



Family Empowerment as Nursing Intervention for Families with Type 2 Diabetes Mellitus: A Literature Review

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Abstract

Background: This literature review is motivated by the empirical phenomenon that illustrates the increasing number of Type 2 Diabetes mellitus (T2DM) patients, which has an impact on family caregivers. The chronic condition of T2DM requires long-term care and monitoring to maintain blood glucose levels within normal limits. Family caregivers play a crucial role in assisting family members with T2DM by enhancing their roles and functions through family empowerment. **Purpose:** This literature review aimed to theoretically analyze the importance of family empowerment as a nursing intervention in improving the health status of family members with T2DM. **Methods:** The research method used in this study is a literature review, which includes an analysis of 9 articles obtained from three databases: ProQuest, Science Direct, and Google Scholar. The search keywords used for article retrieval included "family empowerment or caregiver empowerment," "diabetes mellitus," and "nursing intervention," using "AND" and "OR" as Boolean operators. **Results:** The literature review results show that family empowerment interventions for individuals with T2DM can be carried out by increasing knowledge, providing skills training, and enhancing family support during the care process. The success indicators for family empowerment interventions include increased self-efficacy, self-concept, self-care, and self-control for individuals with T2DM. **Conclusion:** The findings of this literature review demonstrate that family empowerment as a nursing intervention can yield positive outcomes for patients. Therefore, it should be considered as a reference for primary healthcare nurses to provide intervention not only to the clients but also to their families or caregivers.

Keywords: Family empowerment, T2DM, Nursing intervention

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I. BACKGROUND

Type 2 Diabetes Mellitus (T2DM) and its complications continue to be a

global concern. According to the International Diabetes Federation (IDF) in 2021, the global prevalence of DM was 537

million, with Indonesia reporting 19.5 million cases based on the 2018 Riskesdas data. In 2021, East Java had 929 thousand cases, while the city of Malang reported 22 thousand cases, distributed across 5 districts and 16 community health centers. The number of DM patients has been steadily increasing over the years, with 80-90% of cases being Type 2 Diabetes Mellitus (T2DM) (Gayatri *et al.*, 2022). Complications of Type 2 Diabetes Mellitus (T2DM) include conditions such as heart attacks, strokes, kidney failure, blindness, and amputations (Hendrawati *et al.*, 2022b).

The treatment of Type 2 Diabetes Mellitus (T2DM) has traditionally been centered around the patient and healthcare services (Salman *et al.*, 2019). Families are one of the essential units in the efforts to care for chronic diseases in the community (Wulandari *et al.*, 2021). The research results indicate that the majority of patients with the chronic disease Diabetes Mellitus receive care at home from family caregivers (Kemenkes RI, 2022). Family caregivers are family members who are voluntarily designated by other family members to provide unpaid care to a sick family member. On one hand, this presents an opportunity for healthcare provision by family caregivers, but on the other hand, it

can lead to stress, distress, and burden for family caregivers (Ndou *et al.*, 2022). The negative impact of the caregiver role in providing care is often attributed to a lack of information and skills in caregiving. Family caregivers who lack the necessary skills may experience physical and psychological problems. Commonly reported complaints include headaches, dizziness, sleep disturbances, fatigue, stress, and depression (Rondhianto *et al.*, 2022).

Type 2 Diabetes Mellitus (T2DM) is a chronic disease that requires long-term care and monitoring to stabilize blood sugar levels, prevent complications, and premature death (Wu *et al.*, 2014). The comprehensive care of chronic diabetes involves the collaboration of healthcare components, community support, and family involvement (Rian *et al.*, 2017). Family plays a crucial role in the healthcare efforts for family members with chronic diabetes mellitus. Research findings indicate that families with good knowledge, attitudes, and skills in caring for members with T2DM can significantly improve the health status (Zhao *et al.*, 2022). Empowering families is essential in preventing complications for T2DM patients.

Empowering families is a crucial intervention strategy for nurses as a vital element in health promotion programs, providing information on self-care for T2DM patients through family strengthening interventions that require the participation of their family members, including spouses and children (Rondhianto et al., 2022). This empowerment aims to enable patients to perform self-care at home and improve the quality of life for individuals with Diabetes Mellitus. However, in reality, not all families receive effective assistance in disease management. Nevertheless, many families face limitations in providing support, which can have physical and mental health impacts. This highlights the need for collaboration between patients, families, and healthcare professionals to plan appropriate self-care management for patients (Pramita *et al.*, 2021).

2. METHODS

A literature review provides a framework related to both new findings and prior research to identify indications of progress in a study's results through comprehensive research and the interpretation of literature related to a specific topic. It involves identifying research questions, searching for and

analyzing relevant literature systematically (Muhammad et al., 2016).

The method used in the literature review involves a systematic approach to analyze data through a simplified approach. The review primarily focuses on articles that employ a Randomized Controlled Trials (RCT) research design, encompassing experimental research findings in both English and Indonesian languages. The selected articles are typically original empirical research articles containing actual observation or experiment results and include sections such as an abstract, introduction, methodology, results, and discussion.

Article search strategies involve using the available databases in the e-resources of the National Library of the Republic of Indonesia, including ProQuest, ScienceDirect, Garuda, and Google Scholar. The search keywords employed include 'family empowerment or caregiver empowerment,' 'diabetes mellitus,' and 'nursing intervention,' utilizing 'AND' and 'OR' as Boolean operators. The use of Boolean operators 'AND' and 'OR' is intended to combine different concepts and aspects as search keywords, thereby narrowing down the documents to be retrieved.

Inclusion criteria for determining the literature review material include: 1) Articles with a Randomized Controlled Trials (RCT) research design, 2) Experimental research, 3) Original articles from primary sources, 4) Articles published from 2019 to 2023, 5) Full-text articles in English or Indonesian, 6) Respondents in the articles are families with Type 2 DM. Exclusion criteria are: 1) Articles outside the scope of family empowerment as a nursing intervention in managing Diabetes Mellitus, 2) Articles published more than 5 years ago or before 2019, 3) Articles containing only the abstract or partial text, 4) Literature review articles. Maintaining the quality of the literature review means the author refers to ethical considerations, include avoiding duplication publication, avoiding plagiarism, transparency, and ensuring accuracy.

The article search was conducted using several sources from the databases available in the e-library and e-resources of the National Library of the Republic of Indonesia, including ProQuest with 428 articles, ScienceDirect with 110 articles, and Google Scholar with 47 articles. The total number of articles initially found according to the predefined keywords was 585 articles. However, from all these

articles, some did not meet the criteria for this research, including articles that did not use RCT and experimental designs, articles discussing topics other than family empowerment as a nursing intervention in managing Diabetes mellitus in families, articles that were not full-text, and articles not in the English or Indonesian language. Therefore, 473 articles were excluded. After conducting critical appraisal, 9 articles meeting the inclusion criteria were identified. Of these 9 articles, 4 were in English, and 5 were in the Indonesian language. The data analysis used in this literature review was the simplified approach method. The simplified approach involves compiling findings from each article and simplifying these findings (Snyder, 2019).

The stages involved in the Simplified Approach analysis include summarizing each literature, conducting critical appraisal simultaneously to assess the strengths and weaknesses of the literature, as well as examining the relationships between each literature. It also involves identifying themes from the findings of each study within the literature, where the generated themes should reflect the research questions of the literature review is family empowerment nursing interventions for T2DM patients.

The theme development process includes merging all similar themes, discussing the strengths of the findings by considering the research results with stronger evidence or weaker evidence, conducting critical appraisal at the initial stage using the Joanna Briggs Institute (JBI). Naming each theme is done by considering appropriate naming for each theme, based on an understanding of the literature, so that the theme names closely represent the findings from the literature research. Comparing and revisiting each theme involves checking two aspects: whether each theme has been appropriately named and whether the collection of themes forms one accurate

theme. A close examination of the similarities and differences between each theme is conducted, and an in-depth analysis considers how each theme can be interrelated.

Reviewing the critical appraisal of each literature helps evaluate whether the existing themes can answer the research questions. Critical appraisal uses the Joanna Briggs Institute (JBI) Critical Appraisal for Experimental Studies instrument to evaluate and analyze the reviewed articles, especially to assess the results, validity, and relevance of articles with Randomized Controlled Trials (RCT) and other experimental research designs (Briggs, 2017).

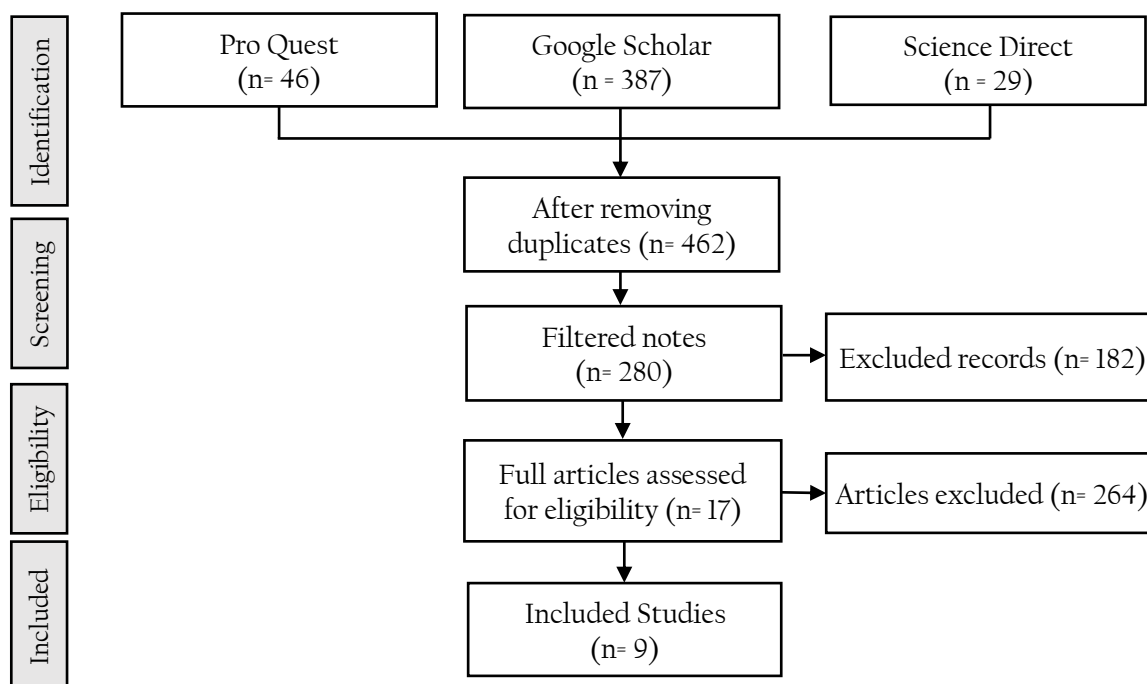


Figure 1. Flow chart of literature searches and screening results

3. RESULTS

The critical appraisal was conducted using the JBI Critical Appraisal for Experimental Studies, and there were a

total of 9 articles that met the inclusion criteria. The discussion of each article can be found in Table 1.

Table 1. Articles results (continue to page 273)

No	Author	Intervention	Method/design	Sample	Results
1	Fadil Al Mahdi, Candra Kusuma Negara, Abd Basid; The Effect of Family Empowerment in Nursing Implementation Toward Self-Efficacy among Patients with type 2 Diabetes Mellitus	Family empowerment is provided by nurses in the diabetes foot clinic	A pre-experimental research with a pretest and posttest design without a control group.	40 respondents	The empowerment of families with Type 2 Diabetes Mellitus goes beyond knowledge and attitudes; it extends to the level of the ability to lead a healthy and productive life with family members who have Type 2 Diabetes Mellitus. It involves patients' understanding of disease management, their capacity to identify barriers to blood sugar control, and engaging the family in providing interventions to Type 2 DM patients, including emotional and psychological support.
2	Rondhianto, Nursalam, Kusnanto Kusananto, Soenarnatalina Melaniani; The effect of family caregiver empowerment interventions on family caregiver capabilities in self-management of type 2 diabetes mellitus in Indonesia	Empowerment interventions are adjusted to the family's conditions and the caregiver's abilities in stages. This involves providing education, training, and guidance. Education and training for adults as well as contextual learning are carried out to increase knowledge about disease and disease management skills. Coaching is carried out through monitoring and evaluation. Monitoring and evaluation is carried out to improve inappropriate self-management, provide support and access to resources to increase self-confidence and competence, and ensure quality care for DM Type-2	An experimental research with a randomized control group pre-test post-test design.	60 respondents by simple random sampling	Family members are the primary caregivers for individuals with Type 2 Diabetes Mellitus (DMT2). Enhancing the capabilities of family caregivers through empowerment is crucial. Empowerment actions include providing information about disease management, training in technical skills and problem-solving, continuous guidance and consultation during the care and follow-up period, and offering support

No	Author	Intervention	Method/design	Sample	Results
3	Iskim Luthfa, Iwan Ardian; Effects of Family Empowerment on Increasing Family Support in Patients with Type-2 Diabetes Mellitus	The implementation of the family empowerment strategy adopts a nursing process approach through four home visits with a one-week interval between each visit (each home visit is allocated for 120 minutes). The intervention is conducted following the prepared LEU protocol. The implementation of the intervention materials adheres to the standard content outlined in the booklet (guidebook) on Diabetes Mellitus and its treatment	A quasi-experimental design with a non-equivalent control group	46 respondents were recruited using a consecutive sampling technique	improving communication skills, problem-solving skills, conflict resolution skills, and self-care management skills
4	Fereshteh Ghaljaei, Moeinoddin Motamedi, Najmeh Saberi and Azizollah ArbabiSarjou; The Effect of the Family-Centered Empowerment Model on Family Functioning in Type 2 Diabetic Children	Caregivers of children with Type 2 diabetes are treated at the Hazrat Ali Asghar Hospital diabetes clinic	Quasi-Experimental Study	80 respondents primary caregivers	Empowering families through a couples' communication model involves engaging family members in a training program, which can enhance the quality of life for patients and improve treatment adherence.
5	Rianti Pramita, Siti Saidah Nasution, Jenny Marlindawani Purba; Intervensi pemberdayaan berbasis keluarga terhadap peningkatan perilaku perawatan diri pasien dengan diabetes mellitus tipe 2	The family empowerment intervention, which includes distributing the SDSCA questionnaire combined with the use of a booklet, is conducted in 4 sessions over 4 weeks with four meetings in total. Each session lasts approximately 45-60 minutes, and one intervention session is conducted per week	Quantitative research with a Quasi-Experimental Non-Equivalent Control Group Pretest-Posttest Design.	70 respondents	Family empowerment has an impact on self-care in patients with Type 2 Diabetes Mellitus (DMT2). Empowering the family can change the attitudes and behaviors of the patient by enabling the family to provide care at home. This leads to improved self-care quality in patients with DMT2 and enhances the patient's health status continuously.
6	Jintana Attaprajong, Yupa Jewpattanakul, Kerada Krainuwut; Effects of family empowerment program on family members' food	The Family Empowerment program includes empowerment in preparing a diet menu for Type 2 Diabetes Mellitus (T2DM).	Quasy-experimental research	33 people in each group	Empowerment nurtures self-confidence and resilience. Through family empowerment programs, families can change their behaviors in preparing a diet menu and can effectively control the

No	Author	Intervention	Method/design	Sample	Results
		preparing behaviors for elderly type 2 diabetic patients			condition of Type 2 Diabetes Mellitus (T2DM) patients.
7	Arina Qona'ah, Laily Hidayati, Rifky Octavia Pradipta, Anastasia Pangestu Mei Tyas; Upaya Peningkatan Self-Management Pasien Diabetes Melitus Tipe 2 Melalui Pemberdayaan Keluarga di Desa Sukolilo Kecamatan Sukodadi Kabupaten Lamongan	Empowerment is carried out by providing education and counseling to 27 families with Type 2 Diabetes Mellitus (T2DM) through home visits and providing services at the Non-Communicable Disease (NCD) Posyandu.	Quasy experimental	Each of the 27 respondents were diabetes patients	Empowering families can change the attitudes and behaviors of patients by enabling the family to provide self-care assistance for Type 2 Diabetes Mellitus (T2DM) patients. This improves the quality of self-care for T2DM patients and enhances the patient's health status continuously.
8	Gandes Widya Hendrawati, Agung Eko Hartanto, Yustina Purwaningsih; Pemberdayaan Keluarga Dalam Perawatan Penderita Diabetes Melitus Tipe 2 Di Wilayah Kerja Puskesmas Ngrandu Kabupaten Ponorogo	The material presented covers the concept of T2DM, prevention, diet, exercise, and wound care. After receiving education on caring for T2DM patients at home, practical sessions are conducted by the implementing team and attended by the family. Assessment of the family's knowledge in caring for T2DM patients is carried out before and after the intervention using a questionnaire.	Quasy-Experimental Study	10 families with DM	The community service program through family empowerment provides education and training for home care of Type 2 Diabetes Mellitus (T2DM) patients, which is highly beneficial for improving health and preventing complications.
9	Rohanah, Suyatini; Pengaruh Pemberdayaan Keluarga Terhadap Kualitas Hidup Lansia dengan DM tipe 2 Di Kelurahan Karangsari Tangerang Tahun 2017	They used a questionnaire as a measuring tool to assess the quality of life of the elderly before and after family empowerment and to determine the impact of family empowerment on the quality of life of elderly individuals with Type 2 Diabetes Mellitus (T2DM).	Quasy Eksperimental pre-post test	30 respondents	Family empowerment has a significant impact on the quality of life of elderly individuals with Type 2 Diabetes Mellitus (T2DM).

4. DISCUSSION

Nine articles were found discussing family empowerment in the care of type 2 diabetes mellitus (T2DM) patients. Out of

the nine analyzed articles, five were in Indonesian and four were in English. These articles originated from Indonesia, Iran, and Thailand. The types of articles

analyzed were quasi-experimental and qualitative with an action research approach. The study samples in all research were families with T2DM patients. Researchers found three important themes from several studies which include; stages in family empowerment, socio-demographic characteristics of families, and effectiveness of family empowerment. The results of the family empowerment analysis encompassed family resilience, family functions, family roles and responsibilities, family resources, family problem management and stress, family interaction and communication, and family developmental stages (Suparyanto dan Rosad, 2020). The community empowerment strategy is developed and manifested in the form of advocacy, communication, education, and a platform for integrated strengthening of family functions. This platform is created and implemented for families and communities, by families and communities (Syamsuadi & Zainuddin, 2018). The empowerment intervention carried out with families involves being a good listener, showing compassion, avoiding judgment, collaborating, motivating the emergence of family strengths, involving the family in the process of change and healing from the disease (Hendrawati et al., 2022a).

Commonly used family empowerment models in several studies involve designing empowerment programs for caring for patients with T2DM in four steps (Dewi et al., 2022). These steps include identifying perceived threats, introducing the importance of the family's role in patient care, the significance of knowledge and skills in caregiving, and support for treatment. Building self-efficacy involves building confidence in enhancing knowledge, skills, and adherence related to treatment. Developing self-concept means having faith in preparing oneself to care for the patient. The evaluation process involves evaluating the overall success in patient care.

Family empowerment is a nursing intervention used by nurses to assist families in caring for and providing support to family members with Type 2 Diabetes Mellitus (T2DM). It is considered the most crucial element for the success of treatment (Al Mahdi et al., 2020). Nurses, as healthcare providers, should not only assess the characteristics of respondents, including their knowledge, attitudes, and healthcare skills, but also examine the characteristics of the family and culture that can influence health assessments (Rondhianto et al., 2022). Nursing interventions are not only provided to the

individuals who are ill but also to the families who care for them (Dewi et al., 2022).

The empowerment of families and self-care in Type 2 Diabetes Mellitus (T2DM) treatment is closely related. One research result indicates that the implementation of family empowerment interventions has a significant impact on improving self-care in T2DM patients (Rohanah & Suyatini, 2018). The results of this research are also relevant to studies conducted by Luthfa and Ardian (2019), which show that family empowerment interventions are effective as a companion to the care of T2DM patients in health management programs, especially in terms of empowering families in disease control, preventing serious complications due to poor control, strengthening the bonds among family members, and changing the self-care behaviors of T2DM patients. Ardian (2014) proposed family empowerment as a nursing intervention by presenting an intervention model based on three main components of empowerment derived from scientific observations and literature synthesis. The first component is the ideology of empowerment, which explains that all individuals and families believe they have strengths, capabilities, and the capacity to become competent. The

second component, participation in experiences, is the process of building strengths from existing weaknesses correctly, and this component is part of the family intervention model. The third component, the results of empowerment, consists of reinforced or learned behaviors, assessments of improved oversight such as self-concept, and intrinsic motivation.

5. WEAKNESSES

The literature review in this study examines numerous research involving family empowerment in improving self-management in Type 2 Diabetes Mellitus (DMT2) patients at home with Randomized Controlled Trial (RCT) designs. However, some limitations are still encountered. Heterogeneous methods, strategies, populations, and outcomes make it difficult to compare research results in each study. Although we conducted a systematic review, there may be some studies related to family empowerment for diabetes self-management that remained unidentified and excluded because they did not depict family involvement or did not report specific DMT2 effects. This study is limited by publication bias because positive associations tend to be published more frequently than negative ones (no

association). Furthermore, presenting results in narrative form has limitations compared to meta-analysis because we do not have access to primary data.

6. CONCLUSION

Family empowerment plays a crucial role in the self-care of T2DM patients. Empowering the family can change the attitudes and behaviors of patients by enabling the family to provide self-care assistance to T2DM patients, thus improving the quality of self-care and the overall health status of these patients. The results of this literature review are expected to provide input for nursing services, nursing education, and for the families of patients. It is hoped that this information will enhance nursing interventions by families and nurses when providing care, particularly to T2DM patients, in following dietary guidelines and medication administration. This, in turn, can improve the quality of nursing care and the overall quality of care provided to T2DM patients.

AUTHOR CONTRIBUTIONS

Substantial contributions to conceptualization, data curation, analysis: Setyoadi, Lukas Fransiskus Saverius Seda, Puji Lestari, Erdy Irwando, Nunik Nurani. Supervision Writing - review & editing:

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Manuscript revisions: Setyoadi.

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CONFLICT OF INTEREST

The authors declare no conflict of interest for this publication.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

- Al Mahdi, F., Negara, C. K., & Basid, A. (2020). The Effect of Family Empowerment in Nursing Implementation Toward Self-Efficacy among Patients with Diabetes Mellitus. *Indonesian Nursing Journal of Education and Clinic (INJEC)*, 5(2), 141. <https://doi.org/10.24990/injec.v5i2.303>
- Ardian, I. (2014). Pemberdayaan Keluarga

- (Family Empowerment) Sebagai Intervensi Keperawatan Keluarga. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.
- Attaprajong, J., Jewpattanakul, Y., & Krainuwut, K. (2020). Effects of family members' empowerment program on family members' food preparing behaviors for elderly diabetic patients. *Chulalongkorn Medical Journal*, 64 (1), 087-094. https://doi.nrct.go.th/ListDoi/Download/495463/d41d8cd98f00b204e9800998ecf8427e?Resolve_Doi=10.14456/clmj.2020.13
- Briggs, J. (2017). Checklist for Systematic Reviews and Research Syntheses. The Joanna Briggs Institute, 7. https://jbi.global/sites/default/files/2019-05/JBI_Critical_Appraisal-Checklist_for_Systematic_Reviews2017_0.pdf
- Dewi, I. K., Dedi, B., Safarina, L., Inayah, I., & Murtiningsih. (2022). Rancangan Model Pemberdayaan Keluarga Pasien Terhadap Perawatan Diri (Self Care) Pasien Dm Tipe 2. *Jurnal Keperawatan Silampari*, 6(4), 488–496. <https://doi.org/10.31004/cdj.v4i4.196>
- Gayatri, R. W., Kistianita, A. N., & dkk. (2022). Diabetes Mellitus Dalam Era 4 . 0. *Jurnal Endurance* (Vol. 6, Issue 1).
- Ghaljaei, F., Motamedi, M., Saberi, N., & ArbabiSarjou, A. (2022). The Effect of the Family-Centered Empowerment Model on Family Functioning in Type 1 Diabetic Children: A Quasi-Experimental Study. *Medical-Surgical Nursing Journal*, 11(2), 1–7. <https://doi.org/10.5812/msnj-134004>
- Hendrawati, G. W., Hartanto, A. E., Purwaningsih, Y., Empowerment, T., Family, O., Care, I., Diabetes, O., Patients, M., The, I., Area, W., Public, N., & Regency, P. (2022a). Pemberdayaan Keluarga Dalam Perawatan Penderita Diabetes Melitus Di Wilayah Kerja Puskesmas Ngrandu. 6(2), 63–67. <https://ojs.poltekkes-malang.ac.id/index.php/idaman/article/view/3377>
- Kemenkes RI. (2022). Infodatin Kemenkes 2022. 13(1), 104–116. https://e-renggar.kemkes.go.id/file_performance/1-465921-01-3tahunan-056.pdf

- Luthfa, I., & Ardian, I. (2019). Effects of Family Empowerment on Increasing Family Support in Patients with Type-2 Diabetes Mellitus. 9(1), 58–68.
<https://doi.org/10.14710/nmjn.v9i1.22501>
- Nazar, C. M., Bojerenu, M. M., Safdar, M., & Marwat, J. (2015). Effectiveness of diabetes education and awareness of diabetes mellitus in combating diabetes in the United Kingdom; a literature review. *Journal of nephro pharmacology*, 5(2), 110–115.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5297564/>
- Ndou, M., Raliphaswa, N. S., & Tshililo, A. R. (2022). Challenges of Caregivers Regarding Homecare to Type 1 Diabetic Children in Vhembe District, South Africa: A Qualitative Study Report. *Nursing reports (Pavia, Italy)*, 12(4), 884–893.
<https://doi.org/10.3390/nursrep12040085>
- Pramita, R., Nasution, S. S., Purba, J., & Marlinda. (2021). Intervensi Pemberdayaan Berbasis Keluarga Terhadap Peningkatan Perilaku Perawatan Diri Pasien Dengan Diabetes Mellitus Tipe 2. *Journal of Telenursing (JOTING)*, 3(2), 784–796.
<https://doi.org/10.31539/joting.v3i2.2389>
- Qona'ah, A., Hidayati, L., Pradipta, R. O., & Tyas, A. P. M. . (2022). Upaya Peningkatan Self-Management Pasien Diabetes Melitus Melalui Pemberdayaan Keluarga di Desa Sukolilo Kecamatan Sukodadi Kabupaten Lamongan. *Jurnal Inovasi Pengabdian Dan Pemberdayaan Masyarakat*, 2(2), 231–238.
<https://doi.org/10.54082/jippm.42>
- Rian, *, Pamungkas, A., Chamroonsawasdi, K., & Vatanasomcoon, P. (2017). A Systematic Review: Family Support Integrated To Diabetes Self-Management among Glycemic Uncontrolled Type II DM Patients. *Magonlinelibrary.Com*, May, 1–29.
<https://doi.org/10.20944/preprints201705.0104.v1>
- Rohanah, & Suyatini. (2018). Kualitas Hidup Lansia Di Kelurahan Karang Sari Tangerang Tahun 2017. *Jurnal Medikes*, 5 (November).
<https://doi.org/10.36743/medikes.v5i2.57>

- Rondhianto, R., Nursalam, N., Kusnanto, K., & Melaniani, S. (2022). Efecto de las intervenciones de empoderamiento de los cuidadores familiares sobre las capacidades de estos para gestionar la diabetes mellitus tipo 2 en Indonesia. *Enfermería Clínica (English Edition)*, 32(6), 385–395. <https://doi.org/10.1016/j.enfcle.2022.01.005>
- Salman, R. A., Alsayyad, A. S., & Ludwig, C. (2019). Type 2 diabetes and healthcare resource utilisation in the Kingdom of Bahrain. *BMC Health Services Research*, 19(1), 1–10. <https://doi.org/10.1186/s12913-019-4795-5>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104(March), 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Suparyanto dan Rosad. (2020). Pemberdayaan Keluarga. *Suparyanto Dan Rosad*, 5(3), 248–253.
- Syamsuadi, A., & Zainuddin, M. (2018). Fungsi Kelembagaan Sosial Di Kelurahan Binawidya Kota Pekanbaru. 2(2), 98–109.
- Wager, E., & Wiffen, P. J. (2011). Ethical issues in preparing and publishing systematic reviews. *Journal of Evidence-Based Medicine*, 4(2), 130–134. <https://doi.org/10.1111/j.1756-5391.2011.01122.x>
- Wu, Y., Ding, Y., Tanaka, Y., & Zhang, W. (2014). Risk factors contributing to type 2 diabetes and recent advances in the treatment and prevention. *International Journal of Medical Sciences*, 11(11), 1185–1200. <https://doi.org/10.7150/ijms.10001>
- Wulandari, I., Kusnanto, K., Wibisono, S., & Haryani, A. (2021). Family Support in Caring for Diabetes Mellitus Patient : Patient's Perspective. 9, 199–205. <https://oamjms.eu/index.php/mjms/article/view/5778>
- Zhao, Q., Yu, X., Feng, Y., Zhao, Y., Lu, J., Guo, Y., & Li, X. (2022). Patients' and family members' knowledge, attitudes and perceived family support for SMBG in type 2 diabetes: a fuzzy-set qualitative comparative analysis. *BMJ Open*, 12(12), 1–10. <https://doi.org/10.1136/bmjopen-2022-063587>