# Diabetes Nursing in Pakistan: A Key to Strengthening National Health

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**Dear Editor,**

Type 2 Diabetes Mellitus (T2DM) is one of the most pressing and resource-demanding non-communicable disease (NCD) burdens in Pakistan, causing preventable complications, premature deaths, and escalating health care costs [1]. While access to pharmacological treatment has increased, T2DM care remains largely physician-centered, episodic, and biomedical, with little focus on long-term self-management support [2]. This model is unlikely to address the needs of a resource-deprived health system grappling with the growing burden of NCDs. Therefore, diabetes nursing is a strategic requirement rather than an option to sustain diabetes care in Pakistan.

The PACE-SMI (Patient-Centered Self-Management Intervention) is the first multi-center, randomized clinical trial in Pakistan to evaluate a nurse-led, culturally congruent self-management intervention for adults with T2DM. The trial, which involved 612 adults with suboptimal glycemic control (HbA1c ≥ 7), was conducted in the outpatient departments (OPDs) of four public tertiary hospitals in central Punjab. An eight-week multi-component intervention consisted of individualized education, counseling, behavioral skills training, and a home visit. Compared with usual care, the PACE-SMI produced a statistically significant improvement in HbA1c at 3 months, along with notable improvements in self-efficacy and self-care behaviors [3]. Despite being limited by a short follow-up period and a geographically restricted sample, the findings still provide context-specific information on the efficacy of nurse-led models in Pakistan.

Insights drawn from the success of PACE-SMI emphasize the value of diabetes nursing. It reiterates that theory-informed practice is effective [4]. PACE-SMI, being grounded in Social Cognitive theory, extended beyond the provision of information and deliberately targeted self-efficacy through structured goal setting, guided problem solving, and self-appraisal. The findings support integrating behavioral theory into routine diabetes care to facilitate behavior change. It also reaffirms that cultural relevance is not optional, but it is essential. Patients are more likely to participate in care when it reflects their lived realities, particularly in Pakistan, where access to care is influenced by sociocultural expectations, gender roles, language, and literacy [5]. Equally important was the nurse-patient relationship, which appeared as the driver of change. PACE-SMI emphasizes that long-term, person-centered engagement builds trust, promotes treatment adherence, and supports real-world problem solving.

The PACE-SMI trial has important implications for strengthening Pakistan's health system across multiple domains. First, diabetes nurses should be formally integrated into primary and secondary care facilities, including basic health units, rural health centers, and OPDs of district and tehsil hospitals, to improve access to care. Second, the Pakistan Nursing & Midwifery Council, in collaboration with academic institutions, should develop structured training and certification pathways to prepare the workforce for delivering diabetes care. Third, nurse-led self-management support should be formally recognized, resourced, and reimbursed within health financing and regulatory frameworks to enable task shifting, optimize physician workload, and ensure continuity of care. However, the issues of scalability, cost, and feasibility of PACE-SMI across a variety of health system settings should be considered and further explored through implementation research.

Investing in diabetes nursing is a strategic step toward strengthening Pakistan's healthcare system. Scaling up evidence-based, nurse-led interventions such as PACE-SMI provides a way forward to delivering person-centered, cost-effective, and sustainable diabetes care, thereby helping the country achieve its broader goals for NCD management and primary healthcare.

## CONFLICT OF INTEREST

The author declares no conflict of interest.

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## GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

OpenAI was used for language refinement and clarity; while all intellectual content, interpretation of findings, and final approval remain solely the author's responsibility.

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