

4-30-2025

Staff Education on Evidenced-Based Approaches to Lifestyle Modification Teaching for Diabetic Patients

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Walden University

College of Nursing

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Walden University
2025

Executive Summary: Staff Education Project
Staff Education on Evidenced-Based Approaches to Lifestyle Modification Teaching for
Diabetic Patients

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Executive Summary Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

Walden University

May 2025

Summary

A notable gap existed in the healthcare staff's knowledge of evidence-based lifestyle modifications for patients with diabetes within outpatient internal medicine (OP IM) settings. The increasing prevalence of Type 2 diabetes emphasizes the urgent necessity for a structured educational framework to enhance staff understanding. In this project, I evaluated the efficacy of organized staff education in enhancing healthcare providers' confidence related to diabetes management. I conducted a thorough literature analysis and identified 18 peer-reviewed studies classified according to the Johns Hopkins Evidence-Based Practice Model. The findings reveal that Diabetes Self-Management Education and Support (DSMES) programs are associated with significant reductions in HbA1c levels, improved dietary compliance, and increased physical activity.

The educational schedule employed a structured program, including interactive live sessions, PowerPoint presentations (PPT), and systematic evaluations consistent with the instructional framework Analysis, Design, Development, Implementation, and Evaluation (ADDIE). Knowledge assessment was conducted through pre- and posttests. Data analysis utilized descriptive statistics alongside the Brigham and Women's Hospital Learning Gain formula revealing a learning gain of 83.33 from pretest ($M = 60.5$) to posttest ($M = 86.5$). Hence, the findings emphasized staff education and integrating digital health learning tools to enhance confidence in diabetes management. Similarly, this project supports advancement in nursing practice and fosters social change by promoting diversity, equity, and inclusion (DEI) through culturally competent, evidence-based educational strategies for healthcare providers.

Background

In an outpatient internal medicine (OP IM) clinic, a significant gap in staff knowledge pertained to evidence-based lifestyle modification strategies for patients with diabetes. The rising incidence of Type 2 diabetes emphasizes the need for enhanced staff education to improve patient outcomes and compliance with recommended lifestyle changes (Felix et al., 2019). Evidence indicates that structured DSMES programs foster self-care behaviors and improve metabolic control (Powers et al., 2020). Nonetheless, insufficient staff training, the absence of standardized educational protocols, and non-uniform counseling techniques create substantial practice gaps (Davies et al., 2020).

In this staff education project, I addressed the question: Does implementing staff education based on evidence-based lifestyle modifications for diabetic patients in an OP IM clinic enhance staff knowledge and their capacity to educate patients effectively? I aimed to establish a structured staff education program that provides healthcare professionals with updated knowledge regarding diabetes-related lifestyle modifications, thus augmenting staff confidence in current evidence-based practices to elevate patient adherence and health outcomes.

I conducted a thorough literature study via the Walden Library databases, including CINAHL, PubMed, Cochrane, MEDLINE Combined, and Science Direct, focusing on peer-reviewed articles related to diabetes, staff education/training, and lifestyle modifications. Eighteen references published between 2019 and 2024 were selected based on their relevance and evidential strength. Using the Johns Hopkins Evidence-Based Practice (JHEBP) Model Tool (Appendix H), the evidence was categorized for strength as follows: Level 1 (Strong Quality Ratings) – three articles,

Level 2 (Moderate Quality Ratings) – two articles, Level 3 (Low-Quality Ratings) – one article, and Level 5 (Expert Opinion) – one article, with Level 4/NA deemed not applicable.

A systematic review by Chrvala et al. (2016) corroborated that diabetes self-management education interventions enhance glycemic control, weight management, and physical activity. Additionally, Alharbi et al. (2023) demonstrated that DSMES interventions significantly bolstered self-efficacy in diabetes management across Gulf Cooperation Council countries. A randomized trial by Lynch et al. (2019) indicated that lifestyle interventions tailored for underserved populations notably enhanced diabetes self-care behaviors. Furthermore, Rouholamini et al. (2020) revealed that health promotion model-based training programs effectively enhanced physical activity levels among diabetic patients. These findings underscore the critical need for structured, evidence-based staff education programs to mitigate knowledge deficits in diabetes care. Consistency in the evidence reflects the positive impact of interventions on HbA1c reduction. It underscores initial improvements in HbA1c and other clinical parameters while highlighting the short-term effectiveness of DSME interventions.

Notably, the studies illustrate meaningful enhancements in lifestyle behaviors, consistently documenting improvements in diet, physical activity, and overall self-management practices, thereby illustrating DSME's vital role in fostering healthier lifestyle changes. The studies indicate self-efficacy as a key factor in enhancing participants' confidence in managing diabetes, emphasizing education's empowering nature. Regardless, evidence inconsistencies exist regarding the sustainability of outcomes; one article reported a lack of sustained improvement in HbA1c at 12 and 18

months, while another noted persistent improvements in waist circumference and emotional distress 6 months postintervention. Additionally, disparities in recruitment strategies were reported, with higher rates achieved through postal invitations compared to general practitioner (GP) prompts.

Some studies primarily examined session attendance correlations with outcomes without providing comprehensive analyses of recruitment efficacy, costing, and resource utilization, presenting challenges for comparability on financial feasibility. Rouholamini et al. (2020) and Felix et al., (2019) along with Davies et al.'s (2020) assessment, highlighted crucial facets of diabetes self-management education. Powers et al. (2020) pointed out that a minimal percentage of qualified patients receive structured education, contributing to suboptimal diabetes control. Overall, the findings advocate for integrating DSMES within outpatient settings to enhance compliance with lifestyle modifications and improve health outcomes significantly. Chrvala et al. (2016) also posited that structured educational programs facilitate better glycemic control and decrease healthcare visits, reinforcing the importance of systematic educational interventions in diabetes care.

Staff Education Project Development

In developing this project, I employed the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) instructional design model as articulated in the Manual for Staff Education (Walden, 2019). The ADDIE framework promotes a systematic, learner-centric approach to educational content development, enhancing participant engagement and knowledge retention. In the analysis phase, I focused on identifying knowledge deficits among staff regarding diabetes self-management, which informed the content structure design, delivery methods, and assessment instruments

ranging from PPT and pamphlets to interactive sessions. In the development phase, I applied the creation of tailored educational materials, including presentations and handouts, that considered the staff's literacy levels and cultural contexts. Implementation was executed through various modalities, including educating staff during huddles, clinic visits, ensuring that diverse delivery channels reached the learners effectively. Lastly, in the evaluation phase, I employed feedback channel through pre-and posttests to ascertain the effectiveness of the educational intervention.

The participants for the study were 10 healthcare personnel responsible for diabetes education in the clinic. The 10-item pre/post questions incorporate multiple-choice true/false to aggregate scores based on 100 points. Participants completed both pre-and posttest questions using pen and paper, with unique identifiers assigned to guarantee accurate matching of scores for analysis. I analyzed the dataset using descriptive statistics to evaluate pre- and post-intervention performance. The learning gains go through the Brigham and Women's Hospital Learning Gain formula: $(\text{post-learning score} - \text{pre-learning score}) / (\text{Max score} - \text{Pre-learning score}) \times 100$ (Brigham and Women's Hospital, 2020). Moreover, the questions assessed knowledge across key areas such as diabetes lifestyle modifications, patient counseling techniques, and comprehension of current clinical practice guidelines. Questions were adapted from the Diabetes Self-Report Test (DSRT) and the Diabetes Basic Knowledge Test (Francisco, 2013) and revised to align with project objectives. The comparative analysis of pre-and post-scores provided insights into knowledge enhancement and captured shifts in staff confidence regarding diabetes education. Data in Table 1 below reflects the results of the staff education project.

Results

Data indicated a significant enhancement in staff knowledge post-intervention. The mean posttest score was 86.5%, representing a 26% increase from the pretest mean of 60.5%, indicating the efficacy of the staff education program in improving understanding of diabetes lifestyle modifications. Individual learning gains varied from 50% to 83.33%, with the most notable advancements seen in participants who began with lower baseline scores (Table 1).

Table 1

Results

ID	Pretest Score	Pretest %	Posttest score	Posttest %	Learning gain %
I	60	60	85	85	62.5
II	55	55	90	90	77.78
III	65	65	90	90	71.43
IV	70	70	95	95	83.33
V	50	50	80	80	60
VI	65	65	85	85	57.14
VII	65	65	90	90	71.43
VIII	50	50	80	80	60
IX	55	55	85	85	66.67
X	70	70	85	85	50
<i>M</i>	60.5		86.5		83.33

The participants also completed an eight- points evaluation, helping monitor the effectiveness of staff education. The tool had structured questions on a Likert scale of 1-5, with 1 = *strongly disagree*, 2 = *disagree*, 3 = *undecided*, 4 = *agree* and 5 = *strongly agree*. Table 2 below describes the results of the education effectiveness evaluation.

Table 2

Education effectiveness

#	Criteria	SD	D	U	A	SA	Interpretations
I	Program Has clearly defined objectives	0	1	1	2	3	Majority (5/7) agreed or strongly agreed that objectives were well-defined.
II	Material used met the objectives	0	1	1	2	3	High approval: materials were aligned with program goals.
III	The content was relevant for the project	0	1	1	2	3	Positive response, indicating content was useful and applicable.
IV	The facilitator displayed good understanding of the topics	0	1	1	2	3	Strong ratings: facilitator demonstrated expertise.
V	The facilitator encouraged questions	0	1	1	2	3	Active engagement was supported during sessions.
VI	The PPT presentations were clear	0	1	1	2	3	Slight room for improvement in presentation clarity.
VI I	The setting was conducive for learning	0	1	1	2	3	Positive learning conditions reported.
VI II	The time allotted was right for the program	0	1	1	2	3	Time was sufficient, though minor concerns noted.

Conclusions

This initiative greatly impacted nursing practice by advancing staff knowledge and confidence in diabetes lifestyle counseling through evidence-based instructional strategies. Participants improved their understanding of diabetes management, lifestyle interventions, and patient education techniques. By strengthening healthcare providers' ability to deliver structured counseling, the project has enhanced staff morale and

improved education on adherence to lifestyle modifications and clinical outcomes. The success of this initiative underscores the importance of integrating EBP in nursing education, ensuring that providers are well-equipped to support patients in making sustainable health changes.

Beyond nursing practice, this initiative contributes to broader social change by promoting health equity, diversity, and inclusion in diabetes care. Many underserved populations, including immigrant and uninsured communities, face substantial barriers to accessing diabetes education and support. The initiative ensures that diverse patient populations receive personalized and practical guidance by equipping healthcare providers with culturally competent counseling skills. This focus on equity and inclusivity promotes a healthcare environment where all patients, regardless of background, have the knowledge and support to manage their condition effectively. The project serves as a benchmark for managing health disparities and advancing socially responsible nursing practices.

My recommendation is to optimize diabetes management by establishing an ongoing enhancement strategy that includes regular staff training through refresher courses and workshops. The initiatives will solidify knowledge and incorporate the most current evidence-based practices into clinical routines. Moreover, using motivational interviewing techniques, a patient-centered education approach allows personalized patient education and fosters greater adherence to lifestyle modifications. Integrating digital tools like mobile health applications and telehealth services supports patient engagement and long-term lifestyle changes. Enhancing nursing confidence in diabetes counseling improves clinical decision-making, leading to more informed interventions

and the development of individualized care plans. Equipping nurses with advanced educational resources, effective communication strategies, and a strong foundation in DEI designates them to propel favorable behavioral evolutions in patients and contribute to broader social change within healthcare systems. Ultimately, targeted education in diabetes self-management helps reduce complications such as neuropathy, retinopathy, and amputations, promoting improved long-term health outcomes.

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