

CHAPTER V

THE MANOEUVRE

The Study Setting

The study settings are the general wards of the Medical Nursing Department of Chiangmai University Hospital. Medical Nursing Department consists of six general wards, one intensive care unit, one coronary care unit and one dialysis unit. The six general wards are three male wards (Male Ward I, II, III) and three female wards (Female ward I, II, III). Male ward I, II, and Female Ward I, II are adjacent wards located on the fifth floor and in different wings of the building. Male Ward III and Female Ward III are on the eleventh floor of the building. Admissions of patients from the out patient department to each of these wards are arranged in the alternate day. Critically ill patients of each ward (both sexes) will be transferred to the Intensive Care Unit or to the Coronary Care Unit. Different team of physicians work in each ward and specialized care unit.

The routine works of the nursing personnel in general wards are similar. Nursing personnels work as functional and task oriented. There is a regular rotation of nursing personnel except the head nurse and the assisting head nurse all year round. Daily twenty four hours work is divided into three shifts, they are the day shift (8.00 am - 4.00 pm.), the evening shift (4.00 pm - 12.00 pm.) and the night shift (12.00 pm - 8.00

am.). The head nurse of the ward will only work during the day shift as the nurse incharge. Other nurses take rotation to evening shift and night shift. In the evening or night shift, a nurse in that shift (usually the most senior one) takes action of the nurse incharge of the ward. Junior nurses, practical nurses and nurse aids work as the team members. Responsibilities in each shift are assigned to each nursing member by the nurse incharge as functional and task oriented care, not a total care to the patients. There are no special teams responsible for certain procedures. Urinary catheterization, specimen collection and recording of the patient fluid intake and output are usually performed by the practical nurses. This is also confirmed by the pretest study to eighteen nursing personnels in the ward which is similar to the study wards. From the result of that pretest, the nursing personnel neglected to practise many control measures such as handwashing before and after catheterization, maintenance of closed drainage system, aseptic technique used during catheterization and aseptic collection of specimens.

The Method

The study is conducted in the general medical wards which are Male Ward I, II, III and Female Ward I, II, III. These wards are selected because they have similar characteristics in term of the facilities, the nursing personnel, and the types of patients. Having stated earlier, admission of patients from the out patient department to each ward is arranged on alternate days. Therefore, all patients in these wards are likely to be

randomly distributed. The use of the patient as the randomized unit is impractical because this will cause a lot interference to ward administrative systems. In addition, we introduce the intervention to the nursing personnel in groups according to their usual work pattern not individually. Therefore, ward is, instead, used as the unit of randomization. First, the wards are stratified according to sex. The reason is that female patients have a higher risk of urinary tract infections because of anatomical shorter of the urethra than that of male (Infection Control Committee, Ramathibodi Hospital, 1988). Having mentioned before, there are two pairs of adjacent wards which are Male I, II and Female I, II. Each pair of these adjacent wards need to have simultaneously the same treatment either experiment or control since contamination is likely to occur if they have different treatments. It is the limitation of ward location. Thus, there are four wards to be randomized, two adjacent wards and two single wards. There have to be both sexes of patients in each group. Therefore, randomization by using the random number on the two adjacent wards is done first to allocate the intervention wards. Subsequently, the remained opposite sex ward of the two single wards will be automatically received the intervention as well and the other is the control.

Before randomization is done. There is an educational programme on over all nosocomial urinary tract infections for all nursing personnels of medical wards by one of the infection control committee of the hospital by mean of lecturing. Emphasis is put on the importance of the problem and how to control.

The control behaviors of the nursing personnel are monitored before application of the control guidelines by using questionnaires, observation and checklists in both the intervention and the control groups. The nurse administrator of the department (The head department) is requested not to rotate the nursing personnel of all study wards during the period of the study. The purpose is to avoid contamination between the two groups. Then, the control guidelines for urinary tract infection have been introduced and explained. After that the regular education to the ward personnels has been introduced to the experimental wards. The schedules for education is every week in the first month, biweekly in the second month and once in the last month of the experimental period. The process of education given is the regular meetings between the investigator and the nursing personnels for discussion on the use of guidelines. Every meeting is held by first making an appointment for the meeting with the practical nurses (In this hospital, the practical nurses are the nursing personnel who are usually responsible for patients catheterization) who are on duty during the day shift. The meeting time is in the afternoon. The meeting cannot be conducted in the morning since all the nursing personnels are busy with routine work which is normally congested in the morning. Those are completing bed bath to the patients, changing of bed linen, wound dressing and other procedures which are performed according to daily orders after the morning round by the doctors. The routine work is usually finished or has diminished in the afternoon. Therefore, the most appropriate

time for the meeting is during 2:30 to 3:30 p.m. The investigator and the nursing personnels of each experimental ward have discussions during this period. The discussion deals with problems of the guidelines use, feedback on how it is used, suggestions for optimal practice according to the guidelines. The discussion takes about half an hour to forty five minutes in each session. The meetings are alternatively conducted to every experimental wards throughout the intervention period. The control wards are also visited in the same manner but no discussions on the guidelines use have been held. The purpose of the visit to the control wards is to decrease the problem of placebo effect and to equalize the howthorne effect in both groups. Monitoring of the nursing personnel control behaviors and surveillance of urinary tract infections in both groups are continuously performed throughout the three month period. The surveillance or routine monitoring for the personnel behaviors and the urinary tract infections are done by two infection control nurses and the investigator (who are also an infection control nurse). The two infection control nurses have been explained about the items to be evaluated during the ward visit. They have not been informed of the allocation of the intervention and control. This is to prevent biases. To decrease biases resulting from interperson variability, the two infection control nurses have been assigned to do the surveillance on alternate wards during the study period. Ward visits have been performed in the morning since most care taking procedures are concentrated during this period. Patients who have urinary

catheter indwelling are visited. The urinary catheters are thoroughly checked. The personnel control behaviors are also blindly observed. Chart review and observation on personnel recording of the fluid intake and output are performed in the afternoon since there are not many personnels using the patient charts and the routine recording time for the fluid intake and output of the ward is about 2:00 to 2:30 p.m. Observation of the catheterization techniques is done whenever there is a case of patients who has to retain the urinary catheter. The ward personnels have been told to call the investigator through a beeper immediately before catheterization in order that the investigator will be able to take a urine specimen for immediate culture. At the time of waiting for the urine specimen, the catheterization technique is automatically and blindly observed throughout the process. The investigator has been available sixteen hours a day (from 8:00 a.m. to 12:00 p.m.). After midnight, very few catheterizations have been performed. Therefore, most catheterization processes have been observed. The urine culture process will be described in details in the next chapter.

At the end of the period, all the data are completed and summarized. At the beginning of the fourth month, the same educating process has been switched to the control wards and withdrawn from the other group. The outcomes measurements and summary of data have been similarly performed as in the first period. The second period ends at the end of the sixth month.

Table 1

Activities Summary

Personnel	Activities	Time
Infection control committee	Educating on nosocomial urinary tract infection	Before starting intervention
Two infection control nurses	Observation & monitor personnel behaviors and urinary tract infections	Continuously monitoring
Investigator	Explaining of the guidelines	The beginning before the intervention
	Urine culture	Continuously throughout six months
	Observation catheterization technique	Continuously throughout the study period
Investigator and ward personnel	Discussion problem of guidelines use	Weekly (month 1) Biweekly(month 2) Monthly(month 3)
Microbiologist	Identification of the organisms from urine culture	Throughout the study period
	Antibiotics sensitivity testing	Throughout the study period