EP017

HEALTH LITERACY TO ADHERENCE: MEDIATING ROLE OF SELF EFFICACY AMONG DIABETIC PATIENTS IN TERENGGANU



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Introduction

The Adherence Gap: Malaysia faces a severe T2DM crisis with a **21.1% prevalence**, yet clinical outcomes are stalled by non-adherence rates as high as **43.4%** in low and middle income countries[1].

In Terengganu, this challenge is unique due to a **pluralistic healing culture** where patients blend modern pharmacology with traditional medicine[2].

Beyond Literacy: While **health literacy** is a vital determinant of self-management, providing information alone often fails to produce behavioral follow-through. This "knowledge-behavior gap" suggests that understanding "what" to do is insufficient without the psychological drive to act[3].

The Efficacy Bridge: Grounded in **Social Cognitive Theory**, this study identifies **self-efficacy** as the essential mediator[4]. By moving beyond mere information delivery to focus on building a patient's **confidence in managing barriers**, we can develop more impactful, culturally sensitive interventions that translate literacy into sustained adherence[5].

Objectives

1. To determine the direct relationship between diabetes **health literacy** and **medication adherence**.
2. To evaluate the **mediating effect of self-efficacy** on the relationship between health literacy and medication adherence among Type 2 Diabetes Mellitus patients in Terengganu.

Methodology

1. Design & Setting: Cross-sectional study of **480 T2DM patients** across 8 Terengganu health clinics.

2. Tools: Used validated Malay scales: **My-DHLS** (diabetes health literacy), **My-SED** (self-efficacy for diabetes), and **MyMAAT** (medication adherence).

3. Analysis: Mediation analysis performed in **R** using **5000 bootstrap resamples**.

4. Standards: Adhered to **AGReMA guidelines** to evaluate behavioral mechanistic pathways.

Results

The study included **480 patients** with Type 2 Diabetes Mellitus, with a **mean age of 47.60 years** and an **average disease duration of 5.96 years**. The majority of participants were **female (67.1%)** and **married (84.2%).** Clinically, **77.7%** of patients demonstrated poor glycemic control **(HbA1c > 6.5%)**, with a **mean body mass index (BMI) of 29.10** kg/m², indicating a predominantly overweight population.

Table 1 shows that Diabetes Health Literacy correlates strongly with **Self-Efficacy (r = 0.646, p < 0.01)**. Furthermore, both literacy **(r = 0.209)** and self-efficacy **(r = 0.273)** significantly associate with Medication Adherence (p < 0.01), highlighting their positive impact on treatment compliance among participants.

Mediation analysis (5,000 bootstrap resamples) revealed that self-efficacy **fully mediates** the relationship between diabetes health literacy and medication adherence. The significant total effect **(β= 0.21, p < 0.001)** became non-significant **(β = 0.06, p = 0.361**) upon adding the mediator, which yielded a significant indirect effect **(β = 0.15, p < 0.001).**

Table 1 Descriptive statistics and Pearson correlation matrix for Diabetes Health Literacy, Self-Efficacy, and Medication Adherence (n=480).

Variable	Mean ± SD	Diabetes Health Literacy	Self-Efficacy for Diabetes	Medication Adherence
Diabetes Health Literacy	47.53 ± 9.13	1		
Self-Efficacy for Diabetes	51.57 ± 14.87	0.646**	1	
Medication Adherence*	50.55 ± 8.32	0.209**	0.273**	1

Notes: *Medication Adherence was reverse-coded; **p < 0.01

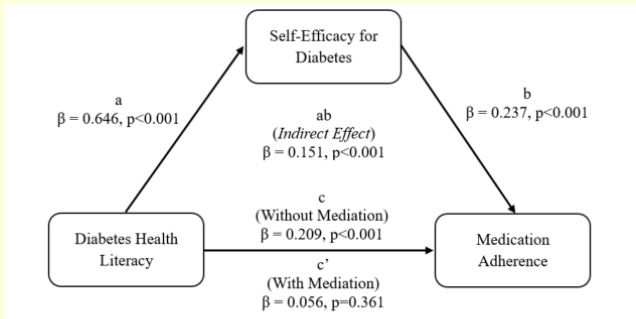


Figure 1. Mediation model of self-efficacy between health literacy and medication adherence. Path (a) denotes the predictor-mediator relationship; (b) denotes the mediator-outcome relationship; (c) represents the total effect; and (c') represents the residual direct effect.

Discussion and Conclusion

Self-efficacy is the critical psychological driver of medication adherence among T2DM patients in Terengganu. While **diabetes health literacy** initially demonstrated a **significant total effect (β = 0.21, p < 0.001)**, this relationship was entirely **absorbed by self-efficacy**, resulting in **full mediation (Indirect Effect: β = 0.151, p < 0.001)**.

This confirms a profound "knowledge-behavior gap," where literacy alone is insufficient for long-term adherence unless it bolsters a patient's internal confidence to navigate complex treatment barriers[6].

Aligned with **Bandura's Social Cognitive Theory**, these results emphasize that within Terengganu's pluralistic healing environment—where modern medicine often competes with traditional practices—self-efficacy is the essential prerequisite for behavioral enactment[2,4].

Consequently, healthcare interventions must shift from traditional information-based education to behavioral strategies that prioritize **"mastery experiences."** By empowering patients with the psychological resilience and self-belief needed to sustain regimens, clinical communication can effectively bridge the gap between health understanding and consistent therapeutic action[5].

Acknowledgement

The authors thank the **Director General of Health Malaysia** for permission to present these findings at BSC2026. We appreciate the **Terengganu State Health Department (JKNT)**, participating **health clinics**, and the **Ministry of Higher Education/USM DrPH program** for their support. Special thanks to the **patients whose invaluable cooperation** made this study possible.

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