



Self-Efficacy with Anxiety Levels of Diabetes Mellitus Patients in Hospital Care Settings

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ARTICLE INFORMATION

Received: November 29, 2023

Revised: December 26, 2023

Available online: May 2024

KEYWORDS

Diabetes Mellitus, Self-efficacy, Anxiety

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A B S T R A C T

Clients with diabetes mellitus often experience anxiety in taking medication. This can interfere with the treatment process, reducing the mechanism of the treatment being carried out. This study aims to analyze the relationship between client self-efficacy and anxiety levels when taking treatment at the hospital. This study uses a quantitative design with a cross-sectional approach. The sample in this study consisted of 133 respondents, and the sampling technique used was consecutive sampling. Data collection used the DMSES (Diabetes et al.) and HADS (Hospital Anxiety and Depression Scale) questionnaires. The results showed that the p-value = 0.001 and $r = -0.693$. This indicates that there is a relationship between self-efficacy and the level of anxiety of patients with diabetes mellitus and has a negative correlation; namely, the higher the self-efficacy, the lower the anxiety level of the respondents. It is hoped that these results can serve as a record for both patients and health workers so that they pay more attention to each other's health and so that health workers, especially nurses, are expected to be able to assess the level of anxiety experienced by patients with Diabetes Mellitus.

INTRODUCTION

Diabetes Mellitus (DM) is a chronic condition that occurs when the body cannot produce enough insulin or cannot use insulin properly, which is characterized by an increase in blood glucose levels (International Diabetes Federation (IDF), 2015). The number of DM patients is estimated to be 415 million people and will continue to grow until 2040, with a total of 642 million people. Indonesia ranks 7th globally with 10 million DM patients and is expected to increase to 16.2 million people in 2040 (IDF, 2015). In Indonesia, DM is the number 3 deadly disease after stroke and coronary heart disease (KEMENKES RI, 2017). In 2018, diabetes mellitus patients ranked 3rd in the order of services at the Hospital. This can affect the service mechanism in the hospital setting and the level of patient satisfaction in receiving services at the hospital (Rifai et al., 2019).

According to WHO (2017), common mental disorders are increasing worldwide. People suffering from anxiety have increased by almost 50%, with 615 million people. 30% of mental disorders are caused by disease burden. WHO estimates that during an emergency, as many as 1 in 5 people experience anxiety. Anxiety is predicted by WHO as the primary cause in 2020 and as the second disease after ischemic heart. If someone is diagnosed with Diabetes Mellitus, a chronic disease, it can become a problem that can cause a long-term psychological burden on himself and his family (Afandi & Kurniawan, 2017). The

poor psychological function can cause suffering such as anxiety, can simultaneously affect the quality of life of clients with diabetes, and is associated with poor medical outcomes and high costs that can complicate the process of managing patients with diabetes mellitus (Afandi, 2016).

Self-efficacy is a person's belief in the ability to act according to the goals to be achieved. Self-efficacy will influence mindsets and feelings and motivate oneself to act (Afandi & Kurniawan, 2017). Anxiety is influenced by self-efficacy, if self-efficacy is high, the level of anxiety will be lower. Conversely, if the efficacy is poor, the person will doubt his ability. Individuals will avoid actions that are difficult to see as a threat and have low motivation and commitment to the goals to be achieved, namely healing (Amilia, 2019). Self-efficacy is a common element that can improve chronic disease management in individuals who understand that DM is a condition that can be controlled. The stronger self-efficacy is felt and instilled, the greater the confidence to maintain and improve health behavior (Bandura, 2010). Implementing changes in an individual's life requires sufficient self-efficacy, without self-efficacy, the individual's motivation to change will be hampered (Asmaningrum & Afandi, 2022). Patients with diabetes mellitus must have good self-efficacy and self-confidence, motivating them to improve their health status (Afandi et al., 2023).

Efforts that can be made to reduce anxiety levels are to increase self-efficacy. Increasing self-efficacy can be done by imitating the experiences of other people's success as a benchmark for one's abilities, providing verbal encouragement and motivation from those closest to them to convince them to give assignments, and providing conditions so they do not experience anxiety. So, the purpose of this study is to see how the relationship between self-efficacy and the level of anxiety of clients with diabetes mellitus who are in the process of serving at the hospital.

METHOD

The research design used is an observational and analytic design using a non-experimental method with a cross-sectional approach. The mechanism of this study is to analyze self-efficacy and anxiety in respondents with diabetes mellitus when in a hospital service setting. The population in this study consisted of patients suffering from diabetes mellitus who were currently undergoing routine treatment at a hospital in the Jember area. The number of samples in this study was 133 respondents. The sampling mechanism used is consecutive sampling. The criteria for respondents were composure clients, able to communicate and read and write, and willing to be respondents. Data collection was carried out for four weeks. The measuring instrument in this study used two types of questionnaires: the Diabetes Management Self-Efficacy Scale (DMSES) and the Hospital Anxiety and Depression Scale (HADS-Anxiety). The DMSES questionnaire consists of 15 question items with five indicators, including the ability to check sugar, regulate diet, physical activity, foot care, and follow a treatment program

(Tamodaran, 2015). The HADS questionnaire consists of two indicators, cognition, and emotion, and the number of questions is 14 (Rudi et al., 2015). Both questionnaire items have been tested for validity and reliability. The bivariate analysis in this study used the Spearman rank test, and the normality test of the data was the Kolmogorov test, which showed that the data were not normally distributed.

RESULT

In this study, data were collected on the characteristics of the respondents, their self-efficacy, their anxiety, and the correlation between variables. Numerical data consists of the age of the respondents. Numerical data are presented as mean, median, standard deviation, minimum, and maximum values. Categorical data consists of gender, education level, and occupation. Categorical data is presented in the form of a percentage or proportion. The following is a research data table:

Table 5.1 Distribution of respondents based on Age, Gender, Education, and Occupation

Respondent Characteristics Data	Frequency	Percentage (%)
Age		
a. 30-40 years	21	15,7
b. 41-50 years	40	30,1
c. 51-60 years	28	21,1
d. > 61 Years	44	33,1
Gender		
a. Man	32	24,1
b. Woman	101	75,9
Level of education		
a. No school	36	27,1
b. Elementary school	47	35,3
c. Junior High School	24	18
d. Senior High school	26	19,5
Work		
a. Farmer	26	19,5
b. Self-employed	7	5,3
c. Housewife	70	52,6
d. Other	30	22,6
Total	133	100

Table 5.1 explains that most respondents are over 61 years old, and most respondents are female. Most of the respondents are elementary school graduates, and the respondents' main job is as a housewife.

Table 5.2 Distribution of Self-Efficacy Respondents (n=133)

Variable	Frequency	Percentage (%)
positive self-efficacy	62	46,6
Negative self-efficacy	71	53,4
Total	133	100

Table 5.2 shows that most self-efficacy is not good, with results almost the same as good self-efficacy.

Table 5.3 The average value of Self-Efficacy in respondents (n = 133)

Variable	Mean	Median	Min-Max
Self-Efficacy	35,30	35	27-43

Table 5.3 shows that the highest average value of self-efficacy indicators in DM patients is 35.30, with a median value of 35. The self-efficacy category is said to be positive self-efficacy if the score is 36-45 and less damaging efficacy if the score is 15-35.

Table 5.4 Distribution of Anxiety Respondents

Variable	Frequency	Percentage (%)
Anxious	42	31,6
No worries	91	68,4
Total	133	100

Table 5.4 shows that most respondents are not worried.

Table 5.5 Average Value of Anxiety in Respondents

Variable	Mean	Median	Min-Max
Emergency Level	6,05	5,00	2-11

Table 5.5 shows that the highest average value of the anxiety level indicator in DM patients is 6.05, with a median value of 5.00. The anxiety level category is said to be not anxious if the score is <8 and said to be anxious if the score is ≥ 8 .

Table 5.6 Results of self-efficacy analysis with respondents' anxiety level

Variable		Emergency Level
Self-Efficacy	R	-0,693
	p-value	0,001

Based on statistical tests carried out by researchers using Spearman rank, the results obtained are p-value = 0.001, which means that H_a failed to be rejected, so it can be interpreted that there is a correlation between self-efficacy and anxiety levels. The correlation is negative, which means the higher a person's self-efficacy, the lower the level of anxiety.

DISCUSSION

Characteristics

The results showed that the majority of respondents were over 61 years old. According to Rondhianto (2013), most respondents with diabetes mellitus were aged 50-60. Another study that showed the same thing Rasdianah et al. (2016), namely the majority of Diabetes Mellitus patients were aged 50-65 years (46.7%). Age is related to increased blood sugar levels, so the older a person is, the higher the prevalence of diabetes mellitus and impaired glucose tolerance (Pamungkas et al., 2017). Someone aged 40 years and over tends to get diabetes mellitus because there is a decrease in the function of the body's organs, one of which is a decrease in the function of the pancreas in producing insulin (Ramdani & Pujati, 2022). In the study, most of the ages were above 61 years, which shows that the age susceptible to diabetes mellitus is not only middle adulthood but also the elderly phase at high risk.

The results showed that more than half of the respondents were female, totaling 101 people (75.9%). Other research also stated the same thing, namely the study of Ramadhan et al. (2018), the majority of DM patient respondents were women, a total of 57 people (67.05%). Suryani et al. 's research (2016) was also dominated by 33 female respondents (63.5%). Women are more at risk of experiencing DM because they are caused by a lack of physical activity, obesity, stress, hormones, and a history of gestational diabetes mellitus (Pratiwi, 2021). Women have a greater chance of increasing body mass index; obesity occurs in women because of fluctuations in sex hormone levels at several stages of reproductive life, such as menarche, pregnancy, and the menopausal transition, which play a role in the expansion of adipose tissue (Davis et al., 2012). Post-menopausal monthly cycle syndrome (premenstrual syndrome) can also make the contributed of body fat quickly accumulate due to this hormonal process, so women are at risk of developing DM (Harista & Lisiswanti, 2017). The female sex dominated respondents in this study because hormonal changes occur in women, and it is easier for body mass index to increase. Hence, they are at risk of developing diabetes mellitus.

The results showed that the education level of most respondents was elementary school, with a total of 47 people (35.3%). In controlling diabetes mellitus, education affects attitudes and behavior toward the disease. Someone with a high education usually has much knowledge about their health, so they tend to be aware of maintaining their health (Veronica, 2021). It cannot be denied that there are still people who are highly educated but neglect their health conditions because they are constrained by busy work, which results in an irregular lifestyle that causes various health problems, including DM (Savitri & Ratnawati, 2022). In this study, most respondents were educated in elementary school. This shows that a low level of education will have an impact on their lifestyle, so they can be at risk of developing diabetes mellitus.

The results of this study indicate that the most common type of work found is housewives, with a total of 70 people (52.6%). This study's results align with Rasdianah's research et al. (2016), which shows that 45 people (45%) of research respondents work as housewives. Housewives have a higher stress level than other jobs because this task tends to have a boring life because they are only in the home environment daily (Devi & Fourianalisyawati, 2018). A housewife's work is difficult because she has to carry out her duties as a wife and is also responsible as a mother (Soetopo & Partasari, 2022). Stress can cause endocrine organs to be stimulated to release epinephrine, which affects the onset of the process of gluconeogenesis in the liver so that glucose is released in large quantities and increases blood sugar levels (Pratiwi, 2022). In this study, most respondents had jobs as housewives who could experience stress because their work was tiring and boring, so they were at risk of developing diabetes mellitus.

Self-Efficacy

Self-efficacy is a belief that determines how one feels and thinks, is self-motivated, and behaves in doing something (Bandura, 2010). Someone with good self-efficacy tends to have adaptive behavior toward

their illness (Alfinuha et al., 2021). The research by Basri et al. (2021) found that the average self-efficacy value was above the median (median). According to Nadziroh's research (2016), the average self-efficacy score for 100 DM patients was 59. According to Vigneswari (2021), factors that affect self-efficacy include family support, motivation, depression, age, last education, and length of suffering. The first factor is depression. Depression is a significant factor that strongly influences a person's self-efficacy. Someone who does not have depression tends to have good self-efficacy (Ariani et al., 2012). Depression is more common in women because men are more active and explorative, while women are more sensitive to the problems they experience (Elias et al., 2013). The gender of the respondents in this study was female, similar to the research conducted by Nadziroh (2016), which explained that the majority of Diabetes Mellitus patients were women because women tend to experience stress easily. In this study, the average score of respondents' efficacy was 35.30, and the majority of respondents were female, namely 101 people (75.9%). This means that female respondents in this study could not fully develop self-efficacy.

Emergency

Anxiety is a vague and subjective fear accompanied by feelings of uncertainty, helplessness, isolation, and discomfort that are triggered by the unknown and accompany all new experiences (Putri et al., 2021). Factors that affect anxiety levels include past negative experiences and irrational thoughts (Afandi et al., 2023). According to Bandura (2010), self-efficacy also influences anxiety levels. Self-efficacy has a vital role in controlling anxiety. The higher a person's self-efficacy, the lower the level of anxiety. Conversely, if self-efficacy is lacking, the level of anxiety will be high. The results of the anxiety level in this study are the average values in the middle range. This average value is not optimal compared to research conducted by Ludhiana (2017), where the average value of anxiety levels is in the lower range. This might happen because the level of self-efficacy of the respondents in this study was high, thus making the level of anxiety low. The distribution of anxiety levels in this study was 91 (68.4%) not anxious and 42 (31.6%) anxious patients. Research conducted by Arsa et al. (2018) also showed the same distribution results, namely, not anxious 22 (73.33%) and anxiety score 7 (23.33). In this study, some respondents did not feel anxious. This might happen because respondents can build self-efficacy so that they can control their anxiety.

The Relationship of Self-Efficacy and Anxiety

The relationship between self-efficacy and anxiety levels in patients with diabetes mellitus is indicated by $p = 0.001$ and $r = -0.693$, which means that there is a relationship between self-efficacy and anxiety levels with moderate correlation strength, and the nature of the relationship between the two variables is negatively correlated. This means that the higher the patient's self-efficacy, the lower the anxiety level; conversely, if the patient's self-efficacy is low, the anxiety level is high. When someone is diagnosed with

Diabetes Mellitus, it is not uncommon for them to experience anxiety and other psychological pressures. This is because they must undergo treatment throughout their lives, so their roles and functions in the family and society cannot be fulfilled optimally (Alimudin, 2018). Diabetes Mellitus cannot be cured simply by managing the physical condition but requires good self-efficacy to help manage the psychological pressure caused by the disease (Marliani, 2019).

Maharani's research (2019) shows that self-efficacy affects DM patients. Diabetes mellitus patients with good self-efficacy will make efforts to overcome the level of anxiety about their disease. Finally, good self-efficacy will make individuals believe that diabetes mellitus treatment can be done independently. Self-efficacy can be a protector for individuals from the effects of anxiety. Good self-efficacy is essential for individuals with DM to develop a more positive life so that Diabetes Mellitus patients are more focused on treating their disease. In this study, it was concluded that there is a relationship between self-efficacy and anxiety levels. Self-efficacy plays a direct role in helping respondents adapt to their illness and eliminate anxiety about their illness.

CONCLUSION

This study concludes that there is a significant relationship between self-efficacy and anxiety levels in diabetes mellitus patients. The higher the self-efficacy, the lower the anxiety level in Diabetes Mellitus patients; conversely, if the self-efficacy is low, the anxiety level of Diabetes Mellitus patients will be higher. The characteristics of diabetes mellitus patients in this study were that there were more female respondents than male respondents. Most of the respondents' educational level is in elementary school. The type of work most respondents are housewives. Most of the respondents are over 61 years old. The average value of self-efficacy is 35.30, with a median value of 35. The minimum value of the respondent's self-efficacy is 27, and the maximum value of the respondent's self-efficacy is 43. The frequency of poor self-efficacy is 71, and the frequency of good self-efficacy is 62. The average value the anxiety level of Diabetes Mellitus patients is 6.05 with a median value of 5. The minimum anxiety level for Diabetes Mellitus patients is 2, and the maximum anxiety level for DM patients is 11. The frequency of patients who are not anxious is 91, and the total frequency of anxious patients is 42.

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