



# JURNAL PENGABDIAN MASYARAKAT DALAM KESEHATAN

Vol. 6 No. 2, October 2024

<https://e-journal.unair.ac.id/IPMK>

This is an Open Access article distribute under the terms of the [Creative Commons Attribution 4.0 International License](#)



## STRIVING FOR DIABETES SELF-CARE MANAGEMENT IN THE OLDER PEOPLE BASED ON SELF-DETERMINATION THEORY

Trisna Vitaliati\*<sup>ID</sup>, Irwina Angelia Silvanasari, Nurul maurida, and Achmad Ali Basri

Faculty of Health Sciences, Universitas dr Soebandi, Jember, Indonesia

### ARTICLE HISTORY

Received: February 28, 2024

Accepted: October 9, 2024

### CONTACT

Trisna Vitaliati  
[trisna@stikesdrsoebandi.ac.id](mailto:trisna@stikesdrsoebandi.ac.id)  
Faculty of Health Sciences,  
Universitas dr Soebandi

### ABSTRACT

**Introduction:** Older people with diabetes mellitus need disease management through self-management which is quite complex because the disease will have an impact on their health condition both physically and psychologically. Based on Self Determination Theory, motivation is important component in improving psychological health and treatment effectiveness of patients with diabetes mellitus. The purpose of this community service is to strive for diabetes self-care management so that blood sugar levels can be controlled reduce the risk of complications and achieve a prosperous psychological condition.

**Methods:** The method of implementing this community service is in the form of health education, early screening, diabetes gymnastics, and family assistance in carrying out family healthcare functions. This community service was carried out at Jenggawah Public Health Center in March 2023. The participants of this community service activity are older people with diabetes mellitus.

**Results:** There is an increase in the motivation of older people to carry out self-care activities, and the older people and families can also practice diabetes gymnastics by what has been taught.

**Conclusion:** With optimal management behavior of diabetes mellitus in older people, the psychological aspects of the elderly with Diabetes Mellitus will improve so that further complications of this disease can be prevented

### KEYWORDS

community; diabetes mellitus; older people; self-care management; self-determination theory.

### Cite this as:

Vitaliati, T., Silvanasari, I. A., Maurida, N., & Basri, A. A. (2024). Striving for Diabetes Self-Care Management in The Older People Based on Self-Determination Theory. *J. Pengabdian Masyarakat dalam Kesehatan*. 6(2). 58-64. Doi: [10.20473/jpkm.v6i2.55513](https://doi.org/10.20473/jpkm.v6i2.55513)

## 1. INTRODUCTION

The incidence of diabetes mellitus continues to increase, with the highest incidence and prevalence found in the population aged 60 years and over (Tumiwa & Pondaa, 2023). In Indonesia, it is estimated that the number of people with diabetes mellitus will reach 21.3 million people in 2030 (Oktavianisya & Alifitaf, 2022). In East Java, the prevalence is 1.5% higher than the national average. (Hasina et al., 2022). Mortality and morbidity rates will continue to increase if people do not adopt

healthy behaviors, lack physical activity, unhealthy diet patterns, and consume alcohol and smoke. In addition, without efforts to manage diabetes mellitus, the demand for health services will increase.

Diabetes mellitus is a significant health problem that occurs among older people (Meilani, Azis, & Saputra, 2022). Management of diabetes in this age group is especially important because of the higher risk of complications and physiological changes that occur with age (Rahmasari, Yudhianto, Putri, & Widyastuti, 2022). Through effective management,

sufferers can control symptoms and slow down the progression of complications. In addition, self-management also plays a role in improving the quality of life of patients with diabetes, helping them to be more involved in managing their health and reducing the psychological impact such as depression that often accompanies this condition.

The impact and complications resulting from diabetes mellitus are hazardous if the sufferer is unable to control and manage the disease properly because it can cause other comorbidities such as damage to nerves, blood vessels, eyes, kidneys, and heart. (Falah, Lismayanti, Sari, & Ibnu, 2023). In addition, diabetes mellitus also causes a decrease in the quality of life of sufferers and it can affect social and economic conditions and health development. So one solution is to increase the stability of the national health system with diabetes prevention programs as has been implemented in several countries. The importance of efforts to optimize the management of diabetes mellitus so that it can prevent complications or death (Katuuk & Kallo, 2019).

Research conducted previously in Jenggawah District, Jember Regency found that the older people's knowledge about diabetes mellitus was good (58%), the family support they got was good (48.15%), their self-efficacy was high (53.7%), and their quality of life was also good (66.7%) (Vitaliati, Maurida, & Silvanasari, 2023). Namun untuk tingkat diabetes self care management pada lansia mayoritas kategori kurang (60,4%) (Putra, Vitaliati, & Maurida, 2023). This certainly indicates that there are still other factors that cause the lack of diabetes self-care management in older people besides knowledge, self-efficacy, and quality of life. Following up on this, efforts will be made to manage diabetes through increasing self-motivation. Motivation is important to pay attention to in older people with diabetes mellitus because it will affect their psychosocial health.

Striving for diabetes self-care management is something important to do. This is because this

disease requires sufferers to be able to do good management with various management programs. The management of diabetes mellitus in question is such as maintaining a good diet or regimen, exercising, checking blood sugar levels, including behaviors aimed at preventing complications, including self-care, eye examination behavior, smoking behavior awareness behavior seeking information related to diabetes mellitus (Luther, Haskas, & Kadrianti, 2023). Diabetes in older people requires complex self-management to achieve moderate blood sugar levels and avoid various potential complications of diabetes. Every diabetic should get treatment tailored to his needs to achieve goals such as achieving ideal body weight by avoiding simple sugars and the diet planning system applied varies, depending on the needs of each individual. In addition, weight control is an important part of diabetes management, with a focus on diabetes prevention. Several factors affect the risk of diabetes mellitus in older people, such as socioeconomic level, education, employment, marital status, and age over 45 years. (Fitriani & Sanghati, 2021). Therefore, older people need to know and understand diabetes to improve their quality of life.

Factors that play a role in the management of diabetes mellitus in older people are psychosocial factors, where a person will experience psychosocial changes with age. Psychosocial factors that play a role in the management of diabetes mellitus in older people include motivation based on Self-Determination Theory (SDT), which is a theory that explains motivation as autonomous and controlled motivation, which can produce better psychological health and be more effective in carrying out the stability of certain activities, including long-term perseverance. (Milita, Handayani, & Setiaji, 2021). SDT has been known to affect psychological health and individual performance in a variety of contexts, including in patients with diseases such as diabetes mellitus. Psychosocial factors, such as motivation

based on SDT, are important components in improving psychological health and treatment effectiveness of patients with diabetes mellitus, including older people (Koponen, Simonsen, & Suominen, 2018).

Autonomous motivation refers to a person's internal drive to do something because they feel it is important or meaningful to them (Kang, Wang, Burns, & Leow, 2021). In the context of self-regulation of treatment, individuals with autonomous motivation tend to have greater involvement in the treatment process. Sufferers may be more inclined to understand treatment-related information, adhere to a treatment plan, and take steps to ensure their health. Studies have shown that autonomic motivation is positively associated with good self-regulation towards treatment (Tatangindatu & Umboh, 2020). Individuals who feel they have control and freedom in treatment-related decision-making tend to be more compliant with their treatment plan. This can have a positive impact on quality of life, as good self-regulation of treatment can help maintain health and prevent complications that may arise from illness. Thus, understanding and supporting an individual's autonomous motivation in the context of treatment can contribute to improved quality of life and adherence to treatment. It emphasizes the importance of an approach that pays attention to individual needs and preferences to achieve optimal health outcomes (Susanti, 2018).

Based on the description above, it shows that autonomous motivation in older people with diabetes mellitus is one of the important psychosocial factors, and is supported by self-care activities such as self-care efforts and diabetes management. This is intended to improve self-management skills related to diabetes mellitus management. The purpose of this activity is to provide relevant psychological intervention or support for Self-Determination Theory (SDT)-based motivation on diabetes management behavior in older people.

## 2. MATERIAL AND METHODS

Community service activities carried out by leaders and team members to optimize diabetes mellitus management for the elderly with diabetes mellitus living in the work area of the Jenggawah Health Center in Jember Regency, East Java Province in March 2023, involved several components of the activity, including education related to diabetes mellitus management, blood sugar measurement, and mentoring. This activity aims to optimize the treatment of diabetes in the elderly by increasing the motivation of the elderly based on the Theory of Self-Determination (SDT).

The first step of this activity is to carry out health education activities related to the treatment of diabetes mellitus in older people. The Chairman provided information on the treatment of diabetes mellitus, including diabetes self-care management. In addition, psychoeducational materials entitled Self-determination for Diabetes Mellitus Management and diabetic foot exercises were also given. The activity ended with a random blood sugar test. The duration of the meeting is 2 hours. Before carrying out health education activities, the motivation of the older people in carrying out diabetes mellitus self-care activities was first measured, using instruments prepared by researchers by adopting questionnaires from several previous studies. This questionnaire consists of 30 questions about the motivation of older people in carrying out diabetes self-care management which includes 5 domains, namely diet patterns, exercise, adherence to medication, foot care, and smoking.

The next step is to help older people with diabetes in managing diabetes at home. Instructor provide positive support and advice to increase motivation based on the self-determination theory. After health education activities, the motivation of older people in carrying out diabetes self-care management is re-measured so that information will be obtained as to whether there is an increase in motivation in carrying

out self-care activities based on the activities that have been carried out. With this activity, it is hoped that it can increase the self-motivation of older people so that they can work together and optimize the treatment of the diabetes mellitus they suffer. Members facilitate the older people to conduct blood sugar checks after community service activities take place as a screening act as well as an evaluation of the results of previous empowerment.

### 3. RESULTS

Community service activities are carried out for older people with diabetes and their families who live in the Jenggawah Health Center work area which covers three villages, namely Jenggawah Village, Wonojati Village, and Cangkring. This community service activity was carried out 3 times in February – March 2023 with 3 coverage areas. This activity was attended by 100 older people and their families. The chairman and proposer members complement each other in the implementation of community service activities. The Chairman provides education related to diabetes mellitus management. Other team members assist in measuring knowledge before and after the health education is carried out. Members will also facilitate for the older people who need blood sugar checks during community service activities. Optimization of diabetes management in older people is carried out in the form of education related to



Figure 1. Delivery of material on diabetes mellitus management behavior

diabetes mellitus management, identification of older people's motivation in carrying out management and helping to increase motivation in the older people based on Self-Determination Theory (SDT).

This activity includes several stages, namely education, motivation, and mentoring. In this health education program, the material provided focuses on behavior modification as part of efforts to control diabetes in older people. The speaker explained about diabetes management and explained the importance of motivation for older people with diabetes in diabetes self-care management, including providing diabetic foot gymnastics material. The material was delivered using PowerPoint documents according to the lecture method, and leaflets were also shared as reminders at home. In educational activities about health education, instructors conduct subjective and objective assessments after teaching. Subjective assessments were obtained from participants' responses when speakers asked about their enthusiasm, while objective assessments were obtained with participants being asked to take part in taught diabetes exercises. The coordinator helps determine if there are any inappropriate movements made by the parent while performing each step of the movement. At the end of the activity, the service team asked 3 elderly people to come forward and demonstrate every diabetic gymnastics movement that had been taught before, so that the older ones could perform well according to what had been taught. This activity ended with a random blood sugar test.

The next step is to help parents with diabetes take care of themselves at home. This activity is expected to increase the self-motivation of older people so that they can work together and optimize their diabetes management. At the end of the session, a re-measurement of the motivation of the older people in carrying out diabetes self-care management was carried out. From the results of the measurement, it is found that most of the older people experience an

Table 1. Motivation of Participants Before and After Intervention Program

Motivation	Pre-Test		Post Test	
	n	%	n	%
Good	24	24	41	41
Moderate	19	19	32	32
Poor	57	57	27	27
Total	100	100	100	100

increase in motivation, which can be seen in the following table 1.

#### 4. DISCUSSION

Providing motivation based on Self Determination Theory (SDT) involves components such as autonomous motivation, self-efficacy, and initiative capacity to initiate and follow healthy choices. (Nurzakiah, 2019). In the context of patient control of diet and diabetes management, SDT encourages the provision of motivation that promotes a balance between external control (such as reward, praise, and punishment) and intrinsic control (such as satisfaction, luck, and satisfaction from one's processes). Support for relatedness, which is an important factor in SDT, also affects patient motivation and resistance to diet and diabetes management. (Lyngbye & Møller, 2023). Support for relatedness involves positive and empathetic relationships between patients and their supporters, such as doctors, family, and friends. This support can build emotional balance and strengthen patient motivation to control diet and diabetes management. (Rumhadi, 2017). Proper and effective provision of motivation can help patients control diet and diabetes management more effectively and continuously. Good motivation can build the patient's autonomy, self-efficacy, and initiative capacity, which directly affects his health. (Lyngbye & Møller, 2023).

Result shows that the motivation and self-efficacy of diabetic patients affect the success of diabetes management (Basri, Rahmatiah, Andayani, K, & Dilla, 2021). Older people adults with diabetes who are intrinsically motivated are often more conscious of managing their care. Therefore, nurses can increase

the motivation and self-efficacy of older people people with diabetes by providing structured health education, facilitating the provision of social support, and providing intervention actions to prevent diabetes (Qatrunnada, Arnita, & Syarifa, 2022). In addition, family support also affects dietary compliance in older people people with diabetes mellitus.

Information accompanied by motivational support is more likely to lead to long-term behavior change because motivation affects a person's ability to take the necessary actions to achieve predefined goals (Sarfo, Obeng, Kyereh, Ansah, & Attafuah, 2023). Motivation is an important factor that affects personal performance, emotional balance, and behavior. Motivational support can help reduce rejection and reinforce positive attitudes toward behavior change (Mathiesen et al., 2023). Continuous behavior change can occur when motivation is associated with a desired goal since this motivation affects the likelihood of a person taking the necessary actions to achieve the goals that have been set. Motivation can come from a variety of sources, such as the desire to achieve a goal, satisfaction, luck, pride, and awareness of the impact of the behavior on oneself and the environment. (Justin I. Odegaard & Chawla, 2008). Motivational support can help create lasting behavioral change because motivation affects a person's likelihood of taking the necessary actions to achieve set goals.

Motivation in older people people with diabetes is very important when doing regular blood sugar tests. (Sudrajat et al., 2023). Older people with diabetes are prone to severe ketosis and hyperglycemia, especially if blood sugar levels have not stabilized. Family

support also plays an important role in motivating diabetic patients to control their blood sugar levels. (Kurnia, Amatayakul, & Karuncharernpanit, 2017). Therefore, the application of self-determination theory in the management of the disease can increase knowledge and motivational support by considering the role of external influences in shaping behaviors related to health and self-care (Ntoumanis et al., 2021). Proper assistance and support are needed to increase the motivation of older people to manage diabetes mellitus so that there will be an improvement in their quality of life. (Rahmadanti, Diani, & Agianto, 2020).

## 5. CONCLUSION

The results of this community service activity show an increase in the motivation of older people to carry out diabetes self-care management activities. So it is suggested that this program can be applied to other older people as part of the non-communicable disease control program to help the community manage their diseases to prevent further complications.

## 6. REFERENCES

- Basri, M., Rahmatiah, S., Andayani, D. S., K. B., & Dilla, R. (2021). Motivasi dan Efikasi Diri (Self Efficacy) dalam Manajemen Perawatan Diri Pada Pasien Diabetes Mellitus Tipe 2. *Jurnal Ilmiah Kesehatan Sandi Husada*, 10(2), 695–703. <https://doi.org/10.35816/jiskh.v10i2.683>
- Falah, M., Lismayanti, L., Sari, N. P., & Ibnu, A. (2023). *Self management of type 2 diabetes mellitus patients in Tasikmalaya*. (18). <https://doi.org/10.26714/mki.6.2.2023.104-109>
- Fitriani, F., & Sanghati, S. (2021). Intervensi Gaya Hidup Terhadap Pencegahan Diabetes Melitus Tipe 2 Pada Pasien Pra Diabetes. *Jurnal Ilmiah Kesehatan Sandi Husada*, 10(2), 704–714. <https://doi.org/10.35816/jiskh.v10i2.682>
- Hasina, S. N., Shodiq, M., Ikwan, M., Putri, R. A., Noventi, I., & Masithah, D. (2022). PENGARUH EDUKASI KESEHATAN TERAPI BUERGER ALLEN EXERCISE TERHADAP PENGETAHUAN PENDERITA DIABETES MELLITUS DALAM UPAYA MENURUNKAN RESIKO GANGGUAN PERFUSI JARINGAN PERIFER Siti. *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal*, 12(4), 1–6.
- Justin I. Odegaard, & Chawla, A. (2008). 基因的改变 NIH Public Access. *Bone*, 23(1), 1–7. <https://doi.org/10.1177/0145721709333856.Reducing>
- Kang, H. J., Wang, J. C. K., Burns, S. F., & Leow, M. K. S. (2021). Is Self-Determined Motivation a Useful Agent to Overcome Perceived Exercise Barriers in Patients With Type 2 Diabetes Mellitus? *Frontiers in Psychology*, 12(June), 1–12. <https://doi.org/10.3389/fpsyg.2021.627815>
- Katuuk, M. E., & Kallo, V. D. (2019). Hubungan motivasi dengan efikasi diri pada pasien diabetes melitus tipe II. *Keperawatan*, 7, 1–7. Retrieved from <https://ejournal.unsrat.ac.id/index.php/jkp/article/view/25209>
- Koponen, A. M., Simonsen, N., & Suominen, S. (2018). Success in increasing physical activity (Pa) among patients with type 2 diabetes: A self-determination theory perspective. *Health Psychology and Behavioral Medicine*, 6(1), 104–119. <https://doi.org/10.1080/21642850.2018.1462707>
- Kurnia, A. D., Amatayakul, A., & Karuncharernpanit, S. (2017). Predictors of diabetes self-management among type 2 diabetics in Indonesia: Application theory of the health promotion model. *International Journal of Nursing Sciences*, 4(3), 260–265. <https://doi.org/10.1016/j.ijnss.2017.06.010>
- 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*. 3, 22–30.
- Lyngbye, M., & Møller, A. K. (2023). Motivational Factors for Empowering People with Diabetes and the Influence of Perceived Self-Efficacy. *Designs for Learning*, 15(1), 1–12. <https://doi.org/10.16993/df.201>
- Mathiesen, A. S., Zoffmann, V., Lindschou, J., Jakobsen, J. C., Glud, C., Due-Christensen, M., ... Rothmann, M. J. (2023). Self-determination theory interventions versus usual care in people with diabetes: a systematic review with meta-analysis and trial sequential analysis. *Systematic Reviews*, 12(1), 1–13. <https://doi.org/10.1186/s13643-023-02308-z>
- Meilani, N., Azis, W. O. A., & Saputra, R. (2022). Faktor Resiko Kejadian Diabetes Mellitus Pada Lansia. *Poltekita : Jurnal Ilmu Kesehatan*, 15(4), 346–354. <https://doi.org/10.33860/jik.v15i4.860>
- Milita, F., Handayani, S., & Setiaji, B. (2021). Kejadian Diabetes Mellitus Tipe II pada Lanjut Usia di Indonesia (Analisis Riskesdas 2018). *Jurnal*

- Kedokteran Dan Kesehatan*, 17(1), 9. <https://doi.org/10.24853/jkk.17.1.9-20>
- Ntoumanis, N., Ng, J. Y. Y., Prestwich, A., Quested, E., Hancox, J. E., Thøgersen-Ntoumani, C., ... Williams, G. C. (2021). A meta-analysis of self-determination theory-informed intervention studies in the health domain: effects on motivation, health behavior, physical, and psychological health. *Health Psychology Review*, 15(2), 214–244. <https://doi.org/10.1080/17437199.2020.1718529>
- Nurzakiah. (2019). *Efek pendidikan gizi seimbang melalui pendekatan self determination theory terhadap parameter sindrom metabolik pada guru di kota makassar*.
- Oktavianisya, N., & Aliftitaf, S. (2022). Pengaruh Senam Diabetes Mellitus terhadap Penurunan Kadar Gula Darah pada Penderita Diabetes Mellitus Tipe 2. *Poltekita : Jurnal Ilmu Kesehatan*, 16(2), 214–219. <https://doi.org/10.33860/jik.v16i2.1233>
- Putra, Y. B. S., Vitaliati, T., & Maurida, N. (2023). Relationship Between Diabetes Self Care Management and Diabetic Peripheral Neuropathy in Older People People With Diabetes Mellitus in Jember Regency. *Indonesia Proceeding International Agronursing Conference*, 5(1), 2023.
- Qatrunnada, Arnita, Y., & Syarifa, A. (2022). Motivation in Controlling Blood Sugar Levels in patients With Type 2 Diabetes Mellitus. *JIM FKep*, VI(1).
- Rahmadanti, M., Diani, N., & Agianto, A. (2020). Motivasi dan Self Management Pasien Diabetes Mellitus Tipe 2. *Dunia Keperawatan: Jurnal Keperawatan Dan Kesehatan*, 8(1), 87. <https://doi.org/10.20527/dk.v8i1.7359>
- Rahmasari, I., Yudhianto, K., Putri, A., & Widyastuti. (2022). Self management education (DSME) mampu meningkatkan kepatuhan perawatan kaki pasien DM tipe 2. *SIKESNas*, 520–523.
- Rumhadi, T. (2017). Urgensi Motivasi dalam Proses Pembelajaran. *Jurnal Diklat Keagamaan*, 11(1), 33–41. Retrieved from [bdk-surabaya.e-journal.id ? article ? download](http://bdk-surabaya.e-journal.id/?article?download)
- Sarfo, J. O., Obeng, P., Kyereh, H. K., Ansah, E. W., & Attafuah, P. Y. A. (2023). Self-Determination Theory and Quality of Life of Adults with Diabetes: A Scoping Review. *Journal of Diabetes Research*, 2023(Cvd). <https://doi.org/10.1155/2023/5341656>
- Sudrajat, A., S, N. N., Suratun, S., Iriana, P., Wartolah, W., Lusiani, D., ... Manurung, S. (2023). Motivasi dan Dukungan Keluarga Berpengaruh terhadap Kepatuhan Diet Penderita Diabetes Melitus Tipe 2. *Jkep*, 8(2), 169–177. <https://doi.org/10.32668/jkep.v8i2.1380>
- Susanti, R. D. (2018). *Hubungan Motivasi dan Health Locus Of Control dengan Kepatuhan Diet Penderita Diabetes Melitus* (Vol. 53).
- Tatangindatu, M. A., & Umboh, M. (2020). Self-Determination Theory Sebagai Stimulasi Perilaku Pengobatan Dan Pelatihan Senam Diabetes Pada Lansia Di Kecamatan Manganitu. *Jurnal Ilmiah Tatengkorang*, 4(1), 27–30. <https://doi.org/10.54484/tkr.v4i1.336>
- Tumiwa, F. F., & Pondaa, A. (2023). *Aplikasi Senam Diabetes Pada Pasien Lanjut Usia*. 50–56.
- Vitaliati, T., Maurida, N., & Silvanasari, I. A. (2023). Hubungan Dukungan Keluarga dan Efikasi Diri dengan Kualitas Hidup Lansia Penderita Diabetes Mellitus. *Jurnal Ilmiah Keperawatan Stikes Hang Tuah Surabaya*, 1–7. Retrieved from <http://journal.stikeshangtuah-sby.ac.id/index.php/JIKSHT>