

Evaluation of The Chronic Disease Management Program (PROLANIS) on The Management of Diabetes Mellitus Patients

Fandy Akbar Brilliantama¹, Burhannudin Ichsan^{2*}

^{1,2} Faculty of Medicine, Universitas Muhammadiyah Surakarta

Citation:

Brilliantama, F. A., & Ichsan, B. Evaluation of The Chronic Disease Management Program (PROLANIS) on The Management of Diabetes Mellitus Patients . JURNAL VNUS (Vocational Nursing Sciences), 8(1). <https://doi.org/10.52221/jvnus.v8i1.969> .

Correspondence:

Surakarta, Jawa Tengah, Indonesia; bi268@ums.ac.id ; [0813-2549-5938](tel:0813-2549-5938)



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

Abstract:

Background: The Chronic Disease Management Program (Program Pengelolaan Penyakit Kronis/PROLANIS) is a strategic initiative implemented in primary health care center to improve the management of chronic diseases, including diabetes mellitus. This program emphasizes comprehensive, continuous, and patient-centered care. However, variations in program implementation at the primary care level may influence its effectiveness, highlighting the need for in-depth evaluation. **Methods:** This qualitative case study was conducted at Nogosari Primary Health Care Center, Boyolali. Informants included 15 diabetes mellitus patients participating in PROLANIS and 2 health care providers. Data were collected through observation, in-depth interviews, and document review, then analyzed using content analysis.

Results: Most PROLANIS components, such as medical consultations, health education, physical activity, health monitoring, and SMS reminders, were implemented according to guidelines and showed positive contributions. Supporting factors included comprehensive medical services, effective support systems, and peer support among participants. However, barriers remained, including limited access to services and medications, suboptimal service quality, low motivation, awareness, and adherence among some participants, and underutilized home visit activities. Overall, PROLANIS encouraged healthier lifestyles, improved medication adherence, and increased patient knowledge.

Conclusions: PROLANIS demonstrates significant potential in supporting diabetes mellitus management in primary health care center. However, improvements are needed in terms of service accessibility, program personalization, and patient engagement to enhance program effectiveness and sustainability.

Keywords: *Diabetes Mellitus, Primary Health Care Facilities, Primary Health Care, PROLANIS, Qualitative Research,*

1. Introduction

Non-Communicable Diseases (NCDs) refer to a group of diseases that cannot be transmitted from one person to another, either through direct or indirect contact. Although classified as non-communicable, these diseases pose a high risk to human mortality [1]. It is estimated that 41 million deaths, equivalent to 71% of the total 57 million deaths worldwide, are caused by NCDs. The high mortality rate is primarily attributed to four major disease groups, namely cardiovascular diseases (44%), cancer (22%), chronic respiratory diseases (9%), and diabetes (4%) [2]. One of the most commonly encountered non-communicable diseases is diabetes

mellitus. Diabetes mellitus is classified based on its etiology into four types: type 1 diabetes mellitus caused by absolute insulin deficiency, type 2 diabetes mellitus resulting from insulin resistance, gestational diabetes mellitus occurring during pregnancy, and specific types of diabetes mellitus that do not meet the previous criteria and are associated with other underlying diseases [3]. In Indonesia, the prevalence of diabetes mellitus reaches 1.7% of the total population, with the majority of cases occurring among females aged 15–24 years [4]. Diabetes mellitus has become a major priority in NCD management in Central Java, ranking third among the most prevalent diseases after hypertension and obesity, with a prevalence of 8.7% [5].

To address the growing burden of non-communicable diseases in Indonesia, the Ministry of Health of the Republic of Indonesia has implemented the Chronic Disease Management Program (Program Pengelolaan Penyakit Kronis/PROLANIS) through BPJS Kesehatan. PROLANIS is designed for patients with chronic diseases to improve their quality of life through optimal and cost-effective health services delivered at primary health care center [6]. This study focuses on evaluating the implementation of PROLANIS in the management of diabetes mellitus at primary health care center. Diabetes mellitus was selected over hypertension in the PROLANIS program because education and treatment provided to diabetes patients are less extensive than those for hypertension, despite the higher prevalence of hypertension [4]. This evaluation is essential to identify factors contributing to the suboptimal effectiveness of PROLANIS in managing diabetes mellitus. These concerns are supported by previous studies, including research conducted by Muhammad (2022), which reported that PROLANIS activities had no significant effect on reducing fasting blood glucose and HbA1c levels during 2020–2021 at Kotagede 2 Primary Health Care Center, Yogyakarta, as well as a study by Alkaff *et al.* (2021), which found that PROLANIS implementation at Wates Primary Health Care Center, East Java, did not significantly improve metabolic control or renal function among patients with type 2 diabetes mellitus [7,8]. Therefore, this study aims to assess the conformity of PROLANIS implementation with existing guidelines and to explore changes in healthy behaviors among patients from the perspectives of both participants and health care providers, in order to inform more effective and efficient program improvements in diabetes mellitus management.

2. Materials and Methods

This study used a qualitative approach with an extrinsic case study design for data collection. The extrinsic case study approach was chosen so that the researcher can effectively convey the results of the evaluation of the Chronic Disease Management Program (PROLANIS) on diabetes mellitus management through well-structured interviews and expressions [9]. The use of a case study approach is considered appropriate for the research title, which examines an activity or program of a specific group, namely the Chronic Disease Management Program (PROLANIS), through the subjective perspectives of diabetes mellitus patients as participants and healthcare workers as organizers [10]. This research was conducted at a primary health care center (Puskesmas) from October to November 2025. The informant or participants in this study consisted of diabetes mellitus patients participating in PROLANIS and healthcare workers, with a sample of 15 patients and 2 healthcare workers, determined using data saturation. The inclusion criteria for samples used in this research were diabetes mellitus patients who had participated in PROLANIS for ≥ 2 months and healthcare workers (event coordinators) directly involved in PROLANIS. Additional inclusion criteria included diabetes mellitus patients participating in PROLANIS aged ≤ 70 years.

The characteristics of the data sources encompass the alignment of PROLANIS implementation with the BPJS Health guideline book and changes in healthy behaviors among patients. This information will help in gaining a deeper understanding of how the PROLANIS program operates in diabetes mellitus management. The techniques used include: non-participant observation, in-depth interviews, and documentation. Interview responses that were closed-ended or lacked sufficient depth were excluded from the analysis. The data obtained and collected in this research will be analyzed using content analysis techniques, which align with the qualitative approach and case study used. The interview results from informants will be processed using the Content Analysis method using the Open Code application (Table 1). Content analysis was chosen due to its ability to capture the complexity and depth of qualitative data, as well as its flexibility in identifying meaningful patterns within a broader context. Through this technique, the research is expected to provide comprehensive and in-depth insights into the evaluation of PROLANIS in diabetes mellitus management [10, 11].

Table 1. How Content Analysis Techniques Work with Open Code

Interview Results	Code	Sub- Category	Category
<i>"Previously, I regularly participated in gymnastics, but I didn't participate last week because I couldn't move my legs..."</i>	Participants were unable to participate in the exercise due to mobility issues.	Limited access and participant mobility.	Inhibiting Factors of Participants.
<i>"...usually the DM 2 group is from a village close to the health center here, while the DM 1 group is generally far away, sir..."</i>	Participants were unable to attend the visit due to the distance from their homes.		
<i>"...if I take too much medicine it will damage my kidneys, so I'm afraid and sometimes I forget."</i>	Participants' wrong perceptions.	Lack of participant awareness and interest.	
<i>"...it's just the patients who are not aware of themselves because they don't seem to be aware that even though they have been given assistance to manage it, they don't come."</i>	Lack of participant awareness		

3. Results and Discussion

Data collection was conducted on diabetes mellitus patients during the PROLANIS activity at the Nogosari Primary Health Care Center. Data analysis was performed by combining interview results, observations, and findings from previous research. A total of 17 informants participated in this study, consisting of 15 patients and 2 healthcare workers (Table 2). The interview responses from the informants will be processed using the Open Code application with the Content Analysis method. After processing the data, the following results were obtained:

Table 2. Informant Demographic Data

Informant Character	Amount	Percentage (%)
Age		
Young Adults (18-40)	1	5.8
Middle Adults (40-60)	8	47
Older Adults (> 60)	8	47
Gender		
Male	4	23.5
Female	13	76.5
Level of Education		
Primary School	4	23.5
Middle School	6	35.3
Senior High school	4	23.5
Bachelor's Degree	3	17.7
Role		
Participant	15	88.23
Health Workers	2	11.76

1. Compliance of PROLANIS Activities with Guidelines

a. PROLANIS Activities Implemented/Compliant

PROLANIS activities at the Nogosari Public Health Center are in accordance with the BPJS Kesehatan guidelines. The activities carried out include recruitment based on screening, medical consultations, group education, physical activities, SMS reminder gateway, and health monitoring. This is evidenced by statements from participants, such as *"For here, it's only blood pressure and blood sugar checks; but at PRODIA, it's more comprehensive, including kidney checks (urea creatinine), uric acid, cholesterol"* (Mrs. W, 68 years old).

b. PROLANIS Activities Not Implemented

The only activity that has not been implemented well is the Home Visit. This is due to the high workload of the healthcare workers, preventing them from conducting home visits to patients optimally. This is confirmed by Mrs. DR, the PROLANIS coordinator, who stated, *"...indeed, we rarely conduct home visits, only for participants who are unable to walk. Additionally, due to our busy schedules with other tasks, home visits are seldom carried out"* (Mrs. DR, 30 years old).

2. Supporting Factors from the Organizer.

a. Comprehensive Medical Services

This includes comprehensive and beneficial medical consultations and monitoring, attentive care from healthcare workers, and the availability of home care for non-mobile patients. This statement is consistent with the following interview result: *"There are lab check results such as blood sugar, blood pressure, and results from PRODIA are also included there, like HbA1c, then uric acid, urea creatinine. Then, suggestions are sometimes written there too, so that if I forget what advice was given, I can look at it again"* (Mrs. E, 42 years old).

b. Adequate Promotional and Preventive Programs

Promotional and preventive programs aimed at encouraging participants to adopt more beneficial physical activity/exercise behaviors, as expressed in the

statement: *"Very good, very beneficial, especially for maintaining physical fitness, and thank God, it can gradually help lower blood sugar"* (Mrs. M., 64 years old). Additionally, there is group education with varied and useful materials, as conveyed by Mr. R, who stated: *"The counseling topics are not just one or two; some are related to dental health, others to heart health—essentially, it's comprehensive, not only about DM, so it's actually very good"* (Mr. R, 66 years old).

c. Effective Support System

PROLANIS also provides beneficial support systems for patients, such as the comprehensive SMS reminder gateway. Based on a direct statement from Mr. R, he said, *"There are many, sir. Aside from PROLANIS notifications, they sometimes send advice on maintaining a healthy diet and exercising, and occasionally encourage praying tahajud so that we may recover quickly..."* (Mr. R, 66 years old). Flexibility in obtaining medication and free services also greatly assist participants, especially non-mobile and economically disadvantaged patients.

3. Supporting Factors from Participants

a. Support Between Participants

The shared illness among participants fosters a sense of solidarity and common struggle. Consequently, many participants support and assist one another in participating in PROLANIS and striving for better health together. This is evidenced by the direct statement from Mrs. M, who said, *"...perhaps because I meet many friends who share the same condition, I feel more motivated to recover and become more diligent in taking my medication"* (Mrs. M, 64 years old).

b. High Level of Patient Awareness

A high level of awareness among participants significantly influences their adherence and outcomes in the PROLANIS program. In this study, this is demonstrated by the direct interview result from Mr. JW, who stated, *"As for medication, even before joining PROLANIS, I have been taking it regularly, sir. Whatever medication the doctor prescribes, I take it routinely"* (Mr. JW, 63 years old).

4. Inhibiting Factors from the Organizer

a. Limitations of Access and Service Systems

The identified limitation is the difficulty in accessing medications for other complaints and alternative diabetes drugs beyond those covered by BPJS Health. This was directly conveyed by Mrs. DR, the PROLANIS coordinator, who stated, *"...thus, we cannot access other medications for those complaints, and even if we wish to access other diabetes drugs such as acarbose, etc., it is also not possible a PRB (Program Rujuk Balik/Back-Referral Program) is required..."* (Mrs. DR, 30 years old). In addition, frequent sudden changes to the activity schedule and a lack of updates to the monitoring logbook also pose obstacles, especially for participants who are still working, as it makes it difficult for them to arrange their time to participate in PROLANIS activities.

b. Suboptimal Quality and Coverage of Services

The suboptimal quality of service is marked by insufficient attention to non-mobile participants, particularly in physical activities. This was conveyed by Mrs. D, who stated, *"...but for exercise, I only join the PROLANIS gymnastics, because my feet already hurt and walking is difficult"* (Mrs. D, 57 years old). Meanwhile, suboptimal

service coverage, characterized by limited services focused on diabetes/hypertension care, was also lamented by many participants.

c. Program Incompatibility with Patient Needs

In the physical activity/exercise sessions of PROLANIS, many participants do not take part. One of the reasons is the mismatch between the physical activities offered in PROLANIS and the preferences or needs of the patients, as expressed by Mrs. S, who prefers exercising independently at home: *"Rarely, sir. I have joined before, but I seldom attend. For exercise, I prefer doing gymnastics or exercising on my own at home"* (Mrs. S, 62 years old).

5. Inhibiting Factors from Participants

a. Limited Access and Mobility

Variations in geographical conditions and distance to residences create transportation challenges. Mrs. BS, the PROLANIS coordinator, stated as follows *"...usually, the DM 2 group members live in villages closer to this health center, while the DM 1 group members mostly live far away, sir. Since these patients are often elderly, transportation to here can be quite difficult"* (Mrs. BS, 46 years old). Apart from transportation, limited access to information, especially among elderly participants who do not own mobile phones, poses another barrier. Reduced mobility among patients also affects their participation in PROLANIS, as reflected in the statement by Mr. JW *"I used to attend regularly, but last week I couldn't join because my foot hurts when moved"* (Mr. JW, 63 years old).

b. Low Interest and Awareness Among Participants

Low interest and awareness among patients can affect their outcomes in participating in PROLANIS. This is supported by the statement from Mrs. SS, who conveyed, *"...it should be good, but it's the patients themselves who lack self-awareness. It's as if they don't realize that even when help is provided for managing their condition, they don't attend"* (Mrs. SS, 59 years old). Misconceptions also influence participants' interest, such as the following erroneous perception: *"I don't join, I choose to work, sir. My work is physically demanding and makes me sweat, so that counts as exercise"* (Mr. W, 67 years old). This is further exacerbated by patients prioritizing other activities over their health or participation in PROLANIS.

c. Low Compliance Among Participants

In addition to interest and awareness, patient adherence also influences their outcomes in participating in PROLANIS. This lack of adherence stems from patients frequently disregarding the advice and guidance from healthcare workers. This aligns with the statement from Mrs. BS, the PROLANIS coordinator, who explained: *"When we give counseling firmly and emphatically, lifestyle changes usually occur the next day. If we just talk casually, it usually goes in one ear and out the other, because many people can be very stubborn..."* (Mrs. BS, 46 years old).

d. Unhealthy Behaviors and Habits

Unhealthy habits and behaviors among patients can hinder their ability to adopt a healthier lifestyle. This is largely due to difficulties in resisting strong dietary temptations, as described by Mrs. E. She stated, *"When it comes to taking medication, I've been consistent from the start, sir. The real challenge lies in eating—the temptations are just too many..."* (Mrs. E, 42 years old).

6. Final Results of Patients After Participating in PROLANIS

a. Changes in Participants's Lifestyles

A common lifestyle change identified in the interviews is the adoption of healthier eating habits and changes in daily routines, as shared by Mrs. E: *"For me, it's more toward exercise, sir. Now I've become more diligent in working out—I jog three times a week and often swim on Sundays..."* (Mrs. E, 42 years old). Additionally, PROLANIS encourages participants to reflect on their lifestyles, as evidenced by Mrs. S's statement: *"At first, I didn't know about this program, sir. I found out when I had a check-up at the health center and was asked to do a lab test. It turned out my blood sugar was high, and then I was advised to join. After participating, I actually feel healthier"* (Mrs. S, 60 years old)

b. Increased Patient Compliance with Medication

Improved medication adherence among participants after joining PROLANIS was associated with the appropriate administration of diabetes medication through the program, as well as a sense of solidarity and mutual support among fellow diabetes patients. Additionally, PROLANIS helps patients view medication as a necessity, which indirectly improves adherence. This is consistent with the statement from Mrs. M, who said: *"It's very different, sir. Perhaps because I met many friends who have the same condition, I feel more motivated to recover and become more diligent in taking my medication"* (Mrs. M, 64 years old).

c. Increased Knowledge of Participants Regarding Diabetes Mellitus

PROLANIS helps patients enhance their knowledge about diabetes mellitus, including dietary restrictions, diabetes management, and preventive measures to protect their families from the disease. This statement is expressed by Mr. W, who said, *"...previously, I didn't know about this diabetes disease. Now I understand what the symptoms are like, the signs, how to manage it, so I can also remind those around me, especially my own family."* (Mr. W, 67 years old).

The results show that the majority of PROLANIS activities have been implemented well (Table 3). This is evidenced by interview and observation results, which indicate that educational sessions, medical consultations, health monitoring, SMS reminder gateway, and exercise activities have been running smoothly. However, one activity has not been implemented: home visits. Home visits play a crucial role in reaching patients who cannot attend in person. Based on interview findings, this issue occurs due to high workloads and busy schedules among the staff, leading to less-than-optimal home visit implementation. These findings align with the research by Rachmadina & Harun (2024), which indicates that home visits in PROLANIS are rarely carried out effectively due to high staff workload, resulting in suboptimal visit execution [12].

Table 3. Percentage of PROLANIS Activity Implementation

No	Activity Name	Percentage of Implementation (%)
1.	Medical Consultation	100
2.	Education and Counseling	100
3.	Physical Activity/ Exercise	100
4.	SMS Reminder Gateway	88
5.	Home Visit	5
6.	Health Monitoring	95

Based on interview and observation results, the supporting factors for PROLANIS are divided into two categories: those originating from the organizers (Community Health Center/BPJS Kesehatan) and those from the participants. From the organizer's side, the primary support comes from comprehensive and adequate health services. Comprehensive health services refer to a holistic approach encompassing full healthcare coverage. Comprehensive services include continuous and integrated health promotion, prevention, rehabilitation, and palliative care [13]. In PROLANIS, this is demonstrated by the implementation of complete and beneficial activities, as well as the availability of home care for non-mobile patients. These comprehensive services can assist PROLANIS participants in early detection and preventing their diabetes mellitus from becoming chronic or leading to complications. This aligns with research by Xiong *et al.* (2024), which states that comprehensive health services have the potential to improve patient care outcomes in terms of satisfaction, quality of life, and continuity of care [14].

An effective service support system also serves as a supporting factor from the organizer in the implementation of PROLANIS. This is demonstrated by the presence of the SMS Reminder Gateway, which plays a role in providing good and complete information. According to research by Silalahi (2021), it is shown that the use of SMS as a reminder has an influence on medication adherence in diabetes mellitus patients [15]. The presence of a flexible medication pickup system also supports a more effective service support system. This provides convenience and comfort for patients without being bound by a strict schedule. According to research by Aryanti *et al.* (2024), ease in medication pickup has a significant influence on patient satisfaction and loyalty [16]. Furthermore, the free PROLANIS service is a government-provided facility for underprivileged communities to manage their chronic diseases. This program helps reduce the costs of examinations and treatment, enabling underprivileged individuals to maintain their health effectively. According to research by Aljuaid *et al.* (2021), free healthcare services play an important role as a financial safety net for underprivileged communities and improve their access to healthcare and health outcomes [17].

In addition to the organizers, supporting factors also come from the PROLANIS participants themselves. A high level of participant awareness serves as a key factor in the smooth implementation of the program, enhancing patient compliance in following PROLANIS activities and adhering to health workers' advice without the need for strict enforcement. Research by Asfiani (2017) indicates that patients who recognize the benefits of PROLANIS such as improved health, better blood sugar control, and prevention of complications tend to adhere more closely to the program [18]. Support among fellow participants also contributes to the success of PROLANIS. Mutual encouragement and motivation help participants strive toward recovery and better health, thereby indirectly increasing adherence in disease management. Research by Guilmault *et al.* (2023) notes that peer support among patients can enhance medication adherence, improve quality of life by providing social and emotional support, reduce psychological barriers, and strengthen patients' coping abilities [19].

Similar to supporting factors, barriers are divided into two categories barriers from the organizers and barriers from the participants. From the organizer's side, the first hindrance lies in limited access and an ineffective service system for PROLANIS. This includes difficulties in accessing medication for other health complaints and for additional diabetes medications, which occurs due to the absence of BPJS claims and the need for a PRB (Program Rujuk Balik / Refer-Back Program). Difficulties in medication procurement directly impact access, medication adherence, and

patient comfort [20]. Sudden notifications and schedule changes also make it difficult for participants with fixed employment to arrange time off. Additionally, the absence of updates in the monitoring booklet reduces the effectiveness of self-health monitoring. According to research by Hutasuhut & Siregar (2024) ease of access to healthcare services significantly influences patient satisfaction and adherence [21]. The suboptimal quality and scope of services can hinder the effective implementation of PROLANIS. This leads to patient dissatisfaction with the physical activities in PROLANIS. Additionally, unfriendly attitudes among healthcare workers further diminish the quality of PROLANIS services. These facts align with research by Rifai *et al.* (2024), which shows that good quality healthcare services significantly influence patient satisfaction and adherence [22]. The limitation of PROLANIS services to only diabetes and hypertension is also frequently complained about by participants, as they cannot directly address other health concerns. This results in a less-than-optimal reach of healthcare services within the community through PROLANIS. Inadequate service coverage can reduce adherence and cause dissatisfaction, as patients feel their needs are unmet [23]. Furthermore, the physical activities in PROLANIS are often not tailored to the needs and health conditions of some participants, leading to non-compliance.

Challenges in the implementation of PROLANIS do not only come from the organizers, but also from the participants. Based on the findings, limited access and mobility among participants pose a constraint in PROLANIS. Long distances from their residences, compounded by the elderly's inability to drive motor vehicles or possess mobile phones, create barriers to participating and obtaining PROLANIS-related information. This fact aligns with research by Mseke *et al.*, (2024) which states that greater distance and travel time to health facilities increase transportation costs and reduce adherence, especially among vulnerable groups [24]. Similarly, research by Febriyanti *et al.*, (2025) indicates that digital outreach programs are hindered by limited smartphone access, restricting the role of telemedicine or message-based appointment reminders [25]. Poor mobility due to comorbid conditions also constitutes a barrier, limiting participants' access to PROLANIS. According to research by Sholihat *et al.* (2020), most PROLANIS participants who experience pain or discomfort in movement face obstacles in mobility and motivation to attend [26].

Low awareness, interest, and adherence among participants are factors hindering PROLANIS, impacting the suboptimal outcomes of the program. This aligns with research by Alemu *et al.* (2021), which indicates that low patient engagement stems from limited understanding of their role in self-care [27]. Additionally, participants' misconceptions further reduce medication and physical activity adherence. Research by Anakwa *et al.* (2021) supports that negative perceptions of illness lower treatment adherence [28]. Non-compliance with health workers' advice and ingrained unhealthy habits, particularly long-standing dietary patterns, also pose challenges to the implementation of PROLANIS. Overall, participant behavioral factors significantly influence the effectiveness of PROLANIS.

Participation in PROLANIS has successfully shaped participants to adopt a more disciplined lifestyle and become more independent in managing their condition. This study categorizes the outcomes into three main areas: lifestyle changes, improved medication adherence, and increased knowledge about diabetes mellitus. Based on interview results, the lifestyle changes observed after joining PROLANIS include adopting a healthier diet, developing better habits, and indirectly fostering self-reflection among participants. This is consistent with research by Alkaff *et al.* (2021), which suggests that PROLANIS has the potential to drive behavioral changes such as increased

physical activity and improved dietary habits, though its effectiveness remains limited due to a lack of standardized education [8]. Participation in PROLANIS also helps improve participants' medication adherence, which is facilitated by access to suitable medications that effectively lower blood sugar, support from fellow participants, and a shift in mindset where medication is viewed as a necessity after joining the program. This aligns with research by Kristianto *et al.* (2021), which shows that patients in the PROLANIS program exhibit higher medication adherence (80% adherence) compared to non-PROLANIS groups (33.3% adherence) [29]. Additionally, PROLANIS has successfully increased participants' knowledge regarding the management and prevention of diabetes mellitus through its educational activities. Research by Pradipta & Falsafi (2023), which states that the counseling provided in PROLANIS significantly enhances participants' knowledge and has a positive impact on their health outcomes [30].

4. Conclusions

In general, PROLANIS at the Nogosari Primary Health Care Center has been implemented in accordance with BPJS Health guidelines and has had a positive impact on diabetes mellitus management, as evidenced by behavioral changes toward a healthier lifestyle, improved medication adherence, and increased participant knowledge and awareness to conduct regular health checks. However, the program's effectiveness is not yet optimal due to various obstacles from both the organizers and participants, such as limited access to services and medications, suboptimal implementation of home visits, low interest and adherence among some participants, and mobility limitations among elderly participants.

This study has limitations, including a relatively long data collection and qualitative analysis time within a relatively short research period, as well as interview validity that depends on the subjectivity and ability of informants to convey their experiences. Therefore, future research is recommended to employ a mixed-methods approach so that the evaluation of PROLANIS can be carried out more comprehensively—not only based on participant perceptions but also through objective measurement of clinical outcomes, such as HbA1c levels and patient adherence rates.

5. Acknowledgements

The author expresses deep gratitude and thanks to beloved parents for their continuous prayers, moral support, and motivation throughout the research process. Special appreciation is also extended to the supervising lecturer for invaluable guidance, direction, and input, which enabled the successful completion of this research and article. Furthermore, the author sincerely thanks fellow students under the same supervision for their cooperation, support, and constructive discussions during the study, all of which contributed significantly to the completion of this academic work.

References

- World Health Organization. (2025). Noncommunicable disease. Retrieved May 22, 2026, from [World Health Organization](#)
- World Health Organization. (2019). Monitoring health for the SDGs (Vol. 11, Issue 1). [World Health Organization](#)
- Perkumpulan Endokrinologi Indonesia. (2021). Pedoman pengelolaan dan pencegahan diabetes melitus tipe 2 di Indonesia 2021. [Perkumpulan Endokrinologi Indonesia](#)

- Kementerian Kesehatan Republik Indonesia. (2023). Survei kesehatan Indonesia dalam angka. [Kementerian Kesehatan Republik Indonesia](#)
- Dinas Kesehatan Provinsi Jawa Tengah. (2024). Profil kesehatan Provinsi Jawa Tengah tahun 2024.
- Refideso, S., Wahyuni, & Charisa, A. D. (2024). Edukasi fisioterapi stretching pada senam prolanis lansia di Puskesmas Sibela Kelurahan Mojosongo Surakarta. *Beujroh: Jurnal Pemberdayaan dan Pengabdian pada Masyarakat*, 2(1), 48–56. <https://doi.org/10.61579/beujroh.v2i1.50>
- Muhammad, L. L. (2022). Efektivitas kegiatan Prolanis terhadap tingkat penurunan kadar glukosa darah puasa dan HbA1C di wilayah kerja Puskesmas Kotagede II (Undergraduate thesis). Universitas 'Aisyiyah Yogyakarta.
- Alkaff, F. F., Illavi, F., Salamah, S., Setiyawati, W., Ramadhani, R., Purwantini, E., & Tahapary, D. L. (2021). The impact of the Indonesian chronic disease management program (PROLANIS) on metabolic control and renal function of type 2 diabetes mellitus patients in primary care setting. *Journal of Primary Care & Community Health*, 12, 1–7. <https://doi.org/10.1177/2150132720984409>
- Fiantika, F. R., Wasil, M., Jumiyati, S., Honesti, L., Wahyuni, S., Jonata, Mashudi, I., Hasanah, N., Maharani, A., Nuryami, Ambarwati, Kusmayra Noflidaputri, R., & Waris, L. (2022). Metodologi penelitian kualitatif (1st ed.). PT Global Eksekutif Teknologi.
- Sugiyono. (2022). Metode penelitian kualitatif. Penerbit Alfabeta.
- Nasution, A. F. (2023). Metode penelitian kualitatif (1st ed.). Penerbit Harfa Creative.
- Rachmadina, A. I., & Harun, S. (2024). Analisis kegiatan program pengelolaan penyakit kronis Puskesmas Gamping 2 Sleman Yogyakarta. *Prosiding Seminar Nasional Penelitian dan Pengabdian kepada Masyarakat*, 2, 51–61. Retrieved from [Prosiding Unisa Yogyakarta](#)
- World Health Organization. (2025). Primary health care. Retrieved May 22, 2026, from [World Health Organization](#)
- Xiong, B., Stirling, C., Bailey, D. X., & Martin-Khan, M. (2024). The implementation and impacts of the comprehensive care standard in Australian acute care hospitals: A survey study. *BMC Health Services Research*, 24, 1–13. <https://doi.org/10.1186/s12913-024-11252-0>
- Silalahi, W. J. (2021). Pengaruh pengingat pesan singkat (SMS) terhadap kepatuhan minum obat pasien diabetes mellitus tipe 2: Literatur review. *Jurnal Ilmu Kesehatan Indonesia (JIKSI)*, 2(2).
- Aryanti, A. D., Kumala, S., & Ramadianati, H. U. (2024). Dampak konseling apoteker, ketersediaan obat, dan kualitas pelayanan kefarmasian terhadap kepuasan dan loyalitas pasien. *Jurnal Ners Universitas Pahlawan*, 8, 167–177.
- Aljuaid, T. H., Alshaghroud, S. M., & Alrashed, M. A. (2021). The role of public hospitals in providing free healthcare services: Enhancing accessibility and promoting positive health outcomes for communities. *International Journal of Health Sciences*, 5(S1), 1545–1565. <https://doi.org/10.53730/ijhs.v5nS1.15433>
- Asfiani, L. V. (2017). Level of adherence and its determinants of PROLANIS attendance in type 2 diabetes mellitus participants at five BPJS primary health care in Bekasi 2016. *Journal of Indonesian Health Policy and Administration*, 2(2). <https://doi.org/10.7454/iHPA.v2i2.1899>
- Guilmault, L., Wiertlewski, S., Malloggi, L., Rousseau, C., Foucher, M. J., Leclere, B., & Moret, L. (2023). Peer support impact on therapeutic adherence in patients with multiple sclerosis: A mixed-methods pilot trial protocol. *BMJ Open Quality*, 12(1), 1–7. <https://doi.org/10.1136/bmjopen-2022-071336>

- Kusumawati, F., & Rahayu, E. (2023). Analisis kendala pengadaan obat program rujuk balik (PRB) di fasilitas kesehatan tingkat pertama (studi kasus pada Puskesmas BLUD di Kabupaten Indragiri Hilir). *Jurnal Jaminan Kesehatan Nasional*, 3(1), 56–67.
- Hutasuhut, R. F., & Siregar, P. P. (2024). Kemudahan akses pelayanan kesehatan dapat meningkatkan kepatuhan minum obat pasien diabetes melitus tipe 2 di Puskesmas Medan Area Selatan. *Jurnal Pandu Husada*, 5(2), 42–50.
- Rifai, A., Hasibuan, R. K., Melda, S., Bangun, B., Widyaningsih, F., & Dian, S. N. (2024). Analisis pengaruh kualitas pelayanan terhadap kepuasan pasien rawat jalan. *Haga Journal of Public Health (HJPH)*, 1(3), 81–87. <https://doi.org/10.62290/hjph.v1i3.34>
- Ulhaq, M. Z., & Ningtiyas, F. A. (2022). Hubungan antara kualitas pelayanan dengan kepuasan pasien di Klinik Pratama. *Indonesian Journal of Hospital Administration*, 5(1), 45–52. [https://doi.org/10.21927/ijhaa.2022.5\(1\).45-52](https://doi.org/10.21927/ijhaa.2022.5(1).45-52)
- Mseke, E. P., Jessup, B., & Barnett, T. (2024). Impact of distance and/or travel time on healthcare service access in rural and remote areas: A scoping review. *Journal of Transport & Health*, 37, Article 101819. <https://doi.org/10.1016/j.jth.2024.101819>
- Febriyanti, R. M., Irawan, A. A., Anggriani, N., & Andriyana, Y. (2025). Challenges in implementing Indonesia's community-based chronic disease management program (PROLANIS): A scoping review. *AIMS Public Health*, 12, 890–915. <https://doi.org/10.3934/publichealth.2025045>
- Sholihat, N. K., Vini, V., & Ratna, F. (2020). Health-related quality of life among patients undergoing chronic disease management: A cross-sectional study. *Journal of Applied Pharmaceutical Science*, 10(3), 75–79. <https://doi.org/10.7324/JAPS.2020.103009>
- Alemu, W., Girma, E., & Mulugeta, T. (2021). Patient awareness and role in attaining healthcare quality: An introduction. *International Journal of Africa Nursing Sciences*, 15, Article 100278. <https://doi.org/10.1016/j.ijans.2021.100278>
- Anakwa, N. O., Kwadjo, E., & Kretchy, I. A. (2021). Illness perceptions, social support and antiretroviral medication adherence in people living with HIV in the Greater Accra Region, Ghana. *Nursing Open*, 8(5), 2595–2604. <https://doi.org/10.1002/nop2.797>
- Kristianto, F. C., Sari, D. L., & Kirtishanti, A. (2021). Pengaruh program penanggulangan penyakit kronis (PROLANIS) terhadap kadar gula darah pasien diabetes melitus tipe 2. *CoMPHI Journal: Community Medicine and Public Health of Indonesia Journal*, 2(1), 8–14. <https://doi.org/10.37148/comphijournal.v2i1.36>
- Pradipta, A., & Falsafi, I. (2023). Penyuluhan diabetes mellitus pada komunitas Prolanis sebagai upaya peningkatan pengetahuan. *Jurnal Kesehatan Pengabdian Masyarakat*, 4(2), 41–44.