Enhancing safety and checking effectiveness of dangerous drug

Leung W(1), Chau A(1), Man HS(1), Ng KL(1), Yung MS(1), Cheng YS(1), Ng TK(1), Park H (2), Chia D (2) and Chu K(2)

(1)Department of Rehabilitation (2) Department of Pharmacy, Kowloon Hospital

Keywords:
Dangerous drug
Drug safety

Introduction
Dangerous drug (DD) was locked in a double-locked cupboard which had a limited storage area, therefore, DD were being clipped together to store in a tiny cupboard. Clipping DD increased the risk of medication error and missing of drugs from broken plastic bag. It also reduced the efficiency in checking and taking the drugs by staffs. Ineffective DD storage system led time-consuming in routine checking and administration of medication. Thus, a creative improvement program focused on DD storage system was started.

Objectives
(1) To enhance medication safety in DD checking & administration (2) To increase efficiency in checking DD and (3) to increase staff awareness in checking DD.

Methodology
In 2012, a re-designing project of DD storage area was commenced after discussion with senior management, pharmacists and collection of opinions from the frontline nurses. Twenty plastic boxes had been used to place single DD. The plastic boxes were named in alphabetical order by their generic name and color-coded into 3 colors. The white, yellow and blue colors represented the oral drugs (white), intravenous drugs (yellow) and the drugs of other route of administration (blue) such as per rectal or transdermal patch respectively. Same color-code drugs were put together. The TALL-man letter system was used in labeling aimed to alert staffs on the looks-alike and sound-alike medications. The outcome measures were measured as satisfactory survey at time and motion.

Result
The implementation of change in DD storage had been improved the effectiveness in checking DD. The time for a single drug checking reduced from 2-min 30-sec to 1-min 45-sec. There was a 45sec/ 25% reduction of time. The time for routine checking reduced from 30 minutes to 18 minutes. There was a reduction of time consumed by 40%/ 12 minutes. The satisfactory survey result indicated that ward staffs accepted the new DD storage system, they liked to sustain the change which one drug occupied only a box. Most importantly, the entire respondent agreed that the current
storage method could enhance the medication safety in checking the DD. Re-designing DD storage system based on color-codes and TALL-man letter system which was effective in enhancing safety and checking effectiveness of DD. In future, we would like to share the experience to other colleagues.