The Correlation between Islamic Spirituality and Distress in Type 2 Diabetes Mellitus Patients
Korelasi antara Spiritualitas Islam dan Distres pada Pasien Diabetes Melitus Tipe 2

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Abstract: More than half of people with Diabetes Mellitus experience distress. Spirituality-religiosity strengthens mental health status through coping mechanism for handling distress in type 2 DM patients. The majority of the population in Indonesia is Muslim; therefore, this study aims to determine the correlation between Islamic spirituality and distress in type 2 DM patients. This research is an analytic observational study with a cross-sectional approach conducted at PKU Muhammadiyah Gamping Hospital. Subjects were type 2 DM patients, both outpatient and inpatient, diagnosed at least more than six months. Interviews about spirituality used the Holistic Health Care (HHC) questionnaire, while distress used the Diabetes Distress Screening Scale (DDSS) questionnaire. The data analysis was carried out using the Spearman test and Somers’d test. Forty six subjects were obtained with an age range between 45 to 75 years old. Based on the data analysis, it showed that there was a positive correlation (p = 0.020; r = 0.343) between Psychospiritual and DM Distress scores. Furthermore, there was a moderate correlation between Islamic spirituality and distress in type 2 DM patients.

Keywords: Diabetes Mellitus; distress; DM type 2; Islamic spirituality

Abstrak: Lebih dari separuh pasien Diabetes Melitus mengalami distress. Spiritualitas-religiusitas mengokohkan status kesehatan mental melalui mekanisme koping penanganan distress pada pasien DM tipe 2. Mayoritas penduduk di Indonesia beragama Islam, oleh karenanya tujuan penelitian ini untuk mengetahui hubungan spiritualitas Islam dan distress pada pasien DM tipe 2. Penelitian ini merupakan penelitian observasional analitik dengan pendekatan potong lintang yang dilakukan di RS PKU Muhammadiyah Gamping. Subyek merupakan pasien DM tipe 2 baik rawat jalan maupun rawat inap yang didiagnosis minimal lebih dari 6 bulan. Wawancara mengenai spiritualitas menggunakan kuesioner Holistic Health Care (HHC) dan distress menggunakan kuesioner The Diabetes Distress Screening Scale (DDSS). Analisis menggunakan uji spearman dan uji somers’d. Didapatkan 46 subyek dengan rentang umur antara 45 sampai dengan 75. Hasil analisis uji Spearman antara skor Psychospiritual dan skor Distres DM, didapatkan nilai r = 0,343 dengan p = 0,020. Terdapat korelasi sedang antara spiritualitas Islam dan distress pada pasien DM tipe 2.

Kata Kunci: distress; Diabetes Mellitus; DM tipe 2; spiritualitas Islam
INTRODUCTION

The prevalence of people with Diabetes Mellitus (DM) worldwide is very high and tends to increase every year. According to the results of the Indonesian Ministry of Health, it was found that the prevalence of diabetes mellitus increased by 2.6% compared to 2013 and reached 14 million people.¹ Risk factors associated with type 2 DM include anxiety and a history of distress.² The state of distress continues when a person is diagnosed with DM. More than a third of diabetes patients suffer from distress and depression. More than half of DM sufferers experience anxiety.³

Patients with DM have an anxiety level 20% higher than people without DM. Anxiety disorders have a close relationship with hyperglycemia in people with diabetes.⁴ High blood sugar levels and the risk of complications make every DM sufferer experience anxiety.⁵ The management strategy for type 2 diabetes that has been recommended is basically only using a biological approach. On the other hand, the holistic approach is a broader and fundamental approach, covering bio-psychospiritual aspects.⁶

Spirituality / religiosity can strengthen mental health status through coping mechanisms in dealing with stress.⁷ Increasing spirituality is a determinant of the successful management of type 2 diabetes control.⁸ The basic effort to increase spirituality is to increase awareness of spirituality. Increasing awareness of spirituality also includes supporting religious ritual activities.⁹ According to Soudagar and Rambod, there is a relationship between spirituality and levels of anxiety and depression.¹⁰

Indonesia is a country that has a majority Muslim population. The holistic approach to managing type 2 diabetes mellitus through Islamic spirituality is very relevant. According to Islamic spirituality is the embodiment and expression of the awareness of Allah SWT, knowledge, worship practices and various values established in Islam. Chen et al. stated that the subject of Islamic spirituality is love and closeness to God related to dedication to individual limitations.¹¹ This closeness is accompanied by love as the essence of subjective experience which will motivate further devotion in a cycle to deepen the belief over time.¹² Holistic health management is a healing effort that takes into account biological, psychological, social and spiritual aspects carried out by health workers who are used in an integrated and comprehensive service management system. Broadly speaking, the goal of holistic health management is to obtain information and descriptions related to aspects of psychospiritual, etiological, interrelationships, therapy and patient-focused care so that needs are met and get a healthier life.¹³ A study of the correlation between Islamic spirituality and distress in type 2 DM patients needs to be done to further strengthen the basis for its application. Many studies related to spirituality in DM have been carried out, especially regarding the role of spiritual needs in the management of DM patients.¹⁴ While research on the correlation between Islamic spirituality and distress in type 2 DM patients has never been done. The aims of this research to determine the correlation between Islamic spirituality and distress in type 2 DM patients.

MATERIALS AND METHOD

This research is an analytic observational study with a cross sectional approach. This study had received approval from the Health Research Ethics Committee of the Faculty of Medicine and Health Science, Universitas Muhammadiyah Yogyakarta with the number 167/EC-KEPK FKIK UMY/VI/2020.

The study was conducted in three months from September to November 2020. The research subjects were type 2 diabetes mellitus patients who were treated at PKU Muhammadiyah Gamping Hospital. Subjects were obtained through consecutive sampling based on inclusion and exclusion criteria and gave consent through informed consent. Subjects were type 2 DM patients both outpatient and inpatient diagnosed at least more than 6 months in 2020. The inclusion criteria of this study were type 2 DM patients with comorbidities awareness, type 2 DM patients who were inpatient and outpatient at PKU Muhammadiyah Hospital, Gamping, Yogyakarta and were cooperative and participated in the study. While the exclusion criteria were type 1 DM patients, gestational DM, specific type DM related to other causes, type 2 DM patients who were not hospitalized and/or outpatient at PKU Muhammadiyah Hospital, Gamping, Yogyakarta and respondents who were not involved in the study.

Subjects were interviewed about spirituality using the Holistic Health Care (HHC) questionnaire and distress using the The Diabetes Distress Screening Scale (DDSS) questionnaire. The DDS questionnaire has a validity of 0.534-0.607 and a reliability of 0.87.¹⁴ The data collected is primary data. Furthermore, the data were analyzed using SPSS 15 program. Univariate test is used to determine the description of respondents. Bivariate analysis using the Spearman test to determine the relationship between Islamic spirituality scores and distress scores and the Sommers’d test to determine the relationship between Islamic spirituality and distress with categorical data.
RESULT

The study was followed by 46 participants with the characteristics as presented in Table 1. The research subjects consisted of 28 female and 18 male with an age of 45 - 75 years in range.

| Gender | Total | %  |
|--------|-------|----|
| Male   | 18    | 39.1|
| Female | 28    | 60.9|

| Age     | Total | %  |
|---------|-------|----|
| 45-50 years old | 6 | 13.0|
| 51-55 years old | 8 | 17.4|
| 56-60 years old | 9 | 19.6|
| 61-66 years old | 14 | 30.4|
| 66-70 years old | 6 | 13.0|
| 71-75 years old | 3 | 6.5|

| Acceptance | Total | %  |
|------------|-------|----|
| Acceptance Positive | 37 | 80.4|
| Acceptance Negative | 9 | 19.6|

| Obedient | Total | %  |
|----------|-------|----|
| Obedient Positive | 33 | 71.7|
| Obedient Negative | 13 | 28.3|

| Psychospiritual Status | Total | %  |
|------------------------|-------|----|
| Sorrow                 | 6     | 13.0|
| Guide                  | 8     | 17.4|
| Revive                 | 2     | 4.3|
| Nirvana                | 30    | 65.2|

| Distress DM | Total | %  |
|-------------|-------|----|
| Not depressed/mild depression | 30 | 65.2|
| Moderate depression | 13 | 28.3|
| Severe depression | 3 | 6.5|

Table 1 shows that the respondents were more male than female. Most of them are aged 61-66 years as many as 14 respondents (30%). Most of the respondents had received acceptance of the DM disease (80.4%), while the rest had not received it (19.6%). Thirty three people (71.7%) performed obedience in carrying out the prayers, whereas 13 people (28.3%) did not. The Psychospiritual Status Category obtained consecutive results Nirvana (full of meaning) 30 people (65.2%), Guide (guidance) 8 people (17.4%), Sorrow (Miserable) 6 people (13%) and Revive (Awakening) 2 people (4.3%). The most distress category experienced by respondents was no depression / mild depression (65.2%), followed by moderate depression (28.3%) and the last severe depression (6.5%).

Table 2 shows some of the items on the reception desk. Most respondents thought that their current state was sick (45.7%). The most respondents (43.5%) expressed the perception of pain as a trial, warning and grace. The most respondent item response to respondents is that most of them receive (60.9%). The last item regarding the hope of the respondent is optimistic about Allah SWT (45.7%). Table 2 also shows several items on the obedience in worship. Half of the respondents reported always praying when they were healthy or sick (50%). Effort / prayer and support were the most expressed by respondents in helping healing (63%). God / religion is in a sick condition, the most respondents expressed the meaning of being full of love (71.7%).
### Table 2. Holistic Health Care Score of Subjects

| What is currently thinking                  | Total | %    |
|--------------------------------------------|-------|------|
| Sick                                       | 21    | 45.7 |
| Problems in the family                     | 3     | 6.5  |
| Cost                                       | 8     | 17.4 |
| Others                                     | 14    | 30.4 |

| Perseption of the disease                  |       |      |
|--------------------------------------------|-------|------|
| Sick as normal                             | 11    | 23.9 |
| Sick as the injustice of Allah SWT         | 2     | 4.3  |
| Sick as fate                               | 13    | 28.3 |
| Sick as a trial, a warning and a grace     | 20    | 43.5 |

| The Feeling illness                        |       |      |
|--------------------------------------------|-------|------|
| Not accept                                 | 2     | 4.3  |
| Angry                                      | 3     | 6.5  |
| Sad                                        | 13    | 28.3 |
| Acceptance                                 | 28    | 60.9 |

| Views on the future                        |       |      |
|--------------------------------------------|-------|------|
| Pessimist                                  | 2     | 4.3  |
| Silent                                     | 3     | 6.5  |
| Doubt                                      | 20    | 43.5 |
| Optimistic because of Allah SWT            | 21    | 45.7 |

| Holistic Health Care (Obbidient)           |       |      |
|--------------------------------------------|-------|------|
| Pray as long as healthy and sick           |       |      |
| Never pray                                 | 2     | 4.3  |
| Sometimes                                  | 13    | 28.3 |
| When healthy pray, when sick do not pray   | 8     | 17.4 |
| Always pray                                | 23    | 50.0 |

| Things that can help healing               |       |      |
|--------------------------------------------|-------|------|
| Do not know                                | 1     | 2.2  |
| Family motivation                          | 11    | 23.9 |
| Doctor                                     | 5     | 10.9 |
| Efforts, prayers and support from all parties | 29  | 63.0 |

| The meaning of Allah SWT                   |       |      |
|--------------------------------------------|-------|------|
| Unfair                                     | 4     | 8.7  |
| Tie and organize                           | 9     | 19.6 |
| Protect lovingly                           | 33    | 71.7 |

| Total                                      | 46    | 100  |

### Table 3. Results of the Analysis of the Difference between Psychospiritual Status with Age and Gender

| Psychospiritual Status | Total | n | %  | p   |
|------------------------|-------|---|----|-----|
| Sorrow                 |       |   |    |     |
| Guide                  |       |   |    |     |
| Revive                 |       |   |    |     |
| Nirvana                |       |   |    |     |
| Age                    |       |   |    | 0.544* |
| 45-50 years old        | 1     | 2.2| 3  | 0   | 6  | 4.3 | 6 | 13 |
| 51-55 years old        | 1     | 2.2| 2.2| 2.2| 5 | 10.9| 8 | 17.4 |
| 56-60 years old        | 2     | 4.3| 0  | 0  | 2 | 13  | 6 | 19.6 |
| 61-66 years old        | 2     | 4.3| 2  | 4.3| 0| 10 | 21.7| 14 | 30.4 |
| 66-70 years old        | 0     | 0  | 2  | 4.3| 0| 4  | 8.7 | 6 | 13 |
| 71-75 years old        | 0     | 0  | 0  | 0  | 3 | 6.5 | 3 | 6.5 |
| Gender                 |       |   |    | 0.709** |
| Male                   | 3     | 6.5| 2  | 4.3| 11 | 23.9| 18 | 39.1 |
| Female                 | 3     | 6.5| 6  | 13| 0  | 19 | 41.3| 28 | 60.9 |
| Total                  | 6     | 13 | 8  | 17.4| 2 | 4.3| 30 | 65.2| 46 | 100 |

*Kruskal-Wallis ; **MannWhitney*
Table 4. Results of the Analysis of the Difference between Distress with Age and Gender

| Distress DM          | Total |
|----------------------|-------|
| Not depressed/mild depression | n | %   | Moderate depression | n | %   | Severe depression | n | %   | p   |
| 45-50 years old      | 3  | 6.5 | 2  | 4.3 | 1  | 2.2  | 6  | 13  |      |
| 51-55 years old      | 7  | 15.2| 1  | 2.2 | 0  | 0    | 8  | 17.4|      |
| 56-60 years old      | 6  | 13  | 3  | 6.5 | 0  | 0    | 9  | 19.6| 0.322*|
| 61-66 years old      | 8  | 17.4| 5  | 10.9| 1  | 2.2  | 14 | 30.4|      |
| 66-70 years old      | 5  | 10.9| 1  | 2.2 | 0  | 0    | 6  | 13  |      |
| 71-75 years old      | 1  | 2.2 | 1  | 2.2 | 1  | 2.2  | 3  | 6.5 |      |

Gender

|          | Male | Female | Total |
|----------|------|--------|-------|
| Not depressed/mild depression | 12  | 26.1  | 18  | 39.1 | 0.851**|
| Moderate depression | 5   | 10.9  | 8   | 17.4 |      |
| Severe depression | 1   | 2.2   | 2   | 4.3   |      |
| Total | 30  | 65.2  | 13  | 28.3  | 3    | 6.5  | 46  | 100  |

*Kruskall Wallis; **MannWhitney

Table 5. Correlation between Psychospiritual and Distress

| Psychospiritual Score | Median | Minimum | Maximum | r   | p   |
|-----------------------|--------|---------|---------|-----|-----|
| Psychospiritual Score | 21     | 12      | 24      | -0.343 | 0.020 |
| Distress Score        | 1.74   | 1       | 4.35    |      |     |

Table 6. Correlation between Psychospiritual Status and Distress

| Distress DM | Total |
|-------------|-------|
| Not depressed/mild depression | n | %   | Moderate depression | n | %   | Severe depression | n | %   | r   | p   |
| Sorrow      | 0     | 0    | 4     | 8.7 | 2  | 4.3  | 6  | 13.0 |      |
| Guide       | 4     | 8.7  | 4     | 8.7 | 0  | 0    | 8  | 17.4 |      |
| Revive      | 2     | 4.3  | 0     | 0   | 0  | 0    | 2  | 4.3  | -0.497 | 0.001 |
| Nirvana     | 24    | 52.2 | 5     | 10.9| 1  | 2.2  | 30 | 65.2 |      |
| Total       | 30    | 65.2 | 13    | 28.3| 3  | 6.5  | 46 | 100  |      |

Table 3 contains results of the analysis of the difference between psychospiritual status with age and gender. The results of the test for different psychospiritual status between the age groups obtained p 0.544 (p>0.05), which means that there is no significant difference in psychospiritual status between age groups. The results of the psychospiritual status difference test between the sex groups obtained p 0.709 (p>0.05), which means that there is no significant difference in psychospiritual status between the sex groups.

Table 4 contains the results of the analysis of the difference between distress with age and gender. The results of the distress difference test between age groups obtained p 0.322 (p>0.05), which means that there is no significant difference in distress between age groups. The results of the distress difference test between the gender obtained p 0.851 (p>0.05), which means that there is no significant difference in distress between the gender groups.

Table 5 contains the correlation between psychospiritual score and distress score. The correlation test between psychospiritual scores and distress scores used the Spearman test because the data were not normally distributed. Correlation test obtained p 0.020 (p<0.05) and r -0.343, it can be concluded that there is a correlation between the two. There is a weak correlation strength which is inversely proportional, the higher the Psychospiritual score, the lower the distress score.

Table 6 contains the correlation between psychospiritual status and distress. Psychospiritual and DM distress were also used as categorical data and analyzed the correlation test using the Sommers'd test. The analysis results showed the value of p 0.001 (p<0.05) and the value of r -0.497. These results can be concluded that there is a correlation between psychospiritual and distress with the strength of a moderate correlation that is inversely proportional, meaning that the higher the subject's psychospiritual, the lower they DM distress.

DISCUSSION

The proportion of the number of subjects in this study was more in women than men in line with the prevalence of DM patients more in women. According to Irawan an increase in risk for women is related to an increase in the Body Mass Index. In the study, this age range group was more in the 61-66 age group as...
Increased risk of diabetes with increased age, especially at the age of 45–64 years. The dominance of the 61-66 years age group in this study is related to the volunteerism of the subjects participating in this study.

Most of the respondents had received acceptance of the DM disease (80.4%), while the rest had not received it (19.6%). The subject’s perception of the illness that they suffer shows that their appreciation of the faith (Islam) is not yet complete. The impact of this phenomenon is seen that less than half of the subjects (43.5%) think that their illness is a warning and a blessing. The majority of subjects thought that illness was believed to be just fate, an ordinary event even as a form of God’s injustice. Subjects who had an optimistic attitude towards Allah regarding their illness recovery were only 45.7%. The majority of subjects were doubtful, silent and pessimistic. Only 60.9% of the moods related to diabetes mellitus suffered were already fielded, while the rest were sad, angry and rejected.

The admission condition is an important thing to pay attention to, because it involves a basic psychological condition and becomes a foothold in managing long-running type 2 DM patients. From the research of Krause & Hayward it is proven that economic difficulties that affect low health, increased depression, and low life satisfaction can be overcome with high trust in God. Research conducted by Jamil proved that being Ridho with destiny reduces stress on post-traumatic victims. Ridho is in line with the concept of acceptance and commitment therapy in overcoming distress. The RCT study conducted by Gregg et al. proved the effectiveness of the intervention "acceptance" against DM in increasing DM self-management and reducing HbA1c.

Thirty three people (71.7%) performed obedience in carrying out the prayers, while the rest had no awareness of the importance of worship. Furthermore, in the sick condition, only half of the subjects continued to pray, while the other half prayed occasionally and some made sickness an excuse not to perform worship. With regard to the belief that the main determinant of healing, those who answered prayer were accompanied by 63% effort, while the rest stated that the main factors were doctors, medicine and family motivation. Regarding the meaning of God’s presence in a sick condition, the majority (71.7%) were of the opinion that God was protective and full of compassion, while the rest stated that God’s injustice or God was binding and controlling.

Basically, this form of obedience has great benefits for the perpetrator because it will have an impact on dependability and calmness. Worship regulates how humans can relate to God. Prayer (as the peak of worship) has an important impact in coping distress. The holistic approach through prayer significantly improves diabetes self-care efforts.

Based on the category of psychospiritual status, it was found that the majority of subjects (65.2%) had an optimal state, namely nirvana (full of meaning), while the rest (34.8%) had a psychospiritual status that needed attention and support. The condition of the guide (guidance) as much as 17.4% were patients who were not psychologically problematic but needed spiritual guidance regarding obedience. Sorrow conditions (misable) as much as 13%, patients need psychological and spiritual support. The condition of revive (awakening) as much as 4.3% needed psychological support and spiritual strengthening. In this study, there was no difference in psychospiritual status between age groups and gender. This finding is in line with the statement of Taylor et al., where spirituality is not influenced by gender or age group. Although this is different from research conducted by Rita Hadi which found that female have a higher level of spirituality. It is also different from the results of research from Wika Hanida which found that male have a higher level of spirituality. This study was found that there was no difference in score or level of distress for gender or age group. This result is different from the research of Saad et al., which states that more female experience distress than male.

DM type 2 patients experienced moderate depression were 28.3% while severe depression was 6.4%. This is in line with the research of Na et al., which states that 40% of DM sufferers experience distress. Even Saad et al., got even more, where 73.3% occurred in female and 61.4% in male. Even detail the research conducted by Derek et al., found that distress in type 2 diabetes mellitus patients, severe stress as many as 38 respondents (50.7%) moderate stress as much as 36.0% and mild stress as much as 13.3%.

There is a correlation between spirituality and distress. The correlation that occurs is a negative correlation, meaning that the higher the score or level of spirituality, the lower the score or level of distress. This finding is in line with Achour et al., that religiosity is the best way for believers to overcome life’s problems. The approach of religiosity through worship (e.g prayer) and other religious practices becomes a coping strategy that focuses on managing emotions. The results of this study strengthen the foundation of holistic patient management, especially through a spirituality approach.
CONCLUSION

There is a negative correlation between spirituality and DM distress. The higher the spirituality of the DM patient, the lower the distress and vice versa.

ACKNOWLEDGEMENT

We thanks to LP3M Universitas Muhammadiyah Yogyakarta, Faculty of Medicine and Heal Science Universitas Muhammadiyah Yogyakarta as funder dan PKU Muhamamdiyah Gamping Hospital for research area and data provider.

CONFLICT OF INTEREST

None declared

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