



Implementation of Slow Stroke Back Massage (SSBM) on Sleep Quality of Diabetes Mellitus Patients with Diabetic Ulcers in Barus Village, Barus District, Central Tapanuli Regency in 2024

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ABSTRACT

Diabetes mellitus (DM) is the most common non-infectious disease not only in Indonesia but throughout the world. The impact of diabetes mellitus is the presence of wounds that often occur on the feet (diabetic ulcers). Pain in diabetic ulcers can cause sleep disturbances, resulting in dissatisfaction with the sufferer's sleep quality. Management that can be done for diabetes patients who experience sleep disorders is slow stroke back massage (SSBM) therapy. Slow stroke back massage is a nursing intervention given by providing slow, firm, rhythmic strokes with both hands covering the back area 5 cm wide outside the spine starting from the head to the sacrum area. The goal of this implementation is to improve sleep patterns. This scientific paper uses a case study design. The subjects used were two diabetes mellitus patients with diabetic ulcers in the General Surgery Room in 2024. Data analysis was carried out using descriptive analysis by looking at sleep quality before and after the implementation of slow stroke back massage (SSBM) using the PSQI (Pittsburgh Sleep Quality Index) sleep quality questionnaire for 3 days. Before implementation, the PSQI score for subject I was 8 (eight) and for subject II was 9 (nine). After implementation, the PSQI score for both subjects was 4 (four). It is recommended that DM patients with diabetic ulcers apply slow stroke back massage (SSBM) to improve sleep quality.

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1. Introduction

Diabetes Mellitus (DM) is a chronic disease characterized by high blood glucose levels due to impaired insulin secretion, insulin action, or both. (Suryati & Kep, 2021), (Indriyani, Ludiana, & Dewi, 2023) According to WHO (2023), approximately 422 million people worldwide suffer from DM, and more than 1.5 million deaths per year are directly related to this disease. (Safitri, Alini, & Hastuty, 2024), (Ananda, 2024) Diabetic ulcers are open wounds that typically occur on the feet of people with diabetes due to peripheral neuropathy and impaired circulation. These wounds are chronic, difficult to heal, and increase the risk of amputation. Approximately 15% of people with diabetes are estimated to experience a foot ulcer during their lifetime, and this incidence is twice as high in people with diabetes

as in the general population.(Bachri, Prima, & Putri, 2022),(Alzamani, Marbun, Purwanti, Salsabilla, & Rahmah, 2022).

Slow Stroke Back Massage (SSBM) is a form of complementary therapy in nursing that is given through gentle, slow, firm, and rhythmic stroking or massage on the back area with both hands 5 cm apart from the spine (LESTARI & VIRDA, 2024),(YUNIAR, 2023)This technique is performed from the head to the sacrum for a duration of 3–10 minutes and a frequency of around 60 movements per minute (Wilujeng, 2021),(HASESA, 2022). Sleep quality is a condition in which an individual can maintain sufficient, restful sleep and feel refreshed upon waking. Poor sleep quality can cause (HANDAYANI, 2022),(TANJUNG, 2024).

2. Methods

2.1 Research Design

The research design used was a case study. This design was chosen because the research focused on two diabetes mellitus patients with diabetic ulcers who served as the subjects. This design allowed researchers to explore in-depth the patients' conditions, the interventions provided, and changes in sleep quality before and after Slow Stroke Back Massage (SSBM) treatment (Gita Sandy Patonengan, 2022),(Widiastini, 2024).

2.2 Population and Sample

a. Population

The population is all diabetes mellitus patients with diabetic ulcers in Barus village.

b. Sample

The total sample in this study was two diabetes mellitus patients.

2.3 Data Collection Techniques and Instrument Development

a. Primary Data

Primary data was obtained directly from patients through: Interviews and observations to complete patient characteristics sheets (age, gender, occupation, medical history, weight, height, and medical diagnosis). Sleep quality was measured using the Pittsburgh Sleep Quality Index (PSQI) questionnaire, administered before and after the Slow Stroke Back Massage (SSBM) intervention. Observation sheets recorded changes in patient sleep quality during the 3-day SSBM intervention (Widiastini, 2024),(Restiadewi, 2023).

b. Secondary Data

Secondary data were obtained from: Patient medical records in the Operating Room, related to the medical history and medical condition of patients with diabetes mellitus and diabetic ulcers. Supporting hospital documents recording the number of cases of DM with diabetic ulcers as one of the diseases treated in the operating room.

2.4 Analysis Techniques

This research data analysis uses:

a. Univariate

Conducted to describe the characteristics of respondents (age, gender, occupation, BMI, family history). The results show that subject I (Mr. E) is 53 years old, male, BMI 24 (normal). Subject II (Mrs. S) is 61 years old, female, BMI 22 (normal). The initial PSQI score of subject I = 8 (poor), subject II = 9 (poor).

b. Bivariate (Pre- and post-intervention comparison)

Using a descriptive approach (due to the case study), the results showed a decrease in PSQI scores after 3 days of intervention:

Subject I: out of 8→4

Subject II: out of 9→4

Interpretation: a score ≤ 5 indicates good sleep quality, so there is significant improvement after SSBM.

3. Results and Discussion

The research was conducted on two respondents with the following characteristics:

Subject I

Initials: Mr. E

Age: 53 years

Male gender

Occupation: Self-employed

Family history of illness: None

Weight/Height: 66 kg / 165 cm

BMI: 24 (normal)

Medical diagnosis: DM Pedis Ulcer (D)

Subject II

Initials: Mrs. S

Age: 61 years

Female gender

Occupation: Housewife

Family history of illness: None

Body weight/height: 50 kg / 150 cm

BMI: 22 (normal)

Medical diagnosis: DM Pedis Ulcer (D)

The sleep quality of both respondents was measured using the Pittsburgh Sleep Quality Index (PSQI) questionnaire for 3 days, before and after the slow stroke back massage (SSBM) intervention. (a) On the first day, the PSQI score of subject I increased from 8 to 7 and subject II from 9 to 8. (b) On the second day, the PSQI score of subject I decreased to 6 and subject II to 6. (c) On the third day, the PSQI scores of both subjects decreased to 4, indicating that sleep quality was in the good category.

Table 1.
Sleep Quality Before and After Intervention

Day	Subject II (Mrs. S)	
	Before	After
1	8	7
2	7	6
3	5	4

Information:

Good sleep quality: PSQI score ≤ 5

Poor sleep quality: PSQI score > 5

Implementation Results

Based on the results of the intervention carried out for 3 days, it was found that: (a) In Subject I (Mr. E) the PSQI score decreased from 8 (bad category) to 4 (good category). (b) In Subject II (Mrs. S) the PSQI score decreased from 9 (bad category) to 4 (good category). (c) This indicates an increase in sleep quality after the slow stroke back massage (SSBM) intervention. Both respondents felt their bodies were more relaxed, pain was reduced, and they slept better than before the intervention.

4. Conclusion

Slow Stroke Back Massage (SSBM) has been shown to improve sleep quality in diabetes mellitus patients with diabetic ulcers. Pittsburgh Sleep Quality Index (PSQI) scores before the intervention indicated poor sleep quality (8 and 9), but after three consecutive days of implementation, the scores decreased to 4, which is considered good sleep quality. The SSBM intervention provides a relaxing effect by increasing endorphin secretion, which can reduce tension, reduce pain, and help patients achieve better sleep quality.

References

- Alzamani, L., Marbun, M. R. Y., Purwanti, M. E., Salsabilla, R., & Rahmah, S. (2022). Ulkus kronis: Mengenali ulkus dekubitus dan ulkus diabetikum. *Jurnal Syntax Fusion*, 2(02), 272–286.
- Ananda, E. Y. (2024). Hubungan Antara Aktivitas Fisik dengan Kadar Glukosa Darah pada Diabetes Millitus Tipe 2. Universitas Islam Sultan Agung Semarang.
- Bachri, Y., Prima, R., & Putri, S. A. (2022). Faktor-faktor resiko yang berhubungan dengan kejadian ulkus kaki diabetik pada pasien diabetes melitus di RSUD Prof. Dr. Ma. Hanafiah, SM Batusangkar tahun 2022. *Jurnal Inovasi Penelitian*, 3(1), 4739–4750.
- Gita Sandy Patonengan, G. (2022). Pengaruh Slow Stroke Back Massage Terhadap Tekanan Darah Kecemasan Dan Depresi Pada Lansia Hipertensi. Universitas Karya Husada.
- HANDAYANI, G. M. (2022). PENGARUH TERAPI MUSIK INSTRUMENTAL DAN AROMA TERAPI LAVENDER TERHADAP KUALITAS TIDUR PADA PASIEN POST OPERASI DI RSUD Dr. H ABDUL MOELOEK TAHUN 2022.
- HASESA, F. (2022). PENATALAKSANAAN FISIOTERAPI PADA HERNIA NUCLEUS PULPOSUS DENGAN INFRA RED, TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION, DAN MCKENZIE EXERCISE. Universitas Widya Husada Semarang.
- Indriyani, E., Ludiana, L., & Dewi, T. K. (2023). Penerapan Senam Kaki Diabetes Melitus Terhadap Kadar Glukosa Darah Pada Penderita Diabetes Mellitus Di Puskesmas Yosomulyo. *Jurnal Cendikia Muda*, 3(2), 252–259.
- LESTARI, I. T. A., & VIRDA, E. (2024). ANALISIS ASUHAN KEPERAWATAN PADA PASIEN HIPERTENSI DENGAN MASALAH NYERI AKUT PADA KEPALA MELALUI PENERAPAN SLOW STROKE BACK MASSAGE DI RUANG EDELWEIS RSUD BANGIL. PERPUSTAKAAN UNIVERSITAS BINA SEHAT PPNI.
- Restiadewi, N. N. L. (2023). PENGARUH IMPLEMENTASI PIJAT REFLEKSI TERHADAP PENINGKATAN KUALITAS TIDUR PADA POST STROKE DI KOMUNITAS BALI STROKERS CLUB TAHUN 2023. Poltekkes Kemenkes Denpasar Jurusan Keperawatan 2023.
- Safitri, N., Alini, A., & Hastuty, M. (2024). HUBUNGAN MOTIVASI DENGAN EFIKASI DIRI PADA PENDERITA DIABETES MELLITUS TIPE II DI DESA TARAI BANGUN WILAYAH KERJA UPT PUSKESMAS TAMBANG. *Jurnal Imliah Ilmu Kesehatan*, 2(4), 678–684.
- Suryati, N. I., & Kep, M. (2021). *Buku Keperawatan Latihan Efektif Untuk Pasien Diabetes Mellitus Berbasis Hasil Penelitian*. Deepublish.
- TANJUNG, R. R. S. T. Y. (2024). PENGARUH HIPNOSIS LIMA JARI TERHADAP KUALITAS TIDUR PASIEN POST OPERASI DI RSUD JENDRAL AHMAD YANI KOTA METRO TAHUN 2024. Poltekkes Kemenkes Tanjungkarang.
- Widiastini, N. K. P. (2024). TERAPI SLOW STROKE BACK MASSAGE MENINGKATKAN KUALITAS TIDUR PENDERITA HIPERTENSI DI WILAYAH KERJA PUSKESMAS DAWAN I KLUNGKUNG. Poltekkes Kemenkes Denpasar Jurusan Keperawatan 2024.
- Wilujeng, A. D. (2021). Pengaruh Teknik Pelvic Tilting Terhadap Nyeri Punggung Bawah Pada Ibu Hamil Trimester III di PMB Dinar Nacita Wajak Kabupaten Malang. ITSK RS dr. Soepraoen.
- YUNIAR, D. (2023). EFEKTIVITAS PEMBERIAN TEKNIK RELAKSASI GENGAM JARI DAN SLOW STROKE BACK MASSAGE (SSBM) TERHADAP PERUBAHAN INTENSITAS NYERI PADA PASIEN POST OPERASI DI RUANG BEDAH RSUD DR. H. ABDUL MOELOEK PROVISI LAMPUNG TAHUN 2022. Poltekkes KemenkesTanjungkarang.