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Improving Self-Efficacy and Physical Self-Reliance of Diabetes Mellitus Patient through Mindfulness based on spiritual intervention

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Abstrak:

Diabetes Mellitus (DM) patients have low levels of medication compliance due to the continuous treatment period, drug side effects, and self-awareness. This study aims to analyze the effect of Mindfulness based on spiritual intervention on self-efficacy and Physical Self-Reliance in Type 2 Diabetes Mellitus patients

The research design was a quasi-experiment with the untreated control group design with dependent pre-test and post-test samples. The population in this study were all type 2 DM patients in the Surabaya Health Center work area. A sample of 130 was taken using a simple random sampling technique with determination according to inclusion and exclusion criteria. 60 respondents were in the treatment group and 60 respondents were in the control group. The independent variable in this study was mindfulness based on spiritual intervention. The dependent variable was self-efficacy and Physical Self-Reliance. The instruments used were Diabetes Management Self Efficacy (DSME) and the Self-Reliance domain Resilience scale questionnaire.

The results showed increased self-efficacy and physical self-reliance in patients in the intervention group with a p-value <0.05. In the intervention group, there were differences in the activities of taking medication, eating, sleeping, preventing infection, exercising and dealing with physical symptoms before and after the intervention. In addition, patients in the intervention group also showed differences in increasing self-confidence to recover. Mindfulness-based spiritual intervention increases the self-efficacy and physical self-reliance of DM patients. This study recommends that nurses should apply mindfulness to increase patient awareness

Keyword: *Mindfullnes based on spiritual intervention, self-efficacy and physical self-reliance,* Diabetes Mellitus

1. Introduction

Patients with type II diabetes have a higher risk of complications, which can be fatal if improper management and prompt treatment are not received. If individuals possess the information and skills to manage their illness, namely through self-care, these issues can be reduced (Lambrinou, Hansen, and Beulens 2019). The goal of self-care is to attain ideal blood sugar regulation and avoid problems (Noorratri, Margawati, and Dwidiyanti 2017). Diabetic sensory neuropathy is one problem that people with type II diabetes mellitus who have a lengthy and uncontrolled history of diabetes may encounter (Lutfi, Rayasari, and Irawati 2021). Because type II diabetes requires a lengthy course of medication, undergoing treatment requires social support and self-efficacy (Wira

Kusuma, Studi, and Sekolah Tinggi Ilmu Kesehatan Bina Usada Bali 2018).

One of the non-communicable degenerative diseases that will become more common in the future is diabetes mellitus (DM). According to WHO forecasts, Indonesia will have 8.4 million DM patients in 2000 compared to 21.3 million in 2030. According to this estimate, the number of people with DM will increase by two or three times by 2035 (Rohmawati et al. 2020)

Diabetes Mellitus (DM) type II can affect all aspects of the sufferer's life and sufferers of Diabetes Mellitus type II have an increased risk of complications and can be life-threatening if not treated immediately and properly controlled. These problems can be minimized if patients have the knowledge and ability to manage their disease, namely by doing self-care (Al-Khawaldeh, Al-Hassan, and Froelicher 2012). Self-care aims to achieve optimal blood sugar control and prevent complications. (R. Y. Sari et al. 2023). Diabetic sensory neuropathy is one of the problems that long-term uncontrolled type II diabetes mellitus patients create. Because type II diabetes mellitus treatment is time-consuming, undergoing treatment requires social support and self-efficacy (Shanty 2020)

In addition to self-awareness, independence is also important for DM patients for their recovery. Norris, et al. (2022) stated that independence is very important in managing diseases such as DM (Norris, S. L., Nichols, P. J., Caspersen, C. J., Glasgow, R. E., Engelgau, M. M., Jack Jr, L.,… McCulloch 2022). Independence means helping oneself physically and mentally and reducing depression and pain to improve quality of life. Orem (2001) mentions several levels of independence, namely unable to do, able to do with full family support, able to do with partial family support, and able to do independently. (N. N. Sari and Herlina 2019). Awareness of the importance of independence makes patients learn the knowledge and skills to practice being resilient. (Orem n.d.)

Independence is related to self-efficacy. Self-efficacy is an individual's belief that is needed to achieve certain results regarding his/her ability to complete and organize tasks. (Noorratri, Margawati, and Dwidiyanti 2017). Self-efficacy is a belief that can guide patients to become more independent. (Ariani, Sitorus, and Gayatri 2012). There are several degrees of independence, such as being unable to do something, wanting to learn, needing frequent reminders, and becoming independent. Concurrently, one can exercise, manage bodily problems, avoid infection (disease transmission), eat, sleep, take medication, and so on (Wira Kusuma, Studi, and Sekolah Tinggi Ilmu Kesehatan Bina Usada Bali 2018) . Independence can be increased by practicing awareness (Maharani and ocvita 2023)

One form of non-pharmacological intervention in reducing anxiety levels is mindfulness training. Mindfulness is a practice of accepting yourself for what is happening now, and building self-awareness. (Rohmawati et al. 2020). West (2008) states that mindfulness practice makes a person live a healthier life and is less anxious, less depressed, and the body's immune function is improved (Kusumawati, Kusnanto, and Purwanto 2021). The spiritual aspect is one aspect that can improve an individual's perception of themselves. (Panahi et al. 2019). A person can adapt to changes due to chronic illness with a spiritual approach. Spirituality can be used as a companion to conventional therapy if done regularly because it fosters a positive coping system that ultimately eliminates anxiety or stress.(Rohmawati, Wijayanti, and Sari 2023)(Permana 2018)

2. Material and methode

2.1 Material

Using dependent pre- and post-test samples and an untreated control group, this study employed a quasi-experimental research design. The target population for this study was all Type 2 Diabetes Mellitus (DMT2) patients in the Surabaya Community Health Center work area. There were two groups of individuals participated

in this study: the intervention group and the control group. Thirty-one people were the intended sample size. Additionally, the samples that were gathered were split into two groups, each consisting of 60 respondents: the treatment group and the control group. With sample determination based on inclusion and exclusion criteria, a basic random sampling technique will be used for the sampling procedure. This study's inclusion criteria are: Type 2 diabetes patients who are enrolled in a treatment program; these patients must be Muslim, able to perform independent tasks, verbally and nonverbally communicate, have fasting blood sugar (FBS) levels > 126 mg/dl and random blood sugar / postprandial blood sugar (FBS) levels > 200 mg/dl; they must also be between the ages of 18 and 60. Patients with Type 2 Diabetes who have comorbidities such as chronic kidney failure, heart failure, visual impairment, or mental or physical impairments such as blindness, deafness, or mental disability are excluded from the study. Additionally, patients using complementary therapy are not eligible.

A spiritual intervention based on mindfulness is the study's independent variable. Physical self-reliance and self-efficacy are the study's dependent variables. The Diabetes Management Self-Efficacy (DSME) scale and the Self-Reliance domain Resilience scale questionnaire, which consists of six questions with the numbers 1, 9, 10, 14, 17, and 18, were the instruments utilized in this study.

2.2 *Data collection procedures*

The intervention will be conducted for 1 month with a training duration of 30 minutes per meeting consisting of 2 meetings a week with the stages of Pre-visit: identification Visit. Agenda setting goal determination Post visit. provision of mindfulness based on spiritual intervention repeated Between visit measurements.

2.3 Data analysis

Data analysis will be tested using Wilcoxon. The data collection procedure from this study can be carried out after being declared to have passed the ethical test from the Research Ethics Commission with number No.095/031/IV/EC/KEP/LCBL/2024. The hypothesis is accepted if the p-value <0.05.

3. Result and Discussion

Table 1. distribution of respondents with diabetes mellitus

Variable	Category	Total	Persentase (%)
Gender	Male	26	43
	Female	34	57
Education	no schooling	2	2
	basic education	20	33
	secondary education	21	35
	higher education	17	27

Based on Table 1, the characteristics of respondents according to gender show that the majority (57%) are female, and almost all (35%) have secondary education.

Table 2. age distribution and duration of diabetes

Variable	Mean ± SD	Median	Min-Max	95% CI
Age	57.59±4.540	57.00	44 – 61	56.42 – 58.67
Length of Diabetes	10.40±0.552	11.00	2 – 18	9.09 – 11.71

Based on Table 2, the average age of respondents with diabetes mellitus is 57.59 with a standard deviation of 4.540 years with the lowest age of 44 years and the highest age of 61 years. The average duration

of diabetes mellitus is 10.40 years with a standard deviation of 0.552 years.

Table 3. Pre- and post-test self-efficacy scores of intervention and control groups

Variable Self-efficacy	Intervention group Mean ± SD			Control group Mean ± SD		
	Pre	Post	ρ-value	Pre	Post	ρ-value
Diet	(19.71±5.942)	(21.61±7.842)	0.000	(17.71±3.942)	(17.71±3.942)	1.000
Physical activity	(2.64±1.065)	(4.85±2.026)	0.000	(2.61±1.011)	(2.61±1.011)	1.000
Glucose monitoring	(8.87±2.559)	(11.77±5.159)	0.000	(7.87±1.559)	(7.87±1.559)	1.000
Medical therapy	(6.64±1.753)	(7.74±3.653)	0.000	(5.64±0.753)	(5.64±0.753)	1.000
Footcare	(4.81±2.155)	(7.92±5.011)	0.000	(4.81±2.155)	(4.81±2.155)	1.000

The Wilcoxon test results revealed a significant difference in patient self-efficacy, with a p-value <0.05 in the intervention group. A p-value of 1,000 (p>0.05) indicates that there was no gain in self-efficacy among the control group's participants. Offering patients mindfulness practices grounded in spiritual intervention can help them feel less stressed and emotionally unstable, remember the value of eating, take their medications on time, and sleep better. Furthermore, patients benefit from this intervention by becoming more at ease and content, taking their medications on their own, becoming more aware of their surroundings, growing sincere, accepting their disease and making an effort to get better by taking their medications on time, and becoming morehungry.

Table 4. Nilai pre dan post-test Physical Self-reliance

Variable Physical Self-reliance	Intervention group Mean ± SD			Control group Mean ± SD		
	Pre	Post	ρ-value	Pre	Post	ρ-value
Taking medication	(3.74±1.068)	(1.53±0.741)	0.000	(3.52±0.497)	(3.52±0.497)	1.000
Eating	(4.27±0.761)	(2.43±0.672)	0.000	(2.61±0.681)	(2.61±0.681)	1.000
Sleeping	(4.68±0.535)	(2.95±0.605)	0.000	(2.63±1.792)	(2.58±1.759)	0.317
Preventing complication	(4.85±0.129)	(3.74±0.653)	0.000	(2.64±0.706)	(2.64±0.706)	1.000
Practicing	(4.95±0.005)	(3.79±0.305)	0.000	(3.68±1.695)	(3.68±1.695)	1.000
Coping with physical symptoms	(4.95±0.005)	(4.06±0.405)	0.000	(3.63±1.495)	(3.63±1.495)	1.000

Discuss

Respondent characteristics

The average age of the type 2 diabetic responders in this study was used to determine their characteristics. The study's findings suggest that the aging process in the body is what contributes to the study's propensity for diabetes. Progressive decrease of mitochondrial function in a variety of tissues, including skeletal muscle, is linked to aging (Barzilai et al., 2012). Furthermore, as people age, their body fat composition varies in a number of ways. Subcutaneous fat composition declines but visceral fat, or intra-abdominal fat, grows. Uneven fat distribution is caused by a disproportionate increase of visceral fat relative to subcutaneous fat. Furthermore, age-related physical diseases such as weakness might result in a reduced ability to exercise, which in turn affects energy and insulin consumption. 34 respondents (57%) reported seeing this, while 26 respondents (43%) were male. According to the study's findings, women over 45 are more likely to have diabetes. This could be because

women are more likely than males to develop diabetes as a result of age-related hormonal changes. Age-related hormonal alterations are seen by women with type 2 diabetes. Age-related changes include a decline in endocrine function. Age-related changes in growth hormone production and IGF-1 concentrations both decline (Kusumawati, Kusnanto, and Purwanto 2021).

Mindfulness based on spiritual intervention* to *Self-Efficacy

The findings demonstrated that following a four-week mindfulness-based spiritual intervention, there was a significant rise in the degree of self-efficacy. The shift in the self-efficacy category score from moderate to high following the intervention indicates an increase in self-efficacy. The control group also demonstrated a significant increase in self-efficacy values before and after the intervention, but overall, this increase in self-efficacy values in the control group did not alter the self-efficacy category value, which at the conclusion of the intervention remained in the moderate self-efficacy category.

Through the introduction of techniques and strategies to lower obstacles to dieting and help DM clients stick to their diets, mindfulness-based spiritual intervention may raise expectations for the benefits of exercise and boost confidence in DM clients' ability to adhere to diet recommendations. The effectiveness of maintaining a healthy diet can be predicted by the degree of self-efficacy and the removal of obstacles to dieting. (Candra and Epriliani 2019). Individual beliefs and social aspect involvement give rise to reactions to modelling, instructions and social persuasion. (Haenen et al. 2016). Self-efficacy has various sources of information that will influence individual perceptions, including experiences of success, indirect experiences, social-verbal persuasion and emotional conditions. (Farahaninia et al. 2020). Self-efficacy is an important component in achieving behavioral change which is obtained through the psychological process of self-regulation. (Shao et al. 2017).

Spirituality can integrate with self-efficacy and have a positive impact. Previous research results state that self-efficacy and spirituality can improve the quality of life of someone suffering from chronic illness. (Choi and Hastings 2019; Klimasiński et al. 2022; R. Y. Sari et al. 2021). According to the respondents' responses, practically every participant in the intervention group mentioned that their faith provided them with peace of mind and courage when undergoing treatment or dealing with challenging circumstances related to their illness. A person's ability to understand and modify their behavior as well as their dedication to caring for themselves throughout diabetes management can all be aided by having a high level of self-efficacy. Patients with diabetes mellitus who practice good self-care engage in better self-care behaviors, such as following a diet, upping their physical activity, taking their medications, and routinely monitoring their blood sugar levels (Almomani and Al-Tawalbeh 2022; Tharek et al. 2018). Incorporating spiritual guidance into nursing care can improve mental health and patient satisfaction with the care provided. (de Diego-Cordero et al. 2022).

The control group, or those who did not receive mindfulness-based spiritual intervention, likewise showed differences in their levels of self-efficacy before and after the session. The control group also received, inadvertently, the process of self-monitoring components in the self-regulation process. Continuous blood glucose monitoring and assessment activities had an impact on the control group's degree of self-efficacy. According to the study, this (Al-Khawaldeh, Al-Hassan, and Froelicher 2012) The control group, or those who did not receive mindfulness-based spiritual intervention, likewise showed variations in their levels of self-efficacy before and after the session. The control group also received indirect instruction on the self-monitoring components of the self-regulation process. Continuous blood glucose monitoring and assessment activities had an impact on the control group's degree of self-efficacy.

Mindfulness based on spiritual intervention* terhadap *Physical Self-Reliance

People become more conscious of the need to regularly engage in physical independence exercises when they

practice mindfulness based on spiritual intervention. The patient completes these exercises every day, and they ought to be continued on a regular basis. Patients will thereby acquire the ability to be physically independent. The application of mindfulness based on spiritual intervention might enhance the physical independence of individuals with diabetes mellitus (DM), including medication taking, sleeping, eating, preventing complications, exercising, and managing physical symptoms. Individual awareness is developed through mindfulness based on spiritual intervention. With a p-value of 0.000 ($p<0.05$), participants in the intervention group showed a substantial increase in their level of independence when it came to taking their medications. Furthermore, a p-value of 0.000 ($p<0.05$) showed that patients with sleep difficulties could now finally have a good night's sleep. People who practice mindfulness based on spiritual intervention feel more at ease and conscious of their bodily demands for regular, restful sleep, which helps to keep their minds quiet and focused on the here and now (Harmiardillah 2018). Patients in the intervention group also showed a substantial increase in physical independence when it came to eating, with a p-value of 0.000 ($p < 0.05$). Patients who received mindfulness-based spiritual intervention were already aware of the significance of meal processing (Schedule, Amount, and Type), therefore this intervention helped them become more conscious of it. Patients can greatly benefit from mindfulness-based spiritual intervention in resolving their Diabetes Mellitus problems.

The individual's emotional intelligence and social intelligence are also developed through mindfulness-based spiritual intervention, enabling them to respond to reality well and maintain self-control. This person will be able to read their surroundings and pay close attention to every detail in every situation. When mindfulness is practiced, one can become more at ease (Harmiardillah 2018)

Mindfulness-based spiritual intervention also has positive effects and improves well-being, reduces psychological symptoms and emotional reactivity, and promotes positive behavior. Mindfulness helps one to live healthier and view things more positively. It also helps people avoid depression, foster relationships with others, improve self-esteem, boost immunity, and prevent the possibility of drug use. (Kusumawati, Kusnanto, and Purwanto 2021). Mindfulness based on spiritual intervention has been linked to physical and mental health and allows one to control oneself, emotions, and lower levels of anxiety and depressive symptoms. Mindfulness based on spiritual intervention provides benefits to reduce stress and increase feelings of acceptance and leads to better behavior. In addition, it also develops and improves self-control, tolerance, flexibility, emotional intelligence, mental health, and relationships with oneself and others with kindness, acceptance and compassion.

4. Conclusion

This study shows how mindfulness training can increase diabetes mellitus patients' physical self-reliance and sense of self-efficacy. This program can be used by nurses to help patients become more self-aware in managing their own health. Future studies can look at how mindfulness affects patients' family or caregivers who have diabetes mellitus.

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Conflict of interest

The are no conflict interest

Referensi

- Al-Khawaldeh, Omar Abdulhameed, Mousa Ali Al-Hassan, and Erika Sivarajan Froelicher. 2012. “Self-Efficacy, Self-Management, and Glycemic Control in Adults with Type 2 Diabetes Mellitus.” *Journal of Diabetes and its Complications* 26(1): 10–16. https://www.sciencedirect.com/science/article/pii/S1056872711001279.

- Almomani, Maysa H, and Shahinaz Al-Tawalbeh. 2022. "Glycemic Control and Its Relationship with Diabetes Self-Care Behaviors Among Patients with Type 2 Diabetes in Northern Jordan: A Cross-Sectional Study." *Patient preference and adherence* 16: 449–65.
- Ariani, Yesi, Ratna Sitorus, and Dewi Gayatri. 2012. "Motivasi Dan Efikasi Diri Pasien Diabetes Melitus Tipe 2." *Jurnal Keperawatan Indonesia* 15(1): 29–38.
- Candra, I Wayan, and Putu Epriliani. 2019. "Mindfullness-Based Cognitive Therapy (MCBT) Menurunkan Tingkat Depresi Pada Pasien Diabetes Melitus." *Jurnal Gema Keperawatan* 12(2): 85–95. https://ejournal.poltekkes-denpasar.ac.id/index.php/JGK/article/view/1031/361.
- Choi, Sung Ah, and Julia F Hastings. 2019. "Religion, Spirituality, Coping, and Resilience among African Americans with Diabetes." *Journal of religion & spirituality in social work* 38(1): 93–114.
- de Diego-Cordero, Rocío et al. 2022. "The Role of Spirituality and Religiosity in Healthcare During the COVID-19 Pandemic: An Integrative Review of the Scientific Literature." *Journal of religion and health* 61(3): 2168–97.
- Farahaninia, Marhamat, Tahere Sarboozi Hoseinabadi, Rasool Raznahan, and Shima Haghani. 2020. "The Teach-Back Effect on Self-Efficacy in Patients with Type 2 Diabetes." *The review of diabetic studies : RDS* 16(1): 46–50.
- Haenen, Sharon et al. 2016. "Mindfulness Facets as Differential Mediators of Short and Long-Term Effects of Mindfulness-Based Cognitive Therapy in Diabetes Outpatients: Findings from the DiaMind Randomized Trial." *Journal of Psychosomatic Research* 85: 44–50. https://www.sciencedirect.com/science/article/pii/S0022399916301945.
- Harmiardillah, Sylvi. 2018. "The Effect of Mindfulness-Based Eating Training Using a Social Cognitive Theory (SCT) Approach on Self-Efficacy, Diet Compliance and Blood Glucose Levels in Type 2 Diabetes Mellitus." *Ir-perpustakaan Universitas AIRLANGGA*: 1–478.
- Klimasiński, Maciej et al. 2022. "Spiritual Distress and Spiritual Needs of Chronically Ill Patients in Poland: A Cross-Sectional Study." *International journal of environmental research and public health* 19(9).
- Kusumawati, Made Dian, Kusnanto Kusnanto, and Bambang Purwanto. 2021. "Perbandingan Efektivitas Mindfulness Based Intervention Terhadap Diabetes Resilience Training Pada Diabetes Burnout Syndrome Dan Kontrol Glikemik Penderita Diabetes Melitus Tipe 2: A Systematic Review." *Briliant: Jurnal Riset dan Konseptual* 6(4): 798.
- Lambrinou, Ekaterini, Tina B Hansen, and Joline W J Beulens. 2019. "Lifestyle Factors, Self-Management and Patient Empowerment in Diabetes Care." *European Journal of Preventive Cardiology* 26(2_suppl): 55–63. https://doi.org/10.1177/2047487319885455.
- Lutfi, Baharudin, Fitrian Rayasari, and Diana Irawati. 2021. "Peningkatan Self Efficacy Melalui Spiritual Care Pada Pasien Diabetes Melitus Tipe 2." *Indonesian Journal of Nursing Sciences and Practice* 5(9): 1–10.
- Maharani, dewi eka, and widya emamarida ocvita. 2023. "Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal." *Peran Mikronutrisi Sebagai Upaya Pencegahan Covid-19* 13(April): 737–50.
- Noorratri, Erika Dewi, Ani Margawati, and Meidiana Dwidiyanti. 2017. "Improving Self-Efficacy and Physical Self-Reliance of Patients with Pulmonary Tuberculosis through Mindfulness." *Nurse Media Journal of Nursing* 6(2): 81.

- Norris, S. L., Nichols, P. J., Caspersen, C. J., Glasgow, R. E., Engelgau, M. M., Jack Jr, L.,… McCulloch, D. 2022. "Increasing Diabetes Self-Management Education in Community Settings." *American Journal of Preventive Medicine* 22.
- Orem, D. E. *Nursing Concepts of Practice.*
- Panahi, Rahman et al. 2019. "A Study on the Relationship between Spiritual Health and Quality of Life in Patients with Type 2 Diabetes Mellitus." *April Chron Dis J* 7(2): 73. http://cdjournal.muk.ac.ir.
- Permana, Iman. 2018. "How Religosity and/or Spirituality Might Influence Self-Care in Diabetes Management: A Structured Review." *Bangladesh Journal of Medical Science* 17(2): 185.
- Rohmawati, Riska et al. 2020. "Penurunan Tingkat Kecemasan Dan Gula Darah Pada Penderita Dm Tipe 2 Melalui Spiritual Mindfulness Based On Benson Reducing Anxiety And Blood Sugar Levels On DM Type 2 Patients Through Spiritual Mindfulness Based On Benson Relaxation." 8(2): 161–68.
- Rohmawati, Riska, Lono Wijayanti, and Ratna Yunita Sari. 2023. "Mindfulness Eating Based on Spiritual Interventions on Diet Compliance and Blood Sugar Levels in Type 2 DM Patients." 12(2): 1948–52.
- Sari, Nova Nurwinda, and Herlina Herlina. 2019. "Supportive Educative System Dalam Meningkatkan Kemandirian Merawat Kaki Pada Pasien Diabetes Mellitus Tipe Ii." *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal* 9(2): 63–72.
- Sari, Ratna Yunita et al. 2021. "Spiritual Emotional Freedom Technique against Anxiety and Psychological Well-Being of Type 2 Dm Patients during the Covid-19 Pandemic." *Open Access Macedonian Journal of Medical Sciences* 9: 260–65.
- ———. 2023. "Spiritual Diabetes Self-Management Health Coaching on Self-Efficacy, Self-Care, and Blood Glucose Levels in Type 2 Diabetes Mellitus Patients." *Bali Medical Journal* 12(3): 2768–73.
- Shanty, Chloranyta. 2020. "Gambaran Self Efficacy Pada Pasien Diabetes Tipe 2." *Jurnal Ilmu Keperawatan Medikal Bedah* 3(2): 42–48.
- Shao, Yechang et al. 2017. "The Effect of Social Support on Glycemic Control in Patients with Type 2 Diabetes Mellitus: The Mediating Roles of Self-Efficacy and Adherence" ed. Daniela Foti. *Journal of Diabetes Research* 2017: 2804178. https://doi.org/10.1155/2017/2804178.
- Tharek, Zahirah et al. 2018. "Relationship between Self-Efficacy, Self-Care Behaviour and Glycaemic Control among Patients with Type 2 Diabetes Mellitus in the Malaysian Primary Care Setting." *BMC Family Practice* 19(1): 39.
- Wira Kusuma, Putu, Program S Studi, and Keperawatan Sekolah Tinggi Ilmu Kesehatan Bina Usada Bali. 2018. "Hubungan Self Efficacy Dan Dukungan Sosial Terhadap Self Care Management Pasien Diabetes Mellitus Tipe II." *Komang Putri Suari / Indonesia Jurnal Perawat* 3(1): 51–59.