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## **The effect of acceptance and commitment therapy (ACT) and family psychoeducation on anxiety and body image of diabetic ulcer patients**

**Hasmira**

Division of Mental Health Nursing, Public Health Center, South Sulawesi, Faculty of Nursing, Universitas Indonesia, Indonesia

\*Corresponding author email: [hasmira.mira37@gmail.com](mailto:hasmira.mira37@gmail.com)

**Budi Anna Keliat**

Department of Mental Health Nursing, Faculty of Nursing Universitas Indonesia, Indonesia

**Giur Hargiana**

Department of Mental Health Nursing, Faculty of Nursing Universitas Indonesia, Indonesia

**Abstract**--Background: Diabetic ulcers are complications of diabetes mellitus in the form of neuropathy and ischemia. Diabetic ulcer patients experience wounds on the legs, which take a long time to heal, so they are prone to experience anxiety and body image disturbance. Anxiety is an unclear fear accompanied by uncertainty and discomfort feelings, while body image disturbance is an unclear perception of the body's shape, structure, and function. The research objective was to determine the effect of nursing care, acceptance and commitment therapy (ACT), and family psychoeducation on anxiety and body image of diabetic ulcer patients. We used a quantitative design with a Quasy Experimental Pre-Post with Control Group approach. There were 42 respondents involved in this study. The sampling method used the total sampling technique with a random sampling approach. The results and conclusions are anxiety, body image, and diabetic ulcer conditions experienced a decrease. The ability to accept and commit and the family's ability to care for them were significantly improved. Nursing care, acceptance and commitment therapy (ACT), and family psychoeducation affected anxiety and body image of diabetic ulcer patients. It is expected that this research can be

applied to overcome diseases with physical complications and psychosocial disorders.

**Keywords**---anxiety, body image, diabetic ulcers, acceptance and commitment therapy (ACT), family psychoeducation.

## **Introduction**

Diabetes mellitus is a group of metabolic disorders characterized by a continuous increase in blood glucose concentration, causing damage to blood vessels that affect the heart, eyes, kidneys, and nerves, resulting in severe various health problems. The prevalence of diabetes mellitus has increased significantly worldwide in the last ten years. In 2015 the global prevalence of diabetes in adults was estimated to be around 8.8%. Live births associated with hyperglycemia in pregnancy were 16.2%, and by 2040 the prevalence of diabetes in adults is estimated to increase continuously up to 10.4%. Indonesia was ranked sixth in 2018 after China, India, the United States, Brazil, and Mexico, with around 10.3 million diabetes mellitus patients aged 20-79 years . The prevalence of diabetes mellitus in Indonesia has increased since 2007 (1.1%) increased in 2013 (2.1%), in 2017 (6.9%), and in 2018 increased again to 8.5%. It is following the Basic Health Research report . The prevalence of diabetes mellitus patients increased from 2007 (1.1%) and increased again in 2013 (2.1%). The prevalence of diabetes mellitus patients in Southeast Sulawesi and South Sulawesi was around 4.4%, with diabetes mellitus at 7.8%.

It was estimated that 15% of the diabetic patient population would experience complications in diabetic foot ulcers. Following the Integrated Disease Surveillance and Response (IDSR) report at the Community Health Center and Hospital Information System (HIS) in Southeast Sulawesi and South Sulawesi in 2017, there were more than 5,435 cases with diabetes mellitus. It caused them to be in the third rank of the most diabetes mellitus patients in Sulawesi. Based on the data above, special attention is needed to prevent the increasing rate of Diabetes mellitus from year to year. The complication of diabetes mellitus occurred due to wound infection in the leg, which appeared to be a diabetic ulcer. The prevalence of diabetic ulcers globally was 6.3% and most commonly affected men of 4.5%, while women were 3.5%. Meanwhile, the prevalence of patients with diabetic ulcers in Indonesia was 15%, the fourth highest after other complications of diabetes mellitus, such as neuropathy, retinopathy, and macrovascular. Diabetic ulcers are one of the main complications of diabetes that often occur, characterized by chronic wounds in the area below the ankles that increase morbidity and mortality and reduce the patients' quality of life. Diabetic foot ulcers can be prevented even though the prevention strategies are cost-effective, diabetic foot ulcers are still common, and it becomes a challenge for individuals and the health system.

## **Method**

This research was quantitative. The research design used was the Quasy Experimental Pre-Post with Control Group design. This study employed 42

participants who were selected by purposive sampling technique. The criteria for respondents in this study were patients with diabetic ulcers who were undergoing treatment for diabetic ulcers at Benyamin Guluh Hospital and ETN Center wound clinic, aged 20-70 years, and willing to be respondents for the period of May to June 2020 and the period of September to end of October 2020. Researchers used the ethical principles of autonomy, anonymity, justice, beneficence, and non-maleficence during the research. The data collection method used a questionnaire.

## Discussion

This study involved the characteristics of diabetic ulcer patients with ulcer conditions, anxiety, body image, the ability to accept and commit, and the family's ability to care for patients before and after the nursing care, acceptance and commitment therapy (ACT), and family psychoeducation. The nursing care was given to intervention group 1, while nursing care, acceptance and commitment therapy (ACT), and family psychoeducation were given to intervention group 2.

Table 3.1  
The Characteristics of Diabetic Ulcer Patients Based on Age and Duration of Illness

Variable	Group	n	Mean	Median	SD	SE	95%CI	Min-Maks	<i>p value</i>
Age	Intervention 1	21	58.48	60.00	5.68	1.24	55.89-61.06	43-70	0.536
	Intervention 2	21	57.43	58.00	5.18	1.13	55.07-59.79	39-62	
	Total	41	57.96	59.00	5.43	1.18	55.07-61.06	39-70	
Illness Duration	Intervention 1	21	425.81	300.00	622.26	135.79	142.56-709.06	2-2920	0.590
	Intervention 2	21	354.62	240.00	267.25	58.32	223.97-467.27	15-1825	
	Total	42	385.71	270.00	444.75	97.05	142.56-709.06	2-2920	

Table 3.1 shows that the average age of patients with diabetic ulcers from 42 patients was 57.96 years, with the youngest age was 39 years, and the oldest age was 70 years. The average duration of patients' illness with diabetic ulcers was 385.71 days from the 42 patients with the shortest time span was two days and the longest time span was 2920 days. The homogeneity test between intervention group 1 and intervention group 2 had a  $p$  value  $> 0.05$ . This result shows that the age and duration of illness between intervention group 1 and intervention group 2 were equivalent.

Table 3.2  
The Characteristics of Diabetic Ulcer Patients Based on Gender, Occupation, Education, Marital Status, Income, Changes in Body Structure, Changes in Body Shape, and Changes in Body Functions

No	Characteristic	Intervention 1		Intervention 2		Total		<i>p value</i>
		n	%	n	%	n	%	
1	Gender							
	Male	5	11.9	13	31.0	18	42.9	0.013
	Female	16	38.1	8	19.0	24	57.1	
2	Education							
	Elementary	9	21.4	5	11.9	14	33.3	0.468
	Lower Secondary	5	11.9	7	16.7	12	28.6	
	Upper Secondary	7	16.7	8	19.0	15	35.7	
	Master	0	0.0	1	2.4	1	2.4	
3	Occupation							
	Unemployed	7	16.7	6	14.3	13	31.0	0.739
	Employed	14	33.3	15	35.7	29	69.0	
4	Income							
	None	7	16.7	6	14.3	13	31.0	0.807
	<Rp 3.600.000	8	19.0	7	16.7	15	35.7	
	>Rp 3.600.000	6	14.3	8	19.0	14	33.3	
5	Marital Status							
	Unmarried	2	4.8	1	2.4	3	7.2	0.549
	Married	19	45.2	20	47.6	39	92.8	
6	Structure Changes							
	Yes	10	50.0	10	50.0	20	100.0	
7	Shape Changes							
	Yes	10	50.0	10	50.0	20	100.0	
8	Function Changes							
	Yes	10	50.0	10	50.0	20	100.0	

Table 3.2 shows the gender distribution of the respondents. The table above shows that of the 42 diabetic ulcer respondents, most of them were female. The education variable shows that the respondents' average education level was Senior High School, with 15 people. The majority of respondents' average income was less than (<) 3,600,000 rupiahs, with 15 people. The majority of the respondents working was 29 people. Moreover, most of them were married, with 39 people. Besides, all respondents experienced all three variables related to changes in body structure, shape, and function.

**Anxiety, Body Image, Ulcer Conditions, the Ability to Accept and Commit, and the Family's Ability to Take Care for Patients Before and After the Nursing Care on Intervention Group 1 and 2**

Table 3.3  
Anxiety, Body Image, Ulcer Conditions, the Ability to Accept and Commit, and the Family's Ability to Care for Patients before the Nursing Care

Characteristic	Group	N	Mean	Median	SD	95% CI	Min - Max	<i>P</i> value
Anxiety	Intervention 1	21	36.00	41.00	9.68	31.59-40.41	20 - 46	0.466
	Intervention 2	21	38.62	43.00	13.10	32.65-44.58	10 - 53	
	Total	42	37.31	42.00	11.39	31.59-44.58	10 - 53	
Body Image	Intervention 1	21	76.57	80.00	20.96	67.03-86.11	30 - 105	0.445
	Intervention 2	21	71.43	80.00	22.20	61.32-81.53	30 - 100	
	Total	42	74.00	80.00	21.58	61.32-86.11	30 - 105	
Ulcer Conditions	Intervention 1	21	42.67	43.00	6.76	39.59-45.74	30 - 51	0.613
	Intervention 2	21	41.10	36.00	12.36	35.47-46.72	20 - 70	
	Total	42	41.88	39.50	9.56	35.47-46.72	20 - 70	
The Ability to Accept and Commit	Intervention 1	21	57.57	56.00	12.25	51.99-63.15	40 - 86	0.498
	Intervention 2	21	55.28	55.00	9.21	51.09-59.48	40 - 81	
	Total	42	56.43	55.50	10.73	51.09-63.15	40 - 86	
Family's Ability to Care for Patients	Intervention 1	21	58.33	60.00	9.23	54.13-62.53	47 - 82	0.196
	Intervention 2	21	63.62	62.00	15.87	56.40-70.84	40 - 82	
	Total	42	60.98	61.00	12.55	54.13-70.84	40 - 82	

Table 3.3 shows anxiety, body image, ulcer conditions, the ability to accept and commit, and the family's ability to care for patients before the nursing care. For anxiety conditions with a score of 14-70, the higher the score is, the worse the anxiety condition will be. The results showed that the average score of anxiety was 37.31 (70.39%). This score is in the category of anxiety over (>) 24, which means anxiety is severe. The homogeneity test obtained from intervention group 1 and intervention 2 was not significantly different ( $p$ -value <0.05), so the groups were equal. For body image with a score of 34-136, the higher the score is, the heavier the body image disturbance will be. The results showed that the average body image score was 74 (70.47%), meaning that the body image was at a moderately disturbing level. The homogeneity test found that intervention group 1 and intervention group 2 were not significantly different ( $p$ -value <0.05), so the groups were equal.

Ulcer conditions with a score of 13-65, the higher the score is, the worse the ulcer condition will be. The results showed that the average score of ulcer conditions was 41.88 (59.82%), meaning that the wound was in a moderate degeneration state. The equivalence test found that intervention group 1 and intervention 2 were not significantly different ( $p$ -value > 0.05), so that the groups were equal or homogeneous. For the ability to accept and commit with a score of 15-105, the higher the score is, the higher the ability to accept and commit. The results showed that the average score of the ability to accept and commit was 56.43 (70.83%), which means that the ability to accept and commit was in moderate circumstances. The equivalence test found that intervention group 1 and intervention group 2 were not significantly different ( $p$  value > 0.05), so both groups were equal or homogeneous.

For the family's ability to take care of patients, the score was 29-116. The lower the score is, the lower the family's ability to care for patients will be. The results showed that the family ability scores to care for were 60.98 (74.36%), meaning that the family's ability to care for the patients was moderate. The equivalence test found that intervention group 2 and intervention group 1 were not significantly different ( $p$ -value > 0.05), so both groups were equal or homogeneous.

### **Anxiety Changes, Body Image, Ulcer Conditions, the Ability to Accept and Commit, and the Family's Ability to Take Care for Patients Before and After the Nursing Care**

Table 3.4  
Anxiety Changes, Body Image, Ulcer Conditions, the Ability to Accept and Commit, and the Family's Ability to Take Care for Patients Before and After the Nursing Care

Variable	Group	n	Pre-test Mean Before T.Ners	Post-test I Mean After T.Ners	Mean Difference	SD Difference	<i>p value</i>
Anxiety	Intervention 1	21	36.00	34.90	-1.10	2.21	0.034
	Intervention 2	21	38.62	38.19	-0.43	0.60	0.004
Body Image	Intervention 1	21	76.57	66.33	- 10.24	12.08	0.001
	Intervention 2	21	71.43	64.43	-7.00	10.08	0.005
Ulcer Conditions	Intervention 1	21	42.67	38.67	-4.00	4.47	0.001
	Intervention 2	21	41.10	38.62	-2.48	2.96	0.001
The Ability to Accept and Commit	Intervention 1	21	57.57	66.95	9.38	8.83	0.000
	Intervention 2	21	55.28	63.86	8.57	6.90	0.000
Family's Ability to Care for Patients	Intervention 1	21	58.33	72.19	13.86	13.35	0.000
	Intervention 2	21	63.62	81.86	18.24	16.71	0.000

Table 3.4 is for anxiety conditions with a score of 14-70. Before given nursing care, anxiety in intervention group 1 was 36 (51.42%). This score is in the category of anxiety over (>) 24, which means severe anxiety. After being given

nursing care, the score decreased to 34.90 (49.85%). This score is in the category of anxiety over (>) 24, meaning that it is still in a state of severe anxiety with a decrease of 1.57%. In intervention group 2, the anxiety score was 38.62 (55.17%) before being given nursing care. This score is in the category of anxiety over (>) 24, which means severe anxiety. After being given nursing care, the anxiety score decreased to 38.19 (54.50%). In intervention group 2, the anxiety score decreased by 0.67% and is still in a state of severe anxiety. In short, anxiety in both groups decreased significantly (p-value <0.05).

Before the nursing care was done, the body image score in intervention group 1 was 76.57 (56.30%), meaning that the body image disturbance was in the moderate category. After being given nursing care, the score decreased to 66.33 (48.77%), with an increase in body image getting better by a difference of 7.53%, but still in a state of moderate body image disturbance. Before being given nursing care, the body image score in intervention group 2 was 71.43 (52.52%), meaning that the body image disturbance was in the moderate category. After being given nurse care, the score decreased to 64.43 (47.37%), with an increase in body image getting better by 5.15% and still in a state of moderate body image disturbance. In other words, the body image in the two groups was significantly different (p-value <0.05).

Before being given nursing care, the ulcer condition score in intervention group 1 was 42.67 (65.64%), meaning that the wound degeneration was moderate. After being given nursing care, the score decreased to 38.67 (59.49%). The ulcer condition improved by a difference of 6.15%, but the ulcer condition was still in the moderate wound degeneration category. Before being given nurse therapy, the ulcer condition score in intervention group 2 was 41.10 (63.23%), meaning that it was in a moderate wound degeneration condition. After being given nursing care, the score decreased to 38.62 (59.41%), which means that the wound degeneration was improved by 3.82%, but was still in moderate wound degeneration. In short, the ulcer conditions in both groups were significantly different (p-value <0.05).

Before being given nursing care, the score for accepting and committing for intervention group 1 was 57.57 (54.82%), meaning that the ability to accept and commit was in the moderate category. After being given nursing care, the score increased slightly to 66.95 (63.76%). The ability to accept and commit was slightly better with a difference of 8.94%, meaning that the ability to accept and commit was still in the moderate category. Before being given nursing care, the score for accepting and committing for intervention group 2 was 55.28 (52.64%), meaning that the ability to accept and commit was in the medium category. Meanwhile, after being given nurse therapy, the score increased to 63.86 (60.81%), which means that the ability to accept and commit has increased by 8.17%, meaning that the ability to accept and commit was still in the moderate category. Thus, it can be said that the two intervention groups were significantly different (p-value <0.05).

Before conducting nursing care, the family's ability to care for the intervention group 1 had a score of 50.28 (58.33%), meaning that the family's ability to care for respondents was in the medium category. After being given nursing care, the score increased to 72.19 (63.23%), with an increase in the score of 9.59%, but

still in the moderate category. The family's ability to care for intervention group 2 before being given nursing care had a score of 54.84 (63.62%), meaning that the family's ability to care for the respondent was in the moderate category. After being given nursing care, the score increased to 81.86 (70.56%), with a difference of 6.94%, but still in the moderate category. In this case, the family's ability to care for the two intervention groups was significantly different (p-value <0.05).

**Anxiety Changes, Body Image, Ulcer Conditions, the Ability to Accept and Commit, and the Family's Ability to Take Care for Patients with Diabetic Ulcer Before and After Acceptance and Commitment Therapy (ACT) and Family Psychoeducation on Intervention Group 2**

Table 3.5  
Anxiety Changes, Body Image, Ulcer Conditions, the Ability to Accept and Commit, and the Family's Ability to Take Care for Patients Before and After the Nursing Care

Variable	Group	n	Mean After T.Ners	Mean After T.Ners ,T.ACT and family Psychoeducation	Mean Difference	SD Difference	<i>p value</i>
Anxiety	Intervention 1	21	34.90	27.33	-7.57	7.70	0.000
	Intervention 2	21	38.19	31.57	-6.62	6.66	0.000
Body Image	Intervention 1	21	66.33	59.10	-7.24	4.32	0.000
	Intervention 2	21	64.43	58.95	-5.48	2.69	0.000
Ulcer Conditions	Intervention 1	21	38.67	35.90	-2.76	3.59	0.002
	Intervention 2	21	38.62	36.05	-2.57	2.82	0.000
The Ability to Accept and Commit	Intervention 1	21	66.95	74.81	7.86	6.86	0.000
	Intervention 2	21	63.86	86.67	22.81	12.06	0.000
Family's Ability to Care for Patients	Intervention 1	21	72.19	78.62	6.43	2.16	0.000
	Intervention 2	21	81.86	91.29	9.43	1.69	0.000

Table 3.5 is for anxiety conditions with a score of 14-60. Intervention group 2 showed anxiety after being given nursing care with a score of 38.19 (54.55%). Then after being given acceptance and commitment therapy (ACT) and family psychoeducation, the anxiety decreased to 31.57 (45.1%), meaning that it was in the category over (>) 24, meaning that it was in the severe anxiety category, with a decrease in anxiety by 9.45%. Shortly, anxiety has decreased significantly (p-value <0.05). After being given nursing care, the body image score in intervention group 2 was 64.43 (47.37%), meaning that the body disturbance was moderate. After being given acceptance and commitment therapy (ACT) and family psychoeducation, the body image condition became 58.95 (43.34%) with an increase in body image to a difference of 4.03%, but still in a moderate body image disturbance condition. The body image in intervention group 2 was significantly different (p-value <0.05).

After being given nursing care, the ulcer condition had a score of 38.62 (59.41%), meaning that the wound degeneration was at a moderate level. After being given acceptance and commitment therapy (ACT) and family psychoeducation, the score decreased to 36.05 (55.46%). The ulcer condition improved by a difference of 3.95%, but it was still in the moderate wound degeneration category. In other words, ulcer conditions in intervention group 2 were significantly different ( $p$ -value  $<0.05$ ). The ability to accept and commit to intervention group 2 after being given nursing care had a score of 63.86 (60.81%), meaning that the ability to accept and commit was at a moderate level. After being given acceptance and commitment therapy (ACT) and family psychoeducation, the score increased slightly to 86.67 (82.54%). The increase means that intervention group 2 experienced an increase in the ability to accept and commit to a difference of 21.73%, but it was still moderate. It can be said that intervention group 2 was significantly different ( $p$ -value  $<0.05$ ). After being given nursing care, the family's ability to care for respondents in intervention group 2 had a score of 81.86 (70.56%), meaning that the family's ability to care is at the moderate level. After being given acceptance and commitment therapy (ACT) and family psychoeducation, the score increased to 91.29 (78.69%), with an increase in the family's ability to care for respondents better by a difference of 8.13%, but it was still at the moderate level. In this case, the ability to care for intervention group 2 was significantly different ( $p$ -value  $<0.05$ ).

**Anxiety Differences, Body Image, Ulcer Conditions, the Ability to Accept and Commit, and the Family's Ability to Take Care for Patients with Diabetic Ulcer After Nursing Care, Acceptance and Commitment Therapy (ACT), and Family Psychoeducation on Intervention Group 2**

Table 3.6

Anxiety Differences, Body Image, Ulcer Conditions, the Ability to Accept and Commit, and the Family's Ability to Take Care for Patients with Diabetic Ulcer After Nursing Care, Acceptance and Commitment Therapy (ACT), and Family Psychoeducation on Intervention Group 2

Variable	Group	n	Mean Before T.Ners, T.ACT and Family Psychoeducation	Mean After T.Ners, T.ACT and Family Psychoeducation	Mean Difference	SD Difference	$p$ value
Anxiety	Intervention 1	21	36.00	27.33	-8.67	7.25	0.000
	Intervention 2	21	38.62	31.57	-7.05	6.38	0.000
Body Image	Intervention 1	21	76.57	59.10	-17.47	12.99	0.000
	Intervention 2	21	71.43	58.95	-12.48	11.32	0.000
Ulcer Condition	Intervention 1	21	42.67	35.90	-6.76	5.38	0.000
	Intervention 2	21	41.10	36.05	-5.05	3.48	0.000
The Ability to Accept and	Intervention 1	21	57.57	74.81	17.24	13.48	0.000
	Intervention 2	21	55.28	86.67	31.38	12.57	0.000

Commit									
Family's Ability to Care for Patients	Intervention 1	21	58.33		78.62		20.29	14.10	0.000
	Intervention 2	21	63.62		91.29		27.67	17.11	0.000

Table 3.6 is for anxiety conditions with a score of 14-70. This table shows the change in the level of anxiety in intervention group 2 before nursing care, acceptance and commitment therapy (ACT), and family psychoeducation; the score was 38.62 (55.17%), meaning that it was in the anxiety category over (>) 24, meaning that it is at the level of severe anxiety. After being given nursing care, acceptance and commitment therapy (ACT), and family psychoeducation, the score decreased to 31.57 (45.1%), meaning that it was in the anxiety category over (>) 24, meaning that it was still at the level of severe anxiety with a decrease in anxiety by 10.07%. This result portrays that this category did not significantly reduce anxiety (p-value <0.05). Before being given nursing care, acceptance and commitment therapy (ACT), and family psychoeducation, body image in intervention group 2 had a score of 71.43 (52.52%), meaning that it was moderate. After being given nursing care, acceptance and commitment therapy (ACT), and family psychoeducation, the score decreased to 58.95 (43.34%) with an increase in body image to a difference of 9.18%, but still in a state of moderate level body image disturbance. In short, the body image of intervention group 2 was significantly different (p-value <0.05).

Before conducting nursing care, acceptance and commitment therapy (ACT), and family psychoeducation, ulcer conditions in intervention group 2 had a score of 41.10 (63.23%), meaning that the ulcer condition was at a moderate level. After being given nursing care, ACT, and family psychoeducation, the score decreased to 36.05 (55.46%). The ulcer condition improved with a difference of 7.77%, meaning that the ulcer condition is still in moderate wound degeneration. In other words, ulcer conditions in intervention group 2 were significantly different (p-value <0.05). Before being given nursing care, acceptance and commitment therapy (ACT), and family psychoeducation, the ability to accept and commit to intervention group 2 had a score of 55.28 (52.64%), meaning that the ability to accept and commit was at a moderate level. After being given nursing care, acceptance and commitment therapy (ACT), and family psychoeducation, the score increased to 86.67 (82.54%) with an increase in the ability to accept and commit to a difference of 29.9%, meaning that the ability to accept and commit tends to be high. In other words, intervention group 2 was significantly different (p-value <0.05).

Before being given nursing action, acceptance and commitment therapy (ACT), and family psychoeducation, families' ability to care for respondents in intervention group 2 had a score of 63.62 (54.84%), meaning that the family's ability to care for respondents was at a moderate level. After being given nursing care, ACT, and family psychoeducation, the score increased to 91.29 (78.69%), with an increase in the family's ability to care for respondents better by 23.85%. The increase means that the family's ability to care for respondents is at a relatively high level. Intervention group 2 was significantly different (p-value <0.05).

**Anxiety Differences, Body Image, Ulcer Conditions, the Ability to Accept and Commit, and the Family's Ability to Take Care for Patients with Diabetic Ulcer After Nursing Care, Acceptance and Commitment Therapy (ACT), and Family Psychoeducation on Intervention Group 2 and Nursing Care on Intervention Group 1**

Table 3.7

Anxiety Differences, Body Image, Ulcer Conditions, the Ability to Accept and Commit, and the Family's Ability to Take Care for Patients with Diabetic Ulcer After Nursing Care, Acceptance and Commitment Therapy (ACT), and Family Psychoeducation on Intervention Group 2 and Nursing Care on Intervention Group 1

Variable	Group	n	Post II	Mean Difference	t	p value
Anxiety	Intervention 1	21	27.33	-4.24	1.00	0.321
	Intervention 2	21	31.57			
Body Image	Intervention 1	21	59.10	-0.15	-0.02	0.984
	Intervention 2	21	58.95			
Ulcer Conditions	Intervention 1	21	35.90	-0.15	0.04	0.967
	Intervention 2	21	36.05			
The Ability to Accept and Commit	Intervention 1	21	74.81	-11.86	3.95	0.000
	Intervention 2	21	86.67			
Family's Ability to Care for Patients	Intervention 1	21	78.62	-12.67	2.89	0.006
	Intervention 2	21	91.29			

Table 3.7 shows that anxiety in the intervention group 1 after being given nursing care, the score was 27.33, meaning that the score was at a level over (>) 24. This result means that the score is at the level of severe anxiety. Whereas in intervention group 2, after being given acceptance and commitment therapy (ACT) and family psychoeducation, the anxiety condition was higher, with a score of 31.57, meaning that the score was also at a level over (>) 24. This result also means that the score is at the level of severe anxiety. After being given nursing care, body image in intervention group 1 had a score of 59.10. This score means that body image disturbance was at a moderate level. Whereas in intervention group 2, after being given acceptance and commitment therapy (ACT) and family psychoeducation, a score of 58.95 was obtained. This score means that body image disturbance was at a moderate level, meaning that intervention group 2 was better than intervention group 1.

After being given nursing care, the ulcer condition in intervention group 1 had a score of 35.90. This score means that the ulcer was in a state of moderate wound degeneration. Meanwhile, in intervention group 2, after being given acceptance and commitment therapy (ACT) and family psychoeducation, the score increased to 36.05, meaning that the ulcer was still in a moderate wound degeneration condition. After being given nursing care, the ability to accept and commit to the intervention group 1 had a score of 74.81. This score means that the ability to accept and commit is at a high level. Whereas in intervention group 2, after being given acceptance and commitment therapy (ACT) and family psychoeducation, the

score experienced a better improvement than the intervention group 1, which was 86.67. The family's ability to care for intervention group 1 after being given nursing care had a score of 78.62. This score means that the family's ability to care for patients is at a high level. Whereas in intervention group 2, after being given acceptance and commitment therapy (ACT) and family psychoeducation, the family's ability to care for the intervention group 2 showed high ability with a better score than the intervention group 1, with 91.29.

## **Conclusion**

The respondents/patients' main characteristics are: the average age of diabetic ulcer patients was 57.96 years, and their illness's average duration was 385.71 days. Most of the respondents were female. Most of them were Senior High School graduates with an average income less than (<) 3,600,000 rupiahs. Besides, most of them had jobs and already got married; besides, all respondents experienced all three variables concerning body structure changes, body shape changes, and body function changes. Before being given nursing care, anxiety was in a severe category. After being given nursing care, the anxiety score decreased, but it was still at the level of severe anxiety. A series of nursing action, acceptance and commitment therapy (ACT), and family psychoeducation were given. As a result, the anxiety level decreased again even though it was still in severe anxiety levels.

Before being given nursing care, body image disturbance was at a moderate level. After being given the nursing care, the body image disturbance decreased, but it was still moderate. After being given a series of nursing actions, acceptance and commitment therapy (ACT), and family psychoeducation, body image disturbances decreased, although still at a moderate level. Before being given nursing care, the patients' diabetic ulcers were in a moderate wound degeneration condition. After being given nursing care, the ulcer's condition had improved, but it was still at a moderate level of wound degeneration. After being given a series of nursing actions, acceptance and commitment therapy (ACT), and family psychoeducation, the ulcer condition got even better, even though it was still at the moderate wound degeneration level. Before being given nursing care, the patients' ability to accept and commit was moderate. After being given nursing care, the ability to accept and commit had a little better improvement but was still moderate. After being given a series of nursing action, acceptance and commitment therapy (ACT), and family psychoeducation, the ability to accept and commit increased to a moderate level, tending to be high. Before being given nursing care, the families' ability to care for patients was moderate. After being given nursing care, the families' ability to care had increased, but it was still moderate. Then after being given a series of nursing cares, acceptance and commitment therapy (ACT), and family psychoeducation, the families' ability to care had increased again, at a moderate level, tending to be high.

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