UNIVERSITI TEKNOLOGI MARA

OUTCOME EVALUATION OF DIPEPTIDYL PEPTIDASE 4 (DPP4) INHIBITORS AND ITS COMBINATION ON GLYCEMIC CONTROL OF TYPE 2 DIABETES MELLITUS PATIENTS AT PUTRAJAYA HOSPITAL

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Dissertation submitted in partial fulfilment
of the requirements for the degree of
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Faculty of Pharmacy

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CONFIRMATION BY PANEL OF EXAMINERS

I certify that a Panel of Examiners has met on 21st January 2016 to conduct the final examination of Nurhamizah binti Noor Rahim on her Master of Clinical Pharmacy thesis entitled "Outcome Evaluation of Dipeptidyl Peptidase 4 (DPP4) Inhibitors and Its Combination On Glycemic Control of Type 2 Diabetes Mellitus Patients at Putrajaya Hospital " in accordance with Universiti Teknologi MARA Act 1976 (Akta 173). The Panel of Examiners recommends that the student be awarded the relevant degree. The panel of Examiners was as follows:

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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 writing 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

Introduction: Dipeptidyl Peptidase 4 Inhibitor **(**DPP4-I) is a relatively new antidiabetic agent, hence the study on glycemic outcome in Malaysian population is still lacking. Currently, there is no study conducted in Putrajaya Hospital to examine the outcome of DPP4-I and its combination on glycemic control of Type 2 Diabetes Mellitus (T2DM) patients, response towards DPP4-I and predictors for HbA1c reduction. **Objective:** To evaluate outcome at week 16, 32 and 52; to determine ADR arises from DPP4-I; and to evaluate predictors for HbA1c reduction at week 52. **Method:** A retrospective observational study was conducted on 184 T2DM patients that were prescribed with DPP4-I. Paired t-test, ANOVA and linear regression analysis were conducted accordingly. **Results:** 39.1% of study subjects managed to attain HbA1c value ≤7.0% after 52 weeks of therapy with DPP4-I and its combinations. The mean HbA1c reduction was 0.7% compared to baseline. 70.7% were responsive to the DPP4-I treatment with age at the initiation of DPP4-I, mean HbA1c at baseline and week 52 and mean number of antidiabetics prescribed at baseline and week 52 were significantly different between subgroups. Unresponsive subgroup attained only 0.2% HbA1c reduction at around week 16 compared to significant HbA1c reduction attained by responsive group. 2.7% adverse drug reaction related to DPP4-I was reported. Baseline HbA1c values, HbA1c changes at around week 16 and age were found to be the predictors for HbA1c reduction. **Conclusion:** The addition of DPP4-I demonstrated moderate glycemic reduction to T2DM patients. However, factors such as adherence towards antidiabetics, diet, physical activity and insulin intensification that was not assessed in this study may also influence this effect.

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