

# Effect of Spiritual Care Towards Diet Compliance in Diabetes Mellitus Type II Patients

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## ABSTRACT

The increasing of Diabetes Mellitus type 2 caused by several factors, such as lack of diet compliance of patients. Spiritual care is non-pharmacological treatment that has not been widely applied to improve dietary compliance in patients with Diabetes Mellitus type 2. This research aims to determine the effect of spiritual care toward diet compliance in Diabetes Mellitus type 2 suspects in Karang Pule Public Health Center. The research design used in this research is experimental research design with one group – (pre-test, post-test) without control group. The number of samples in this research around 17 respondents. The Sampling technique used in this research is purposive sampling. The Instrument used in this research is questionnaire about diet compliance of Diabetes Mellitus. The data analyzed using paired T Test analysis. The results of this research obtained a significance value of p value = 0.000 ( $p < 0.05$ ), so H1 is failed to rejected, it is mean there is a change of dietary compliance after being given a spiritual care in patients with Diabetes Mellitus type 2. The patients suspected with Diabetes Mellitus type 2 apply the intervention has been given during the spiritual care to improve the dietary compliance of patients suspected with Diabetes Mellitus type 2.

**Keywords:** *Spiritual Care, Diet Compliance, Diabetes Mellitus*

## 1. INTRODUCTION

Diabetes Mellitus is a serious health problem throughout the world and its prevalence is increasing rapidly Based on data from the International Diabetes Federation the number of DM patients by 366 million in 2011 increased to 387 million in 2014 and is expected to increase to 592 million by 2035 [1]. The number of deaths in 2014 was 4.9 million people, every seven seconds there was one death from DM sufferers in the world [2].

Based on data from the Mataram City Health Office as many as 1145 people affected by DM consisted of 396 men and 749 women. This DM ranks second highest in the city of

Mataram. According to data sets per public health mataram that occupy the first level with the most DM sufferers are in Karang Pule Health Center, there are 382 people who suffer from DM consisting of 107 men and 275 women (Dikes NTB, 2016). Data collection for the last three months obtained data on type II DM in health centers as many as 159 people, while for the regions [3]. The increase in the incidence of Diabetes Mellitus type II is caused by several factors, such as a person's bad behavior pattern and lack of knowledge about how a balanced nutritional diet is correct. Diet is an

effective non-pharmacological strategy, but changing and maintaining behavior is not easy because the great responsibility of adhering to the diet depends on the patient and self-care is important for controlling blood sugar. Evidence shows that interventions to change behavior to control blood sugar levels are considered as effective investment costs in public health. Dietary compliance is a lifelong action in DM patients, and internal desires and temptations act as a barrier to this problem. For that, a strong commitment is needed to maintain individual dietary compliance behavior. The purpose of the DM diet is to maintain or achieve ideal body weight, maintain blood glucose levels close to normal, prevent acute and chronic complications and improve the quality of life[4].

The goal of the DM diet is to help patients improve their eating and exercise habits to get better metabolic control. From the above explanation and some references that researchers read, it can be concluded that a balanced nutrition diet is very important for patients with Diabetes Mellitus type II because in patients with type II diabetes the level of glucose in the blood is very high and if not prevented or treated will cause more severe complications. For the successful diet of patients with Diabetes Mellitus type II nurses must pay attention to patient compliance in the diet [5].

Compliance with diabetic patients' diabetic patients will sometimes experience saturation so DM patients are out of control and cause an increase in glucose in the blood which will increase DM complications. The compliance of DM patients' diet for eating planning is one of the constraints of patients, many of whom feel tortured in relation to the type, the amount of food that is recommended becomes their own problem when the sufferer must continuously run it for a long time.

Spiritual Care focuses on respecting patient, friendly and sympathetic interaction, listening attentively and giving strength to the patient in the face of his illness (Mahmoodishan, 2010). Spirituality influences one's health behavior, because spirituality is closely related to one's relationship to God, Religion and the need for God [5].

Based on the results of interviews with researchers from 10 respondents in the Community Health Center working area in November regarding dietary compliance, it was found that 7 out of 10 people with DM who were still low in dietary compliance, the most reason was resignation to illness and death, when they died they would not feel the food delicious, some even say that the diet is very burdensome and tormented, feels lazy to go on a diet and there is no commitment from DM patients themselves.

**Table 1.** Characteristics of Respondents

| Characteristics of Respondents | Amount    | %          |
|--------------------------------|-----------|------------|
| <b>Long Suffered DM</b>        |           |            |
| < 1 Years                      | 6         | 35.3       |
| 1-5 Years                      | 11        | 64.7       |
| <b>Gender</b>                  |           |            |
| Man                            | 2         | 11.8       |
| Women                          | 15        | 88.2       |
| <b>Age of Respondents</b>      |           |            |
| 38 Years                       | 4         | 23.8       |
| 43 Years                       | 2         | 11.8       |
| 45 Years                       | 6         | 35.3       |
| 48 Years                       | 3         | 17.6       |
| 53 Years                       | 2         | 11.8       |
| <b>Total</b>                   | <b>17</b> | <b>100</b> |

## 2. METHODS

The design of this study was a pre-experimental One Group - Pretest-Posttest without control group design. The number of samples in this study were 17 respondents. The sampling technique used purposive sampling. The instrument in this study was a questionnaire for compliance with the Diabetes Mellitus diet. Data analysis used is paired T Test analysis. The samples in this study were those that met characteristics such as not having mental illness and being able to read and write.

## 3. RESULTS

### 3.1. Characteristics of Respondents by Age, gender and Length of Suffering DM

Based on table above shows that most of the gender of the respondents were women as

many as 15 respondents (88.2%) and men as many as 2 respondents (11.8%).

Based on table 1, the most suffered DM duration is 1-5 years as many as 11 respondents (64.7%) and the least is for less than 1 year, 6 respondents (35.3%).

Based on table above, the highest number of respondents with Diabetes Mellitus Type II is age 45 years as many as 6 respondents (35.3%) and the age of respondents with a small number is age 43 and 53 years as many as 2 respondents (11.8%) with an average value 44.6.

In addition, it shows that most of the gender of the respondents were women as many as 15 respondents (88.2%) and men as many as 2 respondents (11.8%).

**3.2. Identification of Diabetes Mellitus Type II Diet Prior to Spiritual Care**

Based on table 2, the level of high category diet compliance was 2 respondents (11.8%) while for the level of low category diet compliance as many as 15 respondents (88.2%) so that the average obtained for the level of dietary compliance before being given spiritual care is 20.8.

**Table 2.** Diet compliance before spiritual care is given to Diabetes Mellitus Type II Patients

| Pre Test         |        |      |
|------------------|--------|------|
| Compliance Level | Amount | %    |
| High             | 2      | 11.8 |
| Low              | 15     | 88.2 |
| Total            | 17     | 100  |

**3.3 Identification of Diabetes Mellitus Type II Compliance After Spiritual Care**

Table 3 displays the diet compliance identification after spiritual care measures for Diabetes Mellitus Type II

**Table 3.** Diet compliance after spiritual care is given to Diabetes Mellitus Type II Patients

| Post Test        |        |      |
|------------------|--------|------|
| Compliance level | Amount | %    |
| High             | 12     | 70.6 |
| Low              | 5      | 29.4 |
| Total            | 17     | 100  |

The level of high category diet compliance was 12 respondents (70.6%) while for the level of low category diet compliance was 5 respondents (29.4%) so that the average obtained for the level of dietary compliance after being given spiritual care is 26.2.

**3.4. Identification of Differences in Diabetes Mellitus Type II Compliance Before and After Spiritual Care Measures**

Table 4 displays the identification of differences in Type 2 Diabetes Mellitus compliance before and after spiritual care measures for Diabetes Mellitus Type II.

**Table 4.** Diet Compliance before and after spiritual care measures for Diabetes Mellitus Type II

| Implementation | Diet Compliance |     |      |      |
|----------------|-----------------|-----|------|------|
|                | high            | low | Mean | S.D  |
| Pre Test       | 2               | 12  | 20.7 | 2.81 |
| Post Test      | 15              | 5   | 26.2 | 2.64 |

It can be seen the differences in compliance with DM type 2 diet before and after being given spiritual care interventions, dietary compliance before being given an action resulted in a high level of dietary compliance level of 2 responses with a low category of 15 respondents with an average value of 20.7, different from after given the results obtained, namely the level of high category diet compliance as many as 12 respondents and the low category as many as

5 respondents with an average value of 26.2, from the average value generated before and after the intervention can be seen that the average value before less and average value after greater, meaning the average value after giving intervention has increased from a value of 20.7 increased to 26.2. In addition to the difference between the average value can also be seen the difference in the value of the standard deviation before and after the intervention where, the standard deviation value at the time before the intervention was given 2.81 and the standard deviation value after being given the intervention yielded 2.64. Where this standard deviation shows the distribution that states the distribution of values around the mean.

### 3.5. Analysis of the Effect of Spiritual Care on Diet Compliance with Diabetes Mellitus Type II Patients.

**Table 5.** Analysis of Spiritual Care Effect on Diet Compliance with Diabetes Mellitus Type II

| Implementation | SD   | Mean | P=value |
|----------------|------|------|---------|
| Pre test       | 3.77 | 55.2 | .000    |
| Post test      |      |      |         |

Based on Table 8 the results of paired t test of DM type 2 diet compliance were obtained with significant statistical results p value = 0,001 (p <0.05). The results of these statistics showed that there was an increase in diet compliance in patients with t type 2 diabetes after being given spiritual care Therefore, H1 failed to be rejected, meaning that spiritual care has an effect on the diet compliance of patients with type 2 diabetes mellitus

## 4. DISCUSSIONS

Based on the results in this study, it can be said that respondents suffer more type II DM at the age of 45 years, as many as 6 respondents (35.3%). This is in line with research conducted by Nurhidayati in 2011 that the characteristics of respondents were mostly DM patients aged 45 -65 years, as many as 29 respondents (85.3%). According to the American Diabetes Association (ADA) people aged 45 years and over must be examined regularly for blood sugar levels because they have a risk of developing DM. From the discussion above researchers assume that at the age of 45 years a person is susceptible to DM because after age 40 years, a person will generally experience physiological decline, making their body susceptible to disease, DM often attacks at 45 years of age (Betteng, et al, 2014). As you get older, your body's function will decrease, and there will be decreased secretion or insulin retention, and the body's ability to control blood glucose decreases or is not optimal[6].

Based on table it can be seen that respondents who suffer from DM are mostly female respondents, namely 15 respondents (88.2%). This is in line with the research conducted by Anggita in 2015 that the results of the analysis showed that the majority of type II DM patients in the work area of Munjul Public Health Center were female, amounting to 28 respondents (51.9%). According to RISKESDAS (2013), the prevalence of DM tends to be higher in women compared to men. Some risk factors, such as obesity, lack of activity / physical exercise, age and history of DM during pregnancy can cause a high incidence of DM in women [7].

Based on the discussion above, the researchers assumed that a woman has a high chance of developing DM, because women have higher levels of bad cholesterol in low density lipid (LDL) triglycerides than men, In addition, physically women have a greater chance of increasing body mass index, this is influenced by premenstrual syndrome or monthly cycle duration syndrome and the postmenopausal cycle which causes the distribution of body fat to be easily accumulated, besides being influenced by the monthly cycle, usually women's daily activities are lighter and poor daily lifestyle in women [8].

It was also found in this study that the duration of this disease affected 0.091 times against adherence, the shorter the duration of a person with DM, the more adhere to therapeutic recommendations. In contrast to the opinion of Sukamadinata (2009) and Phitri (2013), it is stated that someone who is long suffering from an illness will be able to respond to the disease by diligently taking medication. The longer a person suffers from diabetes, he will have good knowledge and experience in terms of diet so that he will adhere to the diet he recommends. Based on the explanation above, the researcher assumes that the longer a person has a disease, the higher the level of one's compliance in carrying out what is ordered by health personnel, the longer a person suffers from t type II diabetes, the higher the DM diet compliance, but will be different from someone who has long suffering from

diabetes and having been affected by a complication could be that the person did not obey anymore because the patient thought that as long as he ran the DM diet it was not the desired result that he got even more the disease he experienced. So it all depends on how a person responds and controls himself against his illness [7].

#### **4.1 Identification of Diabetes Mellitus Type II Compliance Before and After Spiritual Care**

This result is in line with research conducted by Siti Nur Kholifah in 2014 that before the intervention there were only 3 respondents (15%) who obeyed the DM diet, but after being given intervention increased to 19 respondents (95%) who were obedient. One family that has not been obedient actually understands the DM diet, but does not want to comply because they feel that they have no complaints. Statistical test results obtained  $p$  value = 0,001, which means that there is a significant difference between compliance with DM diet before and after being given intervention.

From the explanation above, the researcher assumed that the dietary adherence of patients with type II DM before and after being given intervention the average value of the two were different. The average value before giving less action than after being given an action, besides the number of respondents categorized as low and high diet compliance also different when before being given an action with after being given an action.

#### **4.2 Analysis of the Effect of Spiritual Care on Diet Compliance with Diabetes Mellitus Type II Patients**

Based on the results of paired  $t$  test DM diet compliance with significant statistical results  $p$  value = 0,001 ( $p < 0.05$ ), meaning that the results of statistical analysis showed that there was an increase in DM diet compliance after being given spiritual care intervention. It can be concluded that  $H_1$  failed to be rejected, meaning that there is a difference between compliance with the DM diet before and after being given spiritual care for patients with type II diabetes.

The results of this study are supported by previous research conducted by Santi Damayanti, et al (2014) with the results of the analysis of high compliance Diabetes Mellitus Type II diet if a person's spirituality level is good, with the majority of respondents having good spirituality, as many as 69 respondents (83.1%) and the rest are not as good as respondents (36.8%) 2. Statistical test results show that there is a relationship between spirituality and adherence of diabetes mellitus patients in Jogja Hospital with  $p$  value 0,001 ( $\alpha$ : 0,05).<sup>8</sup>

Compliance is the level of a person's behavior in getting treatment, following a diet or implementing lifestyle changes in accordance with the recommendations of health workers (Permana, 2014). 3 Patient adherence to eating planning is one of the patient's obstacles, many feel tortured with respect to the type, the amount of food recommended is a problem themselves when the patient must continue to run it for a long time [5].

Based on the explanation above it can be concluded that diet compliance is an obstacle for patients, they assume that this nutritious food diet tortures them because before they get sick they are not used to this nutritious food diet. Planning a nutritious food diet is very important for patients with Diabetes Mellitus Type II because according to the theory presented by Hasdianah, 2012 type II DM diet aims to maintain or achieve ideal body weight, maintain blood glucose levels close to normal, prevent acute and chronic complications and improve quality life, and to prevent complications need to be increased diet compliance in patients with type II diabetes by providing spiritual care interventions [8].

Spiritual Care is an activity in nursing to help patients who are carried out through nursing practice attitudes and actions based on spiritual nursing values namely acknowledging human dignity, kindness, compassion, calmness and gentleness[9]. Spiritual care is given to type II DM patients aiming to improve compliance with their balanced nutritional diet. Judging from the research that has been done by the researcher, before doing spiritual care shows

the results of 15 of the 17 respondents did not seem to know the importance of maintaining health in the view of Islam. this research goes on Alhamdulillah some respondents already know about the importance of maintaining health in the view of Islam and their response is good they think that how important and how much they need to maintain health by doing this balanced nutrition diet. After giving spiritual care actions given as many as 9 meetings which were held for three weeks and every one week given spiritual care for

3 meetings, dietary compliance in patients with type II DM slowly increased this can be seen from the statements of each respondent and strengthened by the results of filling in the post test questionnaire. Based on these explanations, the researchers assumed that giving spiritual care had an effect on increasing dietary compliance in patients with type II diabetes. The influence of spiritual care was because it could improve the spirituality of someone because spirituality was someone's belief in God, and this belief was a source of strength when they were sick. influencing his beliefs about the causes of disease, the healing process of the disease and choosing the person who will care for him [10].

This is in line with the results of the study from (Edvin Bru, 2011) in his research related to the suffering experienced by type II DM patients associated with several internal variables related to spirituality including coping styles and feelings of support compared to clinical indicators, showing that the biggest factors affecting the suffering of type II DM patients are non-clinical factors such as coping style (21.3%) and social support (19.7%), compared to clinical indicators (5.8%) [11].

This study proves that one's spirituality greatly determines the success of management of chronic diseases including type II DM With increasing spirituality in patients with type II diabetes diet compliance will also increase due to their strength and trust in the healing process of their pain.[12]

Based on the discussion above the results of the analysis of the researchers that the DM diet adherence in patients with type II DM in the area of the Karang Pule Health Center has increased after being given spiritual care because spiritual care can improve one's spirituality so that with high spirituality can increase one's confidence to recover and the spirit of living life because someone already has full trust in God Almighty.

## **5. CONCLUSION**

The diet compliance of patients with type II diabetes before being given spiritual care was mostly in the low category as many as 15 respondents (88.2%) with a mean value of 20.8. The diet compliance of type II DM patients after being given spiritual care was mostly in the high category as many as 12 respondents (70.6%) with a mean value of 26.2.

There was a significant effect on dietary compliance before and after spiritual care with p value = 0,001 ( $p < 0,05$ ) using paired T test, which means that the results of an analysis of an increase in dietary compliance after being given spiritual care.

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