



Booklet Efforts to Improve Health Cadres' Knowledge about the Quality of Life of People with Diabetes Mellitus through Booklets

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Abstract

This community service aimed to enhance the knowledge of health cadres on improving the quality of life of diabetes mellitus (DM) patients in the Kratonan Community Health Center area, Surakarta City, based on research identifying poor quality of life among some DM patients. The activities involved 16 health cadres and were conducted in three stages: planning, implementation, and evaluation. During implementation, cadres received educational booklets covering DM risk factors, complications, prevention efforts, and quality of life improvement, followed by pre-test, material presentation, discussion, and post-test sessions. Results showed an increase in average knowledge scores from 6.31 (pre-test) to 10.06 (post-test), indicating improved understanding among cadres. This intervention highlights the important role of health cadres in providing health information and psychological support to DM patients. Ongoing monitoring and evaluation of behavior changes linked to gained knowledge are recommended.

1. Introduction

Diabetes mellitus (DM) is a severe and complex metabolic disease (Ong et al., 2023). DM patients must pay attention to and comply with diabetes self-management (Galaviz et al., 2018). If DM patients have poor self-management, it will increase the risk of developing DM complications such as microvascular (neuropathy, nephropathy, and retinopathy) and macrovascular (heart, stroke, and vascular disease) complications (Priscanada & Musta'in, 2019). This can lead to psychosocial problems that can develop into depression or other psychological disorders associated with poor self-care among DM patients, mortality,

physical and social limitations, increased health costs, and loss of productivity, which will directly impact the quality of life of DM patients (Lestari et al., 2024; Pouwer et al., 2020).

Quality of life is defined as a conceptual or operational measure encompassing well-being, quality of survival, and the ability to perform daily activities independently. It is often used in acute or chronic disease situations to assess the impact of disease and treatment on patients. (Runtuwarow et al., 2020). One effort that can be made to improve the quality of life of DM patients is to increase the role of health cadres (Indriyawati et al., 2022).

Health cadres are the frontline workers closest to the community and understand its characteristics. (Susanto et al., 2017). Health cadres' knowledge of self-management information for people with DM and efforts to minimize complications in people with DM to improve their quality of life (Andoyo et al., 2022). DM management includes metabolic control, physical activity, diet, and pharmacotherapy. (Gusti et al., 2024). Previous studies have also shown that health information provided by health cadres influences the level of knowledge of DM patients regarding DM management (Noya et al., 2021). In addition, health cadres are also able to provide psychological support to improve the quality of life of DM patients (Umam et al., 2020; Werdani et al., 2024).

Preliminary studies conducted by the community service team and health cadres in Kratonan, Surakarta City, found that health cadres are still unfamiliar with psychological aspects related to the quality of life of people with diabetes. Therefore, this community service activity was carried out to increase the knowledge of health cadres in Kratonan, Surakarta City, and improve the quality of life of people with diabetes.

2. Methods of Implementation

This community service was carried out after the author conducted research related to the Relationship between Self-Efficacy and Self-Care Management with the Quality of Life of DM Patients in the Working Area of the Kratonan Community Health Center, Surakarta City (Puspita & Wijayanti, 2024). Based on the results of this study, it was found that there are still DM patients who have a poor quality of life. Furthermore, the author provided knowledge in the form of efforts to improve the quality of life of DM patients to health cadres in Kratonan, Surakarta City. The questions used in the pre-test and post-test consisted of 12

items. The implementation of the community service can be divided into three stages, namely:

2.1 Planning Stage

The author planned the community service activities in June 2024, which would be attended by 16 health cadres in the working area of the Kratonan Community Health Center, Surakarta.

2.2 Implementation Stage

The community service activities were carried out as planned. The booklet provided to the cadres contained information on DM risk factors, the status of complications in DM patients, efforts to prevent complications in DM patients, and efforts to improve the quality of life of DM patients. The counseling was divided into four sessions, namely: 1. Pre-test. A test was conducted before the counseling session to measure and determine the initial knowledge possessed by health cadres regarding the material presented. 2. Presentation of material. The material related to efforts to improve the quality of life of DM patients will be presented by competent presenters. 3. Discussion. The discussion session creates two-way communication between health cadres and presenters so that cadres can ask questions if they do not fully understand the material. 4. Post-test. A final test is used as a benchmark to determine whether the material provided has increased the knowledge of health cadres, so that it can be used as a reference for the program's success.

2.3 The evaluation stage

This step is done by conducting a descriptive analysis based on the pre-test and post-test results.

3. Results and Discussion

The implementation of this activity involved the active participation of health cadres consisting of women from the Family Empowerment and Welfare Organization (PKK) in Kratonan, Surakarta City. There were 16 participants in this activity, all of whom were health cadres. The counseling in this activity covered knowledge related to DM risk factors, the

status of complications in DM patients, efforts to prevent complications in DM patients, and efforts to improve the quality of life of DM patients. The material was delivered using a lecture method, using a booklet compiled by the author entitled “Efforts to Improve the Quality of Life of DM Patients”.

The booklet covers self-management for people with diabetes, such as diet and physical activity. It also contains information on the importance of psychological support provided by health cadres to improve the quality of life of people with diabetes. After the educational session, the activity continued with a lively discussion led by the health cadres. The activity concluded with a post-test. Below are pictures of the booklet and the discussion activity.



Figure 1. Discussion with Health Cadres



Figure 2. Booklet entitled “Efforts to Improve the Quality of Life of People with Diabetes Mellitus.”

The results of the health cadres' knowledge level are as follows:

Table 1. Level of Knowledge of Cadres

Group	n	Mean	SD
<i>Pre-test</i>	16	6,31	1,352
<i>Post-test</i>	16	10,06	1,731

Source: Primary Data, 2024

Table 1 shows a difference between the average pre-test and post-test scores of the 16 health cadres. The average pre-test score before the counseling session was 6.31; after the session, the average score increased to 10.06. Based on these results, there was a difference between the pre-test and post-test scores given during the counseling session, so it can be concluded that there was a change in the knowledge of the health cadres.

The results show that the counseling provided was on target, thereby increasing the knowledge of health cadres as measured by pre-test and post-test activities in Kratonan, Surakarta City. This could be due to new information received during the counseling activities that could replace or supplement the information they already had (Janah et al., 2019). In addition, it could be due to the activity, interest, and attention of health cadres

during the counseling process (Widyastuti & Wulandari, 2024). Another factor that supports the success of this activity is the effectiveness of the booklet media used. This is in line with previous studies showing that booklet media provide readers with the opportunity to understand the content (Puspitaningrum et al., 2017).

During the discussion, several respondents stated that they had only recently learned that the importance of DM management is not limited to minimizing complications but is also related to the quality of life for DM patients. Several studies have also shown that DM management has a significant relationship with the quality of life of DM patients (Rosita et al., 2023; Saragih et al., 2022). Essentially, the more effective DM management is, the more it will minimize the chances of hospitalization and complications and improve the quality of life of DM patients because it can control low HbA1c and fasting blood glucose levels (Luther et al., 2023). DM management refers to behaviors such as diet, avoiding high-fat foods, increasing exercise, self-monitoring of glucose, and foot care (Awadh et al., 2024). Repeated and strict application of DM management can have adverse effects on the psychological aspects of DM patients (Adu et al., 2019).

Poor psychological aspects in DM patients can potentially cause stress due to the DM disease they are experiencing (Fahamsya et al., 2022). Based on this information, respondents stated that they had changed their knowledge regarding the importance of psychological aspects in DM patients. Previous studies have also shown a relationship between the psychological support of health cadres and the quality of life of people with DM (Syafitri et al., 2024). Therefore, it is hoped that the changes in the respondents' knowledge can be used to implement health cadres behavior.

Health cadres are also expected to be able to educate the families of DM patients and provide psychological support to DM patients. Several previous studies have shown that there is a relationship between family support and the quality of life of DM patients (Jais et al., 2021; Meidikayanti & Wahyuni, 2017). In general, psychological support from the surrounding environment can provide peace of mind to DM patients so that they do not have excessive thoughts about their health status and make DM management a mental burden, thereby increasing their confidence and self-efficacy about a better quality of life (Arifah et al., 2023).

Overall, this community service activity effectively increased respondents' knowledge regarding efforts to improve the quality of life for people with diabetes. However, further monitoring and evaluation of health cadres is needed to determine whether they have implemented the knowledge they have gained in behavior and its impact on people with diabetes in Kratonan, Surakarta City.

4. Conclusion

There was an increase in respondents' knowledge regarding efforts to improve the quality of life of DM patients after health education was provided on DM risk factors, the status of complications in DM patients, and efforts to prevent complications in DM patients to health cadres using booklets in Kratonan, Surakarta City. Further monitoring and evaluation of health cadres is needed to determine whether they have implemented their knowledge so that people with DM in Kratonan, Surakarta City, have a better quality of life because they receive psychological support from their surroundings, especially health cadres.

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6. References

- Adu, M. D., Malabu, U. H., Malau-Aduli, A. E. O., & Malau-Aduli, B. S. (2019). Enablers and barriers to effective diabetes self-management: A multi-national investigation. *PLOS ONE*, 14(6), e0217771. <https://doi.org/10.1371/journal.pone.0217771>
- Andoyo, R., Nurhasanah, S., Huda, S., & Irza, D. (2022). Pemanfaatan Teknologi Virtual Meeting Dalam Upaya Peningkatan Efektifitas Kegiatan Penyuluhan Kesehatan: Edukasi Pencegahan Stunting Dengan Pangan Tinggi Protein. *JMM (Jurnal Masyarakat Mandiri)*, 6(3), 1817. <https://doi.org/10.31764/jmm.v6i3.7791>
- Arifah, I., Pambarep, T. S. A., Khoiriyah, L., Kusumaningrum, T. A. I., Werdani, K. E., & Ngadiyono, N. P. (2023). Effectiveness of daily educational message on pregnancy anemia prevention behavior and knowledge: A pilot randomized controlled trial. *Journal of Education and Health Promotion*, 12(1).

- https://doi.org/10.4103/jehp.jehp_108_23
- Awadh, A. A., Ibrahim, R. I., Habeeballah, J. H., Gassim, A. F., Alzahrani, S. M., Bogari, H. O., AlGhamdi, A. S., & Khan, M. A. (2024). Knowledge and attitude on the role of lifestyle modifications in diabetes management in Jeddah, Saudi Arabia. *Expert Review of Endocrinology and Metabolism*, 19(3), 287–294. <https://doi.org/10.1080/17446651.2023.2296618>
- Fahamsya, A., Anggraini, M. T., & Faizin, C. (2022). Efikasi Diri Dan Dukungan Keluarga Mendorong Kepatuhan Minum Obat Pasien Diabetes Melitus Tipe 2. *Biomedika*, 14(1), 63–73. <https://doi.org/10.23917/biomedika.v14i1.17040>
- Galaviz, K. I., Narayan, K. M. V., Lobelo, F., & Weber, M. B. (2018). Lifestyle and the Prevention of Type 2 Diabetes: A Status Report. *American Journal of Lifestyle Medicine*, 12(1), 4–20. <https://doi.org/10.1177/1559827615619159>
- Gusti, P. D. W. A., Putu, W. A., & Putu, P. K. W. (2024). Hubungan Self Efficacy & Dukungan Keluarga Terhadap Kepatuhan Aktivitas Fisik Diabetes Melitus Tipe II. *Jurnal Keperawatan BSI*, 12(1), 8–15. <https://ejurnal.ars.ac.id/index.php/keperawatan/article/view/1446>
- Indriyawati, N., Dwiningsih, S. U., Sudirman, S., & Najihah, R. A. (2022). Upaya Peningkatan Kualitas Hidup Lansia dengan Penyakit Diabetes Mellitus (DM) melalui Penerapan Management Diri. *Poltekita: Jurnal Pengabdian Masyarakat*, 3(2), 301–308. <https://doi.org/10.33860/pjpm.v3i2.1061>
- Jais, M., Tahlil, T., & Susanti, S. S. (2021). Dukungan Keluarga dan Kualitas Hidup Pasien Diabetes Mellitus yang Berobat di Puskesmas. *Jurnal Keperawatan Silampari*, 5(1), 82–88. <https://doi.org/10.31539/jks.v5i1.2687>
- Janah, E. N., Zakiudin, A., & Lestari, A. M. (2019). Pencegahan HIV/AIDS Melalui Penyuluhan Kesehatan Reproduksi Dan Pembentukan Kader Kesehatan Remaja. *Prosiding Seminar Nasional LPPM UMP*, 54–60.
- Lestari, M. C. D., Ayu Citra Dewi, Sri Intan Wahyuni, Juliwis Kardi, Yendri Junaidi, & Alif Laini. (2024). Implementation of Stimulation, Early Detection, and Intervention Programs for Monitoring the Growth and Development of Children Aged 2-3 Years. *JPUD - Jurnal Pendidikan Usia Dini*, 18(1), 183–194. <https://doi.org/10.21009/jpud.181.13>
- Luther, M., Haskas, Y., & Kadrianti, E. (2023). Hubungan Self Care Dengan Quality Of Life Penderita Diabetes Melitus Tipe Ii Di Wilayah Kerja Puskesmas Tamalanrea Jaya Makassar. *JIMPK: Jurnal Ilmiah Mahasiswa & Penelitian Keperawatan*, 3(4), 44–50.
- Meidikayanti, W., & Wahyuni, C. U. (2017). Hubungan Dukungan Keluarga Dengan Kualitas Hidup Diabetes Melitus Tipe 2 di Puskesmas Pademawu. *Jurnal Berkala Epidemiologi*, 5(2), 240–252. <https://doi.org/10.20473/jbe.v5i2.2017.240-252>
- Noya, F., Ramadhan, K., Tadale, D. L., & Widyani, N. K. (2021). Peningkatan pengetahuan dan keterampilan kader melalui pelatihan kader posyandu remaja. *Jurnal Masyarakat Mandiri (JMM)*, 5(5), 2314–2322.

- <http://journal.ummat.ac.id/index.php/jmm/article/view/5257>
- Ong, K. L., Stafford, L. K., McLaughlin, S. A., Boyko, E. J., Vollset, S. E., Smith, A. E., Dalton, B. E., Duprey, J., Cruz, J. A., Hagins, H., Lindstedt, P. A., Aali, A., Abate, Y. H., Abate, M. D., Abbasian, M., Abbasi-Kangevari, Z., Abbasi-Kangevari, M., Abd ElHafeez, S., Abd-Rabu, R., ... Vos, T. (2023). Global, regional, and national burden of diabetes from 1990 to 2021, with projections of prevalence to 2050: a systematic analysis for the Global Burden of Disease Study 2021. *The Lancet*, 402(10397), 203–234. [https://doi.org/10.1016/S0140-6736\(23\)01301-6](https://doi.org/10.1016/S0140-6736(23)01301-6)
- Pouwer, F., Schram, M. T., Iversen, M. M., Nouwen, A., & Holt, R. I. G. (2020). How 25 years of psychosocial research have contributed to a better understanding of the links between depression and diabetes. *Diabetic Medicine*, 37(3), 383–392. <https://doi.org/10.1111/dme.14227>
- Priscanada, F. E. P., & Musta'in, M. (2019). Pengelolaan Ketidakefektifan Perfusi Jaringan Perifer Pada Pasien Diabetes Mellitus Di Ruang Bougenvile Rsud Ungaran. *Media Informasi Penelitian Kabupaten Semarang*, 2(2), 176–184. <https://doi.org/10.55606/sinov.v2i2.91>
- Puspita, W. G., & Wijayanti, A. C. (2024). *The Relationship Between Self-Efficacy And Self-Care Management With The Quality Of Patients ' Lives*. July, 258–271.
- Puspitaningrum, W., Agushybana, F., Mawarni, A., & Nugroho, D. (2017). Pengaruh Media Booklet Terhadap Pengetahuan Dan Sikap Remaja Putri Terkait Kebersihan Dalam Menstruasi Di Pondok Pesantren Al-Ishlah Demak Triwulan II Tahun 2017. *Jurnal Kesehatan Masyarakat*, 5(4), 2356–3346. <https://ejournal3.undip.ac.id/index.php/jkm/article/viewFile/18362/17442>
- Rosita, A. W., Hargono, A., & Wigunawanti, R. A. (2023). Relationship between age and self-care level with quality of life of type 2 diabetes mellitus patients in the working area of Mojo Public Health Center, Surabaya city. *World Journal of Advanced Research and Reviews*, 20(2), 215–220. <https://doi.org/10.30574/wjarr.2023.20.2.2210>
- Runtuwarow, R. R., Katuuk, M. E., & Malara, R. T. (2020). Evaluasi Hubungan Dukungan Keluarga Dan Kualitas Hidup Penderita Diabetes Melitus Tipe 2 : Literatur Review. *Jurnal Keperawatan*, 8(2), 44. <https://doi.org/10.35790/jkp.v8i2.32321>
- Saragih, H., Simanullang, M. S. D., & Br Karo, L. F. (2022). Hubungan Self Care dengan Kualitas Hidup Pasien Dm Tipe 2. *Jurnal Ilmiah Keperawatan IMELDA*, 8(2), 147–154. <https://doi.org/10.52943/jikeperawatan.v8i2.1001>
- Susanto, F., Claramita, M., & Handayani, S. (2017). Role of Posyandu Cadres in Empowering The Community of Bintan. *Berita Kedokteran Masyarakat*, 33(1), 13–18.
- Syafitri, Z., Fajar, N. A., Munadi, M. C., Ananingsih, E. S., & Winta, M. V. I. (2024). Analysis of Perceived Vulnerability Based on the Health Belief Model Theory Toward Exclusive Breastfeeding in Stunting Prevention Efforts. *Biomedika*, 16(1), 11–17. <https://doi.org/10.23917/biomedika.v1>

- Umam, M. H., Solehati, T., & Purnama, D. (2020). Gambaran Kualitas Hidup Pasien Dengan Diabetes Melitus. *Jurnal Kesehatan Kusuma Husada*, 70–80.
- Werdani, K. E., Suswardany, D. L., & Mustikaningrum, F. (2024). Pemberian Edukasi Stunting Dan Pendampingan Pembuatan Tepung Lele Bagi Kader Posyandu melalui Berbagai Inisiatif. *Biro Kesejahteraan Rakyat Provinsi Jawa Timur*. 8(5), 1–10.
- Widyastuti, A., & Wulandari, C. I. (2024). Pengaruh Program Peningkatan Self Awareness tentang Budaya Organisasi terhadap Peningkatan Psychological Capital Perawat: Literature Review. *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, 7(4), 752–761. <https://doi.org/10.56338/mppki.v7i4.4761>