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Submitting author: Mr Yuk Shing Li

Post title: Resident Pharmacist, Tung Wah Hospital, HKWC

Effect of Pharmacist Anticoagulant Counselling Service on Patients' Knowledge, Adherence and Control of Anticoagulant Therapy

Li YS (1), Lai WYW(1), Pang KCJ(1), Kwok CLP(2)

(1) Department of Pharmacy, Tung Wah Hospital (2) Department of Pharmacology and Pharmacy, The University of Hong Kong

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Introduction

Patients receiving warfarin therapy require intensive and comprehensive clinical management. Suboptimal medication adherence and knowledge are always barriers to satisfactory anticoagulation control and treatment outcome. Pharmacist-managed counselling service as well as comprehensive medication management is a potentially effective solution.

Objectives

To evaluate the effectiveness of the service in improving patients' knowledge, adherence and anticoagulation control and to determine any correlation among them.

Methodology

The open-labelled and prospective study was conducted at the out-patient clinic of Tung Wah Hospital. Patients taking warfarin continuously for >2 months were recruited. Anticoagulant knowledge was assessed by a 13-item, 20-point self-developed assessment form and adherence by 4-item Morisky Medication Adherence Scale (MMAS). International Normalized Ratio (INR) control was assessed in terms of time in therapeutic range (TTR) calculated by linear interpolation method. Patient satisfaction was then assessed in a 5-point Likert Scale. Other than primary end-point to investigate the effect of pharmacist anticoagulant counselling service, any correlation between demographic factors (including sex, age, education level, renal function, polypharmacy and duration since treatment) and anticoagulation control was determined.

Result

Thirty-eight patients with 23 men (mean age 75.2) were recruited, 36 patients completed the study. Pharmacist counselling service could significantly improve patient anticoagulant knowledge (mean increase 4.44 points, 95% CI [3.52, 5.37], $p < 0.001$). Non-significant improvement of patient adherence (mean increase 0.03 point, $p = 0.744$) and INR control in terms of TTR (mean increase 6%, $p = 0.391$) was noted

after counselling. Neither knowledge ($p = 0.91$) nor adherence ($p = 0.95$) was correlated significantly with INR control. Correlation between knowledge and adherence did not reach significance ($p = 0.09$). 27-count of drugs, 4-count of herbs/TCM and 6-count of supplements were spotted with potential interaction with anticoagulant. Nil thromboembolism or major bleeding events were reported. Number of concurrent medications (polypharmacy) were significantly correlated to TTR ($r = -0.441$, $p = 0.006$). All recruited patients were satisfied (satisfaction score ≥ 4) with the pharmacist counselling service (mean satisfaction score = 4.19 out of 5).
Conclusion: Pharmacists may have an essential role in anticoagulant management to improve patient anticoagulant knowledge, adherence and INR control and thus treatment outcome.