



Original Research

Differences In Level Of Spiritual Well-Being Of Patients With Type 2 Diabetes Mellitus In Urban And Rural Areas

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ABSTRACT

Background: Patients with Type 2 Diabetes Mellitus (T2DM) require a prolonged treatment time so that their condition can get worse. This incident is related chiefly to spiritual well-being disorders such as boredom and hopelessness, which results in decreased Diabetes management. The study aims to analyze differences in the spiritual well-being level of T2DM patients in urban and rural areas.

Methods: Quasi-experimental method with a two-group pre-post-test design without control was employed in this study. The population in the rural area were T2DM patients in Matesih Subdistrict, and the population in the urban area were members of the Persadia Ngringo unit whose. Samples were taken using purposive sampling, obtaining 120 people. Data were collected using the SWBS questionnaire made by Ellison and modified with a validity of 0.803 and reliability of 0.911. After the pretest was carried out, the respondents were given a pocketbook and lectures on how to maintain spiritual well-being. Then, a posttest was conducted, obtaining normality of 0.93, causing the data to be analyzed using a t-test.

Results: The spiritual well-being of people with T2DM in villages was 40% higher than those living in cities. The results of the t-test obtained a significant value of 0.04.

Conclusion: There are differences in the spiritual well-being of T2DM patients in urban and rural areas. Attention and support to the spiritual well-being of T2DM patients should be given to carry out diabetes management properly.

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INTRODUCTION

T2DM is a disease with various complications requiring long-term care and regular monitoring, which often causes physical and psychological fatigue. These conditions in most patients cause changes in spiritual well-being, expectations, and adherence to the care and treatment being carried out (Javanmardifard.S., Heidari.S., Sanjari.M., Yazdanmehr.M., 2020). Specifically, it occurs in T2DM patients with leg injuries. Patients will get an impact in addition to physical and psychological health disorders, called spiritual well-being disorders (McIntosh. C., Ivory. J.D., Gethin.G., 2019).

It is known that there is a positive relationship between religious factors or so-called spiritual well-being with diabetes management, thus indicating that the development of the role of spiritual well-being in diabetes management (Darvyri, P., Christodoulakis, S., Galanakis, M., Avgoustidis. A.G., Thanopoulou, A., Chrousosi, 2018). An increasing number of research on spirituality in health in the last decade (Romeiro, J., Martin, H., Pinto, S., & Caldeira, 2018).

Spiritual well-being needs to be supported to make sufferers feel happy and valuable in their lives even when they are sick. If this is ignored, it might lead to poor quality of life as research on the poor quality of life of T2DM patients is caused by psychological and spiritual factors (Puspasari.S., 2021). The lack of a source of spiritual strength based on studies is a predisposing factor that contributes to the development of distress in T2DM patients (Skinner. T.C., 2021).

Another study explains that more than a third of T2DM patients experience stress and depression or anxiety. This study proves a relationship between spiritual well-being and anxiety and depression. Therefore, screening patients with T2DM to identify mental and psychological problems is recommended. They can then be given spiritual health interventions to reduce the appearance of these problems (Soudagar.S., 2018).

Various therapies have been developed focusing on behaviour and have been successful in showing clinically significant improvements, such as an improvement in depression in T2DM adults. These community-based interventions complement care interventions and expand access for those in rural and urban areas (Groot, M., G., Pillay, P., Mater, K.J., Fitzpatrick, K.,...Saha, 2019). Therefore, this study aims to add alternative actions that can be carried out based on the community.

The action in question was to maintain the spiritual well-being of T2DM patients for those in villages and cities where the trend of increasing prevalence was known. However, until now, it is unknown whether there is a difference in the level of spiritual well-being between DMT2 patients living in villages and cities so that the approach used in diabetes management can be effective and efficient.

Type 2 Diabetes Mellitus (T2DM) is a chronic disease affecting many people worldwide. The IDF (International Diabetes Federation) reports that the prevalence rate in 2021 of 10.5% might be 12.2% in 2045. It was also reported that the prevalence of T2DM in the urban area was 12.1% higher than in the rural area at 8.3% (Sun, H., Saeedi, P., Karuranga, S., Pinkepank, M., Ogurtsova, K., Duncan, B.N., ...Magliano, 2021).

Likewise, the results of a study in Columbia predict that the risk of getting T2DM in cities is higher than in rural areas (Molina, R.T., Garcia, A.L.R., Vergora, T.A., Garcia, V.A.F., Guitierrez, V.R., Lozano, K.F., & Barengo, 2022). Whereas in Nigeria, in general, metabolic syndrome diseases such as T2DM, according to the IDF report, the difference in cities is more significant than in rural areas by 21.7% (Adejumo. E.N., Ogundahunsi. O.A., Adejumo. O.A., Sotunsa.J., 2017).

This happened in Karang Anyar Regency based on reports that the prevalence of T2DM had increased. The prevalence of D.M. patients in 2014 was reported as 64 people (0.2%) and in 2021 to 1.2%, which means 421 people with T2DM were found (Karanganyar Regency Health Office, 2021).

Based on the description of spiritual well-being as an essential aspect of diabetes management and the prevalence of T2DM patients living in rural areas and urban areas, researchers wanted to find out whether there are differences in the level of spiritual well-being between T2DM patients living in rural areas and in urban areas of Karang

Anyar Regency which until now not yet known. This is done as input for health services in implementing a Diabetes management approach to be effective and efficient.

MATERIALS AND METHOD

This study employed a quasi-experimental which is the type of research used with a two-group pretest-posttest design without control. The population of this study were all T2DM patients treated at the Matesih Health Center as a group of respondents living in the village and all members of Persia (Indonesian Diabetes Association) Ngringo Karang Anyar unit as a group of respondents living in the city. The sample was selected using a purposive sampling technique with the criteria of being willing to follow the rules of the study, and being able to see, speak, hear, read and write.

Respondents who resigned during the study did not fill out the questionnaire until the end and worked as health workers were not taken as research respondents. The samples that met the criteria were 60 people who live in villages and 60 people who live in cities. Thus, the total sample size was 120 people. In both groups, a pretest was conducted to measure the level of spiritual well-being. Then, the respondents were given the same treatment: a pocketbook on maintaining spiritual well-being and spiritual guidance from clergy in the form of live lectures. They were also given as video recordings distributed via WhatsApp Group.

Research respondents were allowed to read and ask researchers or clergy who had given lectures via the telephone number attached in the pocketbook on how to maintain spiritual well-being. Respondents were monitored to ensure that they read or studied their pocketbooks or study. They were monitored by asking them three times via chat on the WhatsApp Group. After a week, a posttest was conducted on both research groups to re-measure their level of spiritual well-being.

This study was carried out from March to September 2021. A research variable of this study was an improvement in the spiritual well-being of T2DM patients who live in urban and rural areas. The respondents' age, educational background, and gender were also noted. Primary data were collected directly from respondents using a Spiritual Well Being Scale (SWBS) questionnaire, which had been tested for construct validity with a value of 0.365-0.803 and a reliability test of 0.911.

The research materials used were a pocketbook on maintaining spiritual well-being compiled by researchers and lectures delivered by clergy. The data were then processed and analyzed with the Shapiro Wilk normality test. The results show a value of 0.93, meaning the data distribution was normal. Then, a bivariate analysis was carried out using the t-test to determine whether there was a difference in the spiritual well-being of people with T2DM between those living in rural and urban areas after being given pocketbooks and lectures.

This study was declared eligible and received a Statement of Eligibility from the Ethics Commission of Dr Moewardi Hospital Surakarta on April 28, 2021, number 464/IV/HREC/2021.

RESULTS

Table 1 presents that the most of respondents were female. Most of those who lived in the city were < 60 years, while most of those who lived in the village were > 60 years old. The educational background of the respondents who lived in the village was mostly elementary school graduates, and most respondents who lived in the city were college graduates. Furthermore, the level of the spiritual well-being of respondents

living in the village has increased after being given the treatment. Likewise, the spiritual well-being of respondents living in the city has also increased.

Table 1. Frequency Distribution of Respondents' Characteristics and Level of Spiritual Well-being

Variable	Residence				Total
	Rural		Urban		
	F	%	F	%	
Gender					
Male	20	34	21	36	41
Female	40	66	39	64	79
Age					
<60	20	34	40	66	60
>60	40	66	20	34	60
Educational Background					
Elementary School	24	40	12	20	36
Junior High School	17	28	18	30	35
Senior High School	12	20	20	34	32
Higher Education	7	12	10	16	17
Level of Spiritual Well Being					
Before					
High	33	55	48	80	81
Medium	17	28	6	10	23
Low	10	17	6	10	16
After					
High	53	88	54	90	107
Medium	6	10	5	8	11
Low	1	2	1	2	2

Table 2 shows a significant difference in the increase in the spiritual well-being of respondents who live in an urban area before and after the treatment (p-value of 0.000). There was also a significant difference in the increase in the spiritual well-being of respondents living in the rural area before and after the treatment (p-value of 0.000).

Table 2. Differences in Respondents' Spiritual Well-being Level

Variable	Rural	Urban
Differences in Spiritual Well-being Levels Before and After Treatment		
Before		
Min-max	74,00 – 120	73.00 – 120
Mean (S.D.)	89.1667 (±10.11153)	95.5667 (±10.75201)
After		
Min-max	80.00 – 120	79.00 – 120
Mean (S.D.)	98.1000(±10.91368)	105.8000 (±8.80062)
p-Value	0.000	0.000
Differences in Respondents' Spiritual Well-being Levels in the Urban and Rural Areas		
n	60	60
f		4.261
Difference in Mean	1.46667	1.46667
p-Value		0.041

Furthermore, after being given the treatment, it was proven that there was a significant difference in increasing spiritual well-being (p-value of 0.041) between respondents who lived in an urban area and those who lived in a rural area. Thus, the hypothesis that there is a difference in spiritual well-being between respondents who live in urban and rural areas is accepted.

DISCUSSION

This study was conducted during the Covid-19 pandemic, causing several issues for people with T2DM. T2DM is one of the most common comorbidities found in Covid-19 patients. One-third of patients with Covid-19 admitted to the ICU have T2DM as an underlying health condition (Shenoy, A., Ismaily, M., Bajaj, 2020). The existence of Covid-19 disease makes the problems of T2DM patients more complicated.

A study found a correlation between the level of hopelessness and spiritual well-being of T2DM patients as an effect of Covid-19 during the outbreak. As the patient's level of spiritual well-being increases, their level of loneliness and hopelessness decreases. That study found that a holistic approach is suggested to improve the spiritual well-being of diabetic patients (Dumus, M., Ciftci, N., Gercek, A., Dumju, 2022). For example, various psychological interventions have been carried out during the pandemic to maintain mental or spiritual health (APrzybylko, G., Morton, D.F., & Renfrew, 2021).

This condition causes researchers to increasingly recognize that spirituality can be a powerful coping strategy for people with weakened health conditions such as diabetes. Spirituality can bring a positive attitude towards life and enhance life with motivation and energy (Onyishi, C.N., Iechukwu, L.C., Aigbodion, V.V, Eseadi, 2021). Sociodemographic factors in this study were presented in Table 1, which shows that half of the respondents were aged < 60 years, and most were women. Most of those with the lowest education lived in rural areas, and those with the highest level of education lived in urban areas. Meanwhile, the spiritual well-being of respondents who lived in rural and urban areas before and after the treatment had increased even though there were still two respondents with low levels of spiritual well-being.

The results of this study support and further elaborate the research on T2DM patients who experience DFU (Diabetes Foot Ulcer). It was stated that the average patient with DFU had a low level of spirituality found in patients aged < 60 years. It was also reported that significantly lower levels of spirituality were found among the women who were respondents (Salomé, G. M., de Almeida, S. A., Mendes, B., de Carvalho, M. R., Bueno, J. C., Massahud, M. R. Jr., & Ferreira, 2017). The condition of the spiritual well-being of people with T2DM was varied. Patients referred to the diabetes polyclinic show that most participants had moderate spiritual well-being (Javanmardifard.S., Heidari.S., Sanjari.M., Yazdanmehr.M., 2020).

T2DM patients who lived in the urban and rural areas both experience an increase in their spiritual well-being, as presented in Table 2. This increase indicates a significant difference between before and after the treatment. This problem has been studied, and it has been found that the difference in the level of spiritual well-being between people with T2DM who live in urban and rural areas is a widespread problem in health and care in Africa. Spiritual variations, values, and behaviours are the root causes that underlie the differences in the level of spiritual well-being (Oloyede, 2017).

Another previous study found that spirituality is a strong predictor that positively impacts patients' spiritual care. Nurses are advised to consider the spiritual aspect of the

patient as a human being as the most critical aspect besides other health care provided (Akbari, S., Pazokian.M., Farahani, A.S.A., Nasiri, M., Rajab, 2020). In this study, it was found that respondents who had a positive correlation between the spiritual condition of T2DM patients and diabetes management improved well. It is recommended that spiritual role be increased in T2DM management activities (Darvyri, P., Christodoulakis, S., Galanakis, M., Avgoustidis. A.G., Thanopoulou, A., Chrousos, 2018).

Referring this study which has proven differences in the spiritual well-being of people with T2DM before and after the treatment, it is supported by other research evidence on how spirituality plays a role in influencing people with T2DM to manage their daily self-care activities. The themes that emerged from the findings of this study included a relationship with God or spirituality as a coping method, religious practice, and social support (Permana, 2018). Accordingly, it can be understood that the level of well-being dramatically affects the lives of T2DM patients.

The level of well-being of respondents after being given treatments in the form of reading pocketbooks and listening to lectures on how to maintain spiritual well-being, which contains advice to remain grateful, patient, sincere, and pray a lot to Allah because they get a test in the form of T2DM has increased significantly different from before. This was also experienced in a study that used a well-being pocket book for children (Robinson.D., Moore.N., 2019) and a study using a booklet on people with T2DM which aimed to increase the daily activities of patients with neuropathy (Silva, E.O., Suda, E.Y., Santos, D.P., Verissimo, J.L., Ferreira. J.S.S., Junior, R.H.C., ...Sacco, 2020).

The results of this study also support a study on religious or spiritual practices related to the activities of Iranian T2DM patients. There was a positive and significant correlation between religious practices and self-care activities in T2DM patients. This indicates that religious practice improves spiritual well-being (Heidari, S., Rezaei, M., Sajadi, M., Ajorpaz, N.M., Koenig, 2017).

Furthermore, religious or spiritual practices must be supported based on each patient's culture. As Ghanaians who are migrants living in Europe and living in Africa realize that biomedical intervention co-exists with psychosocial and supernatural theories of diabetes, which is essentially called spiritual well-being (Aikins, G., Doodoo, F., Awuah, R.B., Dabo, E.O., Addo, J., Nicolaou, M.,...Agyemang, 2019). Given that the lifestyle of T2DM patients on aspects of spiritual well-being and psychological health is lower than that of non-DM patients as found in Iran, special attention should be paid to T2DM patients as well as possible (Valizadeh, M.M., Nasiri, T., & Shams, 2021).

Moreover, people who live in cities should be given more attention because they are prone to suffering from T2DM. This is supported by the results of research on predicting diabetes risk in people living in urban and rural areas in Columbia. The study found that people who live in urban areas are 1.9 times more at risk of suffering from diabetes than people who live in rural areas (Molina, R.T., Garcia, A.L.R., Vergora, T.A., Garcia, V.A.F., Guiterrez, V.R., Lozano, K.F., & Barengo, 2022).

CONCLUSION

There are differences in the spiritual well-being of T2DM patients who live in urban areas before and after the treatment. There are also differences in the spiritual well-being of T2DM patients living in rural areas before and after the treatment. The

difference in the level of well-being of people with T2DM between urban and rural areas after being given the treatment was proven to be significant. There was no control over the respondent's length of suffering from T2DM, which is a limitation of this study.

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Providing support for the spiritual well-being of diabetic patients is necessary to carry out diabetes management properly, such as controlled blood sugar and depression. It is also expected that complications may not occur. Furthermore, it is necessary to identify appropriate nursing actions to improve the spiritual well-being to be given to diabetic patients who live in urban and rural areas.

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