



Influence of Brief Psychoeducation Using Audio Video to Depression Score in Patients with Diabetic Foot Ulcer

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ABSTRACT

Diabetes mellitus is one of the most common diseases today. It will cause several complications, one of which is a diabetic foot wound. The effects of this complication will affect psychological conditions in the form of depression. Depression can be handled using a psychosocial approach, one of which is psychoeducation intervention. The provision of psychoeducational interventions can use a variety of media so that the educational material presented is more attractive and can be received as much as possible. This study aimed to determine if there is an effect of brief psychoeducation using audio-video on depression score in a patient with a diabetic foot ulcer. This research used a quasi-experimental study with a pretest and posttest approach with the control group. The sample consisted of 32 respondents, divided into 2 groups of intervention and control groups. Samples were taken using purposive sampling. The instrument used was the Beck Depression Inventory (BDI) questionnaire. The data were analyzed using the Wilcoxon and Mann Whitney tests. The results showed that there was a difference in the average depression score between the control and intervention groups with a p-value <0.05. Psychoeducation using audio-video can help reduce depression in diabetic foot ulcer patients.

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Pengaruh Psikoedukasi Singkat Menggunakan Audio Video terhadap Skor Depresi pada Penderita Ulkus Diabetik

ABSTRAK

Diabetes melitus merupakan salah satu penyakit yang paling banyak diderita saat ini. Diabetes melitus akan mengakibatkan terjadinya beberapa komplikasi, salah satunya luka kaki diabetik. Efek dari komplikasi ini akan mempengaruhi kondisi psikologis berupa depresi. Depresi dapat ditangani dengan menggunakan pendekatan psikososial, salah satunya intervensi psikoedukasi. Pemberian intervensi psikoedukasi dapat menggunakan berbagai media agar materi edukasi yang disampaikan lebih menarik dan dapat diterima semaksimal mungkin. Penelitian ini menggunakan kuasi eksperimen dengan pendekatan pretest and posttest with control group. Sampel berjumlah 32 responden, dibagi menjadi 2 kelompok intervensi dan kelompok kontrol. Sampel diambil menggunakan purposive sampling. Instrumen yang digunakan adalah kuesioner Beck Depression Inventory (BDI). Data dianalisis menggunakan uji Wilcoxon dan Mann Whitney. Hasil menunjukkan bahwa terdapat perbedaan rata-rata skor depresi antara kelompok kontrol dan intervensi dengan nilai p < 0,05. Psikoedukasi menggunakan video audio dapat membantu mengurangi depresi pada pasien diabetic foot ulcer.

Kata kunci:

Psikoedukasi singkat

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INTRODUCTION

The number of people with diabetes mellitus is currently increasing rapidly and has become a worldwide epidemic. Additionally, diabetes mellitus has been projected to be the seventh cause of death worldwide in 2030 (World Health Organization 2014). The prevalence of diabetes mellitus amounted to 108 million in 1980, increased to 422 million in 2014 and is more prevalent in low-middle income countries (Salomé, Blanes, and Ferreira 2011). In Southeast Asia, an estimated 75 million people lived with diabetes in 2014, and this figure will rise to 123 million in 2035 (Ahmedani et al. 2017). In Indonesia, the prevalence of diabetes mellitus patients reached 9.1 million people, and this number is predicted to increase 21,3 million in 2030 (Kementerian Kesehatan 2019). Patients with diabetes often have psychosocial problems, such as anxiety and depression (Krishna 2018).

Depression is another very common condition in the world. Globally, about 50 million people of all ages experience depression (Kalra, Jena, and Yeravdekar 2018). Depression is also a major condition associated with chronic diseases, such as diabetes mellitus complicated with diabetic foot ulcers. The incidence of depression is two times more common in individuals with diabetes mellitus compared to those who did not have diabetes mellitus (Schram, Baan, and Pouwer 2009). Based on a study of 50 people with diabetic foot ulcers, 41 people suffering from depression were characterized with problems of self-loathing, grief, body image distortion, and decreased libido (Salomé et al. 2011).

Depression in patients with diabetic foot ulcers will affect treatment compliance, a risk factor of obesity, causing the patient to have a sedentary lifestyle (Neeru et al. 2015). In addition, depression can also reduce blood circulation and improve macro-and microvascular complications (Ahmad et al. 2018). This demonstrates the need for integration between physical health through the use of modern dressings and management of psychological problems in helping the process of wound healing (Guo and Dipietro 2010; Vu et al. 2015).

To reduce the symptoms of depression in diabetic foot ulcer patients, only a small proportion receive psychosocial interventions (McGloin et al. 2017). Management of diabetic foot ulcers still focuses on accelerating wound healing through the use of dressings. In addition, very little attention is given to psychosocial problems in diabetic foot ulcer patients (Upton 2014). Given the high incidence of depression in diabetic foot ulcer patients and the lack of psychosocial interventions, a short and effective intervention is needed.

Studies show that several psychosocial interventions have reduced depression, including cognitive-behavioral therapy (CBT); cognitive therapy (CT); psychodynamic therapy; counseling; family systems or systemic therapy; and psychoeducation (Norman et al. 2020; Renn and Areán 2017). Psychoeducation is a structured intervention that starts from managing stress, providing health education and psychological support. Psychoeducation is carried out in several sessions to reduce psychosocial problems. The results showed that psychoeducation could reduce anxiety and depression in patients with diabetes mellitus (Pibernik-Okanovic et al. 2009; Simson et al. 2008; Xie and Deng 2017; Yuniartika, Dwidiyanti, and Mu'in 2016).

Psychoeducation can be done in groups and individual or multisession (Sarkhel, Singh, and Arora 2020). With limited activity in patients with diabetic foot ulcers is needed brief

psychoeducation intervention without compromising the essence of therapeutic benefit. The research conducted by Lee (2013) conducted psychoeducation briefs using a PC, which showed excellent results by using a Tablet PC that allows patients to get psychoeducation anytime and anywhere (Lee et al. 2013).

Based on the literature, no research explains the effectiveness of psychoeducation using audio-video media for the management of depressive symptoms in diabetic foot ulcer patients. Preliminary studies have also not conducted intervention efforts to reduce depression symptoms in diabetic foot ulcer patients. So there's a need for interventions to overcome diabetic foot ulcer depression. We developed one brief session of psychoeducation. The main purpose of this study was to evaluate the influence of psychoeducation using one-session audio-video to manage depression in diabetic foot ulcer patients.

METHOD

Participant characteristics and research design

This research is Quasi experimental pretest and post-test with control group design. The inclusion criteria of the patients were (1) Suffering from diabetic foot ulcers for at least 1 month, (2) no complication of heart and kidney failure, (3) no blindness and hearing loss, (4) Beck Depression Inventory (BDI) score 10-23.

Sampling Procedures

The study was conducted at Kitamura Clinic, Pontianak, West Kalimantan on 2 February 2019 to 18 October 2019. The type of sample used in this study in Non-probability sampling with a sampling method using purposive sampling. This study was a patients who controls wound care with a sample 32 respondents divided into intervention and control group. All respondents have obtained an explanation of the purpose and benefits of the study and signed informed consent. This study has been approved by the Medical Research Ethical Commission of Faculty of Medicine, Tanjungpura University No 3703/UN22.9/DL/2018

Measures and covariates

The sociodemographic and clinical characteristics of the subjects were analyzed, which included parameters such as gender, age, sex, education, marital status, occupational activity, smoking status, the duration of the wound, recurrent of the wound, wound size. The Depression Score was evaluated using the Beck Depression Inventory (BDI) total score, a screening tool for assessing the severity of depressive symptoms. The instrument consists of 21 items questions rated from 0 to 3 points—the results obtained in BDI range between 0 and 63. The threshold score used to identify depression was classified as follows: “nondepressed state: 0–9; mild depressive state: 10–15; moderate depressive state: 16–23; and severe depressive state: 24–63.

The making of psychoeducation using audio-video in this study was adapted from psychoeducation with a single session for 30 hours (Lee et al., 2013). The production of a 20-minute psychoeducational audio video contains video clips with narration using Indonesian. The final version of the psychoeducational material consists of 4 parts: the first

contains health education about depression (susceptibility, definitions, general symptoms, linkage of injury development to depressive symptoms. The second section contains interviews of patients who have experienced depression and survived depression during wound care. The third section contains coping strategies and management of depressive symptoms (expressing emotions appropriately, encouraging regular physical activity, learning deep breathing techniques, deep breathing relaxation techniques), living life meaningfully, and seeking help. The fourth section is psychosocial services (available resources, meditation, and contact information) that the patient can contact when experiencing depressive symptoms.

Psychoeducation using audio-video was developed by the Department of Community and Mental Health Nursing, Faculty of Medicine, Tanjungpura University. Content Expert Validity was done to ensure the content of this audio video in accordance with the cultural context of diabetic foot ulcer

sufferers in Indonesia. A brief psychoeducation single session takes 30 minutes. Before giving the intervention, both groups measured depression scores using the BDI Questionnaire. After measuring the pre-test, the intervention group was given brief psychoeducation using audio-video, while the control group got Treatment As Usual. After two weeks of intervention, the patient re-measured the depression score to find out the progression of the intervention.

Data analysis

The Wilcoxon test was used to examine the effect of brief psychoeducation using audio-video on diabetic foot ulcer patients, and the Man Whitney test was used to examine the difference in the depression scores after the intervention between the experiment and control group. A value of <0.05 was considered statistically significant.

RESULTS AND DISCUSSION

Table 1 shows the characteristics of respondents based on gender, education, occupation, duration of injuries, repeated injuries, size of wounds. There are no statistically

significant differences between the two groups in the sociodemographic and clinical characteristics of the two groups.

Table 1
Profile of Participants

Characteristic	Control Group		Intervention Group		p value
	f	%	f	%	
Gender					
Male	7	43,75	10	62,50	0,090
Female	9	56,25	6	37,50	
Education					
Elementary	4	25,00	2	12,50	0,242
Junior	3	18,75	5	31,25	
Senior	7	43,75	9	56,25	
University	2	12,50	0	0	
Employment					
Private	4	25,00	6	37,50	0,525
Enterpreneur	8	50,00	6	37,50	
Housewife	4	25,00	4	25,00	
Duration of Wound					
1 – 3 Month	13	81,25	10	62,50	0,398
4 – 6 Month	2	12,50	4	25,00	
>6 Month	1	6,25	2	12,50	
Recurrence					
Yes	7	43,75	4	25,00	0,360
No	9	56,25	12	75,00	
Wound Size					
1 – 5 cm	6	37,50	12	75,00	0,104
6 – 10 cm	8	50,00	4	25,00	
>10 cm	2	12,50	0	0	

Table 2
Comparison Depression Score Intervention and Control Group

Variable Groups	Experimental (n=16)	Control (n=16)	p value
Depression Score			
Before	21,13 ± 5,644	20,69 ± 7,059	0,848
After	15,31 ± 3,610	19,63 ± 6,449	0,026

Table 2 shows that the mean depression score in the experimental group before being given the intervention was 21.13 ± 5.644 , and in the control group, it was 20.69 ± 7.059 . After being given psychoeducation, the average depression score in the experimental group decreased to 15.31 ± 3.610 , while in the control group, it decreased to 19.63 ± 6.449 . This difference was statistically significant ($p < 0.05$).

The results showed there was no significant difference in the gender, education, employment, duration of the wound, wound repeats, wound size between the intervention and control groups. Although another study stated that age affects the level of depression, this contradicted this research. The results of this study indicate that there are significant differences in depression scores before and after psychoeducation using audio-visual media. This is in line with previous research, which revealed that psychoeducation could significantly reduce levels of depression (Muriungi and Ndetei 2013).

The complications of wounds in patients with diabetes mellitus will be experiences that can cause psychosocial problems, such as depression (Ahmad et al. 2018). The signs and symptoms of depression symptoms experienced by patients with diabetic foot ulcers are different. However, this study found that patients' signs and symptoms often expressed a loss of interest in activities, sleep disorders, difficulty concentrating, and changes in appetite. In addition, the problem of depression in diabetic foot ulcer patients will impact increasing cortisol and pro-MMP2, which can affect wound healing (Vedhara et al. 2010). For this reason, interventions are needed to overcome psychosocial problems that arise in diabetic foot ulcer patients.

Intervention psychoeducation using audio-video can reduce depression in providing psychological support during wound care by facilitating the delivery of the message to the patient (Calder and Schulze 2015). Cognitive Theory of Multimedia Learning explains the information presented through multimedia will enter into a sensory memory that consists of visual and auditory pathways. Material containing images and textual narrative will enter the cognitive processing system through the sense of sight, while the explanation of the material in the form of audio will enter through the sense of hearing. The next process will be information filtering, and the selected information will be processed into working memory. In the working memory, the recipient of the information cognitively will organize the selected images and sounds into a pictorial model and a verbal model. Furthermore, these two types of information are integrated with the information possessed from long-term memory to form new knowledge. In addition, using multimedia will provide convenience for patients to learn at home or anytime and anywhere.

This study provides knowledge for health workers who treat diabetic foot, ulcer patients. It focuses not only on the use of dressings in wound care but also on performing psychosocial problem management, one of the factors that affect wound healing. Psychoeducation is effective in providing health education and managing emerging psychosocial problems such as depression.

LIMITATION OF THE STUDY

The limitation in this study is that the number of samples is still small, so it cannot be generalized. Further study with a large number of samples and follow-up in testing the influence of psychoeducation over a long time

CONCLUSION AND RECOMMENDATION

Intervention brief psychoeducation using audio-video significantly affected the depression score for diabetic foot ulcers with the average depression decline difference of 4.32. The authors would like to suggest that diabetic foot ulcer patients use psychoeducation using audio-video.

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Conflict of Interest Statement

The author(s) have disclosed that they have no possible conflicts of interest related to the study, authorship, or publication of this paper.

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