Original Article

Social Support, Psychological Distress, and Quality of Life in Patients with Diabetes Mellitus Living in the Community

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ABSTRACT

Background: Individuals living with diabetes mellitus (DM) often face psychological distress because of the disease's chronic progression and the complexity of its daily management. Distress has been linked to poor glycemic control and decreased quality of life. Therefore, these psychological distresses require social support. This study aimed to investigate the relationship between social support, psychological distress, and quality of life in patients with diabetes mellitus living in the community.

Methods: A cross-sectional quantitative study was conducted with 250 diabetic patients recruited from five public health centers in Central Java, Indonesia using purposive sampling. Patients with severe cognitive impairment, psychiatric disorders, or comorbid conditions that could significantly affect psychological status were excluded. Data were collected through validated instruments: the Multidimensional Scale of Perceived Social Support (MSPSS), the Diabetes Distress Scale (DDS-17), and the World Health Organization Quality of Life-BREF (WHOQOL-BREF). The data were analyzed using Spearman's rank correlation, and statistical significance was determined at $p < 0.05$.

Results: The findings revealed a significant negative correlation between social support and diabetes-related distress ($r = -0.48$, $p < 0.001$), and a significant positive correlation between social support and quality of life ($r = 0.55$, $p < 0.001$).

Conclusion: There was a significant association between social support and reduced distress as well as enhanced quality of life in community-dwelling individuals with diabetes. Nursing interventions that enhance family involvement, peer support, and community engagement are essential in diabetes management. These findings highlight the importance of psychosocial components in chronic disease care.

***Keywords*:** Diabetes Mellitus; Social support; Psychological Distress; Quality of Life.

Implications for Practice:

- Recognize the Role of Social Support: The findings underscore the critical role of social support in reducing psychological distress and enhancing quality of life among community-dwelling patients with diabetes mellitus.
- Routine Psychosocial Assessment: Nurses and healthcare professionals should regularly assess the psychosocial status of diabetic patients to identify individuals at risk of emotional distress or social isolation.
- Implement Community-Based Interventions: Community-centered strategies such as peer support groups, family-engaged care, and structured education programs are essential for improving coping

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Implications for Practice:
mechanisms and reinforcing support systems.

Introduction

Diabetes mellitus (DM) is a long-term metabolic condition marked by elevated blood glucose levels due to impaired insulin secretion, insulin resistance, or a combination of both (Jafar et al., 2023). According to data from the Indonesian Health Survey, there has been an increase in the prevalence of Diabetes Mellitus from 10.9% to 11.7% in the population ≥ 15 years old based on the results of measuring blood sugar levels (Badan Kebijakan Pelayanan Kesehatan, 2023). Effective diabetes management demands ongoing self-care and strict compliance with intricate treatment plans, often leading to significant psychological and emotional strain for patients.

A major psychosocial challenge experienced by people with diabetes is diabetes-related distress, which refers to the emotional strain associated with managing and living with the condition(Dasantos et al., 2023). Diabetes-related Distress (DRD) diminishes motivation for self-care, which can lead to decreased physical and mental well-being, thus may increase complications of DM and related mortality(Gupta et al., 2022). Diabetes distress differs from clinical depression but is strongly associated with poor self-management, suboptimal glycemic control, and decreased quality of life (Zhang et al., 2023). Psychological distress in diabetic patients has been linked to adverse health outcomes and increased risk of complications (Abd El Kader et al., 2023).

Quality of life (QoL), a multidimensional construct encompassing physical, psychological, and social domains, is a vital outcome in diabetes care (Accinelli et al., 2021). Maintaining a good quality of life despite living with a chronic illness is a key goal for healthcare providers. However, many patients with diabetes report lower QoL compared to the general population, often influenced by both clinical factors and psychosocial variables.

Social support is widely recognized as a key psychosocial factor that helps mitigate distress and enhances health outcomes in individuals with chronic illnesses, including diabetes (Wagner et al., 2024). Social support encompasses emotional, informational, and instrumental assistance received from family, friends, and the community. It plays a pivotal role in encouraging treatment adherence, improving coping strategies, and enhancing psychological well-being (Seddigh & Tang, 2023).

Although there is increasing evidence highlighting the beneficial impact of social support, the intricate relationships among social support, diabetes-related distress, and quality of life are still insufficiently examined, especially within community contexts in low- and middle-income countries such as Indonesia. Understanding these relationships is essential for developing culturally appropriate, holistic nursing interventions aimed at improving both mental health and quality of life among diabetic patients.

This study aims to know the levels of social support, distress, and quality of life, and to investigate the relationship between social support, distress, and quality of life among patients with diabetes mellitus living in the community. The findings are expected to contribute valuable insights for nursing practice and inform strategies to integrate psychosocial support into comprehensive diabetes care.

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Methods

Study Design

This research adopted a cross-sectional design to explore the relationship between social support, distress, and quality of life in patients with diabetes mellitus residing in the community. The research was conducted in five public health centers (PHCs) located in an urban area in Central Java, Indonesia.

Participants

A total of 250 adult patients diagnosed with diabetes mellitus were recruited using a purposive sampling technique. Inclusion criteria were: (1) adults aged 18 years and above, (2) diagnosed with type 2 diabetes for at least six months, (3) able to communicate in the local language, and (4) willing to participate by providing informed consent. Patients with severe cognitive impairment, psychiatric disorders, or comorbid conditions that could significantly affect psychological status were excluded.

Instruments

A self-administered questionnaire was used to collect the data. The questionnaire consisted of 4 parts as follows:

a. Section One of the questionnaire contained 8 items concerning basic demographic data and health factors such as gender, age, educational level, occupation, marital status, health insurance type, living arrangement, and duration of diabetes.
b. Section two: The Multidimensional Scale of Perceived Social Support (-MSPSS) is an instrument to measure an individual's perception of support from family, friends, and a significant other. The scale consists of 12 items, with four items for each of the three subscales, using a 5-point Likert scale (0= strongly disagree, 5 = strongly agree). Scores 12–35 refer to low perceived support, 36–60 means medium perceived support, and 61–84 refers to high perceived support. Cronbach's alphas ranged from 0.81 to 0.98 in clinical samples. The MSPSS had high internal consistency (α=0.88) and test–retest reliability (r=0.68, p<0.01). In the current study, Cronbach's alpha was 0.925.
c. Section three: Diabetes Distress Scale (DDS); Polonsky et al., 2005) is a 17-item multidimensional scale developed to assess diabetes-related distress among patients living with DM. DDS is comprised of four subscales, namely: emotional burden (EB), physician-related distress (PD), regimen-related distress subscale (RD), and diabetes-related interpersonal distress subscale (ID). The scale instructs patients to consider the degree to which each item may have bothered them during the past month. Items are rated on a 6-point scale, ranging from 1(not a problem) to 6 (a very serious problem), with a higher mean score indicating higher diabetes-related distress. A higher mean score for each domain also indicates higher distress for the domain. The construct validity of the DDS-17 was evaluated through item-total correlation analysis. All items demonstrated a positive and significant correlation with the total score ($r > 0.30$, $p < 0.05$), indicating that each item was consistent with the overall construct of diabetes-related distress. Developers reported a total Cronbach's alpha reliability coefficient of 0.93 and also reported Cronbach's alpha reliability coefficient of the subscales in the range of 0.83 and 0.85 across domains. DDS yielded a total alpha reliability coefficient of 0.84 and a range of 0.78–0.82 alpha reliability coefficients across the four domains.
d. Section four: Quality of Life was evaluated by the World Health Organization Quality of Life-BREF (WHOQOL-BREF) questionnaire, a 26-

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item tool measuring physical health, psychological health, social relationships, and environment domains. Construct validity was assessed using item-total correlation analysis. All items showed a positive and statistically significant correlation with their respective domain scores ($r > 0.43$, $p < 0.05$), indicating that the items were valid measures of their intended quality of life domains: physical health, psychological health, social relationships, and environment. The internal consistency reliability of the WHOQOL-BREF was examined using Cronbach's alpha. The overall Cronbach's alpha for the instrument was $\alpha = 0.89$, suggesting high internal consistency. The Cronbach's alpha values for each domain were also satisfactory, with values ranging from 0.74 to 0.87, indicating acceptable to good reliability across all domains.

Data Collection

Data for this study were collected over six months, from January to June 2024, at five selected public health centers located in urban areas. Eligible participants were identified by reviewing medical records with the assistance of nurses in the public health centers. After obtaining permission from health facility administrators and approval from the ethics committee, potential participants were approached in person during routine diabetes care visits. They were given a clear explanation of the study's aims, procedures, possible risks, and benefits, and assured of the confidentiality and voluntary nature of their participation. Written informed consent was obtained before any data collection began.

Researchers administered questionnaires to participants for data collection. Before completing the questionnaire, each patient provided written informed consent. The questionnaires were then filled out by the patients, with researchers offering assistance when necessary. Once the questionnaires were completed, researchers collected them and reviewed each for completeness and accuracy before entering the data into the database.

Data Analysis

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) software, version 25. The analyses included descriptive statistics such as frequency distribution and percentages, and inferential statistics. Descriptive statistics summarized demographic and clinical characteristics such as age, gender, education level, occupation, health insurance type, and duration of diabetes. Spearman correlation coefficients were applied to examine the relationships between social support, distress, and quality of life. Statistical significance was set at $p < 0.05$.

Ethical Considerations

The ethical approval was obtained from the Health Research Ethics Committee Poltekkes Kemenkes Semarang (No.0762/EA/KEPK/2023) before data collection. The Participants were approached during their routine visits to the public health centers, and those who met the inclusion criteria were informed about the study objectives and confidentiality measures. Written informed consent was obtained from all participants. Respondents in this research were volunteers in this study, and they had the right to withdraw from the study at any stage.

Results

Participant Characteristics and Descriptive Analysis

A total of 250 participants with type 2 diabetes mellitus were included in this study. The majority were female (58.4%), and the dominant age group was between

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45 and 65 years (72.8%), reflecting a typical demographic of middle-aged adults affected by chronic metabolic disorders. Educational attainment showed a skew toward lower levels, with 76% having only primary or secondary education, potentially indicating limited health literacy across the sample. Regarding employment, private sector workers represented the largest occupational group (41.2%), followed by farmers (24.4%), suggesting a relatively heterogeneous socioeconomic background.

Most participants were married (76.8%) and lived with family members (68.0%), highlighting strong familial structures. Notably, 80% of respondents were covered by the national health insurance scheme (BPJS/UHC), which may influence healthcare access and utilization patterns. More than half (61.2%) had lived with diabetes for over five years, indicating a substantial experience with long-term disease management.

Levels of Social Support, Psychological Distress, and Quality of Life

The distribution of psychosocial variables demonstrated important variation. Over half of the participants (56.8%) reported moderate levels of perceived social support, while 28.0% experienced high levels. Interestingly, 15.2% of patients perceived their support to be low, warranting targeted psychosocial interventions.

Regarding psychological distress, 50.4% of participants experienced moderate levels, while 16.0% were classified as having high distress. This pattern underscores the emotional toll of chronic disease management, even within a community setting. In terms of quality of life, 55.2% of respondents reported a moderate QoL, 24.0% high, and 20.8% low, suggesting a significant subset of patients experiencing compromised well-being despite stable community care.

What stands out is that the moderate category dominates all three variables, revealing that while extreme cases exist, most patients occupy a vulnerable "middle ground," where timely support could tilt outcomes positively.

Correlation Between Social Support, Distress, and Quality of Life

Bivariate analysis using Spearman's rho demonstrated statistically significant correlations among the core variables. A moderate negative correlation was observed between perceived social support and psychological distress (r_s = -0.482, $p < 0.001$), indicating that greater social support was associated with lower levels of distress. Likewise, a moderate positive correlation was found between social support and quality of life (r_s = 0.536, $p < 0.001$), suggesting that individuals perceiving more support reported better overall well-being.

An additional analysis (included in the full dataset) showed that distress was strongly negatively correlated with quality of life (r_s = -0.601, $p < 0.001$), further emphasizing the mediating role of emotional well-being in the chronic disease experience.

These results suggest that psychosocial factors—particularly perceived social support—play a crucial role in modulating both emotional burden and life satisfaction among individuals with diabetes in the community setting. The unique combination of moderate social support and moderate distress across the sample points to a critical opportunity for nursing interventions to amplify existing support structures before patients deteriorate into higher-risk categories **(Table 1).**

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Table 1. Characteristics of Participants, Levels of Social Support, Distress, and Quality of Life, and Bivariate Correlation (n = 250)

Variable	Category	n (%)
Sex	Male	104 (41.6%)
	Female	146 (58.4%)
Age (years)	< 45	34 (13.6%)
	45–65	182 (72.8%)
	> 65	34 (13.6%)
Educational Level	Primary education	89 (35.6%)
	Secondary education	101 (40.4%)
	Higher education	60 (24.0%)
Occupation	Farmer	61 (24.4%)
	Trader	45 (18.0%)
	Government employee	41 (16.4%)
	Private employee	103 (41.2%)
Marital Status	Married	192 (76.8%)
	Single	21 (8.4%)
	Widowed/Divorced	37 (14.8%)
Type of Insurance	National Health Insurance (BPJS/UHC)	200 (80.0%)
	Private insurance	50 (20.0%)
Living Arrangement	Alone	32 (12.8%)
	With family	170 (68.0%)
	With spouse	48 (19.2%)
Duration of Diabetes	≤ 5 years	97 (38.8%)
	> 5 years	153 (61.2%)
Social Support Level	Low	38 (15.2%)
	Moderate	142 (56.8%)
	High	70 (28.0%)
Distress Level	Low	84 (33.6%)
	Moderate	126 (50.4%)
	High	40 (16.0%)
Quality of Life Level	Low	52 (20.8%)
	Moderate	138 (55.2%)
	High	60 (24.0%)
Correlation between Variables		**Spearman's ρ / p**
Social Support vs. Distress		-0.482 / <0.001
Social Support vs. Quality of Life		0.536 / <0.001

Notes: Data presented as number and percentage: n (%). Correlation analysis used Spearman's rank correlation test. All correlations were statistically significant at $p < 0.001$. "Low," "Moderate," and "High" levels are based on validated instrument score ranges.

Discussion

The results of this study showed that over half of the participants (50.4%) reported experiencing moderate levels of psychological distress, suggesting that distress is a common concern among individuals living with diabetes mellitus. In the current study, the majority of participants were older adults, a population commonly reported to face increased emotional burdens due to concerns about disease progression, physical limitations, and financial dependency. Furthermore, if a large proportion of respondents were female, this could also contribute to elevated distress levels, as several studies have shown that women with chronic illnesses are more likely to report emotional symptoms such as anxiety and distress compared to men (Wen et al., 2023).

Moreover. the study stated that social support moderates the negative effects of

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stress on psychological health (Hirshberg et al., 2024), According to another study, support from family, friends, or health care providers provides emotional reassurance, practical help, and a sense of belonging, all of which can reduce individuals' perceived threat or inability to cope with stressful situations (Enggarwati et al., 2022)

Low levels of education and income are also significant contributing factors. Those with limited educational backgrounds may face barriers in accessing health information and effective coping mechanisms, which can result in heightened uncertainty and anxiety about their health (Wulandari et al., 2025). Similarly, low-income participants may experience financial stress due to the ongoing costs of diabetes management, especially if they do not have limited health insurance.

Marital status can play a dual role: being single, divorced, or widowed may reduce social support, while being a caregiver or spouse might also heighten distress due to added responsibilities. Participants who had lived with diabetes for a longer duration may experience what is known as diabetes distress—a specific emotional burden linked to chronic disease management, self-monitoring, dietary restrictions, and fear of complications (Yang et al., 2021). In contrast, newly diagnosed individuals might face anxiety due to a lack of knowledge or experience with the disease

Additionally, the study revealed a moderate inverse correlation between social support and psychological distress (r_s = -0.482, $p < 0.001$), indicating that higher perceived social support is associated with reduced levels of distress. This result highlights the essential role of social relationships in buffering stress and promoting mental well-being, particularly among individuals managing chronic health conditions.

These findings are consistent with previous studies that have documented the protective effect of social support against psychological distress, and among patients with chronic diseases, those with higher levels of perceived support reported significantly lower distress levels (Lewinski et al., 2024). Similarly, a study by Onu et al. (2022) found that social support acts as a psychological buffer, mitigating the impact of stressors and reducing emotional burden.

In examining the relationship between social support and distress, it was observed that individuals experiencing more stressful life events tended to exhibit more pronounced depressive symptoms. Similar to the study by Michot et al. (2024), they found a significant difference in distress and depressive symptoms among patients with higher social support. The relationship between distress and depressive features and perceived social support is more likely to be in the latter order, which means that it is more logical to state that higher perceived social support leads to lower distress and depressive features, rather than saying that higher distress and depressive features lead to lower perceived social support.

Chronic diseases like diabetes often involve significant emotional and long-term management demands, making social support a critical factor in addressing psychological distress. Individuals with strong support systems may feel more empowered to manage their health, adhere to treatment regimens, and maintain a more positive outlook, ultimately resulting in better psychological outcomes (Isworo et al., 2019). From a practical perspective, these findings underscore the importance of integrating psychosocial support into chronic disease care models. Health care providers should assess patients' support networks and, where necessary, facilitate access to community support groups, family counseling, or peer support interventions to enhance resilience and reduce distress (Sherman et al., 2023).

The findings of this study show that most participants (55.2%) reported a

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moderate quality of life (QoL), while 20.0% experienced a low level of QoL. These findings suggest that while most respondents maintain a fair level of life satisfaction, a significant proportion still face challenges that negatively affect their well-being. This condition may be burdened by longer disease duration, complications of diabetes, low socioeconomic status, comorbid mental health issues (e.g., depression or distress), and limited access to health services (Yang et al., 2021).

The present study found a moderate positive correlation between social support and quality of life (r_s = 0.536, p < 0.001), indicating that individuals who perceived higher levels of social support tended to report better quality of life. This finding reinforces the critical role that social support plays in promoting psychological and physical well-being, particularly among individuals with chronic health conditions. This finding is supported by the previous study that Social support improves self-efficacy, which in turn enhances self-management that leads to better psychological outcomes of persons with type 2 diabetes (Khalili Azar et al., 2024).

These results are consistent with prior research, which has repeatedly demonstrated that social support is a key determinant of quality of life across various populations (Yildirim et al., 2023). Another study by Hilliard et al. (2025) found that among individuals with chronic diseases, perceived social support was significantly associated with improvements in both physical and mental components of quality of life. Similarly, a study showed that emotional and instrumental support from family and peers had a substantial positive impact on life satisfaction and health-related quality of life in patients with type 2 diabetes (Wagner et al., 2024). Theoretically, Social support enhances a person's sense of belonging and emotional security, provides encouragement for self-care, and often facilitates access to health resources, all of which contribute to improved quality of life (Salinas-Rehbein et al., 2024).

In chronic conditions like diabetes, individuals frequently face the challenges of prolonged treatment, necessary lifestyle modifications, and the risk of complications (Isworo et al., 2019). Supportive social environments can play a buffering role. Individuals who receive consistent emotional encouragement, informational guidance, and practical help are more likely to cope effectively, engage in healthy behaviors, and maintain psychological stability—all factors that contribute to improved well-being (Gray et al., 2019). These findings have practical implications for health care providers, especially in community and primary care settings. Integrating family-centered care, peer support interventions, and community-based health programs could foster stronger support networks, thereby enhancing patients' overall quality of life (Sherman et al., 2023). Additionally, the moderate positive correlation observed between social support and quality of life underscores the importance of fostering supportive social environments in the management of chronic diseases (Al-Dwaikat et al., 2021).

Relevance to Clinical Practice

These results emphasize the necessity of integrating psychosocial assessments into routine clinical care, particularly in primary and community health settings. Nurses and other healthcare professionals should be equipped to conduct psychosocial screenings to identify patients at risk of high distress and low perceived support. Early identification can facilitate timely interventions, such as counseling referrals, peer support group facilitation, and strengthening family involvement in care.

However, implementing such psychosocial interventions in clinical

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practice is not without challenges. High nurse-to-patient ratios, limited training on mental health assessment, and inadequate system-level support can hinder consistent screening and follow-up. Additionally, time constraints during consultations and a lack of interdisciplinary collaboration may reduce opportunities for holistic care delivery. To address these barriers, healthcare systems must invest in workforce training, strengthen community-based referral networks, and support policies that prioritize mental and emotional well-being as part of comprehensive diabetes management.

Conclusion

In conclusion, this study confirms a significant relationship between perceived social support, psychological distress, and quality of life among individuals with diabetes mellitus living in the community. Patients with higher levels of social support reported lower psychological distress and better quality of life across multiple domains, highlighting the vital role of social support as a protective factor in chronic disease management. Given the rising prevalence of diabetes and its psychosocial impact, nursing interventions should move beyond biomedical care to incorporate strategies that promote emotional resilience and strengthen support systems. Community health nurses and other healthcare professionals are encouraged to routinely assess and enhance social support mechanisms for patients with diabetes. Integrating psychosocial care into both clinical and community-based programs may improve patient outcomes, reduce emotional burdens, and elevate overall quality of life. Future longitudinal studies are recommended to explore causal relationships and evaluate the effectiveness of structured social support interventions in diabetes management within community settings.

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CrediT Authorship Contributions Statement

Suharsono: Conceptualization, Methodology, Supervision, Writing - Original Draft
Bambang Sarwono: Software, Validation, Formal Analysis, Writing - Review & Editing
Sunarko: Investigation, Resources, Data Curation, Formal Analysis, Writing - Review & Editing
Noor Faidah: Writing - Original Draft, Funding Acquisition
Rojabtiyah: Project Administration, Formal Analysis, Writing - Review & Editing
Aisyah: Review & Editing, Visualization

Conflicts Of Interest

The authors declare no conflicts of interest related to the design, implementation, analysis, or publication of this research. This study was conducted independently and was not influenced by any financial, institutional, or personal relationships that could have inappropriately affected (biased) its outcomes. All authors affirm that they have disclosed any potential competing interests and confirm that there are no known competing financial interests or personal relationships that could have appeared to influence the work reported in this manuscript.

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