Original Articles

The Effect of Guided Imagery Therapy on The Level of Anxiety in Patients of Type 2 Diabetes Mellitus

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Abstract

Background: Type 2 diabetes mellitus (DM) is a chronic disease that has a negative physical and psychological impact. The psychological impact such as feeling useless and depressed. It causes a high level of anxiety, which makes a person vulnerable. Thus, it will complicate the management of type 2 diabetes mellitus.

Objective: This study aims to analyze the effect of guided imagery therapy on the level of anxiety in patients with type 2 diabetes mellitus.

Methods: This study used pre-experimental designs with one group pretest-posttest design with a sample of 26 respondents taken using simple random sampling technique. Measuring the level of anxiety using the Hamilton Anxiety Rating Scale (HARS) questionnaire. Data were analyzed using the Wilcoxon statistical test.

Results: Data of respondents with DM who had anxiety before the guided imagery therapy in the mild anxiety level category were 21 people (81%), after the therapy decreased with the anticipation category as many as 21 people (81%). Obtained p-value 0.000 with $\alpha = 0.05$ ($p < \alpha$), indicating that there is an effect of guided imagery therapy on anxiety levels in type 2 diabetes mellitus patients in Bulak Banteng Health Center Area.

Conclusions: This study shows that applying guided imagery therapy can reduce anxiety levels in patient with type 2 diabetes mellitus. Researchers recommend that future researchers use more samples.

INTRODUCTION

Diabetes mellitus (DM) is a chronic disease that has negative physical and psychological impacts. The negative impact that arises on the psychological such as feeling useless and depressed. This psychological condition will make the level of anxiety even higher. Anxiety is one of the factors that can make a person vulnerable and weak (Hidayah, 2017). At this time there are people with type 2 diabetes who do not know how to control anxiety. This anxiety if not handled properly can make it difficult to manage type 2 diabetes mellitus (Wahyuni, Arsin, & Abdullah, 2015).

According to 2018 Riskesdas data, the prevalence of DM based on doctor's diagnosis in people aged > 15 years was 1.5% in 2013, increasing to 2% in 2018. The highest prevalence was in DKI Jakarta at 3.4% and the lowest prevalence was in East Nusa Tenggara, which is 0.9%. The prevalence in East Java is 2.6% which stands at rank 5 in Indonesia. According to Degroot, the results of his research show that the prevalence of increasing depressive symptoms in people with type 2 diabetes is 27% (Groot, Golden, & Wagner, 2016). Based on the preliminary study, the researchers obtained data that 8 out of 11 people with type 2 diabetes mellitus in the Bulak Banteng Community Health Center experienced anxiety because they felt helpless and feared complications that would be experienced in the future.

DM is caused because the function of the pancreas does not produce enough insulin or the body cannot use insulin effectively (Dewi BD, 2019). A person can be said to have DM if the random blood glucose level exceeds > 200 mg/dl. Type 2 diabetes occurs because the function of the pancreas is experiencing an inability of insulin receptors to recognize insulin or what is commonly called insulin receptor resistance (Dewi BD, 2019). This condition causes instability of blood glucose levels in the body. This will cause several changes in physical, psychological, and social, which occur due to the symptoms and complications caused by type 2 diabetes mellitus. Typical psychological changes include depression and anxiety (Nurhayati, Makiyah, & Sari, 2018).

Anxiety in patients with type 2 diabetes if not handled properly will make self-management worse, unable to manage and control yourself, so that complications can arise, including diabetic coma, lactic acidosis coma, non-ketotic hyperosmolar coma, heart attack (CHD), neuropathy, peripheral arterial disease (PAD), nephropathy, retinopathy (Subiyanto, 2019). So, it is necessary and expected efforts for the early prevention of these obstacles and complications.

DM control can be managed with guidelines for the 4 pillars of diabetes mellitus, which consists of education, eating arrangements, exercise, medication adherence (Putri & Isfandiari, 2013). In managing DM, the first step must be taken is education/counseling starting from diet planning, physical activities, or sports. If this step is not achieved, the next step is the use of drugs, both oral drugs or insulin (Subiyanto, 2019). Pharmacological insulin therapy can be given as long-term therapy in controlling blood glucose levels (Damayanti, 2015). Reducing anxiety in DM, patients non-pharmacologically is the guided imagery technique. Guided imagery is a relaxation technique to improve self-control using individual imagination and creating impressions in the mind so that gradually reduce anxiety levels. The decreased level of anxiety will have an impact on good self-management so that diabetes control is carried out properly. From some of the facts above, it is necessary to seek the use of guided imagery techniques to reduce anxiety levels.

METHODS

Study Design

This study used a design pre-experimental with a one-group pre-posttest design approach.

Settings

This research was conducted in March 2020 with approximately 4 weeks in the Bulak Banteng Community Health Center, Bulak Banteng Village, Kenjeran District, Surabaya City, East Java Province.

Research subject

The sample in this study were people with diabetes mellitus who experienced anxiety who had not been able to reduce the sense of anxiety they felt, as many as 26 respondents were selected using a simple random sampling technique.

Instruments

The instrument in this study used the anxiety questionnaire sheet Hamilton Anxiety Rating Scale (HARS) and the Standard Operating Procedure (SOP) for guided imagery therapy.

Data collection

Data collection techniques by means of respondents are given therapy guided imagery, at the first meeting respondents are taught and strived to be able to carry out guided imagery actions, after the respondent can do it independently, the next stage the respondent is followed up for 2 times every week at his home for 3 weeks. The time needed to provide training to respondents is 20-30 minutes. After doing therapy guided imagery, then measuring the level of anxiety was carried out.

Data Analysis

Analysis of the data using statistical test Wilcoxon at level of 95% (alpha = 0.05), with the result indigo P value <0.05 $\alpha = (0.05)$.

Ethical Consideration

This research has been conducted research ethics test at STIKES Adi Husada

RESULTS

Table 1 Characteristics in the Bulak Banteng Health Center Area, Bulak Banteng Village, Kenjeran District, Surabaya City, on March 8 - April 20, 2020.

Characteristics of Respondents	Frequency (n)	Percentage (%)
Age		
15 - < 32 Years	3	12
32 - ≤ 64 Years	23	88
Gender		
Male	11	42
Female	15	58
Occupation		
Civil Servant	0	0
Private	4	15
Self-employed	8	31
Housewife	8	31
Students	0	0
Not working	5	19
Others	1	4
Length of Suffering from DM		
< 1 month	1	4
< 2 months	3	12
< 3 months	2	8
< 6 months	4	15
≤ 1 year	16	62
History of illnesses		
Have comorbidities	0	0
Do not have comorbidities	26	100
Family History		
Have DM	4	15
Don't have DM	22	85
Smoking Habits		
Yes	8	31
No	18	69
Consume Alcohol		
Yes	5	19
No	21	81
Consumption of Excessive Glucose		
Yes	23	88
No	3	12
Active Exercising		
Yes	6	23
No	20	77
Use of Drugs DM		
Yes	23	88
No	3	12
Control Routine Blood Sugar		
Yes	23	90
No	3	10

Table 1 shows that the characteristics of most respondents are 23 people aged 32-64 years (88%), 15 people (58%) female, self-employed, and housewives respectively. as many as 8 people (31%), the duration of suffering from diabetes was less than the same as 1 year as many as 16 people (62%), 26 people (100%) did not have comorbidities or complications, no family member had diabetes 22 people (85%), 18 people did not smoke (69%), 21 people did not consume alcohol (81%), 23 people consumed excess glucose (88%), 20 people were not active in sports (77%).), consuming DM drugs as many as 23 people (88%), and routine blood sugar control as many as 23 people (90%).

Table 2 Distribution of Anxiety Levels Before and After Guided Imagery Therapy in Bulak Banteng Health Center, Bulak Banteng Village, Kenjeran District.

Clarification of Anxiety Level	Pretest n (%)	Post-test n (%)
Anticipation	0 (0)	21 (81)
Mild Anxiety	21 (81)	5 (19)
Moderate Anxiety	5 (19)	0 (0)
Severe Anxiety	0 (0)	0 (0)
Panic	0 (0)	0 (0)

Based on table 2, it can be seen that most of the respondents in the Bulak Banteng Community Health Center, Bulak Banteng Village, Kenjeran District, prior guided imagery therapy in the category of DM sufferers who had mild anxiety levels were 21 people with a percentage of 81%. Most of the respondents after therapy were carried out Guided Imagery in the category of DM sufferers who had anxiety levels with the anticipation category as many as 21 people with a percentage of 81%.

Table 3 Frequency Distribution of the Effect of Guided Imagery Therapy on Anxiety Levels in DM Patients in the Bulak Banteng Community Health Center, Bulak Banteng Village, Kenjeran District.

No.	Anxiety Level	Mean	Std. Deviation	P. *Value*
1.	Pre anxiety level	2.19	.000	0.000
2.	Post anxiety level	1.19	.402	

Based on table 3 data, shows that the level of anxiety in DM patients before giving therapy is guided imagery 100% and after giving therapy is guided imagery 75%. And the results of data analysis showed that the average level of anxiety before therapy was guided imagery 2.19 and the average level of anxiety after therapy was guided imagery 1.19. The results of the Wilcoxon Statistical Test showed p-value = 0.000, which shows that there is an influence on the level of anxiety before and after being given guided imagery therapy on DM patients in the Bulak Banteng Community Health Center, Bulak Banteng Village, Kenjeran District, Surabaya City.

DISCUSSION

The results of the study before giving guided imagery therapy showed that: 0% in the anticipation level, 81% in the mild anxiety level, 19% in the moderate anxiety level, 0% in the severe anxiety level, and 0% in the panic level. The results of the study after giving guided imagery therapy showed that: 81% in the anticipation level, 19% in the mild anxiety level, 0% in the moderate anxiety level, 0% in the severe anxiety level, and 0% in the panic level. From the results of data analysis, it was found that the level of anxiety before giving guided imagery therapy showed a value mean or an average of 2.19 and after giving guided imagery therapy showed a value means or an average of 1.19. The results of the statistical Wilcoxon test showed that the p-value = 0.000 (α = < 0.05), the p-value is lower than α, so the hypothesis can be accepted. The conclusion from the results of this study is that there are differences in the results of anxiety levels before and after giving guided imagery therapy so that there is a decrease in anxiety levels in patients with type 2 diabetes in the Bulak Banteng Community Health Center, Bulak Banteng Village, Kenjeran District, Surabaya City.

Diabetes mellitus is a disorder of carbohydrate, protein, and fat metabolism due to an imbalance between insulin availability and insulin requirements. (Damayanti, 2015). Chronic hyperglycemia in Diabetes Mellitus type 2 occurs due to insulin receptor resistance (Dewi, 2019). Typical complaints that accompany lots of urine (polyuria), frequent thirst and lots of drinking (polydipsia), easy hunger and frequent eating (polyphagia), and weight change for no apparent reason. Meanwhile, complaints that are not typical that accompany Type 2 DM include tingling in the feet, itching of the genital area and vaginal discharge, infectious wounds that are difficult to recover, ulcers that come and go, blurry eyes, fatigue, and drowsiness easily, and erectile dysfunction in men. According to Nusantoro & Listyaningsih (2018) for DM sufferers, anxiety arises because they think about the condition of the disease they are experiencing such as blood sugar instability, complications to be faced, the various symptoms experienced by DM sufferers so that sufferers will have difficulty accepting these conditions which can cause disturbances in psychologically which will eventually cause mild, moderate and severe anxiety (Nusantoro & Listyaningsih, 2018). Anxiety is a normal response to certain threatening situations, accompanying developments, changes, experiences that have never been done or new, and in situations of finding self-identity and meaning in life. Researchers argue that DM sufferers will experience anxiety depending on the response of each individual's body.

Providing guided imagery therapy can be used as an alternative or non-pharmacological treatment to reduce anxiety levels. Guided imagery is a cognitive-behavioral technique where a person imagines and imagines a situation or series of experiences that make him comfortable in a guided manner by involving the five senses (Purnama, 2015). Guided imagery is also a non-pharmacological relaxation and treatment technique to reduce anxiety, muscle contraction, and facilitate sleep (Issrahli, 2018). This

therapy is what can change negative thinking patterns into positive ones. In the end, it is expected that respondents will have the ability to act adaptively in dealing with problems or difficult situations in each phase. At the first meeting, the health worker fosters a trusting relationship with the client to assess the behavior and cognitive that makes the client anxious then makes an appointment and a therapy schedule to fight anxiety and form new positive coping for the client (Nuwa, 2018). Respondents or clients are taught and strived to be able to do guided imagery independently. Guided imagery therapy provides many benefits, but not everyone can follow this therapy. Some of them are someone with unstable emotions, have limited intelligence, or for some reason (Nuwa, 2018).

Researchers argue that being given guided imagery therapy can reduce anxiety levels but also improve quality of life and relieve symptoms caused by DM such as problems related to sleep (insomnia, frequent waking, nightmares) and lethargy. In providing therapy, the client's or respondent's condition must be considered, therapy is recommended that the client is not hungry and the stomach is not too full. The client is expected to be able to do it independently and be done when going to sleep or waking up because the condition is still relaxed. guided imagery therapy There are 4activities, 1 activity assessment of anxiety levels, 2 activity providing therapy guided imagery, 3 follow-up activities, 4 activity evaluation, and assessment activities. In each activity, the client or respondent will be guided and directed by researchers who will carry out guided imagery therapy until the therapy is complete. Researchers asked respondents about the therapy carried out and provided discussion sessions. Based on the analysis, theory, and previous studies that support this research, it can be concluded that guided imagery can be used as an alternative management for DM sufferers who experience mild or moderate anxiety in the Bulak Banteng Community Health Center, Bulak Banteng Village, Kenjeran District, Surabaya, but still not can be applied more broadly because this research has not conducted randomization and determination of inclusion in respondents and there is no comparison.

LIMITATION

The limitation in this study is the absence of control groups

CONCLUSION

The results of anxiety levels before and after giving guided imagery therapy have changed, resulting in a decrease in anxiety levels in people with diabetes mellitus (DM) type 2 in Bulak Banteng Community Health Center, Bulak Banteng Village, Kenjeran District, Surabaya City, the data shows the test results. *Wilcoxon* obtained a significant value with the result p-*value* = 0.000 (α = <0.05). Result *p-value* is lower than α, then the hypothesis can be accepted, which means that there is an influence on this research.

It is recommended for respondents who experience anxiety to be motivated to be able to do guided imagery independently. Bulak Banteng Public Health Center Agency can facilitate the implementation of guided imagery therapy by providing health information about guided imagery small-scale such as counseling, providing therapy modules guided imagery for DM patients who experience anxiety, and mentoring patients with health workers when doing therapy guided imagery. For further researchers, it is expected to use a control group and an intervention group, and preferably using a different intervention method or a guided imagery modified intervention with other supporting interventions, so that it can reduce the level of anxiety in DM sufferers.

AUTHOR CONTRIBUTION
Susanti: Collected literature, conducted data analysis, and compiled manuscripts.
Rizka Nur Indah Ristyawati: Collected data, tabulated data, and compiled manuscripts.

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CONFLICT OF INTEREST
There is no conflict of interest.

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