



Publish: Association of Indonesian Teachers and Lecturers

**International Journal of Health Sciences (IJHS)**Journal Homepage: <https://jurnal.agdosi.com/index.php/IJHS/index>

Volume 4 | Number 1 | March 2026 |



## **The Effect Of Complementary Therapy Education On The Level Of Knowledge And Wound Care In Diabetic Ulcer Patients At The AEK Parombunan Community Health Center**

Piuskosmas Fau<sup>1\*</sup><sup>\*1</sup> Nursing Study Program, Nauli Husada Health College, Indonesia

### ABSTRACT

**Background:** Diabetic ulcers are a common chronic complication of diabetes mellitus and can lead to severe infection and even amputation if left untreated. Proper wound care is greatly influenced by the patient's level of Complementary knowledge therapies, such as the use of natural ingredients and non- pharmacological approaches are widely used used by the community, but are often not accompanied by appropriate education.

**Objective:** This study aimed to determine the effect of complementary therapy education on the level of knowledge and practice of wound care in diabetes ulcer patients at the Aek Parombunan Community Health Center.

**Methods:** This study used a quantitative design with a quasi-experimental one-group pretest - posttest approach. The study sample consisted of 30 diabetic ulcer patients selected using a purposive sampling technique. Data were collected using knowledge questionnaire and wound care observation sheets before and after the complementary therapy Education. Data analysis was performed using a paired t- test with a significance level of  $\alpha = 0.05$ .

**Results:** The study showed a significant increase in patients knowledge and quality of wound care after complementary therapy education ( $p < 0.05$ ).

**Conclusion:** Complementary therapy education significantly improved knowledge and wound care practices in diabetic ulcer patients. This education can be used as a support intervention in primary healthcare.

**Keywords:** Education, Complementary Therapy, Diabetic Ulcer, Wound Care, Knowledge

\*Correspondent Author: Piuskosmas Fau

\*e-mail: [piuskfau@yahoo.co.id](mailto:piuskfau@yahoo.co.id)





## 1. Introduction

Diabetes mellitus is a chronic metabolic disease characterized by hyperglycemia due to impaired insulin secretion, insulin action, or both. One serious complication of diabetes mellitus is diabetic ulcers, which occur due to impaired circulation, peripheral neuropathy, and decreased immunity. Diabetic ulcers are a common health problem in primary healthcare facilities, including community health centers (Puskesmas).

Untreated diabetic ulcers can progress to severe infection, gangrene, and even amputation. Therefore, proper and ongoing wound care is crucial to prevent further complications. However, wound care practices performed by patients at home often fall short of standards due to limited knowledge and understanding.

In society, complementary therapies such as the use of natural ingredients (e.g., honey, binahong leaves, or herbal oils) are often used as alternatives or adjuncts to medical treatments. These therapies have the potential to accelerate wound healing, but their use must be accompanied by proper knowledge to ensure their safety and effectiveness. Without proper education, complementary therapies can actually increase the risk of infection or worsen wound conditions.

Health education is a crucial role for healthcare professionals in improving patient's knowledge and skills in self-care. Structured, evidence-based complementary therapy education is expected to enhance patient knowledge and improve diabetic ulcer care practices.

## 2. Research Methods

### a. Research Design

This research uses a quantitative design with a quasi-experimental approach, namely one group pretest – posttest. This design was used to assess changes in the level of knowledge and practice of wound care before and after providing complementary therapy education.

### b. Location and Time of Research

The research was conducted at the Aek Parombunan Community Health Center in February–April 2025.

### c. Population and Sample

- Population: all diabetes mellitus patients with diabetic ulcers undergoing treatment at the Aek Parombunan Community Health Center
- Sample: 30 diabetic ulcer patients selected using purposive sampling.

### d. Inclusion criteria

- 1) Diabetes mellitus patients with mild-moderate diabetic ulcers
- 2) Age  $\geq 18$  years
- 3) Can communicate well
- 4) Willing to be a respondent



**e. Exclusion criteria**

- Diabetic ulcers / systemic infections
- Patients with cognitive impairment

**f. Research Variables**

- 1) Independent variable: Complementary therapy education
- 2) Dependent variable:
  - Patient knowledge level
  - Diabetic ulcer wound care practice

**g. Research Instruments**

- 1) Knowledge questionnaire on complementary therapies and wound care
- 2) Wound care observation sheet, includes:
  - Wound hygiene
  - How to change the dressing
  - Appropriate use of complementary therapies

The instrument has been tested for validity and reliability previously.

**h. Research Procedures**

- 1) Measurement of knowledge and practice of wound care (pretest)
- 2) Providing complementary therapy education through:
  - Direct counseling
  - Educational leaflet
  - Wound care demonstration
- 3) Re-measurement of wound care knowledge and practice (posttest)

**i. Data analysis**

- Univariate: frequency distribution, percentage, mean
- Bivariate: Paired T – Test
- Significance level  $\alpha = 0.05$

**j. Research Ethics**

The research was conducted by:

- Informed consent
- Confidentiality of respondent identity
- Approval from the health center

**3. Research Results And Discussion****a. Research Result**



## 1) Respondent Characteristics

**Table 1. Characteristics of Diabetic Ulcer Patients**

Characteristics	n	%
Age <60 years	18	60.0
Age ≥60 years	12	40.0
Man	17	56.7
Woman	13	43.3
DM duration ≥5 years	21	70.0
DM duration <5 years	9	30.0

## 2) Knowledge Level Before and After Education

**Table 2. Patient Knowledge Level**

Level of Knowledge	Pretest n (%)	Posttest n (%)
Good	6 (20.0)	21 (70.0)
Enough	9 (30.0)	7 (23.3)
Not enough	15 (50.0)	2 (6,7)

## 3) Wound Care Practices Before and After Education

**Diabetic Ulcer Wound Care Practices**

Category	Pretest n (%)	Posttest n (%)
Good	7 (23.3)	22 (73.3)
Enough	10 (33.3)	6 (20.0)
Not enough	13 (43.4)	2 (6,7)

## 4) Analysis of the Influence of Complementary Therapy Education

**Table 4. Comparison of Average Knowledge and Practice Scores**

Variables	Pretest (Mean ± SD)	Posttest (Mean ± SD)	p- value
Knowledge	56.2 ± 10.4	82.5 ± 8.6	<0.001
Wound Care	58.1 ± 9.8	85.3 ± 7.9	<0.001

**b. Discussion**

The results of the study showed that complementary therapy education significantly increased the level of knowledge and practice of wound care in diabetic ulcer patients. The increase in knowledge scores after the intervention indicated that the education provided





Publish: Association of Indonesian Teachers and Lecturers

**International Journal of Health Sciences (IJHS)**Journal Homepage: <https://jurnal.agdosi.com/index.php/IJHS/index>

Volume 4 | Number 1 | March 2026 |



was able to improve patient's understanding of the importance of proper wound care and the safe use of complementary therapies.

In theory, knowledge is a predisposing factor that influences a person's health behavior. Effective health education can improve an individual's ability to make informed decisions regarding self-care. In the context of diabetic ulcers, good knowledge will encourage patients to practice standard wound care and prevent complications.

The results of this study align with previous research showing that wound care education and complementary therapies can improve patient compliance in treating diabetic wounds. Complementary therapies such as honey or certain herbal ingredients have the potential to accelerate wound healing when used correctly and hygienically.

Improved wound care practices following education demonstrate that patients not only understand the information provided but are also able to apply it in their daily lives. This underscores the importance of educational methods accompanied by demonstrations and direct support from healthcare professionals.

Thus, complementary therapy education can be used as a supporting strategy in primary health care to improve the quality of diabetic ulcer care.

#### 4. Conclusion And Suggestions

##### a. Conclusion

- 1) The level of knowledge and practice of wound care for diabetic ulcer patients before education was still relatively low.
- 2) Complementary therapy education significantly increases patient knowledge levels.
- 3) Diabetic ulcer wound care practices.
- 4) Structured, practice-based education effectively improves patient wound care.

##### b. Suggestion

- 1) For Community Health Centers:  
Complementary therapy education needs to be made a routine program for diabetes mellitus patients with diabetic ulcers.
- 2) For Health Workers:  
It is expected to actively provide education and ongoing wound care assistance.
- 3) For Further Researchers:  
It is recommended to use an experimental design with a control group and a larger sample size.

#### References

1. American Diabetes Association. (2022). *Standards of Medical Care in Diabetes*.
2. Andarmoyo, S. (2016). *Concept and Process of Wound Nursing*. Yogyakarta.





Publish: Association of Indonesian Teachers and Lecturers

**International Journal of Health Sciences (IJHS)**Journal Homepage: <https://jurnal.agdosi.com/index.php/IJHS/index>

Volume 4 | Number 1 | March 2026 |



3. Anurogo, D., Rahmat, RA, & Pannyiwi, R. (2025). Identification of Endophytic Fungi in Traditional Medicinal Plants in South Sulawesi. *JIMAD: Multidisciplinary Scientific Journal*, 3 (2), 77–82. <https://doi.org/10.59585/jimad.v3i1.862>
4. Oxytocin Massage Training for Families to Increase Breast Milk Production in Breastfeeding Mothers. *Sahabat Sosial: Journal of Community Service*, 3(4), 546–553. <https://doi.org/10.59585/sosisabdimas.v3i4.740>
5. BPOM RI. (2020). *Traditional Medicine Guidelines*.
6. Frykberg, R. G. (2016). Diabetic foot ulcers. *The Lancet*.
7. Hidayat, AA (2014). *Health Research Methodology*. Jakarta.
8. Ministry of Health of the Republic of Indonesia. (2021). *Guidelines for Controlling Diabetes Mellitus*.
9. Kartika, R. (2017). Diabetic wound care. *Journal of Nursing*.
10. Notoatmodjo, S. (2014). *Health Promotion*. Jakarta.
11. Ousey, K. (2018). Wound care management. *Journal of Wound Care*.
12. Potter, P. A., & Perry, A. G. (2017). *Fundamentals of Nursing*. Elsevier.
13. Pannyiwi, R., Azis, MNSA, & Rahmat, RA (2025). Analysis of Nurses' Obstacles in Implementing Therapeutic Communication in Healthcare Environments. *Barongko: Journal of Health Sciences*, 4 (1), 231–243. <https://doi.org/10.59585/bajik.v4i1.921>
14. Risnasari, N. (2019). Complementary therapy for diabetic wounds. *Journal of Health*.
15. Smeltzer, SC (2018). *Brunner & Suddarth's Textbook of Medical-Surgical Nursing*.
16. Sugiyono. (2019). *Quantitative Research Methods*. Bandung.
17. Sunanto, S., Pannyiwi, R., & Rahmat, RA (2025). The Effect of Night Shift Work on Nurse's Fatigue and Work Concentration in the Emergency Department. *International Journal of Health Sciences*, 3(4), 606–613. <https://doi.org/10.59585/ijhs.v3i4.867>
18. WHO. (2020). *Diabetes and Foot Care*.
19. Diabetic wound care education. *Indonesian Nursing Journal*.

