

ORIGINAL ARTICLE

## Clinical Outcomes of Pharmaceutical Care at Warfarin Outpatient Clinic Bangplama Hospital, Suphanburi

Saifon Injaiuea<sup>1</sup>, Kamolwan Tantipiwattanasku<sup>2\*</sup>, Anawat Rakwanwong<sup>1</sup>,  
and Surasak Luengsirithanya<sup>1</sup>

<sup>1</sup>Bangplama Hospital, Suphanburi, 72150, Thailand

<sup>2</sup>Faculty of Pharmacy, Siam University, Bangkok, 10160, Thailand

\*E-mail: kamolwantnok@yahoo.com

### Abstract

The cross-sectional descriptive study of clinical outcomes was implemented at warfarin outpatient clinic at Bangplama Hospital in fiscal year 2015. 64 patients were recruited by inclusion criteria. Averaged age was 64.7 years old (SD±12.5) with a range of 27 to 91. Majority of co-morbidity were cardiovascular disease (59.4%) and asthma (7.8%). Warfarin was mainly prescribed for patients with mechanical prosthetic heart valves or atrial fibrillation. Complication and thromboembolic events were not observed. There were 12 patients with optimal range of International normalized ratio (INR), whereas 52 cases with uncontrolled INR. Total of 616 INR monitored times, we found that 69.5% of them were well controlled. 188 times of out of range INR were divided into lower than optimal INR group (22.1%) and higher than optimal INR group (8.4%). Major cause of patient with uncontrolled INR was non-compliance. Safety parameters indicated that major bleeding was not found. There were minor bleeding events in 23.4%. Other adverse drug reactions were edema of extremities and sudden headache. For patients who had INR>3, minor bleeding events were observed in some cases (23.1%). Dose adjustment for each patient was considered by INR plot and their drug related problems. For patients who had INR<2, the targeted INR could be returned after their drug related problems solving.

**Keywords:** warfarin clinic, pharmaceutical care, clinical outcomes, drug related problems

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