

UNIVERSITI TEKNOLOGI MARA

**RELATIONSHIP BETWEEN PHYSICIAN-
PATIENT INTERACTION SATISFACTION WITH
MEDICATION ADHERENCE IN PATIENTS WITH
TYPE 2 DIABETES ON INSULIN IN PRIMARY
CARE**

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Dissertation submitted in partial fulfilment
of the requirements for the degree of
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AUTHOR’S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Medication adherence has been found to be an important determinant in achieving glycaemic targets in Type 2 Diabetes (T2DM) patients. In other patient populations, physician-patient interaction satisfaction was found to influence medication adherence. It is then important to identify if this is also a factor amongst T2DM patients on insulin as poor adherence was associated with increased all-cause mortality. The general objective of this study was to determine the relationship between physician-patient interaction satisfaction with medication adherence in patients with T2DM on insulin in the Malaysian primary care setting. This was a cross sectional study involving 197 T2DM patients on insulin from 2 government primary health clinics in Gombak. Physician-patient interaction satisfaction and medication adherence level were measured using validated questionnaires. Data analysis for descriptive, inferential and multivariate analysis statistics were performed. Overall satisfaction score was 42.1 out of maximum 55. Factors associated with high satisfaction scores included younger age group, primary education level, pre-obese group and basal only insulin regime. For medication adherence, majority (48.2%) had low adherence score. Factors associated with medication adherence include 'Interaction Outcome' domain score and BMI. There is a positive correlation between 'Interaction Outcome' domain score and medication adherence score ($r=0.283$, $p<0.001$). There is a relationship between Interaction Outcome subdomain score with medication adherence. Increase in this subdomain score will result in an increase in medication adherence score. This study also found that there is an association between medication adherence and body mass index (BMI). Higher body mass index is associated with higher adherence level.

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CHAPTER ONE

INTRODUCTION

1.1 Type 2 Diabetes Mellitus: Background, current disease prevalence and burden

Type 2 Diabetes (T2DM) is a chronic illness characterized by insulin resistance and relative impairment in insulin secretion which results in hyperglycaemia. It is influenced by both environmental and genetic factors (Scheen, 2003); for example those of Asian ancestry are more at risk for diabetes compared to those of European ancestry even at lower levels of body mass index (BMI)(World Health Organization, 2004). Other risk factors include increased BMI, central obesity, smoking (Ley et al., 2016), reduced physical activity and increased calorie intake, increasing age (Jan Mohamed et al., 2015), metabolic syndrome (Ford, Li, & Sattar, 2008), family history of diabetes especially from first degree relative (Yadav, Tiwari, & Dhanaraj, 2008).

Currently, worldwide prevalence of diabetes mellitus has risen from 4.7% in 1980 to 8.5% in 2014 (World Health Organization, 2016). According to the National Health and Morbidity Survey (NHMS) 2015, local prevalence of diabetes mellitus was reported to be 17.5% among adults above the age of 18. This has been an increasing trend from previous years; 11.6% in 2006 to 15.2% in 2011(Institute for Public Health, 2015a). In terms of economic burden, it was estimated that RM 2.4 billion of the health expenditure was utilized for diabetes alone in 2010. This accounts for 16% of the country's health care budget (Zhang et al., 2010).

T2DM is associated with microvascular and macrovascular complications leading to morbidity and mortality. The development of microvascular complications are related to the duration and intensity of exposure to hyperglycaemia. From local data, the National Diabetes Registry Report (NDR) 2009-2012 (Feisul MI, 2013) found that the most common diabetes mellitus related complication were nephropathy at 7.8%, followed by retinopathy and ischaemic heart disease, at 6.7% and 5.3% respectively.