Journal of Islamic Nursing, 2024, 9(2), 57-64
DOI : https://doi.org/10.24252/join.v9i2.51659
Received Agustus 2024, Revised Agustus 2024, Accepted December 2024, Published December 2024

pISSN 2528-2549; eISSN 2549-5127

THE EFFECT OF COUNSELING ON SELFCARE BEHAVIOR TYPE 2 DIABETES MELLITUS PATIENTS AT LAWAWOI COMMUNITY HEALTH CENTER SIDRAP REGENCY

Asnuddin[1], Nanna[1], Muhammad Ardianto Rodin[1], Wilda Rezki Pratiwi[1], Sahariah[2]
[1]ITKES Muhammadiyah Sidrap, South Sulawesi, Indonesia
[2]Sulawesi Barat University, West Sulawesi, Indonesia
*E-mail: asnuddin20@gmail.com

Abstract

Introduction: The effect of counseling on selfcare behavior type 2 diabetes mellitus patients at lawawoi community health center sidrap regency. Diabetes mellitus (DM) is a chronic metabolic disease that occurs either when the pancreas does not produce insulin or when the body cannot effectively use the insulin it produces. Type 2 diabetes mellitus occurs due to progressive loss of beta cell insulin secretion along with insulin resistance. The prevalence of diabetes mellitus worldwide is increasing from year to year. According to data, around 422 million people worldwide suffer from diabetes mellitus. Diabetes is expected to rank in the top 10 causes of death globally by 2022, according to data released by the World Health Organization (WHO). The purpose of this study was to determine the effect of counseling on selfcare behavior in patients with type 2 diabetes mellitus at the Lawawoi Health Center, Sidrap Regency in 2024. Methods: This type of research is quantitative research with the Quasy experiment method using a one group pre-posttest design approach where, after the first measurement (pre-test), then an intervention (treatment/action) is given, after which the next measurement (post-test) is carried out which occurs after the treatment is given. Results: The results of the Wicoxon Test Distribution on the Self-care Behavior variable and Counseling Variable show that the significance value of the p-value is 0.05 < 0.000, which means that the Null Hypothesis (H0) is rejected and the Alternative Hypothesis (Ha) is accepted and meaningful. Conclusions: There is a significant influence between counseling on the selfcare behavior of people with type 2 diabetes mellitus at the Lawawoi Health Center, Sidrap Regency.

Keywords*: Selfcare, Counseling, Diabetes Mellitus*

Introduction

Chronic metabolic diabetes mellitus, or DM, is caused by the insufficient production of insulin by the pancreas or the inefficient use of insulin by the body (Patta, 2023). Progressive decline in β-cell insulin production and insulin resistance lead to the development of type 2 diabetes mellitus. Each year, more people around the world are affected by diabetes mellitus (Srimelawan, 2021).

Untreated diabetes mellitus can cause disturbances in several organ systems of the body because it is a degenerative disease (Syahid, 2021). Body systems, especially blood vessels and neurons, may suffer damage due to chronic hyperglycemia. Diabetes often has the following effects: 1) A higher likelihood of stroke and heart disease. 2) Feet may experience neuropathy, or nerve damage, which increases the risk of infection, foot ulcers, and potentially requires foot amputation (Sianipar, 2023). 3) Damage to the small retinal blood vessels leads to diabetic retinopathy, one of the leading causes of blindness. 4) Kidney failure is mostly caused by diabetes (Wiji et al., 2021).

Diabetes mellitus can lead to complications such as nervous system disorders or neuropathy, as well as macrovascular and microvascular blood vessel problems (Dachi, 2023). Heart, brain, and blood vessel problems are usually caused by macrovascular issues. Arachiyanto (2019) stated that kidney and eye microvascular problems may arise. Studies of complications in people with diabetes mellitus reveal that obesity, age, gender, smoking, physical activity, high blood pressure, disease duration, and other factors influence the risk of complications besides diabetes mellitus itself (Wiji et al., 2021).

Due to increased blood glucose levels in individuals with diabetes, diabetic neuropathy is a group of nerve diseases and sensory function loss originating from the distal lower extremities. If untreated, diabetic ulcers and autonomic cardiovascular neuropathy can develop (Ayu et al., 2021). When comparing the incidence of various diabetes complications, diabetic neuropathy is the most common (Dachi, 2023).
According to data, around 422 million people worldwide suffer from diabetes mellitus (WHO, 2022). Diabetes is expected to rank among the top 10 global causes of death by 2022, according to data released by the World Health Organization (WHO).

In 2019, 463 million people were diagnosed with diabetes. The International Diabetes Federation (IDF) conducted a study, and its estimates indicate that the number of people with diabetes worldwide in 2025 will reach 438 million (as of 2006), 587 million by 2030, and 700 million by 2045 (Nadia et al., 2023). With 163 million cases, Indonesia's population with diabetes mellitus is grouped alongside Southeast Asia, Central Asia, East Asia, Australia, and other Pacific Islands (Nadia et al., 2023). Indonesia ranks first in Southeast Asia and seventh globally among the top 10 countries with the highest number of diabetes mellitus cases, behind China, India, the United States, Pakistan, Brazil, and Mexico, with 10.7 million cases (Rosyana, 2022). As the fourth most populous country in the world, Indonesia's likelihood of developing diabetes mellitus is higher. With the highest number of diabetes mellitus sufferers in the world, Indonesia ranks seventh (Rasdini et al., 2022).

Based on the 2018 Basic Health Research (Riskesdas) report, the prevalence of diabetes mellitus in Indonesia increased from 1.5% in 2013 to 2% in 2018. The report also provided a prevalence overview in each province based on diagnoses established by a doctor, which is based on the regularity and adherence to medical records. The highest were in DI Yogyakarta (3.1%), East Kalimantan (3.1%), and DKI Jakarta (3.4%) (Adelian et al., 2022). Specifically in South Sulawesi Province, the number of chronic and long-term disease cases due to unhealthy lifestyles resulting in elevated blood sugar levels above normal limits was recorded at 41,497 diabetes mellitus cases in 2021 and reached 512,510 cases in 2022. According to preliminary survey data from researchers at the Lawawoi Health Center in Sidrap Regency, the incidence of diabetes mellitus was 935 in 2021, 1,793 in 2022, and 260 in 2023, with an increase in November.

Methods

This research is quantitative, using a quasi-experimental method with a one-group pre-post test design approach. After the first measurement (pre-test), an intervention (treatment/action) is given, followed by the next measurement (post-test) conducted after the treatment. This study was carried out from March 13 to April 13, 2024, at the Lawawoi Health Center in Sidrap Regency. The population is a group consisting of individuals or items selected by the researcher to study, from which conclusions are drawn regarding specific attributes or characteristics. The population in this study comprises all patients with a history of diabetes mellitus within the working area of the Lawawoi Health Center, Sidrap Regency, totaling 200 respondents. The sample selection used a non-probability sampling technique with a purposive sampling method, which is a sampling technique based on specific predetermined criteria. The sample size in this study is 40 respondents.

Result

This study was conducted from March 13 to April 13, 2024, at the Lawawoi Health Center in Sidrap Regency. This is a quantitative study using a quasi-experimental method with a one-group pre-post test design approach. In this design, after the first measurement (pre-test), an intervention (treatment/action) is given, followed by the next measurement (post-test), which is taken after the treatment. The respondents in this study consist of 40 patients at the Lawawoi Health Center, based on the respondents' educational characteristics as follows:

Table 5.1. Distribution of Respondents Based on Gender Characteristics at the Lawawoi Health Center, Sidrap Regency, in 2024

Gender	Frequency	Percent
Male	21	52,5%
Female	19	47,5%
Total	40	100%

Based on Table 5.1, the distribution of respondents by gender characteristics shows that the number of male respondents is 21, accounting for 52.5%, while the number of female respondents is 19, representing 47.5%. This indicates that male respondents are more dominant at the Lawawoi Health Center.

Table 5.2. Distribution of Respondents Based on Religious Characteristics at the Lawawoi Health Center, Sidrap Regency, in 2024

Religion	Frequency	Percent
Islam	40	100%
Kristen	0	0%
Hindu	0	0%
Total	40	100%

Based on Table 5.2, the distribution of respondents by religious characteristics shows that all 40 respondents are Muslim, accounting for 100%, while there are no respondents of Christian or Hindu faiths. This indicates that the respondents at the Lawawoi Health Center are predominantly Muslim.

Table 5.3. Distribution of Respondents Based on Educational Characteristics at the Lawawoi Health Center, Sidrap Regency, in 2024

Education	Frequency	Percent
Tidak Sekolah	5	12,5%
SD	22	55,0%
SMP	6	15,0%
SMA	6	15,0%
SMK	1	2,5%
Total	40	100%

Based on Table 5.3, the distribution of respondents by educational characteristics shows that there are 5 respondents with no formal education, accounting for 12.5%; 22 respondents with elementary school education, representing 55.0%; 6 respondents with junior high and senior high school education, making up 15.0%; and 1 respondent with vocational school education, which is 2.5%. This indicates that the majority of respondents at the Lawawoi Health Center have completed elementary school education.

Table 5.4. Distribution of Self-Care Behavior Variables at the Lawawoi Health Center, Sidrap Regency, in 2024

Self Care Behaviour	Frequency	Percent
Pretest		
Less	20	50.0%
Fair	20	50.0%
Good	0	0%
Postest		
Less	0	0%
Fair	4	10.0%
Good	36	90.0%
Total	40	100%

Based on Table 5.4, the data on the distribution of self-care behavior variables among respondents shows the following: At the pre-test, 20 respondents (50.0%) were categorized as having poor self-care behavior, while 20 respondents were categorized as having adequate self-care behavior. After the post-test, 4 respondents (10.0%) were in the adequate category, and 36 respondents (approximately 90.0%) were in the good category. This indicates that before the education on self-care behavior was provided, respondents at the Lawawoi Health Center predominantly had poor to adequate self-care behavior. However, after the education, the majority of respondents showed improved self-care behavior, categorized as good.

Table 5.5. Distribution of Normality Test for Research Variables at the Lawawoi Health Center, Sidrap Regency, in 2024

Variables	*Paired Differences*		*Sig.*
	Statistic	*df*	
Self Care Behaviour Pretest	0,478	40	*0.000*
Postest	0,536	40	*0.000*

Based on Table 5.6, the distribution of the normality test for the self-care behavior variables shows that the data are normally distributed for each variable between the pre-test and post-test of self-care behavior, as well as the pre-test and post-test of counseling. This is evidenced by the significance values for each variable: the p-value for self-care behavior is 0.05 < 0.000, and the p-value for counseling is 0.05 < 0.000, indicating that both research variables are normally distributed.

Table 5.6. Distribution of Wilcoxon Test for Research Variables at the Lawawoi Health Center, Sidrap Regency, in 2024

Self Care Behaviour	*Mean*	*SD*	*z*	*Sig.*	*Description*
Pretest	1,50	0.506	-5,798	*0.000*	*Signifikan*

Postest	2,78	0.423			

Based on Table 5.6, the distribution of the Wilcoxon test for the self-care behavior variable shows that the significance value is a p-value of 0.05 < 0.000. This means that the Null Hypothesis (H0) is rejected, and the Alternative Hypothesis (Ha) is accepted and significant. There is a significant effect of counseling on the self-care behavior of individuals with type 2 diabetes mellitus as an effort to prevent diabetic neuropathy complications at the Lawawoi Health Center, Sidrap Regency.

Discussion

The goal of self-care management for patients with diabetes mellitus is to reduce the risk of vascular problems while maintaining insulin activity and plasma glucose levels within normal ranges. Recurrent hyperglycemia, caused by improper diabetes treatment, can affect both microvascular and macrovascular issues (Junianty, 2017). This finding is supported by the International Diabetes Federation (2019), which states that adults over the age of 45 are more susceptible to diabetes mellitus (DM) due to a tendency to exercise less, lose muscle mass, and gain weight with age. The reduction in insulin synthesis by the pancreas is attributed to aging. Megayanti & Wulandari (2021) also reinforce this statement, estimating that aging leads to changes and decreased insulin sensitivity. Additionally, aging results in inadequate compensatory pancreatic protein cell reduction in response to increased insulin resistance.

According to Hidayah (2019), DM is more prevalent among the elderly. Women have a higher likelihood of developing the disease, and aging causes a decline in physiological functions (such as reduced insulin secretion), making blood glucose control more challenging. Premenstrual syndrome (also known as menstrual syndrome) or postmenopausal events increase the likelihood of diabetes by causing easier accumulation of body fat due to hormonal changes. Self-management of DM, which includes activities, diet, exercise, blood glucose monitoring, medication control, and foot care, is collectively referred to as DM self-management (Rosidin, Windani & Abdul, 2019). The findings of this study indicate that during the Covid-19 pandemic, a poor self-management profile was predominant among type 2 diabetes patients, with 48 respondents (57.1%) out of 84 categorized as having poor self-management. This indicates that more than half of the respondents had such profiles, with the blood glucose monitoring domain showing the highest deficiency percentage (100.0%).

These findings align with research conducted in Bandung City by Aisyah, Kurniawan, and Sari (2020), which found that 67 respondents (54.5%) in the blood glucose monitoring domain fell into the poor self-management category. This domain had the largest proportion of inadequacy (62.6%) among all domains. Research by Nejaddadgar et al. (2017) at the Diabetes Center of Ardabil supports this. It was found that most diabetes patients had poor self-management scores, with 243 respondents (63.6%) identifying blood glucose monitoring as their domain and the highest percentage (82.5%) in the inadequate category. The low self-management in this study may be due to a lack of awareness and public perception regarding the Covid-19 pandemic, causing fear of blood glucose testing and visiting doctors. This is evidenced by a decrease in DM patient visits to health centers and health programs like Posyandu during the pandemic. According to Handriana & Hijriani (2020), there are deficiencies in self-management among diabetes mellitus individuals because the majority are over 50 years old, making it difficult to engage in physical activities such as swimming and cycling. Additionally, a lack of awareness among diabetes mellitus patients about the adverse effects of neglecting routine foot care may be a root cause of the problem.

Furthermore, the findings of the normality test distribution for the Counseling and Self-Care Behavior variables show that the data are normally distributed for each variable between pre-test and post-test for both counseling and self-care behavior. This is supported by the significance values for each variable: 0.05 < 0.000 for the Counseling variable and 0.05 < 0.000 for the Self-Care Behavior variable. The Wilcoxon test distribution for the Self-Care Behavior and Counseling variables shows that the significance value is a p-value of 0.05 < 0.000, indicating that the Null Hypothesis (H0) is rejected and the Alternative Hypothesis (Ha) is accepted and significant. This means there is a significant effect of counseling on the self-care behavior of individuals with type 2 diabetes mellitus as an effort to prevent diabetic neuropathy complications at the Lawawoi Health Center, Sidrap Regency.

Conclusions

After conducting research on 'the effect of counselling on Self Care behaviour in Diabetes Mellitus Patients, it can be concluded that:

1. The distribution of respondents' self-care behaviour variables shows: the number of respondents when pretests in the category of less as many as 20 people or 50.0% and a sufficient category of 20 people. And the number of respondents when given a posttest in the category of less enough as many as 4 people or 10.0% and the Good category as many as 36 people or 90.% range. This shows that respondents who were at the Lawawoi Health Centre before being given education on self-care behaviour were more dominant in their self-care behaviour less and enough, while after being given the postest the dominant respondents were more good.
2. And based on the results of research conducted on the distribution of Normality Test on Self care Behaviour variable shows that the data is normally distributed as evidenced by the significance value of each variable, on self care behaviour p-value 0.05 <0.000 and on Counseling variable p-value 0.05 <0.000.
3. The distribution of the Wicoxon Test on the Self care Behaviour variable shows that the significance value of the p-value 0.05 < 0.000, which means that the Null Hypothesis (H0) is rejected and the Alternative Hypothesis (Ha) is accepted and meaningful, There is a significant influence between counselling on self care behaviour of people with type 2 diabetes mellitus as an effort to prevent complications of diabetic neuropathy at Lawawoi Health Center, Sidrap Regency.

Acknowledgments

We would like to thank all those who contributed to and supported this research. Special thanks to everyone who provided assistance and to all the respondents who participated.

Reference

Adelian, N., Safitri, N., Purwanti, L. E., Andayani, S., Kesehatan, F. I., & Ponorogo, U. M. (2022). Hubungan Perilaku Perawatan Kaki Dengan Kualitas Hidup Pasien Diabetes Melitus Di RSU Muhammadiyah Dan Klinik Rulia Medika Ponorogo. *Helath Sciences Journal*, *6*(1).

Alligood, M. reile. (2017). Pakar Teori Keperawatan dan Karya Mereka, 8 Tahun Indonesia. In A. yani s. Ibrahim, Kusman Hamid (Ed.), *Elsevier Singapore Pte Ltd.*

Apriliana, A. B. (2022). *Pengaruh Edukasi Video Injeksi Insulin Terhadap Kepatuhan Penggunaan Insulin Dan Kontrol Glikemik Pada Pasien DM Tipe 2*. Universitas Islam SUltan Agung Semarang.

Ardhiyanto, M. D. (2019). *Hubungan Kecerdasan Spiritual Dan Lama Menderita Dengan Self Management Pada Pasien Diabetes Melitus (DM) Tipe 2 Di Poli Penyakit Dalam RSU Haji Surabaya* (Issue 1). Universitas Airlangga Surabaya.

Armstrong, D. G., Boulton, A. J. M., & Bus, S. A. (2017). Diabetic foot ulcers and their recurrence. *New England Journal of Medicine*, *376*(24), 2367–2375.

Ayu, G., Mustakim, M., Handari, T., & Ariasih, A. (2020). Gambaran Persepsi Pasien Usia 19-24 Tahun Tentang Pencegahan Dan Pengendalian Infeksi Terhadap Implementasi Pelayanan Kesehatan Selama Masa Pandemik Covid-19 Di Kota Tangerang Selatan Tahun 2020. *Journal of Nursing and Public Health*, *8*(2), 27–36. https://doi.org/10.37676/jnph.v8i2.1178

Ayu, B., Susanti, D., & Marselin, A. (2021). *Peningkatan Efikasi Diri Pasien Diabetes Militus Pada Masa Pandemi*. *6*(2), 23–31.

Clinic, M. (2022). Diabetic neuropathy. *Medical Education and Research (MFMER)*, *18*(3), 289–301. https://doi.org/10.1007/s11428-022-00880-x

Dachi, A. (2023). *Gambaran Pengetahuan Penderita Diabetes Melitus Tentang Ulkus Diabetikum Di UPTD Puskesmas Hiliduho Kecamatan Hiliduho Kabupaten Nias*. Politeknik Kesehatan Kemenkes Medan.

Damhudi, D., Kertia, N., & Effendy, C. (2021). The effect of modified diabetes selfmanagement education and support on self-care and quality of life among patients withdiabetic foot ulcers in rural area of indonesia. *Open Access Macedonian Journal ofMedical Sciences*, *9*, 81–87. https://doi.org/10.3889/oamjms.2021.6614

Djamaludin, D., & Yulendasari, R. (2019). Pengaruh Latihan Range of Motion (ROM) Ankle Terhadap Pencegahan Terjadinya

Neuropati Dan Angiopati Pada Klien Diabetes Melitus. *Holistik Jurnal Kesehatan*, *13*(3), 263–269.

Djaya, A. M. F. M. (2022). *Efektivitas Cognitive Behavioral Therapy (CBT) Terhadap Peningkatan Self Care Behaviors Pada Pasien Diabetes Melitus Tipe 2 : A Systematic Review*. Universitas Hasanuddin.

Endah, N., & Pitaloka, P. (2020). *Pengaruh Konseling Terhadap Self Care Pada Penderita Diabetes Melitus Tipe 2*.

Embuai, S., Tuasikal, H., & Siauta, M. (2019). Effect of Foot Exercise and Care on Peripheral Vascular Status in Patients with Diabetes Mellitus. *JurnalNers*, *14*(3), 5.https://doi.org/10.20473/jn.v14i3.16943

Hasdi. (2022). *Pengembangan Modul Pelatihan Pencegahan Dan Perawatan Luka kaki Diabetes Berbasis Telenursing Bagi Perawat Di Rural Dan Remote Area*. Universitas Hasanuddin.

Kadek, N., Pebriana, P., Ayu, G., Kusumayanti, D., & Wiardani, N. K. (2020). Gambaran Kadar Glukosa Darah Berdasarkan Manajemen Diri Diabetes Dan Ketaatan Diet Penderita DM Tipe 2 Di RSUD Wangaya Denpasar. *Jurnal Artikel Riset*, *9*(2), 99–104.

Katuuk, M. E., Sitorus, R., & Sukmarini, L. (2019). Penerapan Teori Self Care Orem Dalam Asuhan Keperawatan Pasien Diabetes Melitus. *Jurnal Kesehatann*, *1*(1), 1–22.

Kemenkes, R. (2021). Perawatan Kaki Diabetes. In *Penatalaksanaan Diabetes Terpadu* (p. 1).

Kementerian Kesehatan RI. (2020). Infodatin tetap produktif, cegah, dan atasi Diabetes Melitus.2020. In *Pusat Data dan Informasi Kementerian Kesehatan RI* (pp. 1–10).https://pusdatin.kemkes.go.id/resources/download/pusdatin/infodatin/Infodatin-2020-Diabetes-Melitus.pdf

Kurniawati, P. (2022). *Hubungan Karakteristik Individu, Penyakit Penyerta Dan Durasi Menderita Dengan Kualitas Hidup Penderita Diabetes Melitus*. Universitas Islam Negeri Syarif Hidayatullah.

Luthfa, I., & Fadhilah, N. (2019). Self Management Menentukan Kualitas Hidup Pasien Diabetes Mellitus. *Jurnal Endurance*, *4*(2), 402. https://doi.org/10.22216/jen.v4i2.402Manuntung, A. (2020). Efikasi Diri Dan Perilaku Perawatan Diri Pasien Diabetes Melitus Tipe 2 Di Wilayah Puskesmas Pahandut. *Adi Husada Nursing Journal*, *6*(1), 52.https://doi.org/10.37036/ahnj.v6i1.159

Manuntung, A. (2020). Efikasi Diri Dan Perilaku Perawatan Diri Pasien Diabetes Melitus Tipe 2 Di Wilayah Puskesmas Pahandut. *Adi Husada Nursing Journal*, *6*(1), 52.https://doi.org/10.37036/ahnj.v6i1.159

Musnelina, L., & Elitasari, E. J. (2020). *Perbedaan Penurunan Glukosa Darah Pasien Diabetes*. *5*(3), 583–590

Nadia, N., Dyah, A., Taslim, M. A., & Ryandini, F. R. (2023). Pengaruh Foot Care Education Melalui Media Audiovisual Terhadap Tingkat Pengetahuan Pasien Diabetes Mellitus. *Diagnosa : Jurnal Ilmu Kesehatan Dan Keperawatan*, *1*(4), 69–82. https://doi.org/https://doi.org/10.59581/diagnosa-widyakarya.v1i4.1296

Novita, A., Hutahaean, R. E., Tanjung, R., Kep, S., Kep, M., & Kom, S. (2023). Pengaruh Pijat Refleksi Kaki Pada Terhadap Neuropati Pada Penderita Diabetes Mellitus Abstrak Kata Kunci : Diabetes Mellitus , Pijat Refleksi , Neuropati Diabetik . *Jurnal JKH*, *3*(1), 1–12.

Patta, A. A. R. (2023). *Pengembangan Digital Storytelling Terhadap Self Efficacy Pada Pasien Dengan Luka Kaki Diabetes Melitus*. Universitas Hasanuddin.

Prihatin, K., Suprayitna, M., & Fatmawati, B. R. (2019). Motivasi Terhadap Efikasi Diri Dalam Perawatan Diri Pada Pasien Diabetes Mellitus Tipe 2. *Jurnal Kesehatan Qamarul Huda*, *7*(1), 27–35. https://doi.org/10.37824/jkqh.v7i1.2019.69

Rasdini, I. G. A. A., Putrayasa, I. D. P., Rahayu, V. M. E. S. P., & Wedri, M. (2022). Pendampingan Kader Dalam Pengembangan Perawatan Mandiri Pasien Diabetes Melitus Tipe 2 di Kelurahan Pedungan Kota Denpasar. *Jurnal Altifani*, *2*(2), 573–577. https://doi.org/10.25008/altifani.v2i6.286

Rosyana, E. (2022). *Hubungan Antara Efikasi Diri Dalam Perawatan Kaki Dengan Perilaku Perawatan Kaki Pada Pasien Diabetes Melitus*. Universitas Ilam Sultang Agung.

Safitri, N. A. N., Purwanti, L. E., & Andyani, S. (2022). Hubungan Perilaku Keperawatan Kaki Dengan Kualitas Hidup Pasien DIabetes Melitus Di RSU Muhammadiyah Dan Klinik Rulia Medika Ponorogo. *Health Sciences Journal*, *6*(1), 67–74.

Salsabilla, A. R., & Nusadewiarti, A. (2023). Penatalaksanaan Holistik Pada Pasien Wanita Usia 42 Tahun dengan Hipertensi dan Diabetes Melitus Tipe 2 dengan Neuropati Diabetikum Melalui Pendekatan Kedokteran Keluarga di Puskesmas Natar. *Jurnal Medula*, *13*(6), 945–958.

Saltar, L. (2022). *Buku Perawatan Diri Klien Diabetes Melitus Tipe 2 Dengan Neuropati Perifer* (L. Saltar, J. Sahar, E. Rekawati, & D. Ayubi (eds.); 1st ed.). Penerbit CV Eureka Media Aksara.

Sianipar, I. M. S. (2023). *Gambaran Tingkat Pengetahuan Pasien Diabetes Melitus Tentang Pencegahan Ulkus Diabetikum Di Poli Rumah Sakit Sundari Medan*. Politeknik Kesehatan Kemenkes Medan.

Srimelawan, L. (2021). *Hubungan Persepsi Diri Dengan Upaya Pengendalian Rasa Lapar Pada Penderita Diabetes Melitus Tipe 2 Di Wilayah Kerja Puskesmas Madurejo*. Sekolah Tinggi Ilmu Kesehatan Borneo Cendekia Medika Pangkalan Bund.

Sulastri. (2022). *Buku Pintar Perawatan Diabetes Melitus* (Sulastri (ed.); 1st ed.). CV Trans Info Media.

Susanti, D., Sukarni, & Pramana, Y. (2019). Hubungan Antara Efikasi Diri Dengan Perawatan Mandiri Kaki Pada Pasien Diabetes Melitus Di Poli Penyakit Dalam RSUD Sultan Syarif Mohamad Alkadrie Pontianak. *Jurnal Kesehatan*, *1*(1), 1–11.

Susilawati, E., Hesi, R. P. P., & A Soerawidjaja, R. (2021). Hubungan Efikasi Diri terhadap Kepatuhan Perawatan Kaki Diabetes Melitus pada Masa Pandemi. *Faletehan Health Journal*, *8*(03), 152–159. https://doi.org/10.33746/fhj.v8i03.295

Syahid, Z. M. (2021). Faktor Yang Berhubungan Dengan Kepatuhan Pengobatan Diabetes Melitus. *Jurnal Ilmiah Kesehatan Sandi Husada*, *10*(1), 147–155.

Wiji, D., Sari, P., Setyawati, R., Amal, A. I., Abdurrouf, M., Janitra, F. E., Wahyuni, I. S., & Kunci, K. (2021). *PKM Penguatan Regimen Terapeutik Penderita Diabetes Mellitus dengan Senam DM , Konseling , Pemeriksaan Sensasi Kaki dan Diabetic Neuropathy Symptomps*. *5*(1). https://doi.org/10.34001/jdc.v5i1.1133

Yarnita, Y., Rayasari, F., & Kamil, A. R. (2023). Program Self Efficacy Dalam Perawatan Kaki Diabetes Mellitus Tipe 2. *Jurnal Keperawatan*, *15*(1), 41–52.