPT and Pahandut Health Center UPT from February to March 2023. The population of this research was all type 2 DM patients at the Kayon Health Center and Pahandut Health Center totaling 2,443 respondents with a sample size of 60 respondents, 30 in the intervention group and 30 in the control group. Purposive sampling was the method of selection. The inclusion standards for respondents were patients with DM for more than 1 year, married, willing to be respondents, able to communicate well, physically able and had never done the five-finger relaxation technique. The respondents exclusion standards were DM patients who withdrew from being respondents during the study, had visual impairments, had hearing impairments, respondents who were under the influence of or were taking antidepressant drugs and were involved in other people's research.

The instruments used were demographic data questionnaire sheets including age and gender, economic status, presence or absence of ulcers, presence or absence of congenital diseases, residence data, and depression score questionnaires in people with type 2 diabetes mellitus that are using the Beck Depression Inventory II (BDI II) measure. For

three straight days in a row, the intervention was conducted once day. The duration of the intervention was 10-15 minutes, carried out at the same visiting hours, in the living room of the respondent's house, and depression score measurements were carried out before therapy on day 1 and after therapy on day 3.

RESULT AND DISCUSSION

Table 1 Respondents frequency distribution according to characteristics of age, gender, economic status, ulcers, congenital diseases, residence (n=60)

No	Characteristic	Group			
		Intervention (Five-finger Relaxation Combination Therapy with Nature Sound Music)		Control (Five-finger Relaxation Therapy)	
		N	%	N	%
1	Age				
	a. ≤45 years	9	30,0	7	23,3
	b. >45 years	21	70,0	23	76,7
2	Gender				
	a. Male	15	50,0	13	43,3
	b. Female	15	50,0	17	56,7
3	Economic status				
	a. ≤ Rp 2.900.000	24	80,0	27	90,0
	b. > Rp 2.900.000	6	20,0	3	10,0
4	Wound Ulcer				
	a. None	28	93,3	27	90,0
	b. Yes	2	6,7	3	10,0
5	Congenital disease				
	a. None	23	76,7	29	96,7
	b. Yes	7	23,3	1	3,3
6	Residence				
	a. Living alone	3	10,0	0	0
	b. With family	27	90,0	30	100,0

The characteristics of respondents in the intervention group and the control group are presented in table 1 were mostly over 45 years old, in the intervention group that was present 21 respondents (70.0%) and in the control group 23 respondents (76.7%), male respondents within the intervention group there were 15 respondents (50%) and female respondents 15 people (50.0%), had an economic status below the minimum wage in the control group there were 24 respondents (80.0%) and in the control group 27 respondents (90%), had congenital diseases in the intervention group there were 3 respondents (23.3%) and in the control group there were 7 respondents (23.3%), in the intervention group there were 3 respondents (10.0%) respondents who lived alone and in the control group 30 respondents (100%) respondents lived with their families.

DM patients over 45 years old are at risk of experiencing depression because at that age there has been a lot of decline, both in roles and physically, where previous jobs that were done can no longer be done optimally. This condition triggers stress in some people with DM. This is supported by research results by Sutinah dan Maulani (2017) which states that the older a person is, the more morbidity, exposure to various risk factors, and a decrease in a person's functional status will increase which can affect a person's mental state. In addition, the results were carried out Nurhayati (2020) which says that as a person ages, there will be a decrease in neuro transmitters related to a person's mood and emotions. In old age, there is a longer period of anxiety and depression than people in general. Therefore, the possibility of depression and its recurrence increases.

Depression is also more likely to occur in women. Young women are more susceptible to depression because of the premenstrual and menstrual processes that cause hormonal instability and affect the nervous system related to women's moods. While older women will experience menopause, where there is a hormonal imbalance that makes women prone to mood swings. In addition to hormones, depression in women can also occur due to boredom in carrying out daily tasks such as caring for children, taking care of unwell or elderly relatives. Women tend not to pay attention to their physical condition, for example when they are sick, women tend to hold back and ignore it until they finally become more susceptible to depression. This is in line with research Harista dan Lisiswanti (2017) which states that women's vulnerability to depression is influenced by genetic factors, vulnerability to hormonal fluctuations, and the vulnerability of the central nervous system that is sensitive to hormonal changes. In addition to these factors, certain views on women, habits of keeping feelings to themselves, and less supportive social status also play a role in women's vulnerability to depression.

Economic factors also play a role in the occurrence of depression. DM patients who do not work and do not have an income are vulnerable to depression because of feelings of not wanting to be a burden and bother their partners or children. This is according to the research's outcomes Febriani and Ismahmudi (2020) who said that decreasing income or having no income at all due to not being able to carry out work activities increases the risk of depression.

Depression in DM patients is also influenced by the presence or absence of congenital diseases and ulcers. Nurhayati (2020) said that DM patients who have congenital diseases/complications have a higher level of depression than DM patients without congenital diseases/complications. The results of the research show the majority of the respondents are not affected by hereditary illnesses and wound ulcers.

DM patients who live with their families and receive family support experience milder depression compared to DM patients who live alone and do not receive family support. In addition, direct support received by DM patients makes them able to make peace and accept the situation. Several studies have shown that social interaction or social support plays an important role in the adaptation of patients with chronic diseases.

Table 2. Depression Score in Intervention Group and Control Group

Group	Mean	Min	Max	Standar Deviasi
Control				
Pre	7,50	2	23	5.178
Post	6,57	1	21	4.577
Intervention				
Pre	6,87	1	14	3.137
Post	4,93	1	7	1.911

Before having five-finger relaxation therapy, type 2 diabetes patients in the control group had a different mean depression score, shown by Table 2, which reveals that the mean depression score in the control group was 7.50 with a minimum value of 2 and a maximum value of 23. After the five-finger relaxation therapy, the mean depression score in the control group was 6.57 with a minimum value of 1 and a maximum value of 21. Additionally, table 2 shows that the intervention group's mean score before to the combined therapy of nature sound music and five-finger relaxation was 6.87, with a minimum value of 1 and a maximum value of 14. After the combination therapy of five-finger relaxation and nature sound, the intervention mean depression score in the intervention group was 4.93 with a minimum value of 1 and a maximum value of 7.

Tabel 3. Effectiveness of Combination Therapy of Five Finger Relaxation and Nature Sound Music on Type 2 DM Patients in Palangka Raya City

	Goup	N	*Mean Rank*	*Sum of Ranks*	*Asymp. Sig(2-tailed)*
Results	Control	30	35.08	1050,50	0,041
	Intervention	30	25.92	777,50	

Further analysis in table 3 shows a significant difference in depression scores between the control group and the intervention group (p=0.041), with the mean rank of the control group (35.08) being greater than the intervention group (25.92). This shows that the depression score of the intervention group is smaller than the control group, therefore the combination therapy of five-finger relaxation and nature sound music is more effective in reducing depression than just five-finger relaxation.

The results of the research are consistent with Sumirta, I Wayan Candra, dan Inlamsari (2018) who said that five-finger relaxation can produce feelings of relaxation and reduce tension. The feeling of relaxation resulting from five-finger relaxation will be transmitted to the hypothalamus of the brain. The hypothalamus will produce Corticotropin Releasing Hormone (CRH) which plays a role in mood and feelings of pleasure. Five-finger relaxation therapy also reduces the secretion of Adrenocorticortropic Hormone (ACTH) and cortisol secretion. Reduced secretion of ACTH and cortisol reduces tension and stress. Five-finger therapy with music (hypnofivesic) can reduce stress, anxiety, and depression in adolescents (Utami, Hidayati dan Susilowati, 2021). When five-finger relaxation therapy combined with natural sound music therapy, it becomes increasing beneficial in lowering anxiety, tension, and depression in patients with type 2 diabetes. This is consistent with the outcomes of a research by Rahma, Sulastri dan Rohayati, (2013) It argues that music therapy has an impact on elderly people's depression levels. Music therapy has a psychological impact on the elderly which is reflected through emotional calmness and no longer experiencing excessive anxiety. Music therapy also has an impact on the autonomic nervous system which produces a relaxed response. Music therapy is a non-pharmacological therapy that is effective in managing depression reduction Pratama dan Puspitosari (2019). The vibration waves of music that enter the ear will produce alpha waves that increase feelings of relaxation (Marzuki dan Lestari, 2014).

CONCLUSION

Conclusions of this research show that type 2 DM patients' depression may be decreased through the combination of five-finger relaxation therapy with nature sound music. It is provided that the use of five-finger relaxation therapy combined with nature sound music will serve as one of the non-drug treatments that nurses and other healthcare professionals may implement in healthcare facilities to decrease depression improve the quality of life for patients with type 2 diabetes.

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