Scientific Publications

World Journal of Nursing Research, 2026, 5, 6608
www.scipublications.com/journal/wjnr
DOI: 10.31586/wjnr.2026.6608

Article

Diabetes Self-Care and Quality of Life Among Filipino Men with Type 2 Diabetes: A Cross-Sectional Study

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Abstract: Background: Type 2 diabetes requires sustained self-care, yet the relationship between specific self-care behaviors and quality of life may vary across populations and care contexts. Evidence focused on Filipino men remains limited. **Objective:** To describe dietary, exercise, medication, and glucose-monitoring adherence and examine their relationships with quality of life among Filipino men with type 2 diabetes in Manila, Philippines. **Methods:** This quantitative cross-sectional study analyzed questionnaire data from 31 adult Filipino men with type 2 diabetes. Seven adapted diabetes self-care items assessed diet, exercise, medication use, and home glucose monitoring. Quality of life was assessed with the World Health Organization Quality of Life-BREF. Descriptive statistics and two-tailed Pearson correlations were used. **Results:** Overall self-care adherence was moderate (M = 3.00). Dietary adherence (M = 3.11) and exercise adherence (M = 3.02) were moderate, whereas the combined medication and glucose-monitoring domain was low (M = 2.57). Mean quality of life was moderate (M = 3.11). Diet (r = -.002, p = .99), exercise (r = .31, p = .09), and medication/glucose-monitoring adherence (r = -.006, p = .97) were not significantly correlated with quality of life. **Conclusion:** The findings identify actionable gaps in structured exercise, medication-taking, and glucose monitoring but do not support a statistically significant relationship between measured self-care adherence and quality of life. Larger, analytically robust studies should examine clinical, psychological, social, and economic determinants alongside self-care.

Keywords: Diabetes Mellitus; Type 2; Self Care; Quality of Life; Male; Philippines

How to cite this paper:
Borja, A. R. S., Topacio, R., & Al-Mahdaly, A. A. (2026). Diabetes Self-Care and Quality of Life Among Filipino Men with Type 2 Diabetes: A Cross-Sectional Study. *World Journal of Nursing Research, 5*(1), 43-57. DOI: 10.31586/wjnr.2026.6608

Received: July 30, 2026
Revised: September 2, 2026
Accepted: September 21, 2026
Published: September 24, 2026

1. Introduction

Type 2 diabetes mellitus (T2DM) is a chronic, progressive disorder shaped by interacting genetic, metabolic, behavioral, and social influences (Davies et al., 2026) [1]. Its clinical importance extends beyond hyperglycemia because vascular, renal, neurologic, psychological, and functional complications can accumulate over time and reduce both longevity and quality of life (Abel et al., 2024) [2]. Contemporary management therefore combines pharmacotherapy with healthy eating, physical activity, glucose monitoring when indicated, risk-factor control, and sustained engagement with care (Crawford & Laiteerapong, 2024) [3]. These demands are especially consequential in health systems where screening, continuity, affordability, and access to diabetes education remain uneven. In the Philippines, millions of people live with diagnosed or undiagnosed diabetes, while important gaps persist in prevention, monitoring, and long-term

management (Cando et al., 2024) [4]. A patient's capacity to carry out daily self-care is therefore not a peripheral issue but a central component of diabetes outcomes and everyday well-being.

Self-care and quality of life are related conceptually, but their empirical association is not necessarily direct or immediate. Eating patterns, activity, medication-taking, and glucose monitoring may influence metabolic control and complication risk over time, whereas quality of life reflects a wider appraisal of physical health, psychological state, relationships, autonomy, material conditions, and environment. Some self-care behaviors can also impose short-term burdens through cost, discomfort, time demands, dietary restrictions, or fear of adverse effects even when they are clinically beneficial. Conversely, a person with favorable quality of life may have stronger physical, social, and economic resources for maintaining self-care. Cross-sectional correlations therefore represent the net result of several potentially opposing pathways and should not be treated as a simple test of whether self-care "works." Examining domains separately can reveal where behavior is most difficult while preventing an overall score from concealing divergent patterns.

Self-care is a multidimensional process that includes maintaining healthful behaviors, monitoring changes, managing treatment, and responding to symptoms or risk (Riegel et al., 2021) [5]. For T2DM, patient-centered self-management interventions can improve glycemic control and behaviors such as diet, physical activity, foot care, and medication adherence, although effects differ across intervention designs and populations (Asmat et al., 2022) [6]. Self-efficacy is consistently relevant because confidence in one's ability to carry out treatment-related behaviors influences whether knowledge becomes sustained action (Fereidooni et al., 2024) [7]. Health literacy also affects the interpretation and use of diabetes information and has been linked with self-efficacy, self-care, and glycemic control in community settings (Ong-Artborirak et al., 2023) [8]. Behavioral intentions, perceived control, and treatment beliefs further shape adherence, demonstrating that self-care is not reducible to individual motivation alone (Babazadeh et al., 2022) [9]. Social and economic resources, treatment complexity, access to supplies, competing work or family demands, and the fit between recommendations and daily life can all facilitate or constrain adherence.

Men warrant focused study because diabetes management is experienced within gendered expectations, relationships, work roles, and patterns of help-seeking. A recent scoping review found that men's engagement with T2DM management and health professionals is influenced by how care recommendations align with autonomy, identity, practical routines, and the perceived usefulness of clinical encounters (Pihl et al., 2023) [10]. Among Mexican men with T2DM, fatalistic beliefs were associated with self-care and glycemic outcomes, illustrating how illness beliefs may alter responses to treatment recommendations (Mendoza-Catalán et al., 2023) [11]. Population evidence also suggests that the association of T2DM with depression and quality of life can differ by sex, although the direction and magnitude depend on age, comorbidity, and the outcome measure used (de Ritter et al., 2023) [12]. Sex differences in health-related quality of life have likewise been observed among older adults with T2DM (Jeong & Park, 2024) [13]. At the same time, sociodemographic correlates of self-care are not uniform across studies, indicating that gender should be considered alongside, rather than in place of, socioeconomic and clinical context (Okafor et al., 2024) [14]. Evidence specific to men can help nursing and community programs avoid assuming that one form of education or support will be equally acceptable and feasible for everyone.

The Philippine evidence base underscores the importance of contextualized diabetes education but remains limited in relation to men's self-care and quality of life. A scoping

review of diabetes education in the Philippines found few eligible studies and substantial unmet needs in knowledge and intervention evidence (Ghisi et al., 2022) [15]. Qualitative research among Filipino Americans shows that diabetes management can involve cultural tensions related to ownership of health decisions, family expectations, and personally defined success (Tolentino & Brynes, 2024) [16]. Other work has linked diabetes self-management among Filipino Americans with internalized cultural and historical influences, reinforcing the need to examine self-care without reducing culture to a list of fixed traits (Roca et al., 2025) [17]. Family support may shift from independence to partnership and more direct assistance as health needs change, suggesting that support is dynamic rather than uniformly beneficial (Peregrina et al., 2024) [18]. Philippine peer-led education has improved diabetes knowledge in resource-limited communities, but evidence remains insufficient to establish which approaches most effectively change long-term behavior and quality of life (Kobayashi et al., 2023) [19]. Studies using the World Health Organization Quality of Life-BREF (WHOQOL-BREF) in other Asian and Middle Eastern populations further show that quality of life is influenced by multiple clinical and contextual determinants, not by a single self-care behavior (Amin et al., 2022; Homady et al., 2023) [20,21].

Despite the clinical importance of self-care, few studies have examined domain-specific adherence and its relationship with quality of life specifically among Filipino men with T2DM in an urban Philippine setting. This gap matters because a moderate total self-care score can conceal substantial differences among eating practices, structured exercise, medication use, and glucose monitoring. It is also uncertain whether higher adherence, as captured by a brief self-report measure, corresponds to better perceived quality of life in a small community sample. This study therefore aimed to describe adherence to diet, exercise, medication use, and home glucose monitoring; describe overall quality of life; and examine bivariate relationships between each self-care domain and quality of life among Filipino men with T2DM in Manila, Philippines. The study was intended to identify practical priorities for nursing assessment and diabetes education while generating preliminary evidence for larger investigations.

The analysis addressed three questions: What levels of adherence were reported for the measured dietary, exercise, medication-taking, and glucose-monitoring behaviors? What was the reported overall quality of life? Were the domain scores associated with quality of life? No causal relationship was hypothesized because exposure and outcome were measured at the same time. Instead, the study treated the correlations as exploratory estimates and emphasized the direction and magnitude of the coefficients alongside statistical significance. This framing is important for a small study because a nonsignificant result can reflect limited precision, whereas a near-zero coefficient and a moderate but imprecise coefficient convey different information. The resulting evidence was intended to guide refinement of measurement and sampling as well as clinical priorities.

2. Materials and Methods

2.1. Study Design

This study used a quantitative descriptive cross-sectional design. Cross-sectional studies are appropriate for estimating the distribution of characteristics and examining associations at one point in time, but they cannot establish temporal sequence or causality (Wang & Cheng, 2020) [22]. Reporting was guided by the Strengthening the Reporting of Observational Studies in Epidemiology recommendations for cross-sectional studies (von Elm et al., 2007) [23].

2.2. Setting, Participants, and Sampling

The study was conducted among adult Filipino men living with T2DM in Manila, Philippines. The analytic sample comprised 31 participants. Eligibility required participants to be male, Filipino, at least 18 years old, residing in Manila, and previously diagnosed with T2DM. Individuals unable to complete the questionnaire independently or with assistance were excluded. A nonprobability sampling approach was used to enroll eligible participants. Participation was voluntary, and no identifying information was included in the analytic data.

Because the study was designed as a preliminary descriptive analysis in a narrowly defined population, all complete questionnaires meeting the eligibility criteria were included. No imputation was undertaken. The modest sample size was considered when interpreting nonsignificant findings, especially the exercise–quality-of-life coefficient.

The primary outcomes were the mean scores for the three self-care groupings and the overall quality-of-life score. The secondary analytic outcomes were the three bivariate correlations with quality of life. The analysis was exploratory and did not designate a single confirmatory hypothesis or adjust for multiple testing. Potential sources of bias included nonprobability selection, self-reporting, differences between prescribed treatment regimens, and the use of abbreviated or nonstandard summary scores. These limitations were addressed through restrained interpretation rather than statistical adjustment because the available data did not include the variables needed to model selection, treatment indication, or reporting bias.

2.3. Measures

2.3.1. Diabetes Self-Care

Self-care was assessed with seven adapted items representing diet, exercise, medication use, and home blood glucose monitoring. The content was informed by commonly assessed domains in the Summary of Diabetes Self-Care Activities (SDSCA), which evaluates diabetes-related behaviors such as general diet, specific diet, exercise, blood glucose testing, foot care, and medication-taking (Toobert et al., 2000) [24]. Three items assessed dietary behaviors: following a healthful eating plan, consuming high-fat foods, and spacing carbohydrates throughout the day. Two items assessed physical activity: completing at least 30 minutes of activity and participating in structured or recreational exercise. Two items assessed treatment-related behaviors: taking recommended insulin injections and conducting home blood glucose monitoring.

Items were rated on a four-point response scale, with higher scored responses representing better adherence after reverse scoring the negatively phrased high-fat-food item. Item means and domain means were calculated. Diet and exercise were summarized separately. Because the supplied analytic framework grouped insulin use and home glucose monitoring together, the domain is reported in this manuscript as “medication and glucose-monitoring adherence” to avoid implying that glucose monitoring is a medication behavior. The original descriptive interpretations of low, moderate, and high adherence were retained with the reported means. The adapted seven-item measure is not equivalent to the complete SDSCA and should not be interpreted using the SDSCA’s standard seven-day frequency scoring.

2.3.2. Quality of Life

Quality of life was assessed using the WHOQOL-BREF, a 26-item instrument covering physical health, psychological health, social relationships, and environment, together with global perceptions of quality of life and health (The WHOQOL Group, 1998) [25]. Items use five-point response formats, with negatively phrased items reverse scored

so that higher values indicate more favorable quality of life. The available analysis summarized responses as an overall raw mean. This descriptive mean was retained to preserve the submitted results; it should not be interpreted as a standard transformed WHOQOL-BREF domain score.

2.4. Data Collection

Eligible participants received information about the study purpose, questionnaire content, voluntary nature of participation, and confidentiality protections before completing the survey. The questionnaire collected eligibility information and responses to the self-care and quality-of-life measures. Completed forms were checked for completeness before data entry. Only complete records were included in the analyses reported in the six tables.

2.5. Ethical Considerations

The study received approval from the responsible institutional ethics review board before data collection. Participants provided informed consent and could decline or discontinue participation without penalty. Data were handled confidentially and analyzed without direct personal identifiers. The study involved minimal risk because participation consisted of questionnaire completion.

2.6. Statistical Analysis

Descriptive statistics were used to summarize individual self-care items, domain scores, overall self-care, and overall quality of life. Results are presented as means with the interpretation assigned in the original scoring framework. Pearson product–moment correlation coefficients were calculated to examine the bivariate relationships of diet, exercise, and medication/glucose-monitoring adherence with quality of life. Tests were two-tailed, and statistical significance was set at $p < .05$. Correlation coefficients were interpreted with attention to their direction, magnitude, statistical uncertainty, and the limited sample size. No multivariable or causal analyses were performed.

3. Results

3.1. Dietary Adherence

Table 1 presents adherence to dietary self-care. The overall dietary mean was 3.11 and was interpreted as moderate adherence. Following a healthful eating plan had the highest mean (M = 3.23). Consuming high-fat foods and spacing carbohydrates evenly throughout the day each had a mean of 3.00. The similarity of these item scores indicates that participants reported neither consistently poor nor consistently high adherence across the measured dietary practices. Because the high-fat-food item was negatively phrased, its score was interpreted after reverse coding.

Table 1. Dietary Self-Care Adherence Among Filipino Men with Type 2 Diabetes (N = 31)

Indicator	Mean score	Interpretation
Following a healthful eating plan	3.23	Moderate
Consuming high-fat foods, including red meat and full-fat dairy (reverse scored)	3.00	Moderate
Spacing carbohydrates evenly throughout the day	3.00	Moderate
Overall dietary mean	**3.11**	**Moderate**

Note. Items were scored on a four-point response scale. Higher scored responses indicate greater adherence after reverse scoring the negatively phrased high-fat-food item.

3.2. Exercise Adherence

Table 2 presents adherence to exercise. The overall exercise mean was 3.02, indicating moderate adherence. Participation in at least 30 minutes of physical activity had the highest mean across all self-care items (M = 3.53) and was interpreted as high adherence. Participation in structured exercise, such as walking, swimming, or biking beyond routine daily activity, was lower (M = 2.50) and was interpreted as moderate. The one-point difference between the two items suggests that participants more readily reported general activity than planned or structured exercise.

Table 2. Exercise Self-Care Adherence Among Filipino Men with Type 2 Diabetes (N = 31)

Indicator	Mean score	Interpretation
Participating in at least 30 minutes of physical activity	3.53	High
Participating in structured exercise, such as walking, swimming, or biking	2.50	Moderate
Overall exercise mean	**3.02**	**Moderate**

Note. Items were scored on a four-point response scale; higher scores indicate greater reported adherence.

3.3. Medication and Glucose-Monitoring Adherence

Table 3 presents medication and home glucose-monitoring adherence. This domain had the lowest overall mean (M = 2.57) and was interpreted as low adherence. Taking recommended insulin injections had a mean of 2.67, whereas conducting regular home blood glucose monitoring had a mean of 2.43. Thus, home glucose monitoring was the lowest-scoring behavior in the study. These findings identify treatment implementation and monitoring as priority areas for further assessment.

Table 3. Medication and Glucose-Monitoring Adherence Among Filipino Men with Type 2 Diabetes (N = 31)

Indicator	Mean score	Interpretation
Taking recommended insulin injections	2.67	Moderate
Conducting regular home blood glucose monitoring	2.43	Low
Overall medication/glucose-monitoring mean	**2.57**	**Low**

Note. Items were scored on a four-point response scale; higher scores indicate greater reported adherence. Home glucose monitoring is presented with medication adherence to preserve the supplied analytic grouping, although it is a distinct self-care behavior.

3.4. Overall Self-Care Adherence

Table 4 summarizes the three self-care domains. Diet had the highest domain mean (M = 3.11), followed by exercise (M = 3.02) and medication/glucose monitoring (M = 2.57). The total mean was 3.00 and was interpreted as moderate overall adherence. The domain pattern shows that the overall mean masks lower adherence in medication-taking and home monitoring. Domain-specific assessment is therefore more informative than the total score alone.

Table 4. Summary of Self-Care Adherence Among Filipino Men with Type 2 Diabetes (N = 31)

Domain	Mean score	Interpretation
Diet	3.11	Moderate
Exercise	3.02	Moderate
Medication and glucose monitoring	2.57	Low
Total mean	**3.00**	**Moderate**

Note. Domain means are presented as reported. The total mean is the unweighted mean of the three domain means.

3.5. Quality of Life

Table 5 presents the overall raw quality-of-life mean. Participants had a mean score of 3.11, which was interpreted as moderate quality of life. This finding indicates an intermediate self-reported level of well-being rather than uniformly poor or high quality of life. Because only an overall raw mean was available, differences among the physical, psychological, social, and environmental WHOQOL-BREF domains could not be evaluated.

Table 5. Overall Quality of Life Among Filipino Men with Type 2 Diabetes (N = 31)

Variable	Mean score	Interpretation
Overall quality of life	3.11	Moderate

Note. WHOQOL-BREF items use five-point response scales. The value is the supplied overall raw mean and is not a standard transformed WHOQOL-BREF domain score.

3.6. Relationships Between Self-Care and Quality of Life

Table 6 presents the correlations between self-care domains and quality of life. Dietary adherence was essentially unrelated to quality of life ($r = -.002$, $p = .99$). Medication/glucose-monitoring adherence also had a near-zero correlation ($r = -.006$, $p = .97$). Exercise showed a positive coefficient of greater magnitude ($r = .31$), but the result did not reach statistical significance ($p = .09$). Accordingly, none of the measured self-care domains demonstrated a statistically significant bivariate relationship with quality of life in this sample.

Table 6. Pearson Correlations Between Self-Care Domains and Quality of Life (N = 31)

Self-care domain	*r*	*p*	Interpretation
Diet	-.002	.99	Not significant
Exercise	.31	.09	Not significant
Medication and glucose monitoring	-.006	.97	Not significant

Note. Tests were two-tailed. Statistical significance was set at $p < .05$

4. Discussion

This study aimed to describe domain-specific diabetes self-care and quality of life and to examine their relationships among Filipino men with T2DM in Manila. Overall

adherence was moderate, but the pattern was uneven: dietary and exercise scores were moderate, general physical activity was relatively high, and medication/glucose-monitoring adherence was low. Overall quality of life was moderate. Most importantly, no self-care domain was significantly correlated with quality of life. The findings therefore identify behavioral priorities but do not support the claim that greater measured self-care was associated with better quality of life in this sample.

The moderate dietary score suggests partial engagement with recommended eating behaviors rather than consistent adherence. This interpretation is compatible with evidence that diabetes self-care depends on the interaction of knowledge, confidence, perceived control, routines, resources, and social circumstances. Diet is particularly sensitive to food availability, cost, household preferences, work schedules, and the cultural meaning of shared meals. The present brief measure cannot establish which of these factors explains the scores, but it indicates that general endorsement of a healthful eating plan did not translate into uniformly high item-level adherence. Patient-centered counseling should therefore examine specific eating situations and feasible substitutions rather than relying only on broad advice. Lifestyle interventions can improve glycemic and remission-related outcomes, but their effectiveness depends on intensity, sustainability, and fit with participants' daily lives (Zhang et al., 2023) [26].

Exercise findings showed a meaningful distinction between being active for at least 30 minutes and participating in structured exercise. Participants reported high adherence to general physical activity but only moderate adherence to planned activities such as walking, swimming, or biking. A structured exercise trial in adults with T2DM demonstrated improvements in insulin resistance, functional capacity, and quality of life, supporting the clinical relevance of progressing from general advice to a specific, feasible exercise prescription (Amaravadi et al., 2024) [27]. Nevertheless, the present data do not show whether participants' reported activity met recommended intensity or frequency or whether occupational and transport-related activity contributed to the higher score. Nursing assessment should clarify the type, intensity, safety, and consistency of activity and identify barriers such as time, fatigue, pain, weather, cost, and limited access to safe exercise spaces.

Medication and glucose monitoring formed the weakest area of self-care. The low home-monitoring score may reflect affordability, access to test strips, uncertainty about how to act on readings, discomfort, competing demands, or a treatment plan that does not require frequent self-monitoring. Contemporary evidence supports continuous glucose monitoring for selected people with T2DM, including some who are not using intensive insulin regimens, but access, usability, clinical integration, and cost remain major considerations (Ajjan et al., 2024; Barchiesi et al., 2025) [28,29]. Meta-analytic evidence suggests that continuous glucose monitoring can improve glycemic outcomes in noninsulin-treated T2DM, although technology should complement rather than replace education and shared decision-making (Ferreira et al., 2024) [30]. Telehealth interventions can also support medication adherence, but effects vary by intervention design and the degree to which barriers are actively addressed (Bingham et al., 2021) [31]. The present score should therefore trigger individualized assessment rather than an assumption of simple unwillingness to adhere.

The moderate quality-of-life mean is broadly consistent with studies showing that T2DM affects several dimensions of daily life, but the present overall raw mean provides limited diagnostic detail. Psychological distress, depressive symptoms, health anxiety, comorbidity, complications, functional status, financial pressure, and treatment burden may influence quality of life independently of the brief self-care indicators. A randomized trial of cognitive behavioral therapy reported improvements in diabetes distress,

depression, quality of life, and treatment adherence, illustrating the interdependence of psychological and behavioral care (Abbas et al., 2023) [32]. Educational interventions for people managing both diabetes and chronic kidney disease may improve knowledge and selected self-management outcomes, but quality-of-life evidence remains less certain (Cashmore et al., 2024) [33]. Future Philippine studies should report the four WHOQOL-BREF domains separately and incorporate diabetes distress, depressive symptoms, comorbidity, complications, and treatment burden.

The absence of statistically significant correlations requires careful interpretation. The near-zero coefficients for diet and medication/glucose monitoring do not support even a directional relationship in this data set. The exercise coefficient was positive and larger ($r = .31$), but $p = .09$ exceeded the prespecified threshold; it should therefore be described as an imprecise, nonsignificant signal rather than evidence of benefit. The small sample restricted statistical power and produced substantial uncertainty, while restricted score ranges and measurement error may have further attenuated correlations. Quality of life is also a distal, multidetermined outcome, so a brief contemporaneous self-care measure may not capture the cumulative pathways through which behavior influences clinical status and well-being. Longitudinal studies with larger samples, validated domain scoring, and multivariable models are needed before conclusions can be drawn about directionality or mediation.

The lack of association may also reflect a mismatch in time horizons. The self-care questions characterize relatively recent or habitual behaviors, whereas quality of life may embody the accumulated effects of disease duration, complications, disability, treatment burden, and social circumstances. A participant may recently have improved medication-taking or activity without yet experiencing a perceptible change in well-being. Another participant may report good quality of life because symptoms and complications are limited despite inconsistent current self-care. Cross-sectional measurement cannot distinguish these trajectories. Repeated measurement would allow researchers to test whether change in a specific behavior precedes change in glycemic status, functioning, or quality of life and whether the association differs by baseline disease burden.

Measurement choices provide a second explanation. Combining insulin-taking with home glucose monitoring assumes that both activities apply equally to all participants, although prescriptions vary substantially in T2DM. A low score could represent nonadherence, but it could also reflect that insulin or frequent monitoring was not prescribed. Similarly, an overall WHOQOL-BREF mean can conceal improvement in one domain and deterioration in another. Psychological or environmental strain could offset physical benefits, producing little change in an aggregate score. Future studies should use regimen-contingent adherence items, report standard WHOQOL-BREF domain scores, and include clinical measures such as hemoglobin A1c. This would separate appropriate nonperformance from nonadherence and clarify which aspects of well-being are most closely associated with self-care.

The findings also need to be situated within men's experiences and the Philippine context. Research on men with T2DM shows that self-management can be shaped by autonomy, perceived vulnerability, work and family roles, fatalism, and the quality of encounters with health professionals (Mendoza-Catalán et al., 2023; Pihl et al., 2023) [10,11]. Sex-comparative studies indicate that quality-of-life patterns are not uniform and may vary by age, depression, cognitive health, and social conditions (de Ritter et al., 2023; Jeong & Park, 2024) [12]. For Filipino populations, family involvement can provide practical and emotional support, but the preferred form of support may change across the illness trajectory (Peregrina et al., 2024) [18]. Cultural experiences of ownership, responsibility, and success may also shape what patients consider achievable diabetes

management (Roca et al., 2025; Tolentino & Brynes, 2024) [16,17]. These observations support culturally responsive, person-centered care while cautioning against stereotyping Filipino men or treating culture as a substitute for assessing individual circumstances.

Recent intervention evidence suggests several pathways for improving self-care, but it does not justify a one-size-fits-all digital solution. Mobile health support delivered by pharmacists and health coaches can improve glycemic outcomes in underserved populations when it includes medication review and active barrier resolution (Gerber et al., 2023) [34]. App-based behavioral treatment can support lifestyle modification, and text-message programs can provide scalable self-management reinforcement (Ruiz-Leon et al., 2025; Zamanillo-Campos et al., 2025) [35,36]. Message framing can influence self-management behavior, while culturally grounded digital storytelling may improve engagement and glycemic outcomes in populations whose experiences are often underrepresented (Gao et al., 2023; Wieland et al., 2024) [37,38]. Digital education has also produced favorable outcomes in multicenter research, although an umbrella review found considerable variation across mobile interventions for chronic disease (Caballero Mateos et al., 2025; Sun et al., 2024) [39,40]. In the Philippines, intervention design should account for device access, data cost, digital literacy, privacy, language preference, and the continuing value of face-to-face nursing support.

The contribution of this study lies less in demonstrating a self-care–quality-of-life relationship than in showing why domain-level interpretation matters. If only the overall score were considered, participants would appear moderately adherent and no clear priority would emerge. Item-level results instead distinguish relatively frequent general activity from weaker structured exercise and identify home monitoring as the lowest-scoring behavior. This pattern supports a diagnostic approach to self-management assessment: clinicians first identify the specific behavior, determine whether it is prescribed and feasible, and then select an intervention matched to the barrier. The approach is applicable beyond the Philippines because many health systems serve men who balance chronic disease care with employment, family responsibilities, variable health literacy, and unequal access to supplies.

The results also challenge the assumption that improving a behavioral score will automatically improve global quality of life. Self-care education remains important, but its outcomes should be assessed alongside treatment burden, emotional well-being, social participation, and financial strain. An intervention could improve glucose monitoring while increasing anxiety or out-of-pocket expense; another could improve physical activity and social connectedness simultaneously. These distinctions are important for nursing because the goal is not maximum performance of every behavior regardless of context, but informed, safe, and sustainable self-management that supports outcomes the patient values. Incorporating patient-defined goals and burden measures would make future evaluations more clinically meaningful.

A stronger next study would recruit a larger and more diverse sample from multiple primary care and community settings and prespecify a model linking self-care, clinical status, and quality of life. Stratification by treatment regimen would prevent insulin-taking and glucose monitoring from being evaluated among people for whom these behaviors are not prescribed. The analysis should include age, educational attainment, employment, income, diabetes duration, comorbidities, complications, body mass index, hemoglobin A1c, depressive symptoms, diabetes distress, health literacy, and perceived support. Standardized self-care and WHOQOL-BREF domain scores should be reported with reliability estimates, dispersion measures, and confidence intervals. Longitudinal follow-up would help determine whether changes in self-care precede changes in clinical

outcomes or well-being, while qualitative interviews could explain why particular behaviors are difficult or burdensome.

Intervention development should then proceed from the barrier profile rather than from the lowest mean alone. For example, low monitoring caused by lack of strips requires an access solution, whereas low monitoring caused by uncertainty requires skills training and an action plan. Inconsistent medication-taking related to adverse effects requires clinical review, not reminders. Limited structured exercise related to unsafe streets or long work hours calls for adaptable home-based or workplace options. A pilot intervention could combine nurse-led assessment, shared goal-setting, regimen-specific education, and brief follow-up, with digital support offered as one delivery option. Feasibility outcomes—recruitment, retention, acceptability, burden, and fidelity—should be examined before effectiveness is tested. This staged approach would convert the descriptive pattern observed here into an intervention that is both testable and responsive to patients' circumstances.

At the health-system level, the results reinforce the need to align education with access. Advice to monitor glucose or alter food choices has limited value when supplies, healthy foods, follow-up, or safe activity spaces are unaffordable or unavailable. Nursing programs can document these barriers systematically and connect patients with social, pharmacy, nutrition, and primary care resources. Aggregated barrier data can also inform service planning, such as group education schedules compatible with employment, lower-cost monitoring pathways, or referral agreements for psychosocial care. Although the present study cannot estimate population need, it demonstrates how a small behavioral assessment can identify questions that routine clinical encounters may otherwise miss.

4.1. Implications for Nursing Practice

Nurses should assess diet, general activity, structured exercise, medication-taking, and glucose monitoring separately because a moderate total self-care score can obscure clinically important gaps. Assessment should establish whether the prescribed regimen actually includes insulin and home monitoring before adherence is judged. When a gap is identified, the nurse should explore affordability, access, skills, beliefs, side effects, competing responsibilities, and the patient's understanding of how the behavior affects treatment decisions. Shared goals should be concrete and feasible, such as a progressive walking plan, a medication routine linked to an established daily activity, or a monitoring schedule paired with clear instructions for responding to results.

Programs for men should preserve autonomy while making support practical, respectful, and relevant to everyday roles. Family participation can be offered with the patient's agreement, but it should not displace the patient's preferences or confidentiality. Community and outpatient services can combine brief individual counseling, peer support, scheduled follow-up, and low-bandwidth digital reminders. Evaluation should include behavioral, clinical, and quality-of-life outcomes so that an intervention is not considered successful solely because knowledge improved.

For international readers, the study offers a transferable principle rather than a universal estimate: aggregate adherence categories should be unpacked before services are designed. Settings with different cultures and resources may identify different lowest-scoring behaviors, but the same sequence can be used—verify the prescribed regimen, assess the behavior precisely, identify structural and personal barriers, agree on a feasible response, and evaluate both benefit and burden. Multisite research could test whether this domain-specific pathway improves engagement across urban low- and middle-income settings and among migrant communities while allowing local adaptation of food guidance, family involvement, communication, and technology.

4.2. Strengths and Limitations

This study provides domain-specific preliminary evidence about diabetes self-care among an understudied group and avoids treating self-care as a single undifferentiated behavior. It also directly examines quality of life, an outcome that matters to patients and may reveal burdens not reflected by glycemic measures alone. Presenting individual item means helps identify concrete priorities for education and assessment.

Several limitations substantially constrain interpretation. The cross-sectional design prevents causal inference, and the small nonprobability sample limits precision and generalizability beyond the participating Filipino men in Manila. Self-reported behaviors are vulnerable to recall, interpretation, and social desirability bias. The seven-item self-care measure was adapted and scored differently from the standard SDSCA, and the available manuscript did not report complete psychometric evidence for the adapted scale. Insulin use and home glucose monitoring were combined despite representing distinct behaviors, and not every person with T2DM has the same prescription for either behavior. The WHOQOL-BREF was summarized as an overall raw mean rather than standard transformed domain scores, preventing domain-specific interpretation and limiting comparability with other studies. Clinical variables such as diabetes duration, treatment regimen, hemoglobin A1c, complications, comorbidities, body mass index, and diabetes distress were unavailable, and no multivariable analysis was possible. Finally, a nonsignificant result in this small study should not be interpreted as proof that self-care has no relationship with quality of life.

5. Conclusion

Filipino men with T2DM in this study reported moderate overall self-care and quality of life, but adherence differed across behaviors. General physical activity received the highest item score, whereas structured exercise, medication-taking, and especially home glucose monitoring indicated room for improvement. Diet, exercise, and medication/glucose-monitoring adherence were not significantly correlated with quality of life. These results support domain-specific, person-centered nursing assessment but do not establish that improving the measured self-care behaviors would directly improve quality of life. Larger longitudinal studies using validated scoring, clinical indicators, and psychological and socioeconomic measures are needed to clarify how self-care contributes to well-being among Filipino men with T2DM.

Declarations

Ethics approval and informed consent: The study received approval from the responsible institutional ethics review board before data collection. All participants provided informed consent.

Funding: None.

Conflicts of interest: None declared.

Acknowledgments: None.

Data availability: The deidentified data supporting the findings of this study are available from the corresponding author upon reasonable request, subject to the conditions of the ethics approval and applicable privacy requirements.

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