

The Effect of Psychoeducation on Self-Efficacy in Elderly People with Diabetes Mellitus

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Abstract

Introduction: Diabetes mellitus is a long-term illness that presents threats to one's physical health as well, but also has a significant psychological impact on sufferers, as a result of which the ability to increase self-efficacy decreases. Psychoeducation can be chosen as an alternative to help the elderly to form positive coping by increasing their self-efficacy. This study aims to analyze the effect of psychoeducation on self-efficacy in elderly patients with diabetes mellitus in the Jenggawah Community Health Center area.

Methods: The method used in this research was a quasi-experimental design using an intervention group and a control group. The sample in this study was 60 elderly people with diabetes mellitus. This research uses a purposive sampling technique. The measuring tool in this research is the Diabetes Management Self-Efficacy Scale questionnaire which consists of 18 statements that are valid and reliable. Data analysis used the Wilcoxon and Mann Whitney tests.

Results: The results of the Wilcoxon Test statistical analysis were obtained in the pre-posttest of the intervention and control groups, p-value $0.000 < 0.05$. The Mann Whitney test showed a p-value of $0.000 < 0.05$ indicating that there was an influence of providing psychoeducation on Self Efficacy in elderly people with diabetes mellitus at the Jenggawah Health Center.

Conclusions: Psychoeducational activities can be an alternative intervention used by Public Health Center to increase motivation and also information to patients about the importance of Self Efficacy in empowering diabetes mellitus.

Keywords: Diabetes mellitus, psychoeducation, self-efficacy

Introduction

The behaviour of patients towards their disease is a major issue in the treatment of diabetes mellitus. This is because each patient has a different perspective on their disease. Due to the complexity and difficulty in creating and maintaining behaviors, individual, social, and psychological factors can affect the level of independence of patients with diabetes mellitus. More than 50% of people with diabetes report that they are not entirely sure what they should do when they have high or low blood glucose (Davies et al., 2019). DM management is known by four main pillars, namely education, diet, physical activity, and medication (Fadhilah,

2021). However, to successfully implement these pillars, a strong will is required from people with DM, which is closely related to psychological factors such as self-efficacy. Self Efficacy focuses on the patient's belief in being able to perform behaviors that support and improve care management in supporting the improvement of their disease such as diet, physical activity, blood sugar control, medication, and general care (Hati *et al.*, 2021).

According to the International Diabetes Federation (IDF), DM prevalence is on the rise worldwide, with an estimated 783 million sufferers by 2045. Indonesia ranks fifth in the world with 19.47 million sufferers in 2021 (Irawan *et al.*, 2023). At the regional level, the East Java Provincial Health Office report recorded 929,535 cases of DM patients in 2021, with the Jenggawah Health Center in Jember Regency ranking the second highest with 3,105 cases in 2022. Previous research conducted at the Jenggawah Health Center showed that Self Efficacy in elderly people with DM was still low, around 46.3% (Vitaliati, 2023). Through interviews in November 2023, it was found that some elderly people were not confident in their ability to care for themselves, did not routinely carry out health controls, and had a less caring attitude towards their illness. This can be strengthened by the data of Health Service Efforts (UKP) 2023 Jenggawah Health Center, the number of visits of DM patients is relatively low compared to the number of patients detected.

A person's feelings, thoughts, and actions are also influenced by self-efficacy (Sepang & Lainsamputty, 2022), someone who has negative self-perceptions, such as inner pressure to lose something in himself and has excessive anxiety resulting in a decrease in one's Self Efficacy (Yusuf *et al.*, 2010). In Indonesia, several studies have been conducted related to the development of diabetes mellitus education programs, one of the efforts that can be made to increase Self-efficacy in elderly people with diabetes mellitus is psychoeducation. Psychoeducation can be chosen as an alternative intervention to increase self-efficacy in elderly people with diabetes mellitus. Psychoeducation is education provided either individually or in groups about psychological concepts through methods that are more cost-effective, time efficient so that they can be accepted by patients (Sukarmawan, 2019). Psychoeducation has the aim of helping individuals manage their illness conditions and encouraging sufferers to have a role in the medication process, psychoeducation also helps people with diabetes mellitus develop positive coping in dealing with problems that arise due to their illness (Fayyazi Bordbar & Faridhosseini, 2012). So that psychoeducation is expected to be able to change one's thinking and can form positive coping by increasing the self-efficacy of the elderly in dealing with diabetes mellitus. The purpose of this study was to analyze the effect of psychoeducation on self-efficacy in elderly people with diabetes mellitus.

Methods

This study was conducted on January 15 - March 15, 2024 at Jenggawah Public Health Center, Jember. This study used a quantitative approach with a quasy-experimental research design, there are intervention groups and control groups. The population in this study was 101 elderly people with diabetes mellitus with the inclusion criteria: 1) have a history of diabetes mellitus < 10 years; 2) at least 60 years old or above. The sampling technique in this study used purposive sampling, taking into account certain characteristics. This study used a sample of 60 people, with 30 people in the Intervention group and 30 people in the Control group, according to Sugiyono (2019), the appropriate sample size for this study ranged between 30 and 500. In this study, the provision of psychoeducation to the intervention group included 5 stages, such as: stage 1 problem identification, stage 2 knowledge management, stage 3 stress management, stage 4 burden management, and stage 5 family empowerment to help clients (Stuart, 2009) with a duration of 60 minutes each stage, while the control group was given diabetes education according to the SOP at the Public Health Center with only 1 stage. This research instrument uses the Diabetes Management Self-Efficacy Scale questionnaire consisting of 18 statements that discuss Self Efficacy adopted from (McDowell, 2005) which has been modified by Doya (2018), with the results of validity and reliability tests as many as 18 statements declared valid and reliable with a value of $r = 0.361$ and a reliability value of Cronbach's Alpha = 0.901. Respondents were asked to fill out informed consent before starting data collection through this research questionnaire. Furthermore, editing, coding, tabulation, and data analysis were carried out using the Wilcoxon and Mann Whitney tests with SPSS software version 24. This research has conducted ethical trials and received ethical approval with number: 507/KEPK/UDS/XII/2023.

Results

Results of data collection are presented in the form of tables that contain explanations (Table 1 & Table 2).

Table 1. Wilcoxon Test Results Pre Test And Post Test Of Psychoeducation For Elderly People With Diabetes Mellitus In The Control Group And Intervention Group.

Groups	Kategori	Pretest		Posttest		P-value
		F	%	F	%	
Control	Low	22	73.3%	19	63.3%	0.000
	High	8	26.7%	11	36.7%	
Intervention	Low	25	83.3%	0	0	0.000
	High	5	16.7%	30	100%	

Table 1 shows that based on the Wilcoxon test results, the p-value was 0.000 (<0.05) in both groups. In the intervention group, a very small p-value (0.000) indicates a significant difference between the pretest and posttest scores of the control group, but this change may not be clinically significant. Meanwhile, in the control group, a very small p-value indicated a significant difference between the pretest and posttest scores of the control group. This change is clinically relevant and demonstrates the effectiveness of the psychoeducational intervention provided to the intervention group.

Table 2. Mann Whitney Post-Test Test Results In The Control Group And Intervention Group

	Post-test
Mann-Whitney U	15.000
Z	-6.442
Asymp. Sig. (2-tailed)	.000

Table 2 shows that based on the Mann-Whitney test results, the p-value (<0.05) indicates that there is a significant difference between the two groups in terms of post-test scores. This indicates the effectiveness of the psychoeducational intervention provided in improving the measured variables.

Discussion

Based on the results of research on self-efficacy behavior in elderly people with DM before being given psychoeducation, all respondents in the control group were mostly low, namely 22 (73.3%), while in the intervention group all respondents were low as many as 25 (83.3%). Self-efficacy itself can be influenced by various factors both internal and external. Meanwhile, the results of research on self-efficacy behavior in elderly people with DM after being given Intervention all respondents in the control group increased by only 11 (36.7%) and in the intervention group who were given psychoeducation were all high, namely 30 (100%). In the control group, there were 3 patients who experienced a decrease in self-efficacy over time, indicating specific challenges or barriers they faced in disease management. This decrease in self-efficacy can be a focus of attention to understand the factors that may influence it because the control class was only given 1 stage of education according to the Public Health

Center SOP. These results indicate that psychoeducation can have a positive impact on increasing patient self-efficacy in managing diabetes mellitus in the intervention group in contrast to the control group who did not receive psychoeducation.

Manuntung (2020) suggests that people with DM with good self-efficacy will be able to manage a healthy lifestyle according to expectations. This is in line with the social cognitive theory developed by Albert Bandura in 1997, which states that a person's self-efficacy can be obtained, changed, increased, or decreased through one or a combination of four factors, namely performance accomplishment, vicarious experience, verbal persuasion, and emotional arousal. Performance accomplishment is an experience or achievement that has been achieved by someone before, vicarious experience is an experience gained from others, verbal persuasion is a persuasion carried out by others, either verbally or by himself, which can affect how a person behaves or acts, and emotional arousal which produces positive emotions that encourage people to take certain actions (Bandura, 1997). According to Edberg (2010), the results of this study are in accordance with the Health Belief Model (HBM) theory that a person who has acquired and skills about their illness will have a better perception of their illness and will form and strengthen their own abilities. Self-efficacy itself is defined as an individual's belief in his or her ability to organize and perform certain tasks needed to get the results that are in accordance with expectations. Self-efficacy focuses on the patient's belief in being able to perform behaviors that support and improve care management in supporting the improvement of their disease such as diet, physical activity, blood sugar control, medication, and general care (Basri et al., 2021). Self-efficacy is very important in diabetes mellitus empowerment because it has a major impact on the ability of people with diabetes mellitus to change their lifestyle according to expectations (Fajriani, 2021). These respondents provide an opportunity to express their complaints, exchange information, and find solutions, then provide inspiration and constructive input. These results provide a positive picture of the effectiveness of psychoeducation in increasing self-efficacy in patients with diabetes mellitus. According to research conducted by Putra & Soetikno (2018), psychoeducation is an educational method that can be used to provide training and information that can change a person's mental or psychological understanding. This can be used as a solution to provide insight and knowledge with the aim of increasing respondents' self-efficacy. One interesting finding from these results is that no patients experienced a decrease in self-efficacy after psychoeducation in the intervention class. This suggests that psychoeducation can be effective in maintaining or increasing patients' self-efficacy levels, even without a decrease. The results of this study are in accordance with the theory stated by Solehah et al. (2019) which proves that

psychoeducation can increase the self-efficacy of patients with diabetes mellitus. This success can be interpreted as an indication that psychoeducation not only provides information, but also supports the strengthening and maintenance of patient self-efficacy in managing the disease. Psychoeducation is not only informative, but can also provide emotional support and reinforcement to patients. The emphasis on new understandings and skills gained through psychoeducation appears to have a significant positive impact on patients' levels of self-efficacy in their ability to cope with their disease, with further understanding of these results, more targeted strategies and approaches can be implemented to maximize the benefits of psychoeducation on disease management and well-being.

The Mann-Whitney test results in table 2 obtained a significance value of $0.000 < 0.05$ provide strong support for the study findings that the provision of psychoeducation to patients with diabetes mellitus is effective in increasing respondents' self-efficacy. The low significance indicates that the difference between the post-test results of the intervention group who received psychoeducation and the control group who did not receive psychoeducation is statistically significant. Psychoeducation has a positive and significant impact on increasing the level of confidence of diabetes mellitus patients in their knowledge and ability to manage the disease. In line with Huzaimah's research (Huzaimah, 2018) which shows that the application of psychoeducational changes increases the understanding and self-success of people with DM. This forms the foundation for positive behaviors that support successful treatment. Thus, these findings provide a strong empirical basis for health services to consider psychoeducational interventions as a component in the care and management of patients with diabetes mellitus to help streamline diabetes education to patients with DM. Psychoeducation can be an effective alternative in empowering patients, motivating positive behavior change, and improving their quality of life through strengthening self-efficacy.

Conclusion

The results of Self Efficacy before being given the intervention of all respondents in the control group were mostly low as many as 22 (73.3%), while in the intervention group all respondents were low as many as 25 (83.3%). The results of Self Efficacy after being given the intervention of all respondents in the control group were mostly high as many as 11 (36.7%), while in the intervention group all 30 (100%) respondents were high. There is an effect of Psychoeducation on Self Efficacy in elderly people with diabetes mellitus at the Jenggawah Health Center. Psychoeducational activities can be an alternative intervention used by Public Health Center to increase motivation and also information to patients about the importance of

Self Efficacy in empowering diabetes mellitus. Further research is expected to be able to expand the scope of the sample and the variables observed by paying more attention to the condition of elderly respondents so that there are no obstacles in providing interventions, considering that the elderly are a vulnerable group so it is feared that they will not be able to follow all stages of the intervention.

Author Contributions

First author: designing the whole concept of the study, collecting and analyzing the data, and writing the manuscript

Second and third author: giving a guidance for the researcher during the process of research preparation and implementation, supervising and ensuring that research project is carried out in accordance with the methodology research.

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Conflict of Interest

The authors have reported no conflicts of interest.

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