

Increasing Family Capacity in Caring for the Elderly with Diabetes Mellitus at Home through Community-Based Education and Mentoring

Trisna Vitaliati^{1,*}, Mahmud Ady Yuwanto²

¹Community Nursing Departement, Universitas dr Soebandi, Jember, Indonesia

²Leadership and Management in Nursing, Universitas dr Soebandi, Jember, Indonesia

*Corresponding Author; E-mail: trisna@uds.ac.id

Abstract

Seniors with Diabetes Mellitus need ongoing care to prevent complications and improve quality of life. However, limited access to health services and a lack of family understanding of diabetes mellitus care are often the main obstacles. This community service activity aims to enhance the capacity of families to care for elderly individuals with diabetes mellitus at home through community-based education and mentoring. Activities are carried out in the form of counseling, independent blood sugar monitoring training, preparing healthy menus, and managing medication and physical activity. The results of the activity showed an increase in family knowledge and skills in conducting independent care. It is hoped that this activity can be sustainable with the support of health cadres and village officials.

Keywords: Community, Diabetes Mellitus, Education, Elderly, Family

Introduction

Diabetes mellitus is one of the chronic diseases that are commonly found in the elderly and requires long-term treatment and is a big challenge in public health services. Complications due to diabetes mellitus, such as diabetic leg wounds, vision impairments, and cardiovascular disease can reduce the quality of life of the elderly (Ningrum et al., 2019). In addition, people with diabetes have a two to four times higher risk of developing heart disease than the non-diabetic population (American Diabetes Association, 2018). This condition shows the urgency of comprehensive handling at the family and community levels (Puspitasari et al., 2024).

The care of the elderly with diabetes mellitus is not only the responsibility of health workers, but also relies heavily on the participation of the family as the main caregiver at home. The role of the family is very important in supporting optimal management of diabetes mellitus at home, especially in the elderly who have physical and cognitive limitations (Nurhayati et al., 2020). The family plays a role in helping to regulate diet, monitor blood sugar levels, remind treatment, and early detection of complications. However, in reality, many families do not have adequate knowledge, skills, and confidence in providing appropriate care for the elderly with diabetes mellitus (Syatriani et al., 2023). Lack of information and lack of training cause care provided at home to often be up to standard, which can increase the risk of complications and

repeated hospitalizations (Gustawi et al., 2020). Therefore, a comprehensive family empowerment program, based on education and ongoing support, is needed to increase the capacity of families to care for the elderly with diabetes holistically. This program must involve health workers as facilitators, with a participatory approach so that families feel actively involved in the treatment process (Siregar et al., 2023).

Community-based interventions can be an effective solution, as they reach families directly in their neighborhoods, strengthen social networks, and encourage independence in elderly care. Continuous education and mentoring by health workers or trained cadres can improve family understanding of diabetes mellitus, ability in daily care, and strengthen positive attitudes towards their role as caregivers (Kartika et al., 2021). The community-based approach also supports the principles of primary health services and community empowerment. By involving the community, education and mentoring programs become more contextual, sustainable, and in accordance with local culture (Iregbu et al., 2025). This is in line with the direction of the health service transformation policy in Indonesia which emphasizes the importance of disease prevention and strengthening the role of families and communities in maintaining the health of their family members (Widhawati et al., 2024).

Seeing these problems, the community service team carried out educational activities and family assistance in caring for the elderly with diabetes mellitus at home. This activity aims to increase the capacity of families to be able to carry out treatment independently, safely, and effectively.

Identification of Problems

Treatment of the elderly with Diabetes Mellitus at home is often not optimal due to the family's low knowledge and skills in the management of the chronic disease. Many families do not understand how to monitor blood sugar, prepare an appropriate diet, and carry out wound care and physical activity regulation for the elderly. In addition, support from the surrounding environment, including cadres and health facilities, is still limited. This condition increases the risk of complications and decreases the quality of life of the elderly. Therefore, structured and community-based educational and mentoring interventions are needed to increase the capacity of families to care for the elderly with DM independently and sustainably.

Implementation Methodology

This community service activity was carried out on July 11, 2024 at the Jelbuk Village Office, which is one of the villages in the Jelbuk Health Center Working Area. Elderly people with diabetes mellitus and their families who attend this event are 30 people. Health education is carried out by lecture methods, interactive discussions and questions and answers. The material provided contains related to the introduction of diabetes mellitus, complications, daily care, diet, medication and physical activity. Furthermore, home visits were carried out for direct assistance to the family by providing family counseling and motivation for treatment. Evaluation and monitoring in this activity were carried out with pretest and posttest family knowledge, reflection on activities and input from the elderly and families, as well as assessment of family skills during home visits.

Results and Discussion

The results of the evaluation showed an increase in family knowledge scores from an average of 60 to 85 after the intervention, reflecting the success of the family education and empowerment programs in improving their understanding of the care of the elderly with diabetes mellitus. This improvement shows that the information and skills provided through the intervention are well received and understood by families. Better knowledge is a key component of managing diabetes at home, as it has a direct impact on decision-making, medication adherence, dietary management, and complication prevention (Yusnayanti et al., 2022). These results are in line with previous research that stated that family-based educational interventions are able to significantly increase health literacy and family involvement in the care of diabetic patients (Toar, 2020). Thus, structured and sustainable interventions need to be continuously developed as part of a community nursing service strategy that focuses on strengthening the capacity of family caregivers.

After the implementation of the intervention, most families began to show an active role in regularly monitoring blood sugar levels and adjusting the diet of the elderly according to recommendations. These behavioral changes are a positive indicator of the success of family education and empowerment programs, as they show increased awareness and involvement in diabetes management at home (Arini et al., 2022). Family involvement in dietary regulation and blood sugar monitoring is essential, as these two aspects are key pillars in diabetes control and complication prevention (Safaruddin & Permatasari, 2022). In addition, the elderly who

were previously less physically active began to show an increase in physical activity, such as light walking or elderly gymnastics, which contributed to symptom improvement and improved quality of life. Regular light physical activity has been shown to help improve insulin sensitivity, lower blood glucose levels, and improve metabolic function (American Diabetes Association, 2018). These findings underscore the importance of a holistic approach that involves education, emotional support, and active family involvement in the care of seniors with diabetes mellitus.

The intervention program showed positive results, although some challenges remained encountered in its implementation. One of the main obstacles faced is the limited number of blood sugar measuring devices (glucometers) owned by families, especially in areas with economic limitations. This tool is an important tool in self-management diabetes at home, so its absence can hinder routine and accurate monitoring of glucose levels. In addition, limited access to health facilities, both in terms of distance and availability of medical personnel, is another obstacle in supporting the sustainable management of diabetes in the elderly (Hakim, 2018). This condition often causes delays in consultation or treatment of complications that arise. Some studies also confirm that geographical and economic barriers greatly affect the effectiveness of chronic care, especially in vulnerable elderly populations that rely heavily on family and community support systems (Ferdina et al., 2025). Therefore, alternative strategies, such as community-based healthcare and medical device lending, are needed to bridge these limitations and ensure the sustainability of care.

Conclusion

This community service has succeeded in increasing the capacity of families to care for the elderly with diabetes mellitus at home. Community-based education and mentoring activities are effective in encouraging more optimal self-care. Continuous support from the health center and cadres is needed to maintain the sustainability of the program.

Acknowledgments

We would like to thank all parties who have supported this activity, including Dr. Soebandi University, Jelbuk Health Center, and the Jelbuk Village Government. Hopefully this activity will provide real benefits for the elderly and their families and can be continued in the future.

References

- American Diabetes Association. (2018). Standards of Medical Care in. *The Journal of Clinical Applied Research and Education*, 33(Supplement_1), 1–24.
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2797382&tool=pmcentrez&rendertype=abstract>
- Arini, H. N., Anggorowati, A., & Pujiastuti, R. S. E. (2022). Dukungan keluarga pada lansia dengan Diabetes Melitus Tipe II: Literature review. *NURSCOPE: Jurnal Penelitian Dan Pemikiran Ilmiah Keperawatan*, 7(2), 172. <https://doi.org/10.30659/nurscope.7.2.172-180>
- Ferdina, A. R., Yuana, W. T., Setyawati, B., & Pangestika, D. E. (2025). *Sociodemographic and Lifestyle Factors Associated with Undiagnosed Diabetes in Indonesia : Findings from the Basic Health Research Work of Riskesdas 2018*. 40(1), 53–60.
- Gustawi, I. A., Norviatin, D., & Alibasyah, R. W. (2020). Pengaruh Tingkat Pengetahuan tentang Diabetes Melitus (DM) Tipe 2 dan Sosial Ekonomi terhadap Gaya Hidup Penderita DM Tipe 2 di Puskesmas Jalan Kembang Kota C. *Tunas Medika Jurnal Kedokteran & Kesehatan*, 6(2), 103–107.
- Hakim, D. lukman. (2018). Hubungan Tingkat Sosial Ekonomi : Pendidikan, Penghasilan, dan Fasilitas dengan Pencegahan Komplikasi Kronis pada Penyandang Diabetes Melitus Tipe 2. *Jurnal Fakultas Ilmu Kesehatan*, 5(2), 12–13.
- Iregbu, S., Dawson, A. Z., Walker, R. J., & Egede, L. E. (2025). Effective Interventions for Homebound Older Adults With Type 2 Diabetes: A Systematic Review. *Current Diabetes Reports*, 25(1), 1–20. <https://doi.org/10.1007/s11892-025-01584-4>
- Kartika, A. W., Widyatuti, W., & Rekawati, E. (2021). The effectiveness of home-based nursing intervention in the elderly with recurrent diabetic foot ulcers: A case report. *Journal of Public Health Research*, 10(2), 227–231.
<https://doi.org/10.4081/jphr.2021.2162>
- Ningrum, T. P., Alfatih, H., & Siliapantur, H. O. (2019). Faktor-Faktor yang Memengaruhi Manajemen Diri Pasien DM Tipe 2. *Jurnal Keperawatan BSI*, 7(2), 114–126.
- Nurhayati, L., Syamsudin, & Khoiriyah, S. (2020). Peran Keluarga dalam Perawatan Diabetes Mellitus. *Jurnal Keperawatan*, 3(1), 3–5.
- Puspitasari, M. T., Nawangsari, H., Romli, L. Y., Andini, C. N. P., & Putrayana, M. (2024). Pengembangan Program Edukasi dan Pendampingan Keluarga dalam Perawatan Pasien Geriatri Untuk Meningkatkan Kualitas Hidup Lansia di Pedesaan. *Jurnal Abdi Medika*, 4(57), 44–52.

- Safaruddin, S., & Permatasari, H. (2022). Dukungan Keluarga Dengan Manajemen Diri Diabetes Pada Pasien Diabetes Melitus Tipe 2: Tinjauan Sistematis. *Jurnal Kesehatan Komunitas*, 8(2), 195–204. <https://doi.org/10.25311/keskom.vol8.iss2.1148>
- Siregar, R., Marbun, A. S., & Sinurat, L. R. (2023). Improving the Family Caregiver's Knowledge about Diet Diabetes Management through WhatsApp online Health Educations. *ARTERI : Jurnal Ilmu Kesehatan*, 4(3), 182–187. <https://doi.org/10.37148/arteri.v4i3.271>
- Syatriani, S., Nurleli, & Maidha, A. (2023). Hubungan Self Empowerment Dengan Kualitas Hidup Pada Penderita Diabetes Mellitus Tipe 2 Di Kabupaten Enrekang. *Jurnal Kesehatan*, 6(3), 293–303.
- Toar, J. M. (2020). Faktor Yang Mempengaruhi Literasi Kesehatan Pada Penderita Diabetes Melitus Tipe 2 Di Kota Manado. *Jurnal Keperawatan*, 8(2), 1–8. <https://doi.org/10.35790/jkp.v8i2.32327>
- Widhawati, R., Lubis, V. H., & Komalasari, O. (2024). Jurnal Peduli Masyarakat. *Jurnal Pengabdian Kepada Masyarakat (JPKM) - Aphelion*, 4(September), 171–178. <https://jurnal.globalhealthsciencegroup.com/index.php/JPM/article/view/2494>
- Yusnayani, C., Nazaruddin, & Noviati. (2022). Peningkatan Pengetahuan Keluarga tentang Pencegahan Luka Diabetes Melitus melalui Pendidikan Kesehatan di Wilayah Kerja Puskesmas Puuwatu. *Jurnal Pengabdian Masyarakat Bumi Anoa*, 1(2), 45–50. <https://doi.org/10.54883/jpmba.v1i2.674>