

UNIVERSITI TEKNOLOGI MARA

**EVALUATION TIME IN
THERAPEUTIC RANGE (TTR) OF
PATIENT IN WARFARIN
MEDICATION THERAPY
ADHERENCE CLINIC (MTAC) IN
HOSPITAL PUTRAJAYA**

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I certify that a Panel of Examiners has met on 21st January 2016 to conduct the final examination of Noor Fadzillah Ariffin on her Master of Clinical Pharmacy thesis entitled “Evaluation Time In Therapeutic Range (TTR) Of Patient In Warfarin Medication Therapy Adherence Clinic (MTAC) In Hospital Putrajaya” 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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ABSTRACT

Background: Warfarin is the most commonly used oral anticoagulant and has a narrow therapeutic window therefore requires frequent monitoring to maintain the desired treatment targets. Time in therapeutic range (TTR) usually use to identify the quality of INR control in patient with oral anticoagulant. We examined the status of and factor influence TTR and also bleeding and thromboembolic event in warfarin MTAC patients. **Methods:** We enrolled 162 patients from warfarin MTAC patients list. Patient's data were accessed retrospectively through electronic medical records. TTR was calculated using the linear interpolation technique. Descriptive data were analysed using frequency and percentage. Simple logistic regression was used for univariate analyses. **Result:** The mean of the individual's TTR calculated by using the Rosendaal method was 76%, (SD 18.5%) and only 24% of the INR value was out of the target range. Overall percentage of bleeding event would be 11.7% and percentage of thromboembolic events was only around 0.6%. Overall out of 162 patients, 135 patients show the TTR value is more than 60% and only 27 patients the TTR value less than 60%.TTR was not affected by age, gender, sex, race, indications, duration of warfarin, weekly dose and number of concurrent medication. Missed dose was the only statistical significant predictor of poor TTR value ($P < 0.001$). In patient with missed dose of warfarin has a 2.2 times more likely of having TTR value less than 60% with 95% confident interval (1.50 to 3.12). **Conclusion:** TTR is generally high in pharmacist managed clinic patients. The INR value most of time was spent within the target ranges. Thus, reflecting a good INR control in pharmacist managed clinic.

Keywords: Anticoagulant, TTR, pharmacist-managed clinic

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