Letter to Editor

Job Safety Analysis: A Practical Method to Improve Safety in Healthcare Centers During COVID-19 Pandemic

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Dear Editor

Today, due to the COVID-19 pandemic, the governments and international institutions are using various strategies to control the spread of infection. In the meantime, the health of healthcare workers who are responsible for the health and treatment of patients is very important [1]. Each employee has the legal right to work in a safe workplace. The use of hazard identification techniques is a preventive strategy against COVID-19 which can help implement the infection control plans [2, 3]. Hazard identification in the workplace is one of the main tasks of a safety system and is related to essential issues such as understanding the system design, operation, hazards, and processes. Experienced experts should be used to correctly identify occupational hazards. job safety analysis (JSA) can be the preferred method for hazard identification and control in health care centers. In this letter, the authors want to highlight the ability of this practical and user-friendly technique in improving the health care safety system during the COVID-19 pandemic. This letter aims to summarize the various applications of the JSA technique. Accordingly, the authors attempt to show the applicability of this old technique in the new critical conditions, and provide a new perspective about it.

The JSA technique focuses on the relationships between the worker, the job, the tools, and the work environment. This technique, by analysing tasks, identifies the hazards and recommends the strategies for their control [4]. This technique can identify the risk factors in the workplace such as physical, chemical, safety and biological risk factors with a systematic and logical approach, providing valuable details, and giving safety recommendations [5]. By applying the JSA, the COVID-19 infection sources in the workplace can be identified. By paying attention to these infection sources, the spread of COVID-19 can be controlled which can improve the resilience of health systems [5, 6]. Resilience is defined as the ability of organization, groups, and individuals to cope with unexpected problems with existing tools. Resilience is one of the most important challenges that hospitals face that should be considered in designing hospital safety systems [7]. The results of JSA can be used to improve resilience of health systems due to identification of hazardous work or tasks and their safe design. In some countries such as Japan, China and Italy, nurse robots were used in the ICUs of hospitals during the COVID-19 pandemic to perform risky, repetitive and tedious tasks such as delivering foods to the patients, sterilizing the environment and equipment, sampling, collecting hazardous agents (e.g., human secretions, environmental wastes), virtual patient visits, identifying and tracking patients, monitor-

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ing and managing restricted and quarantined areas, and etc. [8, 9]. The JSA method can be used systematically to select personal protective devices and facilitate the decision making about them for supervisors in hospitals during this pandemic [10]. With this method, the identified risks can be reviewed in the next years and the process can be documented and registered as a subset of occupational safety and health management [5, 6]. The JSA can be used as a practical tool in health care to improve resilience of health systems [11].

As we know, applicable guidelines are one of the most effective governmental tools to support employees. The advantages of JSA is the development of safe and standard operating procedures, standardization of executive procedures, and preparation of a safety plan. These procedures can lead to the maintenance of service delivery and increase the resilience of individuals and organizations by providing a safe workplace and reducing infection and absenteeism [4]. During the COVID-19 pandemic, hospitals and health care centers need special training and skills to provide services with high quality and less human errors and maintain their occupational safety and health. The condition was poor at the beginning of the pandemic, since many countries used inexperienced health workers and nursing students to compensate the lack of manpower; therefore, it is necessary to develop standard procedures to transport experience and information to the nurses and managerial skills to the supervisors in a fast, clear and detailed way.

The JSA has the ability to define standards and safe execution processes for each job, and is considered as a hazard control method in the workplace. It also provides an opportunity to know what is the practical approach for newly employed or inexperienced staff to learn how to work safely and increase the quality of health services [5]. The ability to apply this technique is another issue that makes it applicable in a wide range of tasks in health systems. Moreover, since this technique can also be used for prioritization in selecting jobs, it can be used in health systems that have a very high number of jobs [4]. Ease of learning is another advantage of this technique. Teaching this technique to employees increases the speed of identifying occupational hazards and reduces the loss of resources in the occupational safety and health management systems, while increasing employees' participation, safe behaviours, and satisfaction [5, 6].

In the current COVID-19 pandemic, safety of health care workers is one of the main occupational health and safety management plans to preserve human capital and improve the patient safety in hospitals and medical centers [5, 6]. In some countries, hospitals are safe only when there are international laws and obligations as an only way for staff to hope for a safe environment and for patients to receive safe health services. Therefore, considering the capabilities of JSA as a safety and health management tool, it may be able to effectively help the hospital managers to achieve a safer environment.

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Compliance with ethical guidelines

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

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References

[1] Lancet T. COVID-19: Protecting health-care workers. The Lancet. 2020; 395(10228):922. [DOI:10.1016/S0140-6736(20)30644-9]

[2] Michaels D, Wagner GR. Occupational Safety and Health Administration (OSHA) and worker safety during the COVID-19 pandemic. Jama. 2020; 324(14):1389-90. [DOI:10.1001/jama.2020.16343] [PMID]

[3] Golbabaei F, Kalantari S. A review of the strategies and policies for the prevention and control of the COVID-19 at workplaces. International Journal of Occupational Hygiene. 2020; 12(1):60-5. [Link]

[4] Occupational Safety and Health Administration, US Department of Labor. Job hazard analysis, OSHA Publication 3071, 2002 (Revised). Washington: Occupational Safety and Health Administration, US Department of Labor; 2002. [Link]

[5] Ibrahim F, Lebowitz J. Highes J. Essentials of job hazard analysis. American Institute of Chemical Engineering. 2018. [Link]

[6] College PA, Bass EJ. Enhancing safety in the security and alarm monitoring industry: A case study in the development of job hazard analyses. Proceedings of the Human Factors and Ergonomics Society Annual Meeting. [DOI:10.1177/1071181320641406]

[7] Fallah-Aliabadi S, Ostadtaghizadeh A, Ardalan A, Fatemi F, Khazai B, Mirjalili MR. Towards developing a model for the evaluation of hospital disaster resilience: A systematic review. BMC Health Services Research. 2020; 20(1):64. [DOI:10.1186/s12913-020-4915-2] [PMID] [PMCID]

[8] Zaroushani v. [Occupational safety and health and response to the COVID-19 using the fourth industrial revolution technologies (Persian)]. Journal of Health and Safety at Work. 2020; 10(4):328-49. [Link]

[9] Zaroushani V, Khajehnesiri F. Nurse robots: A necessity in the nursing care system during the COVID-19 pandemic. Journal of Occupational Health and Epidemiology. 2020; 9(3):130-2. [DOI:10.29252/johe.9.3.130]

[10] Jones RM, Bleasdale SC, Maita D, Brosseau LM, CDC Prevention Epicenters Program. A systematic risk-based strategy to select personal protective equipment for infectious diseases. American Journal of Infection Control. 2020; 48(1):46-51. [DOI:10.1016/j.ajic.2019.06.023] [PMID] [PMCID]

[11] Buheji M, Buhaid N. Nursing human factor during COVID-19 pandemic. International Journal of Nursing Science. 2020; 10(1):12-24. [DOI:10.5923/j.nursing.20201001.02]

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