

ANALYSIS OF POTENTIAL HAZARDS TO CLASS III INPATIENT INSTALLATION NURSES AT DR. R. SOEHARSONO HOSPITAL BANJARMASIN

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ABSTRACT

Background: Nurses are constantly faced with danger, so the risk of their work is very high. However, even so, there are still many nurses who are not aware of the risks that could threaten them, so it has the potential to cause accidents and occupational diseases.

Purpose: to determine the potential dangers for nurses in the inpatient installation at Dr. R. Soeharsono Class III Hospital, Banjarmasin. **Method:** This study is a type of qualitative descriptive research. The population in this study were management and staff, both medical and non-medical, in the Inpatient Installation Room of Dr. R. Soeharsono Class III Hospital. The observation sheet in this study was made based on the JSA guidelines.

Results: The results of a study conducted on nurses at Dr. R. Soeharsono Banjarmasin Class III Hospital showed that more than 50% of nurses had moderate stress classes (53.3%). **Suggestion:** There needs to be good monitoring of the implementation of SOPs in the inpatient surgical room of in the class III inpatient surgical room of Dr. R. Soeharsono Banjarmasin Class III Hospital.

Keywords: Inpatient Installation, Nurses, Potential Hazards

INTRODUCTION

Hospitals are categorized as workplaces that have high occupational safety and health risks. Hospitals are health facilities that provide health services, a place where healthy and sick people gather so that the risk of possible health problems and disease transmission is very high. Therefore, it is necessary to implement Hospital Occupational Safety and Health (K3RS) to prevent the potential for these hazards (Sembiring, 2018).

There are many potential hazards in the workplace, and they can cause losses for the company/agency, employees, and the surrounding community. One effort to minimize and prevent this is by implementing the concept of occupational safety and health. Work accidents can cause losses both directly and indirectly (Khasanah Uswatun, 2019). Law of the Republic of Indonesia No. 13 of 2013 concerning Manpower states that the implementation of K3 aims to protect the safety and health of workers or labourers in realizing optimal work productivity (Pemerintah Republik Indonesia, 2003).

Work accident cases in Indonesia are still relatively high. According to BPJS Ketenagakerjaan data, in 2019, there were 114 thousand work accidents. In 2020, the number of work accidents increased to 177 cases in the

period from January to October (Kementrian Ketenagakerjaan RI, 2021). One of the causes of work accidents is the lack of good management in handling work hazard risks, the company's commitment to safe and comfortable work, and a culture of a safe work environment. One effort that can be made to control risk is to identify potential hazards using the job safety analysis (JSA) method. The JSA method can be carried out on new or old jobs with medium to high risks so that occupational health and safety can be achieved (Khasanah Uswatun, 2019).

Nurses are constantly faced with danger, so the risk of their work is very high. However, even so, there are still many nurses who are not aware of the risks that can threaten them, so it has the potential to cause accidents and occupational diseases (Nazifah, 2020).

Thus, efforts to implement K3 in hospitals are vital, both in terms of workers, work methods, work tools, work processes, and work environments that include improvement, prevention, treatment, and recovery. Health workers who often have direct contact with patients are nurses with work conditions and equipment that have the potential to cause hazards. Based on the description above, the researcher is interested in conducting research related to the Analysis of Potential Hazards in Nurses in the class III inpatient surgical room of Dr. R. Soeharsono

METHODS

This study is a type of qualitative descriptive research. The population in this study were management and medical and non-medical staff in the class III inpatient surgical room of Dr. R. Soeharsono Banjarماسin Class III Hospital. The observation sheet in this study was made based on the JSA guidelines. This observation sheet is used to record the results of observations in the field, namely to identify sources of risk in the form of work processes, tools and materials, environment, procedures, and worker behaviour.

RESULTS

Table 4.4 Distribution of Potential Hazards in the Surgical Room of the Inpatient Installation

Work Stages	Types of Potential Hazards				
	Physique	Chemistry	Biology	Psychology	Ergonomics
Moving patients	Medium risk	Medium risk	Extreme risk	Low risk	High risk
Perform a check for viral signs.	High risk	Medium risk	Extreme risk	Low risk	Medium risk
Administration of drugs	High risk	Low risk	Extreme risk	Low risk	Medium risk
Surgical wound care	High risk	Extreme risk	Extreme risk	High risk	High risk
Assisting patient mobilization	High risk	Low risk	Low risk	High risk	High risk
Monitoring the patient's condition	High risk	Low risk	Low risk	High risk	Low risk
Documenting care	Low risk	Low risk	Low risk	High risk	Low risk

Based on the table, it can be seen that the stages of work in the inpatient surgical room in the class III inpatient surgical room of Dr. R. Soeharsono Banjarماسin Hospital consist of moving patients, checking vital signs, administering medication, treating surgical wounds, assisting with patient mobilization, monitoring patient conditions and documenting treatment.

DISCUSSION

Identification of Potential Hazards in the the class III inpatient surgical room of Dr. R. Soeharsono Banjarماسin Hospital

One part of the hospital that is vulnerable to work stress is nurses. A study conducted by the National Institute for Occupational Safety and Health (NIOSH) found that hospitals and health-related jobs are more likely to

experience work-related stress and depression. In addition, the American National Occupational Health Association (ANAHO) shows that stress in nurses is the peak stress for the workforce (Nisa, 2021).

Based on Table 4.4 above, it is known that the total potential physical hazards in the inpatient surgical room of Dr R. Soeharsono Banjarماسin Hospital for the low-risk category are one hazard, the total potential physical hazards in the inpatient surgical room of Dr R. Soeharsono Banjarماسin Hospital for the medium risk category are one hazard, the total potential physical hazards in the inpatient surgical room of Dr R. Soeharsono Banjarماسin Hospital for the high-risk category are five hazards, and the total potential physical hazards in the inpatient surgical room of Dr. R. Soeharsono Banjarماسin Hospital for the extreme risk category are 0 hazards.

The total potential chemical hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarماسin, for the low-risk category, are four hazards; the total potential chemical hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarماسin, for the medium risk category, are two hazards; the total potential chemical hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarماسin, for the high-risk category are 0 hazards; and the total potential chemical hazards in the inpatient surgical room of Dr. R. Soeharsono Hospital, Banjarماسin, for the extreme risk category is one hazard.

The potential for biological hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarماسin, for the low-risk category, is three hazards; the total potential for biological hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarماسin, for the medium risk category, is four hazards; the total potential for biological hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarماسin, for the high-risk category is 0 hazards; and the total potential for biological hazards in the inpatient surgical room of Dr. R. Soeharsono Hospital, Banjarماسin, for the extreme risk category is 0 hazards.

The total potential psychological hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarماسin, for the low-risk category are three hazards; the total potential psychological hazards in the inpatient surgical room of Dr R. Soeharsono Hospital,

Banjarmasin, for the medium risk category, are 0 hazards; the total potential psychological hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarmasin, for the high-risk category, are four hazards; and the total potential psychological hazards in the inpatient surgical room of Dr. R. Soeharsono Hospital, Banjarmasin, for the extreme risk category are 0 hazards.

Potential ergonomic hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarmasin, for the low-risk category, are two hazards; the total potential ergonomic hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarmasin for the medium risk category are 0 hazards; the total potential ergonomic hazards in the inpatient surgical room of Dr R. Soeharsono Hospital, Banjarmasin for the high-risk category are three hazards; and the total potential ergonomic hazards in the inpatient surgical room of Dr. R. Soeharsono Hospital, Banjarmasin for the extreme risk category are two hazards.

Risk Analysis of Potential Hazards in the class III inpatient surgical room of Dr. R. Soeharsono Banjarmasin Hospital

The results of a study conducted on nurses at Dr R. Soeharsono Banjarmasin Class III Hospital showed that more than 50% of nurses had moderate stress classes (53.3%). This is in line with research conducted by Masjuli et al. (2019), which showed that almost all nurses (87.5%) experienced moderate stress classes. Moderate stress lasts longer, ranging from hours to days. The response to this Class of stress is digestive tract disorders such as ulcers, irregular bowel movements, muscle tension, disturbed sleep patterns, changes in menstrual cycles, and poor concentration and memory. (Husnia & Megatsari, 2020).

The potential dangers in the inpatient surgery room of Dr. R. Soeharsono Hospital Class III that have been identified are then analyzed using AS/NZS 4360:2004 based on the likelihood and consequences values to obtain the risk Class results. The risk analysis conducted using AS/NZS 4360:2004 is as follows:

a. Moving Patients

Patient transfers without proper hygiene protocols can increase the risk of spreading

infection, especially in surgical environments that require a high Class of sterility. This is in line with standards for planning and team coordination to reduce the risk of medical equipment disconnection (American Nurses Association, 2021).

b. Performing Vital Signs Checks

The vital signs examinations carried out include blood pressure and body temperature, thus involving direct contact between the nurse and the patient's skin. The main potential hazards related to the dangers and risks to nurses when carrying out their work activities are injections, cleaning, patient care, making beds, cleaning and dressing wounds, administering medication, and performing surgery (Amare et al., 2021).

c. Administration of Medication

The activity of administering medication by nurses to patients can cause several potential dangers and risks, one of which is due to needle sticks. Accidental needle sticks and other sharp objects can cause wounds on the skin, and if the medical equipment comes into contact with blood and other body fluids, it can cause infection. (Alfulayw et al., 2021). In addition, administering topical medication to surgical wounds that accidentally come into contact with wound drainage can increase the risk of exposure to pathogens.

d. Surgical Wound Care

Surgical wound care performed by nurses in the inpatient surgical room can potentially increase the potential for chemical and biological hazards to nurses. The potential hazards come from direct contact activities with surgical wounds, whether they are wet, bleeding, or producing exudate, handling dressings and wound dressings, wound irrigation and debridement, post-operative wound infections, and so on.

e. Assisting Patient Mobilization

Lifting and moving patients post-operatively can cause strains or sprains. The highest risk is in the lower back, shoulders and knees. Twisting and bending while assisting patients increases the risk of injury. Manual patient handling is the most commonly reported risk factor for work-related musculoskeletal disorders in healthcare.

f. Monitoring Patient Condition

Patient monitors and ventilators require prolonged sitting or standing. Static postures can cause back, neck, and shoulder pain.

Monitors, infusion pumps, and ventilators are often placed at inappropriate heights. Nurses may have to bend or crane their necks to view data. Monitor, ventilator, and infusion pump alarms are often beeping. Constant noise can cause tension, headaches, or hearing loss. Checking vital signs, administering IVs, or recording data involves repetitive motions. Risk of musculoskeletal disorders such as carpal tunnel syndrome. Long working hours with inadequate staffing (shortage) increase nurses' risk of developing conditions such as musculoskeletal disorders, hypertension, and depression (Krishnan et al., 2021).

g. Documenting Care

Nurses often spend more time on documentation than on direct care. Feelings of frustration that valuable time is being "taken" from patients. Stress from multitasking can lead to cognitive fatigue and errors. Writing down graphic details of surgical wounds or complications. Reliving traumatic events while documenting. Thus, it is necessary to implement work-life balance in nurses, where work-life balance (WLB) refers to the harmony between work and non-work-life aspects and is an essential concept for workers to continue working healthily and for the sustainability of the organization (Fukuzaki et al., 2021).

CONCLUSION

The results of observation and analysis that have been carried out on the stages of nurses' work in the inpatient surgical room of the Dr. R. Soeharsono Banjarmasin Class III Hospital lead to the following conclusions:

1. The results of the identification of hazards and risks at the stages of nurses' work in the class III inpatient surgical room of Dr. R. Soeharsono Hospital show that the potential hazards and risks include physical, chemical, biological, psychological, and ergonomic hazards.
2. The results of the risk analysis using AS/NZS 4360:2004 at the stages of nurse work in the class III inpatient surgical room of Dr. R. Soeharsono Hospital shows that there are potential hazards with the highest risk Class, namely biological and chemical hazards with a risk Class of

extreme risk. For physical, ergonomic, and psychological hazards with a high risk, the Class is high risk.

3. The results of the risk evaluation conducted at the nursing work stage in the inpatient surgical room of the Dr. R. Soeharsono Banjarmasin Class III Hospital show that most of the potential hazards that exist require immediate control and involvement from management.

RECOMMENDATIONS

Based on the results of observations and analysis that have been carried out on the stages of nurses' work in the class III inpatient surgical room of Dr. R. Soeharsono Hospital, the suggestions that can be recommended are as follows:

1. There needs to be good monitoring of the implementation of SOPs in the class III inpatient surgical room of Dr. R. Soeharsono Hospital
2. There needs to be education in the form of counselling on how to lift and move patients correctly so that it can reduce the risk of MSDs in nurses, and there needs to be education on the forms of prevention and control that can be carried out if MSD complaints are experienced.
3. There needs to be engineering in the form of replacing fixed stretchers with adjustable stretchers so that their height can be adjusted to the nurse's posture and needs.
4. There needs to be a special transporter to help nurses move patients from the operating room to the treatment room, as well as good monitoring of the implementation of SOPs in the room.
5. Regular health checks should also be carried out on nurses because nurses have a high risk of being exposed to infectious diseases.
6. Reporting and analysis of work accidents: every time a work accident occurs, such as a needle stick or contact with a patient's body fluids, a report should be made, and the cause of the accident should be analyzed so that in the future, the cause of the accident can be minimized.
7. Post posters about medical procedures that must be carried out in the event of exposure, for example, exposure to droplets, patient body fluids, and so on, so that they can be treated quickly.

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