

The Efforts to Improve the Achievement of Controlled DM Patient Treatment in the Prolanis Program at Jasinga Community Health Center

Enrico Adhitya Rinaldi^{1*}, Erlina Puspitaloka Mahadewi², Ratna Sari³, Salma Nabilah Rafifah⁴, Lisdayanti NA Hi Nur⁵, Vita Emilya⁶, Azzahra Inda Latifan⁷

^{1*}University of Muhammadiyah, Prof. DR. HAMKA Faculty of Medicine, Indonesia

²Universitas Esa Unggul Jakarta, Indonesia

^{3,4,5,6,7}Puskesmas Jasinga, Bogor, Indonesia

*Corresponding author:

E-mail: dr.enrico@uhamka.ac.id

Abstract

The aim of this study is to prevent uncontrolled diabetes can lead to various chronic complications, such as coronary heart disease, stroke, kidney failure, neuropathy, and blindness. These conditions not only reduce the patient's quality of life but also increase morbidity and mortality rates, and healthcare costs. As a promotive and preventive effort, the Social Security Administering Agency (BPJS Kesehatan) in Indonesia, has developed the Chronic Disease Management Program (Prolanis), one of which is aimed at people with type 2 diabetes. This program is implemented in primary healthcare facilities (FKTP), including community health centers (Puskesmas), with the aim of improving patients' quality of life through continuous treatment, health education, regular physical activity, and regular clinical monitoring. Prolanis consists of six main components: medical consultations, group education, reminders via SMS gateway, home visits, club activities such as group exercise, and monitoring of patient health status. Research method of this study used a descriptive observational design with a cross-sectional approach and was conducted at the Jasinga Community Health Center from August to September 2025. The subjects were all diabetes mellitus patients registered in the Prolanis program. Result data distribution of patients at Jasinga 38,1% controlled and 61,9% uncontrolled despite these limitations, this study has important implications. From a primary healthcare perspective, Jasinga Health Center can utilize simple educational media such as pamphlets and control cards as a means of patient monitoring. However, this strategy should be complemented by additional interventions such as home visits, the establishment of digital communication groups, and increasing family participation.

Keywords: Diabetes, Heath Center, Jasinga Prolanis and Patients.

I. INTRODUCTION

Diabetes mellitus (DM) is a non-communicable disease with a steadily increasing prevalence and poses a serious challenge to health development in Indonesia. According to the International Diabetes Federation (IDF), the number of people with DM in Indonesia has reached approximately 19.5 million, placing Indonesia fifth in the world for the highest number of cases. National data also shows an increasing trend year after year. The 2013 Basic Health Research (Riskesmas) recorded a DM prevalence of 1.5% in those aged 15 years and older, which then increased to 2.0% in the 2018 Riskesdas data in Indonesia[1].

The 2023 Indonesian Health Survey (SKI) again recorded an increase in prevalence to 2.2%. Moreover, according to the Ministry of Health, the prevalence of DM in the population aged 15 years and older increased from 10.9% in 2018 to 11.7% in 2023. This fact indicates that DM cases are becoming more widespread, including in rural areas, and has the potential to create a double burden on the national health system[2].

Uncontrolled diabetes can lead to various chronic complications, such as coronary heart disease, stroke, kidney failure, neuropathy, and blindness. These conditions not only reduce the patient's quality of life but also increase morbidity and mortality rates, and healthcare costs. Therefore, controlling blood glucose levels through regular medication, patient compliance, lifestyle changes, and regular health monitoring are key to preventing complications[3].

As a promotive and preventive effort, the Social Security Administering Agency (BPJS Kesehatan) has developed the Chronic Disease Management Program (Prolanis), one of which is aimed at people with type 2 diabetes. This program is implemented in primary healthcare facilities (FKTP), including community

health centers (Puskesmas), with the aim of improving patients' quality of life through continuous treatment, health education, regular physical activity, and regular clinical monitoring[4]. Prolanis consists of six main components: medical consultations, group education, reminders via SMS gateway, home visits, club activities such as group exercise, and monitoring of patient health status[3].

Various studies have shown that Prolanis can reduce fasting blood glucose levels, HbA1c, and lipid profiles in patients, thus contributing to reducing the risk of complications. However, in various regions, this program still faces challenges, including low patient participation rates, limited knowledge about diabetes, suboptimal medication adherence, lack of family support, limited healthcare workers, and obstacles in recording and ongoing monitoring[5].

A community health center, hereinafter referred to as a Community Health Center (Puskesmas), is a health service facility that provides primary public health and individual health efforts, prioritizing promotive and preventive efforts to achieve the highest level of public health within its working area. Health development at a Community Health Center aims to create a community that has healthy behaviours, encompassing awareness, willingness, and ability to live a healthy life; able to access quality health services; lives in a healthy environment; and has optimal health for individuals, families, groups, and the community. To achieve these goals, a Community Health Center (Puskesmas) organizes Community Health Efforts (UKM) and Individual Health Efforts (UKP)[6].

UKM is any activity undertaken to maintain and improve health, as well as prevent and address health problems, targeting families, groups, and the community. UKP is an activity and/or series of health service activities aimed at improving, preventing, curing disease, alleviating suffering from disease, and restoring individual health. Jasinga Community Health Center is an inpatient community health center located in Bogor Regency, West Java, Indonesia. Jasinga Community Health Center, as one of the primary health care facilities (FKTP) in Bogor Regency, plays a crucial role in the successful implementation of Prolanis, particularly in increasing the number of patients with controlled diabetes.

Based on a 2024 evaluation, DM control outcomes among Prolanis participants in this region were still suboptimal[7]. This highlights the need for innovative and targeted strategies in 2025 to improve the program's success. Optimizing educational activities, increasing patient motivation, utilizing information technology, family involvement, and cross-sectoral coordination are all steps that need to be developed[8].

Therefore, research or programs focused on improving the treatment outcomes of controlled diabetes patients at Jasinga Community Health Center in 2025 are highly relevant. This effort is expected to be able to reduce the number of complications, improve the quality of life of patients, and at the same time support the achievement of national health development goals which emphasize the control of non-communicable diseases.

II. METHOD

Type of Research of this study used a descriptive observational design with a cross-sectional approach and was conducted at the Jasinga Community Health Center from August to September 2025. The subjects were all diabetes mellitus patients registered in the Prolanis program. Data was obtained through interviews during outreach activities, fasting blood sugar tests, and secondary data recording from medical records and Prolanis reports. The research instruments included an interview guide and secondary data recording sheets. Data were analyzed descriptively using frequency distribution tables and percentages[9].

Research location and time was conducted at the Jasinga Community Health Center, Bogor Regency, Indonesia, from August to September 2025. The research focused on efforts to improve the treatment outcomes of patients with controlled diabetes mellitus through the Prolanis program. In addition, health education was provided to patients using pamphlets, which was also conducted during the study period at the Jasinga Community Health Center[10].

The first primary data collected data was obtained through interviews with PTM program managers at the Jasinga Community Health Center to gather information on program implementation, and efforts to improve treatment outcomes for mellitus diabetes patients. Additionally, primary data was collected through questionnaires and structured interviews with diabetes mellitus patients participating in Prolanis, conducted

concurrently with diabetes mellitus education activities. The purpose of this data collection was to assess patient characteristics, disease control status, and level of treatment adherence.

Secondary data collection was obtained from official documents and reports available at the Jasinga Community Health Center, including medical records of diabetes mellitus patients participating in Prolanis and routine reports from the Jasinga Community Health Center's Prolanis program[11].

III. RESULT AND DISCUSSION

Interpretation of Results

The intervention, which included health education and the use of educational media (pamphlets "Control Diabetes Mellitus with MANIS" and diabetes mellitus control cards) for Prolanis patients at the Jasinga Community Health Center, showed that of the 21 patients, 8 (38.1%) achieved controlled blood sugar levels, while 13 (61.9%) remained uncontrolled. These results indicate that the educational intervention had a positive impact on some patients, particularly in increasing motivation and awareness to manage their blood sugar levels.

However, the number of patients with uncontrolled blood sugar levels remained high, necessitating further intensive efforts, both in terms of mentoring and long-term monitoring. Of the 21 PROLANIS patients who participated in the intervention program through education and the use of educational media, 8 (38.1%) achieved controlled blood sugar levels, while 13 (61.9%) remained uncontrolled. These results indicate that most patients still require further support in managing their diabetes mellitus, although some patients have achieved good blood sugar control.

Intervention Method

The intervention used in this mini project is a program to improve treatment outcomes for diabetes mellitus patients in the Jasinga Community Health Center (Puskesmas), Bogor. This outreach program utilizes a diabetes mellitus control card and educational media in the form of a pamphlet titled "Control Diabetes Mellitus with MANIS" aimed at the community and diabetes mellitus patients at the Jasinga Community Health Center.

Outreach Officers

The following are involved in the implementation of the improvement and outreach program in this mini project:

- a. The PROLANIS diabetes mellitus program holder at the Jasinga Community Health Center
- b. Young Doctors from the Faculty of Medicine, Uhamka, Jakarta, Indonesia

Time and Location

- a. The activity to improve treatment outcomes for diabetes mellitus patients will be conducted at the Jasinga Community Health Center through Prolanis activities in September 2025.
- b. This activity will involve providing diabetes mellitus education and pamphlets at the Jasinga Community Health Center.

Outreach Targets

The targets of this mini project are divided into two groups:

- a. Patients diagnosed with diabetes mellitus are given a control program using a diabetes mellitus control card and a diabetes mellitus control pamphlet with "MANIS."
- b. Others healthcare workers.

The findings of this study are aligned with several previous studies[12]: the implementation of the Chronic Disease Management Program (Prolanis) has been shown to significantly reduce HbA1c levels in diabetes mellitus (DM) patients after a specific intervention period. However, the findings of this study differ, likely due to the relatively short duration of the intervention, only one month, so long-term effects are not yet fully visible, also highlighted obstacles to Prolanis implementation, such as low patient participation, limited recording facilities, and lack of family support. These conditions align with findings at the Jasinga

Community Health Center, where some patients did not attend regular check-ups, and not all families were actively involved in supporting DM management.

Parameters / Test Classification	Normal Classification	Prediabetes / Glucose Disorder Classification	Classification on Diabetes	Notes / Target DM Controlled*
Fasting plasma glucose (FPG)	< 100 mg/dL (5,6 mmol/L)	100–125 mg/dL (5,6–6,9 mmol/L)	≥ 126 mg/dL ($\geq 7,0$ mmol/L)	For DM patients, many guidelines recommend maintaining fasting blood sugar levels below 130 mg/dL (depending on the patient's condition).
2-hour postprandial blood sugar (OGTT)	< 140 mg/dL (7,8 mmol/L)	140–199 mg/dL (7,8–11,0 mmol/L)	≥ 200 mg/dL ($\geq 11,1$ mmol/L)	In DM patients, the post-meal target is often <180 mg/dL or according to local/physician guidelines.
HbA1c (Glycated hemoglobin)	< 5,7 %	5,7 % – 6,4 %	$\geq 6,5$ %	For controlled DM, many Indonesian and international guidelines recommend HbA1c <7%, but this can be adjusted based on age, risk of hypoglycemia, and comorbidities.

Table 1. Research Data (2025)

Therefore, the results of this study in Table 1 above, are consistent with previous findings that education and supporting media play a significant role in improving patient compliance. However, full success still requires ongoing multi-sectoral interventions with family and community support. Thus, the results of this study are consistent with previous findings that education and supporting media play a crucial role, but full success requires multi-sectoral and sustained intervention.

Research Limitations

This study has several limitations that require consideration. The sample size included only 21 Prolanis patients, making it unrepresentative of the entire population of diabetes patients in the Jasinga Community Health Center (Puskesmas) working area. Furthermore, the relatively short intervention duration of only one month prevented this study from assessing the long-term impact of the use of educational media and control cards. Important variables such as diet, physical activity, family support, and comorbidities were not analysed in depth, even though these factors significantly influence blood sugar control. Furthermore, patient self-monitoring was limited because most patients did not have blood sugar testing devices at home.

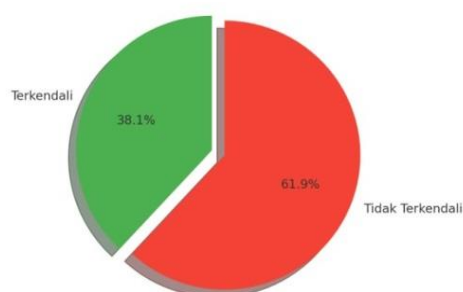


Table 2. Distribution of Diabetes Mellitus (DM) patients at Jasinga Community Health Center (Controlled and Uncontrolled), 2025

Research Implications

Result from Table 2, distribution of patients at Jasinga 38,1% controlled and 61,9% uncontrolled. Despite these limitations, this study has important implications. From a primary healthcare perspective,

Jasinga Health Center (Puskesmas) can utilize simple educational media such as pamphlets and control cards as a means of patient monitoring. However, this strategy should be complemented by additional interventions such as home visits, the establishment of digital communication groups, and increasing family participation[13].

The Prolanis program perspective, coordination across programs such as Health Promotion (Promkes), Prevention and Control of Non-Communicable Diseases (PTM), Individual Health Efforts (UKP), and Public Health Efforts (UKM) is needed, as well as optimizing local health networks to ensure more comprehensive interventions. Meanwhile, for further research, it is recommended to conduct evaluations with a longer duration and a larger sample size, as well as add analysis of external factors, such as lifestyle, social support, and the presence of comorbidities, which have the potential to influence patient adherence in managing diabetes[14].

The top priority problem at the Jasinga, Bogor Indonesia, Community Health Center is the low level of Prolanis DM control, due to low patient compliance with routine check-ups and treatment. Data shows that of 21 patients, only 8 (38.1%) are under control, while 13 (61.9%) are uncontrolled.

The main contributing factors are lack of patient knowledge, socioeconomic barriers, limited educational media, lack of self-examination tools, and geographical constraints. Interventions such as education, "MANIS" pamphlets, and DM control cards have increased awareness but have not optimally reduced the number of uncontrolled patients[15].

Remedial efforts include optimizing the Community Health Center (Pusling), developing DM control cards, engaging educational media, standard operating procedures (SOPs) for medication adherence, and coordination across programs and health networks. Village community participation increased after the intervention, but villages with geographical constraints (Pangradin and Kalongsawah) still require more intensive support.

V. ACKNOWLEDGMENTS

The teams would like to express their deepest gratitude to Universitas Esa Unggul and University of Muhammadiyah, Prof. DR. HAMKA Faculty of Medicine, Indonesia, also Jasinga Health Center, for invaluable data, guidance and support, throughout this research.

REFERENCES

- [1] Nabila Erinaputri, R. Listiani, Faza Duta Pramudyawardani, and Novita Dwi Istanti, "Peran Puskesmas Untuk Mencapai Universal Health Coverage di Indonesia: Literature Review," *Jurnal Medika Nusantara*, vol. 1, no. 2, pp. 190–199, May 2023, doi: 10.59680/medika.v1i2.310.
- [2] Ministry of Health of the Republic of Indonesia, "Indonesia Basic Health Research, 2018," 2018.
- [3] D. A. D. P. dan D. [1] E. P. Mahadewi, "Health Promotion Healthy Behavior And Religiosity On Sustainable Marketing Of Healthcare Services," *The Seybold Report Journal (TSRJ)*, vol. 17, no. 9, pp. 501–513, Sep. 2022.
- [4] BPJS, "BPJS Kesehatan," Badan Penyelenggara Jaminan Sosial.
- [5] A. Basirah Mulya, N. Liska Suspenny, C. Wayamah, and E. Puspitaloka Mahadewi, "Development of BPJS from Participation, Government Policy, and Technological Aspects After Pandemic," *International Journal of Health and Pharmaceutical (IJHP)*, vol. 5, no. 1, pp. 1–9, Feb. 2025, doi: 10.51601/ijhp.v5i1.391.
- [6] M. B. Degefa, B. T. Woldehanna, and A. D. Mebratie, "Effect of community-based health insurance on catastrophic health expenditure among chronic disease patients in Asella referral hospital, Southeast Ethiopia: a comparative cross-sectional study," *BMC Health Serv. Res.*, vol. 23, no. 1, p. 188, Feb. 2023, doi: 10.1186/s12913-023-09181-5.
- [7] S. Ahmed *et al.*, "Adverse Selection in Community Based Health Insurance among Informal Workers in Bangladesh: An EQ-5D Assessment," *Int. J. Environ. Res. Public Health*, vol. 15, no. 2, p. 242, Jan. 2018, doi: 10.3390/ijerph15020242.
- [8] WHO, "Together on the road to universal health coverage: A call to action," *World Health Organisation (WHO)*, 2017.
- [9] sulisty basuki, "Metode Penelitian," 2006.
- [10] A. Jenis, D. Penelitian, and J. Penelitian, "Bab Iii Metode Penelitian A. Jenis dan Desain Penelitian 1. Jenis Penelitian," pp. 52–77, 2007.
- [11] E. P. , Mahadewi, *Metode Riset Bisnis (Business Research Methods)*. PT. Literasi Nusantara Abadi Grup.
- [12] R. D. Wulandari, A. D. Laksono, N. Rohmah, and H. Ashar, "Regional differences in primary healthcare

- utilization in Java Region—Indonesia,” *PLoS One*, vol. 18, no. 3, p. e0283709, Mar. 2023, doi: 10.1371/journal.pone.0283709.
- [13] A. Asari, E. Puspitaloka Mahadewi, I. Marti Ayu, and S. Shorayasari, “Framing TOWS as Marketing Strategy Determiner of Medical Equipment in PT. Tawada Healthcare Jakarta Indonesia,” *International Journal of Science, Technology & Management*, vol. 3, no. 6, 2022, doi: 10.46729/ijstm.v3i6.640.
- [14] Erlina Puspitaloka Mahadewi, Ade Heryana, Fori Yumita, Mulyo Wiharto, and Lia Amalia, “Framing Improvement of Emergency Services RSKJ Soeprpto Hospital with Lean and WAM Modification,” *International Journal of Science, Technology & Management*, vol. 2, no. 3, 2021, doi: 10.46729/ijstm.v2i3.220.
- [15] E. Puspitaloka Mahadewi and M. Muchtadin, “The Influence of Psychological Capital and Affective Commitment on Organizational Citizenship Behavior of Hospital Staff,” *International Journal of Science, Technology & Management*, vol. 5, no. 2, pp. 367–372, Mar. 2024, doi: 10.46729/ijstm.v5i2.1081.