A Drug-Safety Information System for Computerized Drug Deliver Cart

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1. Introduction

In Taiwan, clinical pharmacy is taking more and more attentions these years, and the pharmacy law had revised that medication care should be pharmacists' obligation in 2007. However, pharmacists could barely practice medication care for patients, especially inpatients in the present system. Therefore, many hospitals use information technology to improve the situation. In this study, we designed to prevent medication errors in many ways, expecting to reach not only "zero omission", but also play the clinical pharmacists' role, and raise patient safety.

2. Methods

The system mainly used two databases. The first data source is called "The Integrated Pharmacy Care Database" which was released by the Department of Health (DOH) of Taiwan. It was for constructing this database for pharmacy care. The second data source is an "Intravenous Drug Compatibility Database", the compatibility information were mainly sorted from a textbook called "Handbook on Injectable Drugs" published by American Society of Health-System Pharmacists (ASHP). The database stored information for incompatible drug-drug or drug-solution results. This study is designed with three drug-safety information modules including drug information module, drug interaction module, and intravenous drug incompatibility module combined with computerized drug deliver cart. We used Delphi language to code the programs of this system.

3. Results

In this study, we created three drug-safety information modules including drug information module, drug interaction module, and intravenous drug incompatibility module combined with computerized drug deliver cart. In addition to demonstrate the system with patients data, we also used our drug interaction function to analyze real data to find the efficiency of the system, and the situation of adverse drug events.

4. Conclusion

In conclusion, the contributions of this study are fallows. First, one drug-safety information system for computerized drug deliver cart were created. It would lower the obligation of nursing staff. Second, "The Integrated Pharmacy Care Database" and "Intravenous Drug Compatibility Database" were integrated. Finally, according to the result of analysis, this system could prevent medicate error that was mis-detected from CPOE.