Measures Taken from the Aspect of Nursing Jobs to Prevent Medical Accidents

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Abstract: Those engaged in nursing are likely to become the parties concerned with a medical accident because of the characteristics associated with this profession. A nurse is always at work closely to the patient and it is through a nurse that the patient actually receives a treatment in many cases. Therefore, a nurse is often held responsible for an error originally caused by other medical staffs. The roles a nurse is expected to play are physical care of the patient, treatment of the patient according to the instruction of physician, and psychological support to the patient. In compliance with the demand and request of the patient and other medical staffs, a nurse has to perform these roles each of which is different in nature. Under such a circumstance, it is difficult for a nurse to systematically perform the work assigned to her and this constitutes a cause for an error. To prevent medical accidents caused by error, 1) use of appropriate devices and procedures, 2) establishment of competent system and management, and 3) nurturing of organizational climate to place priority on the safety and the training of staffs in this regard are necessary.

Key words: Accident prevention; Nursing jobs; Team medical care; Fail-safe; Organizational climate

Many medical accidents have been reported since last year. Frequently, it is the nurse who is reported as the person related to medical accidents. As an urgent plan to prevent medical accidents, the Japan Nurse Association made 4 proposals in April last year. They were; appropriate positioning of manpower, systematic training of nursing staffs after they have completed required courses, establishment of a team medical care system that runs 24 hours a day, and clarification of the range of work allocated to those engaged in medical care and their responsibility.

At the same time, the Association established a risk management study committee and prepared a "risk management guideline". This "guideline" was distributed to the institutions where more than 2 members of the Association are working and a request was made to fully utilize it for prevention of accidents. When we
recently investigated the use of this guideline, many institutions answered that they were using it in taking measures to prevent accidents in hospitals.

We have already learned about concrete measures to prevent medical accident in the morning session. What I am going to mention may overlap in some part, but I would like to suggest the preventive measures from the standpoint of nursing.

**Nursing Staff Often Becomes the Party Concerned with the Accident**

In many of medical accidents, it is the nurse who is reported as the person concerned. However, in view of the work performed by the nurse, this is quite natural (Table 1).

Because the nurse is always around the patient, chances of encountering any accident in the patient are high.

Furthermore, working in the forefront of medical care, the nurse directly provides medical care to the patient. In this case, however, the physician who also directly provides medical care such as treatment, operation, etc. becomes the party concerned as well.

As the medical care is consequently given by the nurse, another role played by the nurse is to check the work performed by other staffs. It often occurs that a simple mistake in the physician’s instruction or in pharmacist’s prescription is discovered by a nurse. Also, when a nurse makes such a mistake, the colleague may discover it and correct it.

As a nurse is comparable to the last runner in a race, the patient is exposed to a danger if the nurse fails to find the errors accumulated in the process of giving medical care to the patient.

**Roles the Nurse Is Expected to Play**

What are the roles played by the nurse in giving medical care? There are so many, but we roughly classify them into 3 categories (Table 2).

The work related to assisting the patients in their daily activities during their stay in hospital is one category. In the case of elderly patients, their physical function becomes deteriorated by hospitalization and staying in bed. To prevent aggravation of health status, the nurse helps them perform their daily activities such as changing their postures preventing the onset of bedsore in the invalid.

The second category includes the work to support the patients, physicians, and other medical staffs so as to provide necessary treatment in a proper manner. Many accidents have occurred during this support to the treatment. As the quality of medical care is improved if a nurse can effectively support the medical staffs, this is a very important role.

The third category includes the work to deal with the anxiety and doubts the patients have about the disease, its treatment, and the stay in hospital. Though the patients also consult the attending physician about their worries, there are matters they hesitate to mention to the physician. Some patients wait until others have gone to bed at night and come to a nurse to talk about their worries, for examples, deformation.

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**Table 1**

Nursing Staff Often Becomes the Party Concerned with the Accident for the Following Reasons

- Nurse is around the patient 24 hours a day.
- Nurse is expected to provide direct medical care to the patient in the forefront of medicine.
- Though the nurse checks the work done by other staffs, there is no system to check the work done by the nurse.

**Table 2**

Three Roles a Nurse is Expected to Play

- To assist the daily life activities of the patient so as to avoid any disorder during his/her hospitalization.
- To support the patient, physician, and other medical staffs so as to provide necessary treatment in a proper manner.
- To treat patients and to cope with the anxiety and questions they may have during his/her hospitalization.
of their body after operation, failure to perform the role of a family member, and deteriorated family relation due to hospitalization. Psychological support is necessary for this type of patient.

**Characteristics of Nursing Duty**

How are the roles mentioned above performed? Nurses work on a 24 hour shift. At the end of a shift, the nurses hand over the duties to those on the next shift. Therefore, taking records, case study meeting, and the duration provided for duty transfer are very important.

Nursing is a work in which a night shift is indispensable. The recent revision of Labor Law now allows women to work during the night but there was a special provision in the past to allow nurses to work throughout the night.

According to “Handbook for Shift Work of Nurse” published by the American Nursing Association, some nurses are not suited for the night shift and have to be excluded from it. As any nurse is expected to perform a night shift in Japan, those who cannot handle it have to resign or find a place where they need not work at night.

The influence of night shift on nurses has never been fully investigated. For example, there is a survey result indicating that a clock-wise change in the shift lessens the fatigue. Another research result reported recently is that a nap during night will improve the awakening in the morning and that a nurse finds it difficult to stay awake and is likely to commit more mistakes unless a nap is taken before the shift change in the morning. In Japan, the only restriction on the total night shift hours per month of one nurse is stipulated in the rules of the medical treatment fees but nothing more.

Another characteristic of nursing is that most of the work are performed in compliance with the demand made by others. The instructions given by the physician and the patient’s care are mostly performed as routine works. Upon arrival at the place of work, a nurse generally prepares the schedule for the day but it is rare that the nurse can carry out the work smoothly according to the schedule. First of all, nurses have to cope with the frequent nurse calls from patients. When a physician comes to examine and treat the patient, a nurse has to be there to assist the physician.

In this regard, I heard that a physician is expected to examine and treat the patient by himself/herself without summoning a nurse for assistance in the United States. When one of my friends went to the States for training, she/he went to assist a physician on his/her round. However, the physician said, “Why did you come? You have your own work to do”. Such a case is very rare in Japan where a nurse is usually summoned.

A nurse has often to stop her work to cope with the nurse call made by the patient. This constant discontinuation of work is said to be responsible for making errors.

In addition, other medical staffs, for example, the X-ray technician or laboratory staff, may come to the ward to perform their work according to their own schedule. In such a case, a nurse is always summoned when the patient in question cannot move freely. In other words, a nurse has to do this and that by the request made by others. This frequently results in a mistake in a nursing job. For example, when a nurse who is in the process of giving an injection is summoned by a nurse call and a considerable time is spent in dealing with the call, she/he may not be able to pick up what is left midway upon returning in a hurry and may make a mistake then and there.

The same applies to the physician. If each staff wishes to perform the work assigned to them satisfactorily, a certain rule has to be established for all the staffs in the ward, for example, setting the time limit for making demand on other staff at 3:00 or 4:00 p.m. in the afternoon (though this rule is established in many hospitals but hardly anyone pays attention to it at present).
On the other hand, physicians are also working by a hard schedule. It is not rare in Japan that a physician has to examine and treat outpatients in the morning after a night duty, and perform operations in the afternoon. Any unexpected change for the worse in a patient prevents a physician from performing his duties within the stipulated time range. Due to the small number of medical staffs, such cases occur at all times.

An error is caused either by a mistake or through a slip. In view of the factors inducing an accident and measures to prevent an accident, a mistake occurs by an intentional choice of a wrong target. For example, it is a type of accident in which an oral drug is intravenously administered because a nurse, etc. thinks the drug can be both orally and intravenously given. Such an accident is caused by a newly recruited staff who has not been trained sufficiently or who does not have the knowledge to cope with sophisticated medical care. This type of accident is likely to occur when a staff whose expertise is below the standard of the institution where the latest and most advanced medical treatment is given.

We have started a course for infection management this year. Nurses equipped with such specialty should be positioned for prevention of nosocomial infections.

One measure to prevent this is the systematic improvement of clinical training for the nurse. The Nursing Association provides the courses for specialist nurse and certified nurse. The incidence of accidents is expected to go down if those who have taken these specific courses are appointed to the institutions where sophisticated medical care is given.

If a nurse unconsciously connects a tube for drip infusion even though she/he knows that it is an oral drug, this is an example of accident caused by a slip. Such an accident often occurs when the nurse has too much work to concentrate on any specific job or when feeling accumulative exhaustion because of the night shift and the like.

To prevent this type of accident, it is advisable to consolidate a team medical care system. A team work does not simply mean the provision of care to the patient by the physician and nurses as members of a team. A team care includes other medical staffs such as technicians, X-ray engineer, pharmacist, nutritionist, laboratory staff who are independently responsible for their specialties and who can directly give care to the patient. However, these people still serve as the back-up staff to the physician and nurse in Japan. As the medical care reaches the patient only through the physician and nurse, most of the work have to be consequently handled by the nurse. To improve the team medical care system is an effective measure to reduce the number of accidents caused by a slip.

Another important and absolutely necessary
measure is to increase the number of nursing staffs.

The number of beds per ward and the number of patients per nurse are shown in Table 3. The Welfare & Science Study conducted in 1997 investigated the number of nursing staffs in the hospitals in Japan and abroad. In Japan, a nurse on day shift looks after 6 to 8 patients, which is considerably a large number, but the number increases to 14–23 at night. In no country other than Japan, a nurse has to look after so many patients alone.

One of the reasons why such a situation has been allowed to go on is a longer hospitalization period (33.5 days) in the Japanese hospitals. The length of hospitalization cited here is based on the data obtained in 1977 but it is still true at present that longer duration in hospital has contributed to reducing the number of accidents. However, the length has been shortened to less than 2 weeks in many high function hospitals and nucleus hospitals in the district. As is expected, more mistakes committed by the nurse have been reported there.

**Three Aspects of Measures to Prevent Accidents**

I would like to summarize the measures to prevent medical care accidents in the following. They are roughly classified into 3 categories (Table 4).

The first of them is to prevent accidents by appropriately setting the devices and procedures. For example, the introduction of a fail-safe system such as changing the diameter of a 3-way cock to prevent a tube intended for the digestive tract from being inserted into the vein. One of the measures classified into the second category is to assign competent staffs who can cope with sophisticated medical care to crucial positions. This calls for immediate attention because the number of medical staffs including nurses is fewer in Japan compared with the status abroad. It is also important to establish a safety management committee and accident information reporting system as well as assignment of special staffs to strategic positions.

 Concerning the third category, it is necessary to create an environment within the institution to place top priority on safety and to train the staffs in this regard. It is difficult to build a relationship in which mistakes made are frankly checked and discussed among the staffs. Unless this concept is held as the across-the-board ideal by the hospital, it will end up as an official stance to which nobody pays much heed. One cannot ignore the hierarchy within the institution where some are in the position to give orders while others have to comply with them. In such a situation, a staff cannot frankly point out a mistake made by his/her superior. However, if he/she doesn’t, this may result in an accident to the patient. Therefore, it is important to create an organizational climate for anyone to freely tell others to pay more attention if any mistake occurs.

Safety training for all the staffs is also important. As physicians and nurses are likely to become parties concerned in an accident, they are more meticulous about the measures to prevent accidents. When a spill of water is in the hallway of a hospital building, any staff including clerical staffs should mop, thinking that this may cause someone a fall or slip. Such organizational climate that all the staffs working in a hospital contribute to maintaining safety.

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**Table 4 Three Aspects of Measures to Prevent Accidents**

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<thead>
<tr>
<th>By use of appropriate devices and procedures</th>
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<tbody>
<tr>
<td>Introduction of fail-safe system</td>
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<tr>
<td>By establishment of competent system and management</td>
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<tr>
<td>Positioning of competent staffs to cope with the advanced level of medical care</td>
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<tr>
<td>Establishment of safety management committee and appointment of special staffs</td>
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<tr>
<td>Establishment of accident information reporting system</td>
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<td>Nurturing of organizational climate to place priority on the safety and the training of staffs in this regard</td>
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<tr>
<td>Clarification of safety ideas and safety training of all the staffs</td>
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<td>Favorable communication across the board</td>
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must be created from now on.

Lastly, I would like to raise a question about the current method of dealing with medical care accidents in Japan.

When an accident occurs, the police immediately intervenes to investigate who is responsible and who is the culprit. As a result, it is difficult to contrive effective measures to prevent a similar accident the next time.

When the Japan Nurse Association directly asks the head of the nursing department at the hospital where an accident has occurred through a telephone call to obtain relevant information, details are not given because the person in charge refuses to give any information, saying “we are requested by the police not to talk about the accident”. Furthermore, apart from the ethical aspect, the party concerned may think justified for not giving any information that is disadvantageous to her/him if he/she is prosecuted.

However, to prevent a medical accident, it is essential to collect all the information including the disadvantageous one by those concerned for preventing another similar accident. Under the circumstance, this important information is not made available in most of the cases.

The problem lies in the present system in Japan. The patient appeals to the police because this is the only way to obtain the relevant information which he/she desperately needs. In this regard, it is necessary to establish a third party organ or to allow outside experts to collect and analyze the information, and to make use of the result in other medical institutions as well.

The number of those engaged in medical care has to be increased but this requires money. For the general public to understand that safety in medical care cannot be assured without money, hospitals should disclose the information on medical care accident and make appropriate amends if the accident is caused by a mistake. In other words, hospitals should contrive to eliminate accidents with the cooperation from the general public.