CHAPTER 4

DISCUSSION AND CONCLUSION

The aim of this research was to minimize the risk of medication error in the so-called 'near miss' situation for the patients in Inpatient Department by using "Continuous Quality Improvement" (CQI) along with human resource development. As a result that CQI can reduce percentage of medication error risks 16.07 % as in the table below:

Table 4.1: Table shows the percentage of medication error risk before and after CQI implementation.

Medical error risks' types	Percentage of medication error		
	Before implement CQI	After implement CQI	Percentage of medication error risk reduced by
1. Document/Medicine Equipment	1.34	0.55	0.79
2. Preparation of medicines	1.26	0.48	0.78
3. Techniques of medicine dispensing	48.10	1.45	46.65
Average Percentage of medication error risk	16.9	0.83	16.07

As shown in the table, percentage of medication error decreased because of 2 reasons.

A. For type of medication error, it was found that:

The biggest range is on number 3 (Techniques of medicine dispensing) because

1. There is highest medication error before implement CQI.
2. It is easy to follow CQI because the officers in inpatient department can do by themselves and not essential to cooperate with other organization or involved careers; such as, using patient's identification armband to call patient's name, checking patient's identification armband with medicine card.

B. The people who are concerned with medication error with decreasing problems and remaining problems.

Table 4.2: Details that illustrate human that potentially have caused problems to reduce and remain

Reasons for the reduction of problems	Reasons caused problems to remain
1. Doctor Because there is more review of problems from relevant professional, especially doctors and pharmacists. **2. Nurse** The head of nurse in charge and nurses on duty are more careful on file checking and following the management policy and regulations. Also, all people in the hospital are alert with development, share opinions about the causes of problems and find the solution in monthly meeting (the first Thursday of each month). After reviewing, they will improve the system and method due to important system; as, 2.1 Incedent-reporting which includes clearly issue and reminder system, for example a sheet for summary unexpected incidences. 2.2 There is a system that is used by relevant professional for different fields of expertise and it contains topic, procedure of report and continuous meeting.	- A doctor has his/her free considering because remedying the patients is very complicated - Some officers do not follow the policy, regulations and new standard because they get use to the tradition way of performing given tasks. - There are some weak points on treatment, muscle injection, blood injection, and potential risk medicine after the patient receives medication error. - Forget and lack of attention from time to time.

After implement CQI, the margin of medication error risk percentage was reduced by 16.07 (16.9 down to 0.83), that is very successful because the previous margin goal was 5.00. Medication error is used to measure Sentinel – event Indicators where there is low Threshold standard (JCAHO, 1988). Thus, risk chance still remains and leads medication error, we have to evaluate and review to find the way out and continue develop.

From the medication error data, its effects to patient as are presented as follows:

Table 4.3: Details illustrated on medication error data on before and after CQI implementation

Types of medication error	Before implement CQI/time	After implement CQI/time
1. Medicine for Intravenous injection	2	1
2. Medicine for Intramuscular injection	0	1
3. Pill (oral) medicine	5	1
4. Solution of Bronchodilator medicine	1	0
Total of number of medication error	8	3
Total of number patient affected by medicine error	0	0
Source information of medication error	Individual interview	Officer's report
Percentage of medication error / time	3.38	1.08

The conclusions of the factors that possibly reduce medication error in the Inpatient Department, according to the concept of CQI, are explained below:

1. All of officers are part to reinforce the capacity to creating and setting goal which is the way to minimize medication error.
2. All members are encouraged to increase their capability in performing given tasks through skills obtaining from training courses, which involve potential basis of high quality of healthcare services. Each member can absorb the precious inside himself/herself and of the colleagues by working and learning together in scientific approaches. Best service for the patient is the basis of solving the problems, protection risk and system improvement.
3. New manner of working in organization has been created. It is the way of creating robust system and aiming to encourage staffs to be challenged to face the consequences to their actions. The system also focuses on teamwork-oriented in order to find the cause of problems and protection ways.
4. The head of nurse in-charge was able to expose their skills by the help of facilitators practicing from Hospital Accreditation Thailand institute. Thus the In-charge can be a consultant when the problem occurs.
5. The main character of CQI is a process that needs evaluation all the time because it is used as a collection of tool and methodology to measure medication error. It also propels all concerns to the presented for revise result in order to find solutions and set standard of continuous procedure for preventing problems.

External factors which are the potential reasons of the reduction of medication error.

1. Policy, which aims to be a quality hospital and to obtain quality guarantee within year 2002 by using CQI as a strategy along with centralized management, is a basis to lead an organization to learn and accomplish goals using innovative ideas. Learning the news thing can make alerting in quality development in organization. Organization's evaluation will be reported to CEO in the monthly meeting, and officer monthly meeting that make easier operation because it is a power of everybody in the hospital
2. The policy that specifies that quality development is a chief responsibility of healthcare staff and a part that is used to evaluate officers' merit in each year.
3. Concerned careers such as doctors and pharmacists have the same basic idea, which focus on the quality development by giving the best quality service through the concept of customer-centered. This can be by genuinely conducting risk management system, keeping quality standard and maintaining continuous development in accordance with the concept of quality hospital. Thus best service can be delivered to patients.
4. The head of nurse in-charge in the Inpatient Department is a one the members of the Board of Executives and he or she is also a quality development coordinator. He or she acts as a quality supporter who has roles to push quality development plan, people development plan, and hospital's policy to be applicable. The traditional way of looking at individual who did some mistakes as the cause of problems is expected to

transform into a new way of development by learning as a whole. Therefore, medication error is used to measure the standard of hospital and it statistic needs to be reported monthly for a better problems solving and continuous development.

Problem, obstacles and limitations

1. The 9 steps of CQI must taken only 6 months to complete because there are limited factors on nursing team which has to move around to every sector in the Inpatient Department and the Outpatient Department. Thus, duty has to be passed on to other staff every 6 months. This leads the Circle of CQI to be uncleared.
2. The protective regulations to reduce medication error, which is assessed and studied by a team from the Inpatient Department (CQI team) within 2 months, is only a starting point of the development. Moreover, this study covers too many fields such as medicine and all liquid drugs, and it is rather difficult to focus the right points and appropriate issues. Figures that show the reduction of medication error and the figures that show only few patients receiving medication error does not mean that patients who have higher risk of medication error are suffer than the ones who have lesser risk to medication error. Therefore, the effect of medication error to patients depends on side effects of the medicine they have received.
3. After installing CQI, data on medication error can be collected 1 time (1 month) and this does not represent the whole picture of data.

4. Because nurses are in the professions whose work will be done at different time. It is difficult to gather each and every nurse for the meeting which is a necessary factor to share the idea and be a part of CQI.
5. There is insufficient time to develop human resource because such development need long period of time to be done. Moreover, there is the need to change the director of the hospital. That is each director holds his or her position for 2 years only and they need time to learn the previous policy, especially continuous quality improvement, within this period of time.