

**Aishairma Aris<sup>1\*</sup>, Holly Blake<sup>2</sup> and Gary Adams<sup>2</sup>**

*<sup>1</sup>Department of Nursing, Faculty of Medicine, Universiti Kebangsaan Malaysia (UKM), Jalan Yaakob Latif, Bandar Tun Razak, 56000, Cheras Kuala Lumpur, Malaysia.*

*<sup>2</sup>School of Health Sciences, University of Nottingham, Queen's Medical Centre, NottinghamNG7 2HA, United Kingdom.*

**\*Corresponding author:**

Aishairma Aris

Email address: [aishairma@ukm.edu.my](mailto:aishairma@ukm.edu.my)

ABSTRACT

The practice of diabetes self-care plays an important role in achieving and maintaining good glycaemic control. However, not all patients with insulin-treated diabetes engage in their self-care activities. There is some evidence that self-care practices in patients with insulin-treated diabetes can be understood and predicted by their health beliefs, although studies are often hampered by methodological weaknesses, and the fact that less is known about adults with insulin-treated diabetes in Malaysia. This study was conducted to examine whether health beliefs (as specified in the Health Belief Model: HBM) can predict self-care practices and glycaemic control in patients with insulin-treated diabetes in Malaysia. Longitudinal design with self-reported questionnaire measures was administered at baseline

(Time 1:T1) and six months later (Time 2: T2). Participants were recruited from three endocrinology clinics in Malaysia. The measures included self-care practices (diet, insulin intake, exercise and self-blood glucose monitoring: SMBG), health beliefs and diabetes knowledge. Participants' glycaemic control was examined based on their glycated hemoglobin (HbA1c) results. Data analysis was performed at different points of the study times; T1, T1-T2 and T2. Diabetes knowledge and demographic data were controlled for in predictive statistical analyses. A total of 159 patients with

insulin-treated

diabetes (aged 18-40 years) completed the measures at T1. Of these, only 108 (67.9%)

completed follow-up measures at T2. However,

demographic characteristics were not significantly different between those who completed and dropped out of the study ( $p>0.05$ ).

The HBM was significantly predictive of diet self-care at T2, insulin intake practice at T1 and HbA1c at T1-T2 and T2. Of the HBM constructs, perceived benefits significantly predicted good dietary habits at T1 (OR 1.92) and T2 (OR .23) and adherence to insulin injection at T1 (OR 3.17) and T1-T2 (OR 2.68). With the exception of perceived severity, all other HBM constructs significantly predicted HbA1c [perceived susceptibility (

$\beta$  .169

) at T1, perceived barriers (

$\beta$  -.206

) and perceived benefits (

$\beta$  -.397

) at T2 and cues to action (

$\beta$  -.233

) at T1-T2]. Health beliefs predict self-care practices and glycaemic control in young to middle-aged adults with insulin-treated diabetes in Malaysia. Diabetes educators could use this knowledge in their efforts to improve diabetes self-care in this patient group by modifying those beliefs through their diabetes education.

**Keywords:** Insulin-treated diabetes, health beliefs, Health Belief Model, longitudinal design, self-care, diet, exercise, insulin adherence, self-monitoring blood glucose, glycaemic control.

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