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SARAWUT OO-PUTHINAN : COMPUTER PROGRAM FOR DOSAGE  
REGIMEN INDIVIDUALIZATION. THESIS ADVISOR : KORBTHAM  
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In drug therapy, due to the differences in pharmacokinetic parameters of a drug such as volume of distribution, clearance, elimination rate constant and elimination half-life, etc. in each patient or even in the same patient with different clinical conditions, appropriate individual dosage should be given to each patient; especially for a drug with narrow therapeutic range or severe adverse reaction. Drug dosage individualization depends on serum drug level which is used to determine patient-specific pharmacokinetic parameters. It is a time-consuming and iterative routine task. Thus, it is much better if being performed by the pharmacokinetic software program instead of clinicians.

Consequently, this study was performed to develop the "Computer Program for Dosage Regimen Individualization" as a tool that assists clinicians to perform drug dosage calculation based on drug concentrations more conveniently, quickly, and accurately; and to monitor patients' drug use by using the format of patient drug profile of the program which provides clinicians more convenience and ease.

The program was evaluated by determining subjects' opinion toward the program. Fourteen pharmacists answered the questionnaire after they finished testing the program. Five attitudes were assessed with a total of nine questions in the questionnaire. The questions no.1 and no.2 were used in considering the correctness of calculation and the time saving respectively. The opinions about the program format were obtained from questions no.3, no.4 and no.5. The questions no.6 and no.9 related to ease in using the program. The last attitudes, the implication of the program were acquired from questions no.7 and no.8. The mean scores in each question (from questions no.1 to no.9) were 4.29, 4.64, 3.71, 3.86, 3.93, 3.64, 4.64, 4.93 and 4.21, respectively. It showed that the subjects had positive opinion toward the program or implied that the subjects were satisfied with correctness of calculation, time saving in calculation, the program format, and usage ease and encouraged implication of the program.

It can be concluded that this program helps pharmacists perform therapeutic drug monitoring (in part of dosage individualization and patients' drug use monitoring) to obtain good patient outcome (high therapeutic efficacy and low or no adverse drug reaction). For further study, the program should be developed for drugs which are eliminated from the body with non-linear kinetics such as phenytoin.