

A Multidisciplinary Approach to Diabetes Management: The Roles of Nursing, Social Workers, and Pharmacists

Ali Ahmed Mohammed ALkathiri¹, Saeed Mohammed Alkathere², Mesfer Saleh Ahmed Alshomrani³, Mohammed Ahmed Al Shomrani⁴, Mohmmmed Shalan Alalyani⁵, Gdeer Saeed Ayed Alsalmi⁶, Hassan Awadh Mohammad Alqarni⁷, Saleh Mohammad mousa Alqarni⁷

¹Nursing Technician, Thurayban General Hospital

²Social worker, Thurayban General Hospital

³Pharmacist, Thurayban General Hospital

⁴Nursing Technician, Al katheer PHC

⁵Social worker, Albshaier hospital

⁶Social worker, Alwajh General Hospital

⁷Pharmacy_technician, Thurayban General Hospital

Received: 13.09.2024

Revised: 17.10.2024

Accepted: 20.11.2024

ABSTRACT

Introduction: Diabetes mellitus presents both complexity and extended duration thus needing detailed integrated management protocols. The disease impacts millions of people throughout the globe by causing an array of medical conditions including cardiovascular problems and kidney breakdown and nerve damage and impaired vision. The management of diabetes goes beyond therapeutic interventions to involve medical and healthcare delivery as well as social aspects of care together with psychological aspects. Effective disease management combined with better patient results can only be achieved through a multidisciplinary healthcare team which includes nurses, social workers and pharmacists.

Aim of work: To explore the critical roles of nurses, social workers, and pharmacists in diabetes management, highlighting their contributions to patient education, psychosocial support, and medication management

Methods: We conducted a comprehensive search in the MEDLINE database's electronic literature using the following search terms: Multidisciplinary, Approach, Diabetes, Management, Roles, Nursing, Social Workers, and Pharmacists. The search was restricted to publications from 2016 to 2024 in order to locate relevant content. We performed a search on Google Scholar to locate and examine academic papers that pertain to my subject matter. The selection of articles was impacted by certain criteria for inclusion.

Results: The publications analyzed in this study encompassed from 2016 to 2024. The study was structured into various sections with specific headings in the discussion section.

Conclusion: In conclusion, multi-disciplinary diabetes care presents opportunities for better patient results but implementation needs careful attention to various obstacles for successful outcomes. Several key factors including healthcare professional coordination and resource availability and patient participation and mental health incorporation and ongoing staff development and health system policies determine the success of collaborative care approaches in effective medicine. The successful implementation of patient-centered diabetes management requires strong collaborative action among healthcare institutions and policymakers and medical professionals to create durable solutions which will enhance broad diabetes management practices.

Keywords: Multidisciplinary, Approach, Diabetes, Management, Roles, Nursing, Social Workers, and Pharmacists

INTRODUCTION

Management of diabetes mellitus demands a complete integration of medical services since this chronic complex condition requires various coordinated approaches to achieve successful treatment. The worldwide population of diabetics runs into millions as the condition puts people at risk for a variety of serious conditions ranging from heart disease to kidney failure and neuropathy and vision loss. Diabetes treatment expands further than clinical procedures because it requires extensive attention to the social aspects as well as mental well-being

and pharmaceutical needs of patients. Native diabetes management depends on professional cooperation between nurses and social workers and pharmacists to optimize treatment results (Alhazmi et al., 2024).

As the team's backbone nurses actively support diabetes management by instructing patients about care while watching for illness indicators and developing patient self-care abilities. The nursing community handles direct patient interactions through which they support treatment adherence and deliver advice about life-style adaptation. Nurses run diabetes education programs which teach patients essential self-care skills needed to manage their diabetes by providing instruction for monitoring blood glucose levels and insulin use as well as discussing diet choices alongside exercise regimes. The multidisciplinary diabetes care team depends heavily on nursing professionals for their ability to work with other healthcare teams to monitor complications and organize integrated care (Dalal Naser et al., 2024).

The role of social workers in diabetes management includes the identification and treatment of psychosocial along with economic aspects affecting disease course. People with diabetes frequently face obstacles with treatment costs and they experience distress levels that become hurdles to their care while lacking appropriate access to health care services. Through resource referral social workers deliver essential support to direct patients into proper financial programs and transportation services and mental health counseling. Social workers serve as advocates who fight for patient needs primarily serving vulnerable groups to ensure social health factors do not create obstacles for successful diabetes treatment (Choi, 2020).

The role of pharmacists remains essential to diabetes care because they help patients with medication management and substance interaction evaluation as well as patient compliance improvement. Diabetes pharmacotherapy has become more complex because of insulin therapy along with oral hypoglycemics and adjunctive medications so pharmacists help create optimized treatment plans to maintain safety and high treatment effectiveness. Through patient education about medication usage and the consequences of side effects alongside advocacy for consistent dosing practices they minimize the negative results that develop from improper medication handling. Pharmacists work collaboratively with doctors and healthcare colleagues to track treatment responses along with necessary modifications which advance clinical results (Hassan et al.).

A holistic patient-centered approach emerges from nursing social work and pharmacy professionals working together for diabetes care together. A coordinated approach between these medical fields enables an extensive diabetes management system which supports both clinical healthcare needs and nonclinical care support. Multidisciplinary care produces better glycemic results combined with reduced hospital admissions and enhanced quality of life for patients who have diabetes according to published research findings. Focused population health outcomes demand team-based care delivery because diabetes rates continue their global upward trajectory (Bodenheimer & Willard-Grace, 2022).

AIM OF WORK

This paper explores the critical roles of nurses, social workers, and pharmacists in diabetes management, highlighting their contributions to patient education, psychosocial support, and medication management. By understanding the impact of a multidisciplinary approach, healthcare providers can enhance collaboration and implement best practices to improve diabetes care. Ultimately, a well-coordinated team effort ensures that individuals with diabetes receive comprehensive, continuous, and high-quality care tailored to their unique needs.

METHODS

A thorough search was carried out on well-known scientific platforms like Google Scholar and Pubmed, utilizing targeted keywords such as Multidisciplinary, Approach, Diabetes, Management, Roles, Nursing, Social Workers, and Pharmacists. The goal was to collect all pertinent research papers. Articles were chosen according to certain criteria. Upon conducting a comprehensive analysis of the abstracts and notable titles of each publication, we eliminated case reports, duplicate articles, and publications without full information. The reviews included in this research were published from 2016 to 2024.

RESULTS

The current investigation concentrated on the critical roles of nurses, social workers, and pharmacists in diabetes management between 2016 and 2024. As a result, the review was published under many headlines in the discussion area, including: The Integral Role of Nursing in Diabetes Management, The Crucial Contribution of Social Workers in Diabetes Care, The Essential Role of Pharmacists in Diabetes Management, The Synergy of Multidisciplinary Collaboration and Challenges and Considerations in Multidisciplinary Diabetes Care

DISCUSSION

1. The Integral Role of Nursing in Diabetes Management

Frontline healthcare providers serve as both primary instructors and health defenders of diabetes patients. The nurse's role includes educating patients and monitoring treatment outcomes while providing necessary support for successful diabetes management (Allen, 2020).

The foundation of nursing care in diabetes relies on a solid patient education practice. Nurses offer in-depth education about checking blood glucose levels and using medications along with assessing food choices as well as understanding when it is safe to recognize and respond to hypo- and hyperglycemic symptoms. Nurse-provided knowledge and skills allow patients to make informed healthcare decisions and practice self-management which leads to better glycemic control results (Makiling & Smart, 2020). The monitoring of patient health remains a primary responsibility that nurses undertake alongside educational duties. Nursing professionals perform routine monitoring of essential patient metrics including vital signs and blood sugar measurements while examining the risk of complications including nerve damage and foot infections. Early detection through proper examination enables healthcare professionals to perform timely diagnostic measures which minimizes serious health complications (Salihu, 2023).

Nurses spend their time offering emotional and psychological support to help patients handle the mental challenges of coping with diabetes. Nurses help patients understand how to implement life-style modifications while enabling them to confront the enduring nature of diabetes as well as follow their treatment plans. Patients receive complete health care support through an integrated approach which prioritizes their physical wellness alongside their emotional health (Dalal Naser et al., 2024).

2. The Crucial Contribution of Social Workers in Diabetes Care

In diabetes care, social workers understand how individual health outcomes are shaped by social factors since they focus on healthcare determinants of patient success. Social workers identify and overcome treatment obstacles through systematic assessment of funding issues along with healthcare accessibility problems and insufficient support networks (Wiebe et al., 2016).

Social workers perform a fundamental task by referring patients to useful services which help maintain effective disease control. Social workers help patients find affordable medications and secure transportation to medical appointments and direct them to available community support groups. Social workers address practical needs that remove barriers which block patients from effective diabetes management (Couturier et al., 2023). Through counseling services social workers teach their diabetic patients effective ways to manage the psychological effects of their condition. Through their counseling services social workers teach people ways to deal with stress while helping them control depression or anxiety symptoms so they can develop stronger motivation for lifestyle transformations. The support stands as crucial because mental wellness directly Determined how patients Stick to their treatment plans while practicing self-care activities (Agiri, 2019).

Social workers represent patients throughout multidisciplinary teams when they ensure healthcare organizations adapt care plans to each patient's particular requirements and life conditions. As part of their team role social workers work together with medical staff to create patient-specific strategies which combine medical diabetes management with psychosocial components (Wang et al., 2018).

3. The Essential Role of Pharmacists in Diabetes Management

As members of the diabetes care team pharmacists deliver professional expertise in medication management coupled with patient educational programs. The inclusion of pharmacists leads patients to achieve better glycemic control and adhere better to their recommended treatments (Alhabib et al., 2016).

Optimizing medication therapy represents a central responsibility for pharmacists. Pharmacists examine all patient medications to verify their effectiveness combined with their safety levels and their possible side effects between different medications. Pharmacists deliver evidence-driven solutions to reach pharmacological therapies which match each patient's unique characteristics (Hughes et al., 2017). Pharmacists educate patients about medication use while explaining probable side effects and patient adherence practice through effective educational programs. Pharmacists show patients how to handle insulin delivery while demonstrating proper device operation and symptom detection techniques for reactions. Through their education program patients get better able to control their condition and stay protected from hazardous medication misuse occurrences (Chow et al., 2016).

Through regular follow-up consultations pharmacists track the patients' clinical advancement. During follow-up sessions pharmacists evaluate medication outcomes and resolve patient questions and modify the treatment approach if needed. Through ongoing monitoring pharmacists maintain optimal glycemic control and create the opportunity to intervene rapidly when medical issues occur (Behnke & Parkin, 2024).

Patients benefit from pharmacists who function as available healthcare providers who deliver guidance to supplement medical care beyond doctor appointments. Patients benefit from pharmacists due to continuous availability which supports their diabetes management needs (Brewster et al., 2020).

4. The Synergy of Multidisciplinary Collaboration

A multidisciplinary partnership between nurses and social workers and pharmacists proves successful in managing diabetes care. Professional service providers deliver specialized skills which help develop holistic treatment plans suitable for meeting multiple diabetes patient needs (Siaw et al., 2019).

Studies have shown that when healthcare professionals work together in teams they deliver better patient results. A Clinical Diabetes publication showed how collaboration between primary care physicians and advanced practice nurses and clinical pharmacists delivered enhanced clinical processes and outcomes while maintaining affordable budgets (Miller-Rosales & Rodriguez, 2021).

According to the Centers for Disease Control and Prevention (CDC) multidisciplinary health professionals maintain a bridge between healthcare services while managing patient treatment and extending continuous assistance for behavior transformation. The coordinated approach between healthcare providers and educators helps develop strong partnerships that achieve better glycemic results and enhanced patient care and ultimately improves quality of life (Alsharyah et al., 2024).

The keys to practical collaboration and its success lie in consistent team communication along with cooperative planning decisions and equitable member conduct. Beneficial collaboration among healthcare staff enables professionals to create personalized care strategies which address specific medical and psychological and social aspects affecting diabetes treatment outcomes (Afifirad et al., 2023).

5. Challenges and Considerations in Multidisciplinary Diabetes Care

The implementation of multidisciplinary diabetes management faces various obstacles despite clear evidence of its positive results. Multiple healthcare providers face significant barriers in maintaining cohesive care coordination. A successful diabetes management protocol necessitates regularly scheduled interactions among nurses and social workers and pharmacists and physicians and dietitians and other specialists to maintain patient-centered care plans that remain aligned. Medical care remains fragmented at numerous facilities because their network does not support reliable communication and all professionals concentrate individually on their specialties instead of working together. Patient problems occur through unstructured collaboration mechanisms due to contradictory advice provided by multiple providers while treatment delays develop when patients struggle to reach different team members resulting in reduced treatment outcomes. Strengthening communication networks together with interdisciplinary sessions minimize these gaps yet implementing these solutions requires additional resources and staff training supported by proper institutional backing which may prove hard to find (Zaremba et al., 2020).

Limited access to resources represents a key challenge for multidisciplinary diabetes care when healthcare settings experience both staff deficits and financing constraints. Multiple medical treatments in diabetes care demand specialty healthcare professionals along with suitable facilities for delivering repeated patient education together with psychosocial support and pharmaceutical oversight and lifestyle advisory services. Delivering personalized medical care becomes challenging in underserved healthcare areas due to their limited available resources which lead to short visit durations between healthcare providers and care recipients. Healthcare resources fail to meet patient demand for social work support which leads to rushed counseling times for pharmacists and extended workloads for nurses who maintain limited availability. Ieber notes that patient care suffers from substantial gaps when resources fall short because patients fail to receive complete support for their condition management. Telehealth consultations together with community health programs and task-sharing models reduce burdens through policy support and IT investments alongside healthcare provider education (Lucas, 2024).

Following assigned medical care plans emerges as a central difficulty in delivering multidisciplinary diabetes care. Successful healthcare outcomes depend on patient engagement and motivational status no matter how much dedicated healthcare teams perform their duties. Diabetic patients face various treatment obstacles such as financial obstacles combined with reading issues alongside traditional cultural practices as well as mental health obstacles. Patients who grasp medication instructions sometimes face financial challenges that reduce their ability to consistently use their medications and maintain good blood sugar control. Health-related social determinants including food scarcity risks and unsafe limits to physical activity negatively affect patients' ability to adopt healthcare lifestyle changes. Social workers actively work to resolve non-medical factors which affect health outcomes though limited local resources and persistent economic inequalities restrict their ability to assist patients. To create successful results from a multidisciplinary approach communities must address the wider social problems through advocacy work combined with partnerships and patient empowerment frames (Dankoly et al., 2021).

The integration of mental health support into diabetes care presents multiple complex implementation challenges. The combination of diabetes results in elevated depression rates and increased frequency of anxiety together with diabetes distress which produces conflict and emotional stress from disease management. Standard diabetes care treatment protocols fail to properly emphasize psychological care while mental health demonstrates an unmistakable impact on diabetes outcomes. Nurses and social workers identify mental health

intervention necessity yet availability limitations stop timely access to psychological and mental health counselor diagnosis. The public perception of mental health problems creates an environment which keeps patients from obtaining the help they need. The holistic healthcare approach will improve through periodic diabetes care mental health screenings and basic psychological training of healthcare personnel along with the inclusion of mental health specialists into treatment teams. Increased funding for policy changes alongside a healthcare priority transformation to prioritize mental well-being become essential for effective diabetes management (Ismail et al., 2024).

The modern evolution of diabetes treatment poses difficulties for maintaining multidisciplinary staff understanding of most recent evidence-based care practices. Diabetes care improvement requires continuous educational training for healthcare professionals because of new pharmacological treatments along with digital health utilities and individualized medicine methods. Healthcare professionals including nurses and social workers and pharmacists need continual awareness about new treatment techniques and clinical guidelines for optimal patient results. continued professional learning proves costly and labors to workers employed in minimal resource scenarios. Institutional commitments and support alongside accessible online courses as well as professional workshops and interdisciplinary knowledge-sharing sessions enable the resolution of this challenge according to Zajac et al. (2021).

Multidisciplinary diabetes care operations require successful deployment which depends heavily on healthcare policies and system-level factors. Healthcare systems today operate with traditional care models rather than investing in preventive disease strategies and managing long-term conditions effectively. Multiple reimbursement models provide insufficient financial support for team collaboration yet this support deficiency prevents sustained multidisciplinary workforce maintenance. Current regulations limit the capacity of trained health professionals to take full part in comprehensive diabetes treatment through practice limitations. The legal limitations pharmacists face for managing medications prevents optimal treatment benefits from their pharmacotherapy expertise. The solution demands two things: Reliable healthcare policy development and advocacy work needs to combine with funding support for collaborative chronic disease management structures (Andersen, 2024).

CONCLUSION

Medical specialists working together in diabetes care produce superior clinical outcomes alongside improved care quality and lowered healthcare finance costs. Improving diabetes care and treatment can be achieved by uniting nurses together with social workers to work with pharmacists for a comprehensive approach which enables effective diabetic treatment despite the condition's demanding needs for lifestyle adaptations and care for adherence and psychological wellness.

Nurses work at the patient front line by teaching disease understanding and testing blood glucose levels to support insulin administration. Nursing practice relies heavily on empowering patients through self-management education since this training creates two major benefits by reducing complications and decreasing hospital admissions. Barriers that block proper diabetes care effectiveness can be resolved by social workers who work to eliminate economic challenges and social factors. With counseling approaches the team guides patients toward accessible community resources and supports policymakers to establish healthcare systems which optimize accessibility. Both medical and non-medical treatment barriers support the work of social workers who help individuals facing economic hardship and high distress maintain their medical adherence to diabetes care. Through their knowledge of medications pharmacists preserve both drug safety and proper effectiveness related to diabetes medication care. Drug safety training for patients follows physician collaboration to create the best possible pharmaceutical treatments while teaching active drug compliance and managing adverse reactions. The employment of medication reconciliation protocols with unique intervention programs reduces medication risks while enhancing medication control for patients.

The joint efforts of these medical experts establish a healthcare system focused on patients who generate superior health results with better patient satisfaction and reduced hospital admissions according to study findings. Effective results from this approach need team members with high communication capabilities combined with shared decision making power and coordinated care practices. The future of diabetes care depends on healthcare systems developing extensively trained interdisciplinary teams which unite specialized knowledge to create individualized patient care. A team-based medical approach enables healthcare providers to deliver improved life quality to diabetes patients and minimize healthcare system stress.

REFERENCES

1. Afifirad, Z., Khorshidi, G., & Soori, T. (2023). A Study on Social Factors Effecting Type 2 Diabetes Self-management, a Narrative Review. *Journal of Clinical Research in Paramedical Sciences*, 12(2).
2. Agiri, R. (2019). *Social Workers and Early Intervention with Diabetic Clients* (Doctoral dissertation, Walden University).

3. Alhabib, S., Aldraimly, M., & Alfarhan, A. (2016). An evolving role of clinical pharmacists in managing diabetes: Evidence from the literature. *Saudi Pharmaceutical Journal*, 24(4), 441-446.
4. Alhazmi, F. H., Albishri, B. D. Z., Mohamad AL-jabri, A. A., Husin Fallata, J. H., Mohammed, A. A., Sagaf, W. A., ... & Mohammed Alhawsawi, A. H. (2024). Management of Chronic Diseases: Best practices in Handling Conditions Like Diabetes or Hypertension. *Journal of International Crisis & Risk Communication Research (JICRCR)*, 7.
5. Allen, T. H. (2022). Nursing Staff Education on the Use of the American Diabetes Association Guidelines (Doctoral dissertation, Walden University).
6. Alsharyah, I. H., S Zudaïd, H. M., Alyami, S. S., Alyami, A. H., M Alzabaid, H. S., Hussain Alsleem, M. H., ... & Alzubaidi, S. S. (2024). Multidisciplinary Collaboration for Enhanced Public Health Response: Insights from Pharmacy, Epidemiology, Emergency Care, and Social Services. *Journal of International Crisis & Risk Communication Research (JICRCR)*, 7(2).
7. Andersen, J. D. (2024). Comorbidity Identification And Management Of People With Diabetes: The Impact Of Socioeconomic Status And Multidisciplinary Teams.
8. Behnke, A., & Parkin, C. G. (2024). Diabetes Performance Improvement Program With Continuous Glucose Monitoring, Pharmacist Intervention, and Team Management. *Journal of Endocrinology and Metabolism*, 14(5), 213-220.
9. Bodenheimer, T. S., & Willard-Grace, R. (2022). Care Management For Patients With Type 2 Diabetes: The Roles Of Nurses, Pharmacists, And Social Workers: Study examines the roles of nurse, pharmacists, and social workers in managing care for patients with Type 2 Diabetes. *Health Affairs*, 41(7), 947-954.
10. Brewster, S., Holt, R., Portlock, J., & Price, H. (2020). The role of community pharmacists and their position in the delivery of diabetes care: an update for medical professionals. *Postgraduate medical journal*, 96(1138), 473-479.
11. Choi, G. Y. (2020). The Role of Medical Social Worker Engaging in Diabetes Management. *The Journal of Korean Diabetes*, 20(4), 251-254.
12. Chow, E. P., Hassali, M. A., Saleem, F., & Aljadhey, H. (2016). Effects of pharmacist-led patient education on diabetes-related knowledge and medication adherence: A home-based study. *Health Education Journal*, 75(4), 421-433.
13. Couturier, Y., Lanoue, S., Karam, M., Guillet, M., & Hudon, C. (2023). Social workers coordination in primary healthcare for patients with complex needs: A scoping review. *International Journal of Care Coordination*, 26(1), 5-25.
14. Dalal Naser, A., Alqurashi, H. A., Aldossri, E. A., Almubrook, A. S., Alamri, A. S., Alanazi, A. S. F., ... & Aldossary, G. S. O. (2024). The Role of Nursing in Diabetes Management: The Impact of Biochemical Markers on Diagnosis, Complications, and Patient Outcomes through Comprehensive Care and Support. *Egyptian Journal of Chemistry*, 67(13), 1235-1249.
15. Dankoly, U. S., Vissers, D., El Farkouch, Z., Kolasa, E., Ziyat, A., Rompaey, B. V., & Maamri, A. (2021). Perceived barriers, benefits, facilitators, and attitudes of health professionals towards multidisciplinary team care in type 2 diabetes management: a systematic review. *Current diabetes reviews*, 17(6), 50-70.
16. HASSAN, Y. A. A., ALHASSAN, H. A. A., AL OBAIDAN, M. E. H., ALABDRABULRIDHA, A. Y. A., AL SHAGAB, H. A. N., AL HASSAN, F. M. M., & ALBAQSHI, E. Y. M. The Role of Pharmacists in the Treatment and Management of Diabetes.
17. Hughes, J. D., Wibowo, Y., Sunderland, B., & Hoti, K. (2017). The role of the pharmacist in the management of type 2 diabetes: current insights and future directions. *Integrated Pharmacy Research and Practice*, 15-27.
18. Ismail, K., Stadler, M., Holloway, M., & Valabhji, J. (2024). A roadmap for integrating mental health and diabetes services. *The Lancet Diabetes & Endocrinology*, 12(9), 608-610.
19. Lucas, A. (2024). Chronic Disease Management in Low-Resource Settings: Challenges, Innovations, and Pathways to Equity. *Public Health Spectrum*, 1(1).
20. Makiling, M., & Smart, H. (2020). Patient-centered health education intervention to empower preventive diabetic foot self-care. *Advances in skin & wound care*, 33(7), 360-365.
21. Miller-Rosales, C., & Rodriguez, H. P. (2021). Interdisciplinary primary care team expertise and diabetes care management. *The Journal of the American Board of Family Medicine*, 34(1), 151-161.
22. Salihu, K. S. (2023). Nursing care for diabetes mellitus. *International Journal Of Endocrinology (Ukraine)*, 19(7), 485-491.
23. Siaw, M. Y. L., & Lee, J. Y. C. (2019). Multidisciplinary collaborative care in the management of patients with uncontrolled diabetes: a systematic review and meta-analysis. *International journal of clinical practice*, 73(2), e13288.
24. Wang, C. W., Chan, C. L., & Chow, A. Y. (2018). Social workers' involvement in advance care planning: a systematic narrative review. *BMC Palliative Care*, 17, 1-20.

25. Wiebe, D. J., Helgeson, V., & Berg, C. A. (2016). The social context of managing diabetes across the life span. *American Psychologist*, 71(7), 526.
26. Zajac, S., Woods, A., Tannenbaum, S., Salas, E., & Holladay, C. L. (2021). Overcoming challenges to teamwork in healthcare: a team effectiveness framework and evidence-based guidance. *Frontiers in Communication*, 6, 606445.
27. Zaremba, N., Watson, A., Kan, C., Broadley, M., Partridge, H., Figuereido, C., ... & Stadler, M. (2020). Multidisciplinary healthcare teams' challenges and strategies in supporting people with type 1 diabetes to recover from disordered eating. *Diabetic Medicine*, 37(12), 1992-2000.