

Case Report

Holistic Nursing Care with Wet Cupping Therapy for a Patient with Unstable Blood Glucose Levels: A Case Report

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ABSTRACT

Background: Diabetes mellitus is a chronic metabolic disorder characterized by persistent hyperglycemia due to impaired insulin secretion, impaired insulin action, or both. Holistic nursing care incorporating complementary interventions, such as wet cupping therapy, may provide supportive benefits for symptom management and glycemic control.

Methods: This study employed a descriptive case report design involving a 45 year old male patient with diabetes mellitus. Nursing care was provided based on the Indonesian standardized nursing framework (SDKI–SLKI–SIKI), including assessment, nursing diagnosis, planning, implementation, and evaluation. The primary nursing diagnosis identified was unstable blood glucose level. Wet cupping therapy was administered as an adjunctive complementary intervention, combined with diabetes education and self-management support. Outcomes were evaluated based on random blood glucose levels, hyperglycemic symptoms, and patient-reported comfort following the intervention.

Case Presentation: The patient presented with fatigue, excessive thirst, and nocturnal urination, with a two-year history of diabetes mellitus and poor medication adherence. The initial random blood glucose level before intervention was 211 mg/dL. Following wet cupping therapy and nursing education, the blood glucose level measured immediately after intervention decreased to 200 mg/dL. Nursing evaluation showed partial achievement of blood glucose stability, reduced fatigue, improved comfort, and increased understanding of diabetes self-management.

Conclusion: This case report suggests that wet cupping therapy may serve as a complementary supportive intervention within holistic nursing care for patients with diabetes mellitus. However, the modest change in blood glucose level and the absence of long-term follow-up and HbA1c assessment require cautious interpretation. Further research with larger samples and longer observation periods is needed to determine its clinical effectiveness.

Keywords: Diabetes Mellitus; Blood Glucose; Wet Cupping; Nursing Care; Complementary Therapy

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INTRODUCTION

Diabetes mellitus (DM) is a chronic metabolic disorder characterized by persistent hyperglycemia resulting from impaired insulin secretion, impaired insulin action, or both.

Persistent hyperglycemia contributes to disturbances in carbohydrate, fat, and protein metabolism and increases the risk of acute and chronic complications, including cardiovascular disease, nephropathy, retinopathy, neuropathy, and diabetic foot ulcers, which substantially reduce patients' quality of life (Alinda Fitria et al., 2021; Widiyasari et al., 2021). According to the International Diabetes Federation, approximately 537 million adults worldwide were living with diabetes in 2021, and this number is projected to continue increasing over the coming decades, making diabetes one of the most significant global public health challenges (International Diabetes Federation, 2021; American Diabetes Association, 2024). Diabetes mellitus remains a significant public health problem in Indonesia. Among individuals aged ≥ 15 years, the prevalence of diabetes was 2.2% based on physician diagnosis and 11.7% based on blood glucose examination. In East Java, an estimated 854,454 individuals aged ≥ 15 years were living with diabetes mellitus in 2023. At the local level, Banyuwangi Regency recorded an estimated 25,944 individuals with diabetes mellitus, of whom 23,885 received standardized health services (Badan Kebijakan Pembangunan Kesehatan, 2024; Dinas Kesehatan Provinsi Jawa Timur, 2024; Dinas Kesehatan Kabupaten Banyuwangi, 2024).

Effective diabetes management requires not only pharmacological treatment but also comprehensive long-term nursing care. Nurses play a central role in diabetes management through comprehensive assessment, nursing diagnosis, blood glucose monitoring, patient education, nutritional counseling, promotion of medication adherence, psychosocial support, lifestyle modification, and prevention of diabetes-related complications. Holistic nursing care emphasizes the integration of physical, psychological, social, and spiritual dimensions to improve patients' overall well-being and self-management abilities. Within this holistic approach, complementary therapies may be incorporated as adjunctive interventions when supported by clinical assessment, patient preferences, and safety considerations.

Wet cupping therapy (*hijamah*) is one of the complementary therapies increasingly used in Indonesia and several other countries. Previous studies have suggested that wet cupping therapy may contribute to metabolic regulation through several proposed mechanisms, including improvement of microcirculation, stimulation of nitric oxide release, reduction of oxidative stress, enhancement of tissue perfusion, and modulation of inflammatory responses, which may indirectly support glucose metabolism (Al-Bedah et al., 2019; Rahman et al., 2025; Yilmaz & Serin, 2025). From a nursing perspective, wet cupping therapy may provide additional value by promoting patient comfort, reducing subjective symptoms, and supporting holistic care when implemented safely by trained practitioners as an adjunct to standard diabetes management rather than as a replacement for conventional therapy.

Although previous studies have investigated the physiological effects of wet cupping therapy on blood glucose levels, most have primarily focused on biomedical outcomes. Evidence describing how wet cupping therapy can be integrated into the nursing process including comprehensive assessment, nursing diagnosis, nursing interventions, and evaluation using standardized nursing frameworks such as SDKI–SLKI–SIKI remains limited. Furthermore, published nursing case reports demonstrating the practical implementation of wet cupping therapy as part of holistic nursing care for patients with unstable blood glucose levels are still scarce. This evidence gap highlights the need to document clinical experiences that illustrate the integration of complementary therapy within evidence-informed nursing practice.

Therefore, this case report aimed to describe the implementation of holistic nursing care integrated with wet cupping therapy in a patient with unstable blood glucose levels at Holistic Care Kalibaru, Banyuwangi. The report highlights the nursing assessment, standardized nursing diagnoses, interventions, patient outcomes, and the potential role of wet cupping therapy as an adjunctive complementary intervention within holistic diabetes nursing care using the Indonesian standardized nursing framework (SDKI–SLKI–SIKI).

METHODS

Study Design

This study employed a descriptive case report design involving one male patient diagnosed with diabetes mellitus. A comprehensive nursing assessment was performed using Gordon's Functional Health Patterns, and the findings were analyzed according to the Indonesian Standard Nursing Diagnosis, Outcomes, and Interventions (SDKI–SLKI–SIKI). The nursing process included assessment, diagnosis, planning, implementation, and evaluation. The case was reported in accordance with the CARE Case Report Guidelines.

Setting

The study was conducted at Holistic Care Kalibaru, Banyuwangi, Indonesia, in July 2025.

Nursing Assessment

A comprehensive nursing assessment was performed using Gordon's Functional Health Patterns. The assessment findings were analyzed to establish nursing diagnoses, expected outcomes, and interventions according to the Indonesian Standard Nursing Diagnosis, Outcomes, and Interventions (SDKI–SLKI–SIKI). The assessment included health perception and health management, nutritional and metabolic status, elimination, activity and exercise capacity, sleep and rest pattern, cognitive function, coping mechanisms, psychosocial condition, medication adherence, diabetes self-management behaviors, and potential diabetes-related complications. Physical examination, vital signs, and random blood glucose measurements were also obtained as baseline clinical data.

Random blood glucose was measured using a point-of-care testing (POCT) glucometer immediately before and immediately after the intervention as part of the nursing outcome evaluation.

Nursing Diagnosis and Intervention

Nursing diagnoses were established according to the Indonesian Standard Nursing Diagnosis (SDKI). The primary nursing diagnosis was Unstable Blood Glucose Level (D.0027), supported by assessment findings indicating hyperglycemia and inadequate diabetes self-management.

Nursing interventions were planned according to the Indonesian Standard Nursing Intervention (SIKI) and included blood glucose monitoring, hyperglycemia management, health education, medication adherence support, dietary counseling, and wet cupping therapy as an adjunctive complementary intervention. Nursing outcomes were evaluated using the Indonesian Standard Nursing Outcomes (SLKI), focusing on blood glucose stability, symptom improvement, patient comfort, and understanding of diabetes self-management.

Intervention Procedure

Wet cupping therapy was performed by a registered nurse who was also a certified wet cupping practitioner, following the Standard Operating Procedure implemented at Holistic Care Kalibaru.

Before the intervention, the patient underwent screening for contraindications to wet cupping therapy, including active skin infection, open wounds, bleeding disorders, anticoagulant therapy, severe anemia, hypotension, fever, and other conditions that could increase procedural risk. No contraindications were identified.

The patient was positioned comfortably in the prone position to facilitate access to the posterior body region. Wet cupping therapy was administered at selected therapeutic points, consisting of Al-Kahil, bilateral Binal Katifain, bilateral thoracic paraspinal points overlying the anatomical projection of the pancreatic region, and additional patient-specific points selected according to the patient's presenting complaints and nursing assessment findings. The selection of cupping points was individualized to address the patient's clinical condition while

adhering to the standard operating procedures implemented at Holistic Care Kalibaru. The anatomical locations of the therapeutic points are illustrated in Figure 1.

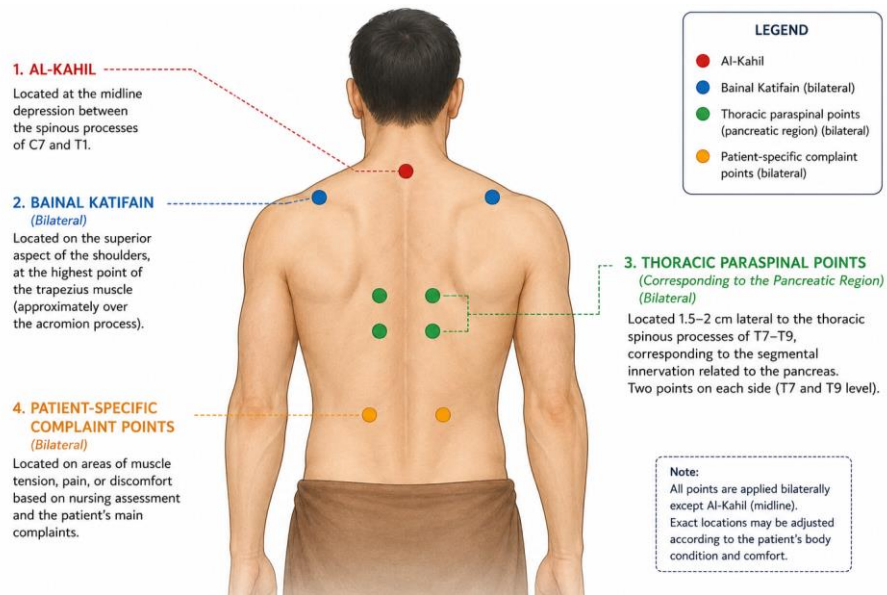


Figure 1. Anatomical locations of the wet cupping therapy points applied during the nursing intervention in this case

Prior to the procedure, the skin was disinfected using 70% alcohol to maintain aseptic conditions. Sterile disposable cups and a sterile single-use lancing device were used throughout the intervention. Wet cupping therapy was performed using the Cupping–Puncture–Cupping (CPC) technique. The initial suction phase was applied for approximately five minutes, followed by superficial skin scarification using the sterile lancing device. A second suction phase was then applied for an additional five minutes to facilitate blood extraction, resulting in a total intervention time of approximately 10–15 minutes.

Following completion of the procedure, the treated areas were cleaned with sterile gauze and appropriately dressed. The patient was monitored for potential adverse events, including dizziness, excessive bleeding, local pain, signs of infection, vasovagal reactions, and other complications during and immediately after the intervention. No adverse events were observed.

Ethical Considerations

Written informed consent was obtained from the patient before the intervention and for publication of this case report, including the use of anonymized clinical information. Patient confidentiality and anonymity were maintained throughout the study.

CASE PRESENTATION

Table 1. Patient Timeline According to CARE Guidelines

Time	Clinical Event
2 years before presentation	The patient was diagnosed with Type 2 Diabetes Mellitus.
1 month before intervention	The patient experienced worsening fatigue, nocturia, and increased thirst (polydipsia).
Day 0	A comprehensive nursing assessment was performed using Gordon's Functional Health Patterns.
Day 0	Random blood glucose level was measured at 211 mg/dL.
Day 0	Nursing intervention was provided, including wet cupping therapy as a complementary intervention.
Day 0	Random blood glucose was re-evaluated immediately after wet cupping and recorded at 200 mg/dL (11 mg/dL; 5.2% below baseline).
Day 0	Nursing evaluation, the patient reported improved comfort and less fatigue.

A 45 year old man (Mr. A) presented to Holistic Care Kalibaru, Banyuwangi, with complaints of persistent fatigue, excessive thirst (polydipsia), and frequent nocturnal urination (nocturia). According to the patient, these symptoms had progressively worsened over the previous month and had begun to interfere with his daily activities and sleep quality. He had been diagnosed with type 2 diabetes mellitus two years earlier but admitted poor adherence to prescribed antidiabetic medication, irregular blood glucose monitoring, and inconsistent dietary management.

A comprehensive nursing assessment was performed using Gordon's Functional Health Patterns, and the findings were subsequently analyzed using the Indonesian Standard Nursing Diagnosis (SDKI). The assessment revealed poor medication adherence, irregular blood glucose monitoring, limited understanding of diabetes self-management, and inconsistent follow-up visits. The patient reported frequent consumption of carbohydrate-rich foods and sweetened beverages with limited dietary control, accompanied by excessive thirst. Persistent fatigue had reduced his daily physical activity and affected his occupational performance. Sleep quality was disturbed due to nocturia occurring three to four times each night. Although the patient expressed concern regarding disease progression, he demonstrated a positive attitude toward treatment and was willing to participate in both nursing care and complementary therapy. Family members accompanied the patient during the consultation and provided emotional support throughout the treatment process. Screening for diabetes related complications revealed no evidence of diabetic foot ulcers, peripheral neuropathy, visual disturbances, active skin infection, or other acute complications requiring immediate referral.

Physical examination showed that the patient appeared mildly weak but remained cooperative and fully conscious (*compos mentis*). His blood pressure was 120/80 mmHg, pulse rate 87 beats/minute, respiratory rate 20 breaths/minute, and body temperature 36.7°C. Random blood glucose measured using a point-of-care glucometer was 211 mg/dL, indicating uncontrolled hyperglycemia.

Based on the comprehensive assessment, the priority nursing diagnosis established using the SDKI was Unstable Blood Glucose Level (D.0027) related to inadequate diabetes self-management, as evidenced by hyperglycemia, fatigue, polydipsia, nocturia, poor medication adherence, and limited knowledge regarding diabetes management. A secondary diagnosis of Ineffective Health Management (D.0116) was also identified. Nursing outcomes were planned according to the SLKI, focusing on improving blood glucose stability, reducing hyperglycemic symptoms, enhancing patient comfort, and improving the patient's understanding of diabetes self-management. Nursing interventions were implemented according to the SIKI, including blood glucose monitoring, hyperglycemia management, dietary counseling, medication adherence support, diabetes self-management education, and wet cupping therapy as an adjunctive complementary intervention integrated into holistic nursing care.

Wet cupping therapy was subsequently performed according to the procedure described in the Methods section. Following the intervention, the patient reported reduced fatigue, improved comfort, and a feeling of relaxation. Excessive thirst was subjectively perceived as less bothersome, although nocturia could not yet be evaluated because of the short observation period. Random blood glucose decreased from 211 mg/dL before the intervention to 200 mg/dL immediately afterward, indicating a modest reduction in blood glucose level. The patient was able to explain the importance of medication adherence, dietary regulation, and routine blood glucose monitoring following the education session. No adverse events, including excessive bleeding, dizziness, vasovagal reactions, or local infection, were observed during or immediately after the intervention.

A summary of the comprehensive nursing assessment and nursing process implemented in this case is presented in Tables 2 and 3.

Table 2. Summary of the Nursing Assessment Based on Gordon's Functional Health Patterns

Functional Health Pattern	Assessment Findings
Health perception–health management	Diagnosed with type 2 diabetes mellitus for two years; poor medication adherence; irregular blood glucose monitoring; inconsistent follow-up visits
Nutritional–metabolic	Frequent consumption of carbohydrate-rich foods and sweetened beverages; excessive thirst; limited adherence to dietary recommendations
Activity–exercise	Reduced physical activity because of persistent fatigue
Sleep–rest	Disturbed sleep due to nocturia (3–4 times/night)
Cognitive–perceptual	Compos mentis; limited knowledge regarding diabetes self-management
Coping–stress tolerance	Concerned about disease progression; motivated to participate in treatment
Role–relationship	Adequate family support during treatment
Screening for complications	No diabetic foot ulcer, peripheral neuropathy, visual disturbance, or active infection

Table 3. Nursing Care Plan Based on the Indonesian Standard Nursing Diagnosis, Outcomes, and Interventions (SDKI–SLKI–SIKI)

Nursing Diagnosis (SDKI)	Expected Outcomes (SLKI)	Nursing Interventions (SIKI)
Unstable Blood Glucose Level (D.0027)	Partial improvement in blood glucose stability, reduced fatigue, reduced thirst, increased comfort	Blood glucose monitoring, hyperglycemia management, dietary counseling, diabetes education, wet cupping therapy, evaluation of blood glucose
Ineffective Health Management (D.0116)	Improved knowledge and adherence to diabetes self-management	Medication adherence support, lifestyle modification, self-management education, family involvement

DISCUSSION

This case report demonstrates that unstable blood glucose levels in this patient were influenced not only by metabolic dysfunction but also by long-standing deficiencies in diabetes self-management. Although the patient had been diagnosed with type 2 diabetes mellitus two years earlier, poor adherence to prescribed antidiabetic medication, irregular blood glucose monitoring, inadequate dietary regulation, and inconsistent follow-up likely contributed to persistent hyperglycemia. These behavioral factors were reflected clinically by fatigue, polydipsia, and nocturia, which progressively impaired the patient's daily functioning and quality of life. Therefore, the patient's unstable glycemic status should be interpreted as the consequence of interactions between physiological abnormalities and ineffective long-term self-management rather than endocrine dysfunction alone. This finding reinforces the importance of comprehensive nursing assessment to identify modifiable factors contributing to poor glycemic control (American Diabetes Association, 2024; Dinavari et al., 2023).

The comprehensive nursing assessment using Gordon's Functional Health Patterns provided a broader understanding of the patient's condition beyond laboratory findings. In addition to hyperglycemia, the assessment identified limited knowledge regarding diabetes management, poor medication adherence, unhealthy dietary habits, reduced physical activity due to fatigue, sleep disturbance associated with nocturia, and concerns regarding disease progression. These interrelated findings indicate that glycemic instability was closely associated with behavioral and psychosocial factors. Consequently, individualized nursing interventions focusing on education, lifestyle modification, adherence support, and self-management were considered essential components of care rather than merely supportive measures. This holistic assessment is consistent with the nursing perspective that effective diabetes management

requires attention to biological, psychological, behavioral, and social dimensions simultaneously (Putri & Pujiyanto, 2025; Yahaya et al., 2023).

Based on these assessment findings, the nursing diagnosis of Unstable Blood Glucose Level was considered appropriate because it integrated objective evidence of hyperglycemia with subjective manifestations and modifiable contributing factors identified during assessment. Rather than viewing hyperglycemia solely as a metabolic disorder, the nursing diagnosis recognized the influence of ineffective self-management behaviors on glycemic instability. This holistic interpretation supports individualized nursing care that addresses both physiological abnormalities and behavioral determinants of health, in accordance with the Indonesian Standard Nursing Diagnosis (SDKI) and contemporary chronic disease management principles (Persatuan Perawat Nasional Indonesia, 2022; Bilgehan & Vardar İnkaya, 2025).

The nursing interventions implemented in this case were designed to address both immediate clinical problems and long-term disease management. Blood glucose monitoring provided objective evaluation of the patient's glycemic status, while health education, dietary counseling, and reinforcement of medication adherence targeted the underlying behaviors that contributed to poor glycemic control. The patient acknowledged limited understanding of diabetes self-management before the intervention, suggesting that inadequate knowledge may have contributed to inconsistent treatment adherence. Following individualized nursing education, the patient demonstrated improved understanding of medication adherence, dietary regulation, regular blood glucose monitoring, and lifestyle modification. These findings support previous studies showing that diabetes self-management education improves patients' knowledge, confidence, treatment adherence, and long-term glycemic outcomes (American Diabetes Association, 2024; Putri & Pujiyanto, 2025).

A distinctive feature of this case was the integration of wet cupping therapy into holistic nursing care as an adjunctive complementary intervention rather than as a substitute for conventional diabetes treatment. Following the intervention, the patient's random blood glucose level decreased modestly from 211 mg/dL to 200 mg/dL, accompanied by subjective improvements in fatigue, comfort, and relaxation. Although the numerical reduction in blood glucose was relatively small, the patient's perceived improvement in well-being represents an important nursing outcome because enhanced comfort and psychological well-being may strengthen motivation to participate in long-term diabetes self-management. Previous studies have suggested that wet cupping therapy may improve microcirculation, stimulate nitric oxide release, reduce oxidative stress, and enhance tissue perfusion, thereby potentially supporting metabolic regulation (Al-Bedah et al., 2019; Rahman et al., 2025; Yilmaz & Serin, 2025). Nevertheless, in this case, the therapy should be interpreted as providing supportive benefits within comprehensive nursing care rather than as the primary determinant of glycemic improvement.

The modest reduction in blood glucose observed in this patient should be interpreted cautiously. Several factors may explain this finding. First, the patient had experienced prolonged poor glycemic control associated with inconsistent medication adherence and inadequate dietary management, conditions that are unlikely to improve substantially following a single intervention. Second, random blood glucose was measured immediately after treatment, thereby reflecting only short-term glycemic status and preventing assessment of delayed metabolic responses. Third, the patient simultaneously received individualized nursing education, reinforcement of medication adherence, dietary counseling, therapeutic communication, and continuous nursing support during the same encounter. Therefore, the observed improvement likely reflects the combined effect of comprehensive nursing care rather than the isolated effect of wet cupping therapy alone. This interpretation is consistent with integrative nursing literature indicating that complementary therapies provide greater benefit when combined with evidence-based conventional management and sustained lifestyle modification (Bilgehan & Vardar İnkaya, 2025; Putri & Pujiyanto, 2025).

Although the post-intervention random blood glucose level remained above the recommended target, the immediate evaluation demonstrated partial achievement of the planned nursing outcomes. In addition to the modest reduction in blood glucose, the patient reported reduced fatigue, improved comfort, and greater readiness to adhere to recommended treatment. From a nursing perspective, these patient-reported outcomes are clinically meaningful because successful diabetes management depends not only on short-term biochemical improvement but also on sustained behavioral change and active patient participation in self-care. Consequently, evaluation of nursing interventions should include both objective clinical indicators and subjective patient experiences to provide a more comprehensive assessment of therapeutic outcomes.

This case also highlights the important role of nurses in integrating complementary therapy within evidence-informed diabetes management. Rather than replacing pharmacological treatment, nutrition therapy, physical activity, or routine medical follow-up, wet cupping therapy may be considered an adjunctive intervention that supports symptom relief, patient comfort, and engagement in self-management when performed safely by trained practitioners. Through comprehensive assessment, individualized education, therapeutic communication, implementation of complementary interventions, and continuous evaluation, nurses can address the multiple factors contributing to unstable glycemic control while maintaining patient-centered and culturally responsive care. This integrative approach reflects the principles of holistic nursing by combining evidence-based practice with complementary modalities that align with patients' preferences and clinical needs.

Several limitations should be acknowledged. This report involved a single patient, included only a short observation period, and did not incorporate serial blood glucose measurements or glycated hemoglobin (HbA1c) evaluation to assess long-term glycemic control. Consequently, a causal relationship between wet cupping therapy and glycemic improvement cannot be established. Nevertheless, this case provides practical insight into the integration of wet cupping therapy within the nursing process using the SDKI–SLKI–SIKI framework and demonstrates how complementary therapy can be incorporated into holistic nursing care while maintaining evidence-based diabetes management. Further studies employing controlled designs, larger sample sizes, and longer follow-up periods are required to determine the effectiveness of wet cupping therapy as an adjunctive complementary intervention for patients with diabetes mellitus.

CONCLUSION

Wet cupping therapy may serve as an adjunctive complementary intervention within holistic nursing care for patients with diabetes mellitus. In this case, wet cupping therapy was integrated into the nursing process and was associated with modest reductions in random blood glucose levels, improved patient comfort, and enhanced understanding of diabetes self-management. However, because this report describes a single patient with a short observation period and without long-term follow-up or HbA1c evaluation, these findings should be interpreted cautiously and should not be considered evidence of therapeutic effectiveness. Further studies employing more rigorous methodological designs, larger sample sizes, and long-term follow-up are needed to evaluate the effectiveness of wet cupping therapy as an adjunctive intervention in comprehensive diabetes nursing care.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

AUTHOR CONTRIBUTION

RDP contributed to study conceptualization, supervision, manuscript review, and final approval. DS contributed to patient assessment, data collection, intervention implementation, and initial drafting. YWA contributed to literature review, data analysis, and manuscript editing. UAI contributed to methodology development, reference management, formatting, and final manuscript preparation. R contributed to literature review and data analysis. All authors approved the final version of the manuscript.

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