

## Conference Paper

# Occupational Safety and Health Culture Implementation in Emergency Department, Operating Room, and Intensive Care Unit Nurses at Hospital X

Rianita Sulasih Mutifasari, Doni Hikmat Ramdhan, and Ardian Yoga Bharata

Occupational Health and Safety Department, Faculty of Public Health, Universitas Indonesia, Jl. Margonda Raya, Beji, Pondok Cina, Kota Depok, Jawa Barat 16424, Indonesia

## Abstract

A hospital is a facility that provides healthcare services and medications to the community. Therefore, occupational safety and health (OSH) for hospital workers is as important as in other industrial sectors, especially for nurses who perform patient healthcare activities in every service. The implementation of OSH for nurses serves to create a safe environment not only for the patients, but also for the nurses themselves. This research aimed to provide an overview of the implementation of an OSH culture for nurses in the emergency department, operating room, and intensive care unit (ICU) at Hospital X. This was a descriptive analytical research study that used a cross-sectional approach. Questionnaires and interviews with the nurses were used to collect the data. The statistical results of this study showed that not all of the emergency department, operating room, and ICU nurses implemented OSH well (only 43.8%). Based on the interviews, Hospital X planned OSH work procedures and activities, but shortcomings remained in the OSH practice, one of which was in the use of personal protective equipment.

**Keywords:** OSH, nurse, emergency department, operating room, ICU

Corresponding Author:  
Doni Hikmat Ramdhan  
doni@ui.ac.id

Received: 15 May 2018  
Accepted: 3 June 2018  
Published: 19 June 2018

Publishing services provided by  
Knowledge E

© Rianita Sulasih Mutifasari et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the ICOHS 2017 Conference Committee.

## 1. Introduction

Occupational safety and health (OSH) can play an important role for workers. It aims to prevent and reduce the risk of occupational accidents and diseases, as well as to create a safe and comfortable workplace in order to achieve the company's goals both efficiently and effectively.

The implementation of an OSH management system has benefits for various industries, including hospitals. Recently, the development of hospitals as healthcare facilities

 OPEN ACCESS

has been very rapid, in terms of both the numbers and healthcare technology utilization. Therefore, as a healthcare service facility for the community, a hospital must improve the quality of its services without neglecting OSH for all of its workers [1].

The Occupational Safety and Health Administration (OSHA) has reported that a hospital is one of the most dangerous places to work. The average hospital in the US reports that 8 hospital workers are injured or affected by occupational diseases for every 100 full-time workers. This amount was almost double for private industry [2]. Overall, potential hospital hazards, in addition to health problems such as infectious diseases, may affect the situation and condition of the hospital, including accidents caused by hazardous chemicals, anesthetic gases, electrical installations, radiation, and vibration, as well as psychosocial and ergonomic disorders.

A hospital is exposed to many workplace hazards that may pose immediate harm to the hospital workforce with regard to their health and well-being, and this can have wide-ranging consequences for the quality and efficiency of the hospital care. OSH programs have been the principal organizational response to identify these hazards and proactively minimize their impacts on the hospital workforce [3]. Nurses are the most predominant healthcare personnel, and the ones who have the longest contact with the patients, so their job is potentially very harmful. Nurses practice in environments containing biological, chemical, physical, and psychological hazards. These factors put nurses at risk for job burnout, stress, work-related illnesses and injuries, blood-borne pathogen exposure, infectious disease exposure, and musculoskeletal disorders. As such, nursing employers and individual nurses are both responsible for minimizing or eliminating these hazards in the workplace wherever possible [4]. The implementation of OSH for nurses serves to create safe healthcare services not only for the patients, but also for the nurses themselves.

The World Health Organization (WHO) has reported that globally, 2 million workers are exposed to the hepatitis B virus, 0.9 million workers are exposed to the hepatitis C virus, 170,000 workers are exposed to the human immunodeficiency virus (HIV), and 1–12 percent of hospital workers are sensitive to latex (material commonly used in gloves). Unfortunately, in Indonesia, occupational diseases and accidents in healthcare and non-healthcare workers have not been properly recorded. The results of a survey conducted in November of 2014 indicated that from 2009 to 2011, two nurses in the internal medicine department suffered from hepatitis, and it was suspected that they contracted the illness from a hepatitis patient. In addition, a survey of 10 ICU and internal medicine nurses in January of 2015 indicated that the average OSH achievement

for nurses at the Benyamin Guluh Hospital in the Kolaka Regency in Indonesia was 56 percent, meaning that the OSH in the hospital was not optimal [5].

Hospital X is a private, middle-class hospital that was built in 1977, with a land area of 27,000 m<sup>2</sup> and building area of 9,361 m<sup>2</sup>, consisting of 5 floors with 50 inpatient beds.

Previously, this researcher conducted preliminary research at this hospital. Based on the results of the interviews, the OSH culture implementation for the nurses in Hospital X was good, but the execution was not optimal. When providing healthcare services to the patients, the nurses performed their duties in accordance with the existing hospital procedures. Overall, the existing management and healthcare workers were striving to improve the implementation of an OSH culture in the hospital. Therefore, the aim of this study was to provide an overview of the OSH culture implementation for the nurses in the emergency department, operating room, and ICU at Hospital X.

## 2. Methods

This research consisted of an analytical description with a cross-sectional approach, and it was conducted in Hospital X in July of 2017. The research subjects consisted of 7 emergency nurses, 4 operating room nurses, and 5 ICU nurses. The research instrument was a questionnaire consisting of the respondents' demographic data and 30 questions related to the implementation of an OSH culture for the nurses. The data analysis presented the age and working length variables as minimum values, maximums, means, and standard deviations. The variables of gender, education, and the OSH culture implementation for the nurses in the emergency department, operating room, and ICU in Hospital X were displayed as frequency distributions.

## 3. Results

### 3.1. Research subject characteristics

Sixteen respondents participated in this research, including 7 emergency nurses, 4 operating room nurses, and 5 ICU nurses. A description of the respondents' characteristics is shown in Table 1.

TABLE 1: Characteristics of respondents by gender and education level.

Characteristic	Frequency (f)	Percentage (%)
Gender		
a. Male	7	43.8
b. Female	9	56.2
Education		
a. D3	14	87.5
b. Bachelor's Degree	2	12.5
Total	16	100

In Table 1, it can be seen that the majority of the nurses responding were females (56.2%), and the majority of the respondents had a Diploma 3 education level (14 respondents, 87.5%).

TABLE 2: Characteristics of respondents by age, work duration at hospital, and work duration in emergency department, operating room, and ICU.

Characteristic	Mean ± SD (Year)	Min (Year)	Max (Year)
Age	33.56 ± 4.65	25	40
Work Duration at the Hospital	9.88 ± 4.44	1	16
Work Duration in Emergency Room, Operating Room, ICU	8.56 ± 5.34	1	16

TABLE 3: Frequency distribution of OSH culture implementation in emergency department, operating room, and ICU nurses at Hospital X.

Implementation of OSH Culture	Frequency (f)	Percentage (%)
Good	7	43.8
Not Good	9	56.2
Total	16	100

Table 2 shows that the average age of the nurses was 33.56 years old, with work durations in the emergency department, operating room, and ICU of 8.56 years.

### 3.2. OSH culture implementation

As shown by the results in Table 3, not all of the emergency department, operating room, and ICU nurses at Hospital X implemented the OSH culture well. This can be seen from the statistical results, which showed that only 43.8 percent of the nurses implemented the OSH culture well.

## 4. Discussion

The objectives of an OSH program at a hospital, according to the Decree of the Minister of Health of the Republic of Indonesia Number 1087/MENKES/SK/VIII/2010 on occupational safety and health standards in hospitals, are to protect the safety and health, improve the productivity of human resources in hospitals, and protect the patients, visitors, and the community as well as the hospital's surrounding environment [1]. Basically, the hospitals in Indonesia pay more attention to OSH for workers, patients, and visitors. However, its implementation is not optimal due to the assumption that healthcare workers are able to maintain and protect themselves from exposure to great dangers in the hospital.

The results revealed that not all of the emergency department, operating room, and ICU nurses at Hospital X implemented the OSH culture well. This can be seen in the statistical results, which indicated that only 43.8 percent of the nurses implemented the OSH culture well. Several factors can affect the OSH implementation, such as the workload, in the form of physical, mental, and social burdens, so the effort to position workers according to their abilities needs to be considered. Second, the work capacity depends on the education, skills, physical fitness, body size, and nutritional state of the worker. Third, the working environment needs to be considered with regard to the physical, chemical, biological, ergonomic, and psychosocial factors [6].

Based on previous research, the most important aspects of OSH implementation were government regulation and policy, as well as the commitment of the hospital management. Management commitment has been perceived to be the main contributor in establishing a thriving and pervasive safety climate within an organization [7]. Management provides the leadership, vision, and resources needed to implement an effective safety and health program [8].

Hospital X has complied their commitments and policies regarding the OSH implementation in the OSH guidance, with the P2K3 organization having been established and legalized by the Hospital Director in 2017. However, the training and socialization related to OSH for the healthcare workers has not been implemented. In addition, the monitoring and evaluation of the OSH program have not been running optimally.

The WHO mentions that there are six elements of a program to prevent occupational accidents and diseases: leadership management, employee participation, hazard identification and assessment, hazard prevention and control, education, and evaluation

and system improvement [9]. In addition, hospital workers need safety skills training in their workplace [10].

Based on the results of this research, the implementation of an OSH culture for emergency department, operating room, and ICU nurses at Hospital X has not been good. In this case, the nurses as healthcare workers had greater workloads and work capacities than the other workers, creating fatigue and indiscipline factors that may have had an effect on the implementation of an OSH culture. In addition, personal protective equipment (PPE), as the last level of control, is an important requirement that should receive attention because it provides protection for the nurses when they come in contact with the patients. Therefore, they must be disciplined in the use of PPE, which should be adequate, ready, and reliable [1].

Based on the explanation above, in addition to requiring continuous attention, effective action in the implementation of an OSH culture in the hospital requires a joint commitment involving the management, workforce, and integration in the working environment. This will prevent and reduce occupational accidents and diseases, and create a safe, comfortable, efficient, and productive workplace. In addition, existing commitments and policies must be maintained, followed, and continuously evaluated. A high level of commitment can only be established if the workers, supervisors, and managers work together to create an OSH system that can be understood and trusted [11].

## 5. Conclusion

Based on the results and discussion above, it can be concluded that the implementation of an OSH culture for emergency department, operating room, and ICU nurses at Hospital X has not been good. Basically, the nurses had large workloads and work capacities, where fatigue had an effect on the OSH culture implementation. Therefore, a joint commitment involving the management, workforce, and an integrated working environment is required to better implement the OSH culture. This will prevent and reduce occupational accidents and diseases, and it will help to create a safe, comfortable, efficient, and productive workplace.

## Acknowledgments

The authors would like to thank all the people who contributed in some way to the work described in this research. First and foremost, they are thankful to their academic advisor, Doni Hikmat Ramdhan, from the Department of Health and Safety of the UI Faculty of Public Health for his valuable suggestions and encouragement. This study was supported by Hospital X officials and staff. Thus, the authors find it incumbent to appreciate the president, managers and all the staff members of the Hospital X who gave their sincere contributions to this article.

## References

- [1] Minister of Health of the Republic of Indonesia. (2010). Decree of the Minister of Health of the Republic of Indonesia Number 1087/MENKES/SK/VIII/2010 on occupational safety and health standards in hospitals.
- [2] Ball, S. C. and Rates, I. (2014). Caring for Older HIV-Infected Adults. *Care Management Journals*, vol. 15, no. 2.
- [3] Habib, R. R., Blanche, G., Souha, F., et al. (2016). Occupational health and safety in hospitals accreditation system: The case of Lebanon. *International Journal of Occupational and Environmental Health*, vol. 22, no. 3, pp. 201–208.
- [4] Registered Nurses Association of Ontario (RNAO). (2008). *Workplace health, safety and well-being of the nurse: Cross-sectional surveys of nurses and patients in 12 countries in Europe and the United States. Healthy Work Environment Best Practice Guidelines*. Canada: Registered Nurses' Association of Ontario.
- [5] Tukatman, Sulistiawati, Purwaningsih, Nursalam. (2015). Analisis Keselamatan dan Kesehatan Kerja Perawat dalam Penanganan Pasien di Rumah Sakit Benyamin Guluh Kabupaten Kolaka. *Ners*, vol. 10, no. 2, pp. 343–347.
- [6] Perangin, M. (2012). Occupational Health is the extension of the principles and practice of occupational medicine, to include the conjoint preventive or constructive activities of all members of the occupational health team. (1990), pp. 23–51.
- [7] Cheah, W. L., Giloi, N., Chang, C. T., et al. (2012). The perception, level of safety satisfaction and safety feedback on occupational safety and health management among hospital staff nurses in Sabah State health department. *Malaysian Journal of Medical Sciences*, vol. 19, no. 3, pp. 57–63.
- [8] OSHA. (2015). *Safety and Health Program Management Guidelines*. Retrieved from [www.osha.gov](http://www.osha.gov)

- [9] OSHA. (2013). Safety and Health Management Systems: A Road Map for Hospitals. Retrieved from [www.osha.gov](http://www.osha.gov)
- [10] Raeissi, P., Omrani, A., Khosravizadeh, O., et al. (2015). Occupational accidents among hospital staff. *Client – centered Nurs Care*, vol. 1, no. 2, pp. 97–102.
- [11] International Labour Organization. (2013). *Keselamatan dan Kesehatan Kerja Sarana untuk Produktivitas*. Jakarta: ILO.