

Diabetes health-beliefs, self-care practices and glycaemic control among Malaysian young adults with diabetes

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Introduction: Self-care practices and glycaemic control remain suboptimal among young adults with diabetes. One of the known factors to influence self-care behaviours is health beliefs. Targeting health beliefs through diabetes education facilitates individual's diabetes self-care behaviours. Studies investigating health beliefs of young adults with diabetes are limited, however, to educational settings and include mixed-age participant groups. Knowledge about the health beliefs, self-care practices and glycaemic control specifically among Malaysian young adults with diabetes is lacking.

Objectives: This study aimed to examine health beliefs, self-care practices and glycaemic control among Malaysian young adults with diabetes.

Methodology: This cross-sectional study was conducted in three endocrinology clinics in Malaysia and was guided by the Health Beliefs Model. There were 158 participants, aged 18-40, who had diabetes > 1 year and were treated with insulin longer than 6 months. Patients with major diabetes complications, pregnant women and those on psychiatric medications were excluded. Data were collected using self-report questionnaire and via patients' medical records. Descriptive analysis was conducted using SPSS version 19.0.

Results: The sample was 56.6% female, 66.7% Malay, just under half completed secondary school (42.8%) and over three-quarters were working (79.9%). Mean age was 29.9 years (± 6.8), mean diabetes duration was 9 years (± 6.9) and mean glycosylated haemoglobin (HbA1C) was 9.9 (± 2.6). Patients believed that diabetes is severe ($M: 15.5 \pm 2.7$) and that they are susceptible to diabetes complications ($M: 36.1 \pm 7.8$). They also reported greater barriers to (27.8 ± 4.4) than benefits of (27.0 ± 5.1) engaging in self-care practices. Of patients with higher HbA1C ($> 7.1\%$), almost half consumed > 4 meals per day (45.5%, $n=62$) and a significant proportion consumed excessive carbohydrate in breakfast (64.1%, $n=43$), lunch (57.5%, $n=42$) or dinner (47.8%, $n=34$). In addition, many had excessive carbohydrate intake (47%, $n=64$) and sugar (43.3%, $n=59$) in drinks. A significant proportion did not meet physical activity recommendations (frequency: 80%, $n=28$; duration: 57.1%, $n=20$; intensity: 11.4%, $n=4$). A high proportion (85.3%; $n=93$) did not test their blood sugar as recommended, although most (89.7%; $n=122$) adhered to 90% of their prescribed dosage.

Conclusions: This is a first study describing the health beliefs of a Malaysian population of young adults with diabetes. Despite believing in illness severity and susceptibility, their perceived barriers toward self-care practices were greater than perceived benefits, their self-care practices did not meet recommended levels and the majority had poor glycaemic control (HbA1C level $> 7\%$). Further research is needed to examine the nature of the relationship between health beliefs and self-care behaviour as well as HbA1C level among young adults with diabetes.

Keywords: Health beliefs, Health Belief Model, self-care, compliance, adherence, glycaemic control, HbA1C, young adults, adulthood, insulin-treated.

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