




The Effect of Acupressure Therapy on Blood Sugar Levels in Type II Diabetes Mellitus Patients in Aek Parombunan Village in 2024

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| ARTICLE INFO | ABSTRACT |
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| <p>Article history:</p> <p>Received Sep 05, 2024 Revised Sep 10, 2024 Accepted Sep 30, 2024</p> | <p>Type II Diabetes Mellitus is a chronic disease characterized by elevated blood sugar levels due to insulin resistance and/or impaired insulin secretion. This disease can lead to various complications such as neuropathy, nephropathy, retinopathy, and cardiovascular disease if not properly controlled. In addition to pharmacological therapy, one complementary therapy that can be used to help lower blood sugar levels is acupressure therapy. Acupressure is a technique of applying pressure to specific points on the body that aims to facilitate energy and blood circulation, thereby helping to increase insulin sensitivity and control blood sugar levels. This study used a pre-experimental design with a one-group pretest-posttest approach. The study was conducted in Aek Parombunan Village in 2024. The population in this study were Type II Diabetes Mellitus patients undergoing treatment in the area, with a sample of 30 respondents selected using a purposive sampling technique. Blood sugar levels were measured before and after acupressure therapy. Based on the results of the study, it was found that the average blood sugar level before acupressure therapy was higher than after therapy. Most respondents experienced a decrease in blood sugar levels after receiving regular acupressure intervention. Statistical test results showed a p-value <0.05, indicating acupressure therapy had an effect on reducing blood sugar levels in patients with Type II Diabetes Mellitus in Aek Parombunan Village in 2024.</p> |
| <p>Keywords:</p> <p>Diabetes Mellitus Type II, Acupressure Therapy, Blood Sugar Levels, Complementary Therapy.</p> | <p style="text-align: right;"><i>This is an open access article under the CC BY-NC license.</i></p>  |

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1. Introduction

Type II Diabetes Mellitus is a chronic disease characterized by increased blood sugar levels (hyperglycemia) due to impaired insulin resistance and/or insulin secretion. (Fatimah, 2015), (Rusdi, 2020) This disease can affect all age groups and is a public health problem that increases annually. If not properly controlled, Type II Diabetes Mellitus can lead to various serious complications, such as heart disease, kidney problems, nerve damage, vision problems, and even amputation. (NATSIR, 2025), (Rohmatulloh, Riskiyah, Pardjianto, & Kinasih, 2024) Management of Type II Diabetes Mellitus focuses not only on pharmacological therapy but also requires non-pharmacological approaches as supportive therapy. One approach that can be used is acupressure therapy, which is included in

complementary nursing.(Yusnita, Djafar, & Tuharea, 2021),(Wahyuni, Yusnitasari, Dwinata, & Syam, 2025)Acupressure is a technique that involves pressing specific points on the body to help improve energy and blood circulation, which is believed to help regulate blood sugar levels and increase insulin sensitivity.(Utami, 2025),(Utami, 2025).

2. Methods

This study uses an analytical survey method with a cross-sectional approach, which aims to determine the effect of acupressure therapy on blood sugar levels in Type II Diabetes Mellitus patients in Aek Parombunan Village in 2024.(Usman, Pomalang, Yusuf, & Djamaluddin, 2025). The variables in this study are: (a) Independent variable: application of acupressure therapy to Type II Diabetes Mellitus patients. (b) Dependent variable: blood sugar levels of Type II Diabetes Mellitus patients.

The study will be conducted at health care facilities (community health centers/clinics) serving diabetes mellitus patients in Aek Parombunan Village. The study population will be all type II diabetes mellitus patients (≥ 18 years old) who are registered and/or undergoing routine check-ups at health care facilities in Aek Parombunan Village during the study period.(RONTING, 2025),(PRIMARY, 2025)The number of samples was determined based on analytical sample calculations according to the population of Type II Diabetes Mellitus patients in Aek Parombunan Village in 2024.

3. Results and Discussion

Age:

- a. 45–60 years: 28 people (56%)
- b. 30–44 years: 12 people (24%)
- c. 60 years: 10 people (20%)

Gender:

- a. Women: 30 people (60%)
- b. Male: 20 people (40%)

Education:

- a. Middle school (junior high school–senior high school): 29 people (58%)
- b. Elementary School (SD): 13 people (26%)
- c. Higher education (college): 8 people (16%)

Work:

- a. Not working / housewives: 24 people (48%)
- b. Informal sector: 16 people (32%)
- c. Formal sector: 10 people (20%)

Length of Diabetes Suffering:

- a. <5 years: 21 people (42%)
- b. 5–10 years: 18 people (36%)
- c. 10 years: 11 people (22%)

Socioeconomic Status:

- a. Lower middle class: 30 people (60%)
- b. Upper middle class: 20 people (40%)

The results of research on the application of acupressure therapy for blood sugar control show: Good application: 23 people (46%), Adequate application: 17 people (34%), Insufficient application: 10 people (20%)

Based on the results of blood sugar examinations and medical records, it was obtained: Good blood sugar control (according to target): 21 people (42%), Adequate blood sugar control: 16 people (32%), Poor blood sugar control (uncontrolled): 13 people (26%).

Statistical test results: $p = 0.003$ ($p < 0.05$) This means that the better the application of acupressure therapy by the patient, the better the level of blood sugar control achieved.

3.1 Discussion

Most of the respondents had secondary education, although there were still respondents with low levels of education.(Arifin, Rahman, Muhyi, Putri, & Hadianor, 2019),(Sidik & Ilmiah, 2021). Education level influences a patient's ability to understand health information and implement therapeutic interventions. This aligns with Notoatmodjo's (2018) theory, which states that the higher a person's education level, the easier it is to receive and understand health information.(NURKHOLIPAH, 2024),(Sukarno, 2022)The majority of respondents were in the lower-middle socioeconomic category, which may impact their ability to access health services, purchase medication regularly, and engage in complementary therapies such as acupressure.(Putri, nd),(Sihite, 2024).

4. Conclusions

The results of a study on the Effect of Acupressure Therapy on Blood Sugar Levels in Type II Diabetes Mellitus Patients in Aek Parombunan Village in 2024 showed that most respondents had implemented acupressure therapy in the moderate to good category. This indicates that the majority of patients are beginning to recognize the importance of supportive therapies such as acupressure on the hands and feet and breathing relaxation techniques in helping control blood sugar levels. It is recommended that patients be more active in consistently implementing acupressure therapy, including acupressure on the hands and feet and breathing relaxation techniques, in addition to remaining compliant with medical treatment and regular blood sugar checks.

References

- Arifin, S., Rahman, A., Muhyi, R., Putri, AO, & Hadianor, H. (2019). The relationship between age, education level, health facilities with patient satisfaction at Muara Laung Community Health Center. *Indonesian Public Health Publication Journal*, 6(2).
- Fatimah, RN (2015). Type 2 diabetes mellitus. *Majority Journal*, 4(5), 93–101.
- NATSIR, R. (2025). ANALYSIS OF RISK FACTORS FOR TYPE 2 DIABETES MELLITUS INCEDENCE IN BARRU DISTRICT. HASANUDDIN UNIVERSITY MAKASSAR.
- NURKHOLIPAH, F. (2024). THE RELATIONSHIP BETWEEN THE IMPLEMENTATION OF THERAPEUTIC COMMUNICATION BY NURSES AND COMPLIANCE WITH CONTROL IN HYPERTENSION PATIENTS AT THE CABANGBUNGIN PUBLIC HEALTH CENTER IN 2023.
- PERDANA, A. (2025). SELF CARE DESCRIPTION IN DIABETES MELLITUS PATIENTS NEWLY DIAGNOSED FOR ONE YEAR IN THE WORKING AREA OF BATANG TORU COMMUNITY HEALTH CENTER IN 2024.
- Putri, NN (nd). OVERVIEW OF FAMILY HEAD KNOWLEDGE ABOUT COMPLEMENTARY THERAPY IN RT 02, PELEM HALL, BATURETNO VILLAGE, BANGUNTAPAN DISTRICT, BANTUL REGENCY, SPECIAL REGION OF YOGYAKARTA.
- Rohmatulloh, VR, Riskiyah, R., Pardjianto, B., & Kinasih, LS (2024). The relationship between age and gender and the incidence of type 2 diabetes mellitus based on 4 diagnostic criteria at the Internal Medicine Polyclinic of Karsa Husada Regional Hospital, Batu City. *Prepotif: Journal of Public Health*, 8(1), 2528–2543.
- RONTING, DR (2025). Factors Releted to Self-Management of Type 2 Diabetes Mellitus Patients at Paccerakkang Health Center in 2024. Hasanuddin University.
- Rusdi, MS (2020). Hypoglycemia in patients with diabetes mellitus. *Journal of Syifa Sciences and Clinical Research*, 2(2), 83–90.
- Sidik, SS, & Ilmiah, D. (2021). The influence of capital, education level, and technology on the income of micro, small, and medium enterprises (MSMEs) in Pajangan District, Bantul. *Margin Eco*, 5(2), 34–49.
- Sihite, JS (2024). The Relationship between High-Risk Pregnancy Age and the Incidence of Anemia in the Work Area of the Aek Parombunan Community Health Center, Sibolga City in 2024. *SINERGI: Scientific Research Journal*, 1(7), 577–585.

- Sukarno, N. (2022). THE RELATIONSHIP BETWEEN THE LEVEL OF KNOWLEDGE OF THERAPEUTIC COMMUNICATION AND THE LEVEL OF CONFIDENCE IN THE PRACTICE FIELD FOR PROFESSIONAL NURSE STUDENTS AT STIKES MEDISTRA INDONESIA. *Medicare Journal*, 1(3), 116–124.
- Usman, AM, Pomalang, ZB, Yusuf, MN, & Djamaluddin, N. (2025). The Effect of Foot Hydrotherapy and Slow Deep Breathing on Blood Pressure in Hypertension Patients in the Limboto Community Health Center Work Area. *Collaborative Journal of Science*, 8(6), 3304–3315.
- Utami, DS (2025). APPLICATION OF FOOT ACUPRESSURE MASSAGE IN TYPE 2 DIABETES MELLITUS (DM) PATIENTS TO REDUCE BLOOD SUGAR LEVELS AND IMPROVE QUALITY OF LIFE IN SEI AGUL, WEST MEDAN DISTRICT, MEDAN CITY. Poltekkes Kemnkes Medan.
- Wahyuni, ANAW, Yusnitasari, AS, Dwinata, I., & Syam, RC (2025). Risk factors for chronic complications in type 2 diabetes patients at Dr. Wahidin Sudirohusodo General Hospital, Makassar City. *Journal of Community Health*, 11(2), 317–326.
- Yusnita, Y., Djafar, MHA, & Tuharea, R. (2021). Risk of Symptoms of Type II Diabetes Mellitus Complications at the Ternate City Diabetes Center UPTD. *Indonesian Health Promotion Publication Media (MPPKI)*, 4(1), 60–73.