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Medication error is the leading problem in drug use process and reflect inadequate quantity assurance of the system. Unit dose system has been designed and accepted as the most effective method to overcome this defect.

The objectives of this study were to determine the patterns and causes of the medication errors in 8 different wards using traditional (4 wards) and unit dose (4 wards) drug distribution systems at Srisaket Hospital between June to December 1993.

Three steps in drug process (prescribing, dispensing and administering) was evaluated. Data in the first step was collected through the routine dispensing process inspection of all prescription for 1 month and 176 of 6,452 items (2.7 %) were found to be prescribing errors. However, these were judged as non-serious errors.

Frequency of dispensing errors were comparable in traditional (48/1922; 2.5%) and unit dose system (295/9977; 2.95 %). In traditional system, other error (19/0.99%), omission (13/0.68 %) and wrong dose (8/0.42%) were leading types of errors. In unit dose system, other error (66/0.77 %), wrong dose (65/0.63%) and unordered drug error (64/0.64%) were top three types of errors. All errors found in this step were automatically corrected at the pharmacy. Three major causes of dispensing error were personnel error, inappropriate system and excessive workload.

Assessment of drug administration error revealed 437 (11.78 %) and 629 (16.74 %) in traditional and unit dose systems respectively. Three major causes of administration error were personnel error, lack of knowledge and drug preparation error. Errors in wrong dose (234/6.31 %), omission (123/3.31 %) and unordered (46/1.24%) were most commonly found in the traditional system. Wrong time (415/11.05 %), omission (91/2.42 %) and wrong dose error (46/1.22 %) were commonly found in order of frequency in unit dose system. Three major causes of the error were inappropriate system, personnel error and error in Kardex preparation.

Although unit dose system in this study was found not to be effective as expected when only frequency of errors were considered. However, when wrong time error which is not a serious problem as compared to others was excluded. Unit dose system remained superior to the conventional one. Further modification in unit dose system has to be done to improve its efficiency.