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The Effect of Structured Supportive Education on Anxiety Levels in Diabetes Mellitus Patients in Watupatok Village, Bandar District, Pacitan Regency

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Abstract. Diabetes Mellitus (DM) is a chronic disease that requires long-term management, both physically and psychologically. One of the common psychological issues experienced by DM patients is anxiety, which can worsen their overall health condition. Structured Supportive Education (SSE) is a nursing intervention designed to provide information, guidance, and emotional support to improve patients' coping abilities. This study aims to determine the effect of SSE on the anxiety levels of DM patients in Watupatok Village, Bandar Sub-district, Pacitan Regency. The research used a pre-experimental method with a one-group pretest-posttest design. A total of 27 respondents were selected using purposive sampling. Data were collected using the Hamilton Anxiety Rating Scale (HARS) and analyzed with the Wilcoxon Signed Rank test. The results showed a significant reduction in anxiety levels after the SSE intervention, with a p-value of 0.001 ($p < 0.05$). It can be concluded that Structured Supportive Education is effective in reducing anxiety among DM patients and may serve as an alternative non-pharmacological intervention in nursing care, especially in community health settings.

Keywords: Anxiety; Diabetes Mellitus; Nursing Care; Structured Education; Supportive Education.

1. INTRODUCTION

Diabetes Mellitus (DM) is a condition characterized by elevated blood sugar levels due to a complete or partial deficiency of the hormone insulin. To prevent complications, managing blood glucose levels is a crucial aspect of patient care. This requires a thorough understanding of contributing factors, such as diet, physical activity, medication adherence, and knowledge about the disease.

Based on initial observations conducted in January 2025 in Watupatok Village, Bandar District, Pacitan Regency, 90 people with diabetes mellitus were identified, and 27 met the criteria for study participants. Some of these individuals experienced anxiety, primarily due to concerns about the progression of their long-standing disease and uncertainty about the success of treatment. This anxiety leads to stress, which can trigger elevated blood glucose levels, further worsening the patient's health.

One non-pharmacological approach that can be implemented in nursing is Structured Supportive Education (EST). This approach includes education, mentoring, and emotional support aimed at increasing patient understanding and fostering a positive attitude toward their condition. EST can be delivered through health education, home visits, or educational media such as leaflets, with the hope of helping patients manage their illness and reducing anxiety levels.

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2. THEORITICAL STUDY

Diabetes Mellitus (DM) is a chronic disease that requires long-term management. During treatment, many patients experience anxiety due to uncertainty about treatment outcomes, fear of complications, and drastic lifestyle changes. This psychological state can negatively impact metabolic balance and worsen the patient's health.

Anxiety itself is an emotional response that occurs when an individual feels threatened or unable to cope with a particular situation. According to Astuti (2018), anxiety is associated with subjective feelings of insecurity and worry. If prolonged, anxiety can reduce patient enthusiasm and compliance with medical treatment.

Several previous studies have demonstrated the effectiveness of educational approaches in reducing anxiety. For example, research by Suciana & Arifianto (2019) found that providing gradual education can increase motivation and reduce patient anxiety levels. Similarly, Kusuma & Setyaningrum (2021) demonstrated that increased knowledge gained through education can influence patients' attitudes to be more positive and adaptive in dealing with their illness.

3. RESEARCH METHODS

This study was conducted using a quantitative approach using a one-group pretest-posttest design. This design was used to observe changes in anxiety levels before and after the Structured Supportive Education (EST) intervention was administered to one group without a comparison group.

Population and Sample

The target population in this study was all 90 people with Diabetes Mellitus residing in Watupatok Village, Bandar District, Pacitan Regency. Purposive sampling was used, selecting respondents based on predetermined criteria. The final sample size was 27 respondents.

Inclusion criteria included: Age between 40–60 years, able to read and write, willingness to participate in the study, demonstrating symptoms of anxiety based on initial measurement results. Exclusion criteria included: Experiencing severe complications due to diabetes, experiencing a severe mental disorder, data Collection Techniques and Instruments. Data collection was conducted using the Hamilton Anxiety Rating Scale (HARS), which is designed to measure anxiety symptoms from both psychological and somatic aspects.

There are 14 items in this scale that are assessed with a score of 0–1. The total score indicates the level of anxiety, ranging from none to severe. Validity test results showed that all items in the instrument correlated above the r-table value (0.30), indicating validity. Reliability was measured using a Cronbach's Alpha value, which was above 0.70, thus the instrument was

deemed reliable for use in this study. Research Procedure the steps in implementing the study consisted of: Conducting an initial measurement (pretest) of anxiety levels using the HARS. Implementing the intervention in the form of EST in stages. Repeating the measurement (posttest) with the same instrument. Conducting data analysis to compare results before and after the intervention. Data Analysis Techniques data were analyzed using the Wilcoxon Signed Rank Test, considering that the data obtained were ordinal and derived from two measurements in the same group. The significance level used was 5% ($\alpha = 0.05$). If the test results show a p-value <0.05, a significant difference is declared between before and after the EST intervention. Research Model, $X \rightarrow Y$, Description:

X = Structured Supportive Education (EST)

Y = Anxiety level of people with Diabetes Mellitus

4. RESULT AND DISCUSION

This chapter describes the data collection process, analysis results, and discussion regarding the effect of Structured Supportive Education (EST) on anxiety levels in patients with Diabetes Mellitus in Watupatok Village, Bandar District, Pacitan Regency.

Research Results

Description of the Research Location

This research was conducted in Petungulung Hamlet, Watupatok Village, Bandar District, Pacitan Regency, a highland area with an elevation of approximately 946 meters above sea level. Data collection took place in May 2025, with the intervention being implemented three times a week, directly at each respondent's residence.

Respondent Characteristics

Respondent characteristics included gender, age, and level of formal education. The data show that of the 27 respondents, the majority were female (63%), with the remainder male (37%). All respondents were between the ages of 46 and 60, which is considered middle adulthood. Based on education level, most respondents completed their education up to junior high school level (48.1%), followed by senior high school/vocational school (29.6%), elementary school (14.8%), and only a small proportion reached tertiary level (7.5%).

Table 1. Distribution of Respondent Characteristics

No	RespondentCharacteristics	F	%
1.	Gender		
	Male	10	37
	Female	17	63
2.	Age		
	30-45 Years	0	0
	46-60 Years	27	100
3.	Education		
	No schooling	0	0
	Elementary school	4	14.8
	Middle school	13	48.1
	High school/vocational school	8	29.6
	College	2	7.4
4.	Duration of DM		
	1-2 Years	6	22.2
	3-4 Years	16	59.3
	>4 Years	5	18.5
5.	Information About Diabetes		
	Ever	21	77.8
	No	6	22.2
6.	Information Source		
	Healthcare Professionals	27	100
	Social Media	0	0
	Print Media	0	0
7.	Regularly Check Blood Sugar		
	Yes	18	66.7
	No	9	33.3
TOTAL		27	100

Table 1 Frequency distribution of respondent characteristics by age, gender, occupation, and education in Watupatok Village, Bandar District, Pacitan Regency, 2025.The majority of respondents in this study were women, and all were in an age group considered at high risk for chronic diseases such as diabetes. The varying educational levels suggest that educational delivery needs to be tailored to each individual's educational background to be more effective in reducing anxiety.

Tabel 2. Distribution of Anxiety.

Anxiety Criteria	Pre Test		Post Test	
	Frekuensi	Presentase	Frekuensi	Presentase
Not Anxious	0	0	6	22.2
Mild Anxiety	2	7.4	14	51.9
Moderately Anxious	11	40.7	7	25.9
Severe Anxiety	14	51.9	0	0
Panic	0	0	0	0
Total	27	100	27	100

Uji *Wilcoxon Signed Rank* ρ value= 0.001 ($\alpha = 0.05$)

Tabel 2. Distribution of Anxiety in Diabetes Mellitus Patients Before and After Structured Supportive Education (EST) in Watupatok Village, Bandar District, Pacitan Regency 2025.

Before the intervention, almost half of the respondents showed symptoms of severe anxiety, and none were in the non-anxious category. After receiving structured supportive education, anxiety levels decreased drastically: 51.9% of respondents experienced mild anxiety, and 22.2% showed no symptoms at all. These data indicate that the educational approach implemented had a positive impact on the respondents' psychological well-being.

Statistical Test Results

Statistical analysis using the Wilcoxon Signed Rank test yielded a p-value of 0.001, which is less than the 0.05 significance level. Thus, it can be concluded that there is a significant difference between anxiety levels before and after receiving Structured Supportive Education.

Discussion

Before the EST Intervention

Before receiving the treatment, the majority of respondents experienced severe anxiety. This reflects the presence of emotional instability can be triggered by the psychological burden of chronic illness. Anxiety in diabetes patients is closely related to concerns about long-term complications and uncertainty in disease management, as explained by Patel (2014), who stated that emotional stress can increase levels of stress hormones such as cortisol and epinephrine, which in turn can worsen blood glucose levels.

After the EST Intervention

After the intervention, there was a significant change in respondents' anxiety levels. The number of respondents in the severe anxiety category decreased to zero, and the majority moved to the mild to no anxiety category. This indicates that educational interventions that not only provide information but also foster emotional connection and psychological support are highly effective in reducing anxiety in patients with chronic diseases such as diabetes mellitus.

Analysis of the Effect of EST on Anxiety

The results of the statistical analysis confirmed the effect of Structured Supportive Education on reducing anxiety levels. This finding aligns with research conducted by Suciana and Arifianto (2019), which showed that an educational approach can improve patients' psychological readiness. Furthermore, this also supports the theory of Notoatmodjo (2013), which explains that knowledge can change an individual's perception, which in turn influences attitudes and behavior.

Theoretical and Practical Implications

Theoretically, the results of this study reinforce Orem's self-care theory, which argues that educational support can increase patient independence. From a practical perspective, this intervention can be used as a non-pharmacological alternative that is easy to implement in both

healthcare facilities and communities. These findings also provide a basis for developing family- and community-based educational interventions to support the mental health of people with chronic illnesses.

5. CONCLUSION

The results of this study indicate that Structured Supportive Education (EST) significantly reduced anxiety levels in patients with Diabetes Mellitus in Watupatok Village, Bandar District, Pacitan Regency. Prior to the education, most respondents experienced a severe level of anxiety, but after the intervention, most experienced a decrease to a mild level. This demonstrates that systematic and targeted education can help patients better understand and manage their health conditions emotionally. Based on these results, EST is suitable as a form of non-pharmacological intervention that can be implemented in nursing practice, both in hospital settings and in public health services. However, it should be noted that this study still has limitations, such as a small sample size and the absence of a comparison group.

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