Prevention of chemotherapy errors in a regional hospital

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Introduction
Major Challenge of the in-patient haematology services in a regional hospital are the increasing demand of taking care of the haemato-oncological cases with various protocols of chemotherapy and less than 70% nursing staff has had full haematology training. Additionally, several near misses were found before chemotherapy administration such as wrong body surface area during counter checked (2 cases), or chemotherapy administration without patient’s written consent just before starting (2 cases) at the fourth quarter (4Q) of 2011. In order to establish a system by evaluating the risk and vulnerability in the chemotherapy process using a proactive risk analysis method named Health Care Failure Mode and Effect Analysis (HFMEA) attempted on 2Q 2012. A clear In-patient chemotherapy process map has been established for staff’s on the job coaching.

Objectives
1. To develop a clear road map for identifying and preventing chemotherapy problems.
2. To establish a checklist for in-patient chemotherapy.
3. To apply a systematic approach for enhancing chemotherapy safety.

Methodology
A work group including one senior nurse and a lead nurse with haematology background applied the HFMEA to identify the risks and improvement in the chemotherapy administration by developing a process map. The group has also developed an in-patient chemotherapy checklist. The checklist uses as a tool to walk through and identify the steps from ordering to administration for any potential chemotherapy error/ risk. Based on these, possible improvement measures were identified. HFMEA is a prospective assessment that identifies and improves steps in a process, thereby reasonably ensuring a safe and clinically desirable outcome. Additionally, it provides a systematic approach to identify and prevent product and process problems before they occur (U.S. Veterans Affairs National Center for Patient Safety 2012). There are 5 steps in the HFMEA tool. Step 1 : The topic is preventing
In-patient chemotherapy errors of ward. Step 2: A group with one ward manager and one senior RN has been established. Step 3: An in-patient chemotherapy process map was developed. Step 4: Conduct a hazard analysis with all possible failure modes for each of the processes will be listed and numbered consecutively. Step 5: A description of actions established with outcome measures of each failure mode recognized.

Result

Result: From the staff-perspectives, an in-patient chemotherapy checklist has been designed and applied in ward daily operation for patients with various chemotherapy protocols at 3Q 2012 so as to confirm the chemotherapy consent and other preparations are completed and double checked with at least one senior nurse (ward shift in charge line). Additionally, appoints a trained nursing staff during each shift to be responsible for following the chemotherapy process. Education such as attending online chemotherapy update course by IANS is a must and training will be speed up with on-the-job coaching to the junior nurse so as to maintain 24 hour safe practice. Assessment of chemotherapy handling skills by nursing staff has been conducted from end of 2013 to June 2014 with 100% passing rate of 13 nurses who work in the 5 beds Haematology and Haemopoietic Stem Cell Transplant Unit of an acute medical ward, and cluster chemotherapy administration audit has been carried out from mid-June to mid-July 2014 at ward with 100% compliance.