

## **PREVENTION AND CONTROL OF INFECTION BY CADAVERS FROM THE JAPANESE NURSE'S ROLE**

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### **STUDY PURPOSE:**

Recently the possibility of and routes of infection from corpses to health workers has become an issue in Japan. In Japan, after a doctor confirms the death, nurses give the remains a bed bath and pack cotton balls into the body cavities such as the mouth, noses and anus to stop leakage of blood and body fluids, and unpleasant odours. However, leakage cannot be completely prevented so recently postmortem treatment products are often used, such as a special gel which absorbs and coagulates body fluids. (Embalming is expensive in Japan and not widespread.) Then nurses change the corpse's clothing before the onset of rigor mortis. A cadaver bag is not used. The influence of Buddhist ceremony in the washing of a dead body to purify remains can be seen. This is standard practice in the nursing profession in Japan.

The purpose of this study is to understand the realities of the infection prevention measures and the treatment, and to clarify the strategies in which the infectious disease contraction as the occupational disease was not absorbed.

### **MATERIALS & METHODS:**

The subjects of this study were 86 Japanese nurses working at 12 hospitals in Hiroshima, Japan. They gave written consent to participate in this study and completed questionnaires about prevention and control of infection from cadavers. The questions in the questionnaire covered four areas: the management of cadavers; the work and role of nursing staff including postmortem treatment; and the recognition of possibility of infection from cadavers.

### **RESULT:**

53.7% of nurses answered that there is "100% possibility" of infection from the cadavers. 88.1 % answered that disposable gloves were used for postmortem treatment, 47.6% used disposable masks, and 33.3% wore protective garments made of cloth. It took on the average 42 minutes for postmortem treatment by two nurses.

The nurses had experienced touching blood (53.2%), body fluid (57.4%), and excrement (74.5%). The nurses expressed the difficulties of postmortem treatment as follows: stopping the flow of blood, body fluids, or excrement (48.5%); and arranging the body in an attractive manner (57.4%). Less than 20% of nurses had received training in postmortem treatment either in formal education or in-hospital training.

#### **DISCUSSION:**

Worldwide efforts have been made to control the spread of infection at medical institutions and other associated facilities. Most efforts have been made to protect staff and patients but there is little recognition of the danger of infection to living persons from cadavers or the need for such measures. In the fields of legal medicine and psychology where autopsies are often performed, the risk of infection from the cadaver is recognized. Infection to living persons such as doctors and funeral home staff is reported and strict preventative measures are in force. Recent changes to medical insurance in Japan, however, mean the number of people cared for in the home will increase. Thus the number of deaths in the home is set to increase along with the need for preventative measures to stop the spread of infection. However the human body is host to many microorganisms, e.g. respiratory (tuberculosis etc.), blood borne (hepatitis B, hepatitis C, HIV), gastrointestinal (rotavirus diarrhea, salmonellosis, escherichia coli etc.) and transmission of infection agents from the remains to a living person may occur. Thus there is a risk to the nurse at the hospital and home, family and friends, porters, funeral directors and mortuary staff particularly because in Japan 90% or more corpses are cremated more than 24 hours after the death is confirmed. Usually the family stays in the same room with the cadavers until cremation, touching or viewing the body. Present funeral customs put the family, friends, and funeral home staff at risk of infection.

#### **CONCLUSIONS:**

The results of the study suggested that, although nurses recognized the possibility of infection from cadavers, very few actually took preventative measures. It was clear that formal education and in-hospital training on postmortem treatment was inadequate. Recently postmortem treatments are carried out by staff of nursing homes for the elderly and even ordinary family members. Thus appropriate education is necessary. If preventative measures are not taken on a daily basis the situation will be even more serious in the event of a natural disaster.

If set of Standard Precautions is not adopted, the risk to nurses from infection during postmortem treatment will remain high.