



Determinants of Prolanis Utilization in Diabetes Mellitus Patients as a Chronic Disease Management Program

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<p>Track Record Article</p> <p>Revised: 08 January 2026 Accepted: 16 March 2026 Published: 31 March 2026</p> <p>How to cite: Shofiyana, Jati, S. P., & Agushybana, F. (2026). Determinants of Prolanis Utilization in Diabetes Mellitus Patients as a Chronic Disease Management Program. <i>Contagion: Scientific Periodical Journal of Public Health and Coastal Health</i>, 8(1), 453–468.</p>	<p style="text-align: center;">Abstract</p> <p><i>Diabetes mellitus (DM) has emerged as a global public health problem due to its complications and associated mortality. Diabetes management has been legalized in Indonesia under the Chronic Disease Management Program (Prolanis), with BPJS Kesehatan as the coordinating entity. Despite the availability of Prolanis, participation appears to be limited, and patient interest varies significantly. This study aimed to identify the determinants influencing Prolanis consumption among diabetes mellitus patients. This study utilized an analytical observational methodology with a cross-sectional design, focusing on patients with diabetes mellitus (DM) enrolled in the Prolanis program at various Primary Health Care Facilities (FKTP) in Demak Regency. The research encompassed 120 participants chosen via proportionate stratified random sampling. Data were collected via a structured questionnaire that had been subjected to validity and reliability assessments. The independent variables were categorized into high and low groups based on the median value of each variable. The utilization of the Prolanis program was characterized by the consistent engagement of patients in scheduled program activities during the past three months. The data analysis included descriptive statistics, chi-square tests to assess bivariate relationships, and multivariable logistic regression to determine characteristics that independently affected program utilization. The bivariate analysis indicated that knowledge, familial support, assistance from healthcare providers, accessibility of services, and perceived necessity were substantially correlated with participation in Prolanis activities ($p < 0.001$). Subsequent study employing multivariable logistic regression revealed that all variables continued to be significant predictors of program usage ($p < 0.05$). Among these characteristics, family support had the most significant influence ($Exp(B) = 11.2$), succeeded by knowledge (10.5), accessibility of resources (10.4), perceived need (8.1), and healthcare professional support (6.8). The regression model accounted for 80.6% of the variance in Prolanis consumption, as evidenced by a Nagelkerke R^2 score of 0.806. The results indicate that robust family engagement and adequate patient information significantly influence participation in Prolanis activities. Initiatives to enhance program usage among persons with diabetes mellitus should concentrate on bolstering family involvement, broadening patient education, and facilitating improved access to healthcare services.</i></p> <p>Keywords: <i>Prolanis, DM, Family Support, Knowledge, Service Accessibility.</i></p>
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INTRODUCTION

The swift advancement of globalization has coincided with a significant epidemiological change in numerous nations, whereby the illness burden has progressively switched from infectious diseases to non-communicable diseases (NCDs), such as diabetes mellitus (DM) (Kemenkes RI, 2023). The global prevalence of diabetes mellitus is escalating, rising from 10.5% in 2021 to 11.1% in 2024, with projections indicating an increase from 415 million affected individuals to around 642 million by 2040 (IDF, 2024; ADA, 2024). A comparable trend is observed in Southeast Asia, where prevalence has risen from 8.7% to 10.8% and is

projected to reach 10.1% by 2035 (WHO, 2024). In Indonesia, the prevalence of diabetes mellitus has increased from 10.9% to 11.7%, with the highest rate observed in those aged 60 and older, at 24.3%. Central Java recognizes diabetes mellitus as one of the three predominant non-communicable diseases at the provincial level, with a prevalence of 8.7% (Dinkes Jateng, 2024). In Demak Regency, diabetes mellitus (DM) is the second most prevalent non-communicable disease (NCD), accounting for 19,118 cases or 6.12% of the overall chronic illness burden (Dinkes Demak, 2024). These developments underscore the escalating public health burden presented by diabetes and emphasize the need to strengthen primary health care services to enhance prevention strategies, facilitate early detection, and ensure the continuity of diabetes management.

Diabetes Mellitus is influenced by various risk factors, including age, lifestyle, obesity, physical activity, and familial history (Kemenkes RI, 2022). Bivariate analysis revealed age, sex, diet, obesity, physical activity, and family history as significant factors, whereas multivariate analysis substantiated age (OR = 20.542; 95% CI: 7.208–58.547), gender (OR = 4.583; 95% CI: 1.332–15.763), and obesity (OR = 0.268; 95% CI: 0.077–0.927) as independent predictors (Lestari & Isnaini, 2025). The rising prevalence of diabetes mellitus has heightened the incidence of serious consequences, including stroke, renal failure, cardiovascular disease, and neuropathy (Kemenkes RI, 2021). Consequently, primary care management prioritizes education, lifestyle modification, nutrition, medication, and monitoring (Nugraha et al., 2025; Siregar et al., 2023).

A significant initiative to address diabetes management in Indonesia is the Chronic Disease Management Program (Prolanis), established by BPJS Kesehatan. Prolanis aims to improve the quality of life for individuals with diabetes mellitus and hypertension by offering comprehensive, integrated promotive and preventive services. Indicators of program effectiveness encompass attaining an RPPT value of at least 5% and a minimum participation rate of 75% (Kemenkes RI, 2022). The fundamental elements of Prolanis comprise education, TNM monitoring, physical activity, and pharmaceutical treatment (Handayani et al., 2025). Effective diabetes management requires a holistic and individualized approach (Pratama et al., 2024). The implementation of Diabetes Self-Management Education (DSME) forms the foundation for community-based healthcare programs (Kartika, 2021). Prolanis has been shown to be effective in managing DM within single BPJS operational areas (Sitompul & As-Shidieq, 2024).

Prior research has yielded mixed results regarding the implementation of the Chronic Disease Management Program (Prolanis) in patients with diabetes mellitus. Engagement in the

program has been associated with several contributing factors, including familial support, attitudes toward healthcare professionals, perceived necessity for services, age, knowledge level, and employment position (Nasution et al., 2024; Sabrina & Rahayu, 2023; Cahyaningrum et al., 2024; Darmayanti et al., 2025). These variables are typically analyzed using Andersen's Behavioral Model of Health Service Utilization, which categorizes determinants into three primary groups: predisposing factors, enabling factors, and need-related factors (Hamidah & Budiarto, 2023).

Notwithstanding these findings, numerous limitations are apparent in the current literature. Several studies concentrate on a limited number of factors instead of analyzing the three domains of Andersen's model in a cohesive manner. Moreover, empirical evidence at the district level in Central Java remains very limited, especially in Demak Regency, where diabetes mellitus is identified as the second most prevalent non-communicable disease. Variations in local health service accessibility and community attributes may also affect program utilization trends. Consequently, additional research is required to achieve a more thorough comprehension of the parameters associated with Prolanis participation. This study aims to investigate the determinants of Prolanis consumption among patients with diabetes mellitus in Demak Regency by employing a paradigm that concurrently addresses predisposing, enabling, and need-based factors.

METHODS

This study used a quantitative cross-sectional design involving Prolanis participants diagnosed with diabetes mellitus in 2024 at selected community health centers (Puskesmas) in Demak Regency. According to data from the Demak District Health Office, the total population consisted of 2,478 participants distributed across four Puskesmas: Karanganyar I (746), Demak III (516), Gajah II (479), and Mijen II (737) (Dinkes Demak, 2024). A proportionate stratified random sampling technique was applied, with each Puskesmas treated as a stratum to ensure proportional representation. The sample size was calculated using the LEMESHOW formula with a 95% confidence level ($Z = 1.96$), an estimated proportion of 8.5% ($P = 0.085$), and a margin of error of 5% ($d = 0.05$), yielding a required sample size of 120 respondents. The final sample distribution included 36 respondents from Karanganyar I, 25 from Demak III, 23 from Gajah II, and 36 from Mijen II, selected randomly using a random number generator.

Data were collected using a structured questionnaire that assessed respondent characteristics and study variables. The independent variables included knowledge of Prolanis, family support, healthcare provider support, service accessibility, and perceived need,

measured using Likert-scale items and categorized into high and low based on median values. The dependent variable was Prolanis utilization, defined by attendance in program activities during the previous six months and classified as low (≤ 3 visits) or high (> 3 visits). The instrument was tested on 30 respondents and demonstrated acceptable validity ($r > 0.361$) and reliability (Cronbach's alpha > 0.6). Data were processed through editing, coding, and entry, followed by univariate analysis, Chi-square tests, and logistic regression at the $p < 0.05$ significance level.

RESULTS

Respondent Characteristics

Table 1. Distribution of Respondent Characteristics, 2025 (n = 120)

	Variable	f	%
Age	45–59 years	56	46.7
	≥ 60 years	64	53.3
Sex	Female	100	83.3
	Male	20	16.7
Education Level	Elementary School	46	38.3
	Junior High School	39	32.5
	Senior High School	30	25.0
	Higher Education	5	4.2
Occupation	Unemployed	52	43.3
	Housewife	30	25.0
	Laborer	10	8.3
	Private Employee	11	9.2
	Entrepreneur	13	10.8
	Civil Servant (ASN)	4	3.3
Duration of Illness	≤ 3 years	30	25.0
	> 3 years	90	75.0
Total		120	100.0

The majority of participants were older persons, with 53.3% aged 60 years or more and a mean age of 60.41 years. The sample consisted primarily of females (83.3%), with the largest demographic possessing an elementary-level education (38.3%). Approximately 43.3% of the respondents were unemployed. Despite all participants being registered in the 2024 Prolanis cohort, the majority had endured diabetes mellitus for over three years, underscoring the condition's chronic and enduring nature.

Overview of Research Variables

Table 2. Frequency Distribution of Factors Related to the Utilization of the Chronic Disease Management Program (Prolanis) among Diabetes Mellitus Patients, 2025 (n = 120)

Variable	Category	f	%
Knowledge	Poor ($<$ median)	74	61.7
	Good (\geq median)	46	38.3
Family Support	Not Supportive ($<$ median)	50	41.7
	Supportive (\geq median)	70	58.3
Health Worker Support	Not Supportive ($<$ median)	60	50.0

Variable	Category	f	%
Service Access	Supportive (\geq median)	60	50.0
	Difficult ($<$ median)	69	57.5
Perceived Needs	Easy (\geq median)	51	42.5
	Not Needed ($<$ median)	50	41.7
Prolanis Utilization	Needed (\geq median)	70	58.3
	Low (≤ 3 visits)	84	70.0
	High (> 3 visits)	36	30.0
Total		120	100.0

Table 2 indicates that a majority of respondents (61.7%) had inadequate knowledge of Prolanis. Family support was predominantly affirmative (58.3%), but healthcare worker support was similarly divided (50% favorable and 50% unsupportive). Over fifty percent encountered challenging service accessibility (57.5%). Despite 58.3% recognizing the need for Prolanis, overall engagement was minimal: 70% participated in three or fewer sessions in the preceding six months, and only 30% attended more than three.

Relationships Among Research Variables

Table 3. Analysis of Factors Associated with the Utilization of the Chronic Disease Management Program (Prolanis) among Diabetes Mellitus Patients, 2025 (n = 120)

Variable	Prolanis Utilization						p-value	OR (95% CI)	
	Low		High		Total				
	f	%	f	%	F	%			
Knowledge	Poor	62	83.8	12	16.2	74	100.0	0.000*	5,636 (2,4-13,1)
	Good	22	47.8	24	52.2	46	100.0		
Family Support	Not Supportive	49	98.0	1	2.0	50	100.0	0.000*	49 (6,4-374,78)
	Supportive	35	50.0	35	50.0	70	100.0		
Healthcare Support	Not Supportive	57	95.0	3	5.0	60	100.0	0.000*	23,2 (6,5-82,4)
	Supportive	27	45.0	33	55.0	60	100.0		
Access to Health Services	Difficult	59	85.5	10	14.5	69	100.0	0.000*	6,1 (2,5-14,5)
	Easy	25	49.0	26	51.0	51	100.0		
Perceived Need	Not Needed	48	96.0	2	4.0	50	100.0	0.000*	22.6 (5.1-100.5)
	Needed	36	51.4	34	48.6	70	100.0		
Total		84	70.0	36	30.0	120	100.0		

*Fisher's Exact

Table 3 indicates that 70.0% of respondents exhibited low Prolanis consumption, whereas 30.0% demonstrated high utilization. All assessed parameters exhibited a substantial correlation with consumption ($p = 0.000$). Inadequate understanding heightened the probability of low consumption by 5.6 times (OR = 5.636; 95% CI: 2.4–13.1). The absence of familial support showed the strongest association, with participants 49 times more likely to exhibit low use (OR = 49; 95% CI: 6.4–374.78). The lack of healthcare provider assistance elevated the risk by 23.2 times (95% CI: 6.5–82.4). Challenging access to health services elevated the likelihood by 6.1 times (95% CI: 2.5–14.5), whereas low perceived need augmented the risk by 22.6 times (95% CI: 5.1–100.5).

Analysis of Factors Associated with the Utilization of the Chronic Disease Management Program (Prolanis)

Logistic regression analysis was performed to determine factors associated with Prolanis utilization among patients with diabetes mellitus. The results are presented below:

Table 4. Logistic Regression Analysis of Factors Associated with Prolanis Utilization among Diabetes Mellitus Patients, 2025 (n = 120).

Variable	B	S.E.	Sig.	Exp(B)	95% C.I. for EXP (B)	
					Lower	Upper
Knowledge (1)	2.357	1.099	.032	10.562	1.226	90.983
Family Support (1)	2.422	1.088	.026	11.267	1.336	94.990
Healthcare Worker Support (1)	1.919	.952	.044	6.814	1.054	44.067
Access to Health Services (1)	2.343	.839	.005	10.408	2.012	53.843
Perceived Need (1)	2.095	.941	.026	8.126	1.285	51.372
Constant	-7.732	1.639	.000	.000		
R Square	0.806					

Table 4 delineates the outcomes of multiple logistic regression analysis, indicating that knowledge ($p = 0.032$; $\text{Exp}(B) = 10.562$), family support ($p = 0.026$; $\text{Exp}(B) = 11.267$), healthcare worker support ($p = 0.044$; $\text{Exp}(B) = 6.814$), access to health services ($p = 0.005$; $\text{Exp}(B) = 10.408$), and perceived need ($p = 0.026$; $\text{Exp}(B) = 8.126$) were significantly correlated with Prolanis utilization ($p < 0.05$). Family support was identified as the predominant factor ($\text{Exp}(B) = 11.267$; 95% CI: 1.336–94.990), succeeded by knowledge ($\text{Exp}(B) = 10.562$; 95% CI: 1.226–90.983) and access to health services ($\text{Exp}(B) = 10.408$; 95% CI: 2.012–53.843). Familial support was the predominant element, succeeded by knowledge and accessibility to services. Individuals with supportive families, enough information, accessible resources, affirmative healthcare, and a recognized necessity had higher utilization rates. The model had substantial explanatory power ($R^2 = 0.806$), indicating that 80.6% of the variance in Prolanis consumption was accounted for by the model's factors.

DISCUSSION

Relationship Between Knowledge and Utilization of the Chronic Disease Management Program (Prolanis)

The study revealed that a majority of individuals with Diabetes Mellitus have inadequate awareness of Prolanis (61.7%), signifying a restricted comprehension of its preventative aims and long-term advantages. While numerous respondents were familiar with everyday activities such as medical check-ups and group exercise, their understanding was predominantly procedural rather than conceptual. Prior research indicates that sufficient information enhances involvement in chronic disease management programs, but insufficient knowledge diminishes engagement (Poudel et al., 2025). Patients possessing superior

knowledge are documented to exhibit 2–3 times greater adherence to therapy and structured programs (Barrio-Cortes et al., 2021). In Andersen's Behavioral Model, knowledge is regarded as a predisposing element influencing an individual's decision to utilize health care (Alkhaldeh et al., 2023). Individuals who have limited understanding of their condition or available services often seek care only when symptoms become apparent (Nappoe et al., 2024; Alsanosi et al., 2025). In contrast, patients with greater knowledge of disease management and health programs tend to engage more regularly in preventive and routine health services (Alkaff et al., 2021).

The multivariate analysis in this study indicated a strong correlation between knowledge and Prolanis utilization (OR = 5.6), implying that respondents with elevated knowledge levels were more inclined to engage in the program. However, this association must be regarded with caution due to various methodological factors that may affect the results, including the utilization of median values for variable categorization, dependence on self-reported data, and the disproportionate distribution of respondents among categories. Qualitative data indicate that consistent and well-organized educational events, bolstered by effective communication from health professionals, can enhance patient comprehension and promote ongoing engagement. Conversely, restricted educational opportunities and a deficiency of healthcare workers may diminish patient participation in the program. Consequently, knowledge should not be seen merely as an individual characteristic but also as a measure of the health system's effectiveness in providing accessible health education and sustaining enough personnel support (Kartika, 2021).

Relationship Between Family Support and Utilization of the Chronic Disease Management Program (Prolanis)

This study identified family support as the most significant factor correlated with Prolanis consumption (OR = 11.2). Patients who received familial support were more inclined to engage in the program, underscoring the significant role of families in facilitating transportation, oversight, and emotional encouragement for chronic disease treatment. Nonetheless, the substantial odds ratio must be evaluated judiciously, as it may be influenced by methodological issues such as limited cell counts in specific categories, the use of median cut-off points, and reliance on self-reported data, which may exaggerate the strength of the link.

Qualitative findings underscore the significance of familial engagement. Health centers that met program objectives reported active family involvement in accompanying patients, overseeing medication adherence, assisting with nutrition management, and sustaining

communication via platforms like WhatsApp groups. Prior research has demonstrated that familial support enhances adherence and engagement in diabetes treatment regimens, while also bolstering patients' motivation in health-related decision-making (Jing et al., 2024; Lederle et al., 2021; Li et al., 2023; Luo et al., 2024; Poudel et al., 2025; Pradipta et al., 2025). Overall, family support functions as a key enabling factor that translates service availability into actual utilization, highlighting the importance of family-centered strategies in primary healthcare.

Relationship Between Healthcare Provider Support and Prolanis Utilization

The support of healthcare providers was substantially associated with Prolanis utilization (OR = 6.8), indicating that patients who received sufficient assistance from healthcare professionals were nearly seven times more likely to engage in the program. Despite its lesser impact compared to family support and knowledge, provider support remains a significant enabling aspect within Andersen's Behavioral Model. This assistance encompassed explicit communication, continuous health education, reminder mechanisms such as WhatsApp messages, follow-up for patients who missed activities, home visits, and institutional support through operational funding and partnerships with local authorities. Conversely, health centers that could not achieve program objectives frequently exhibited inconsistent reminder systems and encountered staff workload constraints, suggesting that provider assistance is affected by both individual dedication and the health system's capability. These findings corroborate prior research indicating that efficient communication, integrated healthcare teams, and organized follow-up mechanisms can enhance adherence and outcomes in diabetes management (Versluis et al., 2025; Belete et al., 2023; Dailah, 2024).

Disparities in service quality across geographic and socioeconomic contexts further affect chronic care utilization (Mustafa et al., 2025; Sharifi et al., 2022; Liao et al., 2021). Lack of consultation time and limited advanced competencies hinder effective implementation (Thepwongsa et al., 2025). "Gaps in physicians' knowledge and the low rate of complication screening indicate the need for continuous education programs in primary care (Rong et al., 2024). The study also states that the high clinical workload requires integrating service technologies, particularly in screening workflows and the management of diabetes distress (Kostiuk et al., 2025). Overall, healthcare provider support—through informational, emotional, and motivational roles—is essential in strengthening patient confidence and program adherence (Hu et al., 2021; Ambarita & Nurwahyuni, 2022). Healthcare support increases Prolanis visits by 4.7 times (Darmayanti et al., 2025) and program utilization by up to 9 times (Rahayu et al., 2025).

Relationship Between Access to Health Services and Prolanis Utilization

Access to health services was a crucial factor influencing Prolanis utilization (OR = 10.4). Over fifty percent of respondents (57.5%) indicated challenges in access attributed to distance, transportation obstacles, travel duration, scheduling conflicts, and insufficient information. In accordance with Andersen's Behavioral Model, access serves as an enabling element; even motivated patients may be unable to participate in chronic care programs when structural hurdles remain. Qualitative studies indicated that centers meeting participation targets had proximate facilities, community-based activities, transportation assistance, and adaptable schedules, whereas underperforming centers encountered distance, inadequate transport, and inflexible service hours, notably impacting senior patients.

These findings are consistent with previous evidence showing that rural barriers and travel distances greater than 3 km reduce attendance in chronic care programs (Strooij et al., 2025; Septiani et al., 2024; Fadila & Ahmad, 2021) and predict poor adherence among patients with type 2 diabetes (Krisnadewi et al., 2025). Despite the potential influence of median cut-off categorization, limited sample size, and self-reported measures on the relatively large odds ratio, both quantitative and qualitative findings consistently demonstrate that access—geographical, informational, and organizational constitutes a fundamental structural determinant of Prolanis participation (Sugianto et al., 2023). Consequently, expanding utilization necessitates not only the augmentation of knowledge and motivation but also the fortification of structural accessibility via dispersed services, transportation assistance, flexible scheduling, and more systematic reminder systems.

Relationship Between Perceived Need and Prolanis Utilization

The perceived necessity markedly affects Prolanis utilization, since engagement relies not only on service availability but also on patients' comprehension of disease development, long-term advantages, and enhancement of quality of life. Prior research indicates that perceived necessity and perceived advantages of programs significantly influence participation in health initiatives (Azhari et al., 2025; Sabrina & Rahayu, 2023; Marwati et al., 2022). However, limited human resources, inadequate infrastructure, and overlapping workloads in some health centers can hinder program implementation and reduce patients' perceived value of the services (Latifah et al., 2022). Psychosocial factors, such as a sense of belonging within a patient group, may also influence perceived need (Krisnadewi et al., 2025). Although many participants report satisfaction with Prolanis services, several studies still identify gaps in service procedures and provider responsiveness (Kusumawardana et al., 2024; Woldamanuel et al., 2023; Daly et al., 2022; Halim et al., 2024).

The multivariate analysis in this study established a strong association between perceived need and Prolanis consumption. Patients who recognized the significance of ongoing care were more inclined to engage in program activities. This discovery aligns with the Health Belief Model, which emphasizes perceived necessity and susceptibility as primary motivators of health-seeking action (Firmansyah et al., 2022). In contrast, low perceived need may occur when patients rely mainly on medication without recognizing the importance of education and regular monitoring (Fadlilah et al., 2024). Consequently, enhancing patients' perceived necessity necessitates organized education, tailored counseling, and efficient communication between healthcare providers and patients, consistent with global diabetes management guidelines that underscore patient comprehension as a vital element in sustained disease regulation (Iswatun et al., 2025).

Factors Associated with Prolanis Utilization

The research revealed that all independent variables—knowledge, family support, healthcare provider support, service accessibility, and perceived need—were significantly connected with Prolanis utilization ($p < 0.05$), although gender showed no relationship with participation. The regression model demonstrated considerable explanatory power ($R^2 = 0.806$), indicating that these factors combined explained a significant portion of the variance in program usage. Family support was identified as the primary component ($\text{Exp}(B) = 11.267$), followed by knowledge ($\text{Exp}(B) = 10.562$) and the availability of health services ($\text{Exp}(B) = 10.408$). Patients with strong familial support were significantly more likely to participate in Prolanis activities, confirming previous research that demonstrates family involvement improves motivation and adherence in chronic disease management (Firmansyah et al., 2022; Aini et al., 2025). Knowledge also played a major role, as patients with a better understanding of diabetes and the program were much more likely to participate, supporting the evidence that health literacy improves awareness of complications and engagement in structured care (Halim et al., 2024).

The accessibility of services was a significant driver, as patients with easier access to health facilities were more inclined to utilize Prolanis, aligning with research that identified poor access, particularly in rural regions, as a primary obstacle (Nugraha et al., 2025). The perceived need ($\text{Exp}(B) = 8.1$) significantly impacted health-seeking behavior, underscoring the relevance of patients' understanding regarding disease severity and the enduring advantages of consistent care (Ariana et al., 2021). Moreover, assistance from healthcare providers, including education, effective communication, and follow-up, significantly enhanced patient participation in the program (Azhari et al., 2025).

Implication

The data indicate that enhancing Prolanis utilization necessitates a holistic, system-wide approach rather than solely depending on patient education. Initiatives may encompass enhancing family engagement via family-oriented education and participation in program activities, augmenting service accessibility by modifying service hours, delivering mobile or home-visit services, integrating programs with Posbindu or Posyandu, and providing transportation assistance. Moreover, implementing digital reminder methods, such as WhatsApp messages, SMS, or telephone follow-ups, can enhance patient adherence (Versluis et al., 2025). Standardizing program execution across primary healthcare centers via appointed coordinators and regular monitoring is essential. Moreover, systematic Diabetes Self-Management Education (DSME) should be instituted to improve patients' perceived necessity and health literacy (Iswatun et al., 2025). Simultaneously treating predisposing, enabling, and need-related factors may enhance the Prolanis program, leading to improved glucose control and the prevention of long-term problems in persons with Diabetes Mellitus.

Research Limitations

This research possesses multiple limitations. The research was conducted exclusively in Demak Regency, potentially limiting the generalizability of the findings to other areas with distinct characteristics or differences in Prolanis deployment. Secondly, the data relied on self-reported responses, lacking verification from objective sources such as attendance records or medical files, potentially introducing reporting bias. Third, variations in program implementation among primary healthcare facilities, such as timing, frequency of educational sessions, staff availability, and monitoring, were not thoroughly analyzed, despite their potential impact on participation. Moreover, many variables had wide confidence intervals, indicating limited sample precision and the potential for inflated effect sizes; hence, the robustness of several correlations should be evaluated with caution.

CONCLUSIONS

This study's findings reveal that 70% of patients with Diabetes Mellitus had minimal engagement in the Chronic Disease Management Program (Prolanis). Multiple factors—specifically knowledge, familial support, assistance from healthcare professionals, accessibility to health services, and perceived necessity exhibited a strong correlation with program utilization, although gender did not demonstrate a substantial link. Among these characteristics, familial support emerged as the most significant factor, followed by knowledge and accessibility to resources. The regression model exhibited substantial explanatory power

($R^2 = 0.806$), indicating that participation in Prolanis is influenced by a confluence of predisposing, enabling, and need-related factors, with familial engagement serving a notably significant reinforcing function.

Nonetheless, the comparatively elevated odds ratios and wide confidence intervals indicate that the estimates may be inaccurate and could be considerably exaggerated. This issue may pertain to the distribution of categorical data and to limited observations in specific analytical cells. While the general trend of the correlations across variables is stable, the intensity of these associations warrants cautious interpretation. A future study with larger, more evenly distributed samples is advised to achieve more robust, precise estimates of the factors affecting Prolanis consumption.

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