The application of “Just in Time” concept in Rehabilitation ward setting

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Introduction
Just-in-time (JIT) concept is commonly used in manufacturing industry. Kim (Kim et al, 1993) promoted the JIT concept in the health care setting. It enhances the material supply system and speed up the work flow process. In order to provide a continuous flow processing in our nursing interventions to clients, a mini consumable supply system with application of the JIT concept will be conducted in the treatment room of a Rehabilitation Ward.

Objectives
1 To identify the daily inventory needs; 2 To facilitate the procedure flow; 3 To enhance the space and time saving; 4 To facilitate cost-effective outcome in consumables management.

Methodology
1 System: 1.1 Form working group to ensure the sustainability of the implemented change in inventory items. Senior management acts as facilitators to assist the frontline staff to establish a refilling system. 1.2 A Registered Nurse will be assigned to coordinate and monitor the consumption of items; 1.3 Frontline nurses perform the physical inspection and make the request. The nurses also report to senior staff if any difficulties occurred; 1.4 Ward clerk acts as a checker to order and check the expiry date of the items; 2. Logistic: 2.1 Design “All in One” for treatment room setting, which to divide into 4 specific zones: Intravenous setting zone; Wound/ Pressure ulcer management zone. Emergency equipment zone; and Miscellaneous zone (i.e. Equipment of nasogastric feeding, etc.); 2.2 Estimate the amount of daily usage of the consumables; 2.3 Assign staff to inspect and request necessary items with appropriate quantity daily; 2.4 Refill the necessary items at night shift; 2.5 Locate all common use items in a visible location;

Result
Outcome measurement: 1. Satisfaction questionnaire will be completed by the frontline nurse and supporting staff, which could reflect their perception to the new storage methods and procedure flows checking; 2. Review consumption of the existing items monthly, and explore any wastage can be eliminated in the future.
Result: From 6/2/2013 to 14/2/2013, there are about 15% reduction in storage of non-essential and seldom used items. 1. 73% reduction in staff time spent in setting intravenous infusion with infusion pump; and 51.2% reduction in staff time spent in preparing Foley insertion procedure; 2. Reduction in inappropriate manual handling such as over reaching and bending to access items; 3. Stock levels are under reviewed and excess storage items are being kept in a minimum amount. 4. 100% of 23 Frontline staffs were agree assess the effective of JIT and JIT can keep control the excess storage items in a minimum amount in treatment room. Conclusion: The JIT concept can be adopted in the health care setting. An effective and systematic consumables management can ensure all materials are ready to use and avoid expire before use. Meanwhile, it can also minimize the surplus from storage.