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CHUTIMA AKALEEPHAN: USAGE EVALUATION OF ANTI-MICROBIAL PROPHYLAXIS IN GENERAL SURGERY AT RAMATHIBODI HOSPITAL. THESIS ADVISORS: BUSBA CHINDAVIJAK, PhD., SAYOMPORN SIRINAVIN, DIP. THAI BOARD OF PEDIATRIC, WIWAT TIRAPANICH, DIP. THAI BOARD OF GENERAL SURGERY. 120 p. ISBN 974-663-155-1

Antimicrobial prophylaxis in surgery can minimize postoperative wound infection and reduce overall health expenditure. However, inappropriate use may increase costs through overuse of drug, requisite laboratory monitoring, and selection of resistant organism. This prospective pre-post comparative study was performed to evaluate the use of antimicrobial agents for prophylaxis of surgical wound infection in surgical patients who were admitted during 16 September 1996 to 15 February 1997 at Ramathibodi Hospital, a 800-bed medical school hospital. A 1-hour educational meeting with surgical residents and a new unenforceable educational order form of antimicrobial agents were used as intervention in the study. A total of 420 patients were included in the study. Collected data was analysed with Chi-square test and Fisher exact test.

The results of usage appropriateness in pre-intervention group comparing with post-intervention group show that overall appropriateness was 39.1% vs 37.2%, the indication appropriateness was 63.4% vs 58.7%, the drug selection was 67.1% vs 72.4%, the appropriateness of dose of recommended antimicrobial agents was 89.6% vs 94.9% and all of antimicrobial agents were administered via appropriate route. In patients who received recommended antimicrobial agents, more than a single dose, the dosage interval appropriateness was 55.2% and 62.0%. Cefazolin and cefoxitin were frequently ordered, but they were often prescribed in unrecommended dosage interval. Appropriateness of timing of the first dose was 95.7% vs 96.1%, appropriateness of timing of the repeated dose was 30.0% vs 11.1%, appropriateness of duration of recommended antimicrobial prophylaxis was 50.0% vs 55.3%. Adverse drug reaction was found with cefoxitin at 1.0% incidence. The surgical wound of all patients were followed up to 30 days after operation and the incidence of wound infection was 5.6% vs 4.0%. The cost of antimicrobial prophylaxis in surgery was 180,842 Baht and cost saving if all cases were appropriate would be 153,666 Baht.

These findings suggest that antimicrobial prophylaxis for postoperative surgical wound infection should be evaluated, and appropriate use will consequently decrease in drug expenditures.