Conference Paper

Relationship Between Coping Strategies and Levels of Anxiety Among Diabetes Mellitus Patients In Makassar

Kens Napolion, Weni Siatang, and Dian Ekawati

Lecturer at the Ners Study, Diploma 3 Nursing Program and undergraduate Student Nursing Program at Stikes Panakkukang Makassar

ORCID:
Kens Napolion: https://orcid.org/0000-0002-9453-709X

Abstract

Diabetes mellitus is a chronic disease that has a negative physical and psychological impact on sufferers,. Anxiety is a reaction to illness as a threat; coping strategies are changes made by individuals in their attitudes, thoughts and feelings towards the stresses they are facing. The purpose of this study is to determine the relationship between coping strategies and anxiety levels of diabetes mellitus sufferers. The research method used was an Analytical Survey with a Cross-Sectional Study approach and data collected via a questionnaire consisting of 20 statements to assess the patient's coping strategies and 14 statements to assess the patient's anxiety level. This research was carried out at the Internal Medicine Department of the Bhayangkara Mappaoudang Hospital in Makassar. From the results of this study obtained from 42 samples, 24 respondents have adaptive coping strategies with mild anxiety (57.1%), with 10 respondents displaying moderate anxiety (23.4%). Meanwhile, 2.4% of respondents displayed a maladaptive coping strategy with mild anxiety level, and 16.7% displayed moderate anxiety with a value of $\rho = 0.004$ which means $\rho < \alpha = 0.05$. There is a relationship between coping strategies and anxiety levels of diabetes mellitus sufferers. It is recommended that future researchers examine other variables that have not been studied with a larger sample.

Keywords: Coping Strategies, Anxiety, Diabetes Mellitus

Corresponding Author:
Kens Napolion
daeng_kens1@yahoo.com

Published: 15 March 2021

Publishing services provided by Knowledge E

Selection and Peer-review under the responsibility of the IVCN Conference Committee.

1. Introduction

Diabetes mellitus is a serious chronic disease that occurs when the pancreas does not produce enough insulin (a hormone that regulates blood or glucose), or when the body cannot effectively use the insulin it produces. Diabetes Mellitus is an important public health problem, being one of the four priority non-communicable diseases being targeted for follow-up by world leaders. The number of cases and the prevalence of diabetes have continued to increase over the last few decades (WHO Global Report, 2016) in Khairani (2019).

Diabetes mellitus is commonly called the silent killer because this disease can affect all organs of the body and cause various kinds of complaints. DM can cause complications, including vision problems, cataracts, heart disease, kidney disease, sexual impotence, lung infections, blood vessel disorders, strokes and so on. One of the other complications of DM is a difficult wound to heal or diabetic ulcers that range from infection and cause the wound to rot or gangreng.

World Health Organization (WHO Global Report) 2016, Diabetes Causes 1.5 million deaths in 2012. Blood sugar that is higher than above the maximum causes an additional 2.2 million death, with an increased risk of cardiovascular and other diseases. Forty-three percent (43%) of these 3.7 million deaths occurred before the age of 70. The percentage of deaths caused by diabetes before the age of 70 is higher in low- and middle-income countries than in high-income countries (Khairani, 2019)

Based on data obtained from the profile of the Makassar City Health Office that patients with diabetes mellitus at the health center who were doing outpatient care in 2015 the number of visitors with diabetes mellitus who were outpatient at the health center was 4462 cases (the first visit and not yet registered at the hospital / health service place. other), 12,472 cases (2nd visit or more), and 134 deaths.

Diabetes mellitus cannot be cured but can be controlled. In addition to the consumption of drugs, patients with diabetes mellitus must also perform nutritional therapy, limit foods high in carbohydrates and fats and exercise routine or physical exercise. In addition to therapy, DM is also required to carry out routine controls to determine the level of glucose in the blood so that it allows patients to experience anxiety. due to various reasons, among others, due to the patient's uncertain health condition

Diabetes Mellitus sufferers who have psychological disorders, especially anxiety and depression, increase the lack of management and treatment results compared to those without psychological disorders (Collins & Corcoran, 2009). Research conducted by (Putra I, G, 2012) on the level of anxiety of DM patients in RSUD Sanjiwini Gianjar, shows that respondents who experience severe anxiety levels are 81.82%.

Anxiety is a reaction to illness because it is perceived as a threat, discomfort due to pain and fatigue, diet changes, reduced sexual satisfaction, financial crises, frustration in achieving goals, confusion and uncertainty of the present and future (Brunner & Suddarth, 2002). Diagnosis, implications, management and lifestyle changes are stressors for individuals with diabetes mellitus. These conditions lead to individual efforts to deal with stressors, called coping, to cope with the changes faced or the burdens received. Individuals can cope with stress by exploiting coping sources in the environment. There are five sources of coping, namely economic assets, individual

abilities and skills, defense techniques, social support and motivational encouragement. (Oktadoni Saputra, et al, 2017).

Based on the research results of Samuel Hodge, PhD et al in Kamariyah & Dini Rudini (2018), it is described that the coping mechanism is an important factor for diabetics. The findings also provide potential benefits in emphasizing cognitive and behavioral strategies to improve the well-being of individuals with diabetes. The results of a survey conducted by researchers on 5 diabetes mellitus patients, four of whom said that they were stressed by treatment that had to be routinely carried out, anxious when checking their blood sugar before being examined by a doctor, anxious about the injuries suffered which would have an impact on amputation and anxiety about the disease experienced for decades will not heal. And one of the diabetics for 28 years said that as long as he had diabetes his financial situation was reduced.

When diagnosed with Diabetes Mellitus, patients should ideally implement adaptive coping strategies as soon as possible in order to properly manage therapy. In fact, not all patients diagnosed with Diabetes Mellitus have an adaptive coping strategy. Through this study, the authors wanted to know how the coping strategies in Diabetes Mellitus patients who experience anxiety.

Based on this description, the researchers are interested in conducting research on the relationship between coping strategies and anxiety levels of diabetes mellitus sufferers in the Internal Medicine Department of Makassar Hospital.

2. Methods

2.1. Study Design

The research design applied in this study was an analytic survey. This research is named observational research because researchers merely observe the research subject and search for data related to the research without giving any treatment to the research subjects. This study uses a cross sectional study design

2.2. Population and Sample

The population in this study were all patients with Diabetes Mellitus in the Internal Medicine Department of the Bhayangkara Mappaoudang Hospital in Makassar, namely 48 patients using a cross sectional study approach, to find the relationship between the independent variable and the dependent variable by taking momentary measurements

(Nursalam, 2017). are patients who suffer from diabetes mellitus (DM) and the patient is able to communicate well, while the exclusion criteria are patients who have decreased consciousness and patients who have physical limitations such as blind, deaf and speech impaired.

2.3. Instrument

Before data collection begins, the researcher asks prospective respondents to fill out the respondent's consent form. The data collection tool in this study used a questionnaire which consisted of two questionnaires, namely 20 statements to assess the patient's coping strategies and 14 statements to assess the patient's anxiety level. The data collected is processed and analyzed using computer software.

2.4. Data Collection Procedures

In obtaining primary data, it is done by direct observation and reading out questionnaires that will be filled or answered by respondents with the following steps: Before the questionnaire was submitted to the respondent, the researcher gave an explanation of the purpose of the study. After the respondent understands the purpose of the research, the respondent is asked to be willing to fill in the questionnaire, If the respondent has agreed, the questionnaire is read by the researcher and the respondent is asked to answer the question on the questionnaire. After the questionnaire is completed by the respondent, it is then collected and prepared to be processed and analyzed.

2.5. Data Analysis

The analysis used is in the form of univariate and bivariate analysis. Univariate analysis is used to see the frequency distribution of each variable. Bivariate analysis is used to analyze the relationship between the independent variable and the dependent variable. Bivariate analysis calculations on the two variables using chi-square, see the magnitude of the p-value with a degree of significance (α) 0.05. If the value of $p < \alpha$ (0.05) means that the relationship is significant.

3. Results

The results of research conducted on 42 respondents obtained univariate analysis and bivariate analysis as follows:

3.1. Univariate Analysis

TABLE 1: Distribution of Based Frequency Age of Respondents in Internal Medicine Polyclinic at Bhayangkara Mappaoudang Hospital, Makassar

Age	N	%
36 – 45	8	19,0
46 – 55	17	40,5
56 – 65	10	23,8
>65	7	16,7
Total	**42**	**100**

Based on table 1 above, data obtained from respondents aged 36-45 years had a distribution of 8 (19%) respondents, aged 46-55 years had a distribution of 17 (40.5%) respondents, ages 56-65 had a distribution as much 10 (23.8%) respondents, while age> 65 years has a distribution of 7 (16.7%) respondents.

TABLE 2: Frequency Distribution by Gender of Respondents in Internal Medicine Polyclinic at Bhayangkara Mappaoudang Hospital, Makassar

Gender	N	%
Male	14	33,3
Female	28	66,7
Total	**42**	**100**

Based on table 2 above, it is obtained data from male respondents who have a distribution of 14 (33.3%) respondents and female have a distribution of 28 (66.7%) respondents.

Based on table 3 above, data is obtained from respondents whose educational level starts from elementary school as many as 7 (16.7%) respondents, junior high school as many as 13 (31.0%) respondents, high school as many as 15 (35.7%) respondents, while S1 as many as 7 (16.7%) respondents.

Based on the results of the frequency distribution of the coping strategies of respondents who suffer from Diabetes Mellitus in the Internal Medicine Department of the Bhayangkara Mappaoudang Hospital in Makassar, data were obtained from 42 respondents who had adaptive coping as many as 30 (71.4%) respondents while respondents who had maladaptive coping were 12 (28.4%). %) respondents.

Table 3: Frequency Distribution based on Respondents' Education in Internal Medicine Polyclinic at Bhayangkara Mappaoudang Hospital, Makassar

Education	n	%
Elementary School	7	16,7
Junior Hight School	13	31,0
Senior Hight School	15	35,7
Undergraduate	7	16,7
Total	**42**	**100**

Table 4: Frequency Distribution Based on Respondents Coping Strategies in Internal Medicine Polyclinic at Bhayangkara Mappaodang Hospital, Makassar

Strategy Copying	N	%
Adaptif	34	81,0
Maladaptif	8	19,0
Total	**42**	**100**

Table 5: Frequency Distribution Based on Respondents' Anxiety Levels in Internal Medicine Polyclinic at Bhayangkara Mappaodang Hospital, Makassar

Anxiety Levels	n	%
Mild	29	69,0
Moderate	13	31,0
Total	**42**	**100**

Based on the results of the frequency distribution of respondents' anxiety levels who suffer from Diabetes Mellitus in the Internal Medicine Department of the Bhayangkara Mappaoudang Hospital, Makassar obtained data from 40 respondents. Respondents who experienced mild anxiety were 29 (69.0%) while those who experienced moderate anxiety were 13 (31.0%)

3.2. Bivariate Analysis

Bivariate analysis was carried out to determine the relationship between the independent variable (Coping Strategy) and the dependent variable (Anxiety Levels) with a statistical test using the Chi-Square test with a significance level of $\alpha = 0.05$.

Based on the table above shows that 42 respondents who have adaptive copying are 34 (81.0%) respondents, most of them have mild anxiety as many as 24 (57.1%) respondents and moderate anxiety as many as 10 (23.8%) respondents. While respondents who had maladaptive coping were 8 (19%) respondents, some respondents had mild

Table 6: The Relationship between Coping Strategies and Anxiety Levels of Diabetes Mellitus Patients in Internal Medicine Polyclinic Bhayangkara Mappaodang Hospital Makassar.

Strategy coping	Anxiety Levels				Total	
	Mild		Moderate		n	%
	N	%	N	%		
Adaptif	24	57,1	10	23,8	34	81
Maladaptif	1	2,4	7	16,7	8	19
Total	25	59,5	17	40,5	42	100
p = 0.004						

anxiety as much as 1 (2.4%) respondents and moderate anxiety as much as 7 (16.7%) respondents.

Based on the results of statistical test analysis using the Fishers Exact Test with a value of ρ value = 0.004 when compared with α = 0.05, then ρ value <α 0.05. These results indicate that Ha is accepted. Thus, it can be concluded that in this study there is a relationship between coping strategies and anxiety of diabetes mellitus sufferers in the Internal Medicine Department of the Bhayangkara Mappaoudang Hospital, Makassar.

4. Discussion

4.1. Univariate Analysis

4.1.1. Coping Strategy

Based on the results of research on copying strategies using a questionnaire, it showed that from 42 respondents, 34 (81%) of respondents had adaptive coping and 8 (19%) of respondents had maladaptive coping. This research is in line with research conducted by Kamariyah (2018), where out of 34 respondents, 27 (79.4%) respondents had adaptive coping and 7 (20.8%) respondents had maladaptive coping.

Adaptive coping is characterized by active coping in the presence of problem solving, the use of help, for example asking for help from family or other people in overcoming problems or situations that make respondents depressed. Distract, accept or engage religion by doing positive things, or devise strategies for coping with stressful problems or situations. Meanwhile, maladaptive coping is characterized as rejecting or rejecting the reality that is happening, using illegal drugs to reduce stressful situations by giving up or blaming yourself for stressful situations (Stuard and Sunden; 1997 in citation Maryam; 2017).

According to the researchers' assumptions, adaptive coping is needed by respondents who have suffered from diabetes mellitus, for example limiting food that must be avoided by DM sufferers, carrying out routine controls, pharmacological therapy and doing physical activity, compared to maladaptive coping, for example not accepting the reality of the disease. With adaptive coping, the respondent can reduce or accept situations that make him feel pressured to be better.

4.1.2. Anxiety Level

Based on the results of research conducted on respondents suffering from diabetes mellitus, it shows that of the 42 respondents, it was found that 25 (59.5%) respondents experienced mild anxiety while 17 (40.5%) respondents experienced moderate anxiety. This research is in line with research conducted by Jauhari (2016), where out of 30 respondents, 5 (16.7%) respondents did not experience anxiety, 4 (13.3) respondents experienced mild anxiety, 17 (56.7) respondents experienced anxiety moderate, while 4 (13.3%) respondents experienced severe anxiety.

Anxiety that befalls someone is not the same from one person to another, even though the causes may be the same. A person can experience light, moderate or heavy gold. Anxiety usually arises slowly, it is not clear when it started and often we don't realize it.

According to the researchers' assumptions, the perceived anxiety can be in the form of tension, fear, anxiety and other symptoms. Anxiety is a state of worry felt by respondents because something bad has happened. Respondents who suffer from diabetes have many things to worry about, for example their health when conducting a blood lab examination is anxious or sufferers who do not receive support from their families.

4.2. Bivariate Analysis

The Relationship between Coping Strategy and Anxiety Level of Diabetes Mellitus Patients.

Based on the results of research on internal disease dipoli Bhayangkara Mappaoudang Hospital Makassar, this discussion is to determine the relationship of coping strategies with the level of anxiety in DM sufferers. The test results found that 2 cells (50.0%) had an Expected Count <5, so using the Fishers Exact Test alternative test, the significance value was obtained, the value $\rho = 0.004 < \alpha$ (0.05). so it can be concluded that there is a correlation between coping strategies and anxiety levels of

diabetes mellitus sufferers in the Internal Medicine Department of the Bhayangkara Mappaoudang Hospital in Makassar.

From the research results obtained at the Internal Medicine Department of the Bhayangkara Mappaoudang Hospital Makassar that of the 42 samples, there were 34 (81%) respondents who had adaptive coping strategies, 24 (57.1%) respondents who experienced mild anxiety, this is because the respondents were able to overcome the situation. which makes them feel depressed and they can make changes in themselves through attitudes or thoughts so that they feel less anxious. And 10 (23.8%) respondents who experienced moderate anxiety had different responses to coping which was influenced by other factors such as environment, self, and thoughts.

a. Environment, which is included in the anxietyor, namely environmental attitudes, family demands and attitudes, and science and technology (development of science and technology).

b. Himself as a psychological need for the demands and desires achieved by the sufferer.

c. Mind, is concerned with the individual's assessment of the environment and the influence on oneself against disease (Kozier et.al quoted from Keliat B.A).

From the research above, it was also found that 8 (19.0%) respondents had a maladaptive coping strategy, 1 (2.4%) respondents experienced mild anxiety and 7 (16.7%) respondents experienced moderate anxiety, this was due to lack of understanding of the disease. experience and avoid these problems, so that individuals who experience anxiety need adaptive coping strategies such as making certain efforts that aim to change the situation in solving the problem (planful problem solving), changing the situation that can describe the level of risk that must be taken (confrontative coping).) or by seeking support from outside parties, in the form of information, assistance and emotional support (seeking social support) which is best for himself so that anxiety can be handled properly.

This research is in line with research conducted by Yanes, et al. (2014), regarding the relationship between anxiety levels and coping strategies in type II diabetes mellitus patients in the disease polyclinic in RSUD Tabelo. coping in patients with type II diabetes mellitus in the disease polyclinic in RSUD Tabelo.

This research is also in line with research conducted by Nandita (2019), regarding the relationship between anxiety levels and coping strategies in type II diabetes mellitus sufferers in the working area of the Puskesmas. The results of this study obtained Ha accepted, so it can be concluded that there is a relationship between anxiety levels and

coping strategies in type II diabetes mellitus sufferers in the working area of Dungaliyo Health Center.

Based on the results of research conducted by Sahara (2010) on coping with chronic hypertension and diabetes, it is concluded that most use adaptive coping, namely optimism for the future, hope for recovery, talking with other people, getting social support, using spiritual sources and accept the reality of life, this is in accordance with the number of studies that there are still many respondents who use adaptive coping in dealing with anxiety, namely as many as 20 of 32 research subjects with a percentage of 62.5%.

Research conducted by Khuwaja in Karachi Pakistan, concluded that most Diabetes Mellitus sufferers experience anxiety, so handling anxiety is one component in the care for Diabetes Mellitus sufferers. One of the nursing diagnoses that exist in chronic DM sufferers is increased anxiety associated with the inability to express feelings (Purwaningsih & Karlina, 2012).

Nurses as health workers in the hospital have an important role in providing nursing care in overcoming anxiety. According to Doenges, nursing interventions that can be done are to help patients identify their own anxiety, help increase knowledge about anxiety and related factors, provide opportunities to learn adaptive coping, involve patients and families in activities, health education and support.

According to the researchers' assumptions, there is a relationship between coping strategies and anxiety levels in people with diabetes mellitus. Diabetes Mellitus has a negative impact on the patient's physical and psychological, psychological impacts such as anxiety. The anxiety experienced by Diabetes Mellitus sufferers is a reaction to illness because it is perceived as a threat, discomfort due to pain and fatigue, so that a person can overcome his anxiety by using a method for problem solving. This can be seen from the results of research conducted by researchers by distributing questionnaires to DM sufferers so that the results of most respondents have positive coping with mild anxiety levels. This is because patients understand how to solve the problems they face.

5. Conclusions

5.1. Conclusions

Based on the results of research conducted on the relationship of coping strategies with the level of anxiety of people with Diabetes Mellitus in the internal disease Bhayangkara Mappaoudang Hospital, the following conclusions can be drawn; Coping strategies for

people with Diabetes Mellitus show that most of the respondents have positive coping. The level of anxiety in people with Diabetes Mellitus shows that most respondents have mild anxiety. There is a relationship between coping strategies and anxiety levels in people with Diabetes.

5.2. Recommendation

This research usefull for the hospitallt is expected to provide counseling about coping strategies for anxiety in patients or their families. For Educational Institutions, hopefully, can be references and journals on coping strategies and anxiety levels, and For Patients and Families Patients and their families are expected to be more active in seeking information about their disease so that it is easier to deal with what to do if anxiety occurs

References

[1] Nur, A. and Ledy, A. M. (2016). *Nursing Care in the Endocrine System with the NANDA NIC NOC Approach*. Jakarta: Salemba Medika.

[2] Lilik, A., Imam, Z. and Amar, A. (2016). *Mental Nursing Textbook*. Jogyakarta: Indonsia Pustaka.

[3] Brunner, and Suddarth's. (2018). *Textbook of Medikal Surgical Nursing* (12th ed.). Jakarta: EGC.

[4] Ermawati, D., *et al*. (2014). *Mental Nursing with Dengan Masalah Psychosocial.* Jakarta: Trans Info Media.

[5] Hidayat, A. A. A. (2018). *Methodology of Nursing and Health*. Jakarta: Salemba Medika.

[6] Devi, H. P. (2018). The *Relationship between Disease Perepi and Coping Strategy in Type 2 Diabetes Mellitus Patients in the Patrang Public Health Center, Jember Regency*. Jember University: Faculty of Nursing.

[7] Joyce, M. B. and Hawks, J. H. (2014). *Surgical Medical Nursing: Clinical Management of Expected Outcomes*. Singapore: Elsevier.

[8] Kamariyah, K and Rudini, D. (2018). *Correlation of Coping with Stress Levels with Diabetes Mellitus Patients in Internal Medicine Clinic, Raden Mattaher, Jambi University In Nursing Journal, Vol.3 Number.2.*

[9] Kartini, K. and Dali, G. (2000). *Psychology Dictionary*. Bandung: Pionir Jaya, p. 488.

[10] King, L. A. (2010). *General Psychology: An Appreciative View*. Jakarta: Salemba Humanika.

[11] Makassar City Health Office. (2015). *Makassar City Health Profile*. Health Office of Makassar City.

[12] Ali, M. (2016). *Smart Book on Diabetes Mellitus Wound Care*. Jakarta: Salemba Medika.

[13] Siti, M. (2017). Coping Strategy: Theory and its Resources. *JURKAM: Andi Matappa's Counseling Journal*, *vol. 1, Number 2*.

[14] Huda, N. A. and Kusuma, H. (2015). *Nursing Care Application Based on Medical Diagnose and Nanda Nic - Noc*. Jogjakarta: Mediaction.

[15] M.Nursalam. (2017). *Nursing Research Methodology*. Jakarta: Salemba Medika.

[16] M.Nursalam, *et al*. (2018). *Nursing Care for Patients Infected with HIV / AIDS* (2nd ed.). Jakarta: Salemba Medika.

[17] Rusminingsih, E. and Satria, G. (2017). *The Relationship between Family Support and the Level of Psychological Stress in Diabetes Mellitus Ulcer Patients at Dr. Soeradji Tirtonegoro Klaten*. *Proceeding 6th University Research Colloquium 2017. Muhammadiyah University Magelang.*

[18] Saputra, O., *et al*. (2017). Coping Strategies in Type 2 Diabetes Mellitus Patients: Qualitative Study. *J Agromed Universitas Lampung*., *vol. 4, Number 1*.

[19] Taluta, P. Y., *et al*. (2014). The Relationship between Anxiety Level and Coping Mechanism in Patients with Type 2 Diabetes Mellitus in the Internal Medicine Polyclinic of the Tabelo Regional General Hospital, North Halmaera Regency. *Nursing Ejournal*, *vol. 2, Number 1*.

[20] Rengil, W., *et al*. (2012). *Factors Associated with Anxiety Levels in Type 2 Diabetes Mellitus Patients at Bhayangkara Andi Mappa Oudang Hospital Makassar. Public Health FacultyHasanuddinUniversityMakassar.*.